NTS 82K / 3W
Lat 50° 07'N
Long 117° 16'W

GEOLOGICAL and GEOCHEMICAL SAMPLING REPORT
on the
LEIF PROPERTY
Slocan Mining Dvision

for

BLACK TUSK EXPLORATIONS LTD
241 East 1st Street
North Vancouver, B.C. V7L 1B4
Tel: (604) 988-4653 Fax: 988-4653

by

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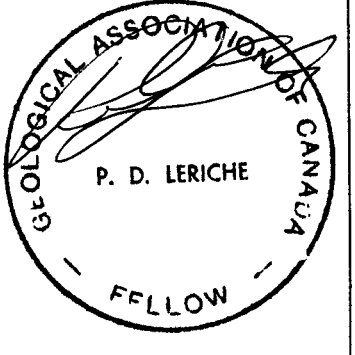
14 November 1990



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1.0 INTRODUCTION

This report was prepared at the request of Black Tusk Explorations Ltd to describe and evaluate the results of a geological and geochemical sampling program carried out by Reliance Geological Services Inc on the Leif Property, Slocan Mining District, southeast British Columbia. The field work, which was undertaken to evaluate the mineral potential of the property, was carried out on September 15 and 16 by Roger Kidlark (project geologist), Gordon Addie (geologist), Dan Atkinson (geologist), John Fleishman (prospector) and Christine Meyers (geotechnician).
The purpose of the program was to evaluate the precious metal potential of the property.

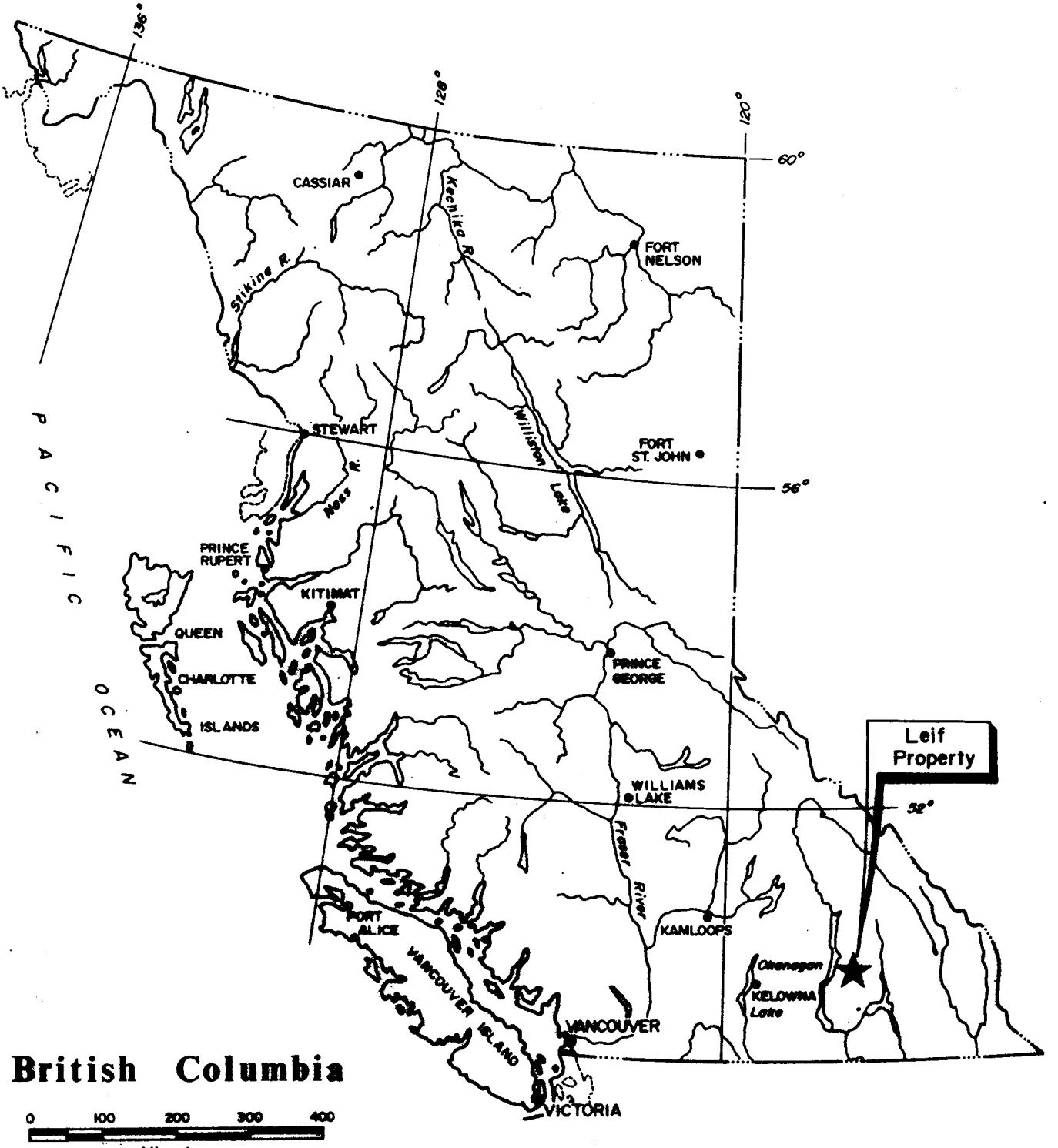
2.0 LOCATION, ACCESS AND PHYSIOGRAPHY

The Leif property is situated in the Slocan Mining Division in south-east British Columbia, approximately 15 kilometers northeast of New Denver, B.C. (Figures 1 and 2).

The claims lie within Map Sheet NTS 82K/3W, at latitude 50° 07' North, longitude 117°16' West, and between UTM 5,551,000m and 5,553,000m North and 478,000m and 481,000m East.

Road access is from New Denver, following Highway 6, northwest for 6 km to the village of Rosebury. From Rosebury, follow the Wilson Creek logging road north for approximately 12 km to the Monitor Creek road, which leads to the Mt. Dolly Varden area and crosses the southwest corner of the claims. Four-wheel drive vehicles are recommended.

Alternate access is via helicopter from the base at Nakusp.



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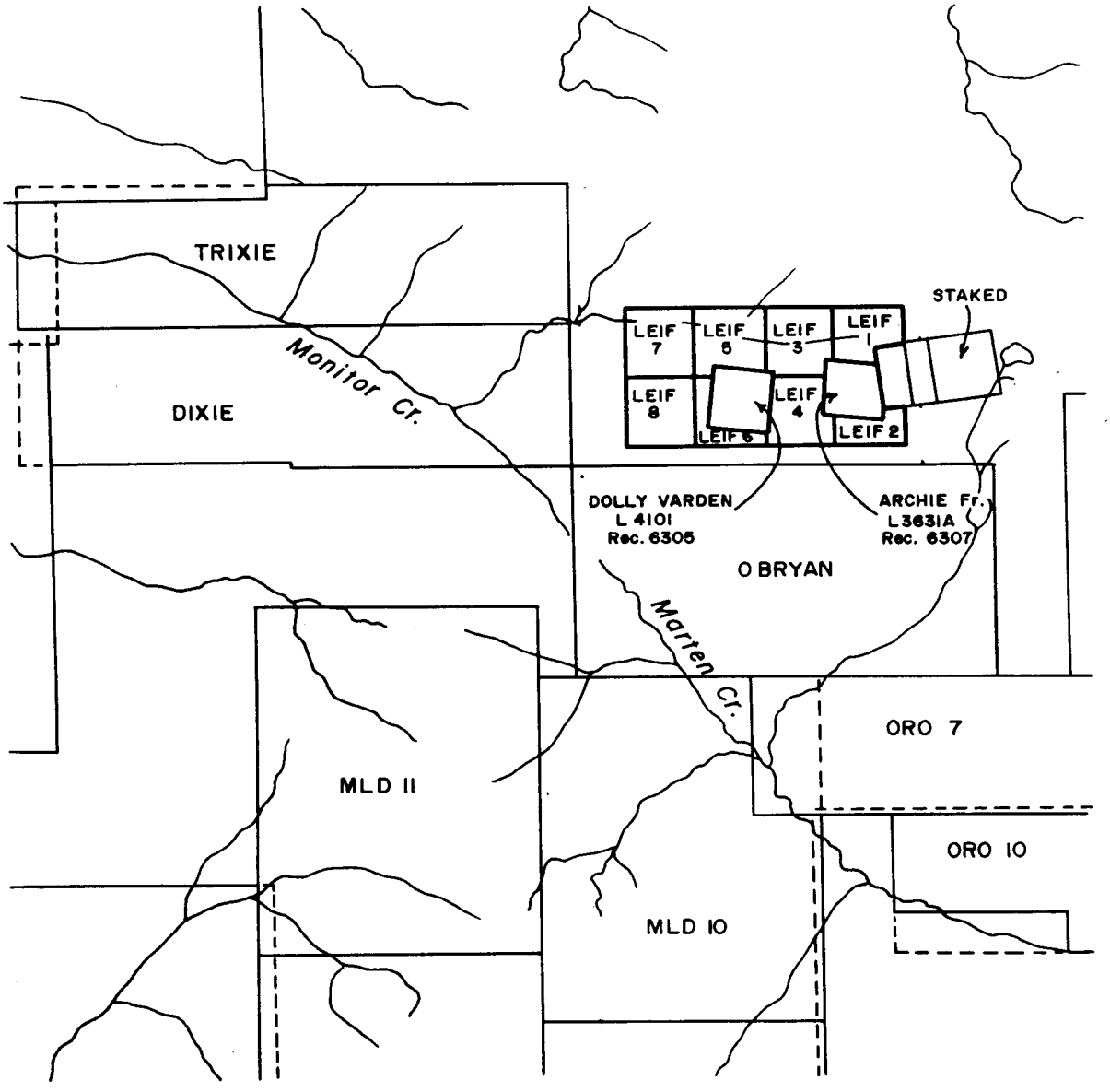
BLACK TUSK EXPLORATIONS LTD.	
LEIF PROPERTY SLOCAN M.D., B.C.	
General Location Map	
Scale: as shown	N.T.S.: 82K/3W
Date: SEPT. 1990	Figure: 1
RELIANCE GEOLOGICAL SERVICES INC.	



