

86-974-15693

GALLANT GOLD MINES LIMITED

DIAMOND DRILLING, GEOLOGICAL  
AND GEOPHYSICAL REPORT

on the  
UTOPIA PROPERTY  
Atlin Mining Division  
NTS 104 N/12E

by  
L. Dandy, B.Sc.

January 1987

CLAIM WORKED

FILMED

15,693

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

Claim Name	Units	Record No.	Anniversary Date
Utopia	16	2178	February 8

Location:  $59^{\circ} 35.6' N$ ,  $133^{\circ} 36.2' W$

Owner: Gallant Gold Mines Ltd. *Mark Management Ltd.*

Operator: Gallant Gold Mines Ltd.

Project Geologist: L. Dandy, B.Sc., Mark Management Ltd.

**GALLANT GOLD MINES LIMITED****DIAMOND DRILLING, GEOLOGICAL****AND GEOPHYSICAL REPORT**

on the

**UTOPIA PROPERTY**

Atlin Mining Division

NTS 104 N/12E

**SUMMARY**

The Utopia lode gold prospect is located 8 kilometres east of Atlin in northwestern British Columbia. During 1986, a work programme consisting of VLF-EM and proton precession magnetometer surveys were carried out on the property to define the margins of the magnetometer 'highs' which are thought to be ultramafic bodies. Six diamond drill holes were put in along these margins.

Recent drilling on adjacent properties have indicated the presence of gold mineralization in a quartz stockwork within a carbonatized margin to an ultramafic body. Gallant's drill programme has indicated a good potential for discovering stockwork-type gold occurrences on the Utopia property along the Pine Creek fault valley.

## TABLE OF CONTENTS

	Page
SUMMARY .....	i
FIGURES AND TABLES .....	iii
1. INTRODUCTION .....	1
1.1 Location and Access .....	1
1.2 Physiography, Vegetation and Climate .....	3
1.3 Claim Information .....	4
1.4 History .....	6
1.5 Work Done by Gallant Gold Mines Ltd. in 1986 .	8
2. GEOLOGY .....	9
2.1 Regional Geology .....	9
2.2 Property Geology .....	10
3. DIAMOND DRILLING .....	14
3.1 Drill Hole Geology .....	15
3.2 Mineralization .....	18
4. GEOCHEMISTRY .....	18
4.1 Drill Core Sampling .....	18
4.1.1 Sampling and Sample Treatment .....	18
4.1.2 Presentation and Discussion of Results ...	19
5. GEOPHYSICS .....	19
5.1 VLF-EM Survey .....	19
5.1.1 Instrument and Survey Techniques .....	19
5.1.2 Presentation and Discussion of Results ...	20
5.2 Proton Precession Magnetometer Survey .....	22
5.2.1 Instrument and Survey Techniques .....	22
5.2.2 Presentation and Discussion of Results ...	22

6. CONCLUSIONS .....	23
REFERENCES .....	25
COST STATEMENT .....	26
STATEMENT OF QUALIFICATIONS .....	28

#### FIGURES

Figure 1 - Location Map 1:2,000,000 .....	2
2 - Mineral Claim Map 1:100,000 .....	5
3 - Regional Geology Map 1:50,000 .....	12
4 - Magnetometer Survey Contour Map 1:5,000 ..	Pocket
5 - Drill Holes 1 and 2 Profiles .....	16
6 - Drill Holes 3 and 6 Profiles .....	17
7 - VLF EM-16 Survey Profiles and Contour Map 1:2,000 .....	21

#### TABLES

Table 1 - Claim Status .....	4
2 - Gold Recovery from Productive Creeks in the Atlin Area, 1898 to 1946 .....	8
3 - Diamond Drill Hole Data .....	14

#### APPENDICES

Diamond Drill Hole Logs  
Assays

**GALLANT GOLD MINES LTD.****UTOPIA PROPERTY****Atlin Mining Division****1. INTRODUCTION**

The Utopia property is a lode gold prospect located in the heart of the historic Atlin placer gold camp in northwestern British Columbia (Fig. 1). The property was initially staked in July 1984 by Gallant Gold Mines Ltd.

In 1986, a work programme consisting of diamond drilling, VLF-EM and proton precession magnetometer surveys were carried out over the property. A three-man crew working out of the town of Atlin, completed this work during the period June 2 to December 5, 1986. The programme was supervised by Mark Management project geologist L. Dandy under the guidance of A.G. Troup, P.Eng., of Archean Engineering Ltd.

**1.1 LOCATION AND ACCESS**

The Utopia gold property located approximately 8 kilometres east of Atlin, covers an area of 4 square kilometres over the Pine Creek valley. The claim is centred at latitude  $59^{\circ}33'$  and longitude  $133^{\circ}26'$  on NTS map sheet 104 N/12.

**GALLANT GOLD MINES LTD.**

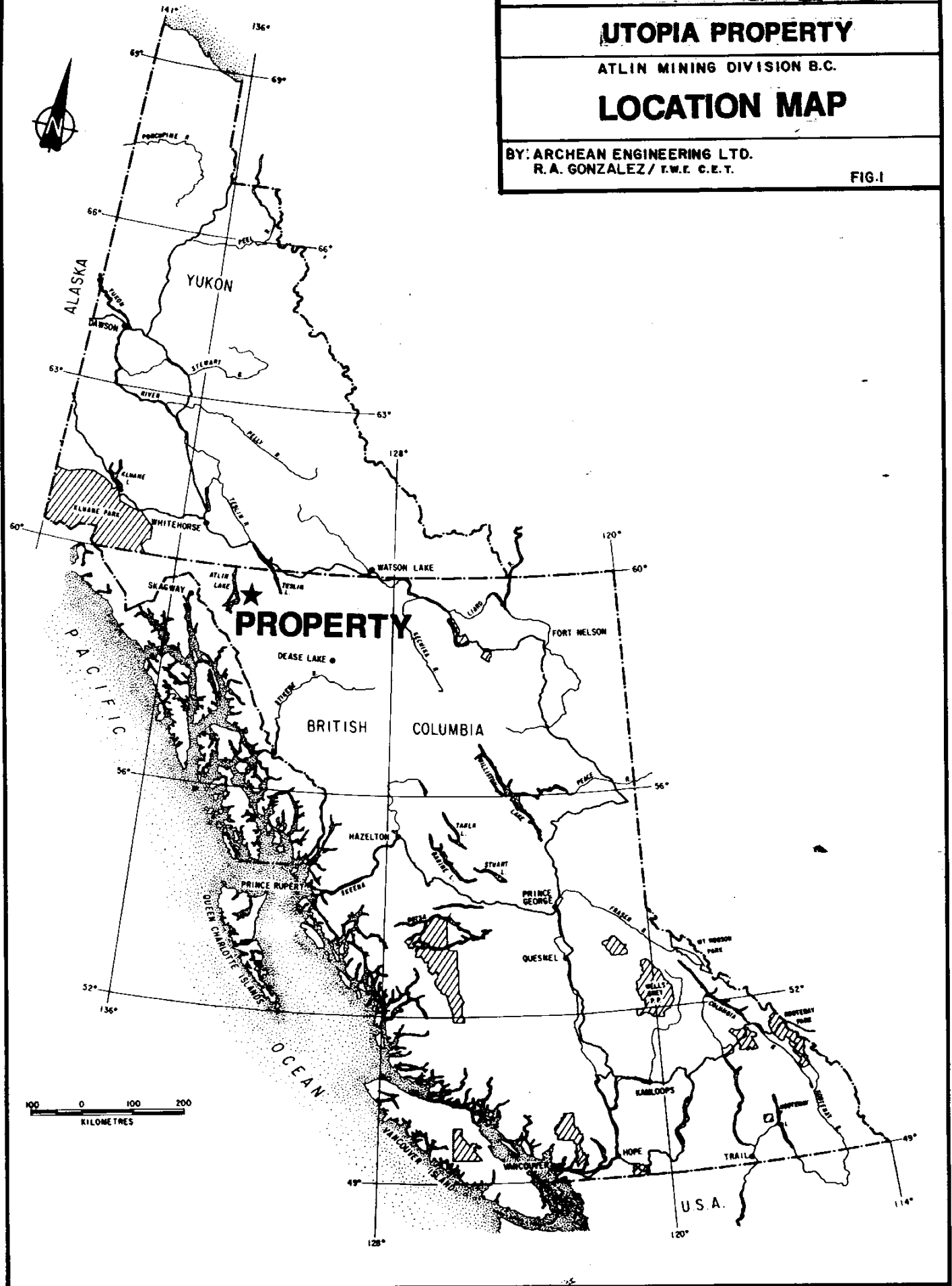
**UTOPIA PROPERTY**

ATLIN MINING DIVISION B.C.

**LOCATION MAP**

BY: ARCHEAN ENGINEERING LTD.  
R.A. GONZALEZ / T.W.E. C.E.T.

FIG.1



Atlin may be reached by car from Jakes Corner on the Alaska Highway (Mile 865), a distance of about 100 kilometres, along Highway 7. The distance from Jakes Corner to the major northern city of Whitehorse is 84 kilometres along the Alaska Highway, which is paved over this entire length. Whitehorse is served with several flights a day from other major centres in Canada and Alaska.

Excellent access to the claims is provided by an all weather gravel road that connects Atlin and Surprise Lake.

## 1.2 PHYSIOGRAPHY, VEGETATION AND CLIMATE

The Atlin area is located just east of the Coast Mountains on the Teslin Plateau. The town of Atlin lies on the east shore of Atlin Lake, the largest natural lake in British Columbia, at an elevation of 2,200 feet. The topography is moderately rugged with slopes of up to 30° rising from the Pine Creek valley floor at an elevation of 3,000 feet to mountains well over 6,000 feet. The immediate area of the property consists of short steep hills and wide, U-shaped valleys striking northeast and northwest. Glaciers occupied many of the valleys in Pleistocene time and deposited up to 300 feet of glaciofluvial till during their retreat. Till cover is thin or non-existent above the valley floor, giving way to felsenmeer and outcrop at higher elevations. The tree line is at approximately 4,500 feet on north facing slopes and 5,000 feet on south-facing slopes. Below

4,500 feet, the valleys are forested with lodgepole pine, black spruce, aspen and dwarf birch. Mountain alder and willow grow near streams with stunted buckbrush covering the hills above tree line.

Atlin enjoys a pleasant summer climate with temperatures averaging 20°C and little precipitation. Winter temperatures average -15°C in January with moderate snowfall. Total annual precipitation has been measured at 279.4 millimetres of moisture. "Winter" conditions can be expected from October to April.

### 1.3 CLAIM INFORMATION

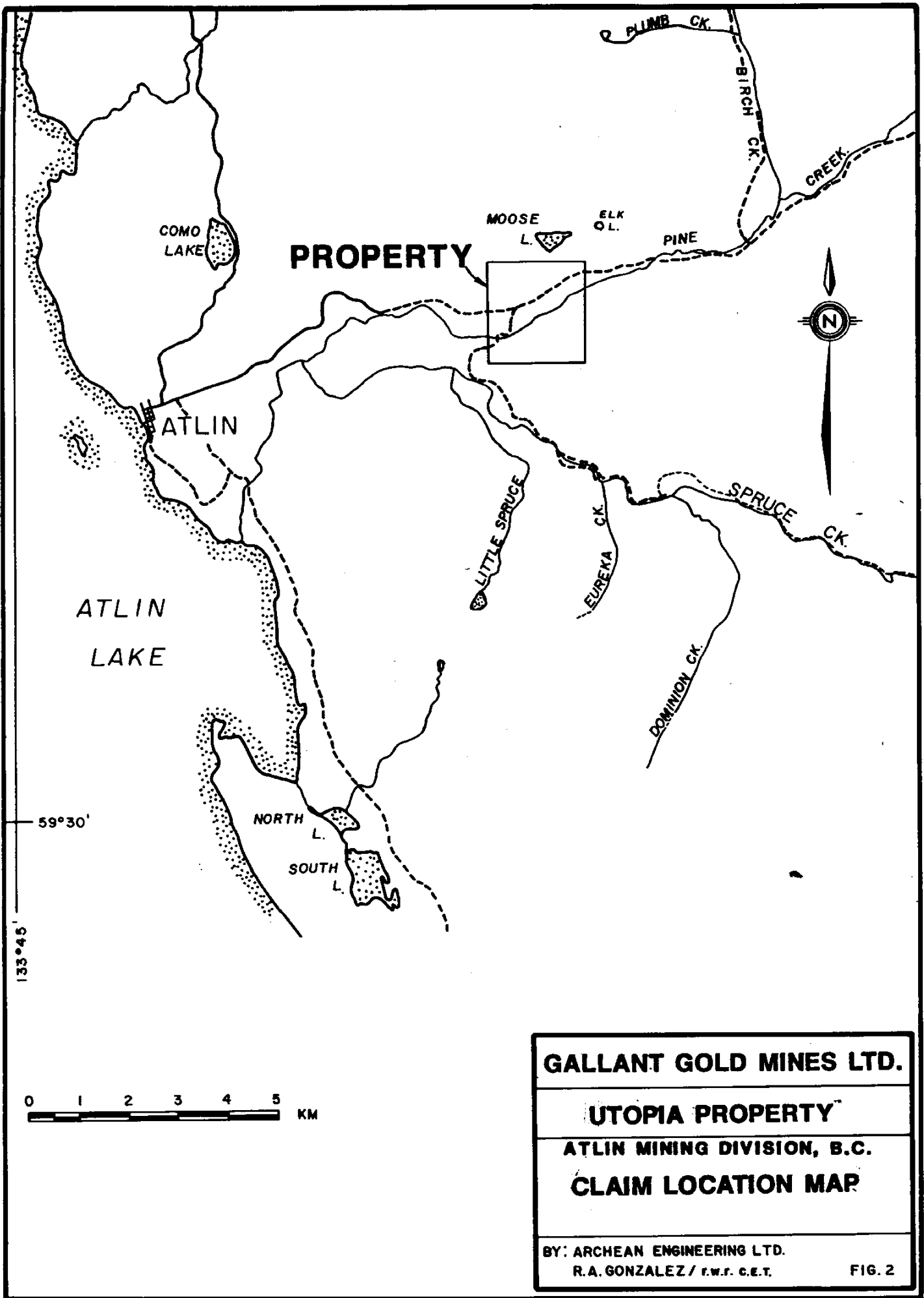
The property is located in the Atlin Mining Division and consists of 1 modified grid claim totalling 16 units (Fig. 2). The claim is owned by Gallant Gold Mines Ltd. of Vancouver, B.C. Claim information is listed in Table 1.

TABLE 1

#### CLAIM STATUS

Claim Name	Units	Record No.	Anniversary Date
Utopia	16	2178	February 8





#### 1.4 HISTORY

Gold was first discovered in the Atlin area in 1897 by Fritz Miller while en route to Dawson. The first workings were on Pine Creek and by the end of 1898, more than 3,000 people were camped in the Atlin area. Only 8 creeks - Spruce, Pine, Birch, Boulder, Ruby, Otter, Wright and McKee - have been important producers in the Atlin camp. Gold production from these creeks in the period 1898 to 1946 is listed in Table 2. By far the most important producer was Spruce Creek with a reported total of well over 260,000 ounces of placer gold through 1946. Almost all the gold was recovered from a Tertiary channel which appeared as a claybound orange-red gravel about three metres thick overlying bedrock. The channel was worked more or less progressively upstream from west to east for a distance of five and a half kilometres. The eastern limit of the worked channel is located at the old Nolan Mine at the confluence of Spruce and Dominion Creeks. By 1957, the workings had been advanced underground a further 1,266 metres upstream. Gravels worked underground are reported to have averaged 0.65 ounces of gold to the cubic yard.

Gold-bearing quartz veins were first discovered in the Atlin area in 1899 and by 1905 most of the known showings had been discovered. Although the original showings have been repeatedly worked and re-examined there is no record of regional exploration for lode mineralization since 1905.

In 1981, Yukon Revenue Mines Ltd. acquired and re-examined the old Lakeview property. Work done by Yukon Revenue showed low-grade gold values over an extensive but delicate quartz stockwork in carbonatized and silicified andesite adjacent to a serpentinite intrusive.

In 1986, Homestake acquired the old Yellow Jacket claims along Pine Creek, adjacent to the Utopia property. Their drilling has indicated several intersections of up to 10 feet grading 0.5 oz/T Au or better. The gold values are coming from a quartz stockwork with up to 1/2% pyrite in a carbonatized, talcose ultramafic.

The discovery by Yukon Revenue Mines Ltd. in the vicinity of major placer gold producing streams prompted Gallant Gold Mines Ltd. to stake the Utopia property. The similarity to the geology found in Homestake's drill holes indicates the potential for economic gold mineralization on Gallant's property.

TABLE 2 (from Holland, 1950)

## Gold Recovery from Productive Creeks, Atlin Area, 1898-1946

Stream Name	Ounces of Gold Produced
Spruce Creek	262,603
Pine Creek	138,144
Boulder Creek	67,811
Ruby Creek	55,272
McKee Creek	46,953
Otter Creek	20,113
Wright Creek	14,729
Birch Creek	12,898
All Others (21 creeks)	15,624

## 1.5 WORK DONE BY GALLANT GOLD MINES LTD. IN 1986

The following field work was completed on the Utopia property by Gallant Gold Mines Ltd. during the period June 2 to December 5, 1986:

- 1) Proton Precession Magnetometer survey over the entire Utopia claim.

- 2) VLF-EM survey over selected areas of the Utopia claim in an attempt to define areas of sulfide rich rocks.
- 3) Diamond drilling of 2,630 feet (801.6 m) of 'NQ' core in 6 holes on the Utopia mineral claim.

## 2. GEOLOGY

### 2.1 REGIONAL GEOLOGY

Geologic mapping of this area was undertaken in 1951-55 by J.D. Aitken of the Geological Survey of Canada (GSC) and compiled as Map 1082A (Fig. 3). In 1966-68, J.W.H. Monger, also of the GSC, selectively mapped the Atlin area and published his findings in GSC Paper 74-47.

The Atlin region is located in a eugeosynclinal area composed of three distinct northwest striking tectonic belts; the St. Elias and Insular Belt, Coast and Cascades Belt and Intermontane Belt. The rocks of the area belong to the Atlin Terrane, which represents an independent tectonic entity of the oceanic sequence of the Intermontane Belt in the Canadian Cordillera. The Atlin Terrane consists of upper Paleozoic age radiolarian cherts, pelites, carbonates, volcanics and ultramafics. These rocks are intruded by Mesozoic granite, alaskite and quartz monzonite. The youngest rocks of the Atlin Terrane are composed of Tertiary and Quaternary

volcanics. Till deposited by receding Pleistocene glaciers extensively covers the valleys.

The Atlin Terrane is bounded on the northeast by a northwest striking vertical fault and on the southwest by a northwest striking reverse fault. Structurally, the terrane is characterized by compressional deformation which is similar in style and trend to the southwest bounding faults (Monger, 1975). Minor fold axes generally strike northwest or trend southwest.

## 2.2 PROPERTY GEOLOGY

Outcrop exposure accounts for less than 10% of the surface area on the property. Felsenmeer is present in areas of no outcrop and is assumed to be close to outcrop. Till covers the valleys below 4,300 feet elevation.

The Utopia property is underlain by Cache Creek Group metasediments and basic volcanics intruded by Pennsylvanian and Permian age ultramafics and minor amounts of Tertiary olivine basalt.

The Cache Creek Group is of Pennsylvanian and Permian age and consists of limestone, chert, argillite and andesite (greenstone). Monger (1975) classifies the limestone and chert as forming part of the Kedahda Formation and the andesite as part of the Nakina

Formation. The andesite is typically drab grey-green in colour, siliceous, sometimes weakly carbonatized and contains up to 1% primary pyrite. The carbonatized ultramafic and carbonatized andesite are often difficult to distinguish because of their intensely altered and indistinct contacts. The fetid limestone is ash grey in colour and contains fossil fragments believed to be crinoids. The dark grey to black coloured chert is commonly interbedded with cherty or graphitic argillite.

