

LOG NO. 1016	RD
A.D.N.	
FILE NO.	

GEOLOGICAL REPORT  
ON THE  
PASS 40 CLAIM  
LIARD MINING DIVISION  
BRITISH COLUMBIA

FILMED

**SUB-RECORDER  
RECEIVED**  
**OCT 6 1989**  
 M.R. # ..... \$ .....  
 VANCOUVER, B.C.

NTS 104I/4W  
 58° 8' N, 129° 50' E  
 FOR

EQUITY SILVER MINES LIMITED  
 #13 - 1155 Melville Street  
 Vancouver, British Columbia  
 V6E 4C4

PREPARED BY:

STETSON RESOURCE MANAGEMENT CORP.  
 #13 - 1155 Melville Street  
 Vancouver, British Columbia  
 V6E 4C4

J.F. WETHERILL, B.A. Sc.

October 6, 1989

19,177

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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## 1.0 INTRODUCTION

This report discusses the geology of a precious metal prospect covered by the Pass claim under option to Equity Silver Mines Limited. The data presented are the results of an exploration program conducted by Stetson Resource Management Corp. Further exploration is recommended to test anomalous gold and copper values returned from the property.

### 1.1 Location and Access

The Pass 40 claim is situated in the Liard mining division, approximately 40 kilometers south of Dease Lake. The claim covers 4 square kilometers centred at latitude 58°8' and longitude 129°50'W.

Access to the property is via the Cassiar Stewart highway which extends from Dease Lake to Stewart. The highway crosses the eastern portion of the claim.

Groceries, fuel, lumber and general supplies are available to a limited extent in Dease Lake. The remainder may be trucked from Smithers to Dease Lake.

### 1.2 Physiography, Vegetation and Climate

The Pass 40 property is located in the Hotailuh mountain range near the northeastern edge of the Stikine Plateau. The region has a relatively dry climate, and snow cover in winter is moderate. The property covers sub-alpine terrain at or near treeline elevations, ranging from 1210 meters at Upper Gnat Lake to 1300 meters on the western property area.

Vegetation varies on the property. East facing slopes below 1500 meter in elevation are covered by moderate stands of Engelmann spruce, fir, and lodge pole pine. The Gnat Pass valley is covered by alpine grasses and scrub bush.