LEIF 1	6153
" 2	6154
" 3	6155
" 4	6156
" 5	6157
" 6	6158
" 7	6159
" 8	6160

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FELLOW

0 0·5 1 2 3 Km

BLACK TUSK EXPLORATIONS LTD.

LEIF PROPERTY

SLOCAN M.D., B.C.

Claim Location Map

Scale: 1:50,000	N.T.S. 82K/3W	Drawn by:
Date: SEPT./90	Geologist:	Figure: 2

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Total relief is 710 meters, from 1859 m to 2569 m at the peak of Mt. Dolly Varden. Slopes are moderate to steep, dipping in all directions. The property is above treeline. Recommended field season is mid-May to mid-October.

3.0 PROPERTY STATUS (Figure 2)

The property consists of eight contiguous two post mineral claims surrounding and including two reverted Crown grants, covering an area of approximately 175 hectares, or 432 acres. The claims are 100% owned by Black Tusk Explorations Ltd.

Claim	Record Number	Units	Record Date	Expiry Date
Leif 1	6153	1	16 Oct 1989	16 Oct 1991
Leif 2	6154	1	16 Oct 1989	16 Oct 1991
Leif 3	6155	1	16 Oct 1989	16 Oct 1991
Leif 4	6156	1	16 Oct 1989	16 Oct 1991
Leif 5	6157	1	16 Oct 1989	16 Oct 1991
Leif 6	6158	1	16 Oct 1989	16 Oct 1991
Leif 7	6159	1	16 Oct 1989	16 Oct 1991
Leif 8	6160	1	16 Oct 1989	16 Oct 1991
Archie Fraction	6307	1	15 Mar 1989	15 Mar 1991
Dolly Varden	6305	1	15 Mar 1989	15 Mar 1991
Total		10		

The area is not subject to any particular problems regarding Indian land claims or environmental issues.

4.0 AREA HISTORY (Figure 4)

The Whitewater-Retallack-Sandon areas (collectively known as the Slocan Mining Camp) have a long production history, from the late 1800's to the 1980's. Deposits are mainly silver-lead-zinc-gold within veins and as replacements within the Slocan Group sediments. Approaching the Goat Range thrust faults, the mineral occurrences are generally more enriched in gold.

Mineral occurrences specifically associated with the Goat Range Thrust Belt (from BCMEMPR Minfile), from the southeast (Mt. Jardine area) to the northwest (Mt. Dolly Varden area) include:

Name	Minfile No.	Commodities	Geological Comments
Empire	82KSW169	Ag,Pb,Zn,Au	32 tonnes mined in 1960 producing 31 g Au, 9330 g Ag, 4411 kg Pb, 4380 kg Zn.
Voyageur	82KSW048	Pb,Zn,Cu,Ag	Hosted by greenish coloured Kaslo Group volcanic rocks.
Emerald Hill	82KSW045	Ag,Pb,Zn,Cu	Shear zone in Kaslo Greenstone. Limited production, 1907, 1953, 1979.
Beaver	82KSW046	Ag, Pb, Cu	Mineralized fractures in Kaslo Greenstone.
Hecla	82KSW047	Pb, Ag	Fissure vein in Kaslo Greenstone.
Iron Crown Kenneth Mount Royal	82KSW149	Ag, Pb, Zn	No description available

Name	Minfile No.	Commodities	Geological Comments
Eureka	82KSW038	Ag, Pb, Au	Hosted by Kaslo Greenstones and basic Intrusives. Carbonate veins are anomalous in gold and copper. 273 tonnes mined, producing 311 g Au, 697080 g Ag, 166060 kg Pb.
JK Nico	82KSW101	Cu, Ni	Quartz veins, at the contact of volcanics and a serpentinized peridotite, mineralized with galena, sphalerite and chalcopyrite. Pyrrhotite and pyrite are disseminated in the peridotite.
Highland Surprise	82KSW037	Au,Ag,Pb,Zn	Mineralized quartz veins and shear zones near contact with a serpentinite. 1903 tonnes mined from 1938-42, producing 50947 g Au and 29645 g Ag.
Fletcher	82KSW143	Au	No description available.
Phoenix	82KSW144	Au, Talc	Large serpentinite body largely altered to talc and carbonate.
Ohio	82KSW036	Pb, Zn, Cu	Shear zone in sediments.
Charleston Keystone Colorado	82KSW031	Ag, Pb, Zn, Au, Cd	Hosted by Slocan Group slates and intruded by "green spotted" dykes. 2324 tonnes mined sporadically from 1898-1966, producing 155 g Au, 1038621 g Ag, 80871 kg Pb, 87445 kg Zn.

Name	Minfile No.	Commodities	Geological Comments
Gold Quartz	82KSW032	Au, Ag, Pb, Zn, Cu	Quartz veins and stringers, hosted by Kaslo greenstone contain disseminated sulphides.
White-water	82KSW033	Ag, Pb, Zn, Au, Cd, Cu	Vein and replacement deposit associated with faults in Slocan Group sediments. 436543 tonnes mined from 1892-1980 producing 52395 g Au, 106171566 g Ag plus Pb and Zn.
Sure Thing	82KSW085	Pb	Slocan Group slates and limestone host siderite and galena.
May-flower	82KSW078	Au, Ag, Pb, Zn, Cu	Quartz veins at Kaslo greenstone - Slocan slate contact host sulphide mineralization and free gold.
Garnet	82KSW076	Au, Ag, Pb, Zn, Cu	Same as Mayflower
Robin	82KSW077	Au, Ag, Pb, Zn, Cu	Same as Mayflower
Tom	82KSW139	Ab, Cu	Chrysotile in thin veinlets within a serpentinite.
Tom 3	82KSW069	Cu	Mineralization along fault between chlorite-biotite schist and ultramafics.
EK	82KSW066	Pb, Ag	Sulphide-carbonate vein in Slocan quartzites.
SB Betty Jo	82KSW064	Ni	Sulphides along shear zone in serpentinized peridotite.

Name	Minfile No.	Commodities	Geological Comments
SB Pam	82KSW68	Cu	Disseminated sulphides in fault zone within Kaslo ultramafics. Areas of intense shearing altering to picrolite and chrysotile.
Alp-Alturas (on east boundary of claims)	82KSW049	Sb, Au, Ag	Mineralization occurs in a shear and alteration zone in metamorphosed sedimentary and igneous rocks. Over 14000 kg of antimony produced in 1916.
Dolly Varden (subject property)	82KSW130	Ag, Au	Quartz vein (0.60-3.66 m) striking for at least of 1600 m and hosting pyrite, tetrahedrite and native Ag.

The following general observations are made from the above descriptions:

(a) Almost all showings are associated with fault structures, usually at lithological contacts;

(b) Mineralization is hosted by quartz veins and shear zones;

(c) At least 7 occurrences are associated with ultramafic rocks.

(d) Terms such as carbonate, talc, "green spotted rocks", chrysotile and asbestos imply that listwaenite alteration occurs along the belt.

