

LOG NO.	0914	FB
ACTION:		
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1989 Prospecting Report
on the
NIGHTOUT CREEK PROJECT
GRAN15 Claim

FILMED

Liard Mining Division
NTS:104G/14
Lat:57 42'N
Long:131 17'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

M. McPherson
June 23, 1989

BRANCH
REPORT

19,059

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SUMMARY

The GRAN15 claim is located in the Stikine region of British Columbia. The property consists of one claim totalling 20 units and is owned by Homestake Mineral Development Company and Equity Silver Mines Ltd.

Work on the property was carried out on June 2, 1989 and involved prospecting and the collection of 11 rock samples.

Several sulphide-bearing quartz veins were located and sampled with mineralization consisting of up to 2% chalcopyrite and 5% pyrite. It was not possible to locate previously reported mineralization due to the heavy snow cover.

Further geologic prospecting, mapping and rock sampling should be carried out on the Gran 15 claim when the snow has melted. Particular attention should be given to the upper cliff faces south of Nightout Creek, which were inaccessible during this first stage of exploration. Sites of previously reported mineralization should be visited and sampled.

1.0 INTRODUCTION

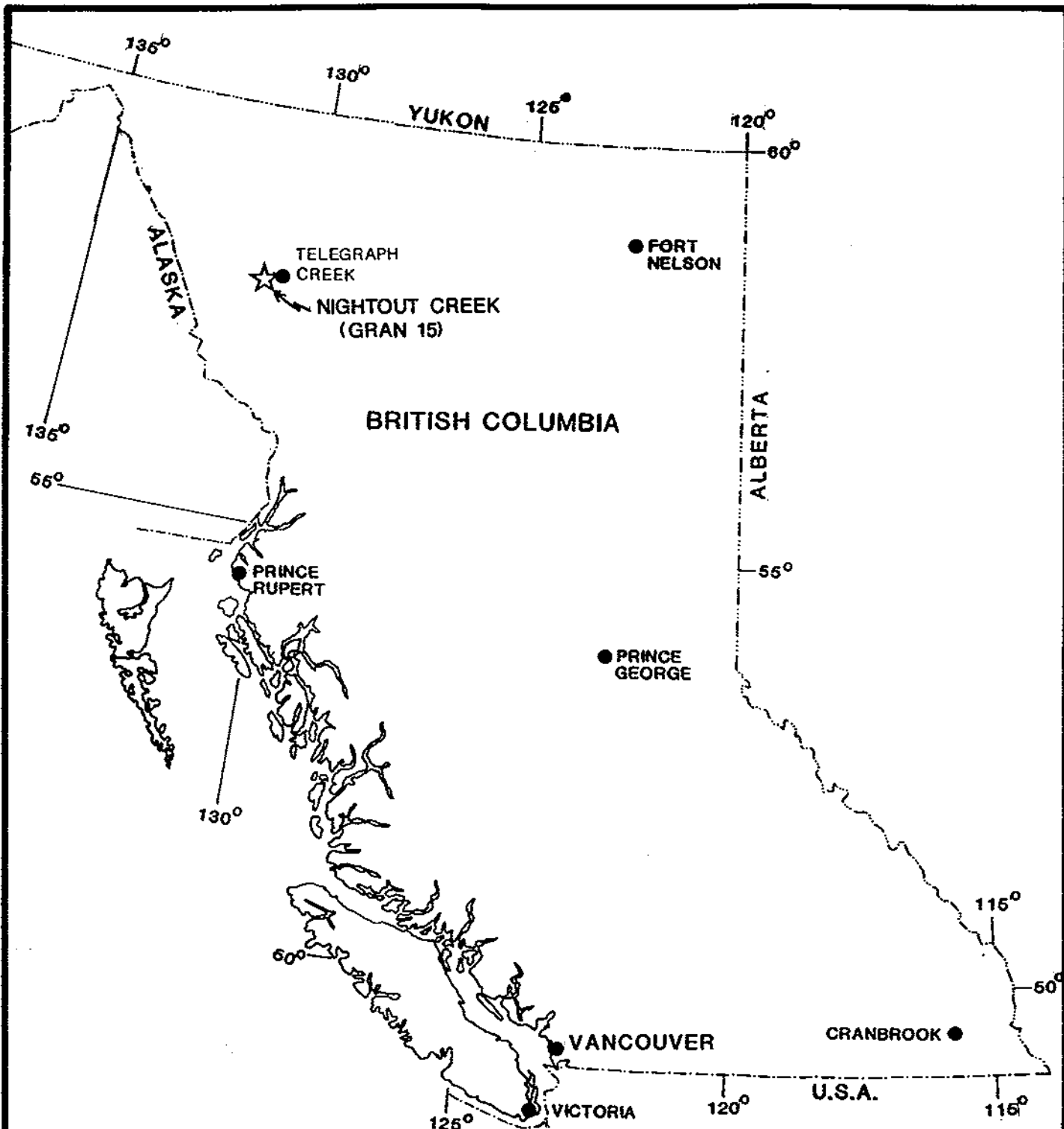
1.1 Location and Access


The Nightout Creek property is located in the Stikine region of northwestern British Columbia approximately 18 km southwest of the village of Telegraph Creek (Figure 1.1), just north of Nightout Mountain. The claim is centred at 57 42'N latitude and 131 17'W longitude on NTS map sheet 104G/14.

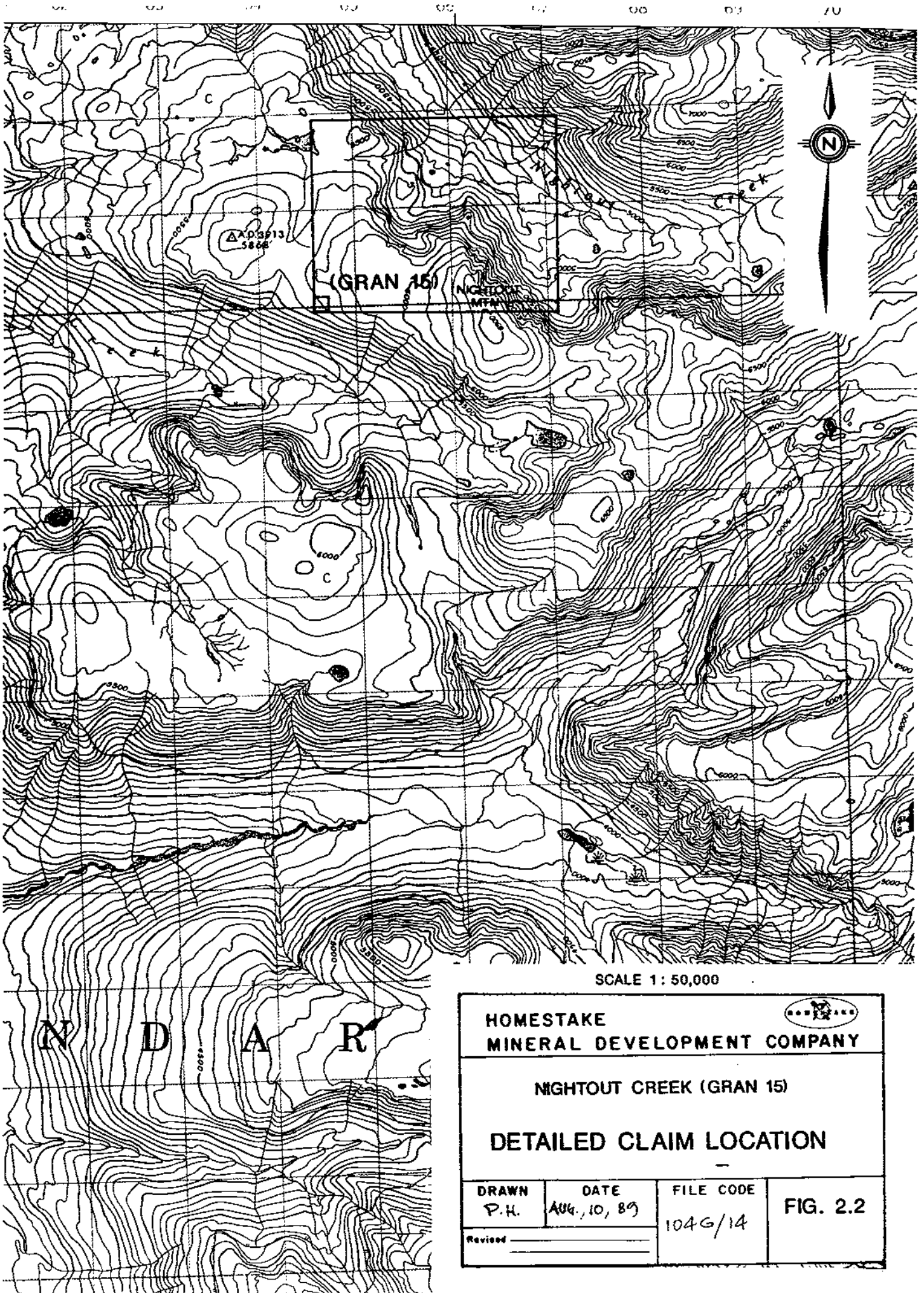
Access to the property is via helicopter from Telegraph Creek, which is connected to Dease Lake by an all-weather road and serviced by fixed-wing flights from Smithers, B.C. The Stikine River provides navigable water access from Wrangell, Alaska north to Telegraph Creek.

