SEP 1 7 1442 RÐ. LOG NO: ACTION. ì NTS 92 H/9 49° 30 N Lat FILE NO: SUB-RECORDER Long 120° 02'W RECEIVED AUG 28 1992 M.R. #...... \$...... VANCOUVER, B.C.

GEOLOGICAL AND GEOCHEMICAL

REPORT

on the

HED PROPERTY

GEOLOGICAL BRANCH ASSESSMENT REPORT

22,501

SEGURO CONSULTING INC.

for

330 East 23rd Street
North Vancouver, B.C. V7L 3E5

Tel: (604) 984-7211 Fax: (604) 986-6150

by

Peter Leriche, B.Sc., P.Geo.

RELIANCE GEOLOGICAL SERVICES INC.

241 East 1st Street North Vancouver, B.C. V7L 1B4

Tel: (604) 984-3663 Fax: 988-4653

26 August 1992

D. ERICHE
COLUMBIA
COSCIENT,

#### SUMMARY

At the request of Seguro Consulting Inc, Reliance Geological Services carried out an exploration program consisting of geological mapping and rock sampling on the Hed property during September 1991 and June 1992.

The Hed property comprises two contiguous mineral claims totalling 38 units in the Osoyoos Mining Division. The property is situated approximately 30 km southwest of Summerland B.C., and is accessible by 2 wheel drive vehicle.

Previous work includes geological mapping, geochemical surveys, magnetic and IP surveys, and percussion and diamond drilling by Placer Development and Anaconda. Three geochemically anomalous (Cu, Mo) areas were identified, including a mineralized belt 1000 meters x 25 meters. Drilling has intersected vertically dipping zones with significant copper/molybdenum/gold mineralization.

The claims are underlain by equigranular, medium to coarse grained granitic rocks of granodiorite to granite composition. Alteration includes weak to moderate pervasive propylitic, weak sericitic and clay, and local zones of silicification and epidotization.

Hypogene mineralization includes chalcopyrite, bornite, molybdenite and magnetite in quartz stockworks and veins and within shear zones and fractures, and occasionally as disseminations. An oxidized zone is found from surface to approximately 50 meters in depth and contains malachite, goethite, chalcocite, azurite and rare native copper.

Five samples were collected in 1991/92 from weakly to moderately altered granodiorite/quartz monzonite. Results ranged up to 1300 ppm Cu, 907 ppm Mo, 22.9 ppm Ag and 165 ppb Au.

Further work consisting of grid establishment, geological mapping and magnetic, VLF-EM, IP geophysical surveys, followed by diamond drilling, has been recommended to test the potential of the property to host an economic porphyry Cu, Mo, Au deposit.

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#### 1. <u>INTRODUCTION</u>

This report was prepared at the request of Seguro Consulting Inc to describe and evaluate the results of a geochemical-thin section program carried out by Reliance Geological Services Inc on the HED claims in the Summerland area, Osoyoos Mining District, B.C.

The field work was undertaken for the purpose of evaluating the potential of the property to host porphyry copper style copper/gold mineralization.

Field work was carried out on September 18 and 19, 1991 by J. Fleishman (prospector) and on June 28, 1992 by the author and J. Fleishman.

This report is based on published and unpublished information and the maps, reports and field notes of J. Fleishman and P. Leriche.

#### 2. LOCATION, ACCESS and PHYSIOGRAPHY (Figures 1 & 2)

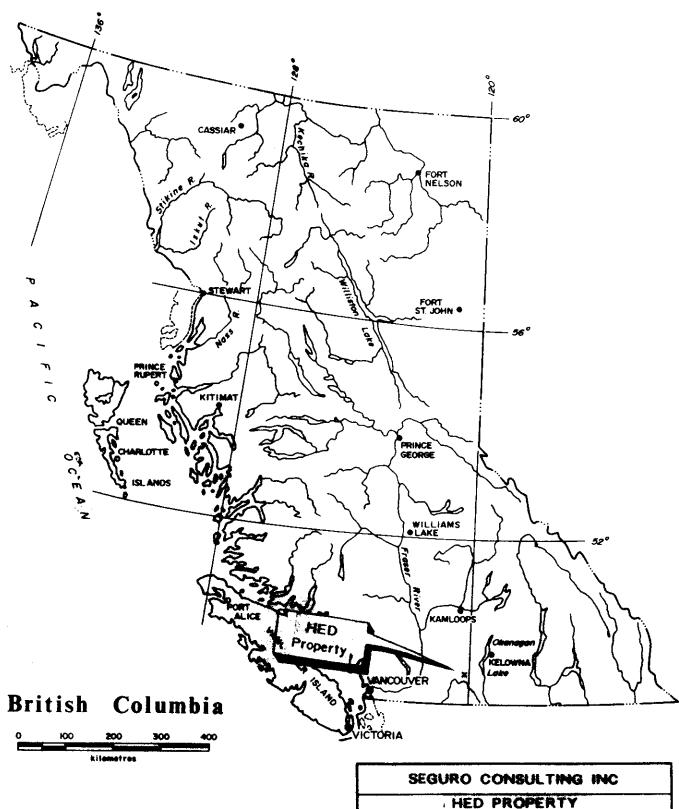
The HED claims are situated in the Osoyoos Mining Division, approximately 30 kilometers southwest of Summerland, B.C. (Figures 1 and 2).

The claims are located on Map Sheet NTS 92H/9, at latitude 49° 30' North, longitude 120° 02' West.

Road access is east from Summerland via the all weather McNulty logging road which crosses the property 2 km east of Isintok Lake. From there a gravel road branches off the McNulty road and leads to the central part of the claim group.

The property is on moderate terrain, with slopes rising from approximately 1600 meters to 1950 meters. Logging has been carried out recently on 50% of the property.

Recommended work season is mid-May to mid-November.





Osoyoos M.D., B.C.

General Location Map

Scale noted above	N.T.S. 92 H/9	Drawn by	
Date June 198	2 Geologist	Figure 1	
RELIANCE	GEOLOGICAL S	SERVICES	INC.

