

LOG NO: 0914	FD
ACTION:	
FILE NO:	

1989 Geological Report
on the
Canyon 30 Claim

FILMED

Liard Mining Division
NTS: 104G/6
Lat: 57 17' N
Long: 131 24' W

Owners: Homestake Mineral Development Company
1000 - 700 W. Pender St.
Vancouver, B.C.
and
Equity Silver Mines Ltd.
Suite 13 - 1155 Melville St
Vancouver, B.C.

Operator: Homestake Mineral Development Company

Author: Darcy Marud
Date: August 7, 1989

SEARCHED
SERIALIZED
INDEXED
FILED

19,075

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SUMMARY

The Canyon 30 property is located in the Stikine region of British Columbia. The property consists of one mineral claim (Canyon 30) totalling 18 units and is owned by Homestake Mineral Development Company and Equity Silver Mines Ltd.

Work on the property was carried out on June 4, 1989 and involved prospecting as well as the collection of 12 rock samples. Work was performed by a Homestake Mineral Development crew of 2 geologists and 2 assistants.

Anomalous gold was found in one sample taken from a thin northwest trending shear zone in gassanous limestone. Several other northwest trending shear zones and faults have been noted on the property and require further investigation. As such, a short prospecting and sampling program is recommended for the Canyon 30 property.

1.0 INTRODUCTION

1.1 Location and Access

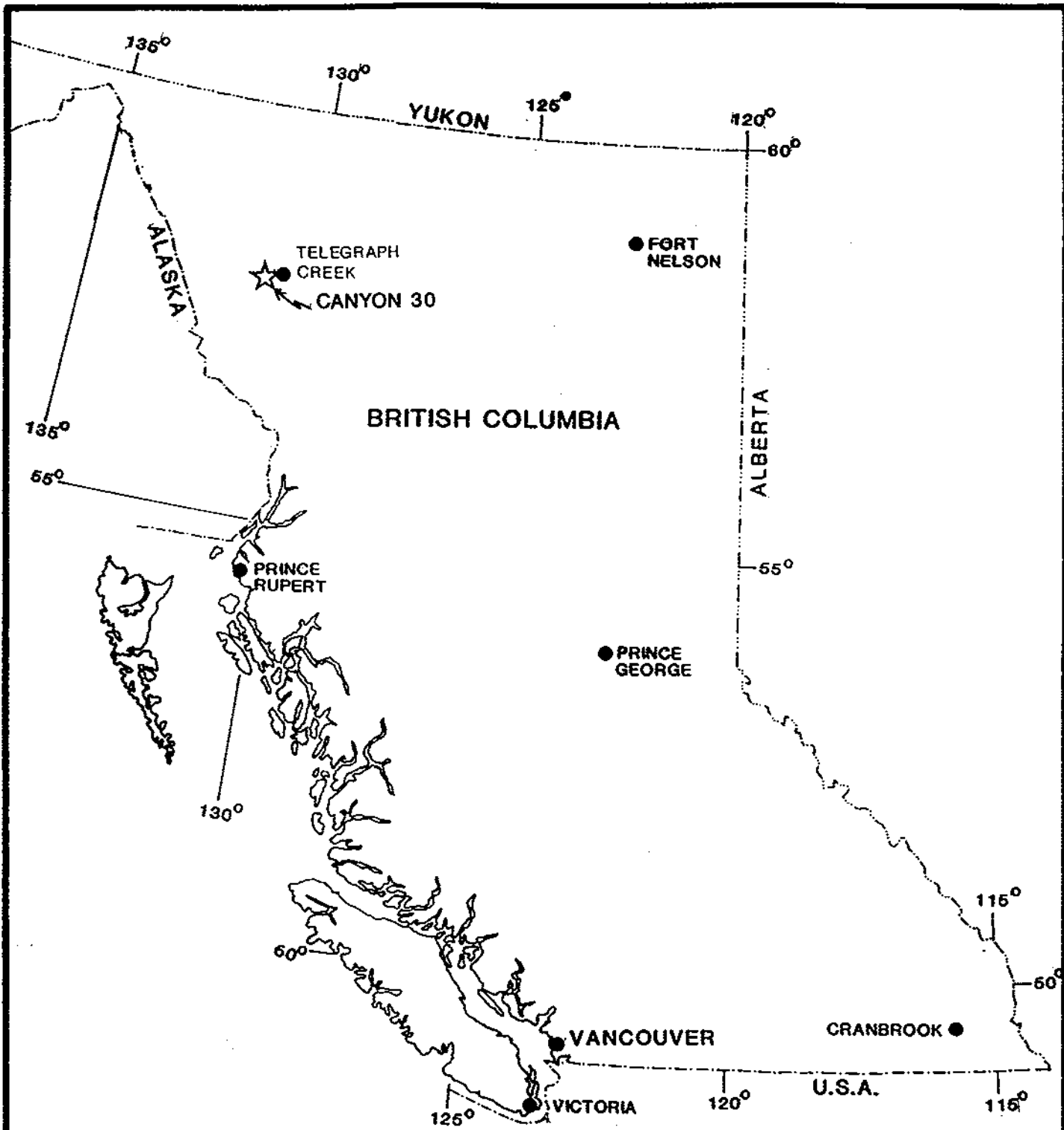
The Canyon 30 property is located in the Stikine region of northwestern British Columbia approximately 73 km South-southwest of the village of Telegraph Creek (Figure 1.1). The claim is centred at 57 17'N latitude and 131 24'W longitude on NTS map sheet 104G/6, near the present day toe of the Scud glacier.