(e) Thirteen out of twenty-six showings contain known gold values;

(f) A variety of metals and minerals occur along the belt including gold, silver, copper, lead, zinc, antimony, nickel, cadmium, asbestos and talc.

5.0 PREVIOUS WORK

The Dolly Varden showing (on Dolly Varden claim, L4101) was discovered about 1900, and approximately 35 meters of cross-cutting and drifting was completed at that time.

No further work is reported until 1981 when geological mapping was performed for M. McCrory (Assessment Report 9067). Snell (1981) observed an east-west trending quartz vein (0.66 to 3.66 m wide) striking for at least 1600 meters at the fault contact of the Slocan sediments and Kaslo volcanics. A hydrothermal alteration envelope 30 meters wide occurs adjacent to the vein. One dump sample assayed 1.3 g/tonne (0.08 opt) gold and 1595.79 g/tonne (97.4 opt) silver (Assessment Report 9067).

The Alps-Alturas showing occurs on 3 Crown Grants at the eastern boundary of the Leif property. Over 14,000 kg antimony was produced in 1916, from a shear in highly metamorphosed rock.

No other work has been documented.

6.0 REGIONAL GEOLOGY (Figure 3)

The Goat Range has been mapped by D.W. Klepacki: (1982-84; G.S.C. Open File 1148).

The dominant structural features of the subject area are the northwest trending Whitewater and Stubbs thrust faults. The Permian Kaslo Group, consisting of tholeiitic porphyry flows, pillow lavas, tuff, argillite, phyllite and ultramafic serpentinite, have been overthrust upon each other. Thrusting occurred mainly along the ultramafic units.

LITHOLOGICAL LEGEND

QUATERNARY

Qsc	Landslides, rockslides
Qms	Tufa, rare travertine (mineral spring deposits)
Qal	Glacial, fluvial, lacustrine sediments (gravels to clays)

JURASSIC

Jbg	Blue Ridge Intrusives: feldspar porphyry, biotite hornblende leucogranite
Jg	Kuskanax Intrusives: augite, leucogranite to quartz monzonite

TRIASSIC

TRsp	Slate & phyllite rhythmically bedded with sandstone/calcarenite

PERMIAN

Pmg	Marten Conglomerate: polymictic conglomerate with grey to green matrix. Rare serpentinite, locally calcareous and/or pyritic
Pwd	White Water Diorite: coarse grained hornblende diorite, locally intensely sheared
Pkd	Kane Creek Diorite: hornblende diorite, locally foliated with chlorite & sausserite alteration
Pd	Undifferentiated hornblende diorite

Whitewater Thrust Fault

Pkuv	Upper Plate Volcanic Member: tholeiitic pyroxene to plagioclase porphyry pillow basalt, greenstone, breccia
Pkuvf	Pink felsic tuff
Pkus	Upper plate Sedimentary Members: cherty tuff, wacke, volcanic conglomerate
Pkug	Volcanic conglomerate
Pkub	Ultramafic Member: serpentinite, talc schist, talc-chlorite schist, locally intensely brecciated and/or foliated

MISSISSIPPIAN TO PERMIAN

MPmmv	Siliceous Argillite Member: siliceous argillite & chert bedded grey calc-schist

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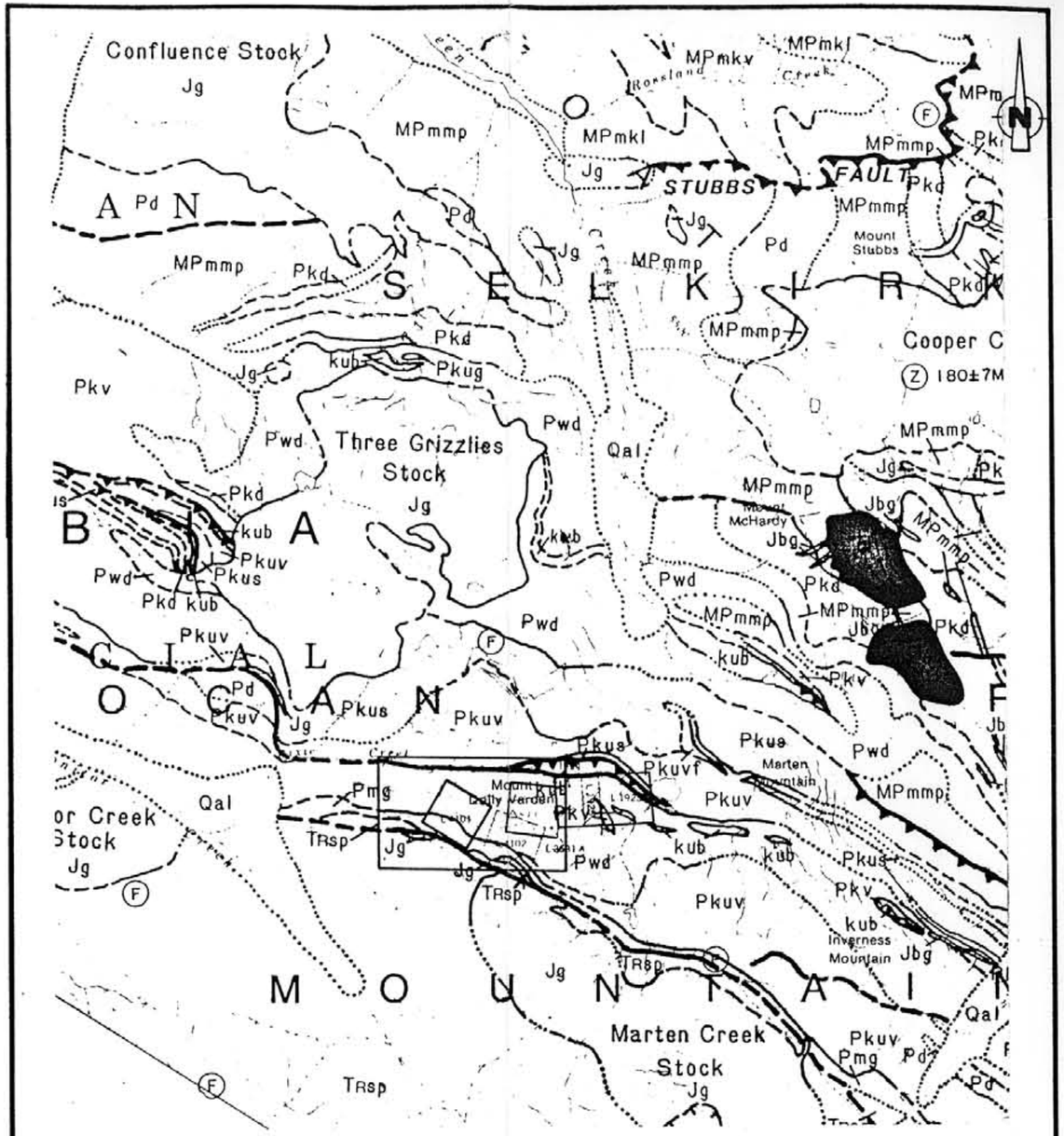

LEGEND

contact (defined, approx, assumed)

thrust fault (teeth on upper plate)

SEE FOLLOWING PAGE FOR LITHOLOGIES

0 0·5 1 2 3 Km

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LEIF PROPERTY
SLOCAN M.D., B.C.

Regional Geology

Scale: 1:50,000	N.T.S. 82K/3W	Drawn by:
Date: SEPT./90	Geologist:	Figure: 3

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Serpentinization is likely associated with fault movement. Bedding dips gently to moderately to the southeast.

After Kaslo Group deposition and subsequent structural deformation, the area was overlain by Upper Triassic Slocan Group slates and phyllites. Exposures of the Slocan Group occur southeast of the thrust faults.

Intruding the above-described strata are the Kuskanax Intrusives which consist mainly of leucogranite and leucoquartz monzonite. Stocks and batholiths occur in the northern part of the belt, and have bent and deformed the thrust faults and Kaslo Group rocks. These intrusions could be the heat source for mineralizing hydrothermal solutions, which have also caused listwanite alteration in the serpentinites.

7.0 1990 EXPLORATION PROGRAM

7.1 Methods and Procedures

During September 1990, a field crew of two geologists, a prospector and a geotechnician performed a geological mapping and rock sampling program on the Leif property. The purpose of this program was to evaluate the precious metal potential of the claims. Control for all surveys was established using topographic features, hipchain, altimeter, and compass.
Geological mapping was carried out using a scale of 1:10,000. Forty samples were collected and sent to International Plasma Laboratories Ltd. of Vancouver, B.C., for gold fire assay and multi-element ICP analysis. See Appendix A for sample descriptions, and Appendix B for analytical results and techniques.