#### 3. PROPERTY STATUS

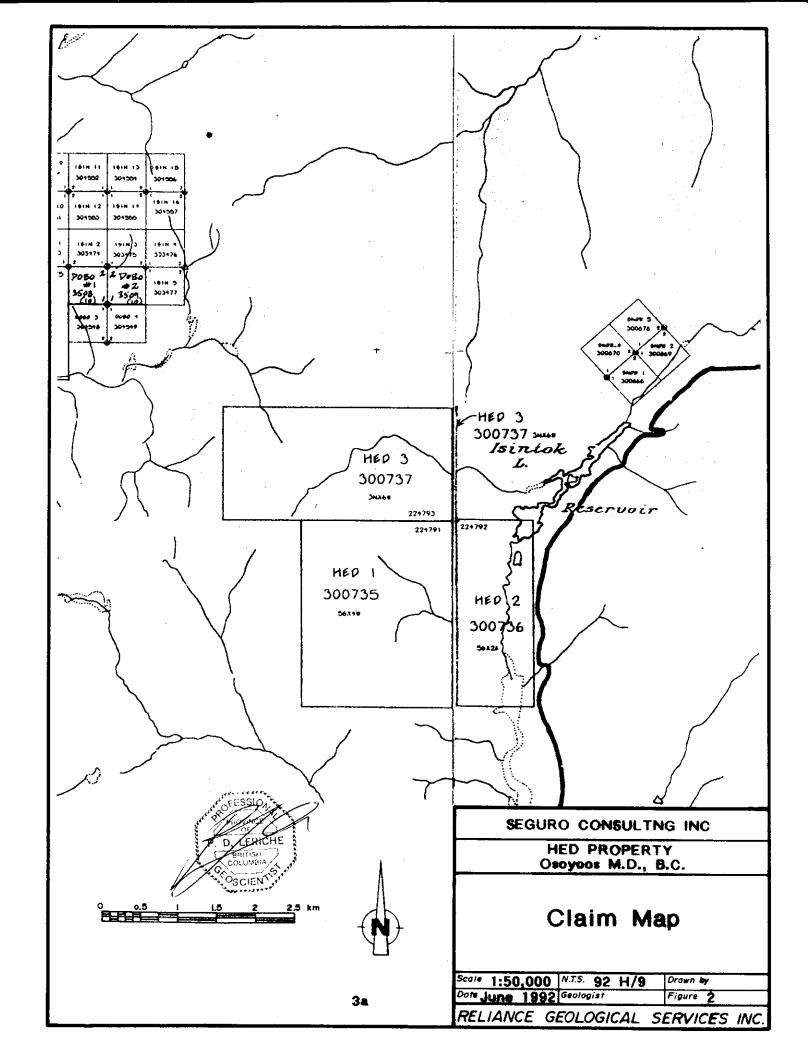
The property consists of two contiguous mineral claims (Figure 2) totalling 38 units in the Osoyoos Mining Division. The claims are registered in the name of John Fleishman and are beneficially owned 100% by Seguro Consulting Inc.

Details of the claims are as follows:

Claim	Record <u>Number</u>	<u>Units</u>	Record Date	Expiry Date
Hed 1	300735	20	01 Jun 1991	01 Jun 1993
Hed 3	300737	18	01 Jun 1991	01 Jun 1993

The total area covered by the claims is 950 hectares, or 2347 acres.

The writer is not aware of any particular environmental, political, or regulatory problems that would adversely affect mineral exploration and development on the Hed Property.



#### 4. PREVIOUS WORK (Figure 3)

In 1969, the HED property was staked by Anaconda to cover an area with anomalous copper and molybdenum values in stream sediments. Geological mapping and soil sampling were carried out.

In 1971, Placer Development performed a program consisting of road construction, line cutting, soil sampling and a test IP survey. Three areas of Cu-Mo soil anomalies were located. Two of the anomalies were on strike and outlined a zone approximately 5 km long and 150 m to 700 m wide. In 1972, Placer completed 22 km of IP lines over the three anomalous areas and drilled six percussion holes to depths ranging from 51 to 75 meters. One hole returned values of 0.35% copper and 0.07% molybdenum over a width of 18.3 meters (Fig. 3). See Table 1 for summary of 1972 drilling.

In 1981, Anaconda completed geological mapping, petrochemistry, additional soil sampling, and a limited magnetometer survey, to test the 3 geochemically anomalous areas. On the central anomaly, percussion drilling (2805.5 meters in 39 holes) was followed by 598.7 meters of NQ diamond drilling. Samples were assayed for Ag, Cu, Mo, and Au. (Tables 2 and 3.)

Within the central anomaly, the exploration program outlined a 1000 x 250 meter belt which has steeply dipping to sub-vertical irregularly spaced zones of copper/molybdenum mineralization.

The highest anomalous Au value was 1180 ppb over 3.05 meters in percussion drill hole #34, drilled in weakly mineralized granodiorite. The 3 meter section returned relatively low values in copper, molybdenum and silver.

