

C9-84

Geological Assessment Report

on the

BOVANZA CLAIM GROUP

Lillooet Mining Division

Latitude 50°39'N Longitude 122°02'W

N.T.S. 92J/9E

(Field work between Sept. 17-21, 1983)

for

WHITECLIFF RESOURCES LTD.

14648 - 134 Avenue,

Edmonton, Alberta,

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,871

Report by

Mr. D.G. Cardinal, F.Geol.

Hope, B.C.

November 28, 1983

*Dan Cardinal*

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## INTRODUCTION

The writer was requested by Whitecliff Resources Ltd. to briefly examine and map the underground workings located on the Bonanza claim group. The work conducted is described in this report and submitted for assessment work credits.

Whitecliff, owner of the property also requested consulting engineer, E.O. Chisholm to write a qualifying report on the ground which is attached to this assessment report.

## LOCATION AND ACCESS

The Bonanza claim group is located 6 km. southwest of the town of Lillooet, B.C. on Cayoosh Creek road and within the Lillooet Mining Division.

Access to the property is by a well maintained gravel road used by tourists and logging trucks. The Cayoosh Creek road cuts through the centre of the claim group.

The claims lie within a rugged mountainous region, with elevation ranging from 750 ft. (229m.) at the valley floor to 6,000 ft. (1829 m.) on the mountain summits.

MESOZOIC

- |                                  |  |
|----------------------------------|--|
| <b>21</b>                        | <i>Conglomerate, sandstone, and shale</i>  |
| <b>CRETACEOUS</b>                |  |
| <b>LOWER CRETACEOUS</b>          |  |
| <b>KINGSDALE GROUP</b>           |  |
| <b>19</b>                        | <i>Arkose, conglomerate, shale, and greywacke</i>  |
| <b>20</b>                        | <i>Basalt and andesite; agglomerate, tuff, and breccia</i>   |
| <b>SPENCES BRIDGE GROUP</b>      |  |
| <b>18</b>                        | <i>Andesite, dacite, basalt, and rhyolite; tuff, breccia, and agglomerate, conglomerate, sandstone, greywacke, and arkose</i>  |
| <b>JACKASS MOUNTAIN GROUP</b>    |  |
| <b>15</b>                        | <i>DIVISION A: greywacke, argillite, and siltstone; arkose and conglomerate</i>  |
| <b>16</b>                        | <i>DIVISION B: conglomerate, greywacke, and argillite</i>  |
| <b>17</b>                        | <i>DIVISION C: greywacke, argillite, conglomerate; arkose</i>  |
| <b>LILLOOET GROUP</b>            |  |
| <b>14</b>                        | <i>Argillite, volcanic conglomerate, and tuffaceous sandstone</i>  |
| <b>BREW GROUP</b>                |  |
| <b>13</b>                        | <i>Argillite, quartzite, and conglomerate</i>  |
| <b>JURASSIC</b>                  |  |
| <b>MIDDLE AND UPPER JURASSIC</b> |  |
| <b>12</b>                        | <i>Shale, conglomerate, and sandstone</i>  |
| <b>TRIASSIC</b>                  |  |
| <b>UPPER TRIASSIC</b>            |  |
| <b>NICOLA GROUP</b>              |  |
| <b>11</b>                        | <i>Basalt and andesite; tuff and agglomerate; limestone, quartzite, argillite, greywacke, and arkose</i>   |
| <b>TRIASSIC OR EARLIER</b>       |  |
| <b>8-10</b>                      | <i>8. Phyllite, quartzite, limestone; greenstone; schist<br/>9. Argillite, slate, phyllite, quartzite, greywacke, chert, limestone; greenstone; schist<br/>10. Phyllite, argillite, conglomerate, greywacke. May be in part of late Mesozoic age</i> |

LOCATION AND

GENERAL GEOLOGY MAP

EXCERPT FROM GSC  
MAP 1010 A, ASHCROFT

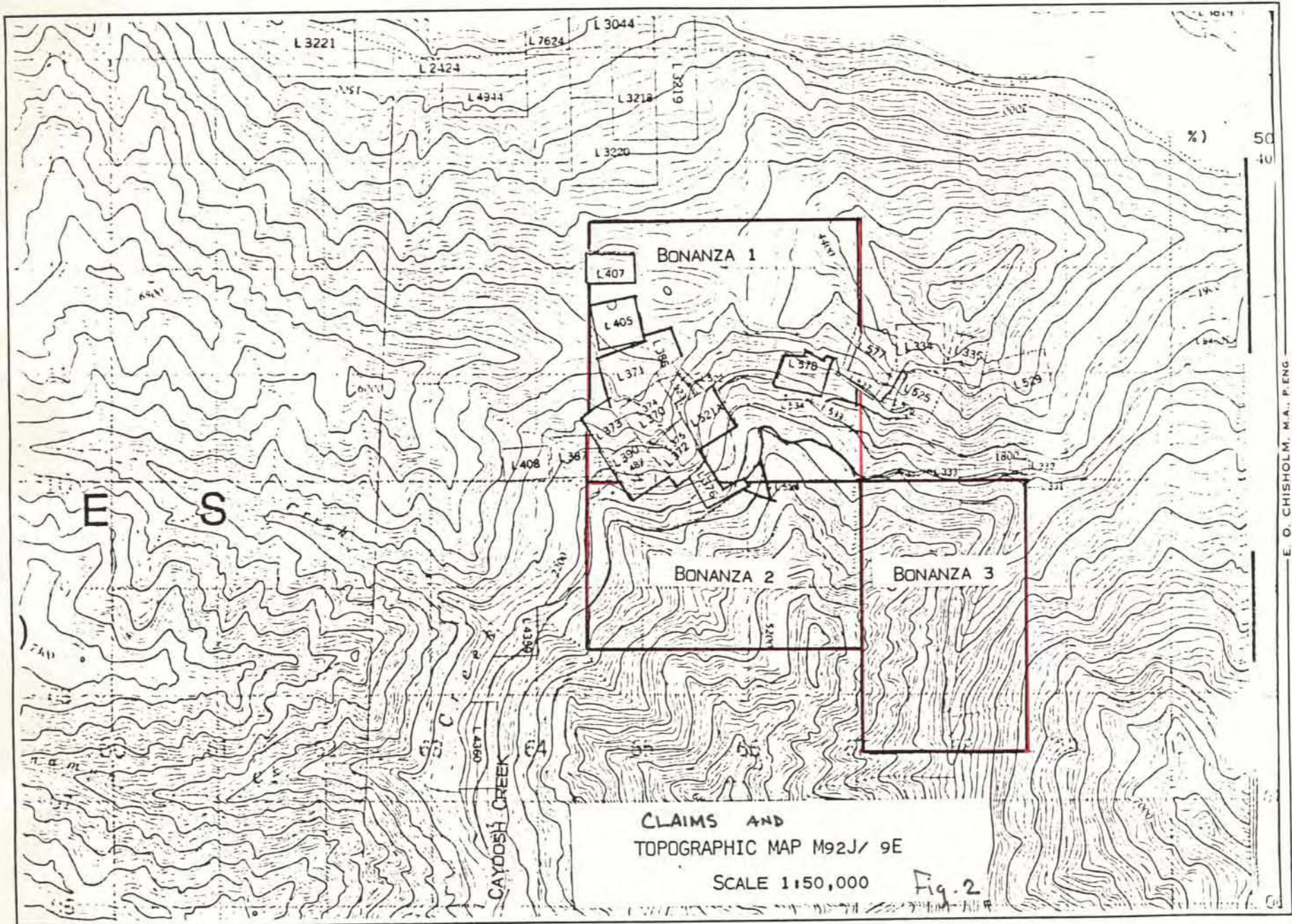
SCALE 1:253,440.

**BONANZA CLAIMS**



DGC.