Access to the property is via helicopter from Telegraph Creek, which is connected to Dease Lake by an all-weather road and serviced by fixed-wing flights from Smithers, B.C. The Stikine River provides navigable water access from Wrangell, Alaska north to Telegraph Creek.

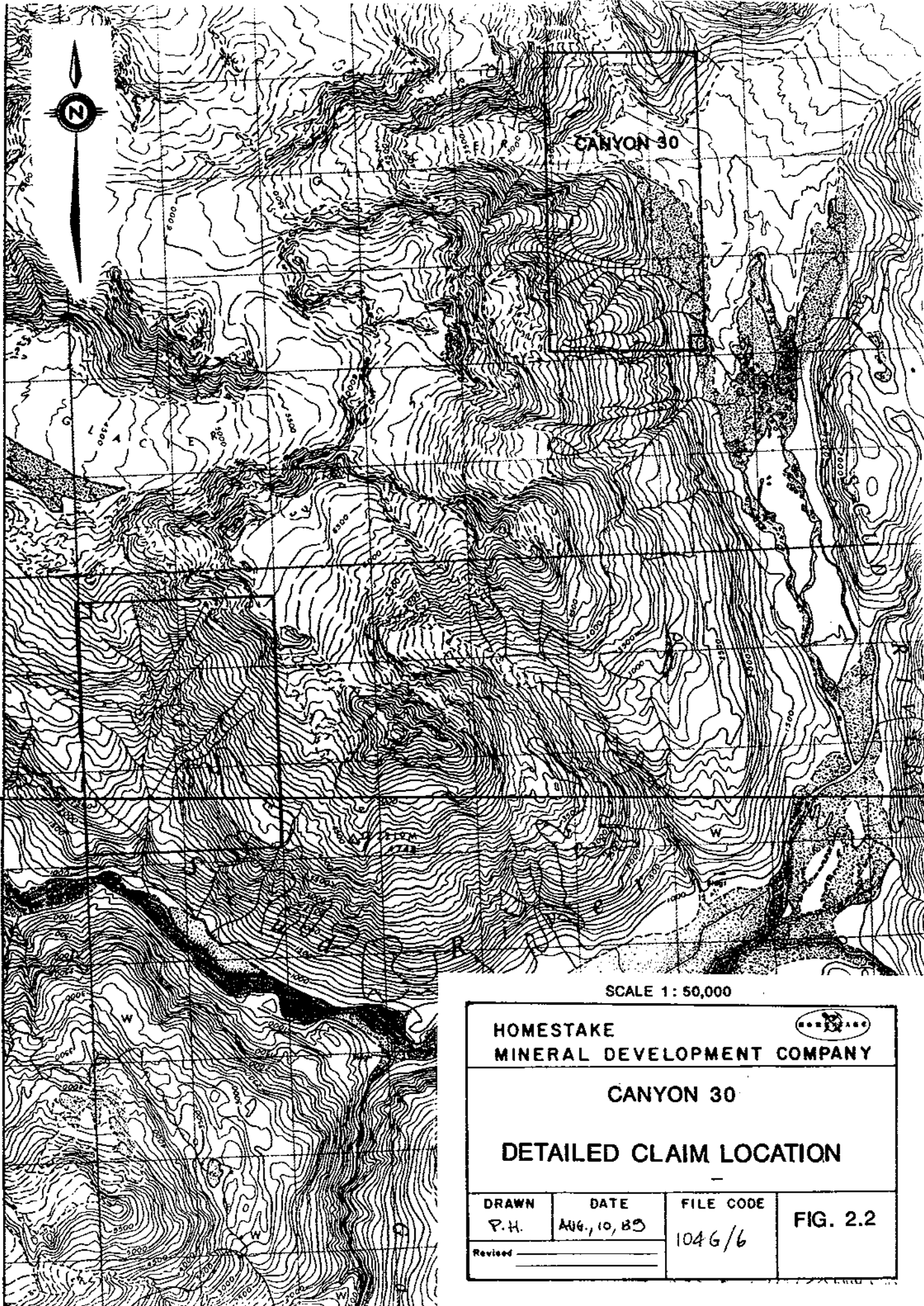
1.2 Claim Status

The Canyon 30 property consists of one mineral claim (Canyon 30) totalling 18 units. The claim recorded on June 28, 1988 is owned by Homestake Mineral Development Company and Equity Silver Mines Ltd. Assuming acceptance of this assessment work, claim data will be as follows:


CLAIM	UNITS	RECORD #	RECORDING DATE	EXPIRY DATE
Canyon 30	18	4734	June 28, 1988	June 28, 1990



HOMESTAKE MINERAL DEVELOPMENT COMPANY 		
GRAND CANYON PROJECT, B.C. CANYON 30 LOCATION MAP		
DRAWN KMc	DATE 11/87	FILE CODE 104G
Revised _____		FIGURE 1.1



SCALE 1: 50,000

HOMESTAKE MINERAL DEVELOPMENT COMPANY			
CANYON 30			
DETAILED CLAIM LOCATION			
DRAWN P.H.	DATE Aug. 10, 85	FILE CODE 1046/6	FIG. 2.2
Revised _____			

1.3 Physiography

The Canyon 30 claim lies within extremely rugged topography on a steep east facing slope looking over the head of the Scud River. Several small glaciers transect the property and join in the east central part of the claim. Elevation ranges from 300 meters near the Scud River valley to approximately 1400 meters in the southwest corner of the property. Treeline on the property is at approximately 950 meters, below this elevation vegetation consists of scrub spruce, alder and subalpine flora. Perpetual snow cover exists at higher elevations adjacent glaciated areas.

