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1/87

Underground Geological Mapping and Sampling
and Surface Diamond Drilling
Assessment Report

on the

HARLIN-BONANZA CLAIM GROUP

Lillooet Mining Division
Lat. 50°39'N., Long. 122°02'W.
N.T.S. 92J/9E

for

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

(Field Work, September 15 - November 15, 1985)

Report by:

Mr. D.G. Cardinal, P.Geol.
Consulting Geologist
Hope, B.C.
January 15, 1987.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,860

Don
Cardinal
GEOLOGICAL ASSOCIATION OF CANADA
D. G. CARDINAL
FELLOW

FILMED

TABLE OF CONTENTS

	Page
A. INTRODUCTION	1
B. 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. DETAIL UNDERGROUND GEOLOGY	9
I. SAMPLING AND RESULTS	11
J. DIAMOND DRILL PROCEDURES	13
K. DRILL RESULTS	14
L. DIAMOND DRILL LOGS	16
M. COST BREAKDOWN	17

FIGURES:

- | | |
|-------------------------|-------------------------|
| 1. Location Map | 5. Drill Plan |
| 2. Claims Map | 6. Drill Section A - A' |
| 3. Underground Sampling | 7. Geological Drill |
| 4. Underground Geology | Section A - B - C |

APPENDICES:

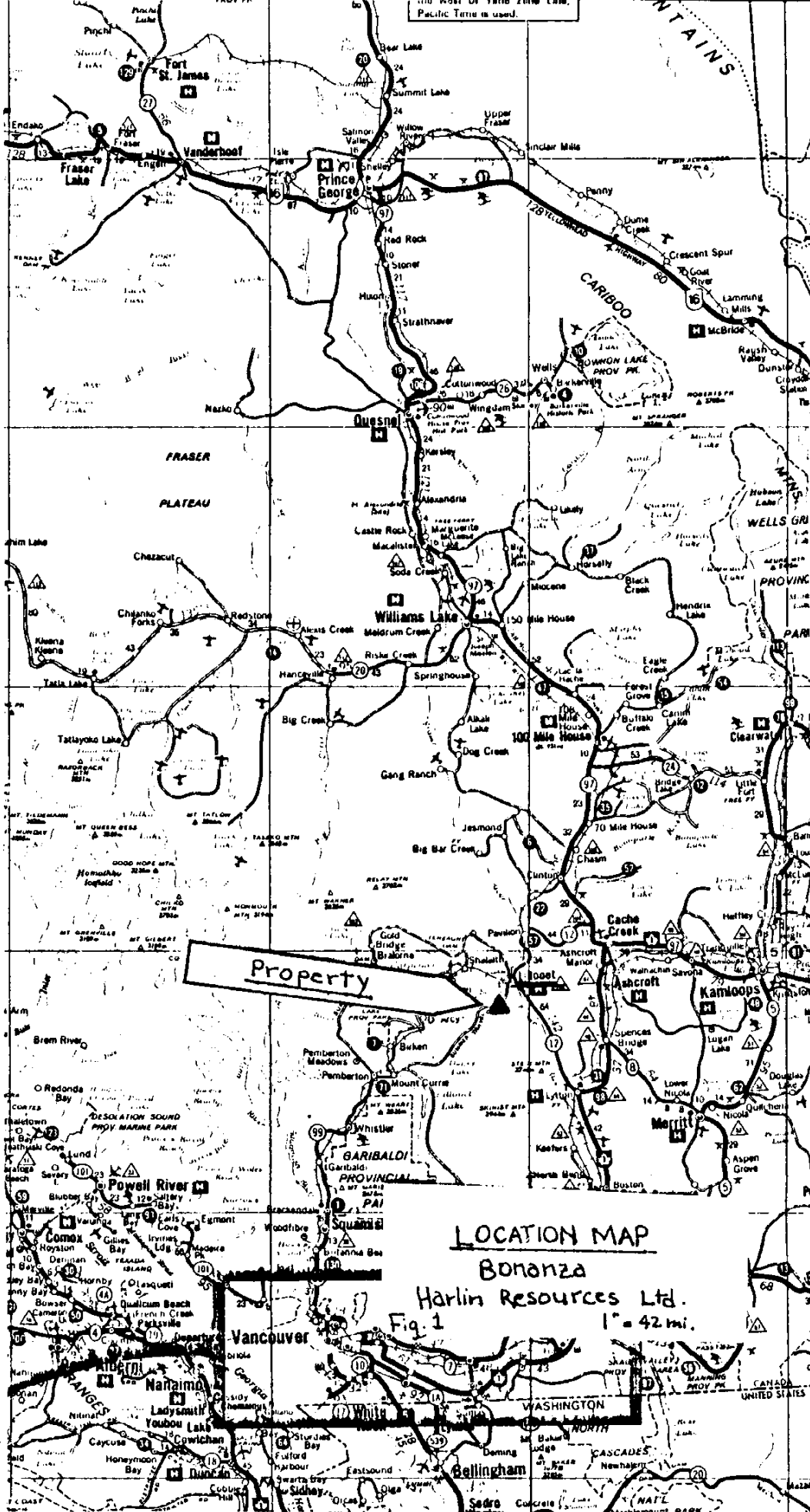
- I Professional Certificate
- II. Assay Certificate
- III. References

A. INTRODUCTION

The old underground workings located on the Harlin-Bonanza Claim Group which is situated just west of Lillooet were explored by HARLIN RESOURCES LTD. during the fall and early winter of 1985. Detail underground mapping and sampling delineated an auriferous bearing zone hosted in sheared and altered argillites. Encouraged by the findings, the company conducted a limited exploratory surface drill program to test the auriferous zone.

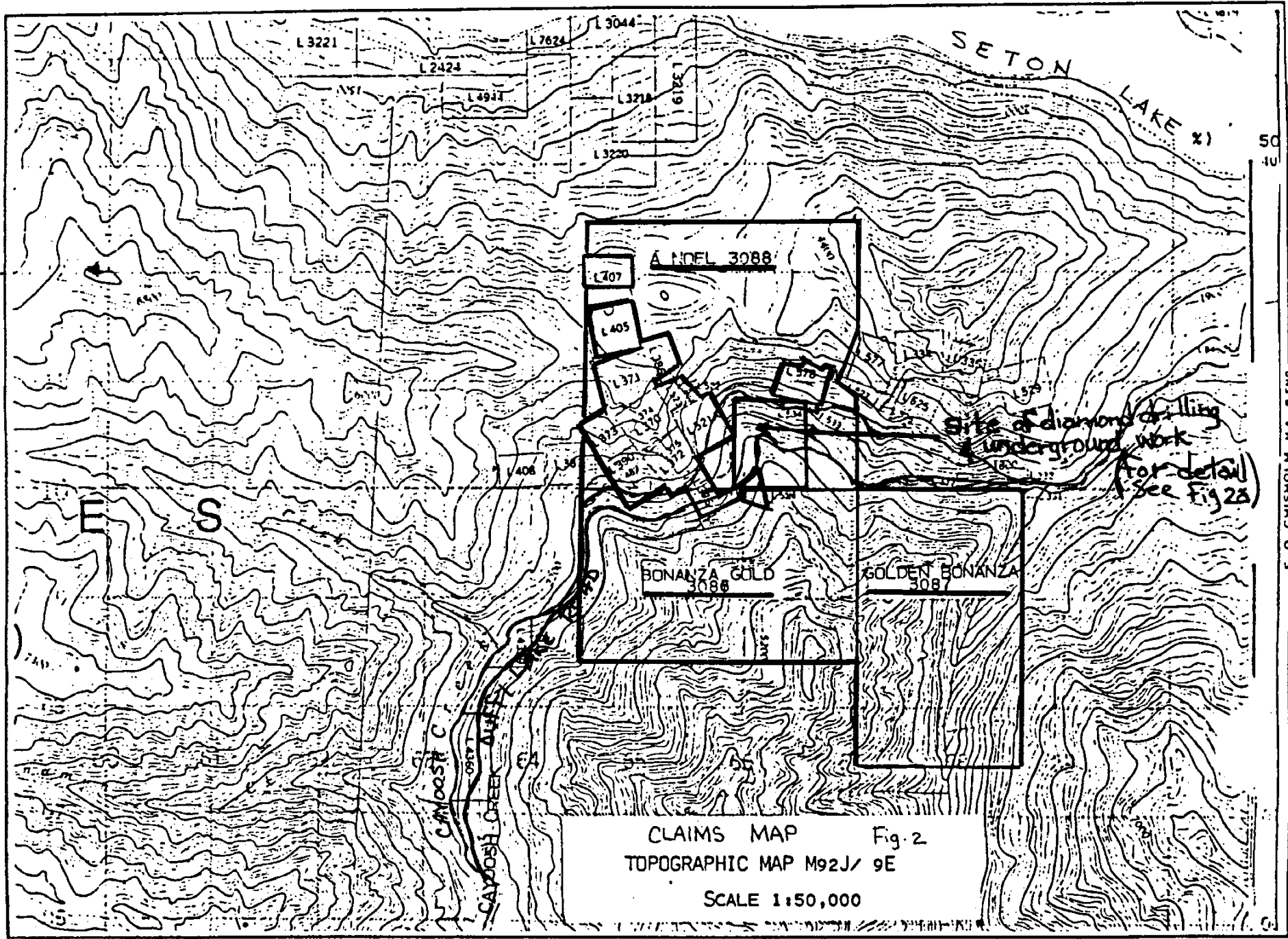
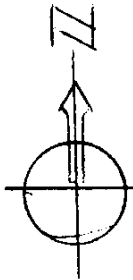
The old workings date back to the dawn of the century when placer gold was first discovered on Cayoosh Creek. Gold in place was subsequently found along the bluffs of Cayoosh Creek canyon which led to limited underground exploration. Since the early 1900s' only sporadic exploration has been conducted, the work carried out by Harlin was to examine the old workings and to attempt to identify any possible gold potentials on the ground.

