

ARIS SUMMARY SHEET

District Geologist, Prince George

Off Confidential: 92.09.06

ASSESSMENT REPORT 21876

MINING DIVISION: Clinton

PROPERTY: Lotus  
LOCATION: LAT 51 25 00 LONG 124 40 00  
UTM 10 5697260 384100  
NTS 092N07E  
CLAIM(S): Lotus 1-4  
OPERATOR(S): Cheeseman, S.B.  
AUTHOR(S): Cheeseman, S.B.  
REPORT YEAR: 1991, 26 Pages  
COMMODITIES  
SEARCHED FOR: Gold, Silver  
KEYWORDS: Metavolcanics, Siltstones, Tonalites, Auriferous pyrite  
WORK  
DONE: Geochemical, Physical, Geological  
GEOL 500.0 ha  
SAMP 16 sample(s) ;ME  
TREN 28.0 m 1 trench(es)

LOG NO:	DEC 04 1991	RD.
ACTION:		
FILE NO:		

**Trenching/Sampling and Mapping Report  
for the  
Lotus Claims  
(Clinton Mining District)**

**NTS 092 N/7E  
Latitude: 51° 25'N  
Longitude: 124° 40'W**

**SUB-RECORDER  
RECEIVED  
NOV 27 1991  
M.R. # \_\_\_\_\_ \$ \_\_\_\_\_  
VANCOUVER, B.C.**

Work conducted  
from June 1-8,  
October 26-27 &  
November 9-11 1991

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

Report By:  
S.B. Cheeseman

November 1991

**21,876**

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## Summary

The Lotus gold prospect was discovered in 1990 during a reconnaissance prospecting program along the Tchaikazan Fault system, northwest of the economically important Bralorne Fault system. Gold and silver mineralization has been found to occur within a shear zone that is oriented sub-parallel to the Blackhorn Thrust. The thrust brings metavolcanic rocks over an older siltstone and greywacke suite. Immediately to the south of the main showing, lies a tonalitic unit which may have provided the heat engine to assist in the mobilization of precious metal rich solutions.

At the discovery outcrop, the shear zone appears to be contained within a felsic aphanite near the contact of the volcanics to the west. The precious metal mineralization is associated with intense silicification within the shear.

The gold and silver showing was hand trenched along strike for 7 metres and across strike for approximately 4 metres. Values up to 0.664 oz/T Au and 1.48 oz/T Ag were recorded over 1 metre across strike. Precious metal mineralization is believed to be related to pyrite, which occurs as fine to coarse grained disseminations within the silicified zone.

The lithologic contact between the volcanics, siltstone and the tonalite was mapped. Some small shear zones were encountered, but showed no interesting mineralization. In the area of the discovery outcrop, extensions to the mineralized shear zone have not been fully identified due to overburden. It is suggested that additional trenching and sampling take place to expose more of the shear zone along strike.

During the summer of 1991, the Regional Geochemistry Unit of the Ministry of Energy, Mines and Petroleum Resources, conducted an 18 day regional stream sediment survey in the Mount Waddington area. Approximately 850 samples were taken, some from the Homathko River, immediately south of the Lotus claims and from the valley north of the Homathko within the Lotus claim group. The results of this program will be released in June 1992.

## Introduction

The Lotus property was staked in September 1990 after a prospecting program uncovered a significant gold and silver showing along the northwest trending Tchaikazan Fault system, an extension of the economically important Bralorne Fault system.

In 1991, the discovery outcrop was hand trenched, mapped and sampled across strike. It was determined that gold and silver occurred in a major shear zone oriented sub-parallel to the Blackhorn Thrust which brings metavolcanic rocks over older siltstone rocks to the northeast. A unit of tonalite lies immediately south of the shear zone. Gold values up to 0.664 oz/T occur for 1.0 m across strike.

### Location and Access

The Lotus gold prospect is located within the Clinton Mining District NTS 092 N/7E (Figure 1). The property lies north of the Homathko River approximately 15 kilometers west of the south end of Tatlayoko Lake, or approximately 46 kilometers east of British Columbia's highest mountain, Mount Waddington (elevation 4,016m). The small community of Tatla Lake is located approximately 50 kilometers north of the south end of Tatlayoko Lake on highway 20, approximately midway between Bella Coola and Williams Lake, British Columbia.

Access is possible by foot from the south end of Tatlayoko Lake, but not recommended. Alternatively, White Saddle Air Services provides helicopter service from its base at the south end of Bluff Lake, some 35 kilometers north of the property. Bluff Lake is approximately one half hour by gravel road from Tatla Lake.

### Claim Description

The Lotus property consists of 5 metric claims, Lotus 1-4, and Lotus 7. Metric claims Lotus 5 and 6 were dropped in 1991, due to unfavourable geology. The total number of units in good standing is 69, representing 1,725 hectares or approximately 1,852 acres (Figure 3). The Lotus claims are owned by S.B. Cheeseman of Burnaby, B.C.

**Table 1**  
Claim Description

Claim	Units	Staked	Tag #	Anniversary
Lotus 1	16	06 SEP 90	222718	06 SEP 92
Lotus 2	16	06 SEP 90	222719	06 SEP 92
Lotus 3	12 (8 units dropped)	06 SEP 90	222720	06 SEP 93
Lotus 4	16	06 SEP 90	222721	06 SEP 92
Lotus 5	16 (dropped)	05 SEP 90	222722	n/a
Lotus 6	20 (dropped)	05 SEP 90	222737	n/a
Lotus 7	9	02 JUN 91	222738	02 JUN 94