1.4 Exploration History

There is no reported exploration work in the vicinity of the Canyon 30 claim.

1.5 Present Work

The 1989 work program outlined in this report was designed to locate areas of anomalous metal values and to assess the economic potential of the property. It consisted of prospecting, rock sampling and 1:10 000 scale geological mapping. The work was carried out on Juen 4th by a crew of two geologist and two assistants employed by Homestake Mineral Development Company.

2.0 REGIONAL GEOLOGY

The property lies on the boundary between the Coast and Intermontane tectonic belts. This area is underlain by rocks of the Stikine Terrane (Stikinia) consisting of Paleozoic schists, phyllites and greenstones of the Stikine Assemblage, Mid to Upper Triassic sedimentary and volcanic rocks of the Stuhini Group (Kerr, 1948), and Late Cretaceous to Tertiary continental volcanic arc assemblages of the Sloko Group (Logan and Koyanagi, 1989).

Three stages of plutonism are recognized in the area. The Hickman batholith is composed of Early to Middle Triassic quartz diorites and Middle Jurassic quartz monzonites. The third series of intrusive rocks are alkalalic, generally syenitic, rocks of Early Jurassic age. These Early Jurassic rocks are associated with mineralization in the area, including the Galore Creek and Schaft Creek porphyry deposits.



HOMESTAKE
MINERAL DEVELOPMENT COMPANY

GRAND CANYON PROJECT
TELEGRAPH CREEK B.C.

CANYON 30

REGIONAL GEOLOGY

DRAWN MJD	DATE 08/89	FILE # 666	FIGURE 3.1
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LEGEND