1.2 Claim Status


The Nightout Creek property consists of one claim totalling 20 units. The claims were recorded on June 14, 1988 and are owned by Homestake Mineral Development Company and Equity Silver Mines Ltd. Assuming acceptance of this assessment work, claim data will be as follows:



HOMESTAKE MINERAL DEVELOPMENT COMPANY 			
GRAND CANYON PROJECT, B.C. NIGHTOUT CREEK (GRAN 15) LOCATION MAP			
DRAWN KMc	DATE 11/67	FILE CODE 104G	FIGURE 1.1
Revised _____			



SCALE 1 : 50,000

		
HOMESTAKE MINERAL DEVELOPMENT COMPANY		
NIGHTOUT CREEK (GRAN 15)		
DETAILED CLAIM LOCATION		
DRAWN P.H.	DATE Aug. 10, 89	FILE CODE 104G/14
Revised _____	FIG. 2.2	

CLAIM	UNITS	RECORD #	RECORD DATE	EXPIRY DATE
Gran 15	20	4672	June 14, 1988	June 14, 1990

1.3 Physiography

The Nightout Creek property occupies moderately rugged terrain on the northwestern slope of Nightout Mountain. Elevations range from 1280-1980 meters and treeline lies at roughly 1375 meters. The cliff faces north of Nightout Mountain are extremely steep, and rock exposure at higher elevations is snow covered until mid-summer.

1.4 Exploration History

There are very few references relating to previous work in the property area. In the G.S.C. memoir #246 (Kerr) mentions a shatter zone in granodiorite filled with pegmatitic quartz and orthoclase, with bornite and chalcopryrite locally filling fractures in the quartz. This showing (Minfile 104G/103) is located north of Nightout Mountain near the granodiorite/Permian sediment contact.

In 1973, a program of geologic mapping and rock sampling was carried out on the B and BM claims owned by Bart Mines Ltd. (A.R.#4717), which overlap part of the Gran 15 claim. Several mineralized zones were discovered, consisting of chalcopryrite-filled fractures and a 15 cm wide quartz-bornite vein. These showings were not visited during the current work program due to the heavy snow cover.