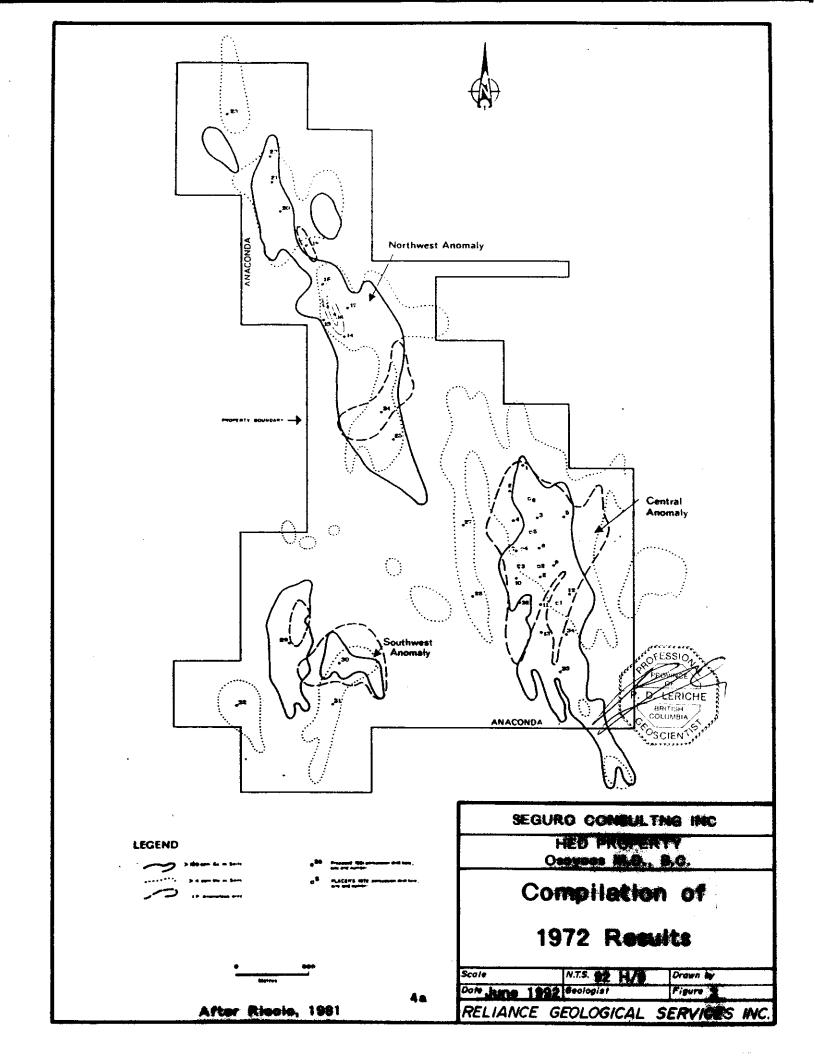


Table 1
ASSAY RESULTS, 1972 PLACER'S PERCUSSION DRILLING

	From(m)	To(m)	Cu(%)	Mo(%)	Ag(ppm)
Hole PD 1	8.5	11.6	0.12	.0015	1.80
	23.7	26.8	0.10	.0015	1.30
	2.4	75.6	0.04	.002	0.35
Hole PD 2	42.0	48.2	0.12	.007	0.48
	54.3	72.5	0.12	.003	0.96
	60.4	66.4	0.20	.007	1.81
	2.4	75.6	0.06	.004	0.44
Hole PD 3	45.1	48.2	0.15	.001	2.50
	2.4	66.4	0.03	.002	0.35
Hole PD 4	2.4	5.5	0.13	.002	1.80
	8.5	11.6	0.10	.033	1.12
	17.6	20.8	0.47	.011	2.50
	32.9	51.2	0.35	.07	1.71
	39.0	48.2	0.51	.132	2.53
Hole PD 5	8.5	35.9	0.09	.015	1.01
	2.4	71.68	0.05	.008	0.59
Hole PD 6	2.4	66.4	0.04	.003	0.23

Hole No.	From	Ta	Interval (Metces)	Cu ppm	Mo ppm	Hole No.	From	То	Interval (Metres)	Cu ppm	Mo ppm
1	9.15	91.5	82.35	19.3	5.7	21	6.1 61.00	91.5 91.5	85.4 30.5	459	28.2 17.2
2	1.5 6.1 33.55	67.1 12.2 48.7	65.6 6.1 15.15	1145 6320 1268	99.8 27 <del>9</del> 206.3	22	6.1 70.15	91.5 91.5	85.4 21.3	710 227.5 527.8	12.7
3	6.1	54.9	48.8	205	6.12	23	4.1	91.5	87.4	45.97	39.0 3.5
4	4.0 37.55	74.15 49.75	70.15 12.2	918 2011	658 1658	24	3.05	76.25	73.2	87.8	6.8
	58.90 37.55	74.15 74.15	15.25 36.6	1430 1400	1557.8 1224	25	3.05	100.65	97.6	52 .	4.1
5	6.1	94.55	88.45	56.6	9.3	26	3.05	91.5	88.45	165.5	5.9
6	3.05 3.05	85.4 51.85	82.35 48.80	935.4 1011	139.4 197	27	6.1 6.1 64.05	85.4 15.25 85.4	76.25 9.15 21.35	778.5 2400 1061.4	24.6 13 55.4
7	6.1 15.25 48.80	70.15 21.35 54.90	64.05 8.10 6.10	959.04 1475 1140	175.3 350 578	28	6.1 39.65 39.65	91.50 91.5 48.8	85.40 51.85 9.15	361 548 860	15.7 29.3 14.7
8	6.1 76.25	100.65 94.55	94.55 18.3	293.9 806	80.6 417	29	3.05	79.3	76.25	232.5	4.8
9	6.1	82.35	76.25	900	315	30	6.1	91.5	85.4	129.8	4.5
	33.55 33.55	B2.35 61.0	52.05 27.45	1172 1561	487 680	31	6.1	67.1	61.0	219.5	35.5
	36.6	42.7	6.10	3400	1368	32	12.2	67.1	54.9	73.3	6,2
10	30.5	97.6	94.55	413	11.7	33	3.05	91.5	68.4	39.5	6,9
11	6.1 30.50	48.8 48.8	42.70 18.30	2787 3557	315 529	34	6.1	73.20	70.15	144.9	11.3
12	3.05	71.70	68.65	54.7	5.1			•			
13	3.05 9.15 57.95	91.50 18.3 91.50	88.45 9.15 33.55	459.7 18.35 459.4	5.1 14 5.54						
14	3.05	97.60	94.55	156.7	5.6						
15	3.05	70.15	67.1	189.0	4.7						
16	9.15	79.3	70.15	219.7	7.8		,				
17	6.10	76.25	70.15	219.7	7.8						
18	3.05 45.75	64.05 64.05	67.1 18.3	405.1 745.8	11.0 30.5						
19	6.1	97.6	91.5	139.8	3.4						

TABLE 2

Summary of Diamond Drill Geochemistry (ppm) and Assays (%)