Fig. 1



CLAIMS AND  
TOPOGRAPHIC MAP M92J/ 9E

SCALE 1:50,000

Fig. 2

E. O. CHISHOLM, M.A., P. ENG.  
CONSULTING GEOLOGIST

## CLAIMS INFORMATION

The Bonanza claim group consists of 5<sup>R</sup> contiguous units and 3 fractions which are owned by Whitecliff Resources Ltd. of Edmonton, Alberta.

The claims are in the 92J/9E map sheet and are in good standing. Pertinent claims data is outlined below.

<u>Claim Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Anniversary * Date</u>
Bonanza 1	2153	20	Sept. 24/83
Bonanza 2	2154	20	Sept. 24/83
Bonanza 3	2157	18	Sept. 27/83
Eagles Nest	2190 (L 407)	1	Nov. 15/83
Aloha Bell Fr.	2231 (L 523)	1	Nov. 17/83
Omega Fr.	2231 (L 512)	1	

\* Prior to assessment work credits applied for.

## HISTORY

Historically, the Bonanza group and adjacent ground has had a long mining background and is documented in various B.C. Ministry of Mines annual reports. In 1895, the earliest reference to the Bonanza claim area was a report by A. E. Noel who staked the Golden Cache claims. For the next 35 years, this area experienced only limited mine development

cont'd

work consisting of some tunnelling. During this period, the only recorded production was 3,074 tons of ore averaging 0.237 oz/ton gold. 1934 is the last year any underground work was recorded, where a crosscut up to 1,042 ft. (318 m.) long was driven to test a series of erratic quartz lenses and shear zones.

Recent increases in the price of gold has attracted companies back into this area to re-evaluate the old workings and to examine existing claims for possible gold potentials.

#### GENERAL GEOLOGY

The area is underlain by metasediments and metavolcanics called the Brew Group Formation, Lower Cretaceous age. The following description is by J.F. Walker of the G.S.C., in Summary Report 1933. "The rocks of the map-area consist of folded, schistose sediments and volcanics trending in general northwesterly and invaded by various types of granite, quartz diorite, etc., forming large and small bodies. The sediments and volcanics range in age from Triassic or older to Tertiary and belong to several series separated by unconformities. Some of the granitic rocks may be older than some of the sedimentary series, but it is not improbable

cont'd

that all are younger."

Rocks observed by the writer on the property consist mainly of graphitic phyllite, and thin lenses of argillaceous siltstone which occur as tight recumbent folds. A number of narrow imbricated faults and shears associated with minor quartz veins also occur within the folding.

#### UNDERGROUND MAPPING

Old underground workings located just south of the Cayoosh Creek road on the Bonanza 1 claim was mapped using compass and chain.

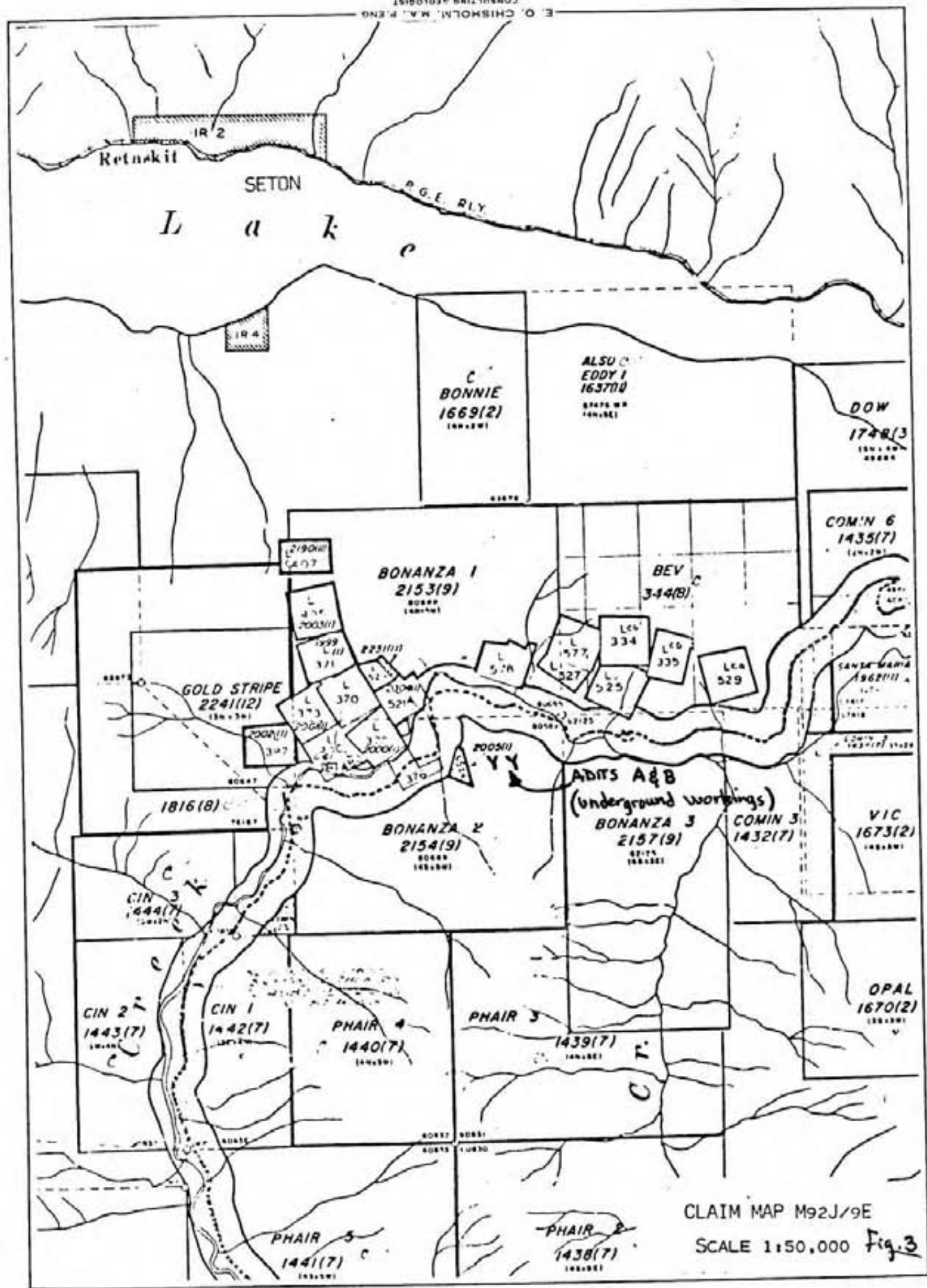
The underground workings consist of some 318 feet (97 m) of tunnelling in which two adits were driven to test the quartz lenses. The adits are located at the 1,680 ft. (512 m) and 1,650 ft. (503 m.) elevation (referred to as adit 'A' and 'B' respectively) and both connected by a decline 67 ft. (20 m) long on a 20° slope.

Adit 'A' is 43 ft. (13 m.) long with a bearing south 10° east, some stoping has been done for the first 20 ft. in sheared argillites. Minor rust coated, quartz lenses were noted containing some pyrite.