The Harlin-Bonanza Claims have excellent access by way of the Duffy Lake road located only a few minutes drive west of Lillooet. The claims cover the precipice Cayoosh Creek canyon and its' rugged mountainous terrain. The work conducted by Harlin is herein outlined by the writer who was retained in a consulting capacity to oversee the project.

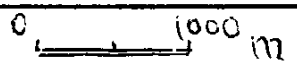


LOCATION MAP
 Bonanza
 Harlin Resources Ltd.
 Fig. 1
 1" = 42 mi.

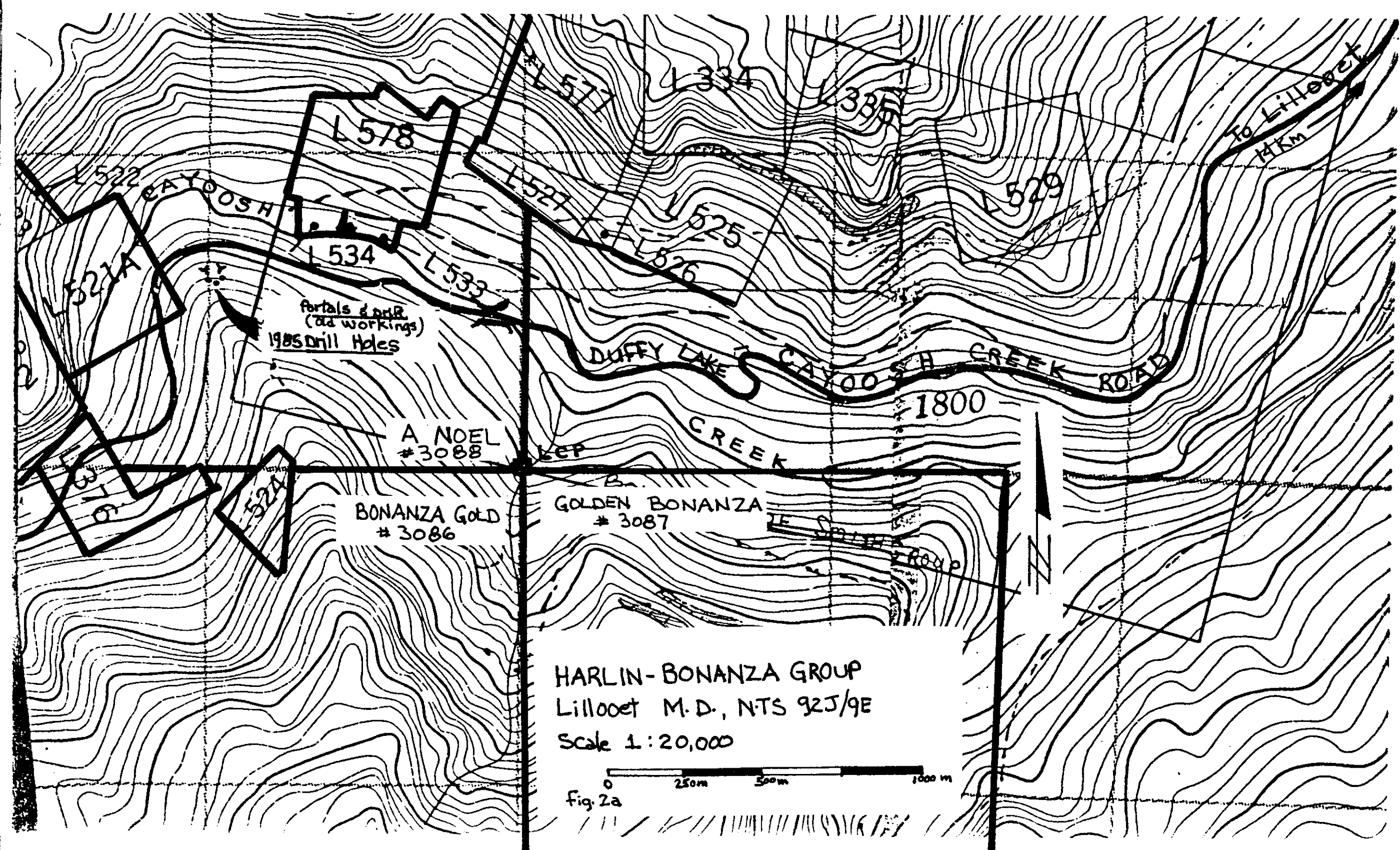
The West of Fairbairn Lake,
 Pacific Time is used.



CLAIMS MAP Fig. 2
TOPOGRAPHIC MAP M92J/ 9E
SCALE 1:50,000



E. O. CHISHOLM, M.A., P. ENG.
Consulting Geologist



L 578

L 334

L 335

To Lillooet
14 Km

CAYOOSH

L 534

L 525

L 529

L 521A

portals & pit
(old workings)
1985 Drill Holes

A NOEL
3088

DUFFY LAKE CAYOOSH CREEK ROAD

1800

CREEK

BONANZA GOLD
3086

GOLDEN BONANZA
3087

HARLIN-BONANZA GROUP
Lillooet M.D., NTS 92J/9E
Scale 1:20,000



Fig. 2a

B. CONCLUSION

The Harlin-Bonanza Claim Group which is comprised of 58 contiguous units, is underlain by intensely folded and sheared graphitic argillites and shales. The auriferous mineralization is hosted in the argillite along graphitic shear planes.

The old underground workings located on the property were mapped and sampled. A total of 97m of underground workings were surveyed and an 18m gold bearing shear zone mapped and sampled. Fourteen (14) continuous chip samples were collected from the zone with an average grade of .407 oz/ton gold across an average thickness of 1.3m. The mineralized zone occurs along sheared planes of tightly folded argillites and characteristically consists of, finely disseminated arsenopyrite and, silicified, graphitic argillite.

A total of 221m of surface diamond drilling was completed in the immediate area of the underground workings to test the extension of the mineralized zone. The drilling encountered thick sections of argillites, shale and, abundant graphitic shear planes. Occasional fine disseminated pyrite and arsenopyrite was noted along the shears. Some of the drill sections were anomalous in gold with values ranging between .027 oz/ton to .097 oz/ton Au but not comparable to the samples obtained from the underground workings.