TABLE 3

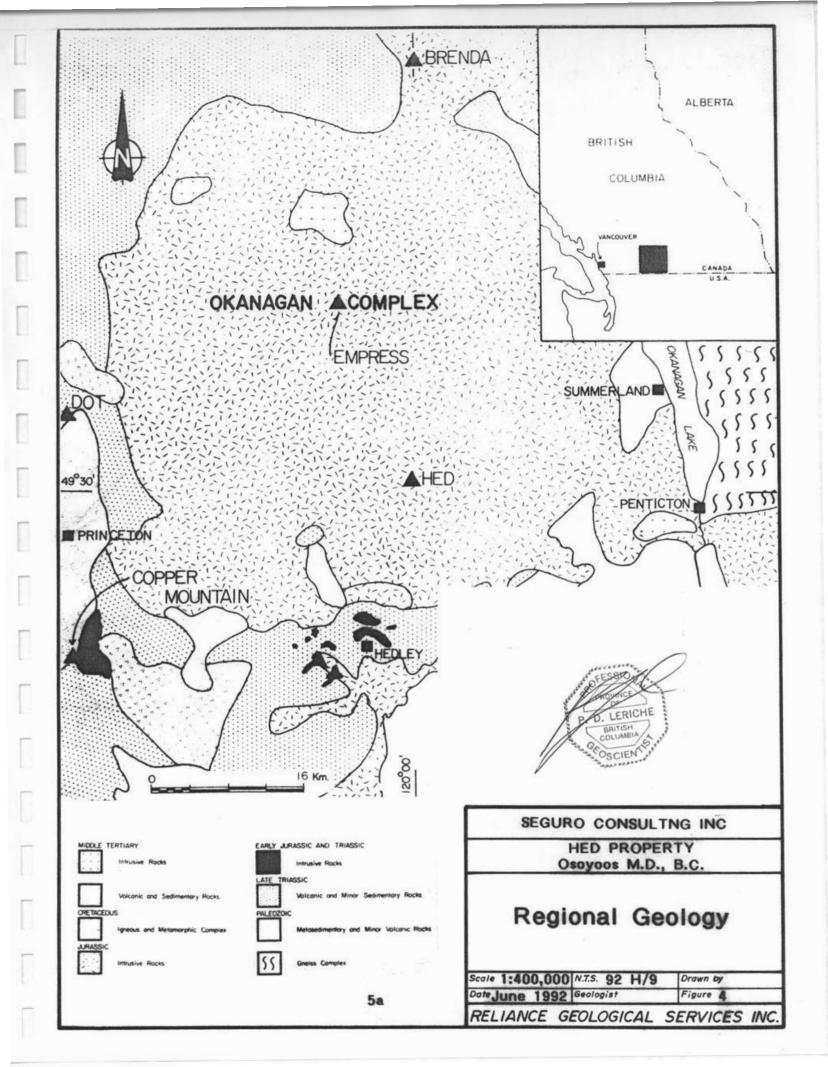
Hole No.	Final Depth	From	То	Interval (m)	Cu ppm	Mo ppm	Cu %	Mo %
1	190.9	24.0	30.0	6.0			0.16	0.013
		36.0	51.0	15.0			0.13	0.022
		57.0	126.0	69.0			0.15	0.089
		126.0	190.9	64.0	221	1.5		
2	206.5	6.1	206.5	200.4	796	108		
		9.0	27.0	18.0	1372	85		
		51.0	96.0	45.0	1788	146		
		96.0	206.5	110.5	388	118		
3	201.3	4.3	201.3	197.0	578	50		
		33.0	36.0	3.0			1.4	0.246
		69.0	78.0	9.0	3343	61		

## 5. <u>REGIONAL GEOLOGY</u> (Figure 4) (from Riccio, 1981)

The Hed property lies in the south-central portion of the Okanagan Complex, a composite batholith of Jurassic age comprising dioritic, quartz dioritic, granodioritic and quartz monzonitic (granitic) phases.

The Okanagan Complex intrudes upper Palaeozoic metasediments, and late Triassic volcano-sedimentary sequences (Nicola Group). Mid-Tertiary volcanic and sedimentary rocks unconformably overlie the complex at several localities along its eastern and southern margins.

Mineral deposits in the area comprise plutonic porphyries (CU-Mo) associated with the northern extension of the Okanagan Complex (Brenda Mine, 40 km north of Hed), porphyry copper deposits (Cu, precious metals) of the alkalic suite (Copper Mountain, Ingerbelle) occurring in intrusive stocks co-magmatic with Nicola Group volcanics, gold skarns of the Hedley camp, and coal measures in Tertiary sediments of the Princeton Basin.



#### 6. PROPERTY GEOLOGY

(summarized from Riccio, 1982)

The Hed property lies in the south-central portion of the Okanagan Complex, a composite batholith of Jurassic age which intrudes upper Palaeozoic metasediments and the Late Triassic Nicola Group volcano-sediments.

The main rock type is a grey hornblende-biotite granodiorite. There are also diorite, aplite dykes and mafic dykes. True "porphyries" are absent.

Weak background hydrothermal alteration replaces hornblende with secondary biotite. Narrow zones of silicification, K-spar flooding, biotization, chloritization, clay alteration and epidote veining developed along fractures, shears and quartz veins.

Background and local alteration is present in areas of sulphide mineralization. Sulphide minerals include chalcopyrite, molybdenite, bornite, magnetite and, rarely, pyrite. Molybdenite occurs alone or associated with other copper sulphides.

An oxidized zone is found from the surface to up to 50 meters in depth and contains malachite, goethite, chalcocite, azurite, and native copper. Sulphide mineralization occurs mainly as fracture fillings and less commonly as disseminations.

#### 7.0 1991/92 WORK PROGRAM

Done under Work Approval Number KAM 91-0400311-1271.

#### 7.1 Methods and Procedures

Five rock samples were collected and sent to International Plasma Laboratory Ltd for gold (fire assay/AAS) and multi-element ICP analysis.

One sample (HED91-R002) was sent to Vancouver Petrographics for thin section analysis.

#### 7.2 Results (Figure 5)

#### 7.2.1 Geology

Observed outcrop consists of an equigranular hornblendebiotite granodiorite/quartz monzonite composed of plagioclase (35%), potassium feldspar (30%), quartz (20%), hornblende (10%), biotite (5%), and magnetite (1 - 2%).

Alteration includes weak to moderate chloritization of biotite and hornblende. Local zones of silicification, quartz stockwork, and epidotization were observed associated with fractures and shear zones.

Mineralization consists of chalcopyrite, malachite, molybdenite, and magnetite, all within quartz stringers and shear zones.

#### 7.2.2 Thin Section Analysis

For a complete report see Appendix B.

Sample Hed 91-JR002 is a medium to coarse grained, holocrystalline quartz monzonite/granite. Minerals include anhedral plagioclase (30%), anhedral, interstitial K-feldspar (25%?); anhedral quartz (20%); anhedral/subhedral hornblende (10%); altered biotite (5%); and opaques (5%). Opaques consist of grains and fracture controlled magnetite (>2%), disseminated and fracture controlled chalcopyrite (<1%), minor ilmenite and hematite.