# EQUITY SILVER MINES

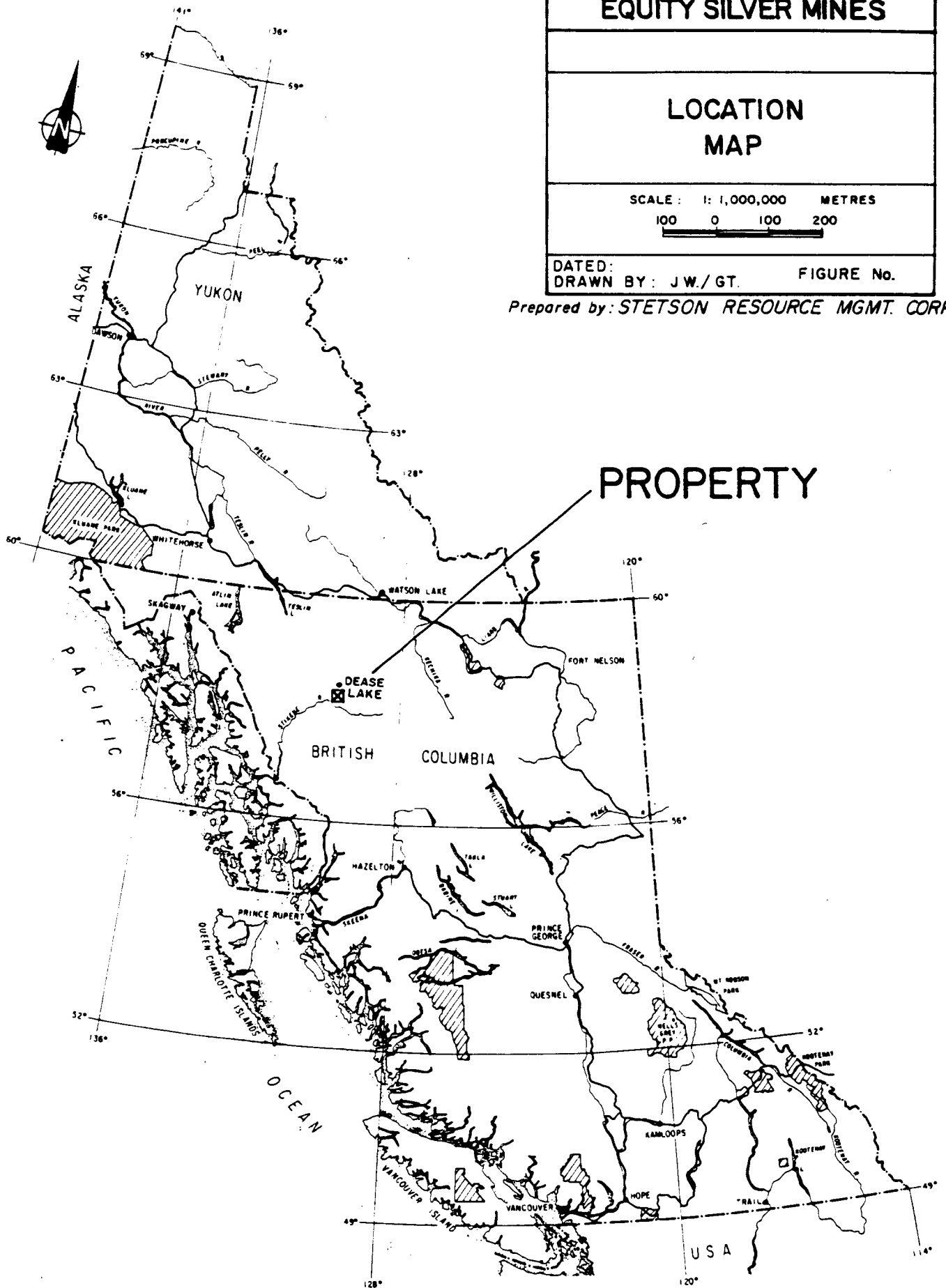
## LOCATION MAP

SCALE: 1:1,000,000 METRES

100 0 100 200

DATED: \_\_\_\_\_  
DRAWN BY: J.W./GT. FIGURE No. \_\_\_\_\_

Prepared by: STETSON RESOURCE MGMT. CORP.



1.3 Property

TABLE 1

The property is covered by 1 "Modified Grid" mineral claim, as per Table 1.

<u>Claim</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
Pass 40	16	4783	July 8, 1990

1.4 History

In 1960, Cassiar Asbestos Corp. staked several copper showings near Gnat Lake discovered during a regional prospecting program. These claims were restaked in 1963 and actively explored from 1965 to 1968. A total of 17,384 meters of diamond drilling were completed in 102 holes, blocking out the Gnat Pass deposit. The deposit and the surrounding ground are currently covered by the Troy claims and the northern portion of the Pass property.

The southern portion of the property covers and surrounds ground initially staked by Joseph Clearihue during the 1899 Dease Lake gold rush. Several periods of restaking occurred until the Dalvenie Syndicate of Victoria had the claims Crown Granted in 1935 following an extensive trenching program. In 1935, prospectors' samples from the Dalvenie property returned values up to 1.10 oz/ton Au, 15.5 oz/ton Ag, and 6.45% Cu but the exact locations of the samples are unknown.

2.0 1989 EXPLORATION PROGRAM

In 1989, an exploration program was undertaken by a geological field crew employed by Stetson Resource Management Corp. Approximately \$2,700 was spent on a geological survey carried out between June 28 and July 7, 1989.

The survey involved mapping and sampling two property drainages, and a traverse to locate the Gnat Pass Fault.

## 2.1 Regional Geology

Gabrielse (1979) indicates the property covers Upper Triassic Stikine Formation augite and plagioclase porphyry breccia and flows, which are in contact with the western flank of the Hotailuh Batholith of hornblende syenodiorite to granodiorite.

## 2.2 Regional Mineralization/Alteration

On the Dalvenie claims, chlorite alteration has been reported, particularly in fault zones and proximal wallrocks. Areas of the property separated from these zones remain relatively unaltered.