B. CONCLUSION (Cont'd.)

Based on the limited diamond drilling and the underground surveys, both indicate that the property has potential in hosting an economic deposit of gold. The structural controls of the gold bearing mineralization appears to occur along sheared limbs and axial planes of intensely folded argillites. These types of structures are developed throughout the property and as a result, additional surveys may locate similar mineralized sheared zones as that mapped in the underground, further work is recommended.

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, 1989
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.

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

Cont'd

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.

G. REGIONAL AND LOCAL GEOLOGY Cont'd

that other gold bearing structures may be found. Further work should be carried out along this structure with the search for sheared and silicified argillites as the primary target areas.

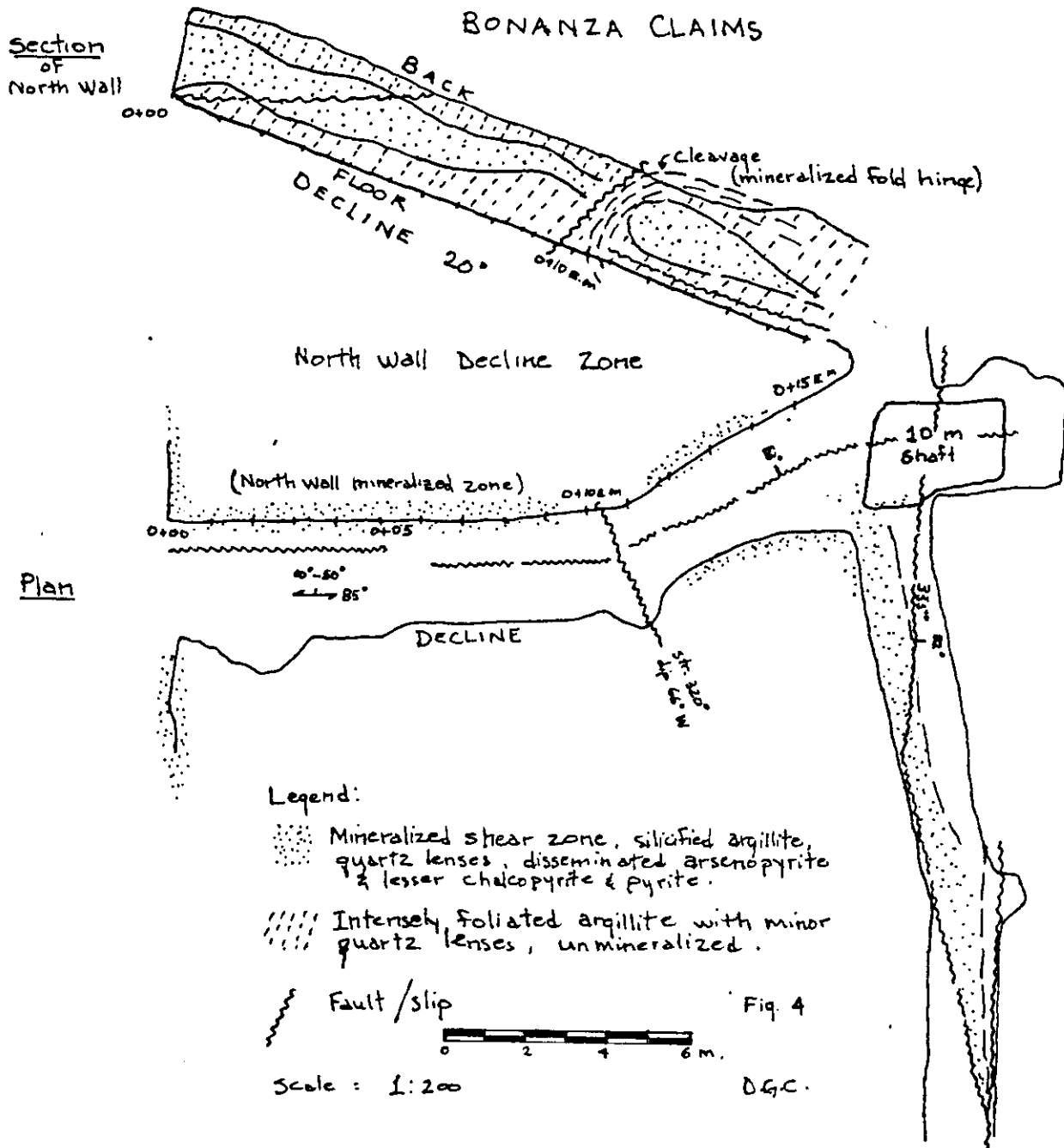
H. DETAIL UNDERGROUND GEOLOGY

The main underground workings are located on the A.Noel claim just off the Duffy Lake road and overlooking the Cayoosh Creek canyon.

The old workings are at about the 640.2 m. (2,100 ft.) elevation and consist of some 97 m. (318 ft.) of tunnel which includes two adits, a decline, drift; and 3 m. x 3 m. (10 ft. x 10 ft.) stoped out area (Fig. 3). At the decline entrance or adit, a strong mineralized shear zone can be observed; the shear dips to the north at approximately 10° to 15° . The mineralized zone is composed of highly sheared and silicified argillite and associated narrow quartz lenses and stringers. The zone at the entrance is well oxidized and, in places, has "apple green" weathering, typical of secondary oxidation of arsenopyrite called scorodite. The decline has an inclination of about 20° and follows the zone which plunges to the east with the same dip of some 20° . At 20 m. (67 ft.), the decline connects with a drift and a short, 10 m. (30 ft) shaft. At this point, the zone abruptly changes attitude and dips steeply to near vertical (82° E). The mineralized zone, ranging in thick-

Cont'd

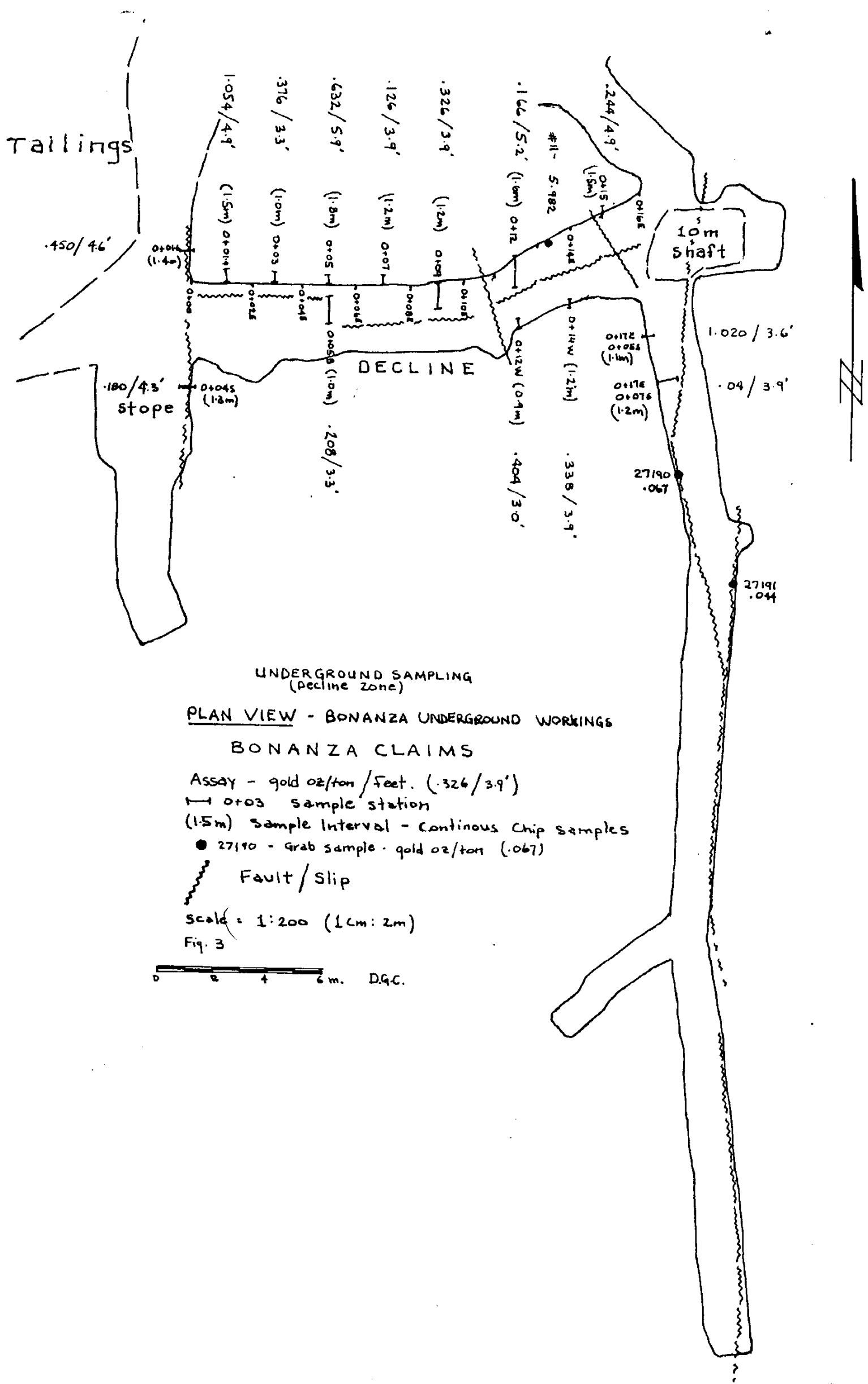
UNDERGROUND GEOLOGY of the
DECLINE ZONE
BONANZA CLAIMS