Plagioclase is weakly to moderately altered to sericite. Plagioclase and K-feldspar show a weak "clay" dusting. Hornblende has associated epidote, sphene and opaque clusters. Biotite is completely altered to chlorite.

#### 7.2.3. Rock Geochemistry

Five rock samples were collected and described as follows:

Note:

There is no record of previous sampling from the areas tested in 1991/92.

Sample #	Sample Type	Sample Width (meters)	Cu ppm	Mo ppm	Ag	Au ppb	Description
Hed 91- JR001	Chip	0.4	679	907	22.9	165	Quartz stockwork in silicified quartz diorite with 0.5% molybdenite and minor pyrite. In new clear-cut approx. 250 m northwest of drill hole 21. Hed 3 Claim.
Hed 91- JR002	Select	_	611	18	0.6	5	Medium grey biotite granodiorite with malachite stain and minor chalcopyrite. Along drill road between holes 21 and 22. Hed 3 Claim.
Hed 91- JR003	Select	-	1300	6	0.8	10	Same as JR002
HD92- PR1	Select	_	788	97	0.9	21	Medium grained equigranular granodiorite/quartz monzonite with limonite and malachite stain. 3% magnetite. Hed 1 claim.
HD92- PR23	Select	-	1104	42	4.9	162	5 cm wide quartz/carbonate vein with malachite stain and 0.5% disseminated chalcopyrite. Hed 1 claim.

#### 8. DISCUSSION

Previous work has identified three geochemically anomalous areas including a mineralized belt in the central anomaly area measuring 1 kilometer x 250 meters. Percussion and diamond drill testing has intersected steeply dipping zones with significant copper/molybdenite/gold mineralization. Drilling has not adequately tested the anomalous areas.

The 1991/92 program was successful in locating two zones of copper/molybdenite/gold mineralization within altered grano-diorite/quartz monzonite. Geochemical results from five rock samples were up to 1300 ppm copper, 907 ppm molybdenum, 22.9 ppm silver and 165 ppb gold.

Further work consisting of geological mapping, geophysical surveys and diamond drilling is required to fully test the potential of the property to host economic supergene/hypogene porphyry style mineralization.

#### 9. CONCLUSIONS

The Hed property has potential to host an economic porphyry copper/molybdenum/gold deposit for the following reasons:

- \* the property lies close to, and in a similar geological environment to, the past producing Brenda mine;
- \* the geology, altered and sheared granodiorite, is favorable;
- \* 3 geochemically anomalous areas with copper/molybdenite/ gold mineralization have been identified.

#### 10. RECOMMENDATIONS

- a) Establish a picketed grid over the property.
- b) Perform geological mapping and rock sampling over the grid.
- c) Perform a magnetometer/VLF-EM survey. The magnetic survey would be useful in identifying zones with remobilized or secondary magnetite which are often associated with porphyry deposits. The VLF survey would identify structural zones which may host mineralization.
- d) Perform an induced polarization/resistivity survey. A very limited amount of IP was done in 1972. IP has proven to be one of the most effective tools in identifying buried porphyry style mineralization.
- e) After interpretation of results, diamond drilling is recommended to test all targets.

#### REFERENCES

Beaudoin, P.G., 1972.

Work Report for the Hed Property for Canex Aerial Exploration Ltd.

Cannon, R.W., 1972.

Induced Polarization and Resistivity Survey on the Hed Property, for Canex Aerial Exploration Ltd.

Riccio, L., 1982.

Final Report on 1981 Exploration Activities on the Hed Property for Anaconda Canada Exploration Ltd.

#### 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 registered as a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
- 3. I am a Fellow in good standing with the Geological Association of Canada.
- 4. I have actively pursued my career as a geologist for twelve years in British Columbia, Ontario, the Yukon and Northwest Territories, Montana, Oregon, Alaska, Arizona, Nevada and California.
- 5. The information, opinions, and recommendations in this report are based on fieldwork carried out under my direction, and on published and unpublished literature. I visited the subject property on June 28, 1992.
- 6. I have no interest, direct or indirect, in the subject claims or the securities of Seguro Consulting Inc.
- 7. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

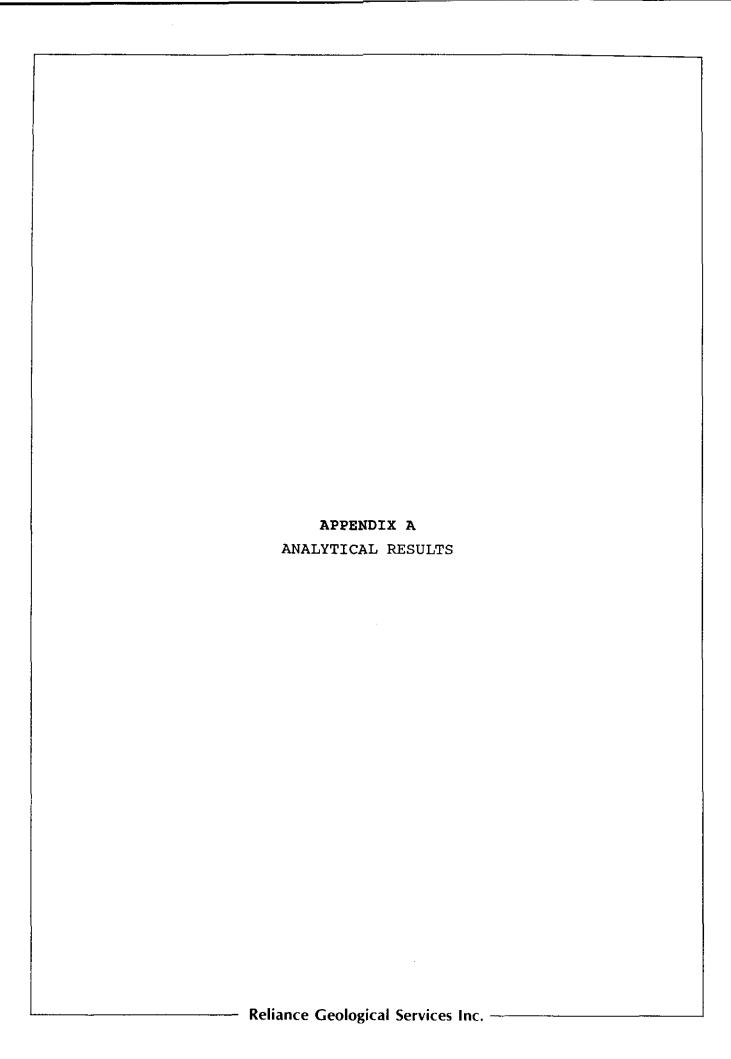
RELIANCE GEOLOGICAL SERVICES INC.