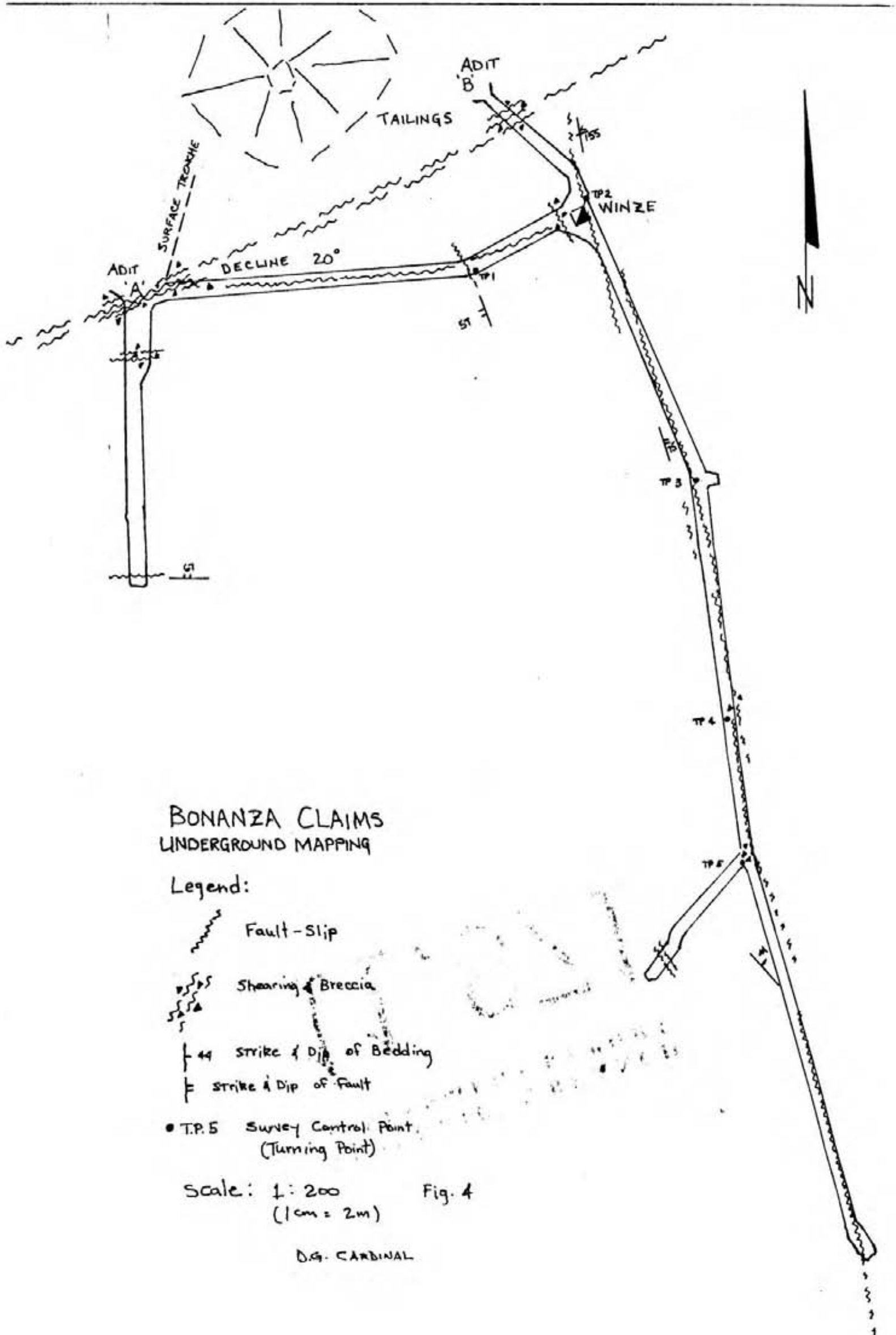
Adit 'B' is 187 ft. (57 m.) in length and was drifted on a fault-slip; the drift has an average bearing of south 30° east. About 23 ft. (7 m.) south of the portal entrance is a winze which is reported to connect to workings 60 ft.

cont'd





CLAIM MAP M92J/9E  
 SCALE 1:50,000 Fig. 3



(19 m.) below. The winze was partially filled with water at the time of the writer's mapping. Some 62 ft. (19 m.) back from the face, a branch working extends south  $27^{\circ}$  west for 23 ft. ( 7 m.).

The rocks mapped in the drifts consist of monotonous graphitic phyllites with the occasional quartz lense. Near the entrance of both adits, is a strong shear zone striking approximately E-W, having a shallow dip. The shear appears to be in part related to recumbent folding in which some mineralization was introduced. No other sulphides or mineralization was encountered during mapping of the drifts.

#### SUMMARY AND CONCLUSIONS

- The Bonanza claim group is located just west of Lillooet, B.C., in an old historical gold mining area which dates back to the turn of the century.
- The claims are owned by Whitecliff Resources Ltd. of Edmonton, Alberta and consist of 58 contiguous units and 3 fractions.
- The only recorded production is from adjoining property which produced some 3,074 tons of ore grading 0.237 oz/ton gold.
- The general geology of the area is underlain by graphitic phyllites and schists which are tightly folded into recum-



Consulting, P.Eng. Report

2,000.00

Total 5,900.00

Respectfully Submitted,



Mr. D.G. Cardinal, P.Geol.

Consulting Geologist.

APPENDIX I

CERTIFICATE

I, Daniel G. Cardinal of the Municipality of Hope, British Columbia, do hereby certify that:

1. I am a professional geologist residing in Hope, B. C., mailing address, P. O. Box 594, Hope, B. C., V0X 1L0
2. I am a graduate of the University of Alberta (1975) with a B.Sc. degree in Economic Geology and a graduate of the Northern Alberta Institute of Technology with a Geological Technologist diploma (1970).
3. I am a member in good standing with the Association of Professional Engineers, Geologists and Geophysicists of Alberta and a member of the Canadian Institute of Mining and Metallurgy.
4. Since 1968, I have been actively involved in the Canadian mining industry both as a prospector and a professional geologist and have assisted and instructed prospector's courses through the Department of Extension, University of Alberta.
5. I have no personal interest directly or indirectly in the properties examined or in Whitecliff Resources securities, nor do I expect to receive directly or indirectly any interest in such property or securities.
6. The findings in the report are derived from data acknowledged and from a personal examination of the property on September 17 to September 21 1983.

APPENDIX I (cont'd)

7. The full text of the report and accompanying maps may be reproduced in the Company's Prospectus or Statement of Material Facts.

  
Daniel G. Cardinal, P. Geol.





83-#767-1187H

GEOLOGICAL REPORT

on the

BONANZA 1 TO 3 CLAIM GROUP  
CAYOOSH CREEK  
LONG. 122°02'W - LAT. 50°39'N  
LILLOOET DISTRICT, B.C. (92J-9E)

for

WHITECLIFF RESOURCES LTD.

by

EDWARD O. CHISHOLM, P.ENG.

Vancouver, B.C.

September 14, 1983

The claim group surrounds an old mine dating back to 1895 which was operated for a short period in the late 1890's with a stamp mill on a similar vein structure in the argillites.

The claims are accessible by road and foot trails, and are at moderate elevations of about 2700 feet. They are covered by shallow overburden, and are lightly forested with second growth pine and poplar.

The favourable geology, the history of the area, and the widespread occurrence of erratic gold mineralization, warrants further investigation and systematic sampling to evaluate the vein structures.

An exploration programme of surface geochemical soil and rock sampling, detailed mapping and bulk sampling of known veins exposed in the old adits, is recommended at an estimated cost of \$54,760 in the first two phases. If successful, diamond drilling should be carried out on the property.

### INTRODUCTION

The writer made an examination of the property on November 3, 1982 at the request of David Javorsky of Vancouver, B.C. who staked the claims. The data for this report was derived from this examination and published governmental and private reports on the area listed in the appendices.

An inspection of two discovery claim posts show the claims were staked according to the Department of Mines regulations. Any implications regarding their legal status is beyond the scope of this report.

This report was requested on behalf of Whitecliff Resources Ltd., 14648 - 134 Avenue, Edmonton, Alberta, T5L 4T4.

## PROPERTY

The Bonanza group is comprised of the following claims, as shown on the accompanying claim map, which are crossed east-west in the middle by a water right-of-way along the Cayoosh Creek.