7.2 **Property Geology** (Figure 5)

Outcrop is exposed over approximately 50% of the claim area. The northern portion of the property is underlain by the Lower Permian Whitewater diorite unit, which contains large rafts and zenoliths of the volcanic member of the Lower Permian Kaslo Group. Volcanic rocks generally consist of undifferentiated tholeiitic flows, pillow lavas, tuffs, argillites, phyllites, and ultramafics.

On the claim area, the contact between the Kaslo Group and Whitewater diorite is unclear. The rocks have been mapped as diorite with minor volcanics (Unit 2).

The lower member of the Kaslo Group consists of a serpentinized ultramafic unit (Unit 1) which is exposed along the northeastern edge of the property. It is at least 50 meters wide, strikes approximately east-west, and is in contact with the diorite along a large scale regional thrust fault.

To the south, the Whitewater diorite is in fault contact with the Upper Triassic Slocan Group of metasediments (Unit 3). This fault, which strikes approximately east-west across the claim area, is called the Whitewater Fault.

The youngest rocks on the property are the Blue Ridge Intrusives (Unit 4) which appear to be spatially limited to the Whitewater Thrust Fault. These rocks have been mapped as feldspar porphyries.

Unit 1: Ultramafics
These rocks are very fine-grained to aphanitic, equigranular, magnetic, waxy, and black to dark green in color. Serpentinization and degree of serpentinization is probably due to

fault movement. Locally, talc-chlorite-carbonate-mariposite alteration has been reported and may be the result of listwanite hydrothermal activity.

Unit 2: Whitewater Diorite

The diorite is medium to coarse grained, generally equigranular, intensely sheared, and foliated along shear zones. The most abundant mafic material is horneblende. Kaslo Group volcanics are generally fine grained to asphanitic, dark green in color, and pillowed.

Unit 3: Slocan Group

These rocks consist of undifferentiated grey slate, phyllite, and argillite, with minor interbedded limestone.

Unit 4: Blue Ridge Intrusives

This unit consists of a leucocratic medium grained feldspar porphyry. It is generally composed of 60-80% euhedral plagioclase crystals and 20-40% subhedral quartz crystals. Locally, it is intensely altered to sericite and chlorite, and varies in width from 0.5 meters to 6.0 meters.

Structure

The most prominent structural features are parallel east-west trending thrust faults. A thrust fault is associated with the ultramafic unit at the northeast edge of the property. The Whitewater thrust fault is located along the southern portion of the property at the contact between the diorite and Slocan sediments. Later northeast and northwest striking faults locally crosscut and offset the Whitewater Fault.

All the rock formations have been lifted and tilted during periods of plutonic activity and now dip moderately to the southeast at 50° and strike northwesterly and southeasterly. Variations in attitude are due to local folding and faulting.

Mineralization and Alteration

A continuous quartz vein approximately 1.0 meter wide occurs along the 1500 meter strike length of the contact between the Whitewater diorite to the north and Slocan Group shales and argillites to the south.

The vein is surrounded by a 20 to 30 meter wide alteration halo consisting of strong sericite-carbonate-limonite and minor chlorite alteration. Mineralization within the alteration zone consists of 2-3% euhedral pyrite and local stibnite within pods and fractures. Minor chalcopyrite and tetrahedrite with associated malachite and azurite was observed in dump material outside the Dolly Varden adits.

On the Alps-Alturas crown grants, located just off the east boundary of the claims, serpentinized ultramafics were observed to be locally altered to listwanite (quartz-carbonate-mariposite).

7.3 **Rock Geochemistry** (Figure 5, Appendices A and B)

The following rock sample results are considered significant:

Number	Type	Width	Results
DV90-AR14	Chip	1000cm	80 pb Au, 251 ppm As
Description:	Sericite schist with quartz stringers. Mariposite and 1-2% disseminated pyrite.		
DV90-AR15	Chip	600cm	55 ppb Au
Description:	Feldspar porphyry with irregular quartz veinlets. 1% pyrite.		
DV90-AR17	Chip	200cm	95 ppb Au, 203 ppm As
Description:	Sericitic shear zone with 1-2% pyrite.		
DV90-KR9	Chip	150cm	125 ppb Au, 211 As
Description:	Quartz vein in a quartz-sericite-carbonate alteration zone. 2% pyrite.		
DV90-KR10	Select	-	>1000 ppm Sb
Description:	Adit dump sample with coarse grained stibnite in quartz vein.		

Dixie Creek

6400 7600 7200 5600 7400 7200

Property Outline

L4101 L3631A L1924 L1925 L1923

Mt. Dolly Varden △8430

Dolly Varden Adits

AR23,24 AR25,26 AR22 AR18 AR19-21 AR14-17 AR01-03 AR11-13 AR07-10 AR04-06

FR01 KR01 KR02 KR11 KR10 KR05 KR06 KR04 FR02 FR03 KR03

Um 1 2 3 4 5

JF ADIT KR07-09

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LEGEND

Um	Ultra Mafic.	5	Alteration zones.
~~	Fault (assumed).	4	Blue Ridge intrusives.
▲KR01	Rock Sample (preceeded by DV90).	3	Upper Triassic Slocan Group sediments (undifferentiated)
═══	Lithologic contact (defined, assumed)	2	Whitewater Diorite.
	Foliation.	1	Ultramafics (serpentinized)
	Adit.		

0 100 300 600m

BLACK TUSK EXPLORATIONS LTD.		
LEIF PROPERTY SLOCAN M.D., B.C.		
GEOLOGY AND ROCK SAMPLE LOCATION MAP		
Scale: 1:10,000	N.T.S. 82K/3W	Drawn by:
Date: SEPT./90	Geologist:	Figure: 5
RELIANCE GEOLOGICAL SERVICES INC.		

Number	Type	Width	Results
DV90-KR11	Chip	300cm	>1000 ppm Sb
Description:	Limonitic quartz vein with disseminated pyrite and stibnite.		

The following sample results were from rocks collected within 500 meters of the eastern property boundary:

DV90-FR3	Chip	100cm	14.8 ppm Ag, 1711 ppm Cu, >1000 ppm Sb
Description:	Limonitic quartz vein.		
DV90-KR5	Chip	60cm	6.6 ppm Ag, 8039 ppm Cu
Description:	Limonitic quartz lens with minor pyrite, chalcopyrite, malachite.		

Anomalous gold values (>50ppb) show a positive correlation with higher arsenic values, indicating that arsenic may be a good pathfinder for finding gold mineralization.
The limited sampling also shows an association between silver, copper and antimony, likely due to tetrahedrite mineralization.

Two individual antimony anomalies (>1000ppb Sb) are from rocks mineralized with stibnite.

The sampled zones were strongly oxidized, indicating that metal values lower than expected may be due to surface leaching.

8.0 DISCUSSION

The target deposit on the Leif property is a mesothermal gold vein deposit similar to those found in the Bralorne, Rossland, and Erickson camps in B.C. (over 7 million ounces gold mined with an average grade of 0.5 oz Au/ton) and the Mother Lode-Alleghany gold belt in California. Mining in each of these camps was from high grade quartz veins showing a distinct spatial relationship with listwanite altered ultramafic rocks (quartz-carbonate-talc-limonite-mariposite).

The Goat Range thrust belt, including the Leif property, is in a similar geological setting to the above camps. Gold mineralization along the belt is associated with fault structures, quartz veins, shear zones, and often with listwanite altered ultramafic rocks. The geology, mineralization, and alteration on the Leif property is therefore judged favorable for hosting a similar mesothermal gold vein deposit.

9.0 CONCLUSIONS

As the geological environment includes altered metasedimentary and metavolcanic rocks along structural zones, and

as the geological setting is very similar to the established Bralorne, Rossland, and Erickson gold camps, and

as the subject property lies close to the historically productive Whitewater-Retallack-Sandon mining camps, and

as the 1990 exploration program outlined an east-west trending contact zone containing quartz veins and stringers, strong sericite-carbonate-limonite alteration, and anomalous values in gold, silver, copper, antimony, and arsenic,

the writers conclude that the Leif property has potential to host a mesothermal vein style deposit, and therefore recommend further exploration work.

10.0 RECOMMENDATIONS

1) Layout approximately 20 kilometers of gridline for survey control.

2) Geologically map and sample the whole property including underground chip sampling at the Dolly Varden showing.