The Pennsylvanian and Permian ultramafics are part of the Atlin Intrusions and consist of serpentinite, peridotite and minor mafic dykes which have undergone varying intensities of carbonatization, serpentization and steatization. Alteration of the ultramafic is most intense along shear zones where it occurs as a recessive unit. The carbonatized ultramafic is characterized by its orange-brown colour, due to the surface weathering of siderite, and the presence of mariposite (a chromium high-silica mica). Other carbonate minerals present include ankerite, magnesite, dolomite and calcite. Networks of quartz veinlets found in the carbonatized ultramafic are a result of silica being liberated during the alteration of serpentinite to siderite or magnesite. Talcose ultramafics occur where much shearing and hydrothermal activity has taken place. The intrusive nature of the ultramafic suggests that sills and dykes of it pinch and swell in thickness. Weakly magnetic Tertiary olivine basalt dykes crosscut all the units.



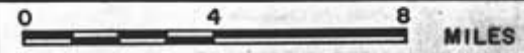
**LEGEND:**

- QUATERNARY
  - 17 GLACIAL DRIFT, ALLUVIAN
- CRETACEOUS
  - 13a ALASKITE
- JURASSIC
  - 12 UNDIFFERENTIATED GRANITIC ROCKS
- PENNSYLVANIAN & PERMIAN
  - ATLIN INTRUSIONS
    - 9 PERIDOTITE ; META-DIORITE & META-GABBRO
    - 9a SERPENTINITE
    - 9b CARBONITIZED SERPENTINITE
    - 9c TALC BEARING (STEATITIZED) ULTRAMAFIC ROCKS.
- CACHE CREEK GROUP
  - 6 CHERT, ARGILLITE, CHERT-PEBBLE CONGLOMERATE & CHERT BRECCIA ; DERIVED QUARTZITE & SCHIST ; MINOR 7 & 8 .
  - 7 GREENSTONE & VOLCANIC GREYWACKE ; DERIVED AMPHIBOLITE ; MINOR 6 & 8 .
  - 8 LIMESTONE & LIMESTONE BRECCIA
- ANTICLINE
  - SYNCLINE
  - FAULT

**GALLANT GOLD MINES LTD.**

**UTOPIA PROPERTY**

ATLIN MINING DIVISION B.C.  
**GENERAL GEOLOGY**  
 ADAPTED FROM AIKENS



BY: ARCHEAN ENGINEERING LTD. DATE: DEC./86  
 RA.GONZALEZ /r.w.r. FIGURE 3



Stratigraphically, from top to bottom, the units are as follows: olivine basalt, andesite, carbonatized ultramafic, ultramafic, chert interbedded with argillite, and limestone. Locally pods of limestone are seen to lie stratigraphically above the ultramafic and below the chert. This incongruity is explained by the rafting up of limestone pods by the ultramafic as it intruded upwards through the limestone. The true thickness of each unit is uncertain. The lower contact of the limestone was not mapped, making a determination of its thickness impossible. The chert horizon appears to vary dramatically in thickness; anywhere from a metre to tens of metres thick. Due to erosion, the thickness of the andesite is unknown although it is believed to exist only as a thin capping.

Major shear and fracture directions in this area are known to be  $030^{\circ}$ ,  $060^{\circ}$  and  $170^{\circ}$ . Hidden shears/faults may occur parallel to or underlie many of the placer gold producing creeks. This is especially true of the Pine Creek/Surprise Lake linear which strikes  $060^{\circ}$ . The valleys of Birch, Boulder, Otter and Ruby Creeks, which all strike approximately  $170^{\circ}$ , are thought to be tension gashes or fractures related to the Pine Creek/Surprise Lake linear. These linears are believed to be related to gold mineralization, as many of the lode showings and all the auriferous veins in the locality have similar orientations.

### 3. DIAMOND DRILLING

A diamond drilling programme consisting of 6 'NQ' size holes totalling 2,630 feet was carried out by Phil's Diamond Drilling Ltd. and Arctic Diamond Drilling Ltd. during August to November 1986 (Table 3, Fig. 4). Dip tests were taken at the collar and at the bottom of each hole. Drill core is presently stored in Atlin.

TABLE 3

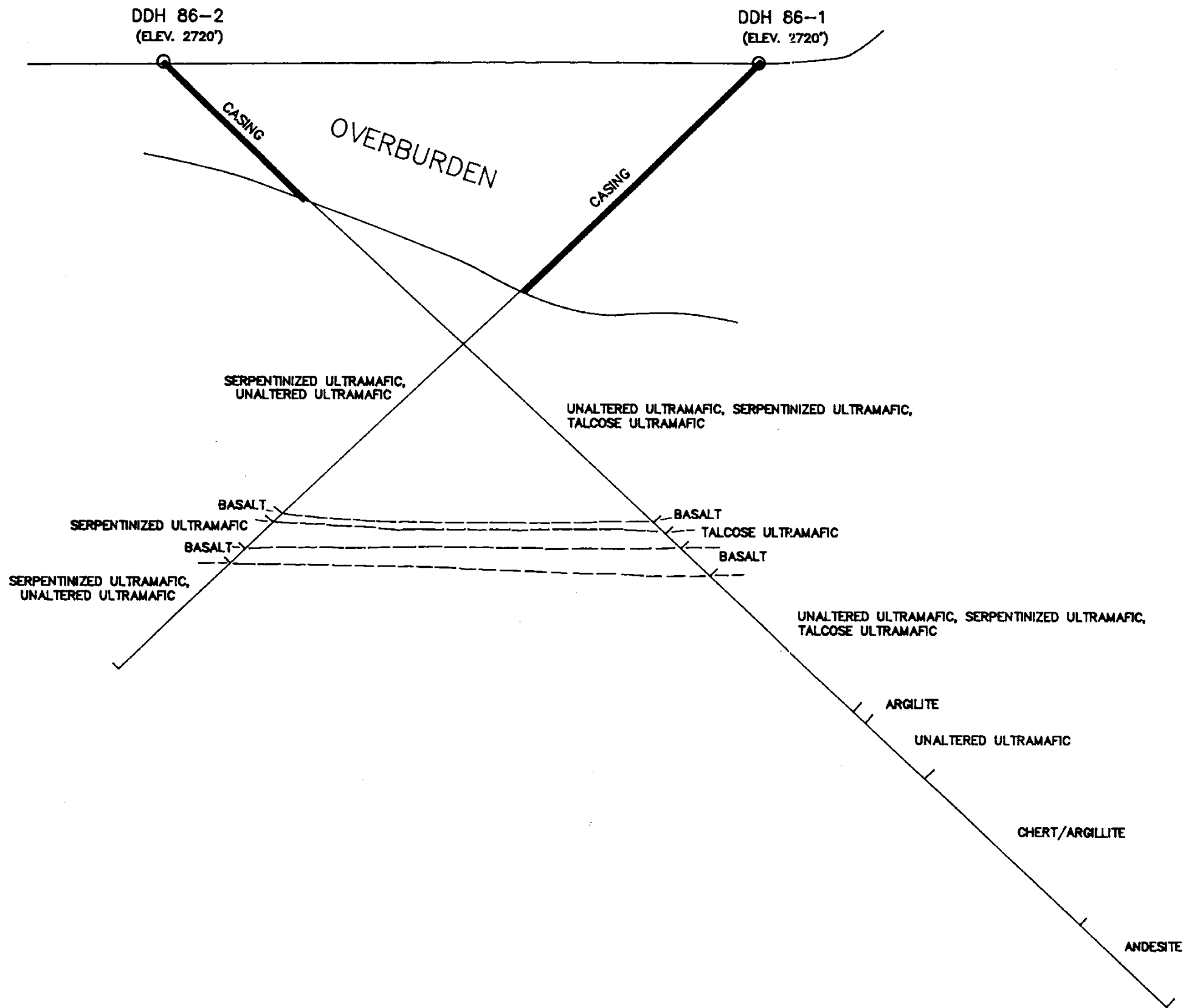
#### DIAMOND DRILL HOLE DATA

Drill Hole	Location	Azimuth	Dip(collar)	Length(ft.)
GAG-DDH-86-1	Utopia	356°	-43°	316
2	Utopia	176°	-44°	487
3	Utopia	000°	-45°	597
4	Utopia	180°	-45°	287
5	Utopia	098°	-45°	448
6	Utopia	000°	-45°	254

### 3.1 DRILL HOLE GEOLOGY

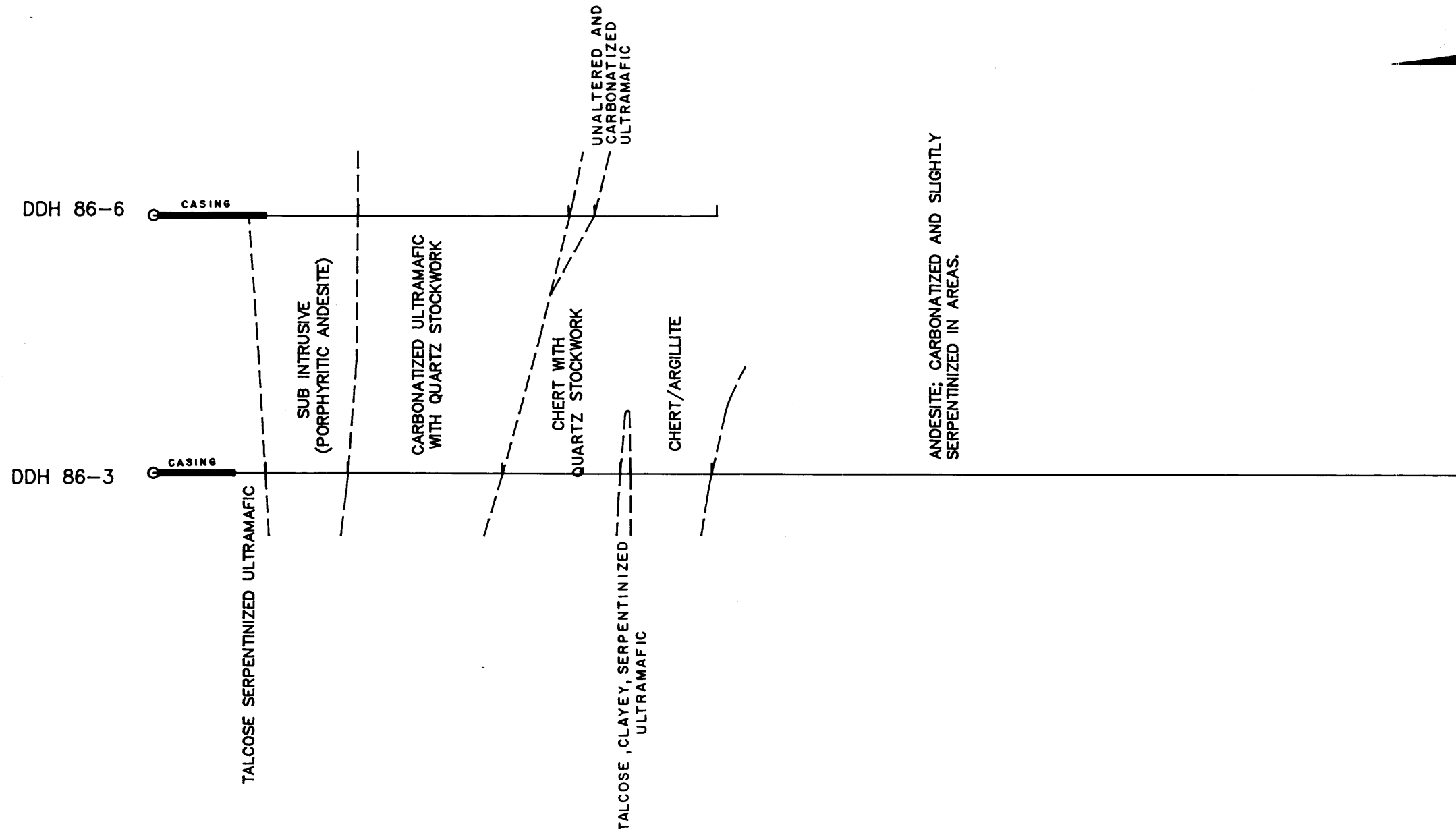
Drill holes 1 to 5 were drilled to test the edges of magnetometer highs which are believed to be ultramafic intrusive bodies. The edges of these ultramafic bodies are commonly altered by carbonatization and/or silicification. Other drill programmes in this area have shown that where pyrite is present in a quartz stockwork system within a carbonatized ultramafic there is an excellent potential for gold mineralization. Drill hole 6 was placed along strike from hole 3 which had the best section of quartz stockwork, therefore the best chance for gold mineralization. Two additional drill holes were also attempted along strike from holes 3 and 6 but were unsuccessful due to loose, deep overburden.

Rock units encountered in the drill core consisted primarily of ultramafics (serpentinized, carbonatized, silicified and unaltered), chert/argillite, andesite and an intrusive sub-volcanic with large feldspar phenocrysts. Most of the core is intensely fractured, sheared and incompetent, creating drilling and drill hole correlation problems. Although the stratigraphy appears somewhat complicated in drill core, due to intense shearing and alteration it is believed that the stratigraphic section described earlier in Section 2.2 holds true (Fig. 5 and 6).



GALLANT GOLD MINES LTD.	
UTOPIA CLAIMS	
ATLIN MINING DIVISION B.C. NTS:104N/12E	
VERTICAL CROSS SECTION (DDH 86-1 & 2)	
SCALE 1:500	

DATE: JAN., 1987  
 BY: L.D./r.w.r. FIGURE: 5



GALLANT GOLD MINES LTD.	
UTOPIA CLAIMS	
<small>ATLUN MINING DIVISION B.C. NTS:104N/12E</small>	
<p>PLAN VIEW OF DDH 86-3 &amp; 6</p>	
<p>SCALE 1:500</p>	
DATE: JAN., 1987	FIGURE: 6
BY: L.D./r.w.r.	

### **3.2 MINERALIZATION**

Assay data is given in the drill logs (see appendix). The highest assay was 0.009 oz/ton gold over 10 feet and 8.6 ppm silver over 7.5 feet in 86-3. No economic gold values over mineable widths were encountered in any of the drill holes. Other metallic sulphides seen were galena and chromite in 86-3, 5 and 6 and pyrite in all the drill holes. Ultramafic with magnetite and chromite is believed to be the cause of the magnetometer high readings and conductive overburden is believed to be the cause of the VLF EM-16 conductors found on the property.

## **4. GEOCHEMISTRY**

### **4.1 DRILL CORE SAMPLING**

#### **4.1.1 SAMPLING AND SAMPLE TREATMENT**

A total of 241 core samples were collected from the six holes drilled on the Utopia claim. The entire length of the core was sampled with average sample width of 5 feet and smaller samples being taken where mineralization or veining was present. The core was logged, split, crushed and riffle split in the field, with samples of .25 to .50 kilograms being sent to Chemex Labs Ltd. in North Vancouver for analysis. In the lab the samples were crushed to minus 100 mesh,

fire assayed for gold and given a 30 element ICP analysis.

#### 4.1.2 PRESENTATION AND DISCUSSION OF RESULTS

Sample locations, widths, rock types and assay data can be obtained from the drill logs found in the appendix. No significant mineralization was encountered in the core, however, quartz stockworks within carbonatized ultramafics were found. These stockworks have good potential for having spotty gold mineralization concentrated in zones along the strike of this system.

### 5. GEOPHYSICS

#### 5.1 VLF-EM SURVEY

##### 5.1.1 INSTRUMENT AND SURVEY TECHNIQUES

Reconnaissance VLF-EM surveys were carried out over the Utopia Claim using a Geonics EM-16 instrument. A total of 2.7 line kilometres were surveyed with readings taken at 25 metre intervals along north-south lines spaced 200 metres apart. The survey used the submarine transmitting station in Seattle, Washington (Station NLK, 24.8 kHz), with in-phase and quadrature readings taken in a westerly direction ( $235^{\circ}$ ) to ensure that east dips were indicated as negative

readings by the instrument. The in-phase readings were reduced by using the Fraser Filtering Technique (Fraser, 1969) and contoured.

### 5.1.2 PRESENTATION AND DISCUSSION OF RESULTS

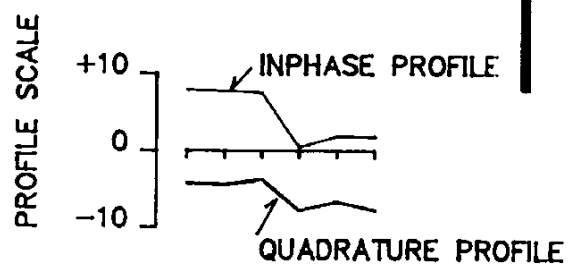
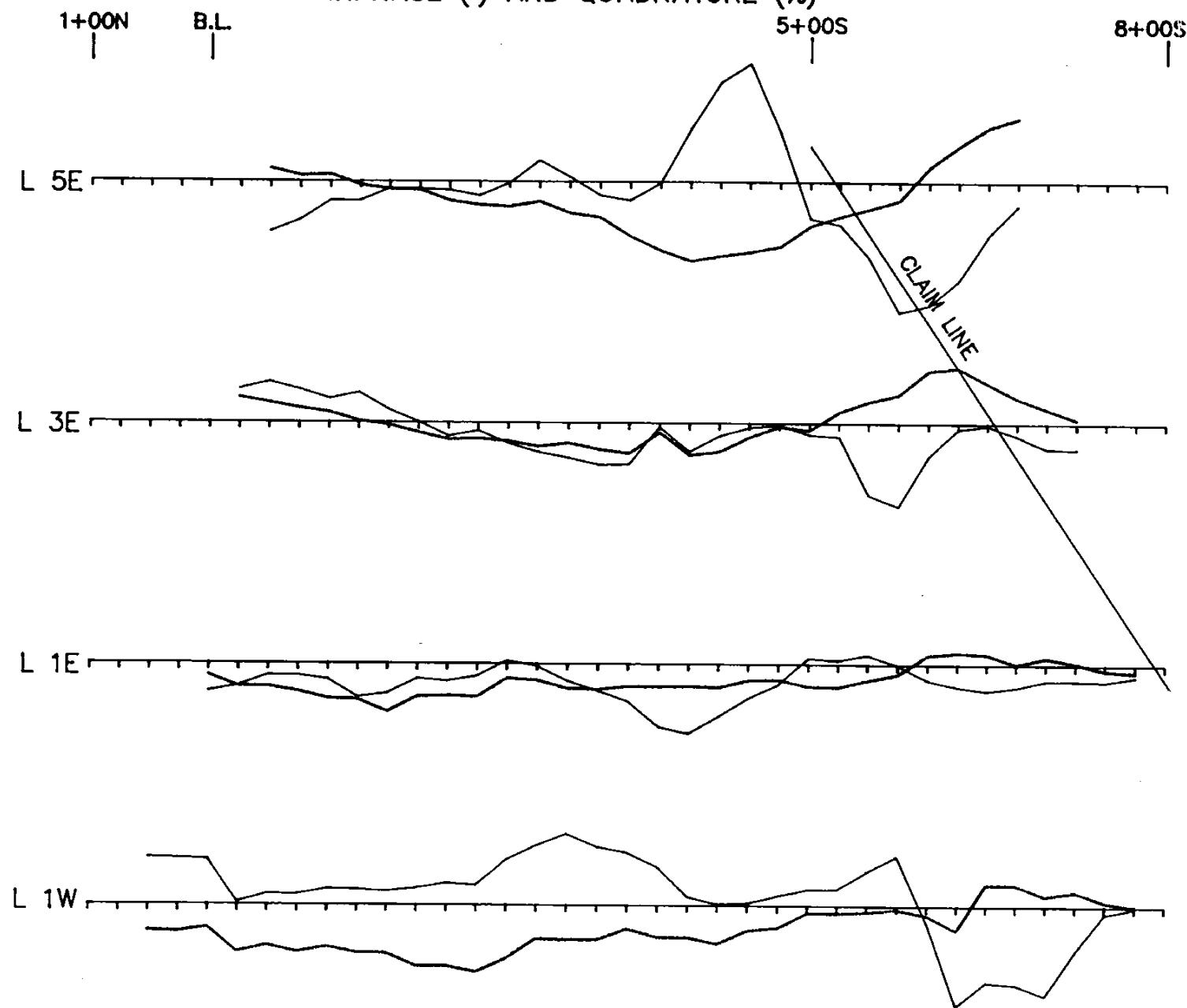
Results of the survey are shown in Figure 7. In-phase and filtered in-phase readings are shown, with the filtered in-phase readings contoured at 10% contour intervals.