Claim Name	Recorded No.	No. of Units	Due Date
Bonanza 1	2153	20	Sept 24/83
Bonanza 2	2154	20	Sept 24/83
Bonanza 3	2157	18	Sept 27/83
Eagles Nest	2190 (L407)	1	Nov. 15/83
Aloha Bell Fr.	2231 (L523)	1	Nov. 17/83
Omega Fr.	2231 (L512)	1	

All claims are in the 92J/9E map area and are reported in good standing as of this date.

A notification from the Gold Commission to David Javorsky of March 15, 1983 advises that Bonanza 1 and 2 mineral claims have been partially staked in an area reserved by Order in Council 4587 approved December 15, 1971, which states: "No staking 10 chains (330 feet) either side of the Creek". The encroachment is shown on the attached claim map.

### LOCATION AND ACCESS

The Bonanza claims are accessibly located on a hard surface gravel lumber road, 6 km southwest of the Town of Lillooet, B.C. on the Cayoosh Creek Road, Lat.  $50^{\circ}39'$ North, Long.  $122^{\circ}02'$ West, approximately. The road and Cayoosh River run through the central part of the claim group.

The adits on the Bonanza group are reached by a steep trail a few hundreds of feet above the road. One adit is at road level and another just below the road near the creek. Elevation ranges from 750 feet at river level to 1500 feet on the north side on the Bonanza Creek, and up to 6000 feet on the north side of the river.

Water power and timer are available for all mining operations.

MESOZOIC

21

*Conglomerate, sandstone, and shale*

CRETACEOUS

LOWER CRETACEOUS

KINGSDALE GROUP

19

20

19. *Arkose, conglomerate, shale, and greywacke*  
20. *Basalt and andesite; agglomerate, tuff, and breccia*

18

SPENCES BRIDGE GROUP  
*Andesite, dacite, basalt, and rhyolite; tuff, breccia, and agglomerate, conglomerate, sandstone, greywacke, and arkose*

JACKASS MOUNTAIN GROUP

15

16

17

15. *DIVISION A: greywacke, argillite, and siltstone; arkose and conglomerate*  
16. *DIVISION B: conglomerate, greywacke, and argillite*  
17. *DIVISION C: greywacke, argillite, conglomerate; arkose*

14

LILLOOET GROUP  
*Argillite, volcanic conglomerate, and tuffaceous sandstone*

13

BREW GROUP  
*Argillite, quartzite, and conglomerate*

JURASSIC

MIDDLE AND UPPER JURASSIC

12

*Shale, conglomerate, and sandstone*

TRIASSIC

UPPER TRIASSIC

NICOLA GROUP

11

*Basalt and andesite; tuff and agglomerate; limestone, quartzite, argillite, greywacke, and arkose*

TRIASSIC OR EARLIER

8-10

8. *Phyllite, quartzite, limestone; greenstone; schist*  
9. *Argillite, slate, phyllite, quartzite, greywacke, chert, limestone; greenstone; schist*  
10. *Phyllite, argillite, conglomerate, greywacke. May be in part of late Mesozoic age*

GENERAL GEOLOGY MAP

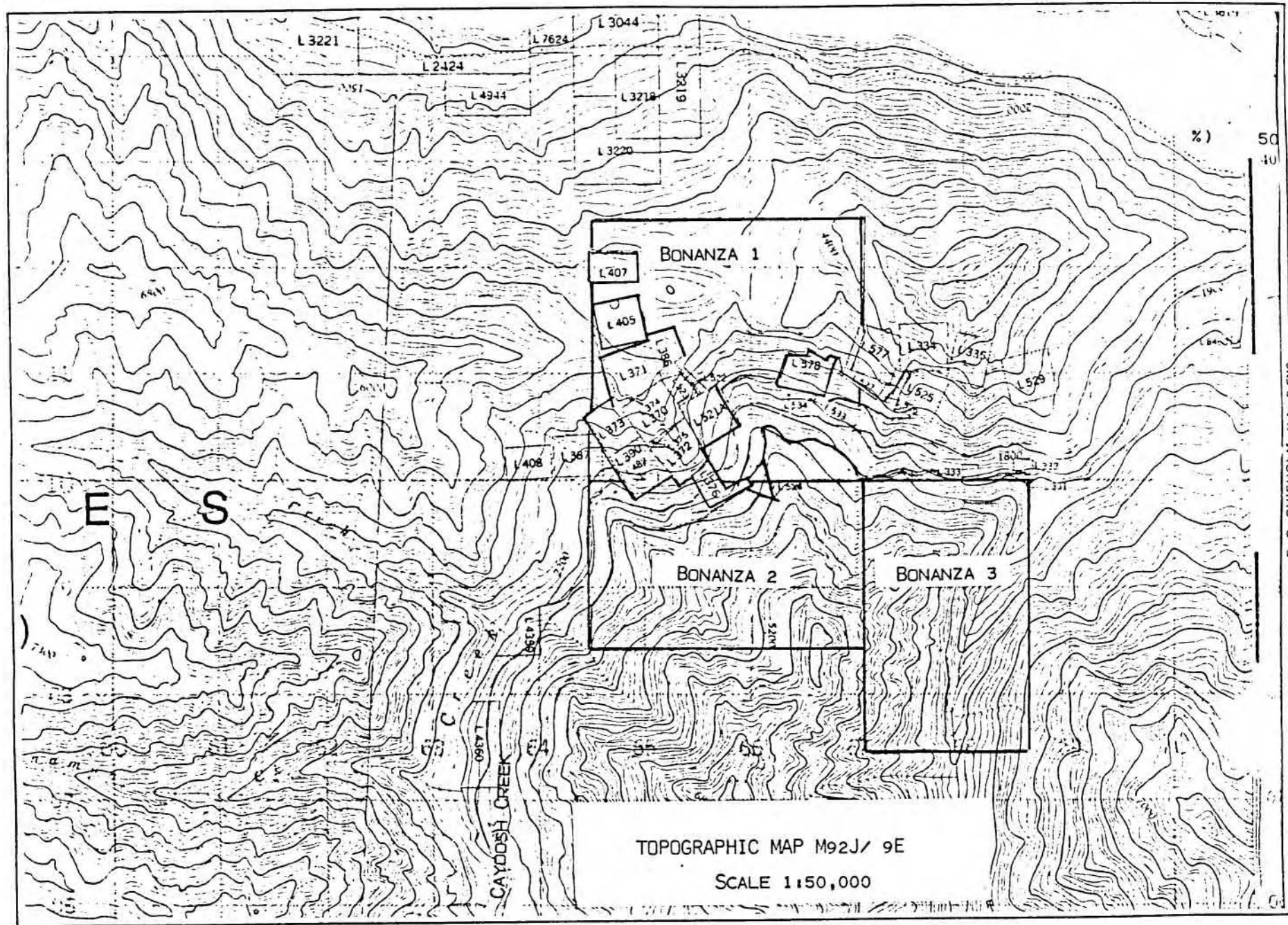
EXCERPT FROM GSC  
MAP 1010 A, ASHCROFT

SCALE 1:253,440.