H. DETAIL UNDERGROUND GEOLOGY' Cont'd

ness between 3 -5 ft., can be traced down the decline for 18.3 m. (60 ft.) before it changes attitude. The silicified - sheared argillite hosts disseminated arsenopyrite and, in places, contains up to 20 % sulphides. The quartz stringers and lenses within the zone normally carry pyrrhotite and lesser chalcopyrite, and rarely host any arsenopyrite. Ten metres (0 + 10 m.) from the decline entrance is a strong graphitic shear (fig.4, section of north wall); immediately east and down plunge is a tight recumbent fold, and within the fold hinge is highly mineralized zone of arsenopyrite hosting silicified argillite. Similar mineralization can be followed for some 18 m. (60 ft.) down the drift until it pinches out along the east wall.

From the detail mapping conducted along the decline and part of the drift, it would appear that the tightly overturned or recumbent fold structures are hosts to mineralized zones - especially where shearing has taken place along fold limbs and fold axis which would allow for migration and introduction of gold bearing fluids. Since the property hosts a complex sequence of flat lying and overturned folds, in particular, the ridge trending southward from underground workings mentioned above, a good potential exists for other such mineralized structures. Further discoveries of such gold bearing mineralized zones would greatly enhance the economic picture of the Bonanza property.



UNDERGROUND SAMPLING
(decline zone)

PLAN VIEW - BONANZA UNDERGROUND WORKINGS

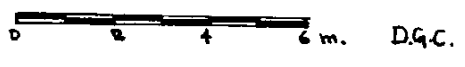
BONANZA CLAIMS

- Assay - gold oz/ton / Feet. (.326 / 3.9')
- 0+03 sample station
- (1.5m) sample interval - continuous chip samples
- 27190 - grab sample - gold oz/ton (.067)

Fault / Slip

Scale = 1:200 (1cm:2m)

Fig. 3



I. SAMPLING AND RESULTS

A detail underground sampling program was conducted along the decline and portions of the drift. Samples were obtained from the arsenopyrite-silicified zone discussed above. A total of fourteen (14) continuous chip samples were collected from the underground workings with the majority (10 samples) from the north wall of the decline (fig.3). The samples were chipped across the true thickness of the mineralized zone which ranges in thickness from 0.9 m. (3.0 ft.) to 1.8 m. (5.9 ft.) on the average of 2 m. intervals along the decline.

Results from the sampling have all been extremely encouraging with only one sample assaying less than 0.1 oz/ton gold. Thirteen (13) assays returned significant amounts of gold ranging between 0.166 oz/ton to 1.054 oz/ton, and varying widths from 0.9m (3.0 ft.) to 1.8 m. (5.9 ft.). One grab sample returned 5.982 oz/ton gold. Some of the better continuous chip samples (all in oz/ton Au per ft.) include .459/4.6ft; 1.054/4.9 ft; .632/5.9 ft; and 1.020/3.6 ft.. Although the results contain significant gold values, no visible gold was noted during the sampling. It is believed that much of the gold is of micron size and possibly tied in with the sulphides.

Simple weighted average calculations from the above results, using uncut gold assays is as follows:

$$\text{wt. avg.} = \frac{\text{width} \times \text{assay}}{\text{width}} = \frac{7.281 \text{ oz/ton}}{17.9 \text{ m.}} = 0.407 \text{ oz/ton}$$

Cont'd

I. SAMPLING AND RESULTS Cont'd

Therefore the weighted average is 0.407 oz/ton gold over an average sample width of 1.3 m. (4.3 ft.). Based on the detail mapping and sampling; and, utilizing the existing underground workings for extrapolation, a zone of mineralization has tentatively been blocked out in which an estimated 550 tons of 0.407 oz/ton gold (uncut) occurs in place. If this zone can be further delineated from drilling and if other similar zones can be outlined during the drilling, the tonnage mentioned above could easily multiply several fold. As indicated in this report, the potential does exist for outlining additional mineralized structures equivalent to the zone delineated in the decline workings.

J. DIAMOND DRILL PROCEDURES

Prior to diamond drilling all proposed drill sites were surveyed using Brunton compass and chain measurements. Underground surveys also used the same procedure. Each drill site was cleared of trees using chain saws. It should be noted that all surveys pertaining to the drill program including the diamond drilling were measured using the imperial system. But metric conversion have been made where possible in this report in order to conform to the assessment report requirements.

Three (3) drill sites were cleared all located within the immediate vicinity of the underground workings. A collapsible drill machine and rigging were flown on to the site by a Jet Ranger helicopter. The drill rig, a Hydracore 28 made by Winkie and capable of drilling to least 300m in depth with B.Q. core was used, the rig is especially designed for helicopter transport.

A total of 221m of B.Q. size core was drilled and stored in standard core boxes. All core was examined and described in detail by an on-site geologist and, sections selected for analyses were marked and split. One-half of the split core was bagged, identified according to footage and sent to the lab. to be assayed for gold. The other half remained in the box and stored in a secure and dry area on the property. The core was logged and all data such as, lithology, sample interval, assays, description and, related drill information was recorded on a GEOLOG data sheet. Following the completion of the drill program all waste and debris was either burned or removed from the drill site.

K. DRILL RESULTS

Six (6) surface drill holes were completed in the immediate area of the underground workings. Holes numbered HB 85-1 to 6 inclusive were completed. HB-1 and 2 were drilled from the same location, just above the portal entrance and the decline zone which is mentioned in the previous pages. Both holes intersected thick sections of dark grey argillites and coarser sedimentary units composed of siltstone and conglomeratic argillite. Occasional graphitic shears and unmineralized quartz lenses were also encountered. Pronounced cleavage and associated graphite with slickenside planes were noted throughout the argillite, suggesting intense structural movement. Hole, HB85-1 was drilled vertically to a depth of 31m (102ft.), a 1.5m (5ft.) argillite section, HB2123 assayed .097 oz/ton Au. HB85-2 was oriented southward with an azimuth of 160° and dip of 45° and, drilled to a depth of 46m (151ft.). The first 3 sampled intervals representing a 4m section (7 - 20ft.) assayed between .039 to .061 oz/ton Au.