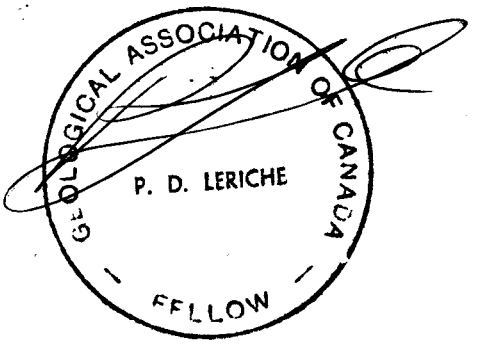
3) Blast and sample trenches along the main contact-alteration zone.

4) Perform a magnetometer and VLF-EM survey on the grid line to outline further mineralized altered zones.

Contingent on drill targets being established, the follow-up phase would consist of diamond drilling to test the targets at depth.

11.0 PROPOSED BUDGET

Project Preparation			$ 250.
Mobilization & demobilization: (includes food & acc, transportation, wages)			$ 2,700.
Field Crew:			
Project Geologist	$ 360/day x 10 days	$ 3,600	
Prospector/Blaster	$ 280/day x 10 days	$ 2,800	
Geotechnicians(2)	$ 225/day x 20 days	$ 4,500	$ 10,900.
Field Costs:			
Helicopter allowance	(3 hrs @ $735)	$ 2,205	
Food & Accomm	$ 70/day x 40 days	$ 2,800	
Communications	$ 30/day x 10 days	$ 300	
Supplies & eqpt	$150/day x 10 days	$ 1,500	
Rock drill	$ 75/day x 10 days	$ 750	
Vehicle:	$120/day x 10 days	$ 1,200	$ 8,755.
Assays & Analysis:			
50 rock samples @ $18/sample			$ 900.
Geophysics:			
Mag-VLF	$335/km x 20 line km		$ 6,500.
Report:			
Drafting and map prep			
Report wrting and editing			
Word processing, copying, binding			$ 4,000.
Administration, incl Overheads & Profit			$ 3,400.
Sub-total			$ 37,405.
plus 7% G.S.T.			$ 2,618.
TOTAL			$ 40,023.



ITEMIZED COST STATEMENT
LEIF Project, Slocan Mining Division

Project Preparation			$ 275.
Mobilization & demobilization: (includes food & acc, transportation, wages)			$ 2,550.
Field Crew:			
Project Geologist (R Kidlark Sep 15,16/90)	$ 325/day x 2 days	$ 650	
Field Geologist (D Atkinson Sep 15,16/90)	$ 275/day x 2 days	$ 550	
Prospector (J Fleishman Sep 15,16/90)	$ 250/day x 2 days	$ 500	
Geotechnicians(1) (C Meyers Sep 15,16/90)	$ 210/day x 2 days	$ 420	$ 2,120.
Field Costs:			
Helicopter allowance	(2.5 hrs @ $705)	$ 1,762	
Food & Accomm	$ 70/day x 8 days	$ 560	
Communications		$ 10	
Supplies & eqpt	$ 60/day x 2 days	$ 120	
Handheld radios	$ 50/day x 2 days	$ 100	
Vehicle:	$110/day x 2 days	$ 220	$ 2,772
Assays & Analysis:			
40 rock samples @ $17/sample (FA/AA for Au and multielement ICP)			$ 680.
Report:			
Drafting and map prep			
Report wrting and editing			
Word processing, copying, binding			$ 1,805.
Administration, incl Overheads & Profit			$ 1,133.
TOTAL			$ 11,335.

CERTIFICATE

I, **PETER D. LERICHE**, of 3125 West 12th Avenue, Vancouver, B.C., V6K 2R6, do hereby state that:

1. I am a graduate of McMaster University, Hamilton, Ontario, with a Bachelor of Science Degree in Geology, 1980.

2. I am a Fellow in good standing with the Geological Association of Canada.

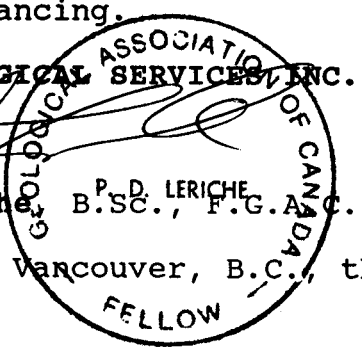
3. I have actively pursued my career as a geologist for eleven years in British Columbia, Ontario, the Yukon and Northwest Territories, Arizona, Nevada and California.

4. The information, opinions, and recommendations in this report are based on fieldwork carried out under my direction, and on published and unpublished literature. I have not visited the subject property.

5. I have no interest, direct or indirect, in the subject claims or the securities of Black Tusk Explorations Ltd.

6. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

RELIANCE GEOLOGICAL SERVICES INC.



Peter D. Leriche, B.Sc., F.G.A.C.

Dated at North Vancouver, B.C., this 10th day of November 1990.

CERTIFICATE

I, **ROGER G. KIDLARK**, of #303 - 9110 Halston Court, Burnaby, B.C. do hereby certify that:

1. I am a graduate of the University of Toronto with a Bachelor of Science Degree in Geology, 1974.

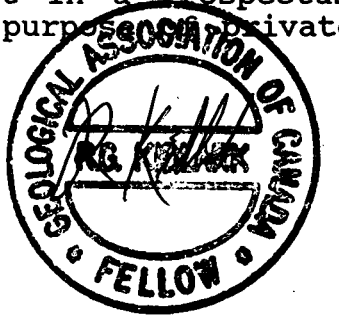
2. I am a Fellow in good standing with the Geological Association of Cananda.

3. I have practised my profession as a geologist for sixteen years in the Yukon and Northwest Territories, British Columbia, Ontario, Nova Scotia, Montana, and Arizona.

4. The information, opinions, and recommendations in this report are based on fieldwork carried out in my presence or under my direction, and information derived from published and unpublished literature. I was present on the subject property on September 15 and 16, 1990.

5. I am presently employed by Reliance Geological Services Inc. and have no interest, direct or indirect, in the subject claims or the securities of Black Tusk Explorations Ltd.

6. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.



RELIANCE GEOLOGICAL SERVICES INC.

Roger G. Kidlark, B.Sc.,F.G.A.C.

Dated the 10th day of November 1990, at North Vancouver, B.C.

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APPENDIX A

ROCK SAMPLE DESCRIPTIONS

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
DV90AR01	Continuous chip across strongly sheared strongly sericitic schist. Weakly calcitic with minor 2 cm wide quartz veins paralleling foliations. Dark gray green altering rusty brown. Trace disseminate pyrite.	600
DV90AR02	Continuous chip across white quartz vein. 10-15% crystalline feldspar porphyry, 65% white quartz, 2-4% mariposite, 5% rusty limonite filling vugs, possibly after sulphides. Trace sulphides.	50
DV90AR03	Continuous chip across sericite schist. Strong foliation, strongly sericitic and chloritic. 5% white quartz veins, 4 mm width filling tension fractures or parallel foliation. Moderately calcitic, trace mariposite, trace to 2% disseminate pyrite.	700
DV90AR04	Continuous chip across sericite schist. Strong foliation. Strongly sericitic, weak to moderate calcification, weakly chloritic. Trace to 1% disseminate pyrite. Light to mid gray altering rusty brown.	850
DV90AR05	Continuous chip across feldspar porphyry cut by 20-35% white irregular quartz veinlets. Trace mariposite, 65-80% feldspar porphyry, 2-3% medium grained disseminate pyrite.	50
DV90AR06	Continuous chip across sericite schist. Strong foliation, strongly sericitic, weakly to moderately calcitic, weakly chloritic. 5% white quartz veinlets, 2-4% medium grained disseminate pyrite. Gray green altering rusty brown.	200

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
DV90AR07	Continuous chip across sericite schist. Strong foliation, strongly sericitic, weakly to moderately calcitic, weakly chloritic. 5% irregular quartz veinlets parallel foliation. 2-4% medium grained, disseminate pyrite. Gray green altering rusty brown.	400
DV90AR08	Continuous chip across white, altering off-white feldspar porphyry cut by 10% quartz stringers. 2-3% medium grained disseminate euhedral pyrite.	700
DV90AR09	Continuous chip across gray, altering rusty brown sericite schist. Strong foliation, strongly sericitic, weakly chloritic with weak to moderate calcite alteration. Trace to 1% quartz blebs 3 cm by 10 cm in size. Trace mariposite and 2-3% disseminate pyrite.	300
DV90AR10	Select sample across dark gray altering light gray calcite bed, paralleling foliation. 2-4% disseminate pyrite.	10
DV90AR11	Continuous chip across medium gray altering light gray sericite schist. Strong foliation, strongly sericitic, weakly chloritic with 5% quartz stringers sub parallel foliation. Trace to 2% disseminate pyrite.	500
DV90AR12	Continuous chip across feldspar porphyry quartz stringers cut by 15-20% irregular quartz veinlets, 2-3% fine to medium grained disseminate pyrite. Trace chlorite and calcite alteration with minor (<1%) sericite.	600