The survey was conducted over an area known to be underlain with a carbonatized ultramafic containing a quartz stockwork. The presence of sulfides in this stockwork is thought to be coincident with gold mineralization. It was hoped that sufficient sulfides would be present in these rocks to give a conductive reading giving further drill targets. A conductor of +29 was found and drill hole 7 was attempted at this location. Overburden in excess of 100 feet was encountered making drilling at this location impossible. This depth of overburden would likely mask any VLF responses from the underlying rocks so it is concluded that the conductor encountered in this location is likely due to conductive overburden rather than to sulfide enrichment in the underlying bedrock.



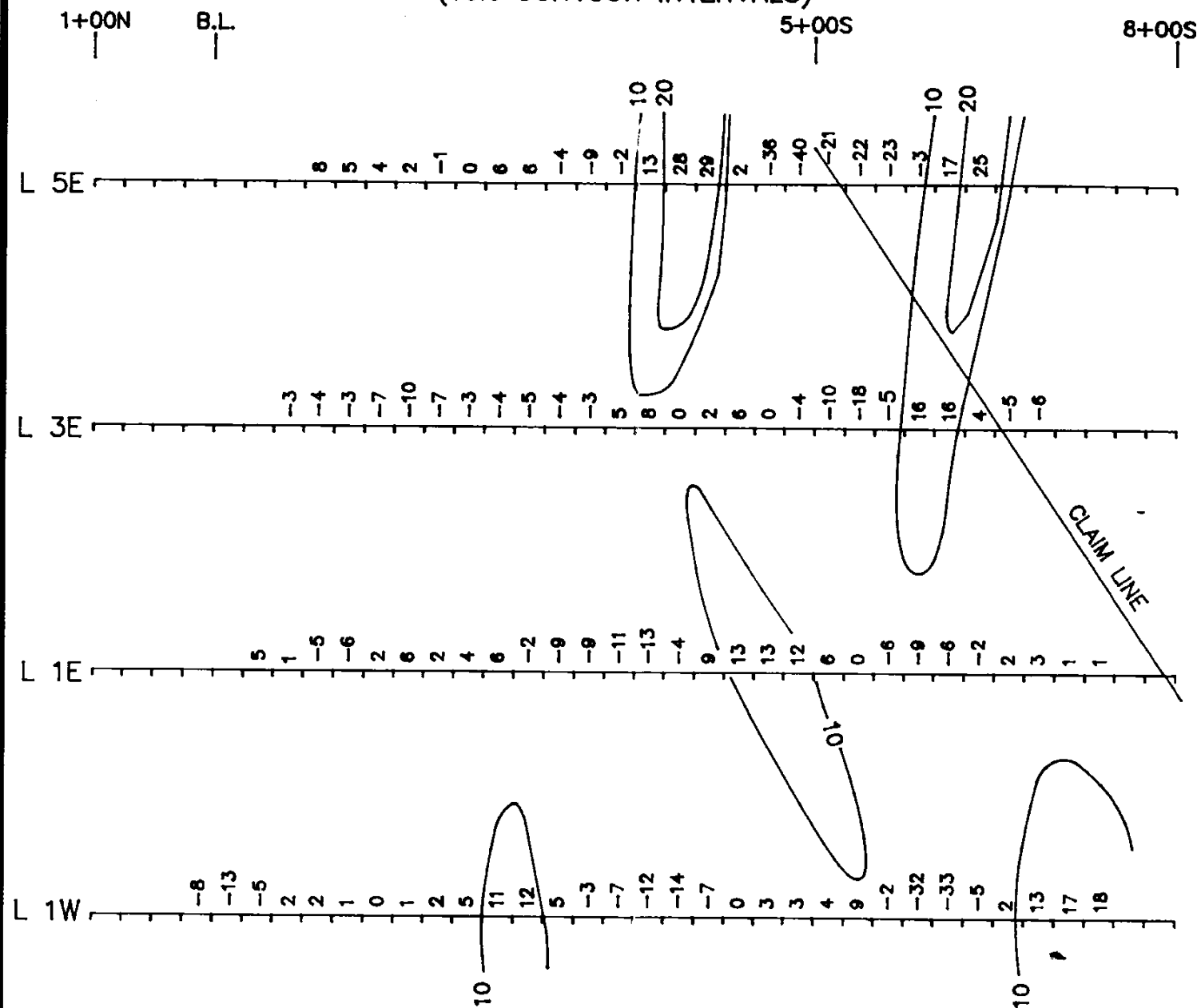
# PROFILES

INPHASE (°) AND QUADRATURE (%)



# FRASER FILTER CONTOURS

(10% CONTOUR INTERVALS)



NORTH

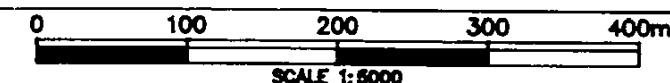
STATION 'NLK'  
● 145°

GALLANT GOLD MINES LTD.

UTOPIA PROPERTY

ATLJN MINING DIVISION, B.C NTS:104N/12E

VLF EM-16 SURVEY  
CONTOURS & PROFILES



DATE: JAN., 1987  
BY: L.D./rwr

FIGURE: 7

## 5.2 PROTON PRECESSION MAGNETOMETER SURVEY *(total field magnetics)*

### 5.2.1 INSTRUMENT AND SURVEY TECHNIQUES

A proton precession magnetometer survey was also carried out over the entire Utpoia claim. A total of 24.3 line kilometres were surveyed using a Geometrics G826 proton magnetometer. A base station was established and readings were corrected for diurnal and day to day variations. Readings were taken in a northerly direction at 25 metre intervals along north-south flagged lines spaced 200 metres apart. The time of day was recorded at each station and later used to correct the field readings.

### 5.2.2 PRESENTATION AND DISCUSSION OF RESULTS

Results of the survey have been contoured and are shown in Figure 7. Readings are in gammas (0 = 50,000 gammas) and have been corrected for diurnal and day to day variations.

The magnetometer readings show a range of values from 57,326 to 60,733 gammas. A prominent east-west striking zone of at least 1,800 metres length, located approximately following the Pine Creek valley and appears to be delineating ultramafics of the Atlin Intrusions. Immediately to the north and south of this magnetic anomaly is carbonatized and silicified ultramafic which shows up as magnetometer

low readings. This survey has delineated favourable geology (i.e. quartz stockwork hosted in altered ultramafics) which was obscured by vegetation and overburden.

## 6. CONCLUSIONS

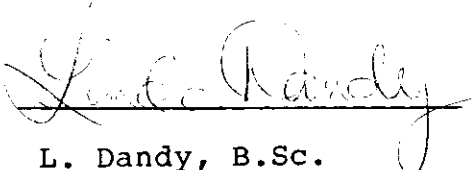
The results of the 1986 programme indicate that the property has potential for the discovery of stockwork-type mineralization along the Pine Creek valley. Important findings of the programme are summarized as follows:

- 1) Geology of the property shows Cache Creek Group rocks intruded by ultramafics of the Atlin Intrusions. Carbonatization and silicification of the ultramafic is extensive and areas of quartz stockwork within this alteration is believed to be associated with the gold mineralization in this area.
- 2) VLF-EM survey results gave conductors believed to be obtained from conductive overburden, therefore not significant to our programme.
- 3) Proton precession magnetometer survey was used to delineate the location of ultramafic bodies which show up as magnetometer high responses. The margins of these

magnetometer highs are believed to be altered by carbonatization or silicification of the ultramafic and may contain gold mineralization.

- 4) Drilling on the Utopia claim was done along the margins of the magnetometer highs. Quartz stockworks found in the carbonatized ultramafic in holes 3, 5, and 6 have associated pyrite, galena and chromite mineralization and good potential for gold and silver mineralization similar to that found on neighbouring properties.

Respectfully submitted,



L. Dandy, B.Sc.

Mark Management Ltd.

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- Troup, A.G. and Wong, C., 1984, Geochemical, Geological, Geophysical, Trenching and Drilling Report on the Shuksan Property.

**COSTS STATEMENT**  
**GALLANT GOLD MINES LTD.**  
**PHYSICAL, GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL and**  
**DIAMOND DRILLING**  
**UTOPIA PROPERTY**  
**18 August - 6 December 1986**

**DIAMOND DRILLING PROGRAMME**

**SALARIES AND WAGES**

4 persons, 84 mandays @ 132.36	\$11,118.27
<b>BENEFITS @ 20%</b>	2,223.65
<b>FOOD &amp; ACCOMMODATION</b>	
84 mandays @ \$43.18	3,627.45
<b>SUPPLIES</b>	1,914.54
<b>FUEL</b>	3,378.50
<b>SHIPPING &amp; POSTAGE</b>	1,370.56
<b>FIELD TELEPHONE SERVICE</b>	547.21

**BULLDOZER CONTRACTOR**

Thoma Services, 23 Aug - 22 Nov	
D8 Cat, 97.5 hrs @ \$125.25	12,212.00

**DIAMOND DRILLING CONTRACTORS**

Phil's Diamond Drilling, 23Aug-5Nov,	
2145 feet @ 27.65	59,300.65
Arctic Diamond Drilling, 5Nov-22Nov,	
485 feet @ 49.11	23,816.25
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	83,116.90

**ASSAYS AND ANALYSIS - CHEMEX LABS**

17 Rock for Au @ 17.00	289.00
225 Rock for Au @ 11.50	2,587.50
242 Pulp for 30-element ICP @ 6.50	1,573.00

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4,449.50

**RENTALS**

AIRWAYS 4WD Crew Cab, 28May-10Dec	
45 days @ 43.00	1,935.00
GABRIEL Chainsaw, 18Aug-6Dec	
11 days @ 30.00	330.00
STANDARD Field Equipment,	
84 mandays @ \$6.00	504.00

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2,796.00

**CONSULTANTS**

ARCHEAN ENGINEERING	2,250.00
ADDER EXPLORATION AND DEVELOPMENT	265.00

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2,515.00

**REPORT PREPARATION**

4,073.35

**TOTAL DIAMOND DRILLING PROGRAMME COST**


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\$133,315.93

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**RELATED MAGNETOMETER SURVEY****CONTRACTOR P.E. WALCOTT AND ASSOCIATES**

2-8 Aug, 24.3 line km @ 197.09

\$4,789.40

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## STATEMENT OF QUALIFICATIONS

LINDA DANDY, B.SC.

**Academic**

1981	B.Sc. Geology	University of British Columbia
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**Practical**

1986	Mark Management Ltd. Vancouver, B.C.	Geophysics, geochemistry and over 10,000 feet of diamond drilling near Atlin, B.C.
1985	Mark Management Ltd.	Detailed geological mapping, geophysical and geochemical surveys and backhoe trenching in the Yukon, southeastern B.C. and northeastern Washington.
1984	Mark Management Ltd.	Detailed geological mapping, geophysical and geochemical surveys, backhoe trenching and diamond drilling in northern B.C.
1983	Mark Management Ltd.	Geological mapping (1:50,000, 1:10,000, 1:1,000), geophysical and geochemical surveys in Central and Northern B.C. and the Yukon.
1982	Mark Management Ltd.	Geochemical and geophysical surveys in Central B.C.
1981	Mark Management Ltd.	Property work, detailed mapping geochemical and geophysical surveys in Central B.C.

*grad. geologist D. Newton was directly supervised by L. Dandy.*

*T.K.*





PROPERTY GALLANT GOLD MINES LTD.  
UTOPIA

# DIAMOND DRILL RECORD

HOLE NO. GAG DDH 86-2 PAGE 1 OF 2

LATITUDE	DIPS-COLLAR - 44°	AZIMUTH 176°	STARTED August 27, 1986
LONGITUDE	- 434' - 42°	CORE SIZE NQ	COMPLETED September 1, 1986
ELEVATION 2720'		CONTRACTOR PHIL'S DIAMOND DRILLING	LENGTH 487' <u>1 ft - 0.305 m</u>
SHEET NO. GAG DDH 86-2			LOGGED BY David Newton
TARGET MINERALIZED QUARTZ STOCKWORK IN ULTRAMAFIC			DATE September 2, 1986

SECTION feet		ROCK DESCRIPTION	% REC	INTV.	CORE LENGTH	MINERALIZATION SUMMARY	A S S A Y S					
FROM	TO						SAMPLE NUMBER	INTERVAL	WIDTH	AU OZ/T	AG P.P.M.	TAG NUMBER
69	75	Grey, fine to medium-grained mafic volcanic.	92.5	69'-79'	111"		001	69' - 79'	10'	L 0.002	0.2	38743F
75	88	Becomes dark green to black ultramafic - unaltered except where slightly serpentinized along fractures.	95.8	to 89'	115"		002	to 92'	13'	L 0.002	0.2	44F
			100	to 99'	120"		003	to 99'	7'	L 0.002	0.2	45F
88	92	Same as last, but more fractured.	89.2	to 109'	107"		004	to 110'	11'	L 0.002	0.4	46F
92	99	Dark green to black ultramafic, minor serpentine along fractures.	100	to 119'	120"		005	to 119'	9'	L 0.002	0.2	47F
99	110	Medium-green unaltered ultramafic, minor quartz veinlets.	95	to 129'	114"		006	to 128'	9'	L 0.002	0.4	48F
110	119	Light green and white ultramafic, increasing serpentinization along fractures, rock is softer and less competent, especially 115' to 116'.	100	to 139'	120"		007	to 139'	11'	L 0.002	0.2	49F
			100	to 149'	120"		008	to 149'	10'	L 0.002	0.2	50F
119	128	Medium green ultramafic, unaltered but serpentinized along fractures, highly fractured.	100	to 159'	120"		009	to 159'	10'	L 0.002	0.4	51F
			99.2	to 169'	119"		010	to 167'	8'	L 0.002	0.2	52F
128	164	Dark green to black unaltered ultramafic, serpentine along fractures.	88.3	to 179'	106"		011	to 171.5'	4.5'	L 0.002	0.4	53F
164	167	Medium green, moderately serpentinized ultramafic, 2-4mm wide quartz veinlets every 10-15cm along core. Veinlets have orientation 080° and contain minor pyrite.	91.7	to 189'	110"		012	to 185'	13.5'	L 0.002	0.2	54F
			33.3	to 199'	40"		013	to 189.5'	4.5'	L 0.002	0.4	55F
			100	to 209'	120"		014	to 199'	9.5'	L 0.002	0.2	56F
167	170	Soft, talcose, serpentinized ultramafic, 169.5' to 170' more competent and less altered with quartz stockwork.	98.3	to 219'	118"		015	to 213'	14'	L 0.002	0.2	57F
			72.5	to 229'	87"		016	to 215.5'	2.5'	L 0.002	0.4	58F
170	181	Dark green, broken, unaltered to slightly serpentinized ultramafic; serpentine along fractures. Very minor quartz veinlets (L 1mm) except for 3cm quartz stockwork at 180.5'.	92.5	to 239'	111"		017	to 222'	6.5'	L 0.002	0.4	59F
			100	to 249'	120"		018	to 232.5'	10.5'	L 0.002	0.4	60F
			98.3	to 259'	118"		019	to 234'	1.5'	L 0.002	0.4	61F
181	185	Dark green, unaltered ultramafic, serpentine along fractures.	100	to 269'	120"		020	to 238.5'	4.5'	L 0.002	0.4	62F
185	189.5	Mostly white/green talc with serpentine and clay from 185' to 188' and 189' to 189.5'. From 188' to 189' is clay-talc-serpentine gouge with ultramafic clasts	98.3	to 279'	118"		021	to 246'	7.5'	L 0.002	0.2	63F
			83.3	to 289'	100"		022	to 259'	13'	L 0.002	0.2	64F
			99.2	to 299'	119"		023	to 265'	6'	L 0.002	0.2	65F
189.5	215.5	From 190.5' to 191.5' is massive white to light green talc but the rest is mostly green/grey, soft, moderately serpentinized ultramafic with massive dark green serpentine along fractures. From 199' to 203' and 213' to 215.5' the rock is less competent and consists of less serpentinized fragments in a serpentine matrix. Calcite occurs throughout as L 1cm blebs or as lenses.	96.7	to 309'	116"		024	to 266.5'	1.5'	L 0.002	0.2	66F
			97.5	to 319'	117"		025	to 270.5'	4'	L 0.002	0.4	67F
			100	to 329'	120"		026	to 279.5'	9'	L 0.002	0.2	68F
			100	to 339'	120"		027	to 287'	7.5'	L 0.002	0.4	69F
			100	to 349'	120"		028	to 292'	5'	L 0.002	0.2	70F
215.5	218	Light green talc - rich ultramafic to soapstone	100	to 359'	120"		029	to 309'	17'	L 0.002	0.4	71F
218	220	Medium green serpentinite	100	to 369'	120"		030	to 316.5'	7.5'	L 0.002	0.6	72F
220	222	Light green soapstone, minor pyrite, 1cm quartz vein at 222'.	100	to 379'	120"		031	to 319.5'	3'	L 0.002	0.2	73F
222	232.5	Medium green unaltered to slightly serpentinized ultramafic. Serpentine along fractures, 1mm wide quartz veinlets - orientation 10°-20° - 0.5cm veinlets at 229.5' and 232'.	100	to 389'	120"		032	to 333'	13.5'	L 0.002	0.2	74F
			97.5	to 399'	117"		033	to 339'	6'	L 0.002	0.4	75F
			99.1	to 408'	107"		034	to 349'	10'	L 0.002	0.2	76F
232.5	234	Same as above but more broken and serpentinized and with light green clay gouge.	100	to 418'	120"		035	to 359'	10'	L 0.002	0.2	77F