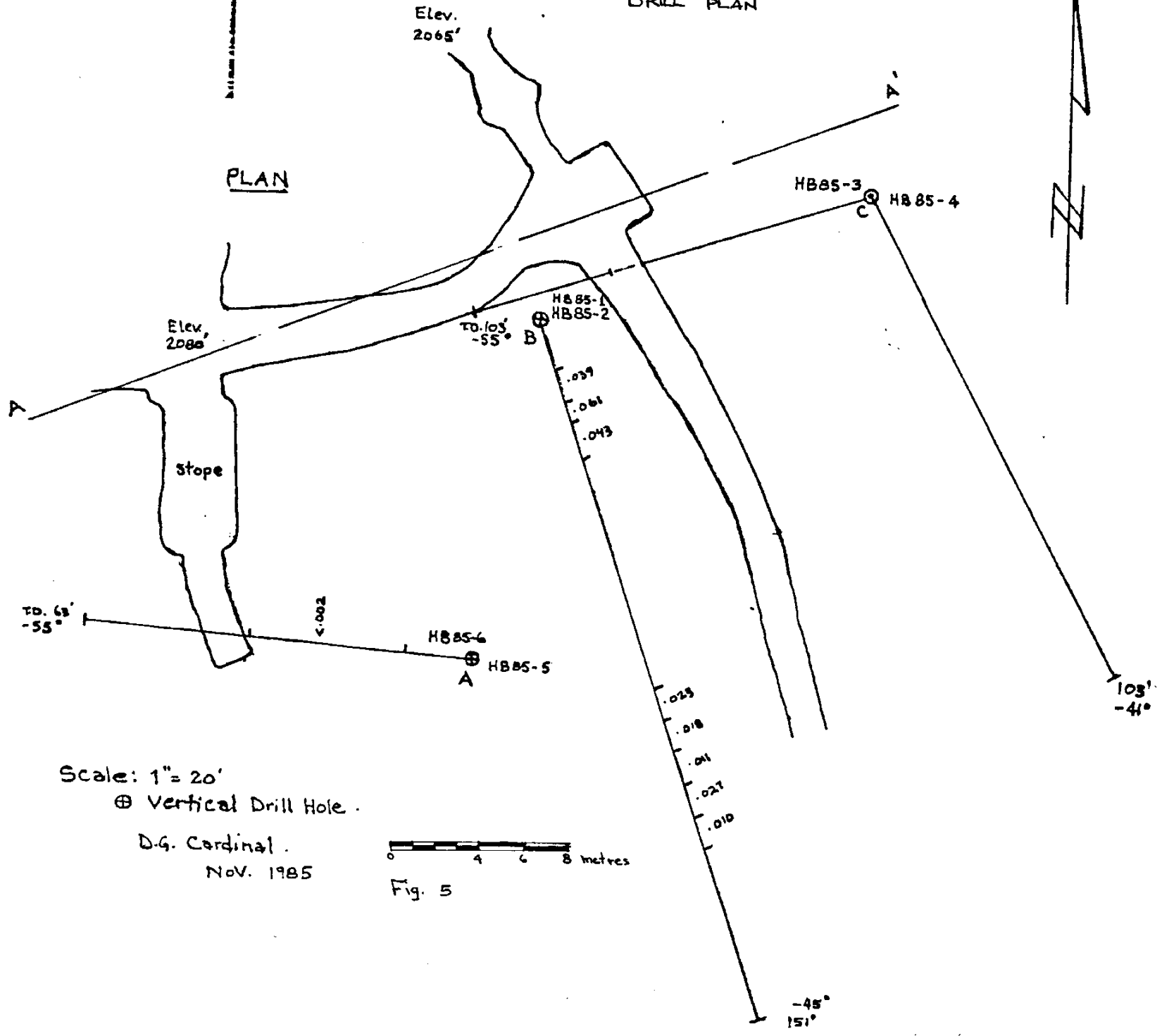
Holes, HB85-3 & 4 were drilled some 15m east of holes 1 & 2 both to a depth of 31m and lithology encountered was identical to HB-1 & 2 with intercalated argillite, shale and conglomeratic argillite. A 17cm quartz lense, sample interval HB4-3840 assayed .060 oz/ton Au. Occasional arsenopyrite mineralization was observed in the core. Drill site for HB85-5 & 6 is located approximately 15m S.E. of drill site HB 1 & 2. Both drill intercepts cut thick sections of argillite

K. DRILL RESULTS (Cont'd.)

and finely laminated siltstone, abundant graphitic slickensides were noted along cleavage planes and occasional siliceous and chlorite alteration was also noted. Minor chalcopyrite, pyrite and pyrrhite were intersected, sampled intervals carried low gold values.