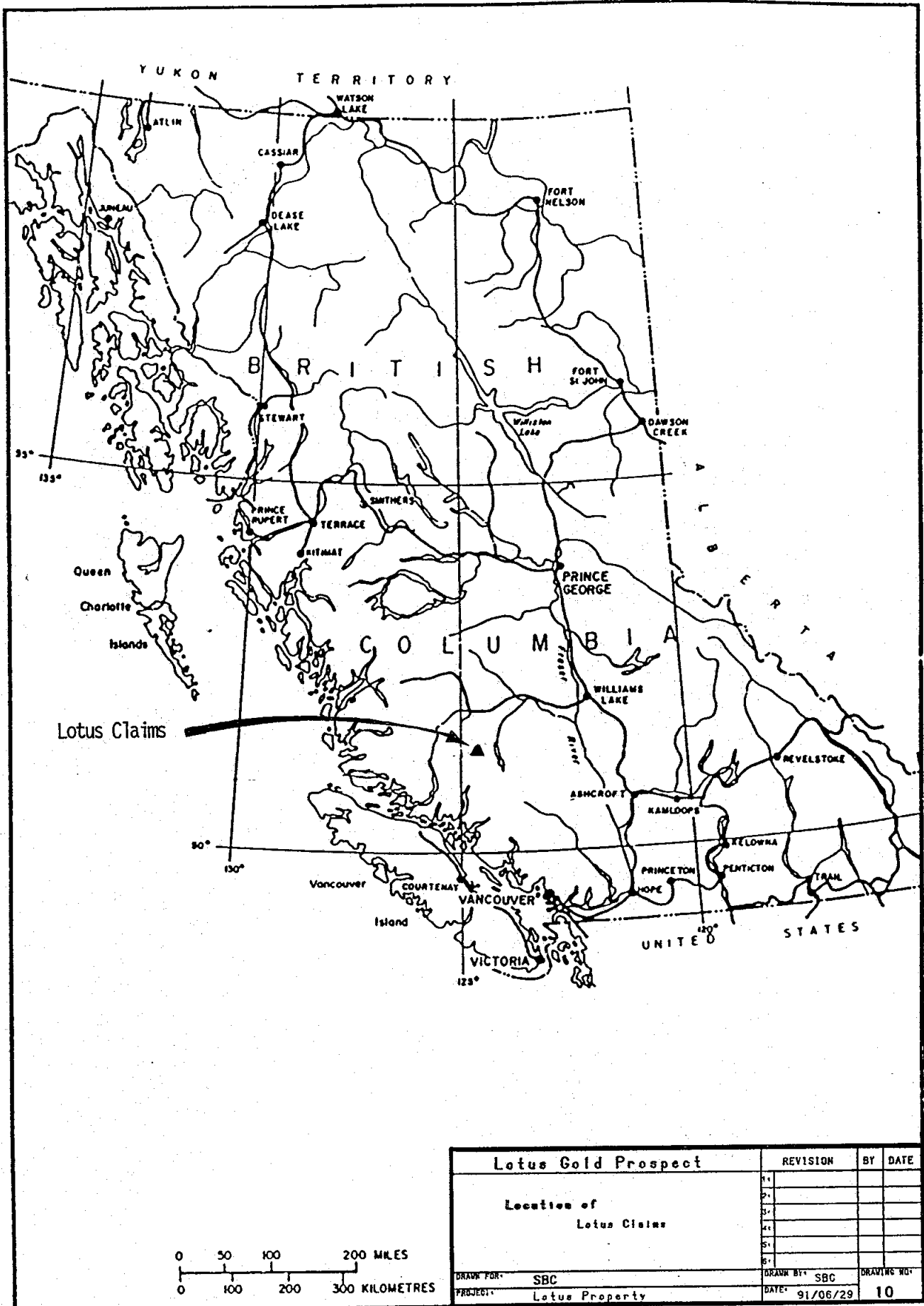


Fig 1

Lotus Gold Prospect		REVISION	BY	DATE
Location of Lotus Claims		1		
		2		
		3		
		4		
		5		
		6		
DRAWN FOR:	SBC	DRAWN BY:	SBC	DRAWING NO.:
PROJECT:	Lotus Property	DATE:	91/06/29	10

---

## Physiography and Climate

The property is located in the eastern margin of the Pacific Coastal Mountain Range where glaciation has carved 'U' shaped valleys and left very rugged mountain peaks. Elevations range from 2,300 to 10,000 feet. Glacial terminal and marginal moraines characterize the higher elevations. Talus slopes occur in areas hosting highly jointed rock formations.

The treeline fluctuates around 6,000 feet. Below the treeline, vegetation consists of alpine fir and alders. Lower elevations consist of mixed fir, white pine, spruce and large meadows.

The property is located to the northeast of two drainage systems; Nude Creek to the west and the Homathko River to the south. Nude Creek is a tributary to the Homathko River which flows southwest to the Pacific Ocean.

The climate of the area can be considered moderate. Snow comes to the area usually before November and remains until May. This year the snowpack was quite deep. Summer temperatures in the mountains are characterized by warm days and cool nights. Frequent rain showers of short duration can be expected in the spring and fall.

## Previous Work

No previous work on the Lotus property area has been reported. The surrounding area was first explored in the early part of this century and continued sporadically until present day.

The Argo-Langara showings occur approximately 9 kilometers to the northeast of the Lotus property. From 1933-1935, work on these claims consisted of two short adits at elevation 1,760m and 1,790m on steep bluffs. The adits are reported to follow quartz veins in fractures striking S30°E and dipping 50° to 70°SW in diorite near a contact of silicified argillaceous rock. In 1987, Equinox Resources Ltd. staked the Argo 1, 2 and 3 claims. Stream, soil and rock chip samples were collected and analyzed to confirm previous reports. The results correlated well with previous reports of anomalous gold and silver occurring within a silicified and sulphidized zone.

In 1983, Homestake Mineral Development Co. staked the LORI 1-6 claims, some 18 kilometers to the north of the Lotus property. The initial staking was spurred by anomalous gold silt samples. Further work consisted of reconnaissance prospecting, silt and rock chip sampling and grid controlled geological mapping over a small area of narrow erratic gold-bearing quartz veins (the "A" Zone). Values were reported up to 20.57 g/tonne (0.6 oz/T) Au. Additional high values were also found in float. The LORI claims lapsed in 1985. In 1987, joint venture partners Equinox Resources Ltd. and Canada Orient Resources Inc. restaked the area in the name of the LOOT claims. Subsequent work confirmed the presence of gold quartz veins with values up to 4,300 ppb Au within or close to a quartz monzonite intrusive body.

## Recent Work

In 1990, six Lotus claims were staked and prospected. One grab sample was taken from a quartz shear zone oriented sub-parallel to the Blackhorn Thrust and hosted by a aphanitic felsic intrusive (tonalite?). The grab sample assayed at 0.338 oz/T Au and 0.420 oz/T Ag.