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
DV90AR13	Continuous chip across from gray green altering gray to rusty brown sericite schist. Strong foliation, strongly sericitic, weakly to moderately chloritic, weakly calcitic. 2-3% irregular quartz stringers up to 5 cm wide. 4-5% mariposite, 1-2% disseminate pyrite.	500
DV90AR14	Continuous chip across gray, altering rusty brown sericite schist. Strong foliation, strongly sericitic, weakly calcitic, weakly chloritic. Rare quartz veins filling fractures. 2-3% medium grained disseminate pyrite.	1000
DV90AR15	Continuous chip across feldspar porphyry Rare irregular quartz veins with trace to 1% medium grained pyrite. White altering off-white or rusty brown where mineralized.	600
DV90AR16	Continuous chip across white quartz vein parallel general foliation. Minor sericite alteration adjacent shear.	100
DV90AR17	Continuous chip across light brown to gray altering rusty brown sericite shear. Weak foliation, weakly chloritic, weakly to moderately sericitic, trace calcite. 1-2% medium grained disseminate pyrite.	200
DV90AR18	Continuous chip across feldspar porphyry cut by 15% irregular white quartz veins. Weak to moderate foliation and sericitization. 1% medium grained disseminate pyrite.	400

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
DV90AR19	Continuous chip from light gray green altering rusty brown sericite schist. Strong foliation, moderately to strongly sericitic, weakly chloritic. Trace calcite alteration, trace mariposite. 1-2% fine grained disseminate pyrite.	400
DV90AR20	Continuous chip from light gray green altering rusty brown sericite schist. Moderate foliation, moderately sericitic. 1% fine grained disseminate pyrite.	100
DV90AR21	Continuous chip from light green altering rusty brown sericite schist. Strong foliation, moderately to strongly sericitic. 1-2% disseminate pyrite, trace mariposite.	300
DV90AR22	Continuous chip from feldspar porphyry. White altering off-white or rusty brown (where mineralized). Trace to 1% disseminate pyrite. 5-10% quartz veins filling sub-horizontal fractures.	500
DV90AR23	Continuous chip across white quartz vein paralleling foliation. Trace sericite, trace fine grained disseminate pyrite.	100
DV90AR24	Continuous chip across gray green altering gray sericite schist. Trace calcite, trace disseminate pyrite within strongly foliated, strongly sericitic rock.	400
DV90AR25	Continuous chip across white quartz vein. Trace sericite, trace chlorite along fractures.	100

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
DV90AR26	Continuous chip across gray green altering rusty brown sericite schist. Moderate to strong foliation and sericitization. 10% irregular quartz stringers. Trace to 1% disseminate pyrite.	400
DV90KR01	Select chip sample across a white quartz vein. Traces of medium grained disseminated pyrite.	160
DV90KR02	Select chip sample across an alteration zone. Altered andesite(?). Alteration consists of quartz-sericite-chlorite-pyrite.	660
DV90KR03	Select chip sample across alteration zone. Quartz-sericite-carbonate-chlorite alteration (andesite). Discontinuous quartz veins in alteration zone contain disseminated pyrite.	500
DV90KR04	Select chip sample across alteration zone. Discontinuous quartz veins up to 100 cm wide within a quartz-sericite-carbonate-mariposite alteration zone.	500
DV90KR05	Select chip sample from a limonitic quartz lens. Lens contains traces of pyrite, chalcopyrite and malachite.	60
DV90KR06	Select chip sample from a porphyritic quartz-feldspar dyke. Disseminated coarse-grained pyrite.	60
DV90KR07	Select chip sample across a quartz carbonate vein in the J.F. adit. Averaging 2% fine grained disseminated pyrite.	60
DV90KR08	Select chip sample across a quartz-carbonate vein in the J.F. adit. Averaging 2% fine grained disseminated pyrite.	96

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
DV90KR09	Select chip sample across an alteratiion zone in the J.F. adit. Discontinuous quartz vein within a quartz-sericite-carbonate alteration zone. Averaging 2% fine grained disseminated pyrite.	150
DV90KR10	Select sample from dump of Upper adit. Massive coarse grained stibnite in a yellow coloured quartz vein.	
DV90KR11	Select chip sample from a yellow, limonitic quartz vein with disseminated pyrite and stibnite.	300
DV90FR01	Select chip sample from a feldspar porphyry dyke. Averaging 1% fine grained disseminated pyrite.	
DV90FR02	Select chip sample from a quartz-sericite-carbonate-mariposite alteration zone.	500
DV90FR03	Select chip sample from a limonitic quartz vein.	100

APPENDIX B

ANALYTICAL RESULTS

AND TECHNIQUES

INTERNATIONAL PLASMA LABORATORY LTD

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Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

R E P O R T S U M M A R Y Report:[9000889 R]

A N A L Y T I C A L R E P O R T

Origin Inception Date:[Sep 19, 1990]

Client:[	200	Reliance Geological Services Ltd.	]
Contact:[		Peter Leriche	]
Project:[	0	647	]
Amount/Type:[	40	Rock -Rock Reject Stored 3 Mon	]
[		-Soil Reject Discarded	]

Analytical Requisition

Geochemical:[	ICP(AqR)30	]	
Assay:[	Au(FA/AAS 20g)	]	ICP:[3]
Comments:[	None		]

Delivery Information Reporting Date:[Sep 21, 1990]

Principal Destination (Hardcopy,Fascimile,Invoice)

Company:[	Reliance Geological Services Ltd.]
Address:[	241 East 1st Street]
City/Province:[	North Vancouver, B.C.]
Country/Postal:[	V7L 1B4]
Attention:[	Peter Leriche]
Fascimile:[	(604)988-4653]

Secondary Destination (Hardcopy)

Company:[	]
Address:[	]
City/Province:[	]
Country/Postal:[	]
Attention:[	]
Fascimile:[	]

2 data pages in this report. Approved by: _____

B.C. Certified Assayers

iPL CODE: 900921-18:32:06

Report: 9000889 R Reliance Geological Services Ltd. Project: 647 Page 1 of 2 Section 1 of 2