BONANZA

45





E. O. CHISHOLM, M.A., P. ENG  
CONSULTING GEOLOGIST





## HISTORY

- 1859 Bulletin No. 20. Part IV. B.C. Dept. of Mines Lode-Gold Deposits of South Western British Columbia by J.S. Stevenson states: "Placer" gold was discovered on Cayoosh Creek in 1859.
- 1895 The earliest reference on hand to the Bonanza area is a report by Arthur E. Noel discoverer of the Bralorne Mine. Bridge River area 26 mles northwesterly from the Bonanza claims, on a group of claims called the Golden Cache group L370, 372, 373, 376, 390, L524, which are surrounded by the Bonanza 1 and 2 claims and the Bonanza group L125 to L128 which are now part of the present Bonanza 2 group. Noel was the original locator of the Golden Cache and was employed as a miner on the Bonanza group in 1895. Noel sold out his holdings and in 1897 bought the discovery claims of which is now the Bralorne Mine, of the British Columbia's famous gold producers. He then bought the Pioneer Mine claims in 1898 which was later developed to be the Pioneer Mine. Apparently, interest was accrued on in the Cayoosh Creek area by the discovery of placer gold on Cayoosh Creek by the Chinese in 1859. The source was traced to the Bonanza group on the hillside above Cayoosh Creek.
- 1896 B.C. Ministry of Mines Report 1986, pages 547, 548 and 549, reports on the Cayoosh Creek mine activity including the Bonanza group and others as follows:

"Much excitement in this class of mining has prevailed since the location of a rich gold bearing claim on Cayoosh Creek in April last, followed by the location of several claims on Poole Creek, Pemberton Portage, in June last, alleged to carry gold, silver and copper. I append sketch plans of the locations on both creeks, courteously furnished me by Mr. P. Burnet, Provincial Land Surveyor, who has been on the ground the greater part of the season, and may be taken as correct, and will serve to illustrate and locate my remarks in reference to the claims on both creeks. Dealing first with Cayoosh Creek:

### The Bonanza

Unfortunately, the very severe snow-storm early in last month put a full stop to all work of that nature, and with little chance of it being resumed before March at least, as the snowfall was deep and we are liable to similar storms during the next two months. The other claims on this creek, which may be referred to, are the Bonanza group of six claims, located in the fall of 1887, and the Ample and Whale. On these claims a considerable amount of development has been done, notably on the Bonanza group. The Lillooet and Fraser River and Cariboo Gold Fields Co. had a prospecting and development bond on the three lower claims of the Bonanza group last year, which is fully reported on by their manager, Mr. Hughes, in my last annual report.

This company's operations were confined to the lower claim, through which the creek runs, and were continued up to this spring, when the forces were withdrawn and put to work on the Ample and Whale, and continued there the greater part of the summer, when work was stopped on them all. The time limits of the prospecting bonds with that company have expired with regard to both properties, without coming to further arrangements.

### History of Cayoosh Creek

A brief review of the history of Cayoosh Creek may not be out of place at this time. The miners arriving in this Province in its early mining history, 1858, and onwards, were largely from California, and the best of them with but a limited knowledge of placer mining, acquired in the previous decade from the discovery of the placer mines in California. Quartz mining was unknown then to the great majority of them.

They brought with them the erroneous impression that gold would never be found in payable quantities in the granite masses of the Cascade Range. In fact, gray-haired veterans can be found in the Province to-day who still hold that prejudice. Hundreds of these miners wintered in Lillooet, and thousands of them have passed by Cayoosh Creek to and from Cariboo. The gigantic mass of Mount Brew, to the south-west of the Town of Lillooet, and the granitic talus scattered from its base across Cayoosh Creek, and extending out to the north shore of Seaton Lake, there to be met by a similar formation, was sufficient evidence to the early gold-hunter in this Province to avoid Cayoosh Creek as worthless. Whether I am correct in this hypothesis is immaterial, the fact remains that it continued untouched and in a state of nature until the spring of 1886, when a flock of Chinese quietly settled down on it, and Mr. Phair, Mining Recorder, reported to me in December of that year that he had recorded for them 190 claims, and for white miners 16, and Mr. A. Smith reported to me at the same time that during that year he had

bought 725 ounces of Cayoosh Creek gold, adding his belief that there was as much more in the hands of the Chinese miner. In 1887, parties here grub-staked two miners, and sent them out to endeavour to locate the sources of the gold found in the creek. They left here in August of that year, and followed the north-west side of the creek some 15 or 20 miles above the Chinese claims, but without finding anything, either in the creek or mineral in place. They returned by the south-east side of the creek, and at a point within the lines of the Mary-Ann claim, on Mr. Burnet's plan, discovered a large boulder, composed of quartz and slate, which had evidently been broken off the mountain-side high above them. Without appliances to break the boulder, they built a fire on it, and after heating it well, poured water on it, and thus broke it up, when gold was easily to be seen in it. It was an easy matter then to trace the line of descent, and after a little search the place was found on the Bonanza ridge, at a point between the second and third location up from the river, and where gold-bearing specimens could be found here in abundance.

The prospectors returned here, and the six claims were recorded on the 12th September, 1887. The find soon leaked out, and the next claim recorded was on the 26th October of that year, about 2,000 feet above the creek, and nearly opposite the Bonanza, and afterwards abandoned. From that time on to spring of this year a few claims were annually recorded as a rule only to be abandoned, without any attempt at development or exploration. In December, 1887, Mr. A.W. Smith reported his purchases of gold for that year at \$65,696, a large proportion of which was from the Chinese claims on Cayoosh Creek. In 1888 his purchases amounted to close on \$60,000, seven-eighths of which was estimated to be from Cayoosh Creek. In 1889 the amount bought by Mr. Smith dropped to \$39,000 with the exception of about \$100 worth, all bought from the Chinese miner. Summed up, the Chinese were the discoverers of gold in Cayoosh Creek. From Mr. Smith's accurate returns, we find that he bought from them in three years gold amounting to, in round figures, say \$103,000. To be well within the mark, allow one-half of that amount as carried away by them, and we have a total of \$154,500 for the three years. The whole of this was taken from, say five miles of the creek, and all below the line of the Bonanza group.

Resultant on the discovery of the river claims was a lease issued to the Vancouver Enterprise Co., situated below the limits of Mr. Burnet's plan. This company was formed for the purpose of diverting the river from the present bed, and working it and its surroundings to bed-rock. Numerous obstacles to this plan came in the way, the company spent a large amount of money in various plans for development, and finally bonded their lease to the Lillooet, F.R., and Cariboo Gold Fields. This company spent a good deal of time and money in exploration and development, and put in powerful pumps to enable them to reach bed-rock, but failed in the undertaking. That part of the creek bed, ancient and modern, is still unknown.

This is the history of the creek from its discovery to the present time. From my observations, there are three kinds of gold in the creek, the finer kind uniformly distributed through the ore found in the Golden Eagle. The coarser and richer specimens, found in the Bonanza group, and the still coarser specimens found in the river bed workings by the Chinese, some of them going as high as \$70. It is a well established fact, I think, that coarse gold, released by whatever agency from its rocky matrix, moves but a short distance, even in swift-running rivers. In the Golden Eagle and Bonanza group are the sources of at least a portion of the two first named kinds. In my opinion, the source of the third kind has not yet been located, and most likely will be found below the line of Cottonwood Creek."

1897 Report of Minister of Mines, 1897, page 556:

#### "Quartz

In this class of mining the scene of excitement has changed from Cayoosh Creek and Blackwater to the upper waters of the South Fork of Bridge River and tributaries. The Blackwater claims may be dismissed in the meantime with brief notice. They may be very valuable, but there has been no attempt at anything like actual development.

With regard to the various claims on Cayoosh Creek, I am advised that development work to the extent of \$1,000 each has been done on the Mineral Point, Eagle's Nest Group, Tug of War Group and Ample Group while work has been continued on the Golden Cache Group throughout the year.

The president of the Alpha Bell Company's claims on Cayoosh Creek reports that, 235 feet of tunnelling have been run on different ledges, some of which have assayed very high, while others have averaged low. As, however, none of the tunnels are in over 60 feet, we are of the opinion that with depth the ledges will gain in value. We think this especially the case with the tunnel on the Surprise claim, which has exceeded our expectations, having assayed up to \$1,000 per ton. Three of the ledges on our Cayoosh Creek property are still untested.)

