

EMPIRE VALLEY GOLD MINES LIMITED

671873

(NON-PERSONAL LIABILITY)

PROSPECTUS

Issued pursuant to Section 130 of the Companies' Act of the Parliament of British Columbia.

* * * *

STATUTORY INFORMATION

- (a) EMPIRE VALLEY GOLD MINES LIMITED (NON-PERSONAL LIABILITY) was incorporated on the 17th day of January, 1953.

The Registered Office of the Company is Suite 3, 5 Princess Avenue West, in the City of Chilliwack, in the Province of British Columbia.

The liability of the members is limited. A member shall not be personally liable for more than the amount actually agreed to be paid for any shares taken or held by him.

The authorized capital of the Company is 3,000,000 no par value shares, the maximum price at which such shares may be sold being 50¢ per share.

932,180 shares have been subscribed for and allotted, all of which have been paid up.

The Company has no indebtedness at the present time except for nominal current accounts.

The Company was converted from a Private Company to a Public Company on the 6th day of January, 1954.

- (b). The proceeds of the subscription invited by this Prospectus will be used in the development and operation of the placer leases owned by the Company hereinafter listed, and in the purchase of materials, equipment and supplies required for the further development and operation of the said placer leases. *and Hard Rock Claims* The leases are as follows:

Numbers 339 to 344 inclusive, located at Fairless Creek in the Clinton mining division in the Province of British Columbia, and being approximately ten miles West of the Fraser River and fifteen miles South-West of Dog Creek Airport.

Since the date of incorporation of the Company it has acquired 8 mineral claims and 2 fractional claims, namely: Saddle No. A21291, Moose Horn A21290, Pinyon Pine A21285, Whiskey Jack A21292, El Doranda A212787, Bonanza A21286, Ptarmigan A21288, Black Dome A21289, Electrum fraction and Sugar Bowl fraction, all of which are located in the Clinton Mining Division on the Empire Valley grazing ranch, South of Churn Creek and approximately ten miles West of the Fraser River and fifteen miles South-West of Dog Creek Airport. *John Turrel*

The Company also owns miscellaneous mining equipment including:

1. 2 Blowers for air for underground work.
2. 1 Water Wheel to run same.
3. 2 Ore cars complete.
4. 1 Set Ore bin adjusting gates.
5. 1 Large ore-crusher.
6. 1 Medium ore crusher
7. 1 40-ton ball mill with balls.
8. 1 ~~Marshall Diesel Engine with starter air tanks complete.~~
9. 1 Gas engine & air pump.
10. 1 10-ton test ball mill complete.

Shafting, pulleys, rails and miscellaneous equipment.

The Company also owns certain equipment necessary for the carrying out of the Company's operations including:

Lincoln Electric Welder.
Oxy-Acetylene Welding Outfit.
Diesel light plant.
Bunk house on wheels.
Cook house on wheels.
International half-ton truck.
Dodge power wagon.
1947 Dodge 3-ton truck.
1944 Caterpillar tractor.
Air Compressor and tools.

*1. 6" Hydraulic pump and engine
40 ft of 6" hose*

In the Spring of 1953 the required mining equipment was assembled in Chilliwack and transported to the Company's mineral and placer claims near Clinton in the Province British Columbia. Road construction was commenced on the 8th day of May, 1953, and during the summer operations approximately 25 miles of roads was completed including laying necessary culverts and the bridging of Porcupine Creek. A campsite was prepared near the Company's mining claims and used as a base of operations. Considerable stripping was done on the known ore beds on the Black Dome group of mineral claims and this work proved valuable as it revealed ore beds of additional width and depth. Most of this work was concentrated on the Red Bird and Giant veins.

Mr. Vernon Edge, B.C.L.S., completed a ground survey of the mineral claims in order that the Company might obtain a Crown grant, and included in the survey were two additional fairly large fractions adjoining the present property.

Towards the end of the season considerable exploratory work was done on the placer leases located at Fairless Creek. Approximately 12,000 sq. feet of creek bottom was prepared for sluicing and on September 14th the sluicing operation was commenced, as a result of which approximately 23½ oz. of raw gold were obtained. The operation was somewhat hampered by a heavy sticky clay content in the ground, but the Company is endeavouring to improve this condition by modification of the present sluicing unit.

(c) The Company proposes to offer for public subscription through the medium of this Prospectus 317,820 no par value shares to be issued at 10¢ per share for cash to the Company, and no commission will be paid or discount allowed on this subscription.