# DIAMOND DRILL RECORD

HOLE NO. GAGDDH 86-3

PAGE 2 OF 3

SECTION FEET		ROCK DESCRIPTION NAME COLOUR: TEXTURE: SIZE & % MINERALS OR FRAGMENTS. REMARKS (VEIN SEQUENCE: GOUGE ZONES ETC.)	% REC.	INTERVAL	CORE LENGTH	MINERALIZATION SUMMARY	A S S A Y S					
FROM	TO						SAMPLE NUMBER	INTERVAL	WIDTH	AU OZ/T	AG P.P.M.	TAG NUMBER
213.5	214.5	Soft, crumbly, green, clay-altered serpentinite.	99.2	359'-369'	119"		036	264' - 266.5'	2.5'	0.002	1.0	38824F
214.5	220	Grey/black vuggy chert, minor quartz stringers, minor pyrite.	100	to 379'	120"		037	to 279'	12.5'	0.002	0.2	25F
220	225	Black argillaceous chert - 1% pyrite.	92.5	to 389'	111"		038	to 289'	10'	0.002	0.2	26F
225	233	Dark grey chert.	100	to 399'	120"		039	to 298'	9'	0.002	0.2	27F
233	239	Black cherty argillite - 1% pyrite.	100	to 409'	120"		040	to 301'	3'	0.002	0.2	28F
239	250	Grey chert, argillaceous in places, minor pyrite, 5% quartz veinlets.	100	to 419'	120"		041	to 306'	5'	0.002	2.2	29F
250	250.5	Green gouge.	100	to 429'	120"		042	to 312'	6'	0.002	0.2	30F
250.5	253	Green, slightly serpentized andesite.	99.2	to 439'	119"		043	to 317'	5'	0.002	0.2	31F
253	254	Clay altered, carbonatized andesite, 3-4cm wide quartz vein with pyrite - orientation 60°.	98.3	to 444'	59"		044	to 322'	5'	0.002	0.2	32F
254	264	Green, mostly competent, unaltered to slightly serpentized andesite or mafic volcanic. Serpentine on fractures. Crumbly green/grey clay at 257', 261' - 262'. Minor quartz at 263'.	86.6	to 459'	52"		045	to 329'	7'	0.002	0.2	33F
264	266.5	Clay altered carbonatized andesite, 1% pyrite, quartz stockwork.	70.8	to 469'	85"		046	to 339'	10'	0.009	4.2	34F
266.5	289	Dark green, unaltered to slightly serpentized andesite or ultramafic volcanic. Serpentine on fractures, quartz and calcite veinlets. Soft, crumbly rock to gouge at 273', 275' - 277'.	97.2	to 475'	70"		047	to 349'	10'	0.002	0.2	35F
289	292	Grey gouge.	37.5	to 479'	18"		048	to 369'	20'	0.002	0.2	36F
292	295	Light grey carbonatized andesite, slightly clay altered and crumbly, 1/2% pyrite, quartz stockwork.	100	to 489'	120"		049	to 379'	10'	0.002	0.2	37F
295	298	Andesite, unaltered to slightly clay altered. Minor quartz and calcite veinlets	100	to 499'	120"		050	to 389'	10'	0.002	0.2	38F
298	301	Green gouge with some carbonatized andesite and quartz fragments.	45.2	to 506'	38"		051	to 401'	12'	0.002	0.2	39F
301	306	Dark green, competent andesite, quartz and calcite veinlets, minor pyrite, serpentine on fractures.	94.4	to 509'	34"		052	to 409'	8'	0.002	0.2	40F
306	317	Grey, carbonatized andesite (some clay alteration where rock is broken), quartz stockwork, minor calcite, black wispy stringers and blebs of graphite, minor pyrite, 1-2% pyrite at 314' - 315'.	69.2	to 519'	83"		053	to 417.5'	8.5'	0.002	0.2	41F
317	321	Green, serpentized andesite, broken up, minor graphite, quartz, calcite, pyrite.	59.2	to 529'	71"		054	to 426'	8.5'	0.002	0.2	42F
321	326	Same as 306' to 317'.	76.2	to 536'	64"		055	to 429'	3'	0.002	0.2	43F
326	339	Grey fault gouge with rare clasts of carbonatized andesite and serpentized/talcose andesite.	88.8	to 539'	32"		056	to 444'	15'	0.002	0.2	44F
339	379	Green, slightly and strongly serpentized, broken up andesite, minor pyrite on fractures, minor quartz and calcite stringers, 5mm quartz veinlet with pyrite - orientation 45°.	96.7	to 549'	116"		057	to 459'	15'	0.002	0.2	45F
379	379.5	Grey gouge with quartz pebbles.	69.2	to 559'	83"		058	to 474'	15'	0.002	0.2	46F
379.5	382	Grey, porphyritic andesite, 15% mafic phenocrysts, 10% plagioclase, minor quartz and calcite.	91.7	to 566'	77"		059	to 489'	15'	0.002	0.2	47F
382	402	Green, unaltered andesite, slightly serpentized in some areas, serpentine on fractures. Several parallel 2mm quartz veinlets, orientation 15°. At 382' has quartz veinlets with pyrite. At 388' to 389' orientations are 45°, quartz with pyrite at 401'.	72.2	to 569'	26"		060	to 506'	17'	0.002	0.2	48F
402	403	Grey gouge with quartz clasts (at 403').	72.5	to 579'	87"		061	to 519'	13'	0.002	0.2	49F
403	411	Unaltered to moderately serpentized andesite.	94.2	to 589'	113"		062	to 532.5'	13.5'	0.002	0.2	50F
411	417	Carbonatized andesite, some unaltered areas with quartz and calcite veins, 1/2% pyrite.	91.7	to 597'	77"		063	to 549'	16.5'	0.002	0.2	51F
							064	to 566'	17'	0.002	0.2	52F
							065	to 579'	13'	0.002	0.2	53F
							066	to 589'	10'	0.002	0.2	54F
							067	to 597'	8'	0.002	0.2	55F





PROPERTY GALLANT GOLD MINES  
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# DIAMOND DRILL RECORD

HOLE NO. GAG DDH 86-5 PAGE 1 OF 3

LATITUDE	DIPS-COLLAR - 45°	AZIMUTH 098°	STARTED September 14, 1986
LONGITUDE	- 448' - 42°	CORE SIZE NQ	COMPLETED September 18, 1986
ELEVATION 2640'		CONTRACTOR PHIL'S DIAMOND DRILLING	LENGTH 448' <i>1 ft = 0.305 m</i>
SHEET NO.			LOGGED BY David Newton
TARGET TO FIND GOLD BEARING QUARTZ AND ALTERATION ASSOCIATED WITH MAG LOWS			DATE September 20, 1986

SECTION feet		ROCK DESCRIPTION	% REC	INTV.	CORE LENGTH	MINERALIZATION SUMMARY	A S S A Y S					
FROM	TO						SAMPLE NUMBER	INTERVAL	WIDTH	AU OZ/T	AG P.P.M.	TAG NUMBER
0	28	Casing.	98.5	28'-39'	130"		001	28' - 43'	15'	L 0.002	L 0.2	38870F
28	41	Light green/grey, competent, very fine-grained, sometimes porphyritic andesite. Phenocrysts of white, lenticular (L 3mm) plagioclase. Orange/brown oxide on fractures. Quartz veinlets (± calcite) up to 1.5cm are common - orientations are variable (especially the smaller veinlets) but largely range from 0-30°.	99.2	to 49'	119"		002	to 62'	19'	L 0.002	L 0.2	71F
			98.3	to 59'	118"		003	to 69'	7'	L 0.002	L 0.2	72F
			99.2	to 69'	119"		004	to 84'	15'	0.002	L 0.2	73F
			100	to 79'	120"		005	to 88'	4'	0.002	L 0.2	74F
41	62	Same as above except - no orange brown oxide on fractures, less veining with calcite more common than quartz - orientations 0-15°. L 1% pyrite from 41' to 45'. Broken up from 59' to 61'.	98.3	to 89'	118"		006	to 94'	6'	0.002	L 0.2	75F
			96.6	to 99'	116"		007	to 109'	15'	0.002	L 0.2	76F
			99.2	to 109'	119"		008	to 127'	16'	L 0.002	L 0.2	77F
62	70	Light green, competent andesite, minor pyrite, moderate quartz veining - veins mostly quartz with some minor coarse grained calcite, consist of numerous L 3mm wide parallel veinlets.	100	to 119'	120"		009	to 144'	17'	L 0.002	L 0.2	78F
		2-3cm vein at 62' - orientation 30°	100	to 129'	120"		010	to 146'	2'	L 0.002	L 0.2	79F
		1 cm vein at 63' - orientation 10°	100	to 139'	120"		011	to 159'	13'	L 0.002	L 0.2	80F
		1 cm vein at 69' - orientation 15°	99.2	to 149'	119"		012	to 175.5'	16.5'	L 0.002	L 0.2	81F
		3 cm vein at 70' - orientation 45°	98.3	to 159'	118"		013	to 179'	3.5'	0.002	L 0.2	82F
70	80	Grey, fine-grained andesite, very minor L 2mm calcite veinlets. Orange/brown on some fractures.	97.5	to 169'	117"		014	to 183'	4'	L 0.002	L 0.2	83F
			100	to 179'	120"		015	to 185.5'	2.5'	L 0.002	L 0.2	84F
			99.2	to 189'	119"		016	to 187'	1.5'	L 0.002	L 0.2	85F
80	84	Becomes progressively greener and finer grained. Black L 1mm mafic grains are unchanged and become more prominent against the changed matrix. Also start to see white, fine-grained mica. Minor pyrite. At 83' 7mm wide vein - orientation 40°. Vein is grey, black and red - red/pink mineral is hard and may be quartz.	99.2	to 199'	119"		017	to 190'	3'	L 0.002	L 0.2	86F
			100	to 209'	120"		018	to 197'	7'	L 0.002	L 0.2	87F
			99.2	to 219'	119"		019	to 204'	7'	L 0.002	L 0.2	88F
			90	to 229'	108"		020	to 209'	5'	L 0.002	L 0.2	89F
			100	to 239'	120"		021	to 213'	4'	L 0.002	L 0.2	90F
84	87	Quartz vein dipping almost parallel to hole - wall rock is light green, very fine grained carbonatized andesite - true width of vein is hard to determine since core is broken but it is 5cm in width. Vein consists of white and grey quartz with mariposite and bands (L 1mm) of fine grained pyrite and very fine grained galena/sphalerite.	98.3	to 249'	118"		022	to 219'	6'	L 0.002	L 0.2	91F
			99.2	to 259'	119"		023	to 238'	19'	L 0.002	L 0.2	92F
			96.7	to 269'	116"		024	to 246'	8'	L 0.002	L 0.2	93F
			89.2	to 279'	107"		025	to 259'	13'			94F
			99.2	to 289'	119"		026	to 270'	11'			95F
			100	to 299'	120"		027	to 278'	8'			96F
87	93	Light green carbonatized andesite with 1mm wide quartz/carbonate veinlets. Minor pyrite and dark, very fine grained wispy galena(?) -	98.3	to 309'	118"		028	to 286'	8'			97F
		Broken core, fragments of carbonatized andesite and quartz. Quartz contains L 1mm bands of galena/sphalerite and pyrite.	99.2	to 319'	119"		029	to 294'	8'			98F
93	94	Over first 6" core grades from carbonatized to grey, unaltered andesite. Minor L 1cm wide quartz veinlets with variable orientations from 111' to 117'. Soft, crumbly and altered at 100'. 1cm banded beige dolomite vein at 119' - orientation 40°.	100	to 329'	120"		030	to 301'	7'			99F
			100	to 339'	120"		031	to 319'	18'			38900F
94	126		95.0	to 344'	57"		032	to 339'	20'			01F
			100	to 349'	60"		033	to 359'	20'			02F
			100	to 359'	120"		034	to 379'	20'			03F
			99.2	to 369'	119"		035	to 399'	20'			04F







# DIAMOND DRILL RECORD

PROPERTY GALLANT GOLD MINES LTD.  
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HOLE NO. GAG DDH 86-6 PAGE 1 OF 2

LATITUDE	DIPS-COLLAR -45°	AZIMUTH 000° (NORTH)	STARTED NOVEMBER 5, 1986
LONGITUDE	254° -42°	CORE SIZE NQ	COMPLETED NOVEMBER 10, 1986
ELEVATION 2610'		CONTRACTOR ARCTIC DIAMOND DRILLING	LENGTH 254'
SHEET NO. GAG DDH 86-6			LOGGED BY DAVID NEWTON
TARGET TO INTERSECT CARBONATIZED ULTRAMAFIC AND QUARTZ STOCKWORK LOCATED IN GA			DATE NOVEMBER 20, 1986

SECTION <small>feet</small>		ROCK DESCRIPTION	% REC	INTV. <small>feet</small>	CORE LENGTH <small>in.</small>	MINERALIZATION SUMMARY	A S S A Y S								
FROM	TO						SAMPLE NUMBER	INTERVAL	WIDTH	AU <small>OZ/T</small>	AG <small>P.P.M.</small>	TAG NUMBER			
0	51	Casing - no core.	97.2	51-60	105										
51	91	Light green/grey, mostly competent porphyritic sub-volcanic (andesite) - fine grained grey/green matrix with subhedral, 10-15% mafic grains (mostly hornblende), 1-3mm wide common, and 20-30% anhedral, white plagioclase grains upto 1cm wide but 2-5mm common. Some mafics altered to chlorite, some plagioclase altered to clay. Calcite on fractures and matrix slightly calcareous in places, weathers orange/brown on fractures. From 89' to 91', soft, crumbly and clayey with minor pyrite.	100	to 70	120										
			98.3	to 80	118	001	51'-56'	5'	0.002	0.2	40103				
			91.8	to 89	90	002	56-60	4	0.002	0.2	40104				
			98.3	to 94	59	003	60-65	5	0.002	0.2	40105				
			87.5	to 100	63	004	65-70	5	0.002	0.2	40106				
			99.2	to 110	119	005	70-75	5	0.002	0.2	40107				
			100	to 120	120	006	75-80	5	0.002	0.2	40108				
			99.2	to 130	119	007	80-85	5	0.002	0.2	40109				
			100	to 140	120	008	85-89	4	0.002	0.2	40110				
91	101	Light blue/grey, brecciated, vuggy, carbonatized, silicified sub-volcanic and ultramafic - with depth ultramafic (carbonatized) fragments become more common than volcanic. Fragments cemented by very fine grained carbonate and chalcedony. Crosscutting veinlets of quartz, carbonate and quartz/carbonate.	100	to 150	120	009	89-91	2	0.002	0.2	40111				
			100	to 159	108	010	91-95	4	0.002	0.2	40112				
			98.3	to 164	59	011	95-99	4	0.002	0.2	40113				
			100	to 170	72	012	99-103	4	0.002	0.2	40114				
			96.7	to 175	58	013	103-106.5	3.5	0.002	0.2	40115				
101	108	Blue/grey, fine to coarse grained, vuggy carbonatized ultramafic, mineralogy of rock is carbonate, quartz, upto 5% mariposite, minor chromite, trace pyrite - brecciated in places - quartz, chalcedony and carbonate veinlets of variable orientations, vuggy, very fine to coarse grained.	100	to 185	120	014	106.5-108	1.5	0.002	0.2	40116				
			98.3	to 195	118	015	108-109'3"	1'3"	0.002	0.2	40117				
			98.3	to 205	118	016	109'3"-112'9"	2'9"	0.002	0.2	40118				
			100	to 215	120	017	112-115	3	0.002	0.2	40119				
			89.2	to 225	107	018	115-118	3	0.002	0.2	40120				
108	109'3	Beige, very fine grained, brecciated carbonate and quartz (vein?) with crosscutting quartz stringers and a 2mm wide band of pyrite.	98.3	to 235	118	019	118-121	3	0.002	0.2	40121				
			100	to 245	120	020	121-124	3	0.002	0.2	40122				
109'3'	144	Light blue/green, medium grained, competent carbonatized ultramafic with quartz and calcite veinlets commonly upto 1cm. Veinlets total less than 5% of rock, minor pyrite, brecciated in places. Quartz and carbonate roughly 'banded' from 143' to 144'.	96.3	to 254	104	021	124-127	3	0.002	0.2	40123				
						022	127-130	3	0.002	0.2	40124				
144	145	Beige, fine grained, crmbly quartz-carbonate rock - appears to be sheared quartz-carbonate vein.				023	130-135	5	0.002	0.2	40125				
						024	135-139	4	0.002	0.2	40126				
145	179.5	Light blue/grey, competent, medium grained, carbonatized ultramafic. Minor quartz and carbonate veinlets, minor pyrite. At 168.5', a 2cm quartz and rhodocrosite (purple carbonate) veinlet at 50°. Less than 5% mariposite, minor chromite. Sharp contact at 80° at 179.5'.				025	139-144	5	0.002	0.2	40127				
						026	144-145	1	0.002	0.2	40128				
179.5	181.5	Beige, fine grained competent, quartz-carbonate rock - probably a fine grained rock which has been carbonatized - in places (middle of section) it is medium grained and appears that it might have been a porphyritic volcanic. Quartz and carbonate veinlets upto 5mm				027	145-150	5	0.002	0.2	40129				
						028	150-155	5	0.002	0.2	40130				
						029	155-160	5	0.002	0.2	40131				
						030	160-165	5	0.002	0.2	40132				
						031	165-170	5	0.002	0.2	40133				
						032	170-175	5	0.002	0.2	40134				
						033	175-178	3	0.002	0.2	40135				
						034	178-180	2	0.002	0.2	40136				
						035	180-184	4	0.002	0.2	40137				
						036	184-186.5	2.5	0.002	0.2	40138				





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Canada V7J 2C1

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Telex: 043-52597

## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST. Box 316  
VANCOUVER, B.C. ATLIN, BC  
V6C 2W2 YOWIAD

CERT. # : A8620831-001-A  
INVIGICE # : I8620831  
DATE : 25-NOV-86  
P.O. # : NONE  
GALLANT

ATTN: ART TROUP ✓ CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
38894	207	<0.002	--	--	--	--	--
38895	207	<0.002	--	--	--	--	--
38896	207	<0.002	--	--	--	--	--
38897	207	<0.002	--	--	--	--	--
38898	207	<0.002	--	--	--	--	--
38899	207	<0.002	--	--	--	--	--
38900	207	<0.002	--	--	--	--	--
38901	207	<0.002	--	--	--	--	--
38902	207	<0.002	--	--	--	--	--
38903	207	<0.002	--	--	--	--	--
38904	207	<0.002	--	--	--	--	--
38905	207	<0.002	--	--	--	--	--
38906	207	<0.002	--	--	--	--	--
38907	207	<0.002	--	--	--	--	--

.....*Janice Christie*.....  
Registered Assayer, Province of British Columbia

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Canada            V7J 2C1

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Telex: 043-52597

## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : 48620832-001-A  
INVOICE # : 19620832  
DATE : 27-NOV-86  
P.O. # : NONE  
GALLANT

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regis digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP      CC: LINDA DANDY

Sample description	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	La	Mg	Mn	Mo	Nb	Ni	P	Pb	Se	Sr	Tl	Ti	U	V	W	Zn		
	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm		
38894	2.17	1.0	5	660	<0.5	<2	3.36	<0.5	33	315	34	3.50	<10	0.50	10	1.99	517	1	0.16	34	1800	4	<5	98	0.30	<10	<10	105	<5	50	--	--
38895	2.25	0.4	15	320	<0.5	<2	2.30	<0.5	22	424	15	2.78	<10	0.25	10	2.71	486	<1	0.13	106	530	<2	<5	29	0.18	<10	<10	70	<5	46	--	--
38896	2.21	0.6	5	220	<0.5	<2	0.43	<0.5	15	99	3	2.66	<10	0.16	10	2.89	394	<1	0.11	39	640	8	<5	31	0.05	<10	<10	67	<5	50	--	--
38897	1.67	0.2	5	200	<0.5	<2	0.74	<0.5	14	90	<1	3.22	<10	0.15	20	2.52	509	<1	0.11	31	730	16	<5	87	0.11	<10	<10	84	<5	68	--	--
38898	0.72	1.0	10	40	<0.5	<2	2.13	<0.5	77	742	3	3.59	<10	<0.01	<10>15.00	782	<1	0.01	1402	<10	<2	<5	33	0.01	<10	<10	17	<5	24	--	--	
38899	0.55	1.0	55	100	<0.5	<2	1.67	<0.5	98	335	<1	3.90	<10	0.01	<10>15.00	1020	<1	<0.01	1977	90	<2	<5	31	0.03	<10	<10	14	<5	24	--	--	
38900	1.90	0.8	15	610	<0.5	<2	1.01	<0.5	61	494	17	4.04	<10	0.19	30	11.99	690	<1	0.03	909	1130	<2	<5	148	0.21	<10	<10	64	<5	40	--	--
38901	0.12	0.6	10	20	<0.5	<2	0.11	<0.5	98	360	<1	4.35	<10	<0.01	<10>15.00	838	<1	<0.01	1808	<10	<2	<5	4	<0.01	<10	<10	4	<5	20	--	--	
38902	0.09	0.4	15	<10	<0.5	<2	0.13	<0.5	96	414	<1	4.15	<10	<0.01	<10>15.00	821	<1	<0.01	1800	<10	<2	<5	<1	<0.01	<10	<10	3	<5	22	--	--	
38903	0.29	0.4	15	<10	<0.5	<2	0.15	<0.5	93	953	16	4.38	<10	<0.01	<10>15.00	708	<1	<0.01	1699	<10	<2	<5	<1	<0.01	<10	<10	13	<5	22	--	--	
38904	0.90	0.4	10	40	<0.5	<2	0.46	<0.5	95	901	7	1.40	<10	<0.01	<10>15.00	632	<1	0.01	1734	90	<2	<5	14	0.03	<10	<10	24	<5	32	--	--	
38905	0.34	0.8	10	<10	<0.5	<2	0.30	<0.5	87	919	<1	4.07	<10	<0.01	<10>15.00	549	<1	<0.01	1576	<10	<2	<5	3	<0.01	<10	<10	13	<5	24	--	--	
38906	0.43	0.8	20	<10	<0.5	<2	0.35	<0.5	91	929	<1	4.52	<10	<0.01	<10>15.00	680	<1	<0.01	1581	<10	<2	<5	1	<0.01	<10	<10	19	<5	26	--	--	
38907	2.77	0.8	15	20	<0.5	<2	1.32	<0.5	55	400	12	3.56	<10	<0.01	<10	9.00	481	<1	0.03	861	70	<2	<5	16	0.06	<10	<10	74	<5	22	--	--

