

12/86

Geological and Prospecting
Assessment Report

on the

HARLIN-BONANZA CLAIM GROUP

Lillooet Mining Division
Lat. $50^{\circ}39'N$, Long. $122^{\circ}02'W$
N.T.S. 92J/9E

For

HARLIN RESOURCES LTD.
810 - 625 Howe Street
Vancouver, B.C.

Report by:

Mr. D.G. Cardinal, P.Geol.
Consulting Geologist
Hope, B.C.
November 29 1985.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,146

Don Cardinal

TABLE OF CONTENTS

	Page
A. INTRODUCTION	1
B. SUMMARY AND CONCLUSION	2
C. LOCATION AND ACCESS	4
D. PROPERTY INFORMATION	4
E. NATURAL RESOURCE AVAILABILITY	5
F. BACKGROUND AND HISTORY ,.....	5
G. REGIONAL AND LOCAL GEOLOGY	7
H. RECONNAISSANCE FIELD WORK	8
I. COST BREAKDOWN	10

FIGURES:

1. Location Map
2. Claims Map
3. Reconnaissance Geology

APPENDICES:

- I Professional Certificate
- II References

A. INTRODUCTION

The Harlin-Bonanza Claim Group was staked in February, 1985, by prospector Mr. Dave Javorsky. A portion of the claim group which covers the Duffy Lake access road is presently under an order-in-council prohibiting any staking. The no-staking freeze covers some 220 m. (10 chains) on either side of the road. The present owners of the company, Harlin Resources Ltd. anticipate the order-in-council to be rescinded during the next sitting of the provincial Legislature.

The reconnaissance work outlined in this report is for work conducted beyond the 220 m. no-staking limit. Several days of prospecting and brief geological traverses were carried out examining old trenches and pits; and, examining and sampling various rock exposures.

B. SUMMARY AND CONCLUSION

- a. The Harlin-Bonanza Claim group is located only 14 km. (8 mi.) west of the town of Lillooet, B.C.. The Duffy Lake secondary access road runs through the property.
- b. The claims are presently held by HARLIN RESOURCES LTD. of Vancouver and consist of 58 contiguous units, covering some 1,450 hec. (3,625 acres).
- c. For any possible future mine development, the property is situated near the town of Lillooet, supplying all the required amenities - including hydro and electrical power.
- d. Historically, the Bonanza claims are situated in a formerly gold active area which was spurred by the discovery of placer gold on Cayoosh Creek in 1859. During the late 1800's, this area experienced a lot of staking and the discovery of several small lode gold deposits including, the present Bonanza property and the adjacent crown-granted Golden Cache claims. A stamp-mill was erected on the Golden Cache group and several hundred feet of underground development work completed. It is reported that this property produced some of the finest gold, museum specimens of the time. By 1935, the Bonanza Claims had recorded underground workings of close to 1,500 ft. in which several mineralized quartz and argillite structures had been intersected. The majority of these workings are now inaccessible, destroyed by the Duffy Lake road construction. In February of 1985, the property was restaked; and, in September, a detail mapping and sampling program was conducted by the writer that defined a gold bearing zone in one of the underground workings. Due to the positive results obtained to date, Harlin has decided to undertake a limited diamond drilling program of at least 1000 ft. (305 m.).
- e. Regionally, the area is underlain by the Bridge River Group rocks consisting of undifferentiated greenstone, chert, argillite, phyllite; and, minor limestone and ultramafics, subsequently intruded by the coast range granodiorite and quartz diorite. On the property, the geology consists of highly folded and faulted argillites, graphitic argillite; and, in part calcareous phyllite which were later intruded by andestic to felsic dykes. The cleavage structure which makes up the rock fabric is mostly shallow dipping to near horizontal and represents isoclinal and recumbent folding. Mineralization is structurally controlled and appears to occur along sheared fold limbs and along recumbent fold axis or hinges.

Cont'd

B. SUMMARY AND CONCLUSION Cont'd

- f. Geological and prospecting surveys were conducted outside the no-staking freeze zone and within the A. Noel and Bonanza claims. Several quartz veins were discovered during the prospecting; the veins occur in argillaceous rocks. The reconnaissance work carried out during this field season is outlined in the report and is submitted for assessment work credits.