(d) In view of the fact that the Company already holds eight mineral claims and four fractional claims, six placer leases, various mining and other equipment hereinbefore listed, all of which has been paid for in full, that all accounts for services rendered to date have been paid in full, and that the Company has approximately \$2,000.00 in the bank, the directors set the minimum subscription at \$5,000.00. The minimum subscription will be used to pay wages and to purchase materials and supplies necessary for the further developemnt and operation of the six placer claims.

(e) The directors have received no remuneration from the Company for their extensive efforts in and about the incorporation of the Company and the management of the Company's affairs since the incorporation date. Several of the directors have, without charge to the Company, expended their own funds in making supervisory visits to the site of the Company's mining operations.

The expense of incorporating the Company, including both solicitors' fees and disbursements, have already been paid out of the funds raised by the Company while registered as a private Company and also by the solicitors subscribing for 10,000 no par value shares to be issued at 10¢ per share. The Company's chartered accountants also accepted 5,000 shares for services rendered to the Company.

No expenditure has been made for commissions for subscriptions for shares or for procuring subscriptions for shares and no commission will be paid for subscriptions or for procuring other people to subscribe for shares offered by this Prospectus.

(f) Since the commencement of the Company as a public Company the following property, both real and personal has been acquired by the Company from the persons and for the consideration hereinafter indicated.

1. William Earl Brett, acting on behalf of himself, and Messrs. George Harold Clarke, John Leo DeLisle, William Brown, James Cooper, Enos Gladstone Brett, and Harold Douglas Brett, by Memorandum of Agreement in writing dated the 2nd day of March, 1953, sold unto the Company the eight mineral claims and two fractions hereinabove listed, and the mining equipment hereinabove listed, for a consideration of 400,000 no par value shares issued at 10¢ per share. The said 400,000 shares were divided as follows:

| | |
|-----------------------|-----------------|
| William Earl Brett: | 140,000 shares. |
| George Harold Clarke: | 50,000 " |
| John Leo DeLisle: | 10,000 " |
| William Brown: | 5,000 " |
| James Cooper: | 50,000 " |
| Enos Gladstone Brett: | 50,000 " |
| Harold Douglas Brett: | 50,000 " |

Of the balance of 45,000 shares, 25,000 shares were allotted to Jack Bailey, miner, of Hope, B. C., for his undivided one-half interest in the mining equipment, and 20,000 shares were allotted to Lawrence Louie Frenier in accordance with the terms of a contract dated the 18th day of November, 1952, and made between Lawrence Louie Frenier and William Earl Brett wherein William Earl Brett obtained an option to develop and purchase the mineral claims hereinbefore listed.

2. The four placer leases hereinbefore listed were acquired by the Company from James Cooper, Thelma Cooper, Lawrence Louie Frenier and Josephine M. Frenier for 25,000 no par value shares issued at 10¢ per share to each of the above-mentioned four persons, and the two other placer leases were given to the Company by William Earl Brett and Mrs. Helen G. Brett.
3. The miscellaneous equipment acquired by the Company was obtained from the following persons:
 - Dodge power wagon from W. Clifford Clarke for 10,000 no par value shares issued at 10¢ per share.
 - Lincoln electric welder with Hercules motor from John Leo DeLisle and George Harold Clarke for 1,500 no par value shares issued at 10¢ per share.
 - Oxy-acetylene welding machine from John Leo DeLisle for 1,500 no par value shares issued at 10¢ per share.
 - Diesel electric light plant with Southern Cross diesel engine, one bunk-house on wheels, one cook-house on wheels, from William Earl Brett for 35,000 no par value shares issued at 10¢ per share.
 - 1949 International half-ton pickup truck from James Cooper for 10,000 no par value shares issued at 10¢ per share.

(g) The full name, address and occupation of the Vendors of the property listed in paragraph (f) are as follows:

- WILLIAM EARL BRETT, Garageman, 36 Gore Avenue, Chilliwack, B. C.
- GEORGE HAROLD CLARKE, Logging Operator, 153 Margaret Avenue, Chilliwack, B. C.
- JOHN LEO DELISLE, Automotive parts dealer, 34 - 2nd Avenue, Chilliwack, B. C.
- WILLIAM BROWN, Insurance Salesman, 120 - 2nd Avenue, Chilliwack, B. C.
- JAMES COOPER, Miner, c/o Brett's Ltd., 110 Yale Road West, Chilliwack, B. C.
- ENOS GLADSTONE BRETT, Automotive dealer, 110 Young Road South, Chilliwack, B.C.
- HAROLD DOUGLAS BRETT, Automotive dealer, 111 Airport Road, Chilliwack, B. C.
- THELMA COOPER, Housewife, c/o Brett's Ltd., 110 Yale Road West, Chilliwack, B.C.
- LAWRENCE LOUIE FRENIER, Prospector, Clinton, B. C.
- JOSEPHINE M. FRENIER, Housewife, Clinton, B. C.