SYSTEMS BUSINESS FORMS LIMITED VANCOUVER TRUSSARDT

Certified by: *[Signature]*



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Telex: 043-52597

## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618831-001-A  
INVOICE # : 18618831  
DATE : 20-OCT-86  
P.O. # : NONE  
GALLANT/UTOPIA

\*\*CORRECTED COPY FOR AU\*\*

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
38870	207	<0.002	--	--	--	--	--
38871	207	<0.002	--	--	--	--	--
38872	207	<0.002	--	--	--	--	--
38873	207	0.002	--	--	--	--	--
38874	207	0.002	--	--	--	--	--
38875	207	0.002	--	--	--	--	--
38876	207	0.002	--	--	--	--	--
38877	207	<0.002*	--	--	--	--	--
38878	207	<0.002*	--	--	--	--	--
38879	207	<0.002	--	--	--	--	--
38880	207	<0.002	--	--	--	--	--
38881	207	<0.002	--	--	--	--	--
38882	207	0.002	--	--	--	--	--
38883	207	<0.002	--	--	--	--	--
38884	207	<0.002	--	--	--	--	--
38885	207	<0.002	--	--	--	--	--
38886	207	<0.002	--	--	--	--	--
38887	207	<0.002	--	--	--	--	--
38888	207	<0.002	--	--	--	--	--
38889	207	<0.002	--	--	--	--	--
38890	207	<0.002	--	--	--	--	--
38891	207	<0.002	--	--	--	--	--
38892	207	<0.002	--	--	--	--	--
38893	207	<0.002	--	--	--	--	--

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Registered Assayer, Province of British Columbia



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North Vancouver, B.C.  
Canada V7J 2C1

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## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED  
1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618832-001-A  
INVOICE # : I8618832  
DATE : 13-OCT-86  
P.O. # : NONE  
GALLANT/UTOPIA

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ARI TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
38870	2.64	<0.2	<5	470	<0.5	<2	4.55	<0.5	33	386	44	4.57	20	0.44	<10	4.10	828	<1	0.06	88	1380	14	<5	105	0.13	<10	<10	128	<5	66	--	--
38871	3.08	<0.2	10	390	<0.5	<2	3.16	<0.5	33	509	93	4.17	20	0.43	10	4.67	706	1	0.06	147	760	8	<5	87	0.10	<10	<10	119	<5	64	--	--
38872	3.40	<0.2	<5	350	<0.5	<2	3.55	<0.5	36	673	64	4.14	20	0.28	<10	5.77	761	<1	0.05	164	470	16	<5	93	0.05	<10	<10	123	<5	64	--	--
38873	2.78	<0.2	<5	550	<0.5	<2	2.60	<0.5	33	598	43	3.49	10	0.46	10	4.31	566	1	0.07	95	840	12	<5	72	0.10	<10	<10	93	<5	52	--	--
38874	0.59	<0.2	10	70	<0.5	<2	9.14	<0.5	23	98	31	3.60	40	0.19	<10	4.52	1053	<1	0.01	65	1310	12	<5	508	<0.01	<10	<10	35	<5	42	--	--
38875	0.93	<0.2	5	80	<0.5	<2	5.99	<0.5	29	110	89	4.01	30	0.22	<10	3.56	722	<1	0.01	83	1130	8	<5	221	<0.01	<10	<10	49	<5	60	--	--
38876	1.93	<0.2	5	390	<0.5	<2	1.86	<0.5	21	282	29	3.14	10	0.54	20	2.50	533	4	0.08	55	760	8	<5	44	0.13	<10	<10	72	<5	52	--	--
38877	1.98	<0.2	<5	220	<0.5	<2	2.83	<0.5	20	281	17	3.16	20	0.41	10	2.91	651	1	0.06	39	600	6	<5	79	0.07	<10	<10	66	<5	54	--	--
38878	2.07	<0.2	25	60	<0.5	<2	2.47	<0.5	52	779	33	3.30	10	0.05	<10	6.83	565	<1	0.03	729	160	10	<5	68	0.03	<10	<10	53	<5	28	--	--
38879	0.30	<0.2	10	50	<0.5	<2	2.63	<0.5	80	602	27	3.55	10	<0.01	<10	13.63	690	<1	<0.01	1420	<10	8	<5	106	<0.01	<10	<10	11	<5	18	--	--
38880	1.81	<0.2	5	30	<0.5	<2	1.35	<0.5	76	885	63	4.25	10	<0.01	<10	11.63	597	<1	<0.01	1204	30	8	<5	52	0.03	<10	<10	52	<5	26	--	--
38881	2.25	<0.2	10	370	<0.5	<2	1.81	<0.5	25	216	60	3.87	10	0.43	10	3.08	646	<1	0.08	121	630	6	<5	60	0.08	<10	<10	71	<5	70	--	--
38882	1.39	<0.2	5	60	<0.5	<2	3.06	<0.5	16	78	41	3.51	20	0.15	10	2.25	698	1	0.04	24	440	6	<5	50	<0.01	<10	<10	38	<5	60	--	--
38883	1.57	<0.2	35	90	<0.5	<2	2.76	<0.5	19	97	56	3.64	20	0.26	10	2.00	647	<1	0.09	24	470	8	<5	68	<0.01	<10	<10	49	<5	58	--	--
38884	1.80	<0.2	25	100	<0.5	<2	3.44	<0.5	18	70	52	3.92	20	0.41	<10	2.03	755	<1	0.04	32	390	8	<5	103	<0.01	<10	<10	42	<5	52	--	--
38885	0.75	<0.2	15	50	<0.5	<2	11.81	<0.5	13	27	31	5.26	40	0.31	<10	5.74	1459	<1	0.01	78	180	12	<5	210	<0.01	<10	<10	23	<5	26	--	--
38886	1.41	<0.2	15	90	<0.5	<2	4.67	<0.5	21	111	32	3.87	20	0.44	<10	2.56	930	<1	0.02	37	460	8	<5	95	<0.01	<10	<10	46	<5	56	--	--
38887	2.14	<0.2	<5	160	<0.5	<2	2.02	<0.5	26	248	34	3.44	10	0.23	10	2.35	597	1	0.11	61	730	6	<5	48	0.13	<10	<10	75	<5	62	--	--
38888	1.33	<0.2	<5	150	<0.5	<2	3.88	<0.5	29	262	42	4.18	20	0.22	<10	3.17	876	<1	0.03	104	470	8	<5	149	0.01	<10	<10	71	<5	66	--	--
38889	1.99	<0.2	<5	150	<0.5	<2	2.07	<0.5	28	317	45	3.12	10	0.13	10	2.67	563	1	0.11	132	390	8	<5	47	0.05	<10	<10	62	<5	40	--	--
38890	1.75	<0.2	<5	120	<0.5	<2	3.60	<0.5	31	222	57	4.54	20	0.26	10	2.92	829	<1	0.03	73	680	10	<5	68	<0.01	<10	<10	74	<5	78	--	--
38891	1.60	<0.2	15	130	<0.5	<2	5.57	<0.5	27	105	100	4.40	30	0.34	<10	3.52	972	<1	0.02	57	490	12	<5	121	<0.01	<10	<10	66	<5	66	--	--
38892	2.69	<0.2	<5	300	<0.5	<2	1.90	<0.5	24	246	27	3.40	10	0.37	10	2.84	610	2	0.14	130	670	6	<5	37	0.10	<10	<10	78	<5	60	--	--
38893	2.14	<0.2	<5	260	<0.5	<2	4.44	<0.5	30	240	48	4.16	30	0.28	20	2.82	829	2	0.08	35	1380	10	<5	98	0.02	<10	<10	110	<5	68	--	--

SYSTEM BUSINESS FORMS LIMITED VANCOUVER TR80857

Certified by *Heath Bichler*





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Telex: 043-52597

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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8617697-001-A  
INVOICE # : 18617697  
DATE : 10-SEP-86  
P.O. # : NONE  
GALLANT/UTOPIA

ATTN: ART TROUP      CC: LINDA DANDY

Sample description	Prep code	Au oz/T RUSH FA					
38795 F	236	<0.002	--	--	--	--	--
38796 F	236	<0.002	--	--	--	--	--
38797 F	236	<0.002	--	--	--	--	--
38798 F	236	<0.002	--	--	--	--	--
38799 F	236	<0.002	--	--	--	--	--
38800 F	236	<0.002	--	--	--	--	--
38802 F	236	<0.002	--	--	--	--	--
38803 F	236	<0.002	--	--	--	--	--
38804 F	236	<0.002	--	--	--	--	--
38805 F	236	<0.002	--	--	--	--	--
38806 F	236	<0.002	--	--	--	--	--
38807 F	236	<0.002	--	--	--	--	--
38808 F	236	<0.002	--	--	--	--	--
38809 F	236	<0.002	--	--	--	--	--
38810 F	236	<0.002	--	--	--	--	--
38811 F	236	<0.002	--	--	--	--	--
38812 F	236	<0.002	--	--	--	--	--

.....*Annie Christie*.....  
Registered Assayer, Province of British Columbia



# Chemex Labs Ltd.

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North Vancouver, B.C.  
Canada V7J 2C1

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## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8617698-001-A  
INVOICE # : I8617698  
DATE : 21-SEP-86  
P.O. # : NONE  
GALLANT/UTOPIA

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ARY TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm	
38795 F	0.40	8.6	10	40	<0.5	<2	10.83	11.5	20	171	37	2.40	20	0.05	<10	4.64	1088	2	<0.01	206	480	928	30	280	<0.01	<10	<10	32	<10	1030	--
38796 F	0.57	5.4	<10	40	<0.5	<2	10.70	6.0	26	222	28	3.29	20	0.05	<10	5.50	839	1	<0.01	157	1280	622	30	315	<0.01	<10	<10	63	<10	486	--
38797 F	0.72	1.8	<10	40	<0.5	<2	8.39	4.5	29	315	15	3.41	20	0.03	<10	5.59	642	1	<0.01	187	720	188	10	316	<0.01	<10	<10	76	<10	384	--
38798 F	0.66	1.8	<10	30	<0.5	<2	11.61	3.5	30	272	18	2.39	20	0.01	<10	5.11	766	<1	<0.01	310	960	134	10	350	<0.01	<10	<10	46	<10	292	--
38799 F	0.28	1.4	<10	30	<0.5	<2	14.79	2.5	38	536	34	2.41	30	<0.01	<10	6.97	550	1	<0.01	691	170	54	10	558	<0.01	<10	<10	24	<10	136	--
38800 F	0.13	0.8	<10	20	<0.5	<2	11.19	2.0	64	578	22	2.46	20	<0.01	<10	7.04	547	<1	<0.01	1174	120	36	10	276	<0.01	<10	<10	17	<10	84	--
38802 F	0.10	0.8	<10	30	<0.5	<2	13.43	2.0	75	448	24	3.28	20	<0.01	<10	6.86	693	1	<0.01	1384	70	44	20	187	<0.01	<10	<10	14	10	92	--
38803 F	0.14	0.6	<10	20	<0.5	<2	7.25	2.5	75	491	24	3.31	10	<0.01	<10	9.37	617	<1	<0.01	1287	30	34	20	132	<0.01	<10	<10	13	10	74	--
38804 F	0.06	0.8	<10	20	<0.5	<2	7.41	4.0	67	434	31	3.01	20	<0.01	<10	10.13	645	<1	<0.01	1260	20	66	20	214	<0.01	<10	<10	11	10	184	--
38805 F	0.72	0.6	<10	50	<0.5	<2	12.39	2.0	26	159	44	3.35	30	0.06	<10	6.04	631	1	<0.01	223	1910	48	10	255	<0.01	<10	<10	70	<10	96	--
38806 F	1.71	0.4	<10	80	<0.5	<2	9.54	1.0	11	54	22	2.30	20	0.16	<10	3.81	468	2	<0.01	39	910	22	20	113	<0.01	<10	<10	27	<10	72	--
38807 F	0.14	0.6	<10	30	<0.5	<2	16.54	3.0	6	53	17	2.33	30	<0.01	<10	6.09	568	1	<0.01	23	570	62	10	224	<0.01	<10	<10	16	10	100	--
38808 F	0.17	0.4	<10	30	<0.5	<2	17.28	5.0	7	69	15	2.20	30	0.02	<10	6.18	474	<1	<0.01	27	1200	70	10	197	<0.01	<10	<10	19	10	266	--
38809 F	0.10	0.4	<10	20	<0.5	<2	16.85	3.0	5	68	14	2.09	30	<0.01	<10	6.19	404	1	<0.01	23	880	24	10	112	<0.01	<10	<10	15	10	76	--
38810 F	0.06	8.4	<10	20	<0.5	<2	17.30	37.0	7	42	36	1.94	30	<0.01	<10	6.65	1624	1	<0.01	31	320	970	30	59	<0.01	<10	<10	11	<10	3232	--
38811 F	0.04	0.8	<10	10	<0.5	<2	17.24	5.0	7	44	15	2.03	30	<0.01	<10	6.46	478	1	<0.01	45	630	70	20	78	<0.01	<10	<10	10	10	176	--
38812 F	0.18	0.2	<10	20	<0.5	<2	17.91	4.0	8	46	17	2.28	30	0.01	<10	6.64	447	1	<0.01	46	710	26	10	41	<0.01	<10	<10	16	10	66	--

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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8617887-001-A  
INVOICE # : 18617887  
DATE : 16-SEP-86  
P.O. # : NONE  
GALLANT/ATLIN

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
38723 F	207	<0.002	--	--	--	--	--
38724 F	207	<0.002	--	--	--	--	--
38725 F	207	<0.002	--	--	--	--	--
38726 F	207	<0.002	--	--	--	--	--
38727 F	207	<0.002	--	--	--	--	--
38728 F	207	0.004	--	--	--	--	--
38729 F	207	0.006	--	--	--	--	--
38730 F	207	<0.002	--	--	--	--	--
38731 F	207	<0.002	--	--	--	--	--
38732 F	207	<0.002	--	--	--	--	--
38733 F	207	0.002	--	--	--	--	--
38734 F	207	<0.002	--	--	--	--	--
38735 F	207	<0.002	--	--	--	--	--
38736 F	207	<0.002	--	--	--	--	--
38737 F	207	<0.002	--	--	--	--	--
38738 F	207	<0.002	--	--	--	--	--
38739 F	207	<0.002	--	--	--	--	--
38740 F	207	<0.002	--	--	--	--	--
38741 F	207	<0.002	--	--	--	--	--
38742 F	207	<0.002	--	--	--	--	--

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Telex: 043-52597

## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8617888-001-A  
INVOICE # : I8617888  
DATE : 23-SEP-86  
P.O. # : NONE  
GALLANT/ATLIN

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
38723 F	1.07	0.2	<10	<10	<0.5	<2	1.86	<0.5	78	1005	44	3.95	<10	<0.01	<10	13.59	597	<1	<0.01	1268	<10	6	10	17	0.07	<10	<10	47	<10	36
38724 F	0.60	0.2	<10	<10	<0.5	<2	0.56	<0.5	93	852	33	4.19	<10	<0.01	<10	>15.00	653	1	<0.01	1604	<10	18	20	2	<0.01	<10	<10	29	<10	44
38725 F	0.42	0.2	<10	<10	<0.5	<2	0.67	<0.5	86	849	38	3.64	<10	<0.01	<10	14.03	727	<1	<0.01	1503	<10	8	20	17	<0.01	<10	<10	21	<10	24
38726 F	2.53	0.2	<10	260	<0.5	<2	1.57	<0.5	74	869	42	5.01	10	0.04	20	13.49	866	<1	0.01	1055	970	4	10	70	0.17	<10	<10	80	<10	42
38727 F	1.63	0.2	<10	10	<0.5	<2	1.30	<0.5	82	255	40	4.20	<10	<0.01	<10	13.47	503	<1	0.01	1404	60	2	20	27	0.08	<10	<10	75	<10	30
38728 F	1.68	0.4	10	90	<0.5	2	2.01	<0.5	17	27	54	3.24	<10	0.31	<10	1.45	494	<1	0.14	33	390	12	<10	23	0.40	<10	<10	140	<10	38
38729 F	2.08	0.2	10	90	<0.5	2	2.41	<0.5	24	100	67	3.81	<10	0.36	<10	2.09	581	<1	0.13	123	370	14	<10	33	0.45	<10	<10	159	<10	44
38730 F	0.55	0.2	<10	10	<0.5	<2	0.20	<0.5	94	947	33	4.35	<10	<0.01	<10	>15.00	627	2	<0.01	1666	<10	16	20	4	0.01	<10	<10	31	<10	30
38731 F	0.44	0.2	<10	<10	<0.5	<2	0.13	<0.5	96	918	21	4.20	<10	<0.01	<10	>15.00	679	2	<0.01	1669	<10	20	20	4	0.01	<10	<10	25	<10	22
38732 F	0.48	0.2	<10	30	<0.5	<2	0.35	<0.5	92	770	25	3.91	<10	<0.01	<10	>15.00	720	2	<0.01	1626	40	14	20	16	0.01	<10	<10	22	<10	22
38733 F	3.17	0.2	<10	960	<0.5	<2	2.73	<0.5	40	283	76	4.60	10	0.97	50	7.05	800	<1	0.23	326	3140	12	10	390	0.30	<10	<10	114	<10	70
38734 F	1.06	0.4	<10	280	<0.5	<2	0.71	<0.5	83	1047	38	4.56	<10	0.10	10	>15.00	556	<1	0.03	1466	520	<2	20	62	0.09	<10	<10	49	<10	32
38735 F	1.03	0.2	<10	30	<0.5	<2	0.62	<0.5	89	1544	34	4.71	<10	<0.01	<10	>15.00	517	<1	0.01	1582	120	<2	20	27	0.04	<10	<10	51	<10	34
38736 F	2.47	0.2	<10	670	<0.5	<2	1.94	<0.5	53	577	65	4.09	10	0.72	30	8.38	654	<1	0.17	704	2210	6	10	227	0.27	<10	<10	88	<10	56
38737 F	0.75	0.2	<10	10	<0.5	<2	0.39	<0.5	90	1606	27	4.62	<10	<0.01	<10	>15.00	649	<1	<0.01	1574	<10	<2	20	29	0.01	<10	<10	43	<10	34
38738 F	0.55	0.2	<10	<10	<0.5	<2	1.42	<0.5	77	898	26	3.60	<10	<0.01	<10	12.73	517	<1	<0.01	1417	30	<2	10	51	0.01	<10	<10	25	<10	30
38739 F	0.57	0.2	<10	40	<0.5	<2	0.36	<0.5	82	1159	29	4.09	<10	<0.01	<10	13.62	521	<1	<0.01	1492	80	<2	10	10	0.01	<10	<10	34	<10	24
38740 F	2.43	0.2	<10	170	<0.5	<2	2.16	<0.5	57	753	30	4.39	10	0.53	10	10.99	772	<1	0.02	867	840	<2	10	69	0.20	<10	<10	75	<10	42
38741 F	0.50	0.2	<10	<10	<0.5	<2	0.76	<0.5	74	1072	34	3.71	<10	<0.01	<10	13.94	415	<1	<0.01	1416	<10	<2	10	61	<0.01	<10	<10	30	<10	24
38742 F	1.18	0.4	<10	10	<0.5	<2	2.76	<0.5	9	60	16	1.37	<10	0.01	<10	1.04	215	<1	0.03	51	390	16	<10	17	0.38	<10	<10	54	<10	38

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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618381-001-A  
INVOICE # : I8618381  
DATE : 2-OCT-86  
P.O. # : NONE  
GALLANT/UTOPIA

ATTN: ART TROUP CC>: LINDA DANDY

Sample description	Prep code	Au oz/T						
38858 F	207	<0.002	--	--	--	--	--	--
38859 F	207	<0.002	--	--	--	--	--	--
38860 F	207	<0.002	--	--	--	--	--	--
38861 F	207	<0.002	--	--	--	--	--	--
38862 F	207	<0.002	--	--	--	--	--	--
38863 F	207	<0.002	--	--	--	--	--	--
38864 F	207	<0.002	--	--	--	--	--	--
38865 F	207	<0.002	--	--	--	--	--	--
38866 F	207	<0.002	--	--	--	--	--	--
38867 F	207	<0.002	--	--	--	--	--	--
38868 F	207	<0.002	--	--	--	--	--	--
38869 F	207	<0.002	--	--	--	--	--	--