Mr. Jensen, superintendent of the Excelsior Gold Mining Company, reports in regard to the Excelsior mineral claim, situated on the north bank of Cayoosh Creek, and about 1,000 feet above the creek: Active development commenced on the 1st of May last, and has been continuous up to the end of the year. The ledge shows on the surface for a distance of 700 feet, foot wall slate; hanging wall, conglomerate. A tunnel was run on the ledge where it was 6 feet wide on the surface, and it increased to 9 feet wide at 163 feet, the inner

end of the tunnel. The character of the rock is free-milling white, to white and blue; quartz with fine veins and seams of talc. Assays made during the progress of running the tunnel gave from traces to \$177 per ton in gold.

No work has been done on the Bonanza group of mines during the past year. A passable road has been made from Seaton Lake to the Golden Cache Co.'s claims and available for all the claims on Cayoosh Creek. This road to a great extent in its entire length is practically a narrow shelf along the deep mountain sides. Unnumbered engineering difficulties were in the way of its construction, and it still requires a great deal of improvement, which is a matter that can safely be left with the Department of Lands and Works."

1902 B.C. Dept. Mines report 1902, page 1092 reports mining operations "Toronto-Lillooet gold reef's claims of Cayoosh Creek in 1901 milled 950 Tons of ore assaying \$11.20. The recovery was only 50%.

1905 Report of Ministry of Mines, B.C. page G-250:

"A syndicate, represented by Mr. Fred A. Fenton, in January, 1904, purchased the assets and properties of the Golden Cache and the Toronto-Lillooet Gold Reefs Companies, on Cayoosh Creek. Until October 22nd, seven men were employed in prospecting the claims, the main work being done on the Crown-granted Ample claim. There, a tunnel was run in 253 feet for the purpose of determining whether or not the deposit of arsenical iron sulphide, that had been opened by the former owners, was continuous with depth. I am informed that the tunnel driven by Mr. Fenton, when driven about 170 feet, intersected one ledge about 7 feet wide, and that the ledge at the end of the tunnel is 32 feet wide between walls. Work on the property has been stopped for the winter months.

The same syndicate has acquired a working bond upon the properties of the Bonanza Mining Company on Cayoosh Creek and now has 14 men employed there in development work."

1932 B.C. Ministry of Mines report 1932. Western District No. 61, page A-211, reports as follows:

"Cayoosh Creek has been a prolific placer-gold producer, estimated in the hundreds of thousands of dollars, and was extensively worked by the Chinese in the early days. Much capital has been expended in efforts to reach bed-rock at different places. This year there were

about a dozen men working steadily from the falls up the creek. Several have built cabins and are wintering there. My information is that small wages are being made.

"This property was first worked in 1896 and was a year or two later equipped with a stamp-mill. There was some production from the mine, but the erratic in occurrence. Spectacular specimens of free gold were obtained. An option was taken on the property a couple of years ago by Vancouver interests, but nothing has been done towards reopening it."

1933 B.C. Minister of Mines, 1933.

### Cayoosh Creek Section

"This is an old mining area reached from Craig Lodge, at the foot of Seton lake, by a good, though narrow, auto-road 10 miles long up the creek to the old Golden Cache mine. Cayoosh creek was a prolific placer-gold producer in the early days. With an estimated output of about \$200,000. Several later attempts to reach bed-rock above the falls were unsuccessful and individual efforts at placer-mining in the past two or three years have not been encouraging.

The company (formerly the Cache-Bonanza Gold Mines, Limited) has its registered office at 827 Vancouver Block, Vancouver. The company acquired the old Golden Cache and Bonanza groups, situated about 10 miles up Cayoosh creek. The Golden Cache Mines Company owned the Golden Eagle group of five claims. The Bonanza group, on the opposite or west side of the creek, contains six claims staked in 1887, the year after placer gold was discovered by the Chinese in Cayoosh creek. Prospectors looking for the source of the placer gold found a large boulder of ore on the creekbank, which they broke up by heating and pouring water on it, and found free gold in it. The vein was found on the mountain-side above and the Bonanza group staked.

Arthur Noel, now interested in the Bonanza-Cache Gold Mines, Limited, was one of the original owners of the Golden Cache and manager of the property in 1895-96-97, when it was equipped with a stamp-mill. Spectacular gold specimens were found, but apparently the average ore was milling-grade.

During 1933 the road was repaired and at the upper end a new bridge was built across Cayoosh creek. The old Golden Cache camp was reconditioned and some work done on the Bonanza group. A 40-foot tunnel was driven on a vein and a working crosscut tunnel started at the road. This crosscut will cut a series of parallel veins in a length of about 1,000 feet and will attain a depth of about 450 feet

under the main vein on the ridge. It is proposed to crosscut the vein series and drift on the main vein when it is encountered because of the great depth which can be gained in a comparatively short distance. The work was stopped for the winter, but a compressor is to be installed as soon as possible in 1934 to hasten underground development."

- 1933** Geological Survey Summary Report, 1933, Part A., Page 70A, by J.F. Walker.
- 1935** B.C. Minister of Mines Report 1935, page F6., contains a detailed description of the geology and workings of the area that are excerpted in the following Geology section.
- 1971** A placer lease was granted on Cayoosh Creek on the old Ample mill and mine area, L578, the right bank of the creek covering 80 acres to C.J. Kamenka of Lillooet, B.C. The Ample claim lies within the Bonanza No. 2 claim on Cayoosh Creek.

#### Recent

No recent mining activity has taken place on Cayoosh Creek in recent years as far as is known by the writer, with the exception of considerable staking in 1980's due to the rise in the price of gold.

## GENERAL GEOLOGY & MINERALIZATION OF BONANZA CLAIMS AREA

The geology and mineral deposits of the area in which the Bonanza group lies is described by J. F. Walker, Geological Survey of Canada, in Summary Report 1933, Part A, as follows:

### General Geology

"The rocks of the map-area consist of folded, schistose sediments and volcanics trending in general northwesterly and invaded by various types of granite, quartz diorite, etc., forming large and small bodies. The sediments and volcanics range in age from Triassic or older to Tertiary and belong to several series separated by unconformities. Some of the granitic rocks may be older than some of the sedimentary series, but it is not improbable that all are younger.

The hornblende (augite) diorite stocks of the Cadawallader Creek gold camp because of their areal association with the gold-bearing lode deposits have attracted attention. Two stocks of this diorite were examined during the past season. One crosses McGillivray Creek below the forks and the other extends west from Anderson Lake from a point about one-half mile north of D'Arcy.

Quartz diorite forms large bodies in the southwestern part of the map-area. It is younger than all the pre-Tertiary sedimentary and volcanic formations, but is cut by numerous rhyolite, syenite, and lamprophyre dykes. A small stock of miarolitic granite is also younger than the quartz diorite. This stock and some dykes of miarolitic granite outcrop on the shores of Anderson Lake about midway between D'Arcy and McGillivray Falls. The granite is rather finely grained, flesh coloured, and contains numerous cavities. It is cut by rhyolite dykes and others that are lamprophyres or andesites.

### Mineral Deposits

The mineral deposits of the Bridge River map-area have been described in previous reports. Lode gold deposits are of prime importance and are the only ones described in the following pages. The chief factor controlling mineralization appears to be the presence of a favourable rock formation competent to maintain fissures. Hornblende diorite, greenstone, and wider belts of cherty quartzite and chert fulfil the requirements of being massive, hard, and brittle. The more favourable sedimentary formations in the region of Anderson and Seton Lakes lie westerly to southwesterly from the hornblende diorite stock crossing McGillivray Creek;



particularly about the headwaters of the west fork of McGillivray Creek and the southerly continuation of the formations into the valley of Blackwater Creek. All of the formations in this area are not favourable, but only belts of the harder rocks.