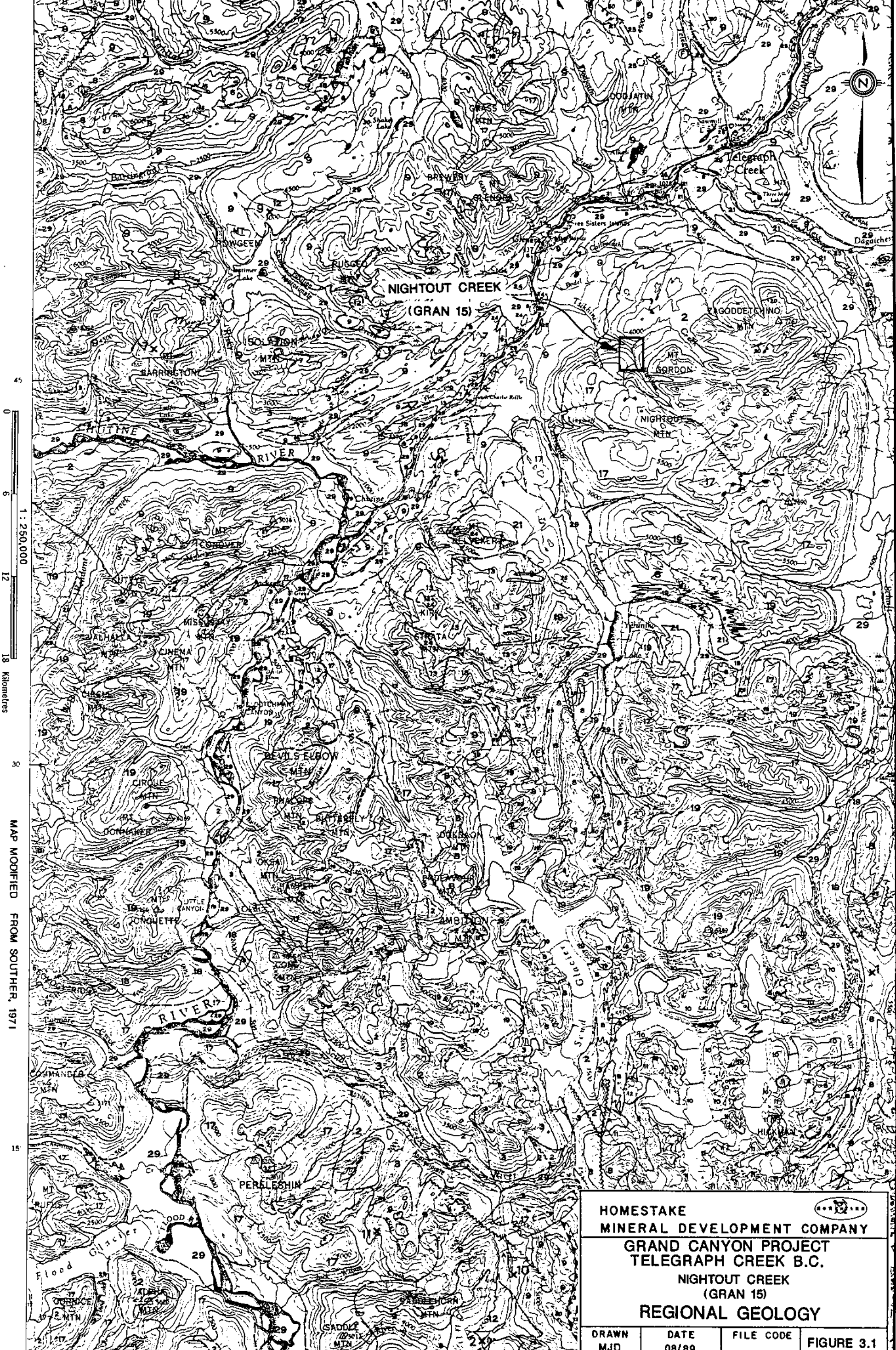
1.5 Present Work

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 rock sampling and prospecting.


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).

132°00' 45' 30' 15' 131°00'



0 6 12 18 Kilometers
1 : 250,000
MAP MODIFIED FROM SOUTHER, 1971

			
<p>HOMESTAKE MINERAL DEVELOPMENT COMPANY GRAND CANYON PROJECT TELEGRAPH CREEK B.C. NIGHTOUT CREEK (GRAN 15) REGIONAL GEOLOGY</p>			
DRAWN MJD	DATE 08/89	FILE CODE	FIGURE 3.1

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
- SUBTUT 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, peperites, pillow-breccia and derived volcanoclastic rocks
- TRIASSIC AND JURASSIC
POST-UPPER TRIASSIC PRE-LOWER JURASSIC**
- 12 Eysite, orthoclase porphyry, monzonite, 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, concretionary 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, orbicular 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) + / / /
- Anticline
- Syncline
- Fault (defined and approximate, assumed)
- Thrust fault, teeth on hanging-wall side (defined and approximate, assumed)
- Fossil locality ⊙
- Mineral property 15x
- Glacier

INDEX TO MINERAL PROPERTIES

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

GRAND CANYON PROJECT B.C.
GEOLOGICAL
LEGEND

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 alkalic, 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.