C. LOCATION AND ACCESS

The Bonanza claim group is located some 14 km. (8 mi.) west of the town of Lillooet, B.C. , on the Duffy Lake road; at coordinates Lat. 50°39'N, and Long. 122°02'W, within the Lillooet Mining Division.

Access to the property is by the Duffy Lake road on a well maintained secondary gravel road that cuts through the centre of the claim group.

The main underground workings on the Bonanza claims can be reached by a foot path leading off the road for a couple of hundred feet above the road cut.

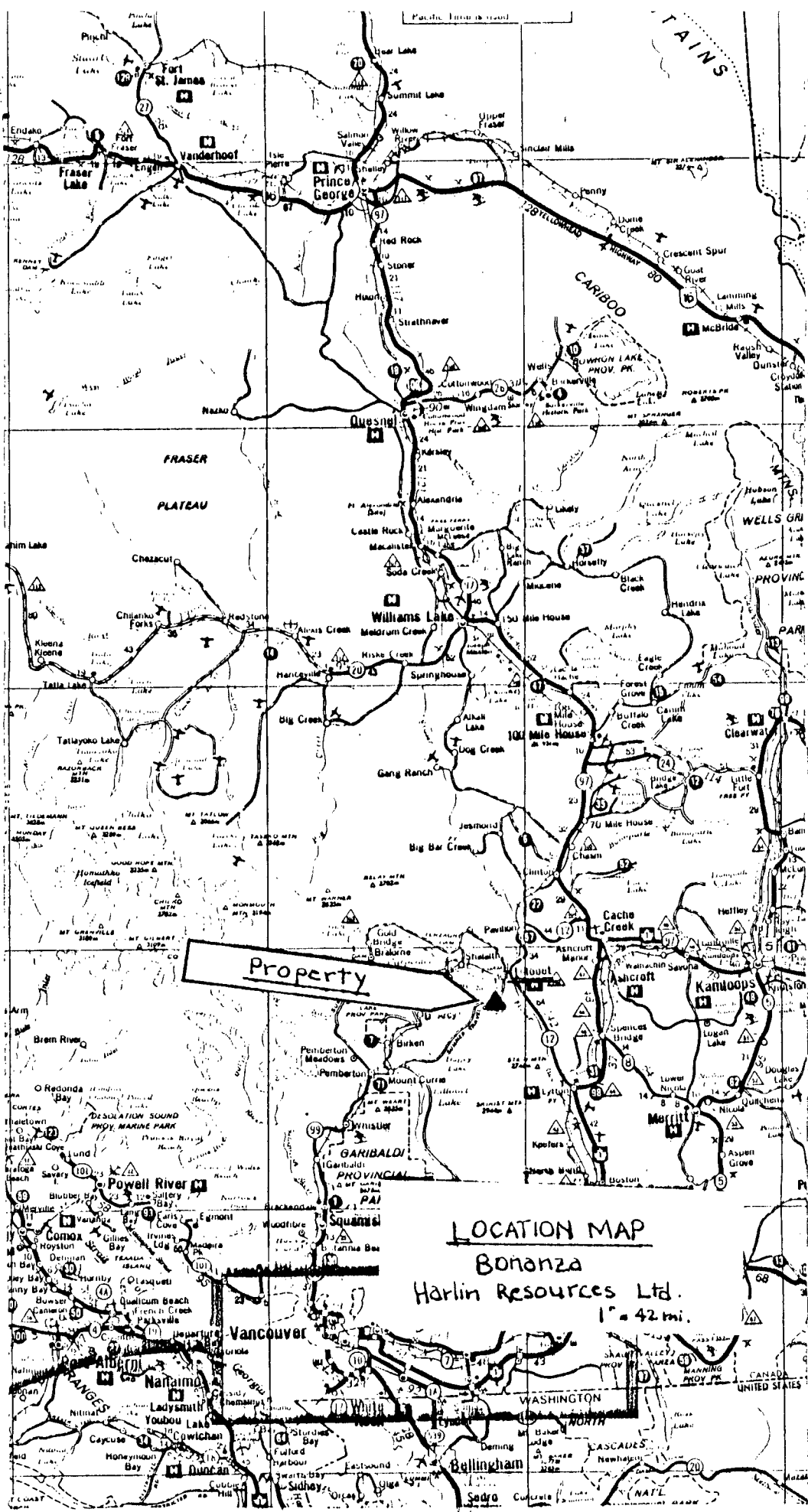
D. PROPERTY INFORMATION

The Bonanza claim group consists of 58 contiguous units, covering some 1,450 hectares (3,625 acres). The property is held by Harlin Resources Ltd. of Vancouver, B.C..