Subsequent work in 1991 has consisted of local mapping in the area to confirm major lithologic contacts as well as hand trenching and systematic sampling of the silicified shear zone. Gold values ranged from 0.122 oz/T to 0.664 oz/T Au across a 1.2 meter quartz vein with an exposed strike length of approximately 7 meters. Further attempt to expose more of the shear zone was hampered by an unusually thick snowpack and lack of time. An additional nine unit metric claim was staked.

## Geology

### Regional Geology

The general geology of the Mount Waddington area has been compiled by the Geological Survey of Canada and published as Open File 1163 (Roddick et al., 1985). The eastern flank of the Coast Plutonic complex consists of sedimentary and volcanic rocks that make up the Tyaughton Trough, when from Middle Jurassic to Upper Cretaceous time this northwest-trending depositional basin evolved from marine and continental conditions. During Mid-Cretaceous time, uplifting created the Coast Mountains allowing intrusions of quartz diorite and later porphyritic granitic stocks of late Cretaceous and Eocene age. All rocks were overlain unconformably by Eocene volcanic and sedimentary rocks and by extensive flows of Miocene plateau basalt (Figure 2).

The Tyaughton strata generally trend northwest, but are locally folded, overturned and disturbed by the uplifting effects of the intrusions and by the translational effects of strong thrust faults and long regional transcurrent faults. The Tchaikazan, Yalakom and Ottarasko Faults are sub-parallel and represent the principal transcurrent faults in the area.

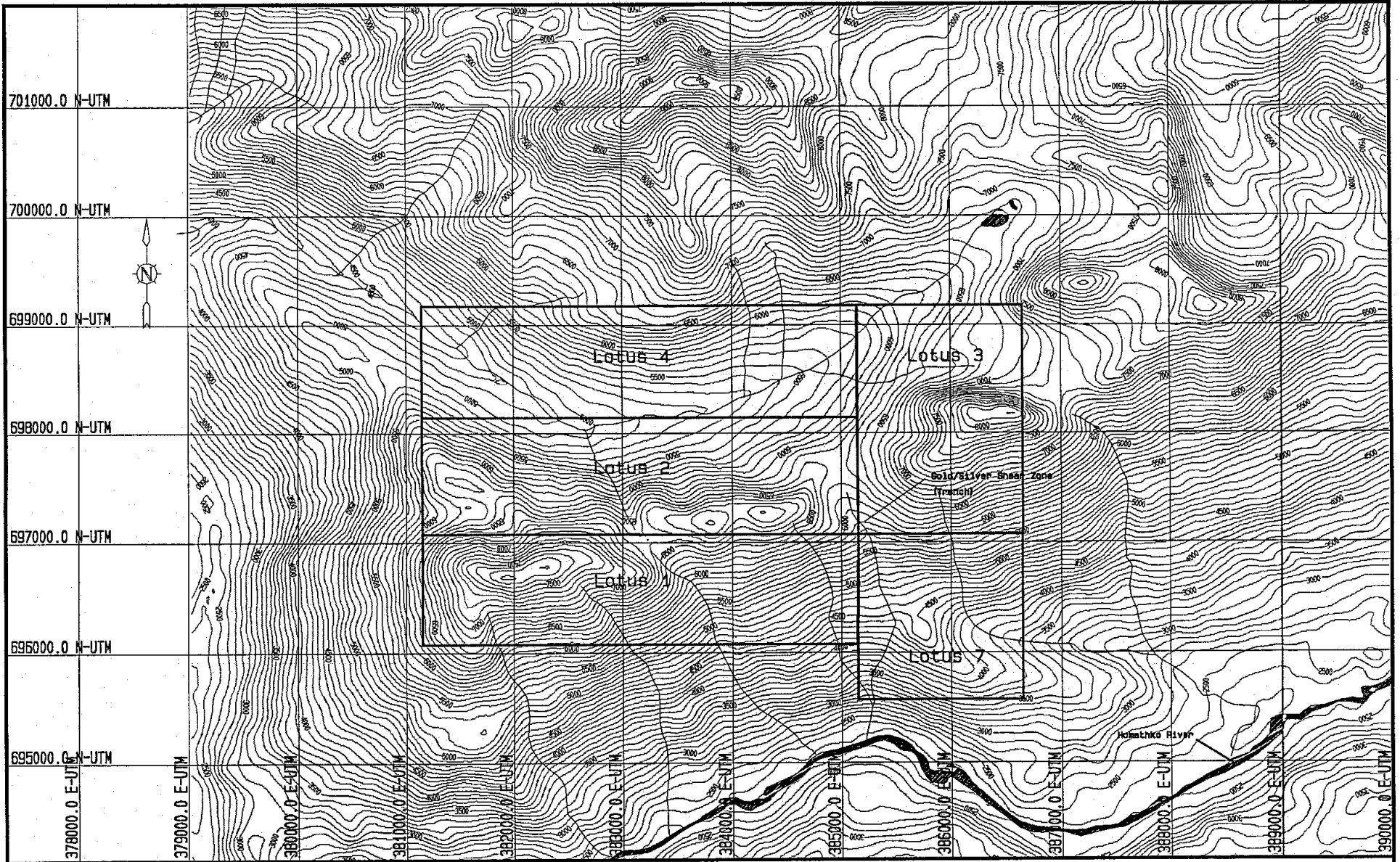
The Tchaikazan Fault, which trends along the eastern flank of the Coast Mountains, appears to be the northwest extension of the economically important fault system at the formerly producing Bralorne and Pioneer Mines (Glover and Schiarizza, 1987). These two mines collectively produced 4,003,000 oz of gold from 8,006,000 tons of ore with Au-Ag ratio of 5.2. The mineral potential along this trend is supported by the anomalous Au-Ag-As analyses reported from Federal and Provincial geochemical programs.

Mineral showings of the Tyaughton Trough are generally affected by intrusions. Some show mesothermal and other exhibit epithermal characteristics. The most prominent showings in the area are the Alexis property (Cu-Hg-As-Sb), 22 km southeast of the Lotus property, the Morris Mine (Au-Ag-Sb-As), 15 km to the east, Blackhorn Mountain (Au-Ag-As-Pb-Zn-Cu), 20 km to the northwest. Most of the known showings occur between the Bralorne and Taseko Districts. Less accessible showings occur further northwest in the Chilko, Tatlayoko and Bluff Lakes areas.