(h) NOT APPLICABLE.

(i) It is not anticipated that any services to be rendered to or for the benefit of the Company in the future will be paid for out of shares to be issued in accordance with this Prospectus.

Since the commencement of operations by the Company it has paid for the services of the persons hereinafter set forth by the issuance of shares:

- VERNON EDGE, B.C.L.S., Lockheed Highway, Haney, B. C. - 25,000 no par value shares issued at 10¢ per share.
- DAVID BERTRAM HINDS, Solicitor, 5 Princess Avenue West, Chilliwack, B. C. - 10,000 no par value shares issued at 10¢ per share.
- McINTOSH, McVICAR & DINSLEY, Chartered Accountants, 510 West Hastings Street, Vancouver, B. C. - 5,000 no par value shares issued at 10¢ per share.

(j) The promoters of the Company are: William Earl Brett, George Harold Clarke, John Leo DeLisle, William Brown, James Cooper, Enos Gladstone Brett and Harold Douglas Brett.

In addition to the shares received by the promoters of the Company as set forth in paragraphs (f) hereof, William Earl Brett has contributed \$2,190.00 cash for shares issued to him and his nominees at 10¢ per share, John Leo DeLisle has contributed \$1,625.00 cash. George Harold Clarke has contributed \$1,625.00 cash, and James Cooper has contributed \$128.00 cash. James Cooper has also received a salary of \$350.00 per month in return for his services as manager of the Company's operations.

It is not intended that any further shares shall be issued to any of the promoters for consideration other than cash.

(k) 1. There will be no special rights or restrictions attached to any shares offered by this Prospectus.

2. The right of voting at meetings of the Company is established by Paragraphs 44 and 45 of the Articles of Association of the Company which are as follows:

(44.) "In a show of hands every member present in person and entitled to attend and vote shall have one vote. On a poll every such member shall have one vote for each share of which he is the holder."

(45.) "In the case of joint holders the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders; and for this purpose seniority shall be determined by the order in which the names stand in the Register of Members"

3. The number of shares required for qualification as a director of the Company is established by paragraph 53 of the Articles of Association which is as follows:
"The qualification of a director shall be the holding of at least one share in the Company, and it shall be his duty to comply with the provisions of the 'Companies Act'."

4. The remuneration of the directors is established by paragraph 52 of the Articles of Association of the Company which is as follows:
"The remuneration of the directors may from time to time be determined by the directors."

(l) The following are the full names, addresses and occupations of the directors and the amount in cash subscribed for by each of them:

| | |
|--|------------|
| WILLIAM EARL BRETT, Garageman, 36 Gore Avenue, Chilliwack, B. C. - | \$2,190.00 |
| GEORGE HAROLD CLARKE, Logging Operator, 153 Margaret Avenue, Chilliwack, B. C. - | \$1,625.00 |
| JOHN LEO DELISLE, Automotive parts dealer, 34 - 2nd Avenue, Chilliwack, B. C. - | \$1,625.00 |
| WILLIAM BROWN, Insurance Salesman, 120 - 2nd Avenue, Chilliwack, B.C. - | \$ NIL |
| WILFRED REGINALD FRENCH, 319 Wellington Avenue, Chilliwack, B. C. - | \$ NIL |
| WILFRED WARD CHITTENDEN, Logging Operator, 374 Cedar Street, Cultus Lake, B. C. - | \$1,000.00 |
| ALFRED WILLIAM HAZLETT, Garage Operator, Box 610, Hope, B. C. - | \$ 500.00 |
| MICHAEL ALAN WEIGHTMAN, Poultry Dealer, 108 Hazel Street South, Chilliwack, B. C. - | \$1,350.00 |

(m) Particulars of the nature and extent of the interest of the directors in the promotion of the Company are as follows:

By a Memorandum of Agreement in writing dated the 18th day of November, 1952, William Earl Brett obtained from Lawrence Louie Frenier in consideration of the sum of TWO HUNDRED AND FIFTY DOLLARS (\$250.00) an option irrevocable to the 15th day of July, 1953, to examine, develop and purchase the mineral claims located on the Empire Valley grazing ranch South of Churn Creek hereinbefore particularly described. The Agreement stipulated that upon the execution of the option Mr. Frenier was to receive 20,000 no par value shares issued at 10¢ per share in the Company which Mr. Brett expected forming and that he should also receive 10% of the gross value of the gold taken from the mineral claims up to the sum of TEN THOUSAND DOLLARS (\$10,000.00). Thereafter Empire Valley Gold Mines Ltd. (Non-Personal Liability) was incorporated and by a Memorandum of Agreement in writing dated the 2nd day of March, 1953, William Earl Brett, acting in his own capacity and as agent for the syndicate of Messrs. W.E. Brett, G. H. Clarke, J. L. DeLisle, W. Brown, J. Cooper, E. G. Brett and H.D. Brett, sold to the Company the option to purchase the mineral claims from Mr. Frenier together with a considerable quantity of mining equipment hereinbefore listed, in consideration of receiving 400,000 no par value shares in the Company issued at 10¢ per share. These shares were distributed amongst the promoters as previously set forth. At a later date the Company exercised the option to purchase the mineral claims from Mr. Frenier and they have been registered in the name of the Company. The details of equipment sold by W. E. Brett, J. L. DeLisle and G. H. Clarke to the Company for shares have been previously set forth in paragraph (f) (3) hereof. No sums have been paid or shares issued to any of the directors as an inducement to become a director of this Company.

(n) The name and address of the auditors of the Company is as follows:

McIntosh, McVicar & Dinsley, Chartered Accountants, 510 West Hastings Street, Vancouver, B. C.

(o) NOT APPLICABLE.

(p) NOT APPLICABLE.

(q) The following are particulars of dates and parties to every material contract which may be inspected at Suite 3, 5 Princess Avenue West, Chilliwack, B. C., during business office hours.

1. Memorandum of Agreement dated the 18th day of November, 1952, and made between Lawrence Louie Frenier and William Earl Brett for the acquisition of an Option to Purchase mineral claims.
2. Memorandum of Agreement dated the 2nd day of March, 1953, and made between William Earl Brett acting in his own capacity and as trustee for himself, George Harold Clarke, John Leo DeLisle, William Brown, James Cooper, Enos Gladstone Brett and Harold Douglas Brett, and Empire Valley Gold Mines Ltd. (Non Personal Liability) provides for the assignment of the Option to Purchase the said mineral claims together with the purchase of considerable mining equipment.

DATED AT CHILLIWACK, B. C., this 20th day of JANUARY, A. D. 1953.

WILLIAM EARL BRETT

.....
William Earl Brett

W. R. FRENCH

.....
Wilfred Reginald French

G. H. CLARKE

.....
George Harold Clarke

WILFRED WARD CHITTENDEN

.....
Wilfred Ward Chittenden

J. L. DELISLE

.....
John Leo DeLisle

A. W. HAZLETT

.....
Alfred William Hazlett

WILLIAM BROWN

.....
William Brown

M. A. WEIGHTMAN

.....
Michael Alan Weightman

WATER, TIMBER, AND CLIMATE

Sufficient water for mining or diamond drilling is available from a spring, which starts below the "Giant" vein, and runs in a Northerly direction past the present camp. This spring flowed continuously during the summer of 1958, and in late August, after two months of very dry weather, was producing more than 5 gallons per minute. Water from this source could be pumped to adits or diamond drill stations on the "Giant" or "Red Bird" veins. This source of water is 4,000 feet from "Number 1" vein.

Water for drifting or diamond drilling "Number 1" vein could be obtained from the head waters of Lone Cabin Creek - a distance of 2,000 feet.

Sufficient water for a milling plant of 100 tons per day exists on Porcupine Creek, about four miles from the ore occurrences. This is the nearest source of reliable water, and would be an important factor in the production phase.

There is little or no timber covering the claims, which are in an area principally above the 6,000 foot elevation. To the North of the claims there is sufficient timber of Fir, Spruce, and Pine, for mining purposes. A small portable mill on the property could be used to cut any rough lumber necessary for mining and construction.

The area in general has a semi-arid climate, with the mountain receiving a somewhat greater than average rain and snow fall. Due to the lack of timber, and high winds, drifting snow would hamper operations from October to May.

WORK PERFORMED DURING 1958

A six man crew, consisting of a cat operator, cook, three labourers, and the author, spent July and August exploring surface exposures on the Empire Valley Gold Mines' group of claims.

The programme consisted of removing the overburden from that

section of the known veins which had not been previously exposed; re-cleaning the previously exposed veins where samples had indicated ore grade material; hand trenching the exposed veins down to solid material, and sampling the veins. Previously unsampled vein sections were sampled at 20 foot intervals. Those sections of the veins which had been previously sampled at 25 foot intervals, and assayed near ore grade, were sampled at 5 foot intervals.

All veins, trenches, and outcrops, were surveyed with a chain and compass, and data plotted on the maps accompanying this report.

The work carried out on each vein is as follows:

The Black Shear Vein was re-stripped and sampled at 20 foot intervals.