The records can be examined at the government agent's office in Vancouver. The pertinent data is as follows:

Claim Name	Record No.	No. of units	Anniversary Date
A. Noel	3088	20	Feb. 3, 1986
Bonanza Gold	3086	20	" " "
Golden Bonanza	3087	18	" " "

The claims can be found on N.T.S. 92J/9E map sheet and all are presently in good standing.

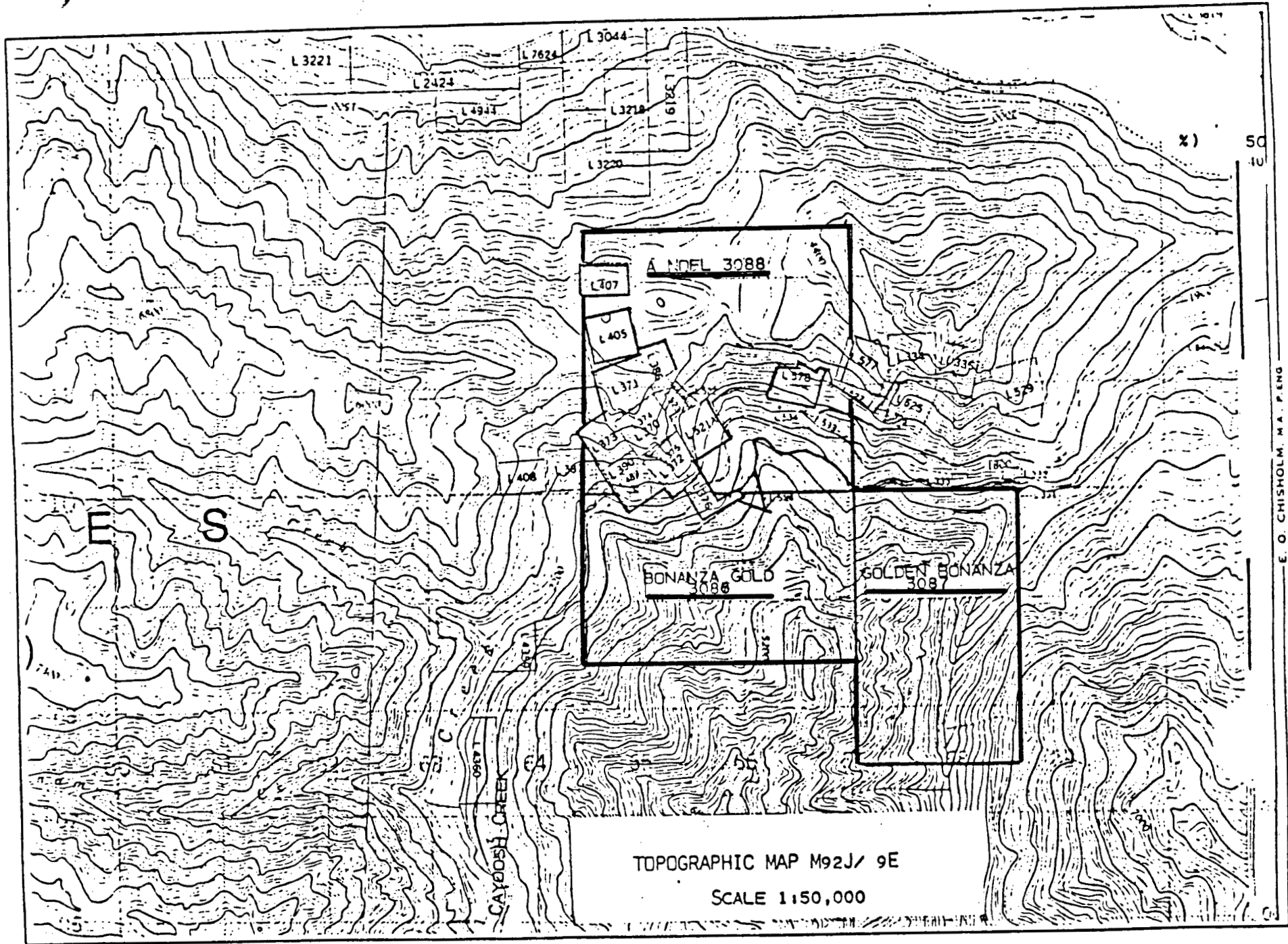


Property

LOCATION MAP

Bonanza
Harlin Resources Ltd.