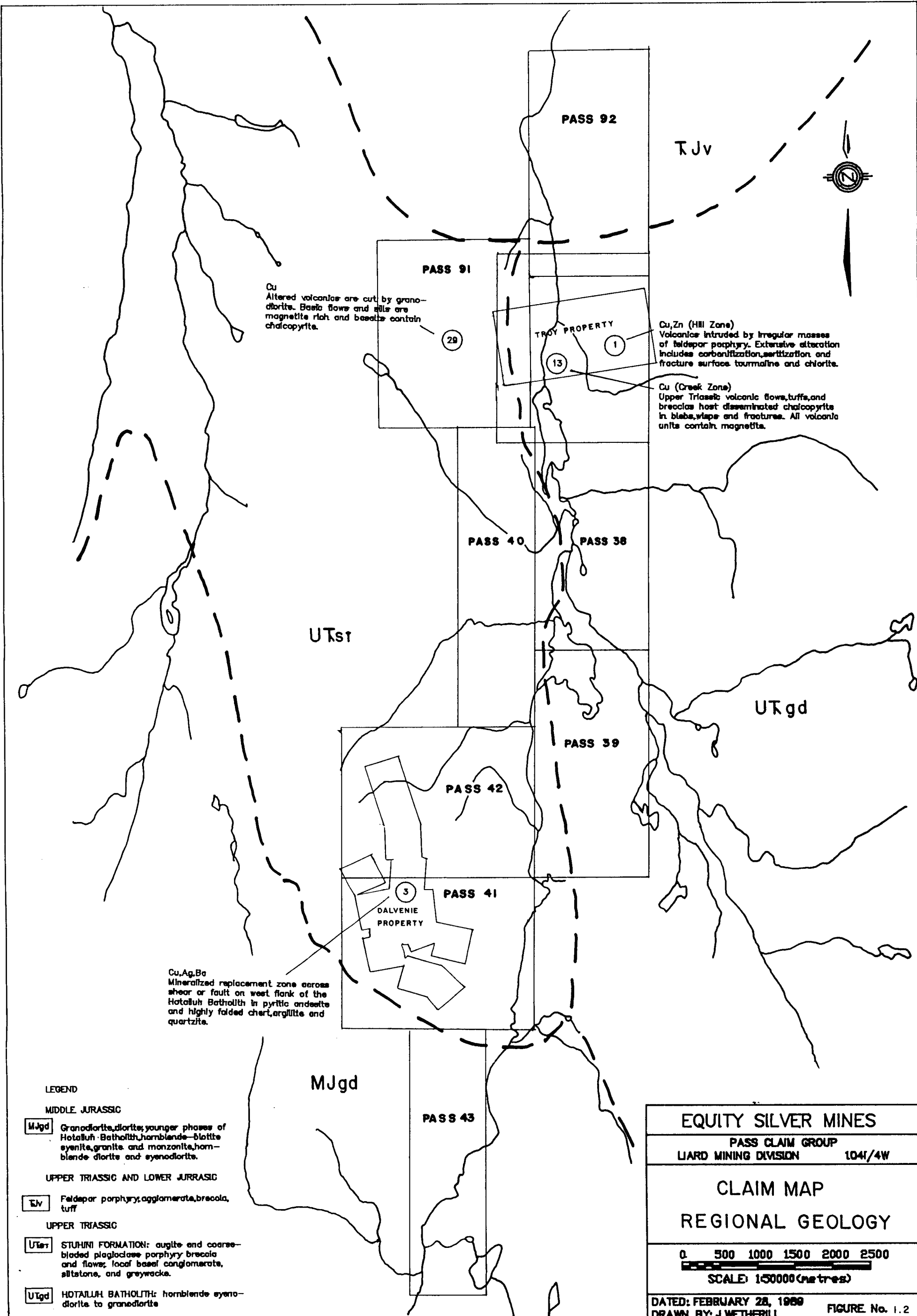
Mineralization is hosted by smokey quartz in the diabase dyke fault zone on the Dalvenie claims, and comprises massive pyrite with blebs of chalcopyrite, arsenopyrite and fractures surface bornite and hematite. Minor occurrences of siderite and sphalerite were also observed. Values of 3.4% Cu, 0.08 oz/ton Au, and 0.9 oz/ton Ag., were obtained from the main fault zone trenches.

## 2.3 Property Geology

Outcrop on the Pass 4 claim is very limited, approximately 98% covered by a uniform layer of glacial overburden. Two easterly flowing creeks comprise the property drainages, but are less than 1 metre wide and rarely expose bedrock. The claim covers two main rock types, grey-green andesites and dacites, and buff weathered quartz monzonite.