Common geological features that characterize these showings are silicification, pyritization, faulting and quartz veining in sedimentary or volcanic rocks near intrusions. Most of the known showings are structurally controlled, host precious metals with some epithermal characteristics and associated mercury, arsenic and sometimes antimony. In general, the occurrence of these showings, similarities in hydrothermal alteration, silicification and sulphidization along faults and contact zones characterizes the Tchaikazan Fault and related faults as having good exploration potential.







SCALE 1 : 50000

Lotus Gold Prospect		REVISION	BY	DATE
Claims Map				
Contour Interval: 100 feet				
DRAWN BY:	SBC	DRAWN BY:	EMPLOTT	DRAWING NO.:
PROJECT:	1991 Mapping Program	DATE:	91/11/11	Fig. 3

## Local Geology

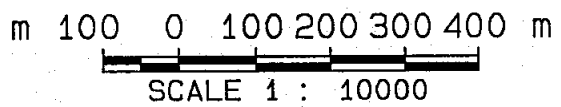
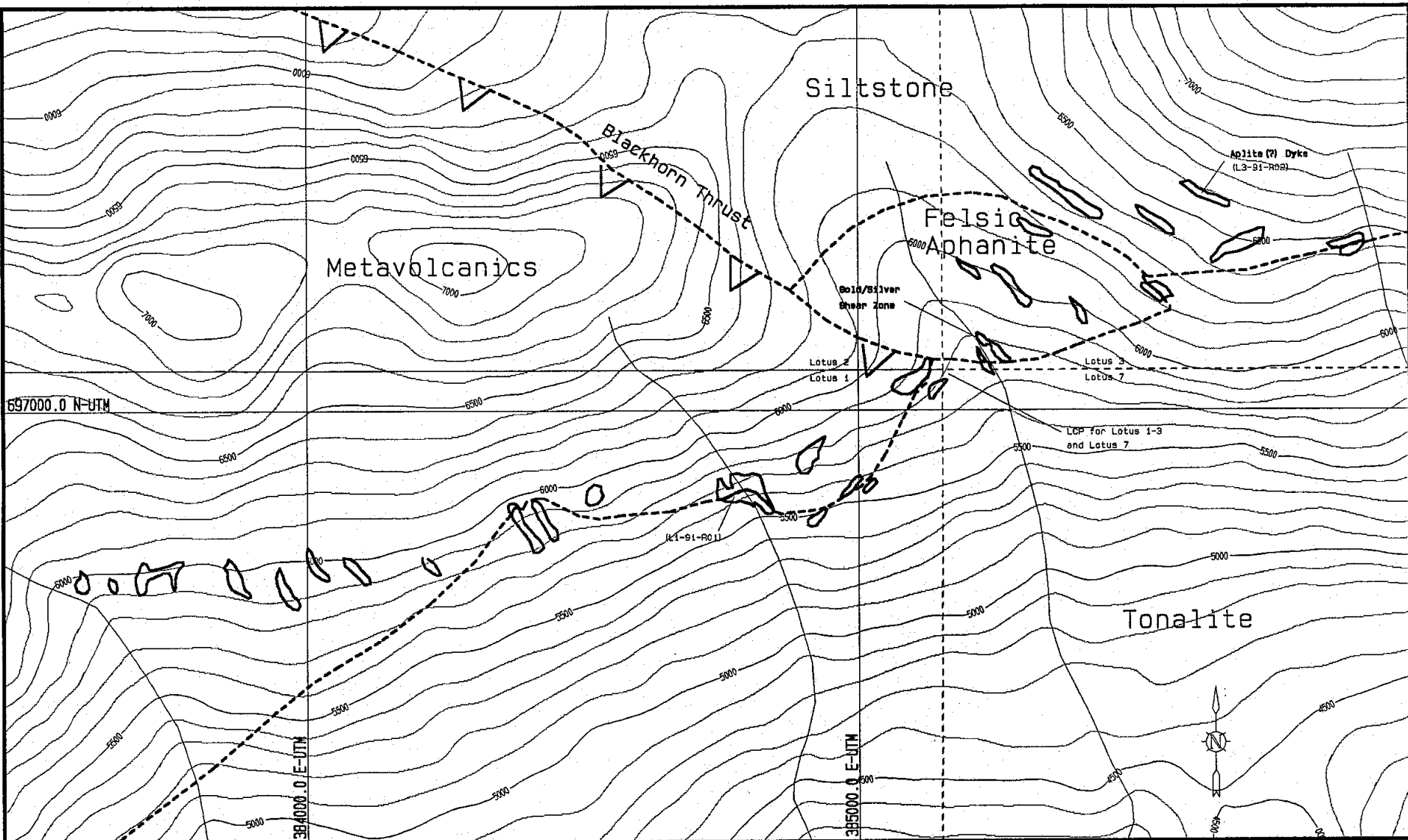
The Lotus claims cover three prominent geological formations mapped by the GCS in 1985. To the west of the property metavolcanic rocks dominate. These rocks have been thrust upon a package of fossiliferous siltstone, greywacke and conglomerate to the northeast of the property, along the Blackhorn Thrust. This thrust is most recognizable on north facing slopes. Approximately 400m northwest of the showing, the Blackhorn Thrust outcrops and is characterized by a dark brown iron oxidized siltstone.

A tonalitic unit cuts through the Blackhorn Thrust, volcanics and the siltstone, outcropping in a northeast-southwest direction.

Recent local field mapping has suggested that a aphanitic felsic intrusive not mapped by the GSC, may be related to the tonalitic unit. The felsic aphanite occurs at the triple junction of the metavolcanics, tonalite and the siltstone. It is within this felsic aphanite that the gold hosted shear zone was discovered (Figure 4). It is entirely possible that the tonalite provided a heat engine for the convection of metalliferous solutions to nearby faults, which became the nucleus for deposition.