1" = 42 mi.



TOPOGRAPHIC MAP M92J/ 9E

SCALE 1:50,000

E. NATURAL RESOURCE AVAILABILITY

For any future exploration project and/or mine development on the property, water can be obtained from Cayoosh Creek, a major stream that flows year round. A forest of lodge-pole pine grows on the property and timber can also be obtained from the Lillooet forest mill. For future electrical-hydro power requirements, B.C. Hydro has a power station in Lillooet and a power grid system runs only a few kilometers east of the claims.

The claims are situated in rugged topography and partly cover a steeply incised canyon, carved out by the fast flowing Cayoosh Creek. The elevation ranges from 457m. (1,500 ft.) at the canyon floor to 1,829 m. (6,000 ft) at a the summit of a steep ridge along the south boundary of the property. Climate in the area is normally dry with low annual precipitation. The property is conducive to surface exploration for at least 8-9 months of the year.

F. BACKGROUND AND HISTORY

Historically, the Bonanza claim group and adjacent crown-granted claims have experienced sporadic exploration and limited mine development since the turn of the century. In 1859, placer gold was discovered on Cayoosh Creek by the Chinese and reported to be a prolific placer-gold producer.

The earliest reference to the Bonanza claim area was in 1895, when Arthur E.Noel, mine developer and discoverer of the Bralorne

F. BACKGROUND AND HISTORY Cont'd

Mine, located the Golden Cache claims immediately adjacent to the Bonanza property. During this period, development work was carried out both on the Bonanza and Golden Cache properties, and equipped with a stamp-mill. Several other mineral claims were also being explored and developed at this time. Much of the gold bearing ore was reported to occur in sulphide bearing argillites and quartz lenses. In 1905, the crown-granted Ample claim (part of the Golden Cache group) was further developed with 253 feet of tunnelling, in which, a deposit of "arsenical iron sulphide" was encountered, ranging from 7 ft. to 32 ft. in width.

In 1933, the old Bonanza gold camp was once again revived. During this period, the road from Lillooet was repaired and a new bridge was built across Cayoosh Creek. The old Golden Cache camp was reconditioned and work carried out on the Bonanza group. By 1935, a total of 1,447 feet of underground workings had been completed on the Bonanza group in which several mineralized quartz and argillites structures had been encountered. This property has since lain dormant and no reported work ever carried out.

In February of 1985, after examining various old engineer reports and obtaining samples assaying good gold values, Mr. Dave Javorsky staked the former "old" Bonanza claims. The 'new' Bonanza claim group is presently held by Harlin Resources Ltd., a junior mining company with its' head office in Vancouver, B.C.. During the latter part of September 1985, the writer conducted a detail map-

Cont'd

F. BACKGROUND AND HISTORY Cont'd

ping and sampling program on one of the old underground workings on the Bonanza claims which returned significantly high values in gold. Harlin Resources is presently planning for diamond drilling programs on the property.

G. REGIONAL AND LOCAL GEOLOGY

The regional geological setting is comprised of a northwest trending package of rocks referred to as the Bridge River Group. The group is an undifferentiated lithological sequence of greenstone, basalt, chert, argillite, phyllite; and, minor limestone, and ultramafics. All of which have been subjected to varying degrees of metamorphism. The above rocks have been dated to be between Triassic and Jurassic in age, with some possibly older.

The Bridge River Group has subsequently been intruded by the coast range plutons consisting predominantly of granodiorite. Some 48 km. (30 mi.) northwest of the Bonanza property is the Bridge River gold camp which hosts rock types favourable for gold deposits. Similar rock formations have also been noted on the Bonanza claims.