### **Andesite - Dacite (va)**

Weathered surfaces of the andesites are dark grey with spotty limonite on fracture surfaces. Fresh surfaces are grey to dark green in color, exhibiting moderate chloritization. Quartz content is in the order of 10% with 55-60% plagioclase and 10% mafics, primarily pyroxenes, with minor magnetite. Dacitic rocks outcropping on the property are moderately to weakly chloritized, with approximately 20% quartz, 30-40% plagioclase and 5% mafics (biotite with minor pyroxene)



<b>EQUITY SILVER MINES</b>	
<b>PASS CLAIM GROUP</b>	
LIARD MINING DIVISION	1041/4W
<b>CLAIM MAP</b>	
<b>REGIONAL GEOLOGY</b>	
SCALE: 1:50000 (metres)	
DATED: FEBRUARY 28, 1989	
DRAWN BY: J. WETHERILL	
FIGURE No. 1.2	

### Quartz Monzonite (qm)

Quartz monzonites are generally buff colored on weathered surfaces, with weak spots of hematitic coloration. On fresh surfaces the rocks are weakly chloritized, coarse to medium grained with approximately 15% quartz. Plagioclase content appears quite variable (40-60%) grading into a granodiorite composition locally. Biotite is the predominant mafic mineral in these rocks.

### 2.4 Property Mineralization/Alteration

Rocks across the claim exhibit weak to moderate chloritization. Fracture surfaces of the andesites are generally limonitic, with with local epidote and malachite?, but no visible sulphides were observed in these volcanics. Carbonitization of the volcanics appears to increase proximal to the Gnat Pass fault mapped by Galrielse (1979). A small subcrop - float area of intense quartz-carbonate altered rock was sampled south of a highway fault exposure, suspected to be the Gnat Pass Fault. A poorly exposed chloritic clay gouge zone outcrops 950 meters from the confluence of the southern property drainage and Gnat Pass Creek. Massive and disseminated pyrite was observed in bleached and chloritized fragments of country rock in the clay gouge.

### 2.5 Rock Chip Sampling

Sampling on the property was confined to the center of the claim. Eight rock chip and selected samples were taken across alteration zones, shear zones and breccias in order to best represent alteration types and mineralization found on the property.

These samples were selected for 29 element ICP geochemical analysis and Fire Assay gold analysis. The rock chip samples were bagged and sent to Bondar-Clegg Laboratories in Vancouver for fire assay gold and 29 element ICP analysis. In the laboratory, samples were put through primary and secondary crushers. A sub sample of approximately 250 grams was then screened to -100, or -150 mesh and the pulp fire assayed for gold plus 29 element ICP.



### 3.0 Conclusions and Recommendations

Anomalous concentrations of gold, silver and copper were returned from rocks sampled on the Pass 40 claim. Sample 416317 assayed 125 ppb Au, 3.2 ppm Ag, and 12992 ppm Cu from sheared andesites. Sample 416316 assayed 36 ppb Au, and 2324 ppm Cu from limonitic dacite. Samples collected from or proximal to a shear zone, (suspected to be the Gnat Pass fault mapped by Gabrielse) returned disappointing gold values, however, arsenic was generally elevated in the area of the shear zones.

A geophysical survey across the sheared andesite, and over the highway exposure of the "Gnat Pass Fault" is recommended to test the extent of the shear zones. Geophysical work conducted by the writer south of the property indicates the overburden in the area is uniform and non-conductive. Magnetic and VLF electromagnetic surveys should delineate any significant structure on the claim.



Lower Gnat Lake

Pass 40

1200

**LEGEND**

- qm quartz monzonite
- va andesite, dacite
- ◻ outcrop
- ↓ foliation
- ~ fault
- ⊥ shear
- △ sample location

qm

qm  
416314

va

va  
416316  
61  
va

63

416319

416318

416317

416315

Stewart - Cassiar Highway

1200

GNAT PASS FAULT

Upper Gnat Lake

va  
416320

△ 416321



**EQUITY SILVER MINES**

PASS 40 CLAIM  
LIARD M.D. 104 1/4

**GEOLOGY & SAMPLE  
MAP**

SCALE : 1:10,000

FIG 2.1

Table 2  
Sample Descriptions

Sample No.	Location	Description	Strike Dip	Width
416314	Upper creek	Buff colored medium grained quartz monzonite with limonitic fracture surfaces, no visible sulphides	010/90	Select
416315	Lower creek	Black-green fine grained andesite, fine disseminated pyrite, limonitic on fracture surfaces	-	Grab
416316	Small knoll	Light grey-green dacitic volcanics, no visible sulphides but limonitic on weathered surfaces	117/61S	Select
416317	Lower creek	Weakly carbonitized and sheared andesite, fracture surface epidote pyrite and malachite on fractures	-	Select
416318	Lower creek	Chloritic gouge zone, minor hematite, no visible sulphides	173/63 E	10cm
416319	Lower creek	Hanging wall altered volcanics, argillic and chloritic alteration, no visible sulphides	-	Grab
416320	Highway	Limonitic shear zone in carbonitized andesite-dacite	165/80 N	20cm
416321	Highway	Intense local quartz-carbonate altered float, minor visible sulphides, chlorite	-	Float