BONAZA UNDERGROUND
WORKINGS and DRILL HOLE
LOCATIONS

DRILL PLAN



Scale: 1" = 20'
 ⊕ Vertical Drill Hole
 D.G. Cardinal
 Nov. 1985

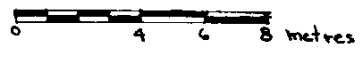
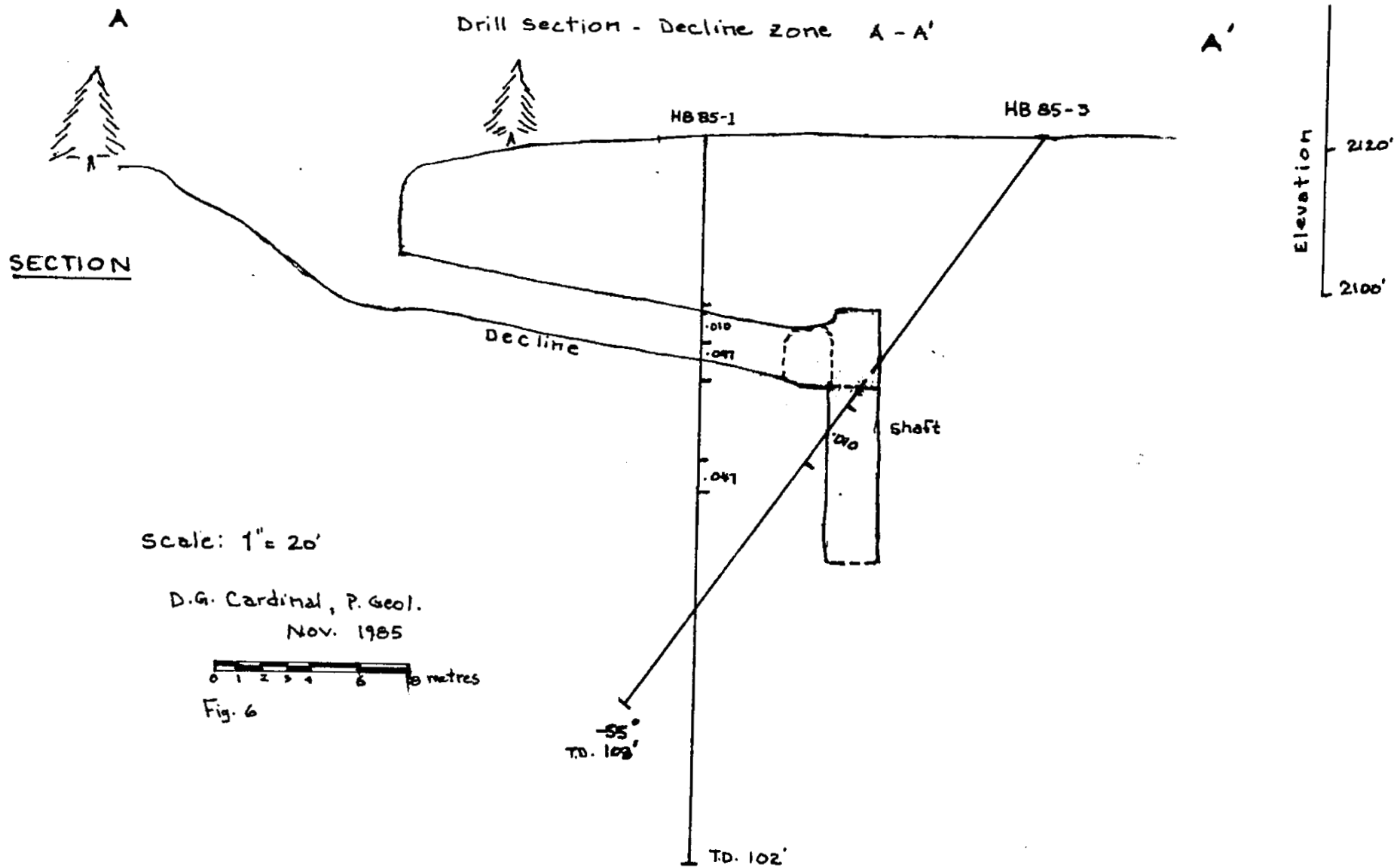
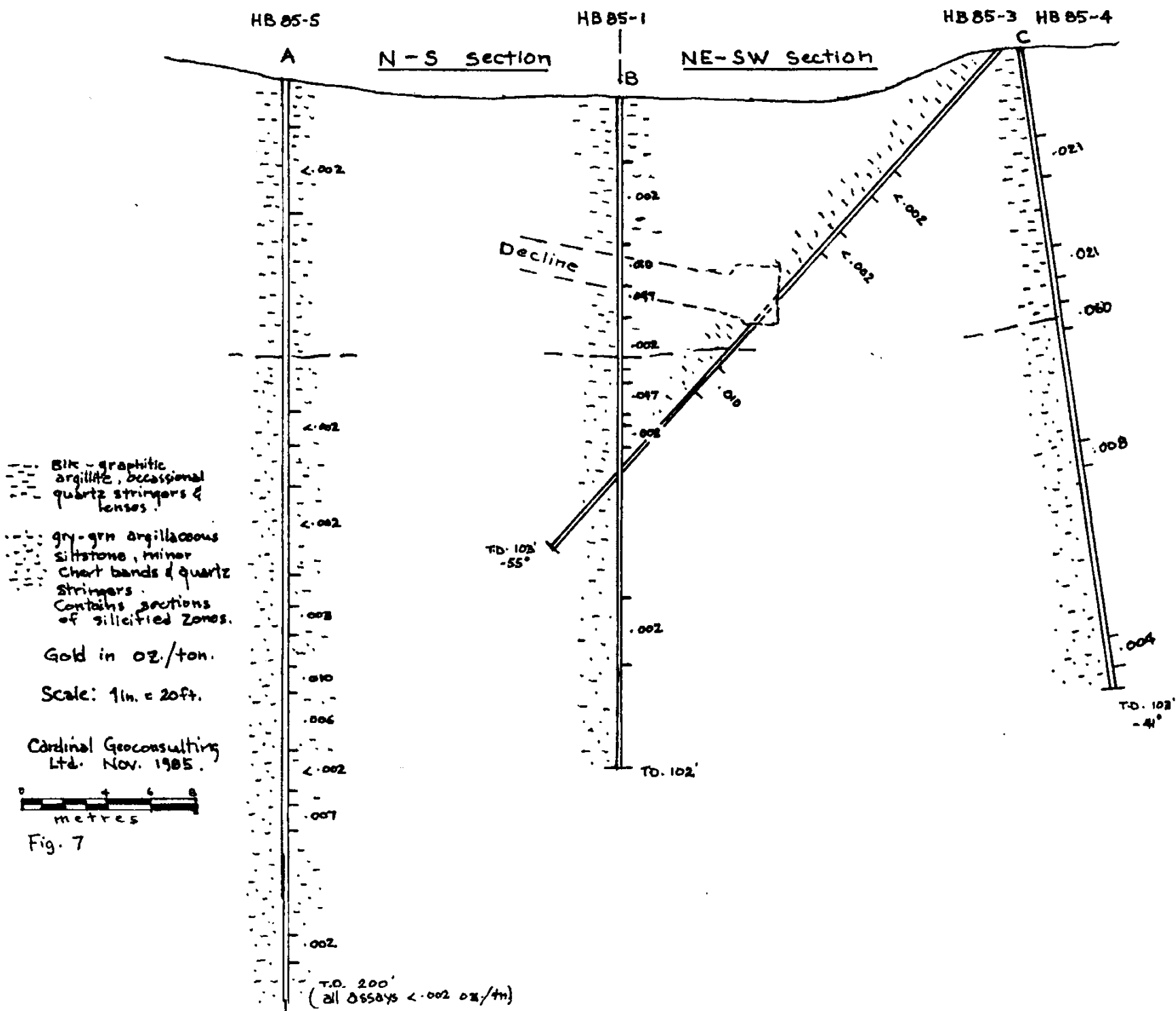


Fig. 5



SECTION / B - C
HARLIN-ELANZA GROUP
Drill Hole Profile



Blk - graphitic argillite, occasional quartz stringers & lenses.

gry-grn argillaceous siltstone, minor chert bands & quartz stringers. Contains sections of silicified zones.

Gold in oz./ton.
Scale: 1in. = 20ft.

Cardinal Geoconsulting Ltd. Nov. 1985.



Fig. 7

L. DIAMOND DRILL LOGS

1ft = 30.5cm

GEOLOG

Cardinal Geoconsulting Ltd. page 1/2

PROJECT Harlin-Berwind
 HOLE NO. HB85-1
 START 11:00 AM Oct. 31
 FINISH 12:00 PM Nov 1
 TOTAL DEPTH 102 Ft.

LOGGED BY D.G. Cardinal
 DATE Nov 1, 1985
 PERCENT REC'D. 86.8 92.10%
 AZIMUTH vertical
 DIP —

RIG TYPE Hydracore 28
 CORE SIZE BQ
 HOLE LOCATION
Just above the
U/G decline (decline zone)

depth	litho-log	Sample Interval	Sample No.	description (color, structure, grain size, texture, accessory minerals, lineation, geologic environment, etc.) comments:	alteration products (%)	sulphides (%)	oz/ton		percent	
							Ag	Au		
11'				Casing to 11 Ft.		< .5		.002		
			HB1-1176	DK Gray to Blk argillite & quartzitic arg. @ 11' minor specks of arsp.						
			HB1-1182	Occass. small qtz stringer & felsic clasts				.002		
21'			HB1-1182	@ 19-19.5 rusty qtz lense. Clg. v. 45° to core	qtz					
			HB1-2123	arg. as above				.002		
			HB1-2126	@ 29.5 qtz w/ Py.		Py		.010		
31'			HB1-2133	32.5-33 Breccia Shear		< .5				
			HB1-3338	qtz/grst clasts within Arg. matrix				.017		
				no sulphides						
			HB1-3341	Dedding - Cleavage // @ v 35° to core axis	qtz + albite stringers			.002		
41'				Abundant greatic core axis		Py < .5				
				Arg. w/ minor narrow qtz lenses						
			HB1-4346	@ 44.5-45 massive wht. qtz lense						
				dk arg. w/ siltst & clastics; Py & Pyrr. stringers		Py, Pyrr		.047		
51'			HB1-5051	@ 50.5' - 51' wht. qtz lense/breccia		< .5				
				dk gray arg & grstn/ qtz congl. clasts - w/ minor qtz - albite stringer - no sulphides				.002		
61'				DK gray, fine qtz/grn clasts, congl arg.	Minor albite & calcite stringers					
				no sulphides noted						
71'			HB1-7679	narrow qtz lenses w/ grn clasts breccia minor sulphide stringers	qtz/calcite vein	Py, Pyrr		.02		
81'			HB1-8386	Fine arg. congl. @ H. gray-grn arg/siltst. no visible sulphides minor clasts.		< .5				
91'								.002		

1ft = 30.5 cm

GEOLOG

Cardinal Geoconsulting Ltd. page 2/2

PROJECT _____
 HOLE NO. HB85-2
 START _____
 FINISH _____
 TOTAL DEPTH 151'