- QUATERNARY**
PLEISTOCENE AND RECENT
- 29 Fluvialite gravel; sand, silt; glacial outwash, till, alpine moraine and colluvium
 - 28 Hot-spring deposit, tufa, aragonite
 - 27 Olivine basalt, related pyroclastic rocks and loose tephra; younger than some of 29
- TERTIARY AND QUATERNARY**
UPPER TERTIARY AND PLEISTOCENE
- 26 Rhyolite and dacite flows, lava domes, pyroclastic rocks and related subvolcanic intrusions; minor basalt
 - 25 Basalt, olivine basalt, dacite, related pyroclastic rocks and subvolcanic intrusions; minor rhyolite; in part younger than some 26
- CRETACEOUS AND TERTIARY**
UPPER CRETACEOUS AND LOWER TERTIARY
SLOKO GROUP
- 24 Light green, purple and white rhyolite, trachyte and dacite flows, pyroclastic rocks and derived sediments
 - 22 23 Biotite leucogranite, subvolcanic stocks, dykes and sills
 - 23 Porphyritic biotite andesite, lava domes, flows and (?) sills
- SUSTUT GROUP**
- 21 Chert-pebble conglomerate, granite-boulder conglomerate, quartzose sandstone, arkose, siltstone, carbonaceous shale and minor coal
 - 20 Felsite, quartz-feldspar porphyry, pyritiferous felsite, orbicular rhyolite; in part equivalent to 22
 - 19 Medium-to coarse-grained, pink biotite-hornblende quartz monzonite
- JURASSIC AND/OR CRETACEOUS**
POST-UPPER TRIASSIC PRE-TERTIARY
- 18 Hornblende diorite
 - 17 Granodiorite, quartz diorite; minor diorite, leucogranite and migmatite
- JURASSIC**
MIDDLE (?) AND UPPER JURASSIC
BOWSER GROUP
- 16 Chert-pebble conglomerate, grit, greywacke, subgreywacke, siltstone and shale; may include some 13
- MIDDLE JURASSIC**
- 15 Basalt, pillow lava, tuff-breccia, derived volcanoclastic rocks and related subvolcanic intrusions
- LOWER AND MIDDLE JURASSIC**
- 14 Shale, minor siltstone, siliceous and calcareous siltstone, greywacke and ironstone
- LOWER JURASSIC**
- 13 Conglomerate, polymictic conglomerate; granite-boulder conglomerate, grit, greywacke, siltstone; basaltic and andesitic volcanic rocks, peperitas, pillow-breccia and derived volcanoclastic rocks
- TRIASSIC AND JURASSIC**
POST-UPPER TRIASSIC PRE-LOWER JURASSIC
- 12 Syenite, orthoclase porphyry, muscovite, pyroxenite
- HICKMAN BATHOLITH**
- 10 11 Hornblende granodiorite, minor hornblende-quartz diorite, 11, Hornblende, quartz diorite, hornblende-pyroxene diorite, amphibolite and pyroxene-bearing amphibolite
- TRIASSIC**
UPPER TRIASSIC
- 9 Undifferentiated volcanic and sedimentary rocks (units 5 to 8 inclusive)
 - 8 Andite-andesite flows, pyroclastic rocks, derived volcanoclastic rocks and related subvolcanic intrusions; minor greywacke, siltstone and polymictic conglomerate
 - 7 Siltstone, thin-bedded siliceous siltstone, ribbon chert, calcareous and dolomitic siltstone, greywacke, volcanic conglomerate, and minor limestone
 - 6 Limestone, fetid argillaceous limestone, calcareous shale and reefoid limestone; may be in part younger than some 7 and 8
 - 5 Greywacke, siltstone, shale; minor conglomerate, tuff and volcanic sandstone
- MIDDLE TRIASSIC**
- 4 Shale, oolitic black shale; minor calcareous shale and siltstone
- PERMIAN**
MIDDLE AND UPPER PERMIAN
- 3 Limestone, thick-bedded mainly bioclastic limestone; minor siltstone, chert and tuff
- PERMIAN AND OLDER**
- 2 Phyllite, argillaceous quartzite, quartz-sericite schist, chlorite schist, greenstone, minor chert, schistose tuff and limestone
- MISSISSIPPIAN**
- 1 Limestone, orbicoidal limestone, ferruginous limestone; maroon tuff, chert and phyllite
 - B Amphibolite, amphibolite gneiss; age unknown probably pre-Upper Jurassic
 - A Ultramafic rocks; peridotite, dunite, serpentinite; age unknown, probably pre-Lower Jurassic

CENOZOIC

MESOZOIC

PALEOZOIC

- Geological boundary (defined and approximate, assumed)
- Bedding (horizontal, inclined, vertical, overturned)
- Antholine
- Syncline
- Fault (defined and approximate, assumed)
- Thrust fault, teeth on hanging-wall side (defined and approximate, assumed)
- Fossil locality
- Mineral property
- Glacier

INDEX TO MINERAL PROPERTIES

1. Laird Copper	5. Bam	9. MH	13. Ann, Su
2. Galore Creek	6. Gordon	10. BDK	14. SF
3. QC, QCA	7. Limpoke	11. JW	15. Goat
4. Nabe	8. Poke	12. Copper Canyon	16. Mary

GRAND CANYON PROJECT B.C.
**GEOLOGICAL
 LEGEND**

These rocks have undergone multiple stages of deformation, forming a complex structural pattern which is complicated by large differences in the competence of the different units. North- and northwesterly-trending normal faults are dominant with narrow west-trending extensional fault zones postdating them (Souther, 1972).