Locally, the rock types underlying the property consist of argillite, graphitic argillite, phyllite, and calcareous phyllite. A well exposed section of argillite can be observed on the road, just below the main underground workings, at about the 610 m. (2,000 ft.) elevation. The argillites on the road section are highly foli-

Cont'd

G. REGIONAL AND LOCAL GEOLOGY Cont'd

ated with tight recumbent folds and have imbricate structures; in places, resembling shingles on a roof. Strong graphitic shears occur along fold limbs and are occasionally intruded by narrow felsic dykes. The argillites have a general shallow dip to the east and northeast with local flat lying structures. The sedimentary bedding and other primary features have been destroyed and only the cleavage, which is superimposed on the former bedding planes, gives the argillite its fabric nature. Similar structures were also noted at the portals approximately 30 m. (100 ft.) above the road at elevation 640.2 m. (2,100 ft.). From the portals, a south trending ridge rises steeply to a summit at 1,829 m. (6,000 ft.), along which the Bonanza Gold claim east-west boundary is located. At the approximate elevation of 945m. (3,100 ft.), a major thrust fault-contact was noted gently dipping between 15° - 20° to the northwest. Above the thrust is a thick sequence of highly foliated, in part carbonitized phyllite cut by fine grain adesitic to felsic dykes. Immediately below and hosted in the argillites are numerous quartz stringers and shears. Along the east facing side of the ridge are several old pits and trenches located just below the fault-contact. One of these pits was observed to carry sulphides and arsenopyrite which was anomalous in gold.

H. RECONNAISSANCE FIELD WORK

Between the period of July 23rd and September 26th, 1985, a series of prospecting and geological traverses were conducted on portions of the A. NOEL and BONANZA claims. All of the work was carried out beyond the no-staking boundary and between elevations of 760 m. and 1,070 m..

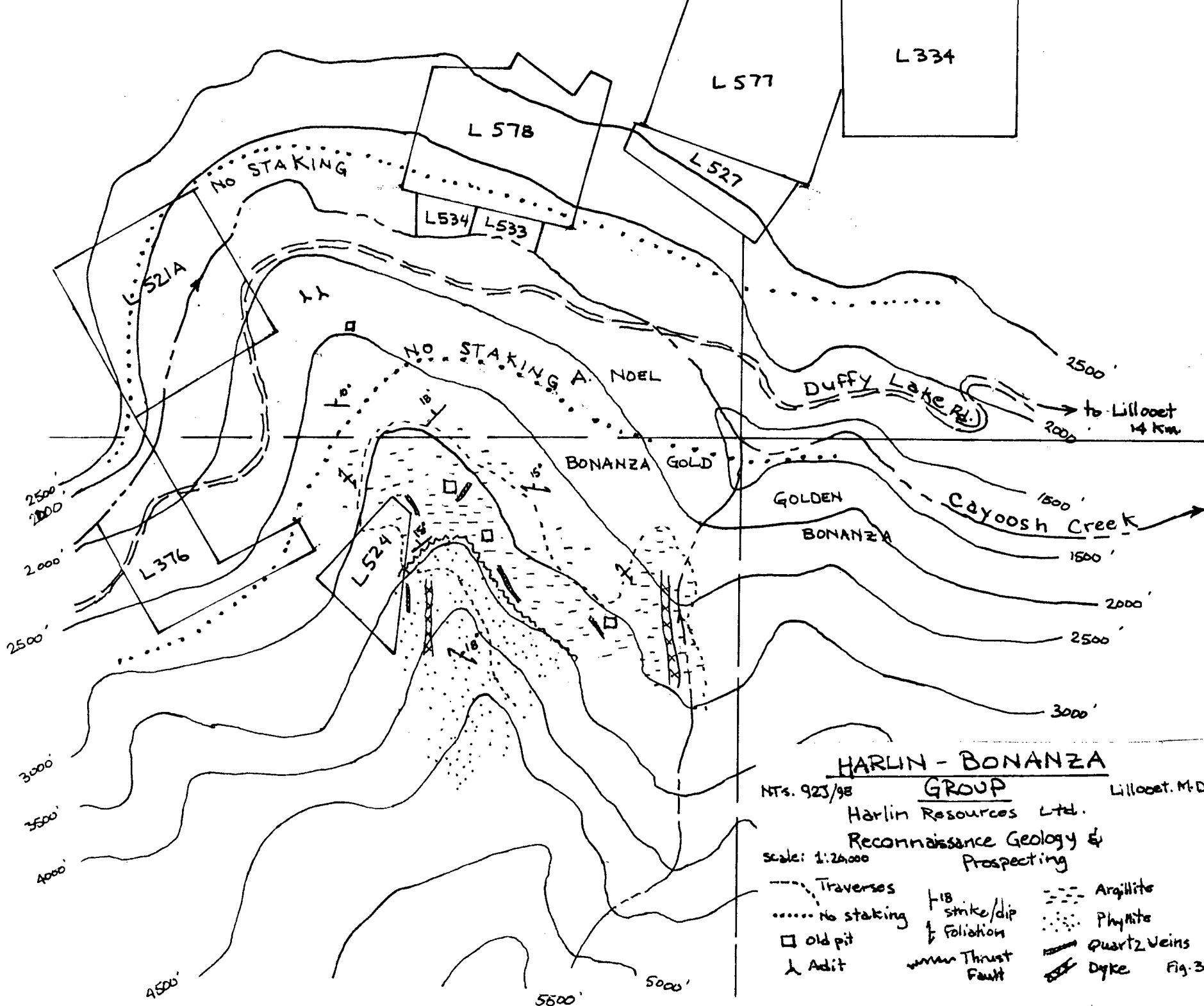
The reconnaissance geological surveys and sampling points were tied-in by using hip-chain line, compass and triangulation bearings, and altimeter readings. Any major geological changes such as faults and contacts were mapped and any pits or trenches noted. The majority of the traverses were conducted on the Bonanza claim and on a south trending ridge which rises rapidly to a summit of 1,830 m.. This ridge lends itself to good prospecting and has several well exposed rock sections as well as a number of old, blasted pits and cuts which were noted along various elevations.