LOGGED BY D.G.C.
 DATE Nov. 4/85
 PERCENT REC'D. _____
 AZIMUTH _____
 DIP _____

RIG TYPE _____
 CORE SIZE _____
 HOLE LOCATION _____

depth	litho-log	Sample Interval	Sample No.	description (color, structure, grain size, texture, accessory minerals, lineation, geologic environment, etc.) Comments:	alteration products (%)	sulphides (%)	oz/ton		percent	
							Ag	Au		
80				gry. massive possibly recrystallized dolomite (?) Fine texture, abund.	Siliceous 30-40%	Py-Pyrr 2-3%		.005		
				micro. qtz veinlets w/ lt. grn chlorite Py, Pyrr veinlets w/ occas. Fine dissem. Arsnpy	Lime 20-30%	Arsnpy < 2				
90				Dk. gry-grn, micro fractures w/ Fine stringers of Py & Pyrr		1-3				
				Fault/slip @ 95' qtz breccia strong graphitic planes - slickensides. 6" thick - dip 40-42°						
100		99-101	HB2 99101	Intensely contorted & foliated argillite & Shaley arg. - no sulphides				< .002		
110		107-112	HB2 107112	dk gry graphitic arg.				< .002		
				Fault/slip @ 112'						
120				gry. massive fine cong. arg. clasts subrounded to round. has porphyry appearance						
130				clastic arg. w/ subrounded plaq crystals & grist. occas. qtz fracture veinlets w/ py & pyrr		Py, Pyrr	.002			
		133-138	HB2 128133	one well devel. arsnpy cryst @ 129' 6" chert bed, lt gry. Arg. fault gouge @ 138'		< 1%				
140				Arg. w/ fine clasts. bedding & foliation 45-50° to core axis Graphitic Shear @ 143, 8in. wide						
150				@ 149' 6in thick lt. gry chert bed Shaley Argillite. no sulphides E.O.H @ 151'.						

1 ft = 30.5 cm

GEOLOG

Cardinal Geoconsulting Ltd. page 2/2

PROJECT _____
 HOLE NO. HB 85-4
 START _____
 FINISH _____
 TOTAL DEPTH 103'

LOGGED BY D.G.C.
 DATE Nov 6/85
 PERCENT REC'D. _____
 AZIMUTH _____
 DIP _____

RIG TYPE _____
 CORE SIZE _____
 HOLE LOCATION _____

depth	litho-log	Sample Interval	Sample No.	description (color, structure, grain size, texture, accessory minerals, lineation, geologic environment, etc.) Comments:	alteration products (%)	sulphides (%)	oz/ton		percent	
							Ag	Au		
80	[Hand-drawn lithology: wavy lines representing argillaceous layers]			Lt grn chloritic arg. fine lamination steeply dipping, almost // to core, highly contorted @ 88'. Binch graphitic shear	Chlorite 60-70%					
90			HB4 8891	Lt grey fine laminated arg. w/ occas small qtz stringer				0.004		
100				Un mineralized						
				E.O.H. @ 103'						

1 ft = 30.5 cm

GEOLOG

Cardinal Geoconsulting Ltd. page 1/3

PROJECT Harlin - Bonanza
 HOLE NO. HB 85 - 5
 START Nov 7/85 8:00 AM
 FINISH Nov 8/85 4:30 PM
 TOTAL DEPTH 203

LOGGED BY D.G. Cardinal
 DATE Nov 7/85
 PERCENT REC'D. _____
 AZIMUTH Vertical
 DIP Vertical

RIG TYPE HYDRACORE 28
 CORE SIZE BQ
 HOLE LOCATION
50'S - 15'E of hole
HB 85 - 1 & 2

depth	litho-log	Sample Interval	Sample No.	description (color, structure, grain size, texture, accessory minerals, lamination, geologic environment, etc) Comments:	alteration products (%)	sulphides (%)	oz/ton		Percent			
							Ag	Au				
0	Casing			Core point @ 3'								
				@ 3' one ft. of massive unmineralized qtz.								
				come badly fracture & broke								
10			HB5 113	qtz & arg.								
				dark grey siliceous arg w/ micro-qtz stringers no sulphides noted	siliceous	—	<.002					
			HB5 131B	@ 15' qtz lense 6in thick graphitic slickensides along planes of weakness			<.002					
20				dk. grey siliceous arg w/ occas. qtz stringers.								
				lt. grey - grn shaley, arg. siltstone finely laminated, bedding 10°-13° to core axis								
				graphitic slickensides along weak planes								
30				dk. grey - blk banded shaley arg. in part highly contorted laminations w/ occas. qtz-cherty clasts.								
				lt. - dk grey thinly banded arg. siltst. w/ fine laminations @ 10°-15° to core axis, occas. contorted cherty								
40				lamin.	siliceous 60%	First Py Chalkopy <1%	<.002					
			HB5 5054	lt grey sandy - arg. siltst.	only minor very fine sulphides							
50				lt. grey finely laminated siltst.								
60				Fault/slip @ 65' - graphitic along slip								
			HB5 636B	lt. grey siliceous carbonaceous graphitic siltst. w/ arg laminations.		Chalkopy <1% Pyrr 1-3% Py 1-2%	<.002					
70			HB5 667B	In part contorted lamin. w/ micro-qtz veinlets and cherty lense clasts		Pyrr 1-2	<.002					
				Intense Foliation ranging 10°-55° to core axis @ 78.5'-79' qtz lense graphitic slickensides		Chalkopy <1%						
80			HB5 728B	lt grey - blk siliceous chert bands.			.003					

1 ft = 30.5 cm

GEOLOG

Cardinal Geoconsulting Ltd. page 3/3

PROJECT _____	LOGGED BY <u>DSC</u>	RIG TYPE _____
HOLE NO. <u>HB85-5</u>	DATE <u>Nov. 8/85</u>	CORE SIZE _____
START _____	PERCENT REC'D. _____	HOLE LOCATION _____
FINISH _____	AZIMUTH _____	_____
TOTAL DEPTH _____	DIP _____	_____

depth	litho-log	Sample Interval	Sample No.	description (color, structure, grain size, texture, accessory minerals, lamination, geologic environment, etc.) comments:	alteration products (%)	sulphides (%)	oz/ton		percent	
							Ag	Au		
160										
170	168 174			dk grey finely laminated Carbonaceous arg.						
		173-174	HB5 75116	graphitic siltstone				< 0.002		
180	180 185			lt grey-green massive arg. siltst. occas qtz veins	chloritic					
190				minor specks of sulphides						
	195 200			ECM 203						
			HB5 13191					< 0.002		
200				ECM 203						

1 ft = 30.5 cm

GEOLOG

Cardinal Geoconsulting Ltd. page 1/1
Winkie

PROJECT Harlin - Bonanza
 HOLE NO. HB85 - 6
 ART NW 9/85 9:45 AM
 FINISH: (incomplete)
 TOTAL DEPTH 63'

LOGGED BY D.G. Cardinal
 DATE Nov 11 1985
 PERCENT REC'D. _____
 AZIMUTH 254°
 DIP -55

RIG TYPE Hydra Core 28
 CORE SIZE BØ
 HOLE LOCATION
Same as HB85-5

depth	litho-log	Sample Interval	Sample No.	description (color, structure, grain size, texture, accessory minerals, lineation, geologic environment, etc.) Comments.	alteration products (%)	sulphides (%)	oz./ton		percent		
							Ag	Au			
0	Casing										
					Start casing @ 7'						
10					Bdly broken core weathered & friable arg.						
			13	HB6 D1E	Dk gry finely laminated arg. silicified		Silicified 20% Chalcopy < 5%		< .002		
20				HB6 E23					< .002		
				HB6 232E	lt. gry - highly silicified arg & arg siltst. abundant qtz micro-veinlets - rehealed breccia.		Siliceous 60-80%		< .002		
30				HB6 2403	stringer of Pyrr & Chalcopy Fine specks sulphides throughout much of the core - mainly Pyrr & Chalco.				< .002		
				HB6 332E					< .002		
40				HB6 2143	Silicified as above				< .002		
				HB6 134E	as above w/ occas. graphitic slickenside slips				< .002		
50				HB6 4204	lt. dk gry silicified arg.				< .002		
			54								
60					lt. gry-gm siltst. finely w/ occas qtz stringer.						
				E.O.H 63' - incomplete due to cold weather							

M. COST BREAKDOWN

Geology (Underground mapping and sampling)