The most economically important exploration targets are porphyry copper-gold-silver deposits and peripheral mesothermal and shear zone-hosted precious metal veins (Logan et al, 1989).

3.0 PROPERTY GEOLOGY

The western and southeastern side of the Canyon 30 claim is predominantly underlain by an orange rusty weathering limestone or calcarenite as defined by Brown, (1989). The unit is fairly massive but locally is banded or bedded. In one location, in the east-central part of the claim, the limestone is underlain by a graphitic argillite which is probably part of the Permian Rusty argillite unit as mapped by Brown (1989). The north-east corner of the claim is underlain by dark green pyroxene phyric andesite of the Upper Triassic Stuhini group. The andesites have been faulted up against the older limestones by the Ambition fault a steep dipping northwest trending normal fault, transecting the claim in the northwest corner.

4.0 GEOCHEMISTRY

Twelve rock samples were collected during the work program. Sample locations and results are plotted on Figure 4.1.

4.1 Rock Samples

Twelve rock samples were collected from the property and shipped to Acme Analytical Labs. Thirty element ICP and gold by fire assay was done on each sample, and sample locations were marked in the field by metal tags and orange flagging tape.

Of the 12 samples collected from the Canyon 30 claim only one sample, CN-30-1-31489, returned any interesting precious metal values. The sample was taken from a rusty weathering, sheared limestone containing a trace of pyrite and pyrrhotite. The sample returned 560 ppb Au, 2 ppm Ag, 43 ppm Cu and 176 ppm

As. Two of the samples, CN-30-1 31103 and 31486, returned anomalous molbydenum values at 18 ppm and 47 ppm respectively. The latter sample also returned anamalous tungsten at 24 ppm. Both are float samples of semi-massive pyrite in quartz veins.

All geochemical results are plotted on Figure 4.1 and tabulated in Appendix I and II

5.0 CONCLUSIONS AND RECOMMENDATIONS

The Canyon 30 claim is underlain by orange, rusty-weathering limestones in the west and southeast and by dark green, pyroxene - phyrlic andesite in the northwest. The lithologies have been brought into contact by a northwest trending, stepply dipping normal fault. Anomalous gold was found in sample 31489 from a shear zone paralleling the main fault trend on the claim. As such, a short program of sampling and prospecting should be implemented to follow up the potential of these shear/fault systems as host to precious metal mineralization.

6.0 REFERENCES

Brown, D.A. and Gunning, M. (1989): "Geology of the Stikine River Area, Northwestern B.C.", B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Field Work, 1988, Paper 1989-1, pp. 251-267.

Holbek, P.M. (1988): "Geology and Mineralization of the Stikine Assemblage, Mess Creek Area, Northwestern British Columbia.", University of British Columbia MSc thesis.

Kerr, F.A. (1948): "Lower Stikine and Western Iskut River Areas, B.C.", GSC Memoir 246.

Logan, J.M. and Koyanagi, V.M. (1989): "Geology and Mineral Deposits of the Galore Creek Area, Northwestern B.C.", B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Field Work, 1988, Paper 1989-1, pp. 269-284.

Souther, J.G. (1972): "Telegraph Creek Map Area, B.C.", GSC Paper 71-44.

7.0 STATEMENT OF COSTS

Labour		
Geologist	1days @ \$165/day	\$165.00
Senior Assistant	1days @ \$115/day	\$115.00
Food and Accommodation		
	2mandays @ \$ 90/day	\$180.00
Geochemical Analysis + Freight		
Rock Samples	12@ \$ 25/sample	\$300.00
Supplies		\$200.00
Mob/Demob		\$200.00
Helicopter Support (including fuel)		
	2.1 hrs @ \$700/hr	\$1470.00
Report Preparation		
	1 days @ \$165/day	\$165.00
TOTAL		\$2795.00

APPENDIX 1
Analytical Results

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 1-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR HM YB SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
 - SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

MASTER
N/S: BIKINE/CANADIAN
11. BC. 1046
RMB/ACC.