The predominate rock types encountered during the mapping consisted of argillite and argillaceous phyllite. At the 945 m. elevation, a major thrust fault-contact was noted. The fault is shallow dipping between 15° - 20° to the northwest and it can be traced on both the east and west sides of the steep ridge. The fault contact also represents a distinct rock change; the thick argillite sequence noted above is overlain by calcareous phyllites intruded by felsic to intermediate volcanic sills. Both the argillites and phyllites have flat lying structures consisting of narrow shears, slips and

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H. RECONNAISSANCE FIELD WORK Cont'd

well developed cleavage planes. The structures are interpreted as forming a sequence of highly foliated, recumbent and overturned folds. During the prospecting, several quartz veins were encountered, all occurring with the argillites; some of the veins carried blebs of chalcopyrite and pyrite as fracture fillings. The occasional mineralized quartz vein had previously been prospected by old-timers as evidenced by the old pits and trenches. Samples were obtained for assay from the various quartz veins. Limited prospecting was also conducted across the Cayoosh Creek Canyon on the A. Noel claim to check old workings and examine some quartz veins. As a result of the encouraging reconnaissance surveys, additional follow-up programs are expected this coming (1986) field season.



HARLIN - BONANZA GROUP

Mts. 923/98 Harlin Resources Ltd. Lillooet, B.C.
 Reconnaissance Geology & Prospecting
 scale: 1:20,000

- - - - - Traverses
- No staking
- old pit
- Λ Adit
- FIB strike/dip
- f Foliation
- Thrust Fault
- Argillite
- Phyllite
- quartz Veins
- Dyke

Fig. 3

I. COST BREAKDOWN

	Cost
Personnel:	
Geologist, 5 days @ \$300/day (July 23 - Sept. 26, 1985)	\$ 1,500.00
Assistant, 5 days @ \$120/day (July 23 - Sept. 26, 1985)	600.00
Prospector, 10 days @ \$150/day (July 23- Sept. 26, 1985)	1,500.00
Accommodations:	
Food and lodging, Two (2) men, 5 days @ \$70/day	350.00
One (1) man, 10 days @ \$35/day	350.00
Vehicle:	
4X4 Truck, 10 days @ \$40/day (plus gas and oil)	400.00
Report, typing and copies	<u>1,100.00</u>
Total	\$ 5,800.00

Respectfully submitted,

Dan Cardinal

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., VOX 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 Harlin Resources Ltd. 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 during July 23 to Sept. 26, 1985.

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.

Dan Cardinal

Daniel G. Cardinal, P. Geol.

APPENDIX II

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