COST STATEMENT

Project Preparation

Printing	\$ 32.00
Maps	\$ 16.78
Drafting	\$ 92.00
J. Wetherill 1 day @ \$225/ day	\$ 225.00
	=====
	\$ 365.78

Field Personnel

GEOLOGIST	
J. Wetherill 2 days @ \$225.00	\$ 450.00
FIELD TECHNICIANS	
M. Pym 2 days @ \$175/day	\$ 350.00
	=====
	\$ 800.00

Support

General Supplies	\$ 65.00
Gasoline & Propane	\$ 30.50
Equipment Rental:	
Bronco with winch: 2 days @ \$60/day	\$ 120.00
20 km @ \$0.15/km	\$ 3.00
Generator : 2 days @ \$25/day	\$ 50.00
Computer : 2 days @ \$25/day	\$ 50.00
Radio Rental and Licenses:	
2 days @ \$25.00/day	\$ 50.00
	=====
	\$ 368.35

General

Communication (B.C. Tel)	\$ 8.50
	=====
	\$ 8.50

Assays

Rock

29 ICP, Fire Assay Au, and Prep	
8 rocks @ 25.00/sample	\$ 200.00
	=====
	\$ 200.00

Report Writing

Geologist 2 days @ \$225/day	\$ 450.00
Drafting 1 days @ \$200/day	\$ 200.00
Reproduction	\$ 20.50
Supplies, Typing, Copying	\$ 28.60
	=====
	\$ 699.10

Subtotal	\$ 2,441.73
----------	-------------

12% Administrative Overhead	\$ 293.01
	=====

TOTAL	\$ 2,734.74
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REFERENCES

Hanson, G.: McNaughton, D.A.

1936 Eagle-McDame Area, Cassiar District British Columbia: Geological Survey of Canada, Memoir 194, 16 Pages.

Mandy, J.T

1935 Dease Lake Area (Dalvenie); British Columbia Minister of Mines, Annual Report, 1935, Pages 22-23.

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Westervelt, R.D.

1964 Geological and Geophysical Report on the Krysco Copper Prospect; BCDM Assmt. Rpt. 660

ar-pa40

**STATEMENT OF QUALIFICATIONS**

**NAME:** Wetherill, J.F.

**PROFESSION:** Geologist - Engineer in Training

**EDUCATION:** 1987 B.A.Sc. Geology -  
University of British Columbia

**EXPERIENCE:** 1987 - Present: Geologist with  
Stetson Resource Management Corp.  
Field Supervisor for exploration  
programs involving geology, geo-  
chemistry, and geophysics in B.C.  
and Yukon.

1986, June - August: Field Assistant  
-Geologist involved with geological,  
geochemical and geophysical aspects  
of exploration programs in B.C.

**APPENDIX**  
**Geochemical Assays**



Bondar-Clegg & Company Ltd.  
130 Pemberton Ave.  
North Vancouver, B.C.  
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# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-03929.0 ( COMPLETE )

REFERENCE INFO: SHIPMENT #2

CLIENT: STETSON RESOURCE MANAGEMENT  
PROJECT: UPPER GNAT PASS

SUBMITTED BY: J. WETHERILL  
DATE PRINTED: 6-AUG-89

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	15	2 -150	15	CRUSH,PULVERIZE -150	15
				BATCH SURCHARGE	15

REMARKS: We no longer offer the ICP 31 Element package.  
Therefore we are running the ICP 29 Element package.

GOLD RESULTS FOR SAMPLES 416288, 416316 AND  
416317 WERE CHECKED VALUES ARE: 6, 36 AND 125  
PPB AU.  
Bi values may be elevated due to an additive  
interference from Fe, Mn, Ca and Cu.