**Table 2**  
Table of Formations

Code	Geologic Age	Description
Q	Quaternary	Till, Gravel, Sand and Alluvium
t	Coast Plutonic Complex (Age Unknown)	Tonalite
qdt		Quartz Diorite and Tonalite
qd		Quartz Diorite
xn		Granitoid Gneiss
mvsc		Metavolcanic and Schist
scqu		Schist and Quartzite
uKkv	Late Cretaceous	Andesitic and Basaltic Breccia and Tuff
IKpw2	Early Cretaceous	Siltstone, Greywacke, Conglomerate, Breccia, Quartz Sandstone and Limestone
IKvb1	Early Cretaceous	Andesitic and Basaltic Breccia and Tuff; Minor Shale, Greywacke and Conglomerate
IKpw1	Early Cretaceous	Siltstone, Greywacke and Conglomerate
uTps	Late Triassic	Shale, Sandstone, Pebble Conglomerate; Minor Shaly Limestone
uTlsp	Late Triassic	Limestone, Shale, Greywacke, Tuff and Volcanic Breccia
uTvb	Late Triassic	Dark Green Andesitic Breccia, Tuff and Flows; Minor Shale and Limestone



Lotus Gold Prospect		REVISION	BY	DATE
Local Geology Map		1:		
		2:		
		3:		
		4:		
		5:		
DRAWN FOR:	SBC	DRAWN BY:	SEMPLLOT	DRAWING NO.:
PROJECT:	1991 Mapping Program	DATE:		Fig. 4

## Trenching and Sampling Program

In September 1990, a grab sample was taken from a quartz shear zone that assayed 0.338 oz/T Au and 0.420 oz/t Ag. These values warranted more work and in June 1991, a trenching, sampling and mapping program commenced. The showing is located at an elevation of 5,700 feet, on the east bank of a tributary to the Homathko River. At the showing site, the river has carved a 'V'-shaped gorge approximately 30 feet across. This gorge was filled with 10 feet of snow. Work proceeded by hand, but was hampered by the thick snowpack. An effort was made to dig down to the flowing river under the snowpack. The water was then used to clean remnant dirt off the showing, so that systematic sampling and mapping could ensue.

### Procedure

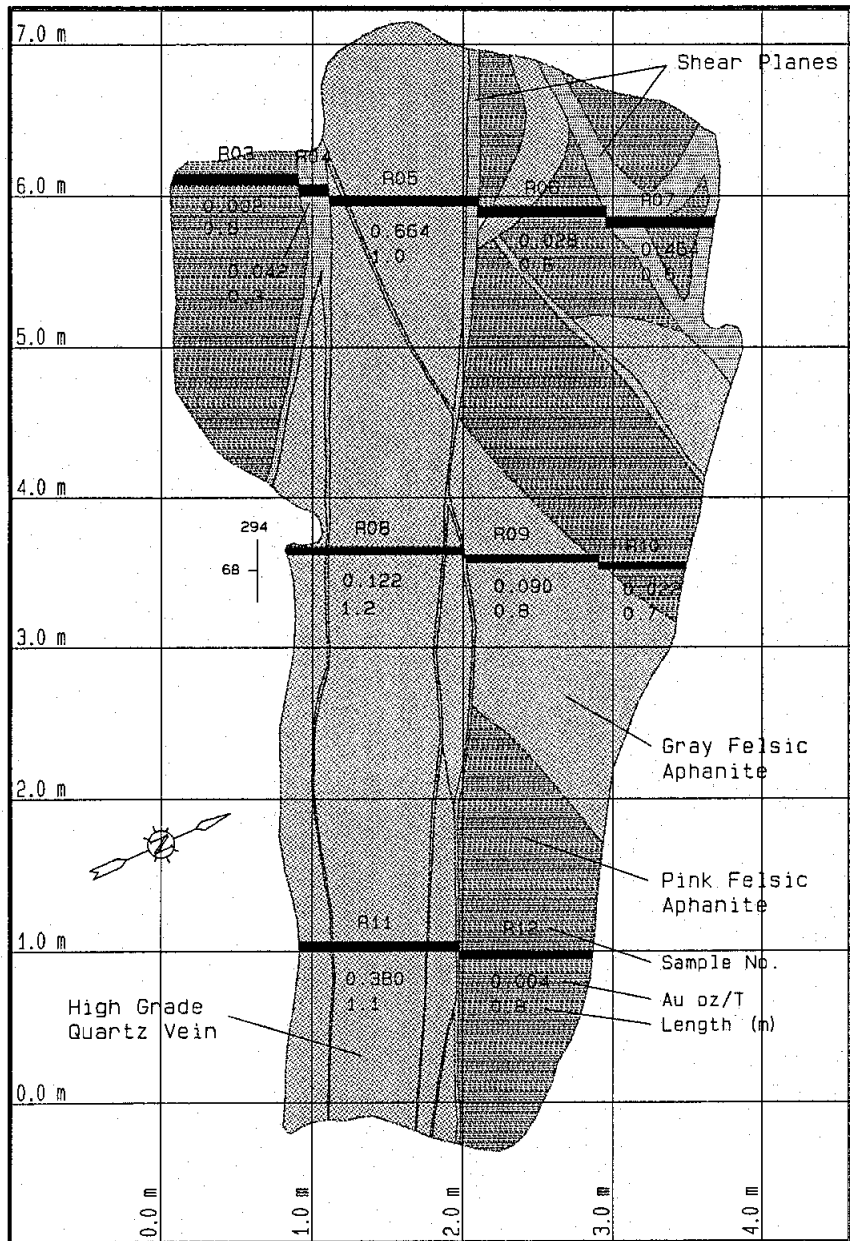
Overburden, rock and snow was removed by hand using picks and shovels. A 4 by 7 meter area covering the quartz shear zone was exposed and washed down by water. The showing was mapped at a scale of 1:50. Three main rock types were observed. These are the quartz vein, a gray and pink felsic aphanite (intrusive?). Channel samples were then taken across strike. Each channel sample measured approximately 6cm wide. Sample intervals lengths were defined by major lithologic boundaries. Each sample interval was bagged and labelled with its origin identified by flagging tape in the trench. A total of 14 rock samples and one stream sample were collect for analysis. Rock descriptions of the shear zone samples were completed and are listed in Appendix III.