*Annie Christie*

VOI rev. 4/85

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## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618382-001-A  
INVOICE # : I8618382  
DATE : 1-OCT-86  
P.O. # : NONE  
GALLANT/UTOPIA

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Hg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
38858 F	1.57	0.2	<5	780	<0.5	<2	1.32	<0.5	51	866	62	4.00	<10	0.58	30	8.82	579	<1	0.07	700	1670	4	10	117	0.22	<10	<10	70	<5	40	--	--
38859 F	2.04	0.2	5	750	<0.5	<2	2.25	<0.5	23	219	54	3.22	10	0.81	30	3.13	499	<1	0.19	125	1920	12	5	113	0.23	<10	<10	81	<5	46	--	--
38860 F	1.32	0.2	<5	20	<0.5	<2	1.80	<0.5	52	884	29	3.97	<10	<0.01	<10	8.73	623	<1	0.21	784	240	<2	10	5	0.16	<10	<10	81	<5	38	--	--
38861 F	1.91	0.2	10	<10	<0.5	<2	3.51	<0.5	20	74	54	3.62	<10	0.06	<10	1.79	578	<1	0.45	46	420	6	5	2	0.30	<10	<10	131	<5	46	--	--
38862 F	2.19	0.2	10	10	<0.5	<2	2.88	<0.5	22	79	114	4.07	<10	0.09	<10	1.86	621	<1	0.58	41	420	4	5	17	0.27	<10	<10	152	<5	44	--	--
38863 F	1.46	0.2	10	<10	<0.5	<2	1.99	<0.5	15	51	65	2.94	<10	0.06	<10	1.18	449	<1	0.39	23	390	4	<5	14	0.20	<10	<10	109	<5	30	--	--
38864 F	1.50	0.2	5	<10	<0.5	<2	1.96	<0.5	10	49	60	2.64	<10	0.03	<10	1.06	408	<1	0.40	19	380	4	<5	32	0.21	<10	<10	99	<5	28	--	--
38865 F	1.99	0.2	10	<10	<0.5	<2	2.40	<0.5	16	58	76	3.13	<10	0.04	<10	1.33	484	<1	0.53	22	390	4	5	40	0.23	<10	<10	127	<5	32	--	--
38866 F	2.18	0.2	10	<10	<0.5	<2	3.03	<0.5	19	63	65	3.62	<10	0.05	<10	1.68	581	<1	0.53	26	410	6	5	25	0.31	<10	<10	147	<5	40	--	--
38867 F	1.94	0.2	<5	110	<0.5	<2	2.20	<0.5	57	899	24	4.10	<10	0.04	<10	8.21	625	<1	0.22	820	440	<2	10	14	0.17	<10	<10	79	<5	40	--	--
38868 F	0.61	0.2	<5	<10	<0.5	<2	0.12	<0.5	89	1582	27	4.67	<10	<0.01	<10	>15.00	749	<1	0.01	1613	<10	<2	20	1	<0.01	<10	<10	38	5	34	--	--
38869 F	0.55	0.2	<5	<10	<0.5	<2	0.05	<0.5	89	1596	23	4.59	<10	<0.01	<10	>15.00	727	<1	<0.01	1587	<10	<2	20	<1	<0.01	<10	<10	37	5	32	--	--

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Telex: 043-52597

## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618455-001-A  
INVOICE # : I8618455  
DATE : 6-OCT-86  
P.O. # : NONE  
UTOPIA

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T						
38788 F	207	<0.002	--	--	--	--	--	--
38789 F	207	<0.002	--	--	--	--	--	--
38790 F	207	<0.002	--	--	--	--	--	--
38791 F	207	<0.002	--	--	--	--	--	--
38792 F	207	<0.002	--	--	--	--	--	--
38793 F	207	<0.002	--	--	--	--	--	--
38794 F	207	<0.002	--	--	--	--	--	--
38813 F	207	<0.002	--	--	--	--	--	--
38814 F	207	<0.002	--	--	--	--	--	--
38815 F	207	<0.002	--	--	--	--	--	--
38816 F	207	<0.002	--	--	--	--	--	--
38817 F	207	<0.002	--	--	--	--	--	--
38818 F	207	<0.002	--	--	--	--	--	--
38819 F	207	<0.002	--	--	--	--	--	--
38820 F	207	<0.002	--	--	--	--	--	--
38821 F	207	<0.002	--	--	--	--	--	--
38822 F	207	<0.002	--	--	--	--	--	--
38823 F	207	<0.002	--	--	--	--	--	--
38824 F	207	<0.002	--	--	--	--	--	--
38825 F	207	<0.002	--	--	--	--	--	--
38826 F	207	<0.002	--	--	--	--	--	--
38827 F	207	<0.002	--	--	--	--	--	--
38828 F	207	<0.002	--	--	--	--	--	--
38829 F	207	<0.002	--	--	--	--	--	--
38830 F	207	<0.002	--	--	--	--	--	--
38831 F	207	<0.002	--	--	--	--	--	--
38832 F	207	<0.002	--	--	--	--	--	--
38833 F	207	<0.002	--	--	--	--	--	--
38834 F	207	0.009	--	--	--	--	--	--
38835 F	207	<0.002	--	--	--	--	--	--
38836 F	207	<0.002	--	--	--	--	--	--
38837 F	207	<0.002	--	--	--	--	--	--
38838 F	207	<0.002	--	--	--	--	--	--
38839 F	207	<0.002	--	--	--	--	--	--
38840 F	207	<0.002	--	--	--	--	--	--
38841 F	207	<0.002	--	--	--	--	--	--
38842 F	207	<0.002	--	--	--	--	--	--
38843 F	207	<0.002	--	--	--	--	--	--
38844 F	207	<0.002	--	--	--	--	--	--
38845 F	207	<0.002	--	--	--	--	--	--

*Anna Christie*

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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618455-002-A  
INVOICE # : I8618455  
DATE : 6-OCT-86  
P.O. # : NONE  
UTOPIA

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
38846 F	207	<0.002	--	--	--	--	--
38847 F	207	<0.002	--	--	--	--	--
38848 F	207	<0.002	--	--	--	--	--
38849 F	207	<0.002	--	--	--	--	--
38850 F	207	<0.002	--	--	--	--	--
38851 F	207	<0.002	--	--	--	--	--
38852 F	207	<0.002	--	--	--	--	--
38853 F	207	<0.002	--	--	--	--	--
38854 F	207	<0.002	--	--	--	--	--
38855 F	207	<0.002	--	--	--	--	--
38856 F	207	<0.002	--	--	--	--	--
38857 F	207	<0.002	--	--	--	--	--

*Annex Christie*

VOI rev. 4/85

.....  
Registered Assayer, Province of British Columbia





# Chemex Labs Ltd.

212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1

-Analytical Chemists -Geochemists -Registered Assayers

Phone: (604) 984-0221  
Telex: 043-52597

## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618456-001-A  
INVOICE # : I8618456  
DATE : 1-OCT-86  
P.O. # : NONE  
UTOPIA

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
38788 F	0.47	2.4	45	70	<0.5	<2	2.21	<0.5	74	1165	49	3.85	10	<0.01	<10	13.65	603	2	<0.01	1301	40	78	15	48	<0.01	<10	<10	28	<5	38	--	--
38789 F	0.32	1.6	15	30	<0.5	<2	4.55	<0.5	93	1219	40	3.40	20	<0.01	<10	11.38	1300	1	<0.01	1664	<10	52	15	54	<0.01	<10	<10	24	5	36	--	--
38790 F	1.97	1.2	25	70	<0.5	<2	9.57	<0.5	64	983	56	3.18	40	<0.01	<10	5.55	1406	<1	<0.01	814	1030	56	10	99	0.03	<10	<10	70	<5	48	--	--
38791 F	2.54	0.6	25	130	<0.5	<2	0.44	<0.5	18	104	23	3.20	10	0.18	20	2.83	550	<1	0.08	122	720	52	5	20	0.08	<10	<10	71	<5	56	--	--
38792 F	1.44	0.8	25	160	<0.5	2	0.50	<0.5	11	84	27	2.97	10	0.19	20	1.33	459	<1	0.16	32	750	54	<5	28	0.16	<10	<10	74	<5	54	--	--
38793 F	1.49	0.8	20	100	<0.5	<2	0.39	<0.5	13	84	16	3.16	10	0.12	20	1.65	515	<1	0.11	29	800	52	<5	21	0.05	<10	<10	75	<5	58	--	--
38794 F	1.71	0.4	20	70	<0.5	<2	0.93	<0.5	13	76	10	2.75	10	0.15	20	1.72	545	1	0.04	37	760	36	5	26	0.01	<10	<10	58	<5	52	--	--
38813 F	1.18	0.2	35	30	<0.5	<2	4.14	<0.5	40	105	66	5.94	20	0.03	<10	2.48	1027	1	<0.01	72	710	32	10	22	<0.01	<10	<10	149	<5	44	--	--
38814 F	2.47	0.2	15	120	<0.5	<2	1.90	<0.5	37	127	31	7.13	10	0.05	<10	2.83	1100	<1	<0.01	77	650	14	5	34	<0.01	<10	<10	125	<5	106	--	--
38815 F	2.89	0.2	10	180	<0.5	<2	2.29	<0.5	38	119	62	7.00	10	0.12	<10	2.39	878	<1	0.05	80	560	24	5	39	0.23	<10	<10	127	<5	64	--	--
38816 F	1.09	0.2	20	110	<0.5	2	4.67	<0.5	18	53	60	3.34	20	0.16	<10	1.92	551	2	0.01	56	420	22	5	25	0.01	<10	<10	73	<5	70	--	--
38817 F	0.31	1.4	20	20	<0.5	<2	2.13	<0.5	9	36	10	1.86	10	0.10	<10	0.80	425	17	<0.01	45	360	22	5	15	<0.01	<10	<10	34	<5	78	--	--
38818 F	0.41	0.4	15	40	<0.5	<2	1.27	<0.5	10	36	47	2.03	10	0.15	10	0.52	577	9	<0.01	44	360	24	<5	16	<0.01	<10	<10	26	<5	74	--	--
38819 F	0.43	0.4	15	40	<0.5	2	1.69	<0.5	14	41	48	2.53	10	0.21	10	0.72	618	31	<0.01	60	820	28	<5	20	<0.01	<10	<10	73	<5	82	--	--
38820 F	1.02	0.2	50	70	<0.5	<2	2.10	<0.5	15	38	60	4.80	10	0.39	<10	1.03	609	5	<0.01	44	530	26	5	21	<0.01	<10	<10	61	<5	104	--	--
38821 F	0.60	0.2	35	40	<0.5	2	5.75	0.5	14	43	55	2.89	20	0.22	<10	2.03	731	10	<0.01	52	750	14	5	59	<0.01	<10	<10	44	<5	104	--	--
38822 F	2.67	0.2	10	130	<0.5	<2	2.91	<0.5	30	117	43	4.74	20	0.23	<10	2.68	695	<1	0.05	54	420	16	5	30	0.08	<10	<10	141	<5	64	--	--
38823 F	1.97	0.2	10	80	<0.5	<2	1.65	<0.5	26	128	54	4.24	10	0.07	<10	1.95	664	<1	0.14	58	330	14	5	30	0.11	<10	<10	104	<5	42	--	--
38824 F	2.13	1.0	15	90	<0.5	<2	4.05	<0.5	35	89	88	6.00	20	0.26	<10	2.69	1194	<1	0.04	46	450	24	5	86	<0.01	<10	<10	166	<5	60	--	--
38825 F	1.91	0.2	10	80	<0.5	<2	2.83	<0.5	32	99	63	5.50	10	0.08	<10	2.15	848	<1	0.11	44	470	12	5	48	0.13	<10	<10	187	<5	60	--	--
38826 F	1.72	0.2	10	90	<0.5	<2	3.08	<0.5	27	89	49	5.36	10	0.10	<10	1.87	861	<1	0.19	33	520	10	5	26	0.23	<10	<10	198	<5	52	--	--
38827 F	1.58	0.2	10	70	<0.5	<2	5.03	<0.5	34	116	69	5.29	20	0.16	<10	2.25	1010	<1	0.07	55	560	14	5	70	0.07	<10	<10	154	<5	52	--	--
38828 F	2.57	0.2	10	150	<0.5	<2	3.99	<0.5	42	123	61	4.32	20	0.09	<10	2.27	810	<1	0.03	113	530	14	5	74	0.01	<10	<10	145	<5	62	--	--
38829 F	1.71	2.2	10	120	<0.5	<2	4.24	<0.5	30	140	70	4.25	20	0.17	<10	1.88	796	<1	0.16	68	460	36	5	102	0.24	<10	<10	118	<5	44	--	--
38830 F	1.25	0.2	10	50	<0.5	<2	8.66	<0.5	27	100	37	4.74	30	0.19	<10	3.60	1108	<1	0.01	50	370	12	10	123	<0.01	<10	<10	101	<5	42	--	--
38831 F	1.52	0.2	10	50	<0.5	<2	4.59	<0.5	32	118	50	6.47	20	0.12	<10	2.90	1174	<1	0.01	49	510	14	5	72	<0.01	<10	<10	188	<5	62	--	--
38832 F	1.68	0.2	10	80	<0.5	<2	2.64	<0.5	35	133	40	7.01	20	0.12	<10	2.31	969	<1	0.08	49	510	10	5	50	0.01	<10	<10	196	<5	66	--	--
38833 F	1.56	0.2	10	50	<0.5	<2	5.87	<0.5	34	129	53	5.59	30	0.07	<10	3.15	985	<1	0.02	57	470	12	10	78	<0.01	<10	<10	178	<5	68	--	--
38834 F	1.06	4.2	70	90	<0.5	<2	9.86	<0.5	24	80	37	4.23	30	0.02	<10	4.07	1055	<1	<0.01	58	350	102	15	49	<0.01	<10	<10	75	<5	34	--	--
38835 F	1.60	0.2	20	90	<0.5	<2	3.16	<0.5	25	134	59	3.90	10	0.11	<10	1.77	614	<1	0.21	63	480	42	5	34	0.30	<10	<10	126	<5	42	--	--
38836 F	1.50	0.2	15	80	<0.5	<2	2.36	<0.5	23	123	53	3.83	10	0.11	<10	1.76	453	<1	0.18	49	540	14	5	55	0.35	<10	<10	147	<5	38	--	--
38837 F	1.97	0.2	10	70	<0.5	<2	2.07	<0.5	27	124	63	4.30	10	0.09	<10	2.40	511	<1	0.16	51	580	14	5	51	0.19	<10	<10	158	<5	48	--	--
38838 F	2.10	0.2	10	230	<0.5	<2	3.70	<0.5	30	239	65	4.51	20	0.15	<10	2.57	702	<1	0.16	71	1150	12	5	91	0.17	<10	<10	164	<5	48	--	--
38839 F	1.88	0.2	10	50	<0.5	<2	2.82	<0.5	28	141	63	4.51	10	0.07	<10	1.84	673	1	0.20	53	530	10	5	51	0.17	<10	<10	171	<5	48	--	--
38840 F	1.96	0.2	10	80	<0.5	<2	4.68	<0.5	32	147	81	5.51	20	0.14	<10	2.00	1065	5	0.15	59	490	10	5	105	0.12	<10	<10	176	<5	54	--	--
38841 F	2.05	0.2	15	70	<0.5	<2	4.80	<0.5	32	160	63	5.48	20	0.20	<10	2.25	974	<1	0.10	64	540	10	5	89	0.05	<10	<10	177	<5	62	--	--
38842 F	1.85	0.2	10	50	<0.5	<2	3.63	<0.5	27	119	71	4.58	10	0.14	<10	1.63	736	<1	0.23	53	520	10	5	53	0.27	<10	<10	144	<5	42	--	--
38843 F	1.73	0.2	5	60	<0.5	<2	4.19	<0.5	29	129	48	5.31	20	0.21	<10	1.97	893	<1	0.15	52	550	12	5	86	0.17	<10	<10	152	<5	58	--	--
38844 F	1.88	0.2	25	30	<0.5	<2	3.43	<0.5	21	117	49	3.43	10	0.06	<10	1.26	511	<1	0.25	47	390	20	5	47	0.30	<10	<10	124	<5	32	--	--
38845 F	1.50	0.2	10	30	<0.5	<2	2.27	<0.5	22	96	70	2.96	10	0.06	<10	1.25	380	<1	0.20	45	530	6	<5	28	0.33	<10	<10	117	<5	26	--	--

Certified by H. Buchler



# Chemex Labs Ltd.

*Analytical Chemists    •Geochemists    •Registered Assayers*

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Canada            V7J 2C1

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Telex:            043-52597

## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED  
  
1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618456-002-A  
INVOICE # : I8618456  
DATE : 1-OCT-86  
P.O. # : NONE  
UTOPIA

Semi quantitative multi element ICP analysis  
  
Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP    CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
38846 F	1.59	0.2	15	40	<0.5	<2	1.98	<0.5	24	99	89	3.40	<10	0.08	<10	1.39	364	<1	0.24	58	470	8	<5	24	0.36	<10	<10	119	<5	30	--	--
38847 F	1.86	0.2	10	50	<0.5	<2	2.84	<0.5	23	112	66	3.49	10	0.08	<10	1.56	454	<1	0.27	50	540	6	5	28	0.33	<10	<10	122	<5	32	--	--
38848 F	1.68	0.2	10	40	<0.5	<2	1.69	<0.5	22	116	75	3.46	10	0.09	<10	1.50	414	1	0.25	54	590	112	5	23	0.25	<10	<10	122	<5	40	--	--
38849 F	1.51	0.2	15	30	<0.5	<2	2.00	<0.5	21	113	68	3.40	10	0.08	<10	1.37	427	<1	0.23	47	610	12	5	20	0.25	<10	<10	126	<5	34	--	--
38850 F	1.88	0.2	40	40	<0.5	<2	5.36	<0.5	26	118	56	4.44	20	0.05	<10	1.96	979	<1	0.13	46	520	26	5	64	0.11	<10	<10	127	<5	50	--	--
38851 F	1.97	0.2	10	30	<0.5	<2	2.65	<0.5	25	126	57	3.94	10	0.06	<10	1.80	532	1	0.25	57	590	10	5	26	0.22	<10	<10	128	<5	40	--	--
38852 F	1.93	0.2	15	50	<0.5	<2	4.12	<0.5	24	161	34	4.23	20	0.13	<10	1.86	667	<1	0.13	56	510	6	5	39	0.25	<10	<10	143	<5	44	--	--
38853 F	1.75	0.2	15	40	<0.5	<2	4.80	<0.5	22	156	46	3.53	10	0.05	<10	1.73	624	<1	0.14	50	480	10	5	61	0.41	<10	<10	139	<5	38	--	--
38854 F	2.80	0.2	15	70	<0.5	<2	5.97	<0.5	31	222	26	5.05	30	0.19	<10	2.80	920	<1	0.10	65	460	10	5	80	0.21	<10	<10	182	<5	54	--	--
38855 F	2.64	0.2	5	90	<0.5	<2	3.29	<0.5	27	175	30	4.70	20	0.20	<10	2.88	632	<1	0.09	72	470	8	5	77	0.23	<10	<10	148	<5	44	--	--
38856 F	1.67	0.2	15	90	<0.5	<2	2.01	<0.5	18	122	65	3.79	10	0.09	<10	1.28	512	1	0.29	42	500	12	<5	13	0.20	<10	<10	111	<5	36	--	--
38857 F	1.58	0.2	15	60	<0.5	<2	2.24	<0.5	19	95	68	3.68	10	0.07	<10	1.05	485	1	0.29	44	460	10	<5	7	0.28	<10	<10	114	<5	28	--	--

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Certified By *Stan Bisher*



# Chemex Labs Ltd.

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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618236-00  
INVOICE # : I8618236  
DATE : 30-SEP-86  
P.O. # : NONE  
GALLANT/UTOPIA