REPORT COPIES TO: #13-1155 MELVILLE STREET

INVOICE TO: #13-1155 MELVILLE STREET

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 6-AUG-89

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PROJECT: UPPER GNAT PASS PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
R2 416279		<5	<0.2	247	60	<0.5	54	<1	8	27	169	81
R2 416280		<5	<0.2	246	14	<0.5	47	<1	8	24	119	50
R2 416281		<5	<0.2	127	17	<0.5	26	<1	<5	32	41	133
R2 416282		<5	<0.2	176	25	<0.5	29	<1	8	27	15	225
R2 416283		<5	<0.2	71	75	<0.5	11	<1	22	5	34	678
R2 416284		<5	<0.2	77	31	<0.5	15	<1	29	7	28	80
R2 416285		12	<0.2	123	17	<0.5	20	<1	<5	5	51	1126
R2 416286		<5	<0.2	155	33	<0.5	28	<1	6	7	4	103
R2 416287		<5	<0.2	116	126	<0.5	26	<1	20	8	44	260
R2 416288		6	<0.2	78	114	<0.5	16	<1	16	7	17	277
R2 416289		<5	<0.2	89	42	<0.5	16	<1	16	3	24	12
R2 416314		6	<0.2	35	21	<0.5	6	<1	<5	9	45	639
R2 416315		<5	<0.2	199	27	<0.5	46	<1	13	27	46	65
R2 416316		34	0.2	130	58	<0.5	26	<1	<5	50	24	2324
R2 416317		125	3.2	254	52	<0.5	26	<1	10	31	15	12992

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PROJECT: UPPER GNAT PASS PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
R2 416279		32	2	23	3	15	40	12	43	77	19	<20
R2 416280		23	1	5	3	10	35	12	<20	69	23	<20
R2 416281		18	<1	17	2	5	17	7	22	39	3	<20
R2 416282		14	3	11	5	3	6	5	46	43	4	<20
R2 416283		10	10	3	2	3	3	2	<20	24	2	<20
R2 416284		8	15	1	2	2	6	4	<20	22	1	<20
R2 416285		3	<1	<1	2	<1	4	4	<20	27	<1	<20
R2 416286		15	<1	2	2	11	9	6	<20	42	<1	<20
R2 416287		10	8	12	2	3	11	3	<20	31	3	<20
R2 416288		15	7	3	<1	5	3	5	<20	26	4	<20
R2 416289		13	6	2	3	5	3	3	29	26	4	<20
R2 416314		4	1	<1	1	<1	5	3	<20	8	2	<20
R2 416315		28	6	15	2	5	21	7	<20	57	9	<20
R2 416316		18	<1	17	2	6	31	5	<20	41	5	<20
R2 416317		20	5	26	4	4	15	10	26	60	5	<20

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PROJECT: UPPER GNAT PASS

PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 416279		161	<10	33	145	<10	8	64	1
R2 416280		98	<10	32	152	<10	8	92	1
R2 416281		56	<10	18	69	<10	4	37	1
R2 416282		15	<10	18	118	<10	5	28	3
R2 416283		25	<10	<10	33	<10	7	11	5
R2 416284		33	<10	<10	26	<10	7	21	7
R2 416285		12	<10	<10	23	<10	4	6	7
R2 416286		62	<10	22	13	<10	5	22	7
R2 416287		25	<10	12	62	<10	5	12	10
R2 416288		42	<10	10	27	<10	7	21	8
R2 416289		23	<10	<10	30	<10	8	15	6
R2 416314		8	<10	<10	17	<10	3	6	8
R2 416315		19	<10	28	149	<10	14	83	41
R2 416316		27	<10	22	88	<10	5	39	2
R2 416317		37	<10	42	92	<10	6	76	8

Bondar-Clegg & Company Ltd.  
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# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 1-AUG-89

REPORT: U89-113889.11

PROJECT: GNAT PASS

PAGE 2A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
R2 416318		<5	<0.2	52	37	2.5	13	<1	31	4	60	5
R2 416319		<5	<0.2	258	33	2.7	52	<1	<5	16	150	56
R2 416320		17	0.5	243	9	3.7	32	<1	6	404	69	136
R2 416321		7	0.6	223	21	2.7	34	<1	6	42	45	81

Bondar-Clegg & Company Ltd.  
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# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 1-AUG-89

REPORT: U89-113889.11

PROJECT: GNAT PASS

PAGE 2B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
R2 416318		17	17	24	4	9	11	<2	<20	21	5	<20
R2 416319		28	2	61	2	11	44	7	<20	71	17	80
R2 416320		<2	<1	<1	98	<1	8	74	<20	80	<1	<20
R2 416321		21	<1	4	1	14	57	6	<20	48	23	<20