The Sugar Bowl Vein was traced to the North and found to terminate in unconsolidated jasperized porphyritic trachyte a few feet North of the last previous trench.

The Ribbon Vein was stripped to the North for 420 feet from its last known occurrence with several samples being of ore grade.

The Number 1 Vein was stripped to the North from its last known occurrence, and found to split into two veins, one of which altered its strike to the West and was found to be part of the "Sugar Bowl Vein", which had previously been stripped to within 370 feet of "Number One" vein. A second split of "Number One" vein swung to a more Easterly strike and was traced for 300 feet. There is a possibility that this vein will connect up with the "Black Shear" vein, but heavy overburden for 300 feet prevented proving this theory.

The Red Bird Vein was re-stripped and re-sampled over a strike length of 200 feet where previous sampling had indicated an ore shoot. Samples were taken at 5 foot intervals across the vein and altered zone. The zone on this vein is about 20 feet

- 9 -

wide and quite broken for about 2 feet in depth. This zone required considerable trenching to get down to solid material.

The Southern extension of the vein below the adit was uncovered in three trenches. Attempts to trace this vein further to the South failed, as the overburden was too deep.

Three long cat trenches were made to the North, and along the strike of the "Red Bird" vein, but unconsolidated jasperized porphyritic trachyte was all that was uncovered.

The Upper Red Bird zone was cross trenched by two long cuts. Several very narrow quartz veins were uncovered, the best sections of which showed only minor gold values.

The Number 4 Vein was re-stripped by hand trenches for a strike length of 300 feet. The exposures on this vein are on a steep side hill, making cat trenching very difficult.

The Giant Vein, which had been previously exposed for 1,000 feet, was traced to the South for an additional 500 feet by several cat trenches, to the boundary of Empire Valley Mines Limited's claims.

A section of this vein, about 700 feet long, which had previously been sampled at about 25 foot intervals, was re-cleaned and re-sampled at 5 foot intervals.

Several long cat trenches were made to the North of the Northernmost exposure of the "Giant" vein. These cuts failed to uncover any vein or shear.

The Number 14 Vein was cross trenched above the adit by several cat trenches. No vein was encountered in these trenches. One cross trench, 500 feet along the strike North of the adit, uncovered a shear with similar characteristics to Number 14 vein.

The Number 13 Vein was exposed by four cat trenches over a strike length of 300 feet. Six samples from these trenches failed to indicate any gold values.

The Eldorado Vein was re-cleaned by hand trenching, and four samples taken.

Two 500 foot cat trenches were made on the "Joan" Mineral Claim, and cross cut the extension of the "Red Bird" vein about 2,000 feet North of its Northern-most exposure. These trenches cut two shears, which contained minor amounts of quartz, but no gold values.

A total of 6,200 feet of cat trenches were made with the D 4 cat. These trenches involved moving approximately 5,000 cubic yards of overburden and exposed an additional 2,000 feet of vein.

There were 220 samples taken, all of which were assayed for gold and silver. The results of all sampling is shown on the accompanying assay maps. The results of previously sampled sections of the veins which were not re-sampled are shown as block averages on the same maps.

As a result of this stripping and sampling, the observations regarding vein geology and ore occurrences are as described under the heading "Vein Geology"

GENERAL GEOLOGY

Although overburden is generally only a few feet deep, outcrops are rather scarce, except on the higher slopes of the mountain. The natural outcrops and areas exposed by stripping are shown on the accompanying maps. The bedrock consists of greyish green to dark green volcanica, considered to be memozoic or older in age.

A suite of twenty-four rock specimens were collected over the area, and presented to the Department of Geology and Geography of the University of British Columbia. From this suite of rocks, eight thin sections were made and the specimens identified by Dr. McTaggart of the Geology Department. From Dr. McTaggart's identification, and field observations made by the author, the following conclusions were reached:

The lowest rock occurrences on the property are platy basalt flows a hundred or more feet thick which strike North 30° East, and dip at 40° to the South East. These flows lie along the Western boundary of the mineral claims.

Overlying these basalt beds is about 400 feet of trachyte flows. These flows have several variations in colour, show very distinct flow lineation, and are fine to glassy in texture.

Overlying these trachyte flows is about 700 feet of porphyritic trachyte, which has a very consistent texture throughout. The predominant phenocrysts in this porphyry are plagioclase, giving it a lighter colour than the trachyte flows or basalts.

The uppermost part of the mountain, over a vertical range of 200 feet, is capped by a trachytic texture, pyroxene basalt, which is fine to glassy in texture. There are several off-shoot dikes from this cap which are shown on Map 1-300.