Personnel:	Cost
Geologist, 7 days @ \$300/day (Sept. 15-Nov. 15, 1985)	\$ 2,100.00
Assistant, 7 days @ \$150/day (Sept.15-Nov.15, 1985)	1,050.00
Accommodations:	
Food & Lodging, 2 men, 7 days @ \$90/day	630.00
Transportation:	
4x4 Truck, 7 days @ \$40/day (plus gas & oil)	280.00
Analyses:	
Assay for Au, 13 samples @ \$10/sample	130.00
Consultant's Report	<u>2,000.00</u>
Sub total	\$ 6,190.00

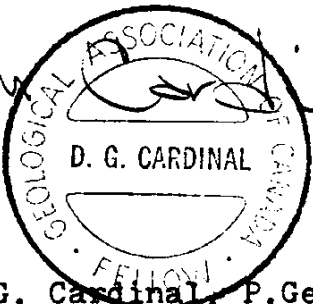

Drilling (Surface Diamond Drilling)

Transportation:	
Drill Rig, mob. & demob.	1,200.00
Helicopter, Jet Ranger 206	1,142.00
4x4 Truck, 16 days @ \$50/day, gas & oil	995.50
Drilling:	
Total footage cored, 725ft. @ \$13/ft.	9,425.00
Core Boxes, 31 boxes @ \$6/box.	186.00
Drill Rig - rigging-up & down, moving 51 hours @ \$20/man-hr.	1,020.00

M. COST BREAKDOWN (Cont'd.)

Personnel:	Cost
Consulting Geologist/Supervisor, 16 days @ \$325/day (Sept.15 - Nov.15, 1985)	\$ 5,200.00
2 Field Assistants, core splitter/drill helper 16 days @ \$300/day (Sept.15 - Nov.15, 1985)	4,800.00
Accommodations:	
Meals, 16 days @ \$22/day (3 men)	352.00
Rooms, 15 nights @ \$40/day (3 men)	600.00
Field Gear:	
Rental, 2 chain saws, 10 days @ \$30/day	<u>300.00</u>
Sub total	\$ 25,220.50
Grand Total	<u>\$ 31,410.50</u>

Respectfully Submitted;



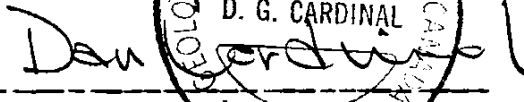
Mr. D.G. Cardinal, P.Geol.
Consulting Geologist.


APPENDIX I

PROFESSIONAL CERTIFICATE

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

1. I'am a graduate of the University of Alberta (1975) and hold a BSc. deree in Geology.
2. I'am registered as a Fellow of the Geological Association of Canada, (F.G.A.C.); a member in good standing with the Association of Professional Engineers, Geologists and Geophysicists of Alberta, (P.Geol.) and; a member of The Yukon Professional Geoscientists Society.
3. I have been practising my profession for the past twelve years.
4. The findings in this report are from a personal property examination conducted by me on the Harlin-Bonanza Claim Group between Sept. 15 to Nov. 15, 1985.
5. I'am a professional geologist residing in Hope, B.C., mailing address, P.O. Box 594, Hope, B.C. VOX 1L0.




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

APPENDIX II ASSAY CERTIFICATES

ACME ANALYTICAL LABORATORIES LTD.

DATE RECEIVED SEPT 25 1985

852 E. HASTINGS, VANCOUVER B.C.

PH: (604) 253-3158 COMPUTER LINE: 251-1011

DATE REPORTS MAILED *Oct 4/85*

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.

AU** BY FIRE ASSAY

ASSAYER: *D. Toye* DEAN TOYE OR TOM SAUNDRY, CERTIFIED B.C. ASSAYER

HARLIN RESOURCES FILE# 85-2535

PAGE# 1

SAMPLE	Au** oz/t	
0+01.4	1.054	
0+03	.376	
0+05	.632	
0+05B	.208	Underground Sampling
0+05S	1.120	
0+07	.126	
0+09	.326	Bonanza Claims
0+12W	.404	
0+12	.166	
0+14W	.338	
0+15	.244	
0+17E-0+7S	.040	
DECLINE ZONE	.116	

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS, VANCOUVER B.C.
PH: (604)253-3158 COMPUTER LINE:251-1011

DATE RECEIVED SEPT 28 1985
DATE REPORTS MAILED 02.7/85

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.
AU** BY FIRE ASSAY

ASSAYER: V. Saundry DEAN TOYE OR TOM SAUNDY, CERTIFIED B.C. ASSAYER

HARLIN RESOURCES FILE# 85-2580

PAGE# 1

SAMPLE	AU** oz/t
0+04S	.180
0+01.6N	.450

Jegg & Company Ltd.
1100 Amberton Ave.
Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667



BONDAR-CLEGG

Certificate
of Analysis

REPORT: 425-3731

PROJECT: NONE GIVEN

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT
D2 HB2-5560		0.023
D2 HB2-6065		0.018
D2 HB2-6570		0.011
D2 HB2-7075		0.027
D2 HB2-7580		0.010

D2 HB2-8086 0.005

Quality First

Clegg & Company Ltd.
 1100-11th Ave
 Vancouver, B.C.
 Canada V7P 2R5
 Phone: (604) 985-0681
 Telex: 04-352667



BONDAR-CLEGG

Certificate
 of Analysis

REPORT: 425-3661

PROJECT: NONE GIVEN

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT
------------------	------------------	-----------

D2 HB1-1116		0.002
D2 HB1-1621		0.002
D2 HB1-2123		0.002
D2 HB1-2328		0.010
D2 HB1-2833		0.097

Z2 SG-18-28		0.008
Z2 SG-28-38		0.059
Z2 SG-38-48		0.068
Z2 SG-48-53		0.206
Z2 SG-53-63		0.004

Sluge
 From HB1-85

Z2 SG-C-18		0.003
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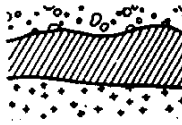
425-3732

PROJECT: NONE GIVEN

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT
D2 HB1 3841		0.002
D2 HB1 4348		0.047
D2 HB1 5051		0.002
D2 HB1 7679		<0.002
D2 HB1 8386		0.002
D2 HB1 9598		0.002
D2 HB2 0712		0.039
D2 HB2 1214		0.061
D2 HB2 1420		0.043
D2 HB2 2025		<0.002
D2 HB2 2530		<0.002
D2 HB2 3035		<0.002
D2 HB2 3540		<0.002
D2 HB2 4042		<0.002
D 2 5253		<0.002
D2 HB2 99101		<0.002
D2 HB2 107112		<0.002
D2 HB2 112118		<0.002
D2 HB2 128133		0.020
D2 HB3 2628		<0.002
D2 HB3 2830		<0.002
B2 HB3 3840		<0.002
D2 HB3 6769		0.010

@ surface



REPORT: 425-3783

PROJECT: HARLIN-BONANZA

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT
------------------	------------------	-----------

D2 HB-1-338		<0.002
D2 HB-4-1318		0.021
D2 HB-4-3133		0.021
D2 HB-4-3840		0.060
D2 HB-4-6062		0.008

D2 HB-4-8891		0.004
D2 HB-5-713		<0.002
D2 HB-5-1318		<0.002
D2 HB-5-5054		<0.002
D2 HB-5-6368		<0.002

D2 HB-5-6873		<0.002
D2 HB-5-7883		0.003
D2 HB-5-8893		0.010
D2 HB-5-94101		0.006
D2 HB-5-101108		<0.002

D2 HB-5-110114		0.007
D2 HB-5-128131		0.002
D2 HB-5-153156		<0.002
D2 HB-5-173176		<0.002
D2 HB-5-193198		<0.002

D2 6-1318		<0.002
D2 6-1823		<0.002
D2 6-2328		<0.002
D2 6-2833		<0.002
D2 6-3338		<0.002

D2 6-3843		<0.002
D2 6-4348		<0.002
D2 6-4854		<0.002
Z2 85-2 3-10		0.028

APPENDIX III

References:

- | | |
|--|---|
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