Sample Name	Type	Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm
DV90 AR01	Rock	5	0.2	1.44	22	20	<2	5.51	0.2	27	32	71	>5.00	<3	0.09	<2
DV90 AR02	Rock	20	1.3	0.06	34	8	<2	0.03	0.2	4	199	12	0.76	<3	0.02	2
DV90 AR03	Rock	15	0.2	0.51	65	13	<2	>10.00	<0.1	21	56	19	3.93	<3	0.13	<2
DV90 AR04	Rock	5	0.1	1.33	36	13	<2	6.57	<0.1	25	40	107	>5.00	<3	0.10	<2
DV90 AR05	Rock	25	0.2	0.27	50	6	3	3.65	0.2	19	119	14	3.61	<3	0.02	3
DV90 AR06	Rock	5	<0.1	0.52	29	4	<2	8.66	0.1	33	42	31	>5.00	<3	0.11	<2
DV90 AR07	Rock	5	<0.1	1.87	31	20	<2	>10.00	<0.1	24	47	118	>5.00	<3	0.11	2
DV90 AR08	Rock	10	0.1	0.19	22	5	<2	0.15	0.1	3	69	13	2.33	<3	0.01	9
DV90 AR09	Rock	5	0.1	1.61	43	6	<2	6.65	0.3	39	97	26	>5.00	<3	0.13	<2
DV90 AR10	Rock	5	0.2	0.25	7	37	5	>10.00	<0.1	3	11	12	1.29	<3	0.01	13
DV90 AR11	Rock	5	0.3	0.40	15	16	<2	9.27	<0.1	16	42	66	4.23	<3	0.09	<2
DV90 AR12	Rock	10	0.3	0.15	27	13	3	0.57	0.2	2	125	13	1.70	<3	0.01	10
DV90 AR13	Rock	10	<0.1	0.92	30	12	<2	5.49	0.1	27	90	72	4.79	<3	0.10	<2
DV90 AR14	Rock	80	0.1	0.43	251	13	<2	4.18	0.2	25	57	107	>5.00	<3	0.11	<2
DV90 AR15	Rock	55	0.2	0.31	95	51	<2	0.06	0.2	3	48	9	2.24	<3	0.09	19
DV90 AR16	Rock	25	1.2	0.04	23	7	3	0.01	0.2	2	203	19	0.41	<3	0.01	<2
DV90 AR17	Rock	95	0.1	0.76	203	10	<2	4.78	0.2	31	48	63	>5.00	<3	0.15	<2
DV90 AR18	Rock	10	0.6	0.15	20	9	3	0.11	0.5	2	154	5	1.08	<3	0.02	7
DV90 AR19	Rock	15	0.3	0.90	159	25	<2	6.41	0.3	31	44	64	>5.00	<3	0.14	<2
DV90 AR20	Rock	5	0.5	1.62	80	27	<2	6.58	0.2	27	70	57	4.85	<3	0.14	<2
DV90 AR21	Rock	30	0.1	0.76	236	31	<2	6.30	0.3	33	59	60	>5.00	<3	0.16	<2
DV90 AR22	Rock	40	0.3	0.29	63	18	6	0.05	0.3	2	135	14	2.22	<3	0.03	16
DV90 AR23	Rock	<5	0.1	0.24	5	11	5	0.10	0.2	5	263	22	0.93	<3	0.03	<2
DV90 AR24	Rock	<5	0.1	3.52	21	22	<2	3.08	0.6	24	141	22	4.99	3	0.11	<2
DV90 AR25	Rock	<5	0.1	0.11	6	7	<2	0.05	0.2	3	276	13	0.83	<3	0.01	<2
DV90 AR26	Rock	<5	0.1	1.20	14	10	<2	>10.00	<0.1	20	83	42	4.81	<3	0.05	<2
DV90 FR01	Rock	20	<0.1	1.04	298	12	<2	7.86	0.1	29	141	189	4.52	<3	0.12	<2
DV90 FR02	Rock	<5	0.2	0.44	<5	16	6	8.06	<0.1	5	24	<1	0.64	<3	0.17	<2
DV90 FR03	Rock	45	14.8	0.07	25	15	4	0.90	0.5	4	238	1711	0.71	<3	0.03	<2
DV90 KR01	Rock	5	0.1	0.61	9	17	<2	5.06	0.1	15	124	9	4.83	<3	0.25	<2
DV90 KR02	Rock	5	0.1	0.58	10	14	2	8.18	0.2	29	27	<1	>5.00	<3	0.15	<2
DV90 KR03	Rock	<5	0.1	0.30	23	10	5	9.46	<0.1	15	106	16	2.19	<3	0.08	<2
DV90 KR04	Rock	<5	1.0	0.54	101	5	3	5.85	0.3	26	304	48	2.09	<3	0.03	<2
DV90 KR05	Rock	20	6.6	1.76	30	2	<2	3.84	3.5	59	103	8039	3.76	<3	0.01	2
DV90 KR06	Rock	5	2.0	0.15	<5	34	8	1.17	0.3	2	63	77	2.13	<3	0.01	7
DV90 KR07	Rock	10	0.1	0.31	108	8	6	>10.00	<0.1	29	36	66	3.11	3	0.10	2
DV90 KR08	Rock	30	0.8	0.29	209	6	<2	6.55	0.2	33	103	37	4.23	5	0.14	<2
DV90 KR09	Rock	125	2.6	0.30	211	11	6	5.85	0.2	23	113	9	3.14	4	0.15	<2
DV90 KR10	Rock	35	1.7	0.05	<5	<2	3	0.33	0.3	3	78	175	0.24	<3	0.01	<2
Minimum Detection		5	0.1	0.01	5	2	2	0.01	0.1	1	1	1	0.01	3	0.01	2
Maximum Detection		10000	100.0	5.00	10000	10000	10000	10.00	10000.0	10000	10000	20000	5.00	10000	10.00	10000
Method		FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
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Report: 9000889 R Reliance Geological Services Ltd. Project: 647 Page 1 of 2 Section 2 of 2

Sample Name	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	V ppm	W ppm	Zn ppm	Zr ppm
DV90 AR01	2.46	1270	2	0.07	29	0.04	<2	11	19	105	<10	<0.01	50	<5	56	<1
DV90 AR02	0.02	126	5	0.04	26	<0.01	56	22	1	2	<10	<0.01	<5	<5	6	1
DV90 AR03	3.73	1293	26	0.04	71	0.01	18	17	11	474	<10	<0.01	14	<5	42	<1
DV90 AR04	3.35	1379	3	0.05	30	0.04	<2	11	15	163	<10	<0.01	40	<5	53	<1
DV90 AR05	0.68	770	15	0.06	45	0.04	77	19	9	153	<10	<0.01	12	<5	30	1
DV90 AR06	2.25	1713	2	0.04	42	0.05	<2	12	25	136	<10	<0.01	38	<5	82	<1
DV90 AR07	2.15	1558	6	0.05	29	0.05	10	10	17	662	<10	<0.01	62	<5	65	<1
DV90 AR08	0.04	312	5	0.11	9	0.03	22	<5	2	20	<10	<0.01	<5	<5	25	5
DV90 AR09	3.71	1246	3	0.01	86	0.04	3	8	11	194	<10	<0.01	54	<5	53	<1
DV90 AR10	0.24	1978	19	0.05	5	0.03	54	6	8	4244	<10	<0.01	<5	<5	12	1
DV90 AR11	1.58	1404	3	0.02	21	0.03	6	9	11	555	<10	<0.01	17	<5	51	<1
DV90 AR12	0.05	278	4	0.11	8	0.03	23	10	1	55	<10	<0.01	<5	<5	38	5
DV90 AR13	3.21	1030	4	0.05	61	0.02	9	13	19	131	<10	<0.01	45	<5	48	<1
DV90 AR14	2.11	1127	4	0.06	35	0.04	<2	46	20	139	<10	<0.01	31	<5	55	<1
DV90 AR15	0.05	237	1	0.08	5	0.03	15	17	1	18	<10	<0.01	<5	<5	55	2
DV90 AR16	0.01	72	1	0.02	4	<0.01	13	35	<1	1	<10	<0.01	<5	<5	16	<1
DV90 AR17	2.31	1055	2	0.05	35	0.03	<2	22	26	154	<10	<0.01	43	<5	58	<1
DV90 AR18	0.02	351	5	0.11	6	0.03	54	9	1	28	<10	<0.01	<5	<5	44	1
DV90 AR19	4.14	1337	2	0.04	41	0.01	<2	37	30	347	<10	<0.01	40	<5	74	<1
DV90 AR20	4.43	1339	2	0.02	40	0.01	<2	26	26	302	<10	<0.01	55	<5	47	<1
DV90 AR21	4.02	1391	2	0.04	53	0.01	<2	36	31	324	<10	<0.01	32	<5	59	<1
DV90 AR22	0.10	115	6	0.12	5	0.03	22	7	1	13	10	<0.01	<5	<5	22	1
DV90 AR23	0.16	186	6	0.02	13	0.01	<2	8	1	5	<10	<0.01	7	<5	6	<1
DV90 AR24	3.11	1052	3	0.01	45	0.02	<2	8	8	44	<10	<0.01	69	<5	51	<1
DV90 AR25	0.05	241	1	0.02	9	<0.01	<2	307	2	2	<10	<0.01	<5	<5	10	<1
DV90 AR26	2.54	1592	8	0.04	37	0.01	2	55	12	234	<10	<0.01	29	<5	47	<1
DV90 FR01	4.30	1230	2	0.04	76	0.01	<2	105	21	256	<10	<0.01	40	<5	45	<1
DV90 FR02	1.21	290	1	0.06	33	<0.01	<2	9	2	76	<10	<0.01	<5	<5	6	<1
DV90 FR03	0.42	187	1	0.02	15	0.01	1025	>1000	2	43	<10	<0.01	7	<5	45	<1
DV90 KR01	1.78	844	7	0.04	20	0.04	8	20	8	294	<10	0.02	28	<5	43	<1
DV90 KR02	3.74	1047	3	0.06	48	0.09	<2	9	15	198	<10	<0.01	34	<5	32	<1
DV90 KR03	1.59	716	2	0.04	47	0.01	<2	5	4	181	<10	<0.01	5	<5	17	<1
DV90 KR04	3.99	480	4	0.04	123	<0.01	<2	15	10	95	<10	<0.01	14	<5	15	<1
DV90 KR05	0.74	220	2	0.01	94	0.03	<2	6	1	29	<10	0.01	10	<5	55	1
DV90 KR06	0.08	352	2	0.11	6	0.04	19	11	1	235	<10	<0.01	<5	<5	13	1
DV90 KR07	2.22	1189	11	0.02	160	0.06	6	90	9	1058	<10	<0.01	7	<5	48	<1
DV90 KR08	4.63	822	3	0.02	175	0.01	3	49	14	536	<10	<0.01	23	<5	51	<1
DV90 KR09	3.59	655	4	0.02	80	0.01	76	173	13	476	<10	<0.01	16	<5	52	<1
DV90 KR10	0.03	44	<1	0.02	26	<0.01	91	>1000	<1	15	<10	<0.01	<5	<5	206	<1
Minimum Detection	0.01	1	1	0.01	1	0.01	2	5	1	1	10	0.01	5	5	1	1
Maximum Detection	10.00	10000	1000	5.00	10000	5.00	20000	1000	10000	10000	1000	1.00	10000	1000	20000	10000
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