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T						
38743 F	207	<0.002	--	--	--	--	--	--
38744 F	207	<0.002	--	--	--	--	--	--
38745 F	207	<0.002	--	--	--	--	--	--
38746 F	207	<0.002	--	--	--	--	--	--
38747 F	207	<0.002	--	--	--	--	--	--
38748 F	207	<0.002	--	--	--	--	--	--
38749 F	207	<0.002	--	--	--	--	--	--
38750 F	207	<0.002	--	--	--	--	--	--
38751 F	207	<0.002	--	--	--	--	--	--
38752 F	207	<0.002	--	--	--	--	--	--
38753 F	207	<0.002	--	--	--	--	--	--
38754 F	207	<0.002	--	--	--	--	--	--
38755 F	207	<0.002	--	--	--	--	--	--
38756 F	207	<0.002	--	--	--	--	--	--
38757 F	207	<0.002	--	--	--	--	--	--
38758 F	207	<0.002	--	--	--	--	--	--
38759 F	207	<0.002	--	--	--	--	--	--
38760 F	207	<0.002	--	--	--	--	--	--
38761 F	207	<0.002	--	--	--	--	--	--
38762 F	207	<0.002	--	--	--	--	--	--
38763 F	207	<0.002	--	--	--	--	--	--
38764 F	207	<0.002	--	--	--	--	--	--
38765 F	207	<0.002	--	--	--	--	--	--
38766 F	207	<0.002	--	--	--	--	--	--
38767 F	207	<0.002	--	--	--	--	--	--
38768 F	207	<0.002	--	--	--	--	--	--
38769 F	207	<0.002	--	--	--	--	--	--
38770 F	207	<0.002	--	--	--	--	--	--
38771 F	207	<0.002	--	--	--	--	--	--
38772 F	207	<0.002	--	--	--	--	--	--
38773 F	207	<0.002	--	--	--	--	--	--
38774 F	207	<0.002	--	--	--	--	--	--
38775 F	207	<0.002	--	--	--	--	--	--
38776 F	207	<0.002	--	--	--	--	--	--
38777 F	207	<0.002	--	--	--	--	--	--
38778 F	207	<0.002	--	--	--	--	--	--
38779 F	207	<0.002	--	--	--	--	--	--
38780 F	207	<0.002	--	--	--	--	--	--
38781 F	207	<0.002	--	--	--	--	--	--
38782 F	207	<0.002	--	--	--	--	--	--

VOI rev. 4/85

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Registered Assayer, Province of British Columb



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## CERTIFICATE OF ASSAY

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1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618236-00  
INVOICE # : I8618236  
DATE : 30-SEP-86  
P.O. # : NONE  
GALLANT/UTOPIA

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
38783 F	207	0.002	--	--	--	--	--
38784 F	207	<0.002	--	--	--	--	--
38785 F	207	<0.002	--	--	--	--	--
38786 F	207	<0.002	--	--	--	--	--
38787 F	207	<0.002	--	--	--	--	--

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Registered Assayer, Province of British Columbia



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## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618237-001-A  
INVOICE # : I8618237  
DATE : 1-OCT-86  
P.O. # : NONE  
GALLANT/UTOPIA

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
38743 F	1.31	0.2	5	310	<0.5	<2	0.97	<0.5	42	473	29	3.19	<10	0.17	10	6.74	423	<1	0.08	619	510	24	10	21	0.16	<10	<10	46	<5	32
38744 F	0.56	0.2	<5	<10	<0.5	<2	0.23	<0.5	94	1312	29	4.41	<10	<0.01	<10	>15.00	677	2	<0.01	1654	10	16	20	3	<0.01	<10	<10	29	<5	30
38745 F	0.69	0.2	<5	<10	<0.5	<2	0.16	<0.5	95	1372	39	4.69	<10	<0.01	<10	>15.00	608	1	<0.01	1720	<10	18	20	9	0.01	<10	<10	35	<5	28
38746 F	1.68	0.4	<5	330	<0.5	<2	2.50	<0.5	41	265	30	3.26	10	0.27	<10	5.99	531	<1	0.15	562	680	2	10	104	0.26	<10	<10	80	<5	34
38747 F	1.20	0.2	20	180	<0.5	<2	3.93	<0.5	12	33	27	2.03	10	0.17	<10	1.22	418	<1	0.07	28	610	10	<5	28	0.25	<10	<10	78	<5	24
38748 F	1.62	0.4	<5	30	<0.5	<2	1.69	<0.5	61	580	33	4.22	<10	<0.01	<10	9.18	723	<1	0.03	909	190	<2	10	45	0.20	<10	<10	98	<5	34
38749 F	0.40	0.2	<5	<10	<0.5	<2	0.13	<0.5	93	794	38	4.04	<10	<0.01	<10	>15.00	727	<1	<0.01	1668	<10	10	20	5	<0.01	<10	<10	20	<5	22
38750 F	0.41	0.2	<5	<10	<0.5	<2	0.16	<0.5	91	828	37	4.10	<10	<0.01	<10	14.65	639	<1	<0.01	1610	<10	8	15	1	<0.01	<10	<10	22	<5	24
38751 F	0.53	0.4	<5	<10	<0.5	<2	0.21	<0.5	94	1011	50	4.37	<10	<0.01	<10	14.36	569	<1	<0.01	1626	<10	8	15	4	<0.01	<10	<10	29	<5	22
38752 F	0.56	0.2	<5	<10	<0.5	<2	1.55	<0.5	81	1147	45	3.80	<10	<0.01	<10	13.74	696	<1	<0.01	1442	<10	2	15	38	<0.01	<10	<10	28	<5	20
38753 F	0.70	0.4	<5	30	<0.5	<2	3.39	<0.5	79	1322	49	3.57	10	<0.01	<10	10.57	786	<1	<0.01	1306	20	<2	10	110	<0.01	<10	<10	30	<5	26
38754 F	0.36	0.2	<5	<10	<0.5	<2	1.03	<0.5	88	847	31	3.81	<10	<0.01	<10	12.87	536	<1	<0.01	1616	<10	4	15	26	<0.01	<10	<10	22	<5	20
38755 F	1.72	0.4	15	40	<0.5	<2	4.95	<0.5	60	835	59	2.70	20	<0.01	<10	5.17	833	<1	<0.01	949	160	8	5	123	0.02	<10	<10	38	<5	22
38756 F	2.12	0.2	10	290	<0.5	<2	1.51	<0.5	35	366	45	3.14	10	0.27	10	4.53	488	<1	0.09	337	670	8	5	114	0.14	<10	<10	81	<5	38
38757 F	2.64	0.2	<5	430	<0.5	<2	1.96	<0.5	34	131	103	4.75	10	0.34	20	4.85	799	<1	0.07	99	1400	4	5	192	0.28	<10	<10	164	<5	60
38758 F	3.43	0.4	<5	40	<0.5	<2	3.33	<0.5	36	294	50	5.05	20	0.02	10	6.53	747	<1	0.03	259	1790	<2	5	143	0.20	<10	<10	138	<5	56
38759 F	2.29	0.4	35	240	<0.5	<2	2.82	<0.5	40	614	23	2.83	10	0.18	<10	4.57	581	<1	0.06	511	450	6	5	87	0.12	<10	<10	69	<5	38
38760 F	2.46	0.4	45	230	<0.5	<2	3.10	<0.5	43	650	20	2.93	10	0.18	<10	4.77	636	<1	0.05	547	480	6	5	91	0.12	<10	<10	72	<5	34
38761 F	4.02	0.4	<5	180	<0.5	<2	1.65	<0.5	33	395	8	4.56	10	0.15	10	6.80	519	<1	0.07	152	560	<2	5	106	0.15	<10	<10	95	<5	50
38762 F	2.67	0.4	15	350	<0.5	<2	0.78	<0.5	31	479	8	3.02	<10	0.38	10	4.30	356	<1	0.10	228	330	4	5	37	0.12	<10	<10	70	<5	38
38763 F	2.51	0.2	<5	30	<0.5	<2	1.23	<0.5	65	934	98	3.52	10	<0.01	<10	6.20	412	<1	0.01	999	150	<2	5	24	0.05	<10	<10	60	<5	22
38764 F	2.03	0.2	10	400	<0.5	<2	0.78	<0.5	23	447	31	2.43	<10	0.33	10	3.03	265	<1	0.08	172	470	10	<5	21	0.13	<10	<10	52	<5	34
38765 F	2.26	0.2	15	310	<0.5	<2	0.77	<0.5	26	482	19	2.47	<10	0.26	10	3.57	308	<1	0.05	227	510	6	<5	19	0.09	<10	<10	46	<5	36
38766 F	0.57	0.2	15	<10	<0.5	6	1.19	<0.5	87	626	234	1.93	<10	<0.01	<10	2.68	262	<1	<0.01	1647	40	14	<5	11	<0.01	<10	<10	11	<5	10
38767 F	2.13	0.4	15	350	<0.5	<2	0.54	<0.5	26	369	10	2.33	<10	0.28	10	3.57	235	<1	0.04	215	500	4	<5	16	0.07	<10	<10	42	<5	26
38768 F	0.72	0.2	20	10	<0.5	<2	3.05	<0.5	71	837	89	2.60	10	<0.01	<10	6.40	528	<1	<0.01	1212	10	<2	5	42	<0.01	<10	<10	19	<5	12
38769 F	3.32	0.4	5	80	<0.5	<2	2.92	<0.5	46	675	18	3.81	20	0.07	<10	6.81	556	<1	0.06	502	290	<2	5	62	0.10	<10	<10	82	<5	36
38770 F	0.34	0.2	<5	<10	<0.5	<2	2.75	<0.5	65	598	48	2.68	10	<0.01	<10	7.38	607	<1	<0.01	1206	<10	<2	10	38	<0.01	<10	<10	12	<5	8
38771 F	2.01	0.4	60	400	<0.5	<2	0.74	<0.5	22	324	36	2.54	10	0.36	10	2.96	305	<1	0.08	180	380	10	5	17	0.12	<10	<10	44	<5	42
38772 F	2.19	0.6	5	800	<0.5	<2	0.52	<0.5	23	337	136	2.59	<10	0.79	10	2.89	294	1	0.08	183	380	10	<5	12	0.15	<10	<10	52	<5	42
38773 F	1.74	0.2	110	80	<0.5	<2	0.53	<0.5	43	670	40	1.80	<10	0.03	<10	3.78	220	<1	<0.01	614	140	6	5	12	0.02	<10	<10	28	<5	18
38774 F	0.40	0.2	<5	10	<0.5	<2	3.08	<0.5	67	699	25	2.91	10	<0.01	<10	7.73	617	<1	<0.01	1193	<10	<2	10	48	<0.01	<10	<10	14	<5	10
38775 F	0.87	0.4	30	100	<0.5	2	7.87	<0.5	13	105	42	1.40	30	0.17	<10	1.18	210	21	0.06	114	1020	12	5	19	0.06	<10	<10	98	<5	34
38776 F	0.12	0.2	30	<10	<0.5	2	34.53	1.0	4	71	20	0.25	80	0.01	<10	0.14	183	2	<0.01	12	320	22	15	<1	0.01	<10	<10	9	10	14
38777 F	1.94	0.2	15	90	<0.5	<2	4.80	<0.5	19	115	63	2.99	20	0.04	<10	1.61	348	<1	0.09	40	760	12	5	2	0.22	<10	<10	86	<5	44
38778 F	1.69	0.2	15	220	<0.5	2	7.44	<0.5	18	154	45	2.19	30	0.10	<10	1.69	377	<1	0.11	74	1500	12	5	59	0.19	<10	<10	59	<5	36
38779 F	2.17	0.2	10	90	<0.5	2	2.08	<0.5	16	67	113	3.24	10	0.36	10	1.23	285	18	0.12	56	1110	10	<5	20	0.16	<10	<10	167	<5	50
38780 F	1.78	0.4	10	150	<0.5	<2	1.56	<0.5	12	60	66	2.31	10	0.55	10	0.92	359	7	0.16	49	750	14	<5	22	0.13	<10	<10	79	<5	86
38781 F	0.91	0.2	10	30	<0.5	<2	0.51	<0.5	12	31	44	1.86	<10	0.34	10	0.65	249	2	0.05	49	320	8	<5	4	0.07	<10	<10	28	<5	60
38782 F	1.04	0.2	20	40	<0.5	<2	1.57	<0.5	13	34	50	1.93	10	0.31	10	0.92	297	3	0.03	96	360	10	<5	5	0.08	<10	<10	26	<5	52

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## CERTIFICATE OF ANALYSIS

TO : MARK MANAGEMENT LIMITED  
1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8618237-002-A  
INVOICE # : I8618237  
DATE : 1-OCT-86  
P.O. # : NONE  
GALLANT/UTOPIA

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :  
ATTN: ART TROUP CC: LINDA DANDY

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
38783 F	2.00	0.4	70	90	<0.5	<2	3.96	<0.5	20	91	64	2.20	10	0.50	<10	1.38	406	5	0.08	304	720	10	5	25	0.14	<10	<10	56	<5	68	--	--
38784 F	2.49	0.2	10	160	<0.5	<2	2.70	<0.5	12	52	66	2.76	10	0.81	<10	1.24	732	9	0.12	48	670	12	<5	16	0.15	<10	<10	93	<5	106	--	--
38785 F	1.33	0.2	10	40	<0.5	<2	1.38	<0.5	7	37	49	2.04	<10	0.47	10	0.70	455	6	0.08	44	330	8	<5	4	0.07	<10	<10	47	<5	62	--	--
38786 F	1.59	0.2	10	100	<0.5	<2	3.72	<0.5	11	48	50	2.24	10	0.45	<10	0.72	616	8	0.12	41	680	10	<5	4	0.13	<10	<10	70	<5	74	--	--
38787 F	1.56	0.2	15	80	<0.5	<2	1.42	<0.5	18	75	45	2.51	<10	0.10	<10	1.37	425	<1	0.19	37	450	10	5	6	0.19	<10	<10	103	<5	38	--	--

SYSTEM BUSINESS FORMS LIMITED VANCOUVER TR88857

Certified By Paul Buchler



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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

SAME

CERT. # : A8621559-001-A  
INVOICE # : I8621559  
DATE : 9-DEC-86  
P.O. # : NONE  
GALLANT

ATTN: ART TROUP ✓ CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
40103	207	<0.002	--	--	--	--	--
40104	207	<0.002	--	--	--	--	--
40105	207	<0.002	--	--	--	--	--
40106	207	<0.002	--	--	--	--	--
40107	207	<0.002	--	--	--	--	--
40108	207	<0.002	--	--	--	--	--
40109	207	<0.002	--	--	--	--	--
40110	207	<0.002	--	--	--	--	--
40111	207	<0.002	--	--	--	--	--
40112	207	<0.002	--	--	--	--	--
40113	207	<0.002	--	--	--	--	--
40114	207	<0.002	--	--	--	--	--
40115	207	<0.002	--	--	--	--	--
40116	207	<0.002	--	--	--	--	--
40117	207	<0.002	--	--	--	--	--
40118	207	<0.002	--	--	--	--	--
40119	207	<0.002	--	--	--	--	--
40120	207	<0.002	--	--	--	--	--
40121	207	<0.002	--	--	--	--	--
40122	207	<0.002	--	--	--	--	--
40123	207	<0.002	--	--	--	--	--
40124	207	<0.002	--	--	--	--	--
40125	207	<0.002	--	--	--	--	--
40126	207	<0.002	--	--	--	--	--
40127	207	<0.002	--	--	--	--	--
40128	207	<0.002	--	--	--	--	--
40129	207	<0.002	--	--	--	--	--
40130	207	<0.002	--	--	--	--	--
40131	207	<0.002	--	--	--	--	--
40132	207	<0.002	--	--	--	--	--
40133	207	<0.002	--	--	--	--	--
40134	207	<0.002	--	--	--	--	--
40135	207	<0.002	--	--	--	--	--
40136	207	0.002	--	--	--	--	--
40137	207	<0.002	--	--	--	--	--
40138	207	<0.002	--	--	--	--	--
40139	207	<0.002	--	--	--	--	--
40140	207	<0.002	--	--	--	--	--
40141	207	<0.002	--	--	--	--	--
40142	207	<0.002	--	--	--	--	--

*Anne Christie*

Registered Assayer, Province of British Columbia



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## CERTIFICATE OF ASSAY

TO : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

CERT. # : A8621559-002-A  
INVOICE # : I8621559  
DATE : 9-DEC-86  
P.O. # : NONE  
GALLANT

ATTN: ART TROUP CC: LINDA DANDY

Sample description	Prep code	Au oz/T					
40143	207	<0.002	--	--	--	--	--
40144	207	<0.002	--	--	--	--	--
40145	207	<0.002	--	--	--	--	--
40146	207	<0.002	--	--	--	--	--
40147	207	<0.002	--	--	--	--	--
40148	207	<0.002	--	--	--	--	--
40149	207	<0.002	--	--	--	--	--
40150	207	<0.002	--	--	--	--	--
40151	207	<0.002	--	--	--	--	--
40152	207	<0.002	--	--	--	--	--
40153	207	<0.002	--	--	--	--	--
40154	207	<0.002	--	--	--	--	--
40155	207	<0.002	--	--	--	--	--
40156	207	<0.002	--	--	--	--	--
40157	207	<0.002	--	--	--	--	--
40158	207	<0.002	--	--	--	--	--
40159	207	<0.002	--	--	--	--	--

.....*Anna Christie*.....  
Registered Assayer, Province of British Columbia

VOI rev. 4/85





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 BRITISH COLUMBIA, CANADA V7J-2C1  
 PHONE (604) 984-0221

## CERTIFICATE OF ANALYSIS A862156

To : MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
 VANCOUVER, B.C.  
 V6C 2W2

Page No. : 1-A  
 Tot. Pages: 2  
 Date : 17-DEC-86  
 Invoice #: I-8621560  
 P.O. # : NONE