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 Gran 15 claim straddles the contact between Permian phyllites to the northeast and Jurassic or Cretaceous intrusive rocks, including granodiorite, quartz diorite, minor diorite and migmatite (Souther, 1972), to the south. The main southeast trending ridge south of Nightout Creek was traversed in hopes of locating previously reported copper mineralization. The main rock type encountered was a medium grained granodiorite, locally migmatitic, with abundant bull white quartz veins up to 30 cm in width. These quartz veins were typically barren, but where mineralized carried up to 2% blebby chalcopyrite and 5% disseminated pyrite, with 2-3% patchy epidote. The contact between the granodiorite and the phyllites was not seen.

4.0 GEOCHEMISTRY

4.1 Analytical Methods

Eleven 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.

All sample locations were marked in the field with metal tags and orange flagging tape. Sample locations and results are plotted on Figure 4.1.

4.2 Results

Results from the samples were generally not encouraging. Copper is present up to 3191ppm (sample 31446) in a sheared granodiorite. This sample also contained 1.3ppm Ag and 13ppb Au. This represents the highest gold and silver values obtained from this claim.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Geologic mapping and rock sampling on the Nightout Creek property located several mineralized quartz veins within granodiorite northwest of Nightout Mountain. Further investigation of this area is recommended to discover the extent of this veining and to locate and sample mineralization previously reported in the same vicinity.

6.0 REFERENCES

B.C. Ministry of Mines, Assessment Report #4717

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	1 day @ \$165/day	\$165
Geologist	1 day @ \$165/day	\$165
Field Assistant	1 day @ \$115/day	\$115
Field Assistant	1 day @ \$115/day	\$115

Food and Accommodation

4 mandays @ \$ 95/day	\$380
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Geochemical Analysis + Freight

Rock Samples	11 @ \$ 25/sample	\$275
Supplies		\$200

Mob/Demob	\$200
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Helicopter Support (including fuel)

0.8 hrs @ \$620/hr	\$496
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Report Preparation

1 day @ \$165/day	\$165
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TOTAL	\$ 2276
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APPENDIX I
Analytical Results

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR NH FE SE CR CA P LA CE NG 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/RA FROM 10 GM SAMPLE.

MASTER
 NTS: 11. BL 1046
 NIGHTOUT CK
 RMB/KCT.

DATE RECEIVED: JUN 29 1989

DATE REPORT MAILED:

July 3/89

SIGNED BY:

C. Leung

D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

HOMESTAKE MINERAL DEV. CO. PROJECT 5711 NK #1 File # 89-1819

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Tl	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	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
NK-15-1 31445	2	520	6	6	.7	9	1	57	.57	3	5	ND	1	2	1	2	6	3	.02	.001	2	9	.05	6	.01	4	.08	.01	.01	1	4
NK-15-1 31446	2	3191	7	29	1.3	19	46	157	7.05	5	5	ND	1	16	1	2	10	85	.47	.123	3	3	1.02	40	.19	2	1.89	.03	.39	1	13
NK-15-1 31447	1	27	7	34	.3	22	7	343	1.82	3	5	ND	3	294	1	2	2	38	1.61	.087	5	52	.80	13	.16	6	1.34	.01	.02	1	4
NK-15-1 31448	3	1050	2	1	.2	10	1	43	.49	2	5	ND	1	4	1	2	4	3	.02	.001	2	8	.05	2	.01	2	.89	.01	.01	1	3
NK-15-1 31475	3	12	4	10	.2	13	2	195	.76	2	5	ND	1	16	1	2	2	14	.48	.013	2	16	.20	15	.03	2	.28	.01	.02	1	10
NK-15-1 31476	3	13	2	2	.1	10	1	66	.51	2	5	ND	1	38	1	2	2	7	.21	.014	2	11	.06	4	.02	2	.17	.01	.01	1	1
NK-15-1 31477	2	4	2	1	.3	6	1	36	.28	2	5	ND	1	6	1	2	2	1	.05	.003	2	40	.01	7	.01	4	.04	.01	.01	1	2
NK-15-1 31478	3	620	2	33	.5	40	23	236	4.29	23	5	ND	1	29	1	2	3	70	.55	.089	4	53	.86	30	.07	2	1.29	.02	.06	1	4
NK-15-1 31479	2	11	2	31	.2	21	6	286	1.43	3	5	ND	2	59	1	2	2	24	.42	.038	4	24	.67	13	.06	2	.71	.01	.02	1	6
NK-15-1 31480	2	10	6	10	.2	8	2	138	.69	9	5	ND	30	64	1	2	2	8	.18	.006	3	8	.20	16	.02	7	.36	.01	.07	1	1
NK-15-1 31481	2	4	2	1	.3	8	1	42	.31	3	5	ND	1	5	1	2	2	1	.03	.001	2	49	.01	2	.01	6	.05	.01	.01	1	2