The porphyritic trachyte, where it comes in contact with the basalt cap, has been altered to a brick red colour for from ten to over a hundred feet from the contact.

This alteration consists of the plagioclase crystals being altered to sericite, and the addition of iron and some silicification.

There are numerous quartz veins and shears which cut the trachyte flows and porphyritic trachytes. These veins strike North 30° East to North 50° East, dip almost vertically, and extend over a strike length of from a hundred feet to almost two thousand feet.

The more important veins lie South of the basalt cap and dikes, and where traced Northerly towards the basalt, pinch out as they enter the jasperized porphyritic trachyte.

There are principally five types of vein occurrences on the property, as follows:

- (A) Solid massive quartz, chiefly white in colour, but occasionally having black and purple quartz present in bands.
- (B) Slightly sheared banded quartz, which gives it a ribbon-like appearance.
- (C) Loose, sugary textured quartz.
- (D) Vuggy crystalline combed quartz.
- (E) Slightly brecciated and silicified shears.

The major vein occurrences are comprised of several of these different types of formations.

VEIN GEOLOGY

Interest in this property lies in the existence of gold-bearing quartz veins. The maps with this report show the present knowledge of vein distribution and values.

Gold visible with the unaided eye exists on # 1 Vein, Ribbon Vein, Red Bird Vein, # 4 Vein, Eldorado Vein, and Giant Vein. The gold exists chiefly in pyrite crystals, which have been weathered, making the gold detectable with the naked eye. Some free gold in leaf, wire, and speck form was found in combed quartz which contained no pyrite.

There seemed to be a definite relationship between the size of the pyrite crystals and the concentration of gold. Pyrite crystals smaller than 1/10" contain minor amounts of gold, while crystals of 1/4" often contain up to 10% by volume of gold. This observation was most noticeable on the "Giant" vein.

Number 1 Vein

This vein has been exposed by hand stripping and bulldozing for a strike length of 1,200 feet, and a vertical range of 350 feet. The Southern and lowest 700 feet of this vein consists of a banded quartz vein averaging 8 feet wide. 420 feet of this 700 feet has an average width of 7.6 feet, and assayed - Gold 0.282 oz. per ton, and Silver 1.95 oz. per ton.

At a point 600 feet from the Southern end of this vein, the vein branches into three veins. The Western-most split changes

strike and joins up with what was originally called the "Sugar Bowl" vein. The Northern-most end of this vein is 1,200 feet from the Southern end of Number One vein.

The center split narrows down and terminates 700 feet North of the Southern end of Number One vein.

The Eastern split changes strike from North 30° East to North 50° East. The Northern-most cut exposing the vein is 950 feet North of the Southern-most exposure of Number One Vein.

The veins North of the split average two feet wide with no ore grade material exposed on the surface.

The East split is heading toward "Black Shear" vein, but heavy overburden prevented proving the continuity of these veins. This East split is composed entirely of sugary quartz.

South of the split "Number 1" vein consists chiefly of solid quartz, but there are numerous sections which have a sugar quartz texture. Diamond drilling indicated that this sugar texture exists down the dip of the vein for at least 70 feet.

This sugar quartz was examined to try and determine what caused this sugar texture.

One possibility is that the quartz was deposited in this form. Minor pyrite mineralization occurs in this sugar quartz, with no crystals being observed which protruded from any particle face. Also, the quartz particles do not have any regular crystal shape, but are composed of rather sharp edged random shapes.

Another possibility is that the sugar texture was created by postvein shearing or crushing. The lack of gouge along the walls of these veins tends to disprove this theory.

Black Shear Vein

This vein is a strong shear in jasperized porphyritic trachyte

with only minor silicification. The vein strikes North 30° East and dips 45° to the West. This vein lies just below the Eastern contact of the basalt cap, and dips in under the capping. Because the vein exposure is so near the basalt, there is every reason to expect this vein to strengthen and improve in grade with depth.

One of the five samples taken along the strongest section of this vein assayed - gold 1.055 oz. per ton, silver 1.45 oz. per ton, across a true width of 1.2 feet. The remaining four samples assayed little or no precious metals.

The Ribbon Vein

The Ribbon Vein parallels and lies 100 feet West of the "Sugar Bowl" vein. This vein has been exposed for a strike length of 450 feet over a vertical range of 150 feet.

This vein is a silicified shear with sheared ribbon quartz lenses up to 100 feet long and 1.6 feet wide.

Three samples taken on the best sections of three different lenses averaged 1.1 feet wide, and assayed 1.12 oz. per ton in gold and 10.4 oz per ton is silver.