Peter D. Leriche N. B. Sc., P. Geo.

Dated at North Vancouver, B.C., this 27th day of August 1992.

# HED PROPERTY ITEMIZED COST STATEMENT

Project Preparation		\$100.
Mobilization/Demob.		\$390.
Field Crew: J. Fleishman Sep. 1 250/day	8,19/1991	\$500.
Field Costs:		
Communications	\$50.	
Food & Accomodation	\$140.	
Supplies	<b>\$</b> 50.	
Vehicle 110/day x2days	\$220.	\$460.
Assays& Analysis:		
3 rock samples @ \$17/sample	\$51.	
Thin Section	\$90.	\$141.
Report Costs		\$1675.
	Sub-total Administration Gst	\$3266. \$490. \$263.
	total	\$4019.





REPORT SUMMARY Report: [ 9200630 R ] ANALYTICAL REPORT Origin Inception Date: [ Aug 13, 1992 ] Client:[ 269 | Reliance Geological Services Ltd. Contact: [ John Fleishman Project: [ 0 745 Hed Project:[ 0 745 He Amount/Type:[ 2 Rock Analytical Requisition Geochemical:[ ICP(AqR)30 Assay:[ Au(FA/AAS 20g) ] ICP:[ 30 ] Comments: [ None Delivery Information Reporting Date: [ Aug 17, 1992 ] Delivery Information Principal Destination (Hardcopy, Fascimile, Invoice) Company: [ Reliance Geological Services Ltd. Address: 241 East 1st Street City/Province:[ North Vancouver, BC Country/Postal:[ V7L 1B4 Attention: [ John Fleishman Fascimile: (604)988-4653 Secondary Destination (Hardcopy) Company:[ Address: [ City/Province:[ Country/Postal:[ Attention:[ Fascimile:

1 data pages in this report. Approved by:

B.C. Certified Assayers

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Report: 9200630 R	Reliance Geologica	al Servic	es Ltd.		Pr	oject:	745 Hec				Pa	ge To	F T	Sect	Section 1 of 2			
Sample Name	Type	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	T1 ppm	Bi ppm	Cd ppm	Со ррт	Ní ppm	Ва ррт	₩ ppm	
HD92-PR1	Rock Pook	21 162	0.9 4.9	788 1104	3 <2	40 20	<5 <5	<5 5	<3 <3	97 42	<10 <10	<2 <2	0.4 0.4	6 4	4 3	57 44	<5 <5	



Report: 9200630 R	liance Geold	ogical (	Services	Ltd.	<del></del>	Proj	ect: 74	5 Hed			,	Page 1 d	of 1	Secti	on 2 of 2	
Sample Name	Cr ppm	V SSM	Mn ppr	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	A1 %	Ca %	Fe %	Mg %	K %	Na %	P %	
HD92~PR1 HD92-PR2		43 21		9 4	24 13	?	<i>2</i> 1		0.70 0.35	0.25 0.13	1.77 1.10	0.40 0.19	0.27 0.15	0.08 0.05	0.06 0.02	

Minimum Detection	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	IÇP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
=No Test ReC=ReCheck	ins=Insu	fficied	t Samol	e m≈£s	t/1000	%=Est	% Max=N	lo Est							



2036 Columbia Street Vancouver, R.C. Canada V5Y 3E1 Phone (604) 879-7878

Fax (604) 879-7898

REPORT SUMMARY Report: [ 9100409 R ] ANALYTICAL REPORT Inception Date:[ Sep 23, 1991 ] Origin \_\_\_\_\_\_ Client:[ 200 | Reliance Geological Services Ltd. ] Contact:[ Peter Leriche 0 | 745 3 | Rock -Rock Reject Stored 3 Mon ] -Soil Reject Discarded ] Project:[
Amount/Type:[ Analytical Requisition Geochemical:[ ICP(AqR)30 Assay:[ Au(FA/AAS 20g) ] ICP:[ 30 ] Comments: | None Delivery Information Reporting Date: [ Sep 25, 1991 ] Principal Destination (Hardcopy, Fascimile, Invoice) Company: [ Reliance Geological Services Ltd. Address:[ 241 East 1st Street City/Province:[ North Vancouver, BC Country/Postal: [ V7L 1B4 Attention: [ Peter Leriche Fascimile: (604) 988-4653 Secondary Destination (Hardcopy) Company: [ Address:[ City/Province:[ Country/Postal:[ Attention:[ Fascimile:[

1 data pages in this report. Approved by:

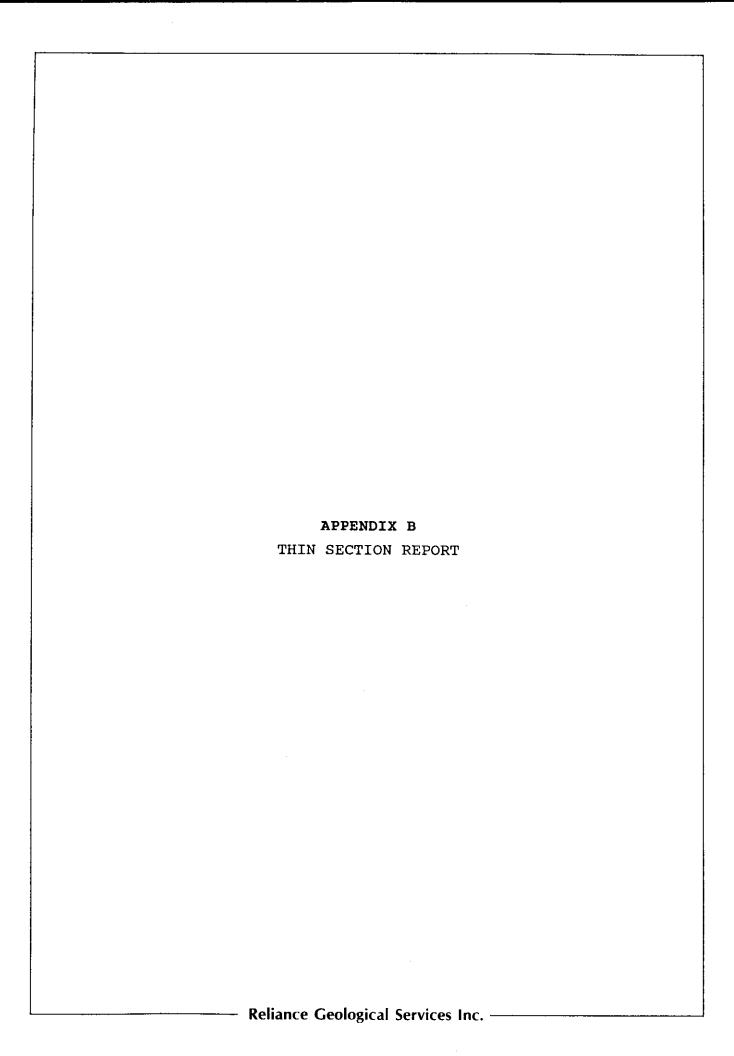
B.C. Certified Assayers

iPL CODE: 910925-17:29:34

Report: 9100409 R	Reliance Geologie	. Project: 745							Page 1 of 1				Section 1 of 2				
Sample Name	Туре	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	T1 ppm	Bi ppm	Cd ppm	Со ррт	Nt ppm	ppm.	Ba ppm
HED 91 JR 001 HED 91 JR 002 HED 91 JR 003	Rock Rock Rock	165 5 10	22.9 0.6 0.8	679 611 1300	<2 7 2	20 46 37	9 5 <5	<5 <5 <5	<3 <3 <3	907 18 6	<10 <10 <10	13 <2 <2	<0.1 0.1 0.2	3 15 10	5 7 8	180 7 <5	23 40 54

Report: 9100409 R Reliance Geological Services Ltd.					Project: 745						Page 1 of 1			Section 2 of 2		
Sample Name	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ррт	Sc ppm	T i %	A1 %	Ca %	Fe %	Mg %	к %	Na %	p %	
HED 91 JR 001 HED 91 JR 002 HED 91 JR 003	197 98 118	28 67 74	107 447 410	3 9 10	23 47 35	1 1 2	<1 2 2	0.06 0.10 0.12	0.50 1.27 0.90	0.23 0.74 0.53	2.95 2.62 2.70	0.19 0.73 0.66	0.08 0.13 0.17	0.04 0.06 0.07	0.05 0.07 0.09	

0.01 0.01 0.01 0.01 0.01 2 0.01 0.01 0.01 Minimum Detection 10.00 5.00 ICP 5.00 10000 10000 10000 10000 10000 10000 10000 1.00 5.00 10.00 5.00 10.00 Maximum Detection ICP i CP -- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample





# Vancouver Petrographics Ltd.

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Peter D. Leriche Reliance Geological Services Inc. 241 East 1st Street North Vancouver, B.C. V7L 1B4 FAX 988-4653

JOB #.021 June 24/92

Dear Peter,

#### Re: Petrographic Description Sample HED-R2

A petrographic description has been completed for the above sample and the report is attached.

The report will be sent by FAX. The original report will accompany the sample and polished thin section to be sent via Loomis, June 25/92.

Yours very truly,

K.E. Northcote Ph.D., P.Eng.

Ken Vorthate

[604] 796-2068

## Hed R 2 Quartz monzonite/granite

#### Summary description

Medium to coarse grained, holocrystalline <u>quartz monzonite</u> /granite. Composed of coarser crystals and clusters of plagioclase with interlocking ragged poikilitic hornblende with lesser intermixed altered biotite (chlorite) clusters. Interstitial quartz and K-feldspar < plagioclase. Patchy K-feldspar distribution in hand specimen. Few widely scattered zircons.

Plagioclase contains spotty sericitic clusters and has a strong to weak patchy "clay" dusting. Scattered clusters of epidote. K-feldspar has a weak clay dusting. Hornblende has associated epidote, sphene and opaque clusters. Biotite is completely chloritized. Minor anhydrite(?) is associated with epidote and sphene in incipient shears.

Opaques, about 5%, consist of disseminated magnetite with minor hematite intergrowths >> chalcopyrite, <1% rimmed by hematite. Very minor ilmenite in sphene. Few clusters of minute hematite grains associated with epidote and anhydrite(?).

Note: Minor chalcocite would be anticipated coating chalcopyrite in association with hematite. Chalcocite, which has a similar appearance, was not detected in polished thin section. Has similar appearance to hematite in reflected light but is soft sectile, lacks internal reflection. Some secondary copper stain is noted on hand specimens.

Microscopic description [Percentages widely varied because of apparent patchy distribution of K-feldspar in hand specimen]

- Plagioclase; 30%, anhedral (0.2 to 3.0 mm). Irregular interlocking grains with hornblende and chlorite-altered biotite(?). Patchy sericite and irregular strong to medium clouded by "clay" dusting. Remnant twinning indicates composition in andesine range.
- K-feldspar; 25%(?), anhedral, (0.2 to 1.5 mm). Irregular interlocking grains interstitial to plagioclase. Slightly clouded by alteration (clay) as compared to quartz. R.I. < quartz. Very patchy distribution in hand specimen. Some iron staining.</p>
- Quartz; 20%, anhedral (<0.1 to 2.0 mm). Interlocking irregular grains. Strained extinction.
- Hornblende; 10%, anhedral/subhedral (0.2 to 2.5 mm). Very irregular ragged grains. Poikilitic texture plagioclase-quartz. Associated epidote. Intergrowths with chlorite-altered biotite. Interlocking with plagioclase/K-feldspar/quartz.

#### HED R 2 Continued

Altered biotite(?) (chlorite); 5%, anhedral (0.1 to 2.0 mm).

Pseudomorphous replacement of biotite. Associated epidote, sphene. In weakly foliated clusters and as intergrowths with hornblende.