### Rock Sample Assay Results

A suite of 14 rock samples were analyzed for gold and silver at Chemex Labs of North Vancouver (see Appendix II). The assay results obtained from the trenching program correlated well with the assay from the grab sample taken in September 1990. The quartz vein is of particular interest because of the high gold and silver values recorded across a 1.2 meter strike. The showing is riddled with shear planes ranging in thickness from one centimeter to 20 centimeters. These shears define the contacts between the quartz vein and hosting felsic aphanite. The results of the assays are listed in Table 3 below and compiled in Figure 5.

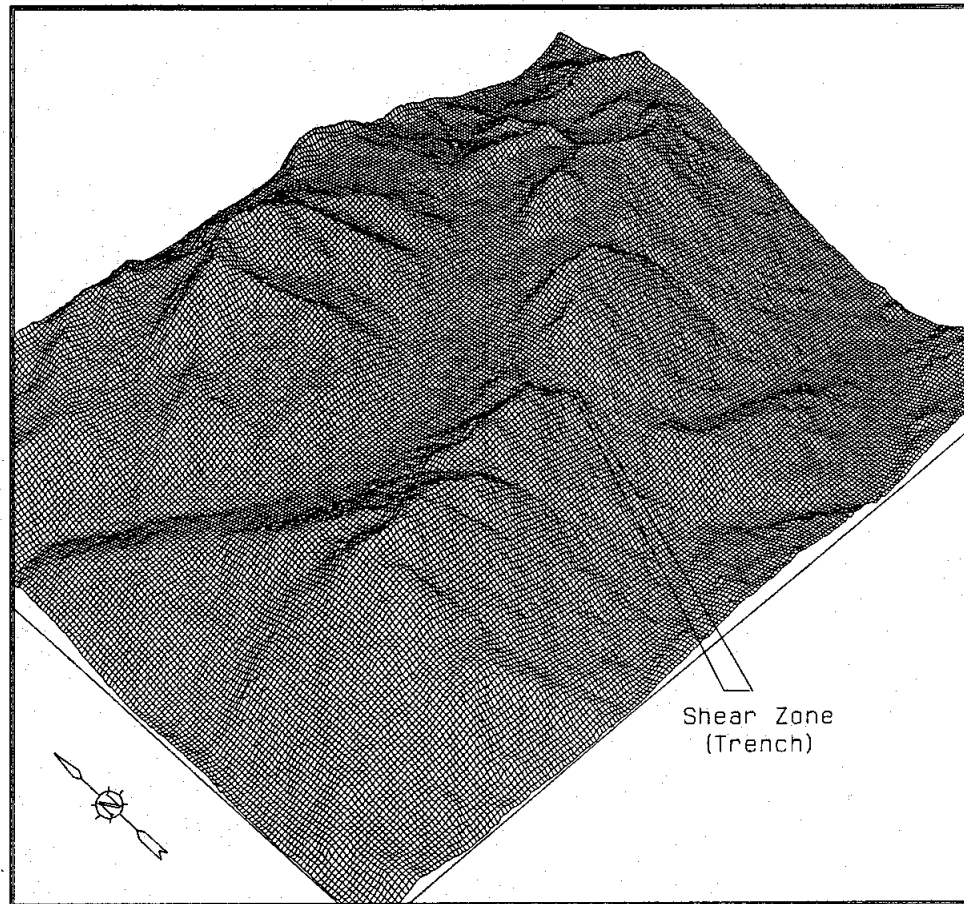
**Table 3**  
Rock Sample Assays

Sample	Sample Length	Au oz/T	Ag oz/T
L1-91-R01	grab	< 0.002	< 0.01
L3-91-R02	grab	< 0.002	< 0.01
L3-91-R03	0.8m	0.002	< 0.01
L3-91-R04	0.3m	0.042	0.13
L3-91-R05	1.0m	0.664	1.48
L3-91-R06	0.6m	0.028	0.05
L3-91-R07	0.6m	0.464	0.55
L3-91-R08	1.2m	0.122	0.18
L3-91-R09	0.8m	0.090	0.14
L3-91-R10	0.7m	0.022	0.04
L3-91-R11	1.1m	0.380	0.59
L3-91-R12	0.8m	0.004	< 0.01
L3-91-R13	grab	0.002	< 0.01
L3-91-R14	grab	0.004	< 0.01



SCALE 1 : 50

Plan View of Exposed  
Gold/Silver Shear Zone



Perspective View  
of Property Area

Lotus Gold Prospect		REVISION	BY	DATE
Lithology and Assay of the Trenched Shear Zone		1:		
		2:		
		3:		
		4:		
		5:		
DRAWN FOR:	SBC	DRAWN BY:	SEMPLLOT	DRAWING NO.:
PROJECT:	1991 Mapping Program	DATE:	91/11/11	Fig. 5

## Mineralization

Gold and Silver mineralization at the discovery outcrop occur primarily in a quartz vein measuring approximately between 1 to 1.2 meters across strike. The quartz vein strikes at 114° and dips 68° to the southwest. Most shear planes/surfaces strike parallel to the quartz vein at the discovery outcrop. Gold and silver was found with values of up to 0.664 oz/T Au and 1.48 oz/T Ag for 1.0 meter across strike. The quartz vein is riddled with fine to course grained, disseminated pyrite. Pyrite content is variable but appears to be related to the gold mineralization. Sample interval L3-91-R05 (high gold content) contained an estimated 30% course grained pyrite (locally). Sample intervals with low gold assay values were observed to have low pyrite contents. These intervals were primarily the felsic aphanite which occurs on both sides of the main quartz vein, however, one of these intervals (L3-91-R07) assayed at 0.464 oz/T Au and 0.55 oz/T Ag across 0.6 meters. The anomalous gold and silver values are again believed to be related to higher concentrations of pyrite within this interval.

Surface samples are vuggy with most of the pyrite oxidized or weathered out. This gives the quartz vein a rusty coloured appearance. Special effort was taken to ensure that non weathered samples were collected for analysis. Pyrite is the only metallic mineral observed in hand specimen and under the hand lens.

The quartz vein is located with a shear zone, which is observed to be approximately 10 meters wide.

## Mapping Program

Surface mapping at a scale of 1:10,000 was conducted along the north slope of the Homathko River within a 2.5 kilometer corridor, ranging in elevation from 5,500 feet to 6,700 feet. The program was designed to confirm the location of contacts between the intrusive, volcanic and sedimentary units previously mapped by the GSC. Special attention was given to any quartz veins or shear zones encountered. A GPS (Global Positioning System) was used to accurately locate and map the position of the lithologic contacts and outcrop (Figure 4).