APPENDIX II
Sample Summary

NIGHTOUT CREEK SAMPLES (GRAN 15)

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION	MINERALIZATION
Nk-15	31445 r/c	foliated granodior, med to coarse grained	1-3% cpy as blebs, tr. malachite qtz vein, rusty brown weathering
	31446 r/c	sheared granodiorite- f.g.	5%py as diss blebs
	31447 o/c	granodiorite, epidote alt. w/minor qtz	
	31448 r/c	granodior, wht qtz vein w/minor rusty alt	3-4% malachite, tr. cpy.
	31475 r/c	bull wht qtz vein, f.g. granodior. host	
	31476 r/c	wht massive qtz vein in g/d, ep stringers	
	31477 r/c	qtz vein mod'ly banded w/graphitic filli	trace bornite?
	31478 r/c	rusty f.g. dior. w/ fingers of coarse pegmatite	1-2% finely diss. py. and in str's
	31479 r/c	pale gray wht qtz vein	tr. sulfides in ep. and on fracture
	31480 r/c	salmon pink fsp + wht to colorless qtz epidote	
	31481 r/c	fract'd colorless to wht qtz vein, epidote	

APPENDIX III
Statement of Qualifications

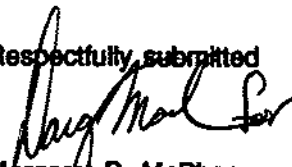
STATEMENT OF QUALIFICATIONS

I, Margaret D. McPherson, hereby certify that:

1. I am a graduate of the University of British Columbia, having been granted the degree of Bachelor of Sciences degree in Geology in 1987.
2. I have practiced my profession as a geologist in mineral exploration since 1987.
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