The areas of crushed volcanics and cherts are on the whole not particularly favourable, though within these areas are smaller ones of more favourable greenstone. The serpentine rocks though massive and hard do not fracture well and, therefore, have been looked upon with little favour. Shearing in these rocks is generally accompanied by the production of schistose bands through which mineralizing solutions would find difficulty in making their way. Yet it is possible that under certain conditions the serpentines may fracture cleanly.

The producing mines and nearly all the prospects within the map-area lie along a northwesterly trending zone from the south end of Anderson Lake to the northwest corner of the area. In Cadwallader Creek area, quartz, accompanied by a little sericite, and locally by calcite, mariposite, or scheelite, is the chief vein filling material. The main metallic minerals are gold, arsenopyrite, pyrite, chalcopyrite, galena, sphalerite, stibnite, tetrahedrite, and a telluride--sylvanite or possibly calaverite. The sulphide minerals are generally in small amounts and pyrite and arsenopyrite are the most abundant.

In the region about Anderson Lake the quartz veins for the most part carry a little sericite, in some instances mariposite, and very little sulphide. Some of the veins are jointed or sheeted, but the thin film of sulphides commonly found along the joint planes of the veins in Cadwallader Creek area is lacking in this area. The quartz is white but slightly glassy and has the appearance of the lower grade quartz in the Pioneer mine.

In the region of Anderson Lake most of the veins closely follow the strike of the country rock. Some show widths up to 40 feet. Most of the veins are reported to be barren or to carry a trace of gold and so far commercial values have seldom been found. The veins are irregular, in some cases are lenticular, in other cases they send out short, ragged offshoots."

### LOCAL GEOLOGY & WORKINGS ON THE BONANZA

The local geology and workings of the Bonanza Cache claims forming part of the Bonanza Group is described in Report of the Minister of Mines 1935, page F7, as follows:

#### Bonanza Cache

"At point 'A', elevation 2,770 feet, exactly 300 feet from the southeast corner of Lot 124, on the boundary between Bonanza Lots 124 and 125, and on the apex of a sharp ridge, an approximately vertical shaft has been sunk about 60 feet (estimated, as lower portion inaccessible without a rope). Fifteen feet below the collar an adit, 16 feet long to the south, connects with the surface. The section of shaft above the adit develops a quartz-showing, 12 to 21 inches wide, which strikes northwesterly, with a dip of 85 degrees to the southwest. Minor amounts of pyrite occur in disseminations through the quartz. In the adit the quartz, occurring as parallel bands and stringers in a zone 30 inches wide, spreads out flatly along the bedding-planes of the enclosing argillites, which at this point, due to local folding, strike north. On the southern side of the ridge, below the adit, quartz stringers dip at 20 to 25 degrees to the west. A sample which assayed: Gold, 0.04 oz. per ton, and silver, trace, represents the quartz-lens 12 to 18 inches wide and 16 feet long in the adit.

Two thousand feet measured north 26 degrees west from Point 'A', and on Bonanza Lot 123 claim, two adits, at 1,680 and 1,653 feet elevation, are connected by an inclined shaft 58 feet long on a 25-degree slope. These are designated for convenience as 'B' workings. The shaft is sunk on the outcrop of a zone of quartz-lenses and stringers. From the collar a drift-adit extends 26 feet south, then 16 feet south 15 degrees east. Stopping has been done to a height of 10 feet and a width up to 10 feet along the 26-foot section of adit, also along the surface for a short distance northerly from the shaft-collar. The dump here contains a considerable proportion of quartz mixed with dark argillite which forms the wall-rocks of the deposits. Occasional pyrite is present in the quartz, some of which is iron-stained. A sample which assayed: Gold, 0.14 oz. per ton, and silver, 0.02 oz. per ton, represents selected quartz such as might be sorted out from the dump. The lower adit, 97 feet long, is driven south 35 degrees east, of which the first 25 feet is a caved timbered approach. The bottom of the shaft connects with the adit at 53 feet in from the portal. From point 97 feet the working continues south 25 degrees east for 67.5 feet, and then south 47 degrees east for 51 feet to the face. At 64 feet back from the face a branch working extends south 27 degrees west for 25 feet. The quartz occurrences are localized near the collar of the shaft, and there is but little quartz in evidence at the lower horizon. Nor was there any continuity of mineralization noted in the eastern extremities of

the two adit-drifts. The next working is at point 'C' on the Surprise claim at 1,580 feet elevation, 445 feet distance from 'B' workings along a bearing of south 44 degrees west. Here a lenticular quartz occurrence, 10 feet long and up to 12 inches wide, has been explored by an adit 48.5 feet long driven south 50 degrees east along a place of local fracturing in the argillites, which are crushed and contorted. As in the case of 'A' and 'B' workings, the quartz- showings at 'C' have no specific definition, but coincide with the stratification of the enclosing rocks, the planes of which are flat, with a tendency to dip to the northeast. A sample which assayed: Gold, trace, and silver, trace, represents selected quartz, no definite sections being available to sample.

To test these quartz-lenses and stringers at depth an exploratory adit was being driven at point 'D', elevation 1,480 feet, 290 feet distance from 'C' adit along a bearing of south 22 degrees west. This crosscut, known as the Noel tunnel, was started in 1934 and had been driven 1,042 feet to June 30th, 1935. It is situated centrally in relation to 'A' working, lying to the south, and 'B' and 'C' workings to the north. It passes through shiny black argillites, having been driven in a north 80 degrees east direction, cutting across the dip of the formation, which is flat-lying or gently folded. The rocks tend to strike north-westerly, with dips up to 25 degrees to southwest and northeast. Numerous stringers and patches of quartz show in the northern or southern wall of the crosscut, apparently conforming to the attitude of the enclosing strata. The quartz occurrences, slightly mineralized with iron sulphides at some points, are indefinite and lack continuity. A lens between points 406 and 412 was explored by a drift run 12 feet south 32 degrees east. A sample, taken by the writer, which assayed: Gold, nil, and silver, nil, represented selected quartz, containing scattered disseminations of iron sulphides, from stringers between points 960 and 1,024 feet in from the portal of the crosscut. A sample which assayed: Gold, 0.10 oz. per ton, and silver, 0.02 oz. per ton, was selected from an indefinite patch of mineralization at 1,000 feet in from the portal.

Owing to the lack of definition or continuity of the lenses in the widely separated 'A', 'B' and 'C' workings and the folding of the flat-lying argillites in the Noel crosscut, it was not evident to the writer what results might be looked for at the deep level. The possible interests of other lenses which might be encountered would be indicated by the values found in the lenses explored by the upper workings. The writer's samples represent selected material, the lack of continuity preventing samples being taken over specific lengths and widths indicating tonnage. At the portal of the Noel crosscut were combined engine-house and blacksmith-shop and dry-house. The compressor equipment, driving one machine and steel-sharpener, included a 75-horse-power Rushton-Lister Diesel engine. The camp, about 1 mile up-stream from the low-level site, provided accommodation for twenty men. Work which, at the time of the writer's visit, was proceeding with a crew of fifteen men was subsequently discontinued."

The above area was the only section examined by the writer and confirms the foregoing observations made of the geology and workings on this sector. I entered the adit referred to on Bonanza Lot 123 claim, connected by an inclined shaft to what is called the 'B' workings. A chip channel sample was taken across the back of the adit, 20 feet southeast of the portal. A silicified shear zone, dipping east at  $70^{\circ}$ , was exposed along the adit for a distance of some 200 feet. The sample taken across the 6 foot drift width assayed a trace of gold and silver.

A grab sample from the silicified showing at the end of the adit assayed trace of gold and silver also.

A third sample, from a rusty mineralized quartz-carbonate veinlet from the wall of the drift in the same adit, also assayed trace of gold and silver.

An external shaft was located approximately 800 feet south of the above adit. Its dimensions were 12'x12'x50' deep. A grab sample from the dump of quartz vein material, mineralized with sparse chalcopyrite and pyrite, assayed nil in gold and silver.