Two traverses were made: the first started at the discovery outcrop with a westward heading to follow the tonalite-volcanic contact; the second also started at the discovery outcrop with an eastern heading to follow the contact between the tonalite and the siltstone. The contact between the tonalite and volcanic rocks undulated somewhat, but was otherwise found to be accurately mapped by the GSC. Some shear zones were found within the volcanics, striking approximately 290°. Most shears are 20-40cm in width, consist of gouge material and appear to contain tonalite(?), iron carbonate and quartz veins. Sample number L1-91-R01 was taken from one of the shears (see Figure 4). No gold or silver was recorded.

The eastern traverse uncovered a grey to pink (+/- garnet) felsic intrusive(?) - similar to the intrusive found at the discovery outcrop. This unit appeared to be more extensive than originally thought. It is in direct contact with the tonalite to the south and could very well be a local phase of the tonalitic unit. To the west the Blackhorn Thrust defines the contact between this felsic intrusive and the volcanics. To the north, the felsic intrusive(?) is in contact with the siltstone. A buff white, very fine grained massive aplite(?) dyke was mapped within the siltstone (Figure 4). The dyke outcrops at an elevation of 6,600 feet and is 5-10 meters wide. The extent of the contact was difficult to map due to the very rugged terrain and steep talus.

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## Conclusions and Recommendations

In 1990, a grab sample taken from a quartz vein assayed at 0.338 oz/T Au and 0.420 oz/T Ag. The purpose of this program was to confirm this result by trenching and a systematic sampling of the discovery outcrop. Hand trenching revealed a mineralized quartz vein approximately 1.2 meters wide contained within a shear zone that parallels the Blackhorn Thrust. The shear zone occurs at the triple junction of volcanics, siltstone and intrusives.

The mineralized quartz vein contains varying percentages of fine to coarse grained pyrite that appears to be related to gold content. Values up to 0.664 oz/T Au and 1.48 oz/T Ag were assayed across a true width of 1 meter.

An area east and west of the discovery outcrop was mapped. Special attention was given to the contacts between the tonalite, volcanics and the siltstone to confirm mapping by the GSC. Various shear zones were also discovered, however, none of these zone appear to carry interesting mineralization. In the area of the discovery outcrop, small local intrusive units were mapped. One of the intrusive units hosts the discovery outcrop and may be a local phase of the tonalite.

The sample assays indicate that gold and silver mineralization exist in appreciable concentration. It is recommended that the existing trench be extended along strike to follow the mineralization. The intrusion of the tonalite adjacent to the thrust could have provided the heat source for convecting mineral rich solutions into ancillary shear zones. Therefore, it is possible that more shear zones may exist, which may be related to the intrusion of the tonalite. Further inspection of the Blackhorn Thrust on both sides of the tonalite is warranted.



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## References

- Albert, R. (1988). Geological and Geochemical Report for the Argo-Langara Property. British Columbia Assessment Report 17980.
- Culbert, R., Lammle, C.A.R., and Heberlein, K. (1988). Geochemical, Prospecting and Air Photo Study for the Loot 1-2 Claims. British Columbia Assessment Report 17392.
- Glover, J.K., and Schiarizza, P. (1987). Geology and Mineral Potential of the Warner Pass Map Sheet, B.C. Energy, Mines and Petroleum Resources, Geological Fieldwork, Paper 1987-1.
- Roddick, J.A., Tipper, H.W., and others (1985). Geology, Mount Waddington, 92N, GSC Open File 1163, map and marginal notes.
- Woodsworth, G.J., Pearson, D.E., and Sinclair, A.J. (1977). Metal Distribution Patterns across the Eastern Flank of the Coast Plutonic Complex, South-Central British Columbia, in *Economic Geology*, v. 72, p.170-183.

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**Appendix I**  
**Statement of Qualifications**

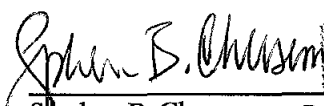
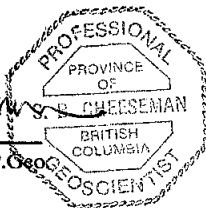
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## Statement of Qualifications

I, Stephen B. Cheeseman, am a resident of Burnaby, B.C., certify that:

1. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.
2. I am a graduate of Queen's University, Kingston, Ontario with a B.Sc.(Honours) in the Geological Sciences (1985).
3. I have worked with a number of exploration and mining companies since 1981.
4. I am presently employed by GEMCOM Services Inc. of Vancouver, B.C. and that GEMCOM has no interest, direct or indirect, in the Lotus claims, nor does GEMCOM expect to receive any.
5. I have not written any reports on any properties in the vicinity of the subject property.
6. The contents of this report are based on research and field work conducted by myself and geologist Mr. Christopher J. Lloyd, in 1990 and 1991.
7. The Lotus claims are registered in my name.

Dated at Vancouver, British Columbia this 18<sup>th</sup> day of November, 1991.

  
  
Stephen B. Cheeseman, P. Geoscientist

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**Appendix II**  
**Rock Sample Assay Results**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: CHEESEMAN, STEPHEN

4038 KINCAID ST.  
BURNABY, BC  
V5G 1V8

A9116172

Comments:

**CERTIFICATE**

**A9116172**

CHEESEMAN, STEPHEN

Project:  
P.O.#: NONE

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 14-JUN-91.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	14	Assay ring to approx 150 mesh
294	14	Crush and split (0-10 pounds)

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
398	14	Au oz/T: 1/2 assay ton	FA-AAS	0.002	20.00
385	14	Ag oz/T: Aqua regia digestion	AAS	0.01	20.0



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: CHEESEMAN, STEPHEN

4038 KINCAID ST.  
BURNABY, BC  
V5G 1V8

Page Number :1  
Total Pages :1  
Certificate Date: 14-JUN-91  
Invoice No. :19116172  
P.O. Number :NONE

Project :  
Comments:

## CERTIFICATE OF ANALYSIS

A9116172

SAMPLE DESCRIPTION	PREP CODE		Au oz/T	Ag oz/T								
L1-91-R01	208	294	< 0.002	< 0.01								
L3-91-R02	208	294	< 0.002	< 0.01								
L3-91-R03	208	294	0.002	< 0.01								
L3-91-R04	208	294	0.042	0.13								
L3-91-R05	208	294	0.664	1.48								
L3-91-R06	208	294	0.028	0.05								
L3-91-R07	208	294	0.464	0.55								
L3-91-R08	208	294	0.122	0.18								
L3-91-R09	208	294	0.090	0.14								
L3-91-R10	208	294	0.022	0.04								
L3-91-R11	208	294	0.380	< 0.59								
L3-91-R12	208	294	0.004	< 0.01								
L3-91-R13	208	294	0.002	< 0.01								
L3-91-R14	208	294	0.004	< 0.01								

CERTIFICATION: *Theresa Vonk*

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**Appendix III**  
**Rock Sample Descriptions**

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## Rock Sample Descriptions

Rock Sample	Description
L1-91-R01	<p>Grab sample. Rusty, fine grained, strongly sheared tonalite(?) Shear is approximately 20-40cm wide hosted in volcanics with moderate to strongly 2-10mm wide white and redish quartz veinlets. Red colour is probably due to the presence of iron carbonate.</p>
L3-91-R02	<p>Grab sample. Buff white, very fine grained massive aplite(?) dyke with quartz fragments approximately 1-3mm in size, occasional biotite and a trace of fine grained pyrite. Dyke is 5-10m wide and outcrops on a steep slope.</p>
L3-91-R03	<p>Channel sample (0.8m in length). Flesh to reddish, fine grained massive, moderately silicified felsic aphanite(?) with 1mm-2cm clear to milky quartz veins (randomly oriented). Larger quartz veins show vuggy texture with distinct quartz crystals. Rusty coloured iron carbonate also observed in minor amounts. No metallic mineralization observed.</p>
L3-91-R04	<p>Channel sample (0.3m in length). Dark brown shear zone material. Composition is sericitic, chloritic with iron carbonate. Quartz fragments with minor fine grained disseminated pyrite occur as 1-4cm elongated blobs in fault gouge material.</p>
L3-91-R05	<p>Channel sample (1.0m in length). Milky white, moderately fractured massive quartz. Minor grey patches which appear to be clay. Weathered surfaces show iron staining (rusty red colour). Sample shows 3-5%, medium grained, sub-euhedral pyrite crystals, mainly disseminated with minor concentrations along fractures, local patches up to 30% pyrite with a trace of chalcopyrite.</p>
L3-91-R06	<p>Channel sample (0.6m in length). Milky white, massive quartz veins 1-3cm wide, randomly oriented within a silicified felsic aphanite(?). Approximately 1%, fine to medium grained, disseminated sub-euhedral pyrite. Whole sample shows iron staining.</p>
L3-91-R07	<p>Channel sample (0.6m in length). White, strongly sheared quartz with moderate amounts of sericite and chlorite. Sample includes 20-30cm of weathered fault gouge. Pyrite is fine to medium grained, disseminated, approximately 1-3% with local concentrations in quartz as high as 10%.</p>



Rock Sample	Description
L3-91-R08	<p>Channel sample (1.0m in length).            Milky white massive quartz vein with minor (&lt;1%) fine to medium grained, disseminated, sub-euhedral pyrite with local concentrations to 1%.            Larger pyrite grains are weathered, fractured and occur in minor vugs with quartz crystals.</p>
L3-91-R09	<p>Channel sample (0.8m in length).            Light grey, moderately foliated felsic aphanite(?). Chlorite and/or sericite define the foliation.            Sample contains minor fine grained disseminated pyrite with minor white 0.2-1.0cm wide quartz with iron carbonate and trace pyrite.</p>
L3-91-R10	<p>Channel sample (0.7m in length).            Pinkish fine grained massive weakly silicified felsic aphanite(?) (similar to L3-91-R03).            Moderate, white, 0.2-2.0cm wide quartz veins with minor rusty patches (possibly oxidized pyrite).</p>
L3-91-R11	<p>Channel sample (1.0m in length).            Milky white massive quartz vein with minor (&lt;1%) fine to medium grained, disseminated, sub-euhedral pyrite with local concentrations to 1%.            Larger pyrite grains are weathered, fractured and occur in minor vugs with quartz crystals.</p>
L3-91-R12	<p>Channel sample (0.8m in length).            Pinkish fine grained massive weakly silicified felsic aphanite(?) (similar to L3-91-R10).            Moderate to strong, white, 0.2-2.0cm wide quartz veining with minor rusty patches (possibly oxidized pyrite) and minor chlorite/sericite alteration.</p>
L3-91-R13	<p>Grab sample.            Flesh to reddish, fine grained massive, weakly silicified felsic aphanite(?).            Rusty coloured iron carbonate also observed in minor amounts. No metallic mineralization observed.</p>
L3-91-R14	<p>Grab sample.            Green, fine grained, moderately foliated chloritic schist with minor iron carbonate staining.            Minor 0.1-2.0cm wide white quartz veins with minor, fine grained, disseminated, sub-hedral pyrite, oriented sub-parallel to the foliation.</p>

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**Appendix IV**  
**Statement of Costs**

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## Statement of Costs

<b>Labour</b>		
	2 Geologists 16 man days @ \$350.00 (from June 1-8 inclusive)	\$5,600.00
	1 Geologist 5 man days @ \$350.00 (October 26, 27 and November 9, 10, 11)	\$1,750.00
<b>Transportation</b>		
	Vehicle	100.00
	Helicopter	\$749.00
<b>Fuel</b>		
	Gasoline	\$89.06
	Propane	\$15.18
<b>Supplies</b>		
	Groceries	\$325.00
	Field Supplies (including bags, flagging, shovels, picks etc.)	\$150.00
	Office Supplies (including paper, plotting, blueprints etc.)	\$265.00
<b>Sample Analysis</b>		
	Rock and Silt Samples (16)	\$280.91
<b>Telephone</b>		\$12.00
<b>Equipment Rentals</b>		
	Computer	\$200.00
<b>Miscellaneous (film, repairs, maps etc.)</b>		\$131.41
<b>Sub total</b>		\$9,667.56
<b>10% Overhead</b>		\$966.76
<b>Total</b>		<b>\$10,634.32</b>