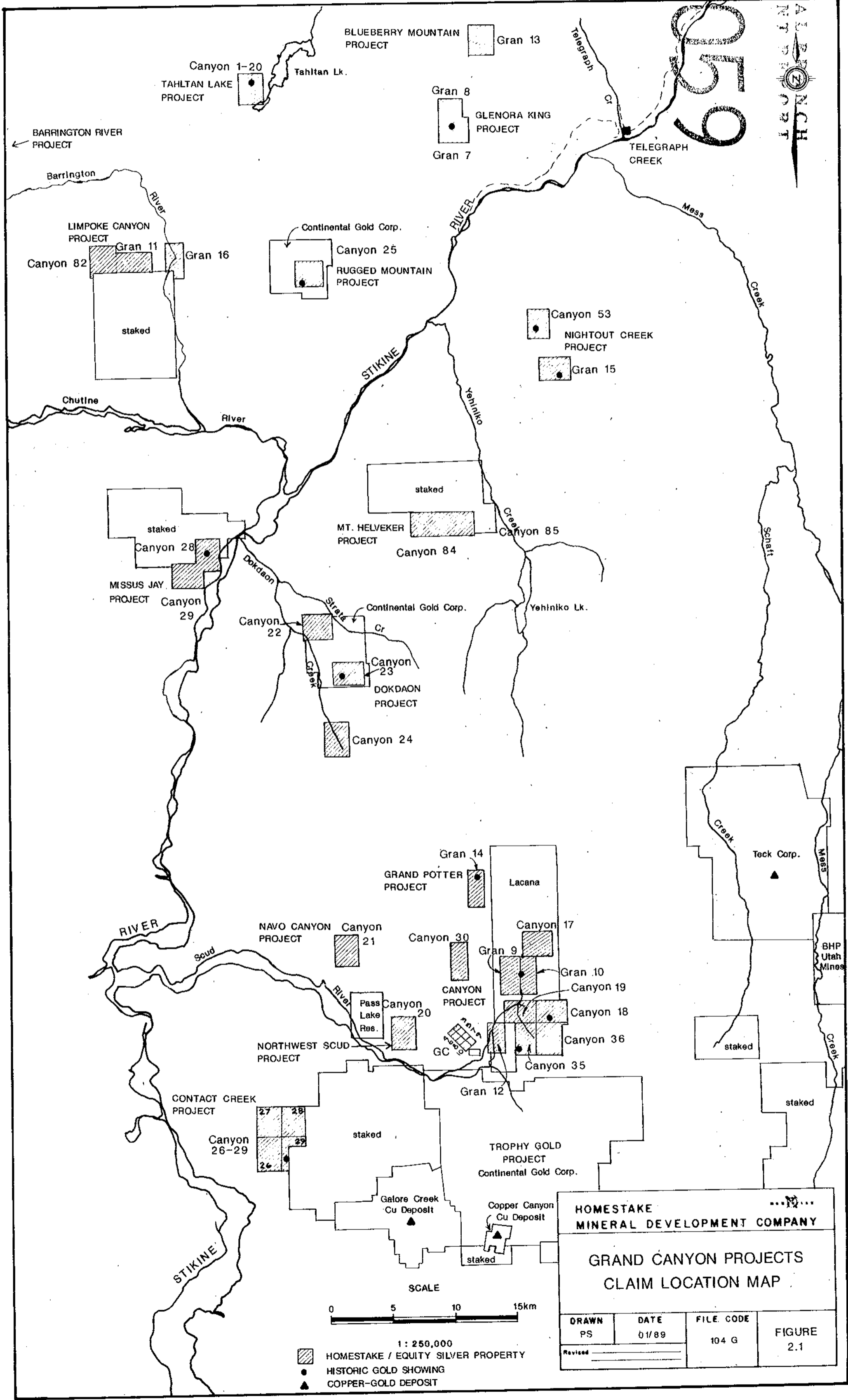
Respectfully submitted



Margaret D. McPherson

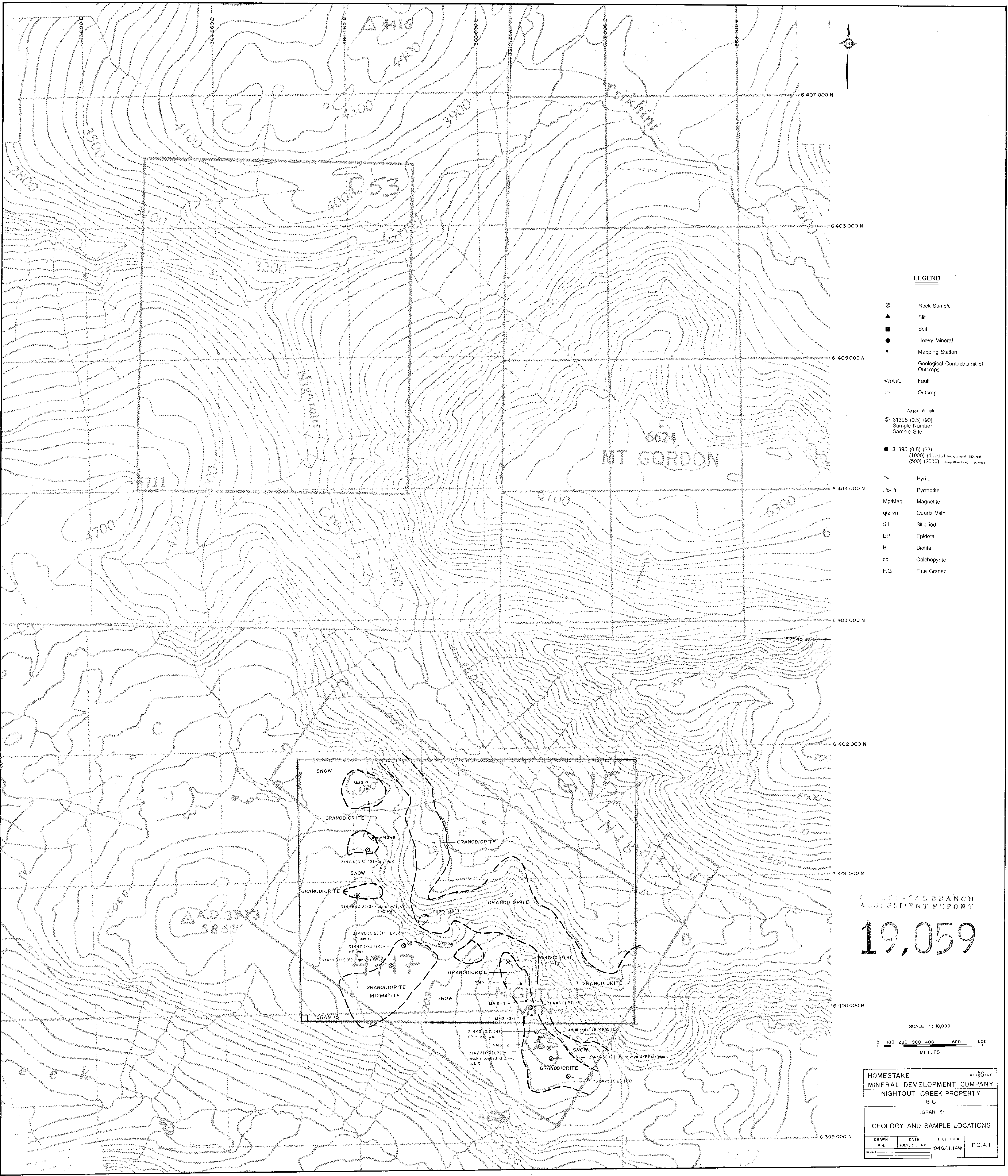
1989

GEOLOGICAL BRANCH
ASSESSMENT DEPARTMENT



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

SCALE
0 5 10 15 km
1 : 250,000
 ▨ HOMESTAKE / EQUITY SILVER PROPERTY
 ● HISTORIC GOLD SHOWING
 ▲ COPPER-GOLD DEPOSIT



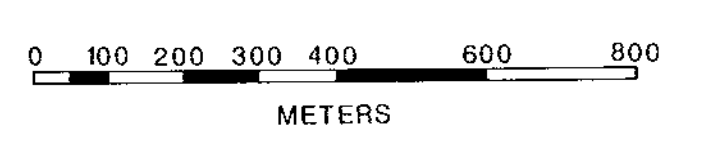
LEGEND

- ⊙ Rock Sample
- ▲ Silt
- Soil
- Heavy Mineral
- Mapping Station
- Geological Contact/Limit of Outcrops
- MM/UVU Fault
- Outcrop
- Ag ppm Au ppb
- ⊙ 31395 (0.5) (93) Sample Number Sample Site
- 31395 (0.5) (93) (1000) (10000) Heavy Mineral - 100 mesh (500) (2000) Heavy Mineral - 50 + 100 mesh
- Py Pyrite
- Po/Pr Pyrrhotite
- Mg/Mag Magnetite
- qtz vn Quartz Vein
- Sil Silicified
- EP Epidote
- Bi Biotite
- cp Chalcopyrite
- F.G Fine Grained

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,059

SCALE 1:10,000



HOMESTAKE MINERAL DEVELOPMENT COMPANY			
NIGHTOUT CREEK PROPERTY			
B.C.			
(GRAN 15)			
GEOLOGY AND SAMPLE LOCATIONS			
DRAWN	DATE	FILE CODE	
P.H.	JULY, 31, 1989	104G/11,14W	FIG. 4.1