DATE RECEIVED: JUN 29 1989 DATE REPORT MAILED: *July 6/89.* SIGNED BY: *C. Long* .D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

HOMESTAKE MINERAL DEV. CO. PROJECT 5711 CN (CANYON 30) #9 File # 89-1827

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	Ba	Tl	B	Al	Na	K	W	Au*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPM
CN-30-1 31103	18	103	19	87	.5	118	23	2069	4.17	101	6	ND	4	51	1	2	2	34	3.34	.097	10	16	.46	39	.05	23	1.08	.07	.08	1	7
CN-30-1 31104	1	3	3	21	.3	2	1	286	.19	7	5	ND	1	215	1	2	2	2	34.37	.009	2	9	.95	25	.01	23	.05	.01	.04	4	1
CN-30-1 31469	1	5	3	34	.1	10	3	569	2.63	57	5	ND	1	165	1	2	2	82	20.65	.040	2	33	1.65	72	.07	12	.21	.01	.06	3	12
CN-30-1 31470	1	13	4	10	.3	13	6	160	1.71	77	5	ND	1	23	1	2	2	27	.96	.034	3	31	.39	198	.06	3	.84	.04	.10	1	1
CN-30-1 31471	3	26	21	172	.3	18	9	68	2.17	57	5	ND	1	11	1	2	2	12	.23	.015	2	22	.22	107	.07	16	.48	.01	.07	1	14
CN-30-1 31472	2	15	3	14	.2	13	5	69	1.14	7	5	ND	1	27	1	2	2	4	1.46	.011	2	8	.23	799	.03	7	.46	.01	.06	1	1
CN-30-1 31473	2	3	5	16	.1	8	1	58	.37	2	5	ND	1	80	1	2	2	2	12.77	.005	2	15	1.94	22	.01	6	.03	.01	.01	3	1
CN-30-1 31486	47	14	6	3	.2	5	4	28	4.02	2	7	ND	4	3	1	2	2	2	.15	.006	5	24	.02	14	.01	13	.08	.02	.05	24	2
CN-30-1 31487	1	1	2	10	.1	1	1	328	.26	5	5	ND	1	225	1	2	2	1	33.69	.005	2	7	.42	25	.01	2	.01	.01	.01	3	2
CN-30-1 31488	1	3	5	14	.1	1	1	178	.13	3	5	ND	1	21	1	2	2	1	24.26	.009	4	1	.03	53	.01	2	.02	.01	.01	4	27
CN-30-1 31489	1	12	12	34	.2	4	5	337	2.19	176	5	ND	1	36	1	2	2	11	1.89	.006	2	7	.42	47	.01	6	1.33	.07	.09	1	560
CN-30-1 31490	4	43	7	87	.2	11	20	414	8.42	26	5	ND	1	31	1	2	2	79	.67	.015	3	31	1.70	51	.04	5	1.82	.05	.11	1	2

APPENDIX II
Sample Summary

CANYON 30 GEOCHEM

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION	MINERALIZATION
CN-30	31103 r/c	varied glacial till	po, up to 10% py
	31104 o/c	wht and gray banded lmst	tr. py
	31469 r/c	marble, cream to buff med xstline	2-4% py
	31470 o/c	buff colored marble	patches of mass. wht py(5-7%)
	31471 o/c	marble-dk grey black aph v.hard	tr - 2% py as v.fine blebs
	31472 o/c	?	
	31473 o/c	dk.gray lmst	tr. py.
	31486 float	wht blk med to coarse grained intrusive	1% diss py
	31487 o/c	banded f.g. rusty limestone	
	31488 o/c	dk. gray f.g. lmst to marble	wthrd out py cubes
	31489 o/c	dk.brown alt'd lmst	tr. fine diss. py
	31490 o/c	lmst host-rust zone 5m wide-calc arg	1%py, 1%po finely diss.

APPENDIX III

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Darcy Edward Marud, of Apt. 101, 1529 East Third Avenue, Vancouver, British Columbia, Canada, hereby certify that:

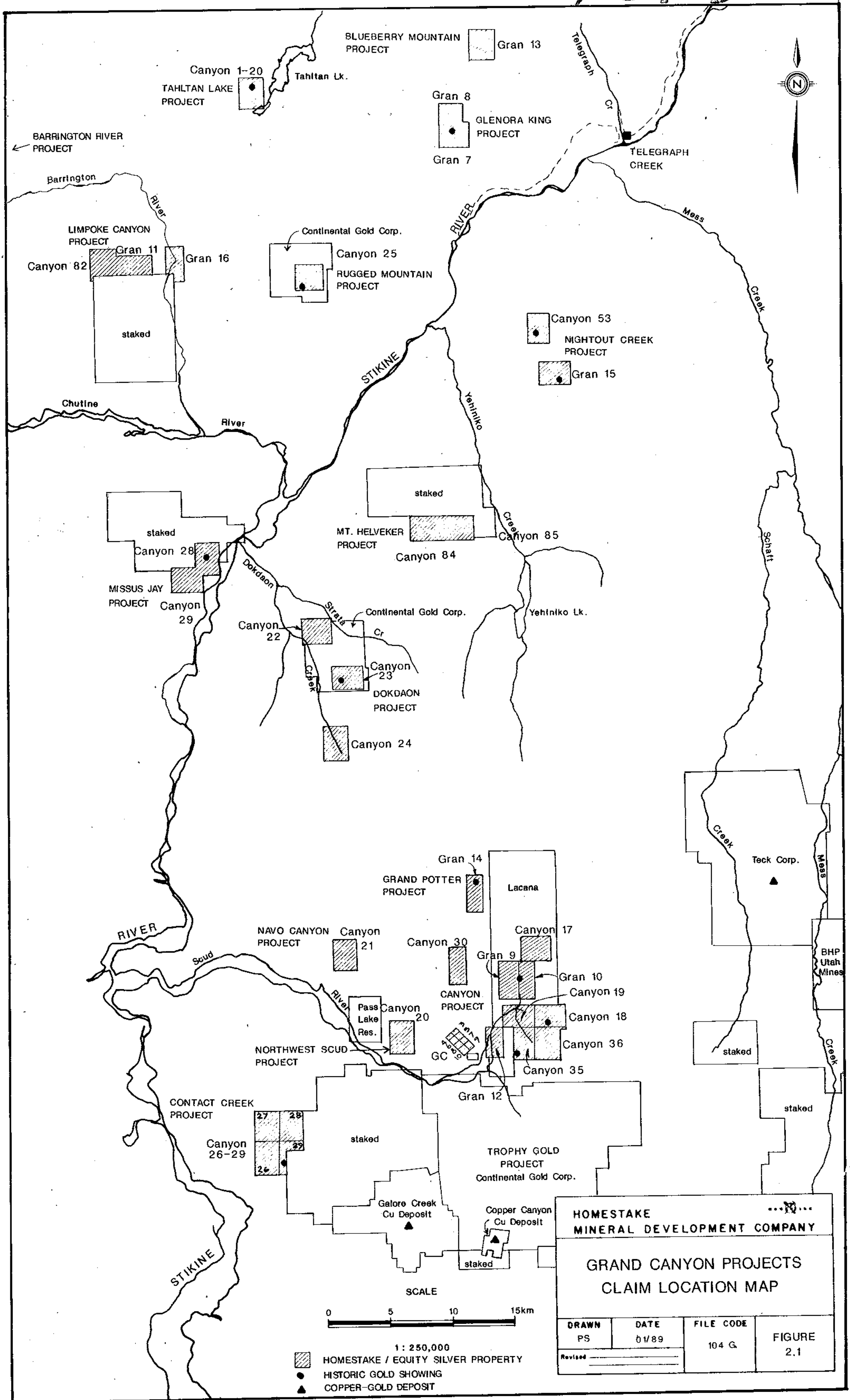
1. I am a graduate of the University of Saskatchewan, having been granted the degree of Bachelor of Sciences -Honours degree in Geology in 1985.
2. I have practiced my profession as a geologist in mineral exploration since 1985.
3. I am presently employed as a geologist with Homestake Mineral Development Company of #1000 - 700 West Pender Street, Vancouver, British Columbia.
4. The work done in the accompanying report was done under my supervision and with my participation.
5. I am the author/co-author of the above report.
6. I have no direct or indirect financial interest in any companies known by me to have an interest in the mineral properties described by this report, nor do I expect to receive any such interest.

