

LOG NO: 0914	RD
ACTION:	
FILE NO:	

1989 Assessment Report  
on the  
DOKDAON PROPERTY  
Canyon 24 Claim

Liard Mining Division  
NTS:104G/5  
Lat:57° 27'N  
Long:131° 32'W

FILMED

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

Operator: Homestake Mineral Development Company

Author: P. Southam

Date: August 10, 1989

DEPARTMENTAL BRANCH  
1989

19,062

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## SUMMARY

The Canyon 24 property is located in the Stikine region of British Columbia. The property consists of 1 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 9, 1989 and involved 1 : 10,000 scale mapping as well as the collection of 4 rock samples and 6 silt samples.

It is recommended that further work be carried out on this property in the form of detailed mapping and sampling based on previous reports of sub-economic gold mineralization.

## 1.0 INTRODUCTION

### 1.1 Location and Access

The Canyon 24 property is located in the Stikine region of northwestern British Columbia approximately 50 km southwest of the village of Telegraph Creek (Figure 1.1). The claim is centred at 57° 27'latitude and 131° 32'longitude on NTS map sheet 104G/5.

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.

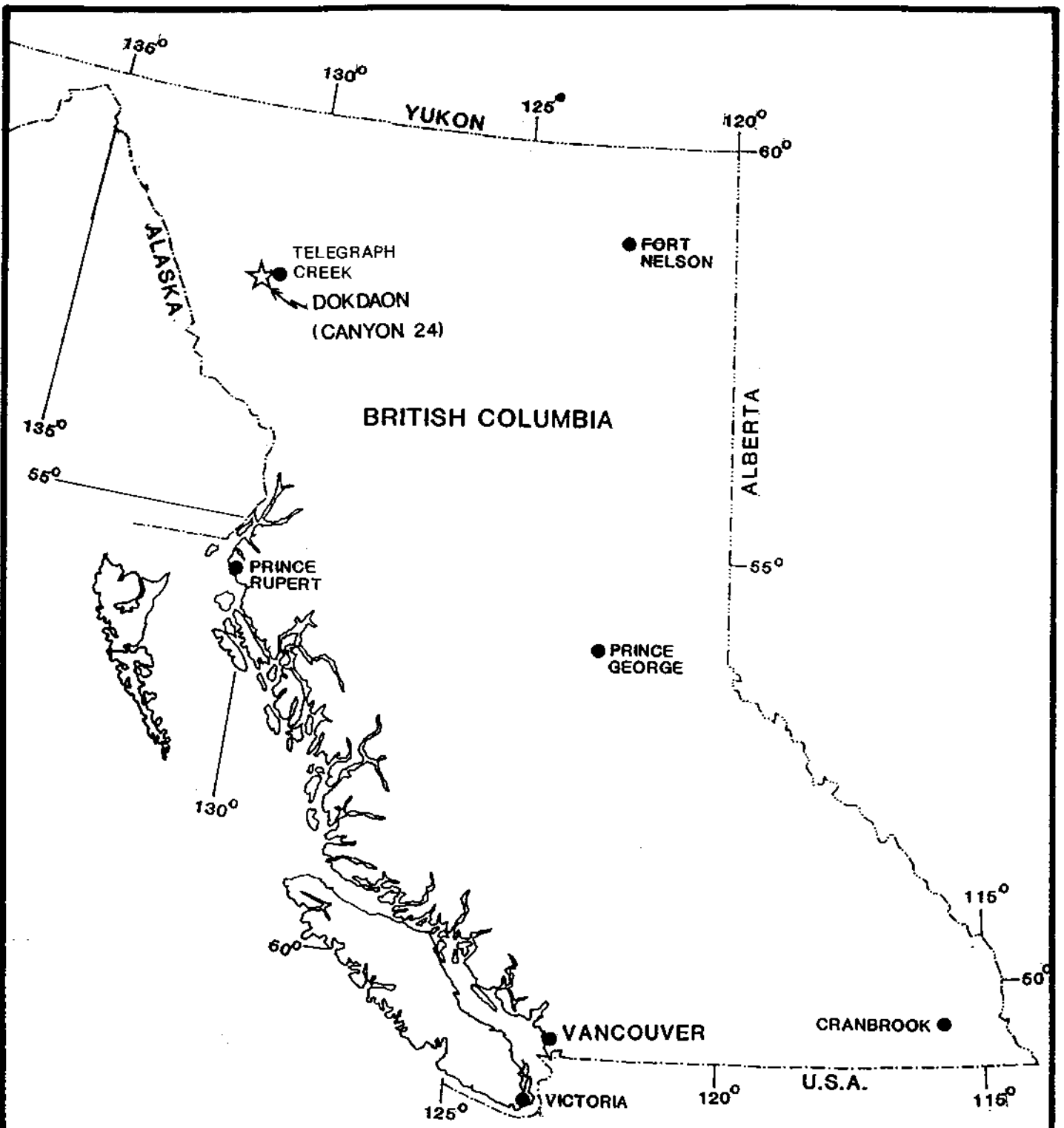
### 1.2 Claim Status


The Canyon 24 property consists of 1 claim totalling 20 units. The claim was recorded on June 28, 1988 and 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 #	RECORDED	EXPIRY DATE
Canyon 24	20	4728	28/06/88	28/06/90