This vein also has possibilities of improving with depth, and should be explored more fully if lateral development is started on "Number 1" vein.

Red Bird Vein

The Red Bird vein has been exposed on the surface for a strike length of 1,300 feet and a vertical range of 300 feet. This vein runs along the Western boundary of the "Bonanza" and "Eldorado" mineral claims, and extends Northerly for 400 feet from the boundary line between the "Bonanza" and "Eldorado" claims. The vein strikes North 60° East and is vertical.

The Northern 400 feet of the vein is in jasperized porphyritic trachyte. A zone about 20 feet wide has been re-crystallized and silicified with quartz stringers and veins cutting the silicified zone. The strongest of these veins within the zone carries gold values of ore grade. The remaining part of this zone carries less than 0.05 oz. per ton in gold.

The Northern end of the vein comes up against a North Westerly striking basalt dike, which dips 36° to the North East. The vein shear runs right up to the dike, but does not enter it.

The vein has been exposed for 900 feet South of the North boundary of the "Bonanza" mineral claim. The vein was 2.5 feet wide, but contained negligible gold in the Southern-most exposure. South of this exposure the vein was covered by overburden in excess of 10 feet, making surface stripping impractical.

The steeply dipping basalt dike of similar composition to the main cap lies just East of the "Red Bird" vein, 350 feet South of the boundary line. The dike exposure is about 50 X 80 feet, with the longest axis paralleling the strike of the vein.

An adit was collared on the vein 200 feet South of this dike at an elevation of 6,958 feet. This adit was advanced Northerly for 70 feet. The first 30 feet of the adit is timbered so that the vein could not be examined. The Northern 40 feet of the drift is along the contact between the porphyritic trachyte and dike. No quartz or mineralization was observed along the contact.

This adit, if extended 850 feet, would pass 200 feet below the two ore shoots indicated by surface sampling. This drift would probably have to be advanced 150 feet along the dike contact before any vein would be encountered.

This vein is relatively unbroken and could be tested by diamond drilling with reasonable assurance of good core recovery.

The Northern section of this vein was re-stripped and sampled at 5 foot intervals. Two ore shoots having a total length of 125 feet over a strike length of 175 feet, averaged 3.83 feet wide, and assayed - gold 0.405 oz. per ton, and silver 0.784 oz. per ton.

Number Two Vein

Number Two vein has been exposed from the North boundary of the

"Black Dome # 1" mineral claim South 20° West for 900 feet. The vein averages about 2 feet wide. The Southern 400 feet of this vein has been sampled, with no economic ore being discovered. One of nine samples taken along this vein was ore grade. This vein is 500 feet West of "Number One" vein, and diverging to the North. The Northern 500 feet ~~XXXX~~ of this vein is broken into several stringers a few inches wide across an overall width of about three feet. No samples were taken on this portion of the vein.

The Honey Vein

The Honey Vein lies 900 feet North 45° West of the South East corner of the "Bonanza mineral claim.

This vein is very weak and strikes North 35° East, and dips vertical. The vein which is exposed for about 30 feet consists of a few combed quartz stringers up to 3 inches wide, with an overall width of two feet.

No samples were taken on this vein.

The Giant Vein

The Giant Vein lies 300 feet Northwest of the North West corner of the "Eldorado" mineral claim. The vein has been exposed from the West boundary of the "Bonanza" mineral claim North 40° East for 1,500 feet. This vein dips about 80° South East.

This vein varies considerably in its physical characteristics from point to point along its strike.

The Southern 600 feet of the vein, as exposed on surface, consists chiefly of sugar quartz with widths of 2 to 3 feet. Surface samples indicate this section of the vein to be very low grade.

The next 700 feet of this vein has three main components. A foot wall zone of fine quartz stringers cutting an altered

silicified braccia zone, a main vein zone which is generally solid quartz, but in some sections has a sugar texture, and a sheared unsilicified decomposed hanging wall zone.

Four short ore shoots which have a total length of 160 feet over a strike length of 670 feet, averaged as follows: width 2.01 feet, gold 0.746 oz, per ton, silver 0.711 oz per ton.

The Northern end of this vein breaks up into a stringer zone across a width of about 15 feet. These individual stringers pinch out and a shear zone carries on for an additional 600 feet.

Number 14 Vein

Number 14 Vein lies on the strike and 1,200 feet North of the Northern-most exposure of the "Giant" vein. This vein consists of a slightly silicified decomposed shear in trachyte. The vein strikes North 40° East and dips vertically.