Dated at Vancouver, B.C. this 10th day of August, 1989

Respectfully submitted

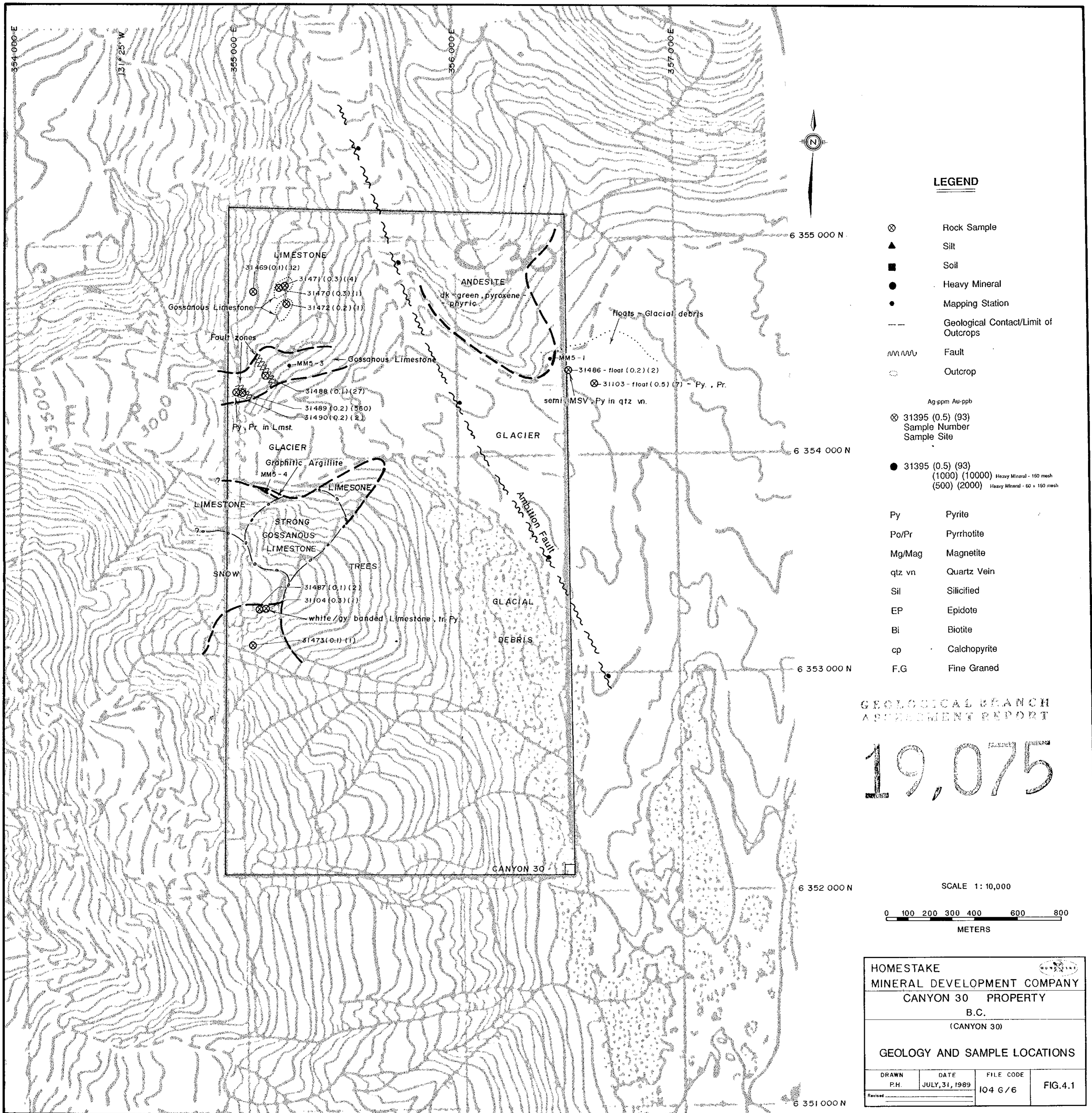

Darcy E. Marud

19,075



HOMESTAKE MINERAL DEVELOPMENT COMPANY			
GRAND CANYON PROJECTS CLAIM LOCATION MAP			
DRAWN PS	DATE 01/89	FILE CODE 104 G.	FIGURE 2.1
Revised			

1:250,000
 ■ HOMESTAKE / EQUITY SILVER PROPERTY
 ● HISTORIC GOLD SHOWING
 ▲ COPPER-GOLD DEPOSIT



LEGEND

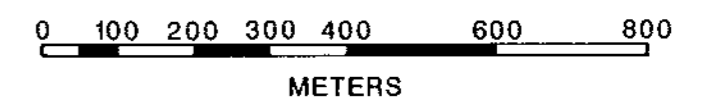
- ⊗ Rock Sample
 - ▲ Silt
 - Soil
 - Heavy Mineral
 - Mapping Station
 - Geological Contact/Limit of Outcrops
 - ~~~~~ Fault
 - Outcrop
- Ag-ppm Au-ppb
- ⊗ 31395 (0.5) (93)
Sample Number
Sample Site
 - 31395 (0.5) (93)
(1000) (10000) Heavy Mineral - 150 mesh
(500) (2000) Heavy Mineral - 60 + 150 mesh
- Py Pyrite
 - Po/Pr Pyrrhotite
 - Mg/Mag Magnetite
 - qtz vn Quartz Vein
 - Sil Silicified
 - EP Epidote
 - Bi Biotite
 - cp Calchopyrite
 - F.G Fine Graded

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,075

6 352 000 N

SCALE 1:10,000



HOMESTAKE MINERAL DEVELOPMENT COMPANY CANYON 30 PROPERTY B.C. (CANYON 30)		
GEOLOGY AND SAMPLE LOCATIONS		
DRAWN P.H.	DATE JULY, 31, 1989	FILE CODE I04 G/6
Revised		FIG. 4.1

6 351 000 N