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Sample Name	Type	Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm
DV90 KR11	Rock	10	0.9	0.12	22	6	7	0.12	0.3	1	132	37	1.45	<3	0.01	4
Minimum Detection		5	0.1	0.01	5	2	2	0.01	0.1	1	1	1	0.01	3	0.01	2
Maximum Detection		10000	100.0	5.00	10000	10000	10000	10.00	10000.0	10000	10000	20000	5.00	10000	10.00	10000
Method		FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

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Sample Name	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	V ppm	W ppm	Zn ppm	Zr ppm
DV90 KR11	0.01	89	13	0.08	9	0.05	38	>1000	1	14	<10	<0.01	<5	<5	12	1
Minimum Detection	0.01	1	1	0.01	1	0.01	2	5	1	1	10	0.01	5	5	1	1
Maximum Detection	10.00	10000	1000	5.00	10000	5.00	20000	1000	10000	10000	1000	1.00	10000	1000	20000	10000
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

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Method of Gold analysis by Fire Assay / AAS

(a) 20.0 to 30.0 grams of sample is mixed with a combination of fluxes in a fusion pot. The sample is then fused at high temperature to form a lead "button".

(b) The precious metals are extracted by cupellation. Any Silver is dissolved by nitric acid and decanted. The gold bead is then dissolved in boiling concentrated aqua regia solution heated by a hot water bath.

(c) The gold in solution is determined with an Atomic Absorption Spectrometer. The gold value, in parts per billion, is calculated by comparision with a set of known gold standards.

QUALITY CONTROL

Every fusion of 24 pots contains 22 samples, one internal standard or blank, and a random reweigh of one of the samples. Samples with anomalous gold values greater than 500 ppb are automatically checked by Fire Assay/AA methods. Samples with gold values greater than 10000 ppb are automatically checked by Fire Assay/Gravimetric methods.

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Method of ICP Multi-element Analyses

(a) 0.50 grams of sample is digested with diluted aqua regia solution by heating in a hot water bath for 90 minutes, then cooled, bulked up to a fixed volume with demineralized water, and thoroughly mixed.

(b) The specific elements are determined using an Inductively Coupled Argon Plasma spectrophotometer. All elements are corrected for inter-element interference. All data are subsequently stored onto computer diskette.

* Aqua regia leaching is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

QUALITY CONTROL

The machine is calibrated using six known standards and a blank. Another blank, which was digested with the samples, and a standard are tested before any samples to confirm the calibration. A maximum of 20 samples are analysed, and then a standard, also digested with the samples, is run. A known standard with characteristics best matching the samples is chosen and tested. Another 20 samples are analysed, with the last one being a random reweigh of one of the samples. The standard used at the beginning is rerun. This procedure is repeated for all of the samples.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,939

GOAT RANGE THRUST BELT

COMPILATION MAP

FIG. 4

Scale 1 : 50000	Date November 1989
N.T.S. 82K/3,6 ; F/15	By

RELIANCE GEOLOGICAL SERVICES INC.

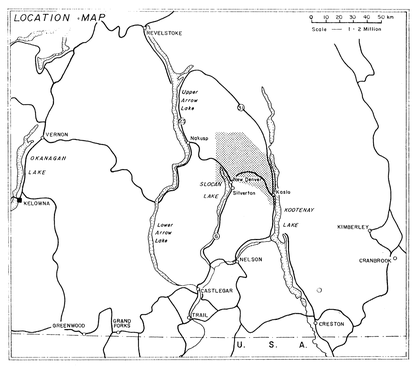
LEGEND

- Creek
- Lake
- Roads
- Present properties of Seguro Consulting Inc.
- Proposed staking by Seguro Consulting Inc.
- Boundary of areas which are already staked
- MIDDLE JURASSIC
  Kuskanax intrusives
  leucogranite and leucoquartz monzonite
- LOWER PERMIAN OR OLDER
  Ultramafic member
  serpentenite, talc schist, talc-chlorite schist; locally intensely brecciated and/or foliated
- Thrust fault (teeth on upper plate)
- 36 Mineral showings

0 0.5 1 2 3 4 kilometres

GEOLOGICAL ASSOCIATION OF CANADA — P. D. LERICHE — FELLOW

LOCATION MAP



SIGNIFICANT OCCURRENCES

Name	Minfile No.	Commodities	Geological Comments
Empire	82KSW169	Ag, Pb, Zn, Au	32 tonnes mined in 1960, producing 31 g. Au, 9330 g. Ag, 4411 Kg, Pb 4380 Kg.
Voyageur	82KSW048	Pb, Zn, Cu, Ag	Hosted by greenish coloured Kaslo Group volcanic rocks.
Emerald Hill	82KSW045	Ag, Pb, Zn, Cu	Shear zone in Kaslo Greenstone. Limited production, 1907, 1953, 1979.
Beaver	82KSW046	Ag, Pb, Cu	Mineralized fractures in Kaslo Greenstone.
Hecla	82KSW047	Pb, Ag	Fissure vein in Kaslo Greenstone.
Iron Crown Kenneth Mount Royal	82KSW149	Ag, Pb, Zn	No description available.
Eureka	82KSW038	Ag, Pb, Au	Hosted by Kaslo Greenstones and Basic Intrusives. Carbonate veins carry gold and copper values. 273 tonnes mined producing 311 g. Au, 697080 g. Ag, 166050 Kg Pb.
JK Nico	82KSW101	Cu, Ni	Quartz veins mineralized with galena, sphalerite and chalcopyrite at the contact of volcanics and a serpentinized peridotite. Pyrrhotite and pyrite are disseminated in the peridotite.
Highland Surprise	82KSW037	Au, Ag, Pb, Zn	Mineralized quartz veins and shear zones near contact with a serpentinite. 1903 tonnes mined from 1938-42, produced 50947 g. Au and 29765 g. Ag.
Fletcher	82KSW143	Au	No description available.
Phoenix	82KSW144	Au, Talc	Large serpentinite body largely altered to talc and carbonate.
Ohio	82KSW036	Pb, Zn, Cu	Shear zone in sediments.
Charleston Keystone Colorado	82KSW031	Ag, Pb, Zn, Au, Cd	Hosted by Slocan Group slates and intruded by "green spotted" dykes 2324 tonnes mined sporadically from 1898-1966, producing 155 g. Au, 1038621 g. Ag, 80871 Kg. Pb, 87445 Kg Zn.
Gold Quartz	82KSW032	Au, Ag, Pb, Zn, Cu	Quartz veins and stringers, hosted by Kaslo greenstone contain disseminated sulphides.
White-water	82KSW033	Ag, Pb, Zn, Au, Cd, Cu	Vein and replacement deposit associated with faults in Slocan Group sediments. 436543 tonnes mined from 1892-1980 producing 52395 g. Au, 106171566 g. Ag plus lead and zinc.
Sure Thing	82KSW085	Pb	Slocan Group slates and limestone host siderite and galena.
May-flower	82KSW078	Au, Ag, Pb Zn, Cu	Quartz veins at the contact of Kaslo greenstone - Slocan slate contact host sulphide mineralization and free gold.
Garnet	82KSW076	Au, Ag, Pb, Zn, Cu	Same as Mayflower
Robin	82KSW077	Au, Ag, Pb, Zn, Cu	Same as Mayflower
Tom	82KSW139	Ab, Cu	Chrysotile in thin veinlets within a serpentinite.
Tom 3	82KSW069	Cu	Mineralization along fault between chlorite-biotite schist and ultramafics.
EK	82KSW066	Pb, Ag	Sulphide-carbonate vein in Slocan quartzites.
SB Betty Jo	82KSW064	Ni	Sulphides along shear zone in serpentinized peridotite.
SB Pam	82KSW068	Cu	Disseminated sulphides in fault zone within Kaslo ultramafics. Areas of intense shearing altering to picrolite and chrysotile.
Alp-Alturas	82KSW049	Sb, Au, Ag	Mineralization occurs in a shear and alteration zone in metamorphosed sedimentary and igneous rocks. Over 14000 Kg of antimony produced in 1916.
Dolly Varden	82KSW130	Ag, Au	Quartz vein, (0.60-3.66 m.) wide, striking for at least 1600 m and hosting pyrite, tetrahedrite and native Ag.