An adit was collared on this vein at about 6,500 foot elevation and extended for more than 100 feet. The adit was timbered for the first 50 feet, and caved 70 feet from the collar. Two samples taken between the timber and the cave assayed: 0.01 oz. in gold across 3 feet, and a sample taken from surface exposure below the adit assayed 0.005 oz. per ton in gold across 5.0 feet.

A cat trench 500 feet to the North of the adit uncovered a shear on the projected strike of Number 14 vein. This shear contained no silicification, and was not sampled.

Cat trenches up the hill to the South of the adit failed to uncover any vein.

It was previously assumed that Number 14 vein was the Northern extension of the "Giant" vein. Surface stripping during 1958 uncovered nothing to substantiate this theory.

Number 4 Vein

Number 4 vein, which lies 200 feet North West of the "Honey" vein, strikes North 30° East and is vertical. This vein is also very weak with the Southern 100 feet being only a stained shear in porphyritic trachyte. The Northern 200 feet contains several combed quartz stringers a few inches wide in a zone about 2 feet wide. Several specimens of free gold were found in the float around this vein, but four samples of the vein showed only traces of gold.

Eldorado Vein

This is a very weak vein on the North West corner of the "Eldorado" mineral claim. The vein consists of a few quartz stringers across an overall width of two feet. The Southern-most pits on this vein show numerous specks of free gold in decomposed pyrite. Samples taken on this vein indicated no ore grade material.

Number 13 Vein

This vein lies on the South Central part of the "Saddle" mineral claim. This is a slightly silicified shear zone up to 20 feet wide in trachyte flow rocks.

Six samples cut on this zone all assayed "trace" in gold and silver.

ECONOMIC POSSIBILITIES

The three largest and strongest veins on the property, Number One, Red Bird, and Giant, each have gold values which are ore grade or near ore grade.

The size and grade of these ore occurrences would have to improve with depth before this property could be considered a potential producer, or the price of gold would have to increased to \$50.00 per ounce.

The basalt cap which exists on the upper part of the mountain

is assumed to be older than the veins. This assumption is made from the fact that the majority of the veins disappear as they enter the jasperized porphyritic trachyte. If this assumption is true, and the basalt cap at one time covered most of the area where the veins exist, then the exposed veins are only the top of the existing vein system.

It is quite possible that the precious metals have been trapped just under this capping and the better portions of the vein are now exposed. However, it may be that the portion of the veins which are exposed are only the top of a valuable ore deposit.

After considering the factors set out in this report, the following programme is recommended.

RECOMMENDATIONS

The ore occurrences uncovered on the surface are not of sufficient size or grade to warrant underground development. To develop the known ore shoots on the three veins would require 3,200 feet of drifting, which would cost about \$100,000.00.

Although ore occurrences on surface are small, there are several geological features which indicate that the ore picture might improve with depth. For this reason, the author recommends a diamond drill programme for 1959.

There are two factors which must be considered in locating drill holes:

1. Previous drilling indicates the veins to be broken and decomposed 100 feet below the surface, making core recoveries poor.
2. Mineralization, especially on the "Giant" vein on the surface, is very erratic, resulting in core samples being only an indication at best.

Because of these factors, the minimum core size should be AX, and the minimum depth of intersections on the "Giant" and "Number 1" veins should be 300 feet. The "Red Bird" vein could be drilled with reasonable expectation of good core recovery from shallow in-

tersections.

With these factors in mind, the author recommends the following diamond drill programme, with the holes laid out to intersect the veins as shown on the accompanying maps in the plane of the veins.

| <u>VEIN</u> | <u>CORE SIZE</u> | <u>NO. OF HOLES</u> | <u>VERT. A</u> | <u>DEPTH BELOW SURFACE</u> | <u>LENGTH OF HOLES</u> | <u>TOTAL LENGTH</u> |
|-------------|------------------|---------------------|----------------|----------------------------|------------------------|---------------------|
| A 1 | AX | 4 | -45 | 300' | 430 | 2150 |
| Red Bird | AX | 3 | -45 | 200' | 280 | 840 |
| Red Bird | AX | 3 | -45 | 400' | 560 | 1680 |
| Giant | AX | 5 | -45 | 300' | 430 | 1720 |
| Total | | 15 | | | | 6390 |

This diamond drill programme should not be rigidly followed, but altered according to results obtained. If core recoveries are sufficiently good, the depth of intersections could be reduced and a greater number of holes drilled. If, after one half the holes on any one vein have been drilled, the intersections indicate non-commercial grade material, the drilling of that vein should be suspended.

If the drilling of each vein produced negative results, the drilling should be suspended and no other expenditure incurred on this property.

The cost of this drilling would be approximately \$4.50 per foot, to recover AX core, if the drilling is done by Silver Standard Mines Limited, using their own equipment.