A caved in adit was located on the main approach road below the Bonanza adit described above. A grab sample here assayed 0.146 oz/ton gold and .14 oz/ton silver.

The following assays were reported from grab samples taken while prospecting the claims in November 1982 by David Javorsky, the staker of the claims.

## Bonanza Assays

SAMPLE NUMBER	ELEMENT UNITS	AU OPT	AG OPT	CU PCT	PB PCT	ZN PCT
R22206		0.009	0.06	0.03		
R22207		< 0.002	0.02	0.01		
R22208		0.360	0.02	0.02		
R22209		0.210	0.05			
R22210		0.002	0.02			
R22211		0.003	0.04			
R22212		0.088	0.13			
R22213		0.003	0.02			
R22214		0.009	0.04			
R22215		< 0.002	0.02			
R22216		< 0.002	0.04			

## CONCLUSIONS & RECOMMENDATIONS

### CONCLUSIONS

The Bonanza claim group on Cayoosh Creek of Whitecliff Resources Ltd. is one of the older gold prospects in British Columbia. Gold was found in quartz veins on the property in 1887. Production from the Golden Cache property, adjoining to the west yielded 807 ounces of gold or 0.26 oz/ton between 1897 and 1901. The Bonanza group adjoining was explored by underground work at this time.

The gold occurrences are comprised of gold-bearing quartz lenses and stringers in sedimentary black argillites, trending northwesterly and dipping at around 70° to the east. These are cut by dikes and sills of diorite. The veins explored by these old workings were not large enough or sufficiently high enough in grade at the time to support production. This is qualified by the fact that at present gold prices, the gold-bearing structures on the property warrant more detailed exploration by modern methods in view of the fact that they occur in favourable geological conditions similar to vein systems in the Bridge River District 25 miles to the west.

## RECOMMENDATIONS

It is recommended that a first phase detailed program of geochemical soil and rock survey be carried out along known gold-bearing structures on the Bonanza claim group; together with geological mapping of the claim groups, and bulk sampling of vein structures exposed in the underground workings. Total cost of the program is estimated at \$54,760.

Estimates of the exploration follows.

### PHASE I

- Line cutting and establishing a 200 foot grid:	
28 line miles at \$400/mile	\$11,200
Geological Survey (1 month)	10,000
- Geochemical Survey:	
Sampling 28 line miles at \$75/mile	2,100
Assaying for 3 elements	14,000
Sub total	37,300
Contingencies	7,460
<b>Total Phase I</b>	<b>\$44,760</b>

### PHASE II

- Bulk sampling of underground workings	\$10,000
<b>Total Phases I and II</b>	<b>\$54,760</b>

## APPENDIX I

### REFERENCES

- 1859 J. S. Stevenson: B.C. Department of Mines. Bulletin 20, Part IV. Lode Gold Deposits of Southwestern B.C.
- 1896 B.C. Ministry of Mines Report, 1896, pages 547 to 549
- 1897 Minister of Mines of B.C. Report, page 556
- 1902 B.C. Department of Mines Report, page 1092
- 1932 Daily Province, B.C., April 4, 1934, Published Report of Thomas E. Drummond, M.E., On Bonanza Property, Cayoosh Creek
- 1933 B.C. Department of Mines Report, 1933
- 1935 B.C. Department of Mines Report, 1935, page F6
- 1983 Personal Communications with David Javorsky, Vancouver Prospector



APPENDIX II

ASSAY REPORTS

BONANZA PROSPECT - 92 J/9E

Samples submitted to Brinco Mining Ltd. by David Javorsky on November 5th, 1982.

<u>Assay No.</u>	<u>Markings on Bag</u>	<u>Description</u>
22206	"Off road mineralized quartz in shear Bonanza 2 west of adit 50 metres"	A highly silicified (cherty), dark grey sediment (?) containing a 2 cm wide quartz vein plus numerous quartz stringers. Approx. 2% Pyrite in quartz vein and sediment. Minor shear striations on one side.
22207	"Plombago or Grafitic Schist"	A black graphitic schist, strongly foliated. Minor 1 mm quartz veinlets with limonite and pyritic boxworks make up 1% of the rock.
22208	"Mineralized shear quartz veinlets Bonanza 2"	Fractured quartz vein material 5 cm wide, makes up 80% of the sample. The remainder is siliceous fragments and graphitic wallrock. Approx. 1% pyrite.
22209	"Mineralized Silified Shear-Bonanza 2"	Medium grey, highly silicified finely crystalline andesite (?) (Silification has disguised any primary textures) A 2 mm quartz veinlet cuts the sample and pyrite crystals up to 5 mm across occur on a fracture face. Minor pyrite L.T. 1% occurs as fine disseminations.
22210	"Rose Quartz-Hand Samples"	A black graphitic argillaceous rock with a 2-3 cm brecciated dirty rose quartz vein. Pyrite (1%) is found as very fine disseminations in the argillite and along the margins of the quartz vein.
	(No marking on the outer bag - mixed hand samples) Spilled inner bag reads "Hand Samples of Shear". Rock types have been separated for assay 22211 to 22216. The piece of wood was not assayed.	
22211		White quartz chips. Very little wall rock graphite. Limonite on the fracture surfaces and minor pyritic boxworks (LT 1%). Sericite mica (2%) and trace mariposite (?).

<u>Assay No.</u>	<u>Markings on Bag</u>	<u>Description</u>
22212		Dirty rose quartz chips similar to 22210 but without the wall rock. Minor sericite mica and manganese staining along fracture surfaces. No pyrite remaining in limonitically stained boxworks. Vugs exhibit botryoidal wall textures.
22213		Conchoidally fracturing, medium grey chert containing approx. ½% disseminated pyrite.
22214		Highly siliciously altered medium grey andesite with 10% of the sample a barren looking white quartz vein and 1% pyrite as disseminations in the andesite. This sample looks similar to 22209.
22215		Brecciated white quartz vein material with argillite fragments making up 40% of the samples. Minor feldspar and sericite within the quartz vein. 1% limonitically stained boxworks.
22216		A small sample of a partly recrystallized greywacke (?). Uniform grain size, minor hematite staining, approx. 1% pyrite.

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BONDAR-CLEGG

Certificate  
of Analysis  
-160

REPORT: 422-4009

FROM: ERINCO MINING LIMITED  
DATE: 17-NOV-82 PROJECT: 8101-00-15

SUBMITTED BY: B. WHITING

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATIONS
Au	.002 OPT			-100	ROCKS	CRUSH, PULVERIZE -100
Ag	.02 OPT			-100		
Cu	.01 PCT			-100		
Pb	.01 PCT			-100		
Zn	.01 PCT			-100		

REPORT COPIES TO: MR. B.H. WHITING  
MR. BOB HEWTON

INVOICE TO: MR. BOB HEWTON



APPENDIX III

CERTIFICATE

I, Edward O. Chisholm of the City of Vancouver in the Province of British Columbia, hereby certify that:

1. I am a geologist with offices at 844 West Hastings Street, Vancouver B.C., V6C 1C8.
2. I am a graduate of the University of Toronto, Ontario, Master of Arts, 1939.
3. I am a member of the Professional Engineers of Ontario and British Columbia.
4. I have no direct or indirect interest in either the property or securities of Whitecliff Resources Ltd. or its affiliates, nor do I expect to receive any such interest.
5. This report is based on examination of the property on November 3, 1982, on Company reports and records, on government reports published on the area, and on personal communications with David Javorsky, Prospector.
6. I hereby consent to the use of this report by the Company in connection with a prospectus or a statement of material facts relating to the raising of funds for this project.

DATED at Vancouver, in the Province of British Columbia, this 14th day of September, 1983.



EDWARD O. CHISHOLM, P.Eng.