Project : GALLANT

Comments : ATTN: ART TROUP CCF LINDA DANDY

SAMPLE DESCRIPTION	PREP CODE	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %
40103	214	1.95	0.2	10	190	< 0.5	< 2	0.74	< 0.5	11	68	9	2.82	10	0.10	20	1.24	425	< 1	0.07
40104	214	1.70	0.2	< 5	140	< 0.5	< 2	0.59	< 0.5	11	67	4	2.78	10	0.10	20	1.31	436	< 1	0.06
40105	214	1.73	0.2	< 5	130	< 0.5	< 2	1.13	< 0.5	11	63	5	2.69	10	0.08	20	1.41	503	< 1	0.05
40106	214	1.99	0.2	< 5	170	< 0.5	< 2	1.10	< 0.5	13	72	9	3.08	10	0.12	30	1.82	588	< 1	0.09
40107	214	1.49	0.2	< 5	110	< 0.5	2	0.51	< 0.5	13	76	10	3.17	10	0.10	20	1.87	513	< 1	0.07
40108	214	1.75	0.2	< 5	130	< 0.5	< 2	0.30	0.5	12	73	7	2.78	< 10	0.16	20	1.72	441	< 1	0.07
40109	214	1.81	0.2	< 5	100	< 0.5	< 2	1.59	< 0.5	13	70	3	2.80	10	0.19	20	1.77	651	< 1	0.05
40110	214	1.96	0.2	< 5	90	< 0.5	2	1.64	< 0.5	12	54	8	2.69	10	0.21	20	1.66	470	< 1	0.02
40111	214	1.51	0.2	< 5	20	< 0.5	2	1.90	< 0.5	16	70	10	2.16	< 10	0.13	10	2.21	393	< 1	< 0.01
40112	214	0.76	0.2	5	30	< 0.5	< 2	11.75	< 0.5	14	81	13	2.10	30	0.08	< 10	5.04	499	< 1	< 0.01
40113	214	0.43	0.2	< 5	40	< 0.5	< 2	13.70	< 0.5	21	238	24	2.40	30	0.03	< 10	6.15	524	< 1	< 0.01
40114	214	0.29	0.2	< 5	30	< 0.5	< 2	>15.00	< 0.5	32	410	32	2.75	40	< 0.01	< 10	6.95	495	< 1	< 0.01
40115	214	0.15	0.2	< 5	30	< 0.5	< 2	10.05	< 0.5	63	407	26	3.17	20	< 0.01	< 10	9.22	637	< 1	< 0.01
40116	214	0.33	0.2	< 5	30	< 0.5	< 2	14.95	< 0.5	29	250	30	2.73	30	< 0.01	< 10	7.10	642	< 1	< 0.01
40117	214	0.39	0.2	< 5	20	< 0.5	< 2	14.15	< 0.5	16	124	27	2.51	30	0.02	< 10	6.48	400	< 1	< 0.01
40118	214	0.17	0.2	< 5	30	< 0.5	< 2	11.50	< 0.5	47	381	35	2.53	30	< 0.01	< 10	6.73	489	< 1	< 0.01
40119	214	0.10	0.2	< 5	30	< 0.5	< 2	10.00	< 0.5	59	424	20	3.09	20	< 0.01	< 10	9.35	572	< 1	< 0.01
40120	214	0.09	0.2	< 5	20	< 0.5	< 2	9.78	< 0.5	48	300	10	2.49	20	< 0.01	< 10	9.53	526	< 1	< 0.01
40121	214	0.03	0.2	< 5	20	< 0.5	< 2	5.34	< 0.5	62	300	11	2.92	10	< 0.01	< 10	10.15	457	< 1	< 0.01
40122	214	0.05	0.2	< 5	50	< 0.5	< 2	8.93	< 0.5	59	358	10	2.87	20	< 0.01	< 10	9.73	467	< 1	< 0.01
40123	214	0.04	0.2	< 5	20	< 0.5	< 2	11.50	< 0.5	47	371	9	3.05	30	< 0.01	< 10	8.35	509	< 1	0.01
40124	214	0.08	0.2	5	30	< 0.5	< 2	10.35	< 0.5	68	535	14	3.57	20	< 0.01	< 10	10.85	567	< 1	0.01
40125	214	0.14	0.2	< 5	30	< 0.5	< 2	7.06	< 0.5	72	507	13	3.33	20	< 0.01	< 10	9.81	492	< 1	< 0.01
40126	214	0.35	0.2	< 5	120	< 0.5	< 2	8.61	< 0.5	57	428	11	2.72	20	0.02	< 10	9.22	447	< 1	< 0.01
40127	214	0.17	0.2	< 5	20	< 0.5	< 2	2.33	< 0.5	75	503	12	3.45	< 10	< 0.01	< 10	13.60	543	< 1	< 0.01
40128	214	0.48	0.2	< 5	10	< 0.5	< 2	1.63	< 0.5	46	140	10	3.08	< 10	0.10	< 10	13.05	1220	< 1	< 0.01
40129	214	0.15	0.2	< 5	10	< 0.5	< 2	1.53	< 0.5	76	461	13	3.42	< 10	< 0.01	< 10	13.80	593	< 1	< 0.01
40130	214	0.10	0.2	< 5	20	< 0.5	< 2	1.90	< 0.5	70	348	11	3.35	< 10	< 0.01	< 10	13.30	477	< 1	< 0.01
40131	214	0.04	0.2	< 5	10	< 0.5	< 2	5.96	< 0.5	56	216	9	2.98	10	< 0.01	< 10	10.25	404	< 1	< 0.01
40132	214	0.06	0.2	< 5	10	< 0.5	< 2	3.05	< 0.5	73	300	13	3.29	< 10	< 0.01	< 10	12.30	621	< 1	< 0.01
40133	214	0.11	0.2	< 5	10	< 0.5	< 2	3.99	< 0.5	77	445	14	3.11	10	< 0.01	< 10	11.80	501	< 1	< 0.01
40134	214	0.13	0.2	< 5	10	< 0.5	< 2	7.91	< 0.5	60	274	16	2.82	20	< 0.01	< 10	9.42	532	< 1	0.01
40135	214	1.16	0.2	< 5	20	< 0.5	< 2	11.40	< 0.5	34	310	31	2.82	30	0.07	< 10	5.94	540	< 1	0.01
40136	214	0.68	0.2	305	40	< 0.5	< 2	14.15	< 0.5	50	513	25	2.92	30	< 0.01	< 10	5.85	724	< 1	0.02
40137	214	1.15	0.2	< 5	30	< 0.5	< 2	11.45	< 0.5	18	255	4	2.22	20	0.06	< 10	4.74	444	< 1	0.02
40138	214	0.44	0.2	40	30	< 0.5	< 2	>15.00	< 0.5	56	307	19	3.30	30	< 0.01	< 10	6.62	840	< 1	0.01
40139	214	0.44	0.2	15	20	< 0.5	< 2	>15.00	< 0.5	37	215	14	2.80	30	0.01	< 10	7.07	663	< 1	0.01
40140	214	0.87	0.2	5	30	< 0.5	< 2	14.40	< 0.5	15	90	6	2.07	30	0.06	< 10	6.20	448	< 1	0.02
40141	214	0.47	0.2	< 5	20	< 0.5	< 2	>15.00	< 0.5	11	88	10	2.52	30	0.03	< 10	6.72	470	< 1	0.01
40142	214	1.51	0.2	< 5	60	< 0.5	< 2	10.40	< 0.5	33	81	31	1.93	20	0.14	< 10	3.86	300	1	0.01

CERTIFICATION : B. T. Lang



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 BROOKSBANK AVE., NORTH VANCOUVER,  
 BRITISH COLUMBIA, CANADA V7J-2C1  
 PHONE (604) 984-0221

## CERTIFICATE OF ANALYSIS A862156

To: MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
 VANCOUVER, B.C.  
 V6C 2W2

Page No. : 1-B  
 Tot. Pages: 2  
 Date : 17-DEC-86  
 Invoice # : I-8621560  
 P.O. # : NONE

Project : GALLANT

Comments: ATTN: ART TROUP CC# LINDA DANDY

SAMPLE DESCRIPTION	PREP CODE	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm							
40103	214	24	730	12	< 5	63	0.08	< 10	< 10	69	< 5	50							
40104	214	24	690	8	< 5	46	0.11	< 10	< 10	67	< 5	50							
40105	214	21	640	6	< 5	36	0.08	< 10	< 10	65	< 5	48							
40106	214	22	720	12	< 5	46	0.13	< 10	< 10	77	< 5	56							
40107	214	24	750	10	< 5	21	0.14	< 10	< 10	80	< 5	58							
40108	214	21	640	2	< 5	17	0.04	< 10	< 10	56	< 5	48							
40109	214	23	690	4	< 5	23	0.02	< 10	< 10	57	< 5	52							
40110	214	25	630	< 2	< 5	34	< 0.01	< 10	< 10	42	< 5	50							
40111	214	82	520	4	< 5	52	< 0.01	< 10	< 10	36	< 5	42							
40112	214	90	480	< 2	< 5	219	< 0.01	< 10	< 10	21	< 5	20							
40113	214	217	690	< 2	< 5	443	< 0.01	< 10	< 10	35	5	18							
40114	214	389	650	< 2	< 5	465	< 0.01	< 10	< 10	35	5	22							
40115	214	1070	70	< 2	< 5	343	< 0.01	< 10	< 10	15	5	14							
40116	214	319	940	< 2	< 5	383	< 0.01	< 10	< 10	42	5	20							
40117	214	110	1170	< 2	< 5	443	< 0.01	< 10	< 10	42	< 5	12							
40118	214	794	60	< 2	< 5	463	< 0.01	< 10	< 10	15	< 5	10							
40119	214	1060	< 10	< 2	< 5	436	< 0.01	< 10	< 10	10	5	12							
40120	214	817	< 10	< 2	< 5	341	< 0.01	< 10	< 10	7	5	14							
40121	214	1070	< 10	< 2	< 5	229	< 0.01	< 10	< 10	3	< 5	12							
40122	214	1015	< 10	< 2	< 5	355	< 0.01	< 10	< 10	5	< 5	12							
40123	214	768	< 10	< 2	< 5	476	< 0.01	< 10	< 10	7	5	10							
40124	214	1315	< 10	< 2	< 5	404	< 0.01	< 10	< 10	7	5	14							
40125	214	1285	< 10	< 2	< 5	105	< 0.01	< 10	< 10	8	5	12							
40126	214	867	< 10	< 2	< 5	303	< 0.01	< 10	< 10	23	5	16							
40127	214	1290	< 10	< 2	< 5	118	< 0.01	< 10	< 10	5	< 5	14							
40128	214	804	< 10	< 2	< 5	152	< 0.01	< 10	< 10	69	< 5	12							
40129	214	1360	< 10	< 2	< 5	120	< 0.01	< 10	< 10	7	< 5	16							
40130	214	1170	< 10	< 2	< 5	182	< 0.01	< 10	< 10	7	< 5	14							
40131	214	984	< 10	< 2	< 5	293	< 0.01	< 10	< 10	3	< 5	10							
40132	214	1305	< 10	< 2	< 5	137	< 0.01	< 10	< 10	1	< 5	12							
40133	214	1390	< 10	< 2	< 5	92	< 0.01	< 10	< 10	3	< 5	12							
40134	214	1090	< 10	< 2	< 5	154	< 0.01	< 10	< 10	19	5	12							
40135	214	240	1050	2	< 5	175	< 0.01	< 10	< 10	92	5	28							
40136	214	866	120	< 2	< 5	179	< 0.01	< 10	< 10	37	5	22							
40137	214	105	410	< 2	< 5	57	< 0.01	< 10	< 10	38	5	32							
40138	214	1015	150	< 2	< 5	73	< 0.01	< 10	< 10	17	5	14							
40139	214	632	140	< 2	< 5	46	< 0.01	< 10	< 10	11	5	10							
40140	214	175	310	< 2	< 5	1	< 0.01	< 10	< 10	6	< 5	10							
40141	214	36	620	< 2	< 5	24	< 0.01	< 10	< 10	19	< 5	24							
40142	214	68	3330	< 2	< 5	67	< 0.01	< 10	< 10	74	< 5	54							

CERTIFICATION : *B. Conley*



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PHONE (604) 984-0221

## CERTIFICATE OF ANALYSIS A862156

To: MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

Page No. : 2-A

Tot. Pages: 2

Date : 17-DEC-86

Invoice #: I-8621560

P.O. #: NONE

Project: GALLANT

Comments: ATTN: ART TROUP CC# LINDA DANDY

SAMPLE DESCRIPTION	PREP CODE	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %
40143	214	0.75	0.2	< 5	30	< 0.5	< 2	12.30	< 0.5	11	30	16	1.40	30	0.10	< 10	4.81	267	< 1	0.01
40144	214	2.45	0.2	10	130	< 0.5	< 2	8.65	< 0.5	38	154	103	3.52	20	0.14	< 10	3.59	601	< 1	0.02
40145	214	1.26	0.2	< 5	40	< 0.5	< 2	7.04	< 0.5	19	55	52	2.06	20	0.16	< 10	2.65	339	3	0.01
40146	214	0.43	0.2	< 5	40	< 0.5	< 2	13.10	< 0.5	13	91	24	2.13	30	0.11	< 10	5.01	387	2	0.01
40147	214	0.15	0.2	< 5	20	< 0.5	< 2	> 15.00	< 0.5	8	83	9	2.34	30	< 0.01	< 10	6.15	406	< 1	0.02
40148	214	0.20	0.2	5	30	< 0.5	< 2	14.80	< 0.5	9	87	14	2.32	30	0.03	< 10	5.93	388	< 1	0.02
40149	214	0.29	0.2	5	30	< 0.5	< 2	13.15	0.5	9	43	21	2.16	30	0.06	< 10	5.19	371	1	0.01
40150	214	0.08	0.2	< 5	20	< 0.5	< 2	> 15.00	< 0.5	7	27	7	2.06	30	0.01	< 10	6.54	443	< 1	0.01
40151	214	0.07	0.2	< 5	20	< 0.5	< 2	> 15.00	< 0.5	7	50	5	2.07	30	< 0.01	< 10	6.98	422	< 1	0.01
40152	214	0.04	0.2	< 5	10	< 0.5	< 2	14.80	< 0.5	6	19	6	1.99	30	< 0.01	< 10	5.76	463	< 1	< 0.01
40153	214	0.20	0.2	< 5	20	< 0.5	< 2	> 15.00	< 0.5	10	30	15	2.21	30	0.06	< 10	6.28	572	1	< 0.01
40154	214	0.94	0.2	< 5	70	< 0.5	< 2	5.31	< 0.5	15	24	96	2.87	10	0.34	< 10	2.08	834	2	< 0.01
40155	214	0.35	0.2	< 5	20	< 0.5	< 2	2.87	< 0.5	9	12	37	1.57	10	0.16	< 10	1.14	450	5	< 0.01
40156	214	0.60	0.2	5	30	< 0.5	< 2	2.56	< 0.5	9	15	45	1.68	10	0.22	< 10	1.05	411	4	< 0.01
40157	214	0.34	0.2	< 5	30	< 0.5	< 2	1.64	< 0.5	9	13	46	1.63	< 10	0.17	10	0.64	271	10	< 0.01
40158	214	0.89	0.2	< 5	40	< 0.5	< 2	3.18	< 0.5	15	31	54	2.14	10	0.24	< 10	1.22	428	7	< 0.01
40159	214	0.61	0.2	20	40	< 0.5	2	5.99	< 0.5	10	15	40	2.28	10	0.27	< 10	2.15	596	6	< 0.01

CERTIFICATION :

*B. Camp*



# Chemex Labs Ltd.

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## CERTIFICATE OF ANALYSIS A862156

To: MARK MANAGEMENT LIMITED

1900 - 999 W. HASTINGS ST.  
VANCOUVER, B.C.  
V6C 2W2

Page No. : 2-B

Tot. Pages: 2

Date : 17-DEC-86

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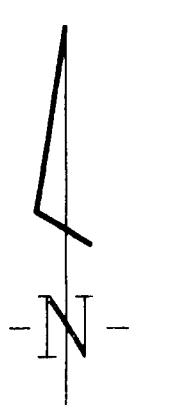
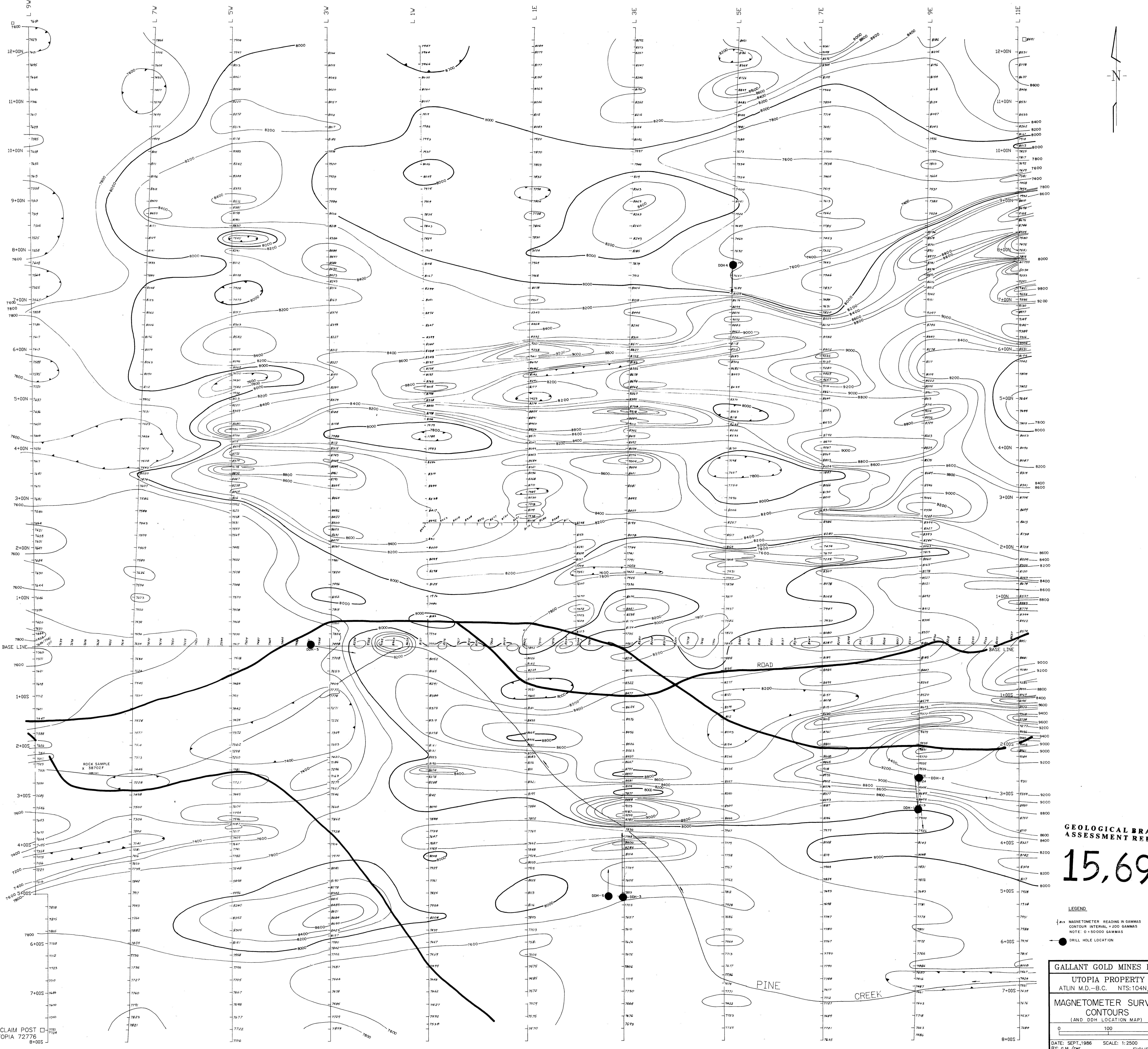
Project : GALLANT

Comments: ATTN: ART TROUP CC# LINDA DANDY

SAMPLE DESCRIPTION	PREP CODE	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm							
40143	214	24	830	< 2	< 5	< 1	< 0.01	< 10	< 10	22	< 5	36							
40144	214	83	730	< 2	< 5	3	< 0.01	< 10	< 10	182	< 5	74							
40145	214	48	1130	< 2	< 5	22	< 0.01	< 10	< 10	76	< 5	88							
40146	214	36	510	< 2	< 5	82	< 0.01	< 10	< 10	36	< 5	40							
40147	214	20	340	< 2	< 5	53	< 0.01	< 10	< 10	12	< 5	14							
40148	214	27	500	< 2	< 5	36	< 0.01	< 10	< 10	17	< 5	24							
40149	214	27	370	< 2	< 5	28	< 0.01	< 10	< 10	18	< 5	34							
40150	214	26	180	< 2	< 5	20	< 0.01	< 10	< 10	7	< 5	20							
40151	214	21	230	< 2	< 5	< 1	< 0.01	< 10	< 10	8	< 5	16							
40152	214	14	240	< 2	< 5	< 1	< 0.01	< 10	< 10	5	< 5	14							
40153	214	31	370	< 2	< 5	< 1	< 0.01	< 10	< 10	15	< 5	38							
40154	214	60	950	< 2	< 5	1	< 0.01	< 10	< 10	39	< 5	70							
40155	214	38	270	< 2	< 5	1	< 0.01	< 10	< 10	16	< 5	56							
40156	214	47	290	< 2	< 5	13	< 0.01	< 10	< 10	22	< 5	58							
40157	214	51	330	< 2	< 5	2	< 0.01	< 10	< 10	21	< 5	54							
40158	214	56	850	4	< 5	< 1	< 0.01	< 10	< 10	56	< 5	86							
40159	214	36	610	4	< 5	20	< 0.01	< 10	< 10	30	< 5	74							

CERTIFICATION :

*B. Taylor*



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**15,693**

**LEGEND**  
 ● MAGNETOMETER READING IN GAMMAS  
 CONTOUR INTERVAL = 200 GAMMAS  
 NOTE: 0 = 50000 GAMMAS  
 ● DRILL HOLE LOCATION

**GALLANT GOLD MINES LTD.**  
 UTOPIA PROPERTY  
 ATLIN M.D. - B.C. NTS:104N/12  
**MAGNETOMETER SURVEY  
 CONTOURS**  
 (AND DDH LOCATION MAP)  
 0 100 200  
 DATE: SEPT., 1986 SCALE: 1:2500  
 BY: G.M./rwr **FIGURE 4**

CLAIM POST □  
 UTOPIA 72776  
 8+00S