#### Alteration assemblage

- Sericite; <5%, percentage included with plagioclase, anhedral, (<.01 to <.05 mm). Scattered felted patches in plagioclase.
- "Clay" dusting; <5% percentage included with feldspar, (microgranular). Strong to weak patchy dusting in plagioclase, weak dusting in K-feldspar.
- Chlorite; 5%, percentage included with altered biotite, anhedral (0.1 to 2.0 mm). See altered biotite above.
- Epidote; 2%, anhedral, (<.05 to 0.5 mm). Irregular grains clusters of grains associated with altered mafics (chlorite), anhydrite(?) and small hematite grains. Also in irregular hairline veinlets.
- Sphene; 1%, anhedral (<.01 to 0.8 mm). Irregular grains, clusters of grains associated with mafics and magnetite/ilmenite.
- Anhydrite(?); 1%, anhedral, (.05 to 0.3 mm). Speckled with small hematite grains. Weak bladed to irregular grains. Ragged patches (to >1.0 mm) in a linear zone associated with epidote. Moderate relief, upper second order birefringence. Poor biaxial (+) with moderate 2V. Moderate (+) R.I.

#### Accessories

Zircon; trace, subhedral (to 0.1 mm). Widely scattered grains.

## Reflected light Opaques; 5%

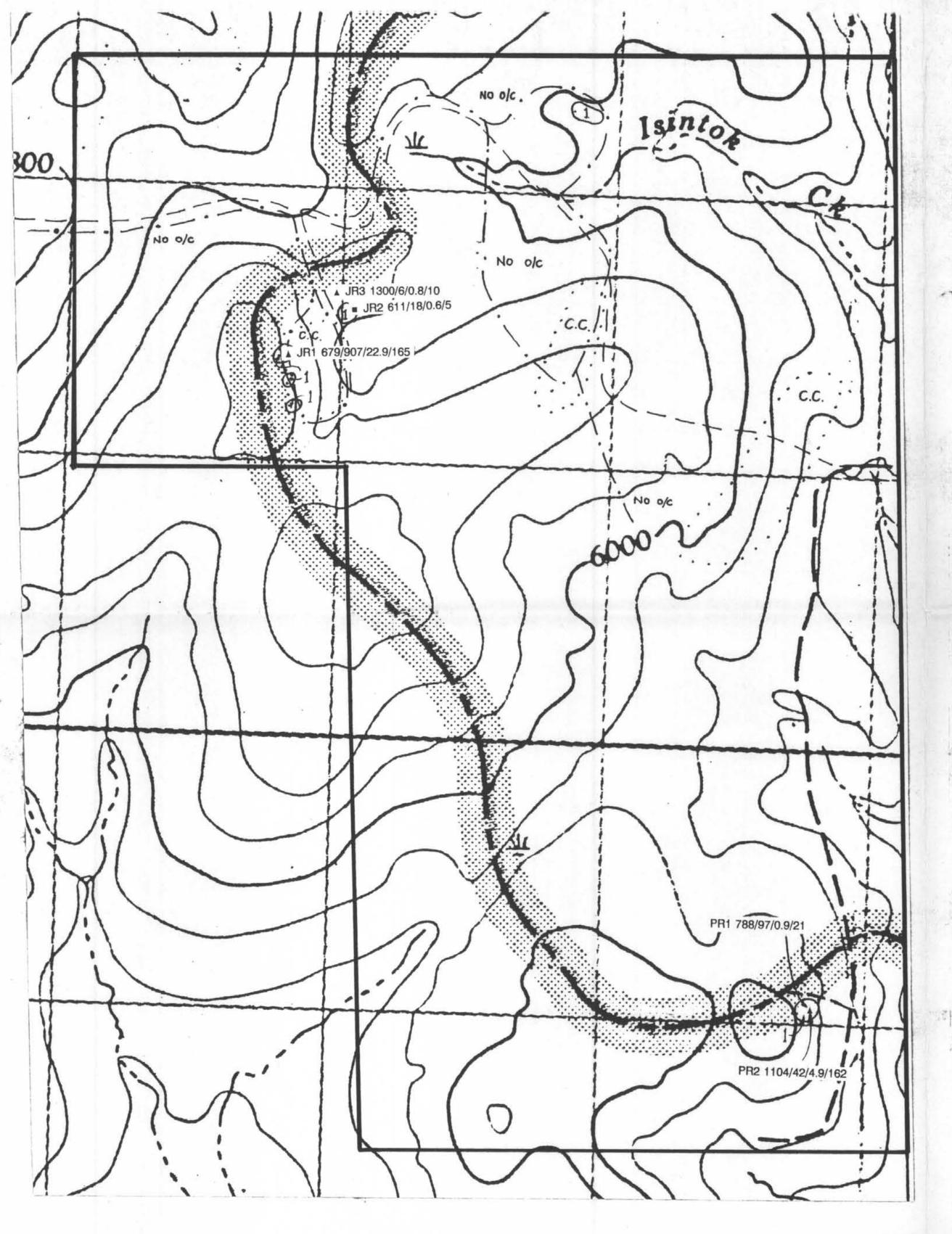
- Magnetite; >2%, anhedral, (<.01 to >1.0 mm) As irregular free grains, clusters of grains and associated with mafics. Locally shows fracture control.
- Ilmenite; traces, anhedral (<.05 mm). Scattered irregular grains in sphene. Associated with magnetite.
- Chalcopyrite; <1%, anhedral (<.01 to 0.1 mm, generally <.05 mm).

  Disseminated grains, clusters of grains. Larger grains commonly surrounded by hematite. Distribution shows some fracture control.

#### HED R2 Continued

- Hematite; <1%, anhedral (<.01 to 0.1 mm).
  [a] As minute free grains associated with epidote and anhydrite(?).
  [b] As rims around chalcopyrite grains.

  - [c] Intergrowths (silver white metallic) with magnetite.



GEOLOGICAL BRANCH ASSESSMENT REPORT

### LEGEND

- Granodiorite / Quartz Monzonite
- O Outcrop
  - ▲ JR1 679/907/22.9/165 Rock Sample Location Cu(ppm)/Mo(ppm)/Ag(ppm)/Au(ppb)
  - Thin Section Sample Location



## SEGURO CONSULTING INC.

# HED PROPERTY Osoyoos M.D., B.C.

# GEOLOGY and ROCK GEOCHEMISTRY

Scale: 1:10,000 NTS: 92 H/9 Figure 8 Date: June, 1992 RELIANCE GEOLOGICAL SERVICES INC.