### 1.3 Physiography

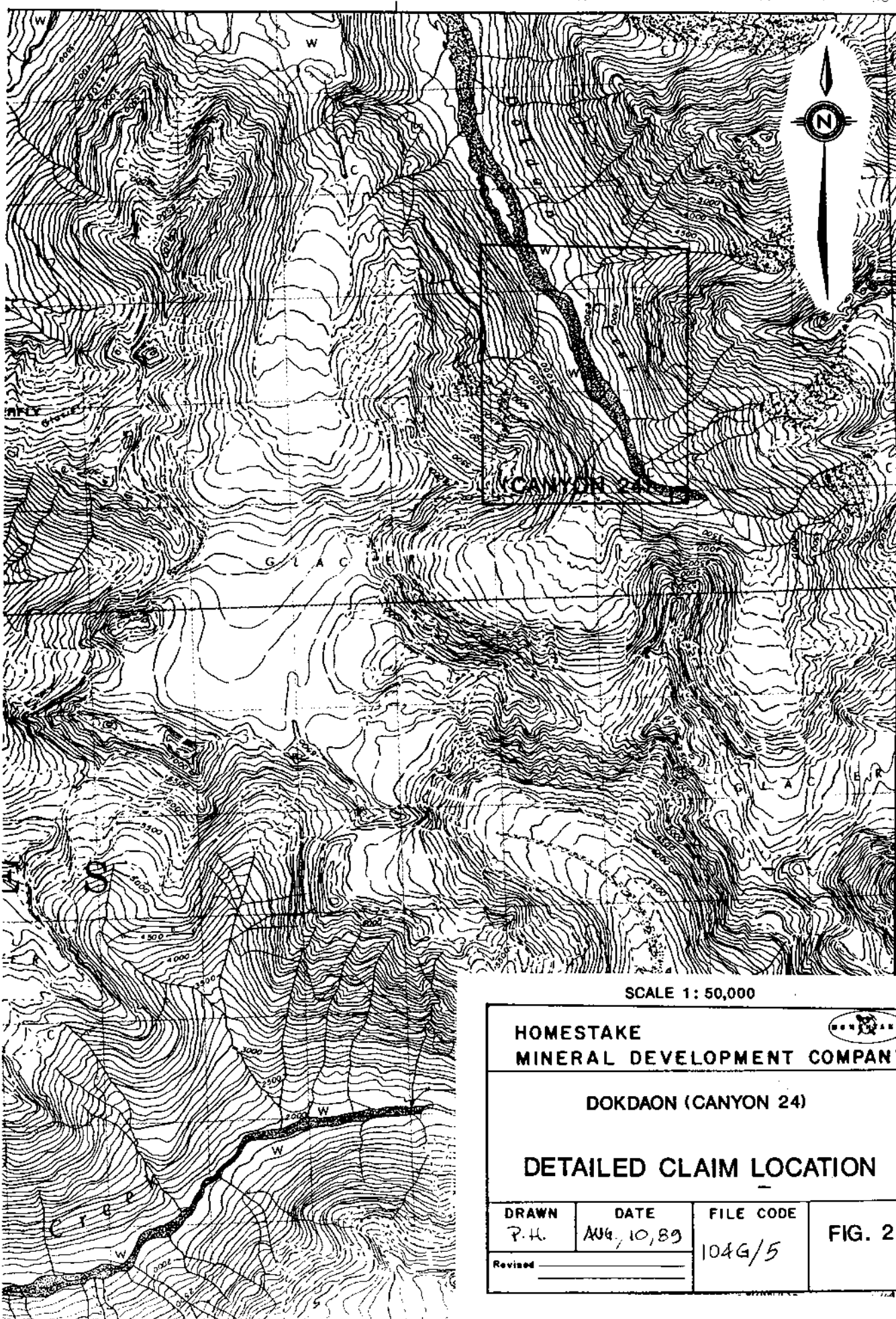
The claim is located near the head of Dokdaon Creek and covers the creek and the ridges on both sides of the valley. The elevation ranges from 730 meters at the lowest point of the creek to 1700 meters on the ridge in the southwest corner of the claim. Treeline is at approximately 1200 meters.



<b>HOMESTAKE</b> <b>MINERAL DEVELOPMENT COMPANY</b> 		
<b>GRAND CANYON PROJECT, B.C.</b> <b>DOKDAON</b> <b>(CANYON 24)</b>		
<b>LOCATION MAP</b>		
<b>DRAWN</b> KMc	<b>DATE</b> 11/87	<b>FILE CODE</b> 104G
Revised _____		<b>FIGURE 1.1</b>

(709000m. E.)

42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50



57°E

(637000m. N.)  
637400m. N

73

72

71

70

69

68

(70)

67

25'

SCALE 1: 50,000

**HOMESTAKE**   
**MINERAL DEVELOPMENT COMPANY**

**DOKDAON (CANYON 24)**

**DETAILED CLAIM LOCATION**

<b>DRAWN</b> P.H.	<b>DATE</b> Aug, 10, 89	<b>FILE CODE</b> 104G/5	<b>FIG. 2.2</b>
<b>Revised</b>			

Spruce trees, alders, and minor devil's club cover the lower slopes.

#### 1.4 Exploration History

Copper and molybdenum mineralization was first recognized in the area around the Canyon 24 claim in 1958. The ground was staked in 1980 by Teck Exploration Ltd., who carried out geologic mapping, chip sampling and trenching in 1981 and 1982 on the Dok and Marg claims. Sub-economic values of copper and gold were encountered. In 1988 joint venture partners Homestake and Equity Silver Mines staked the Canyon 24 claim to cover this area of mineralization.

B.C. Dept. of Mines minfile occurrences 104G 075,084, and 059 are located on and near the Canyon 24 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 rock sampling and stream sediment sampling and 1:10 000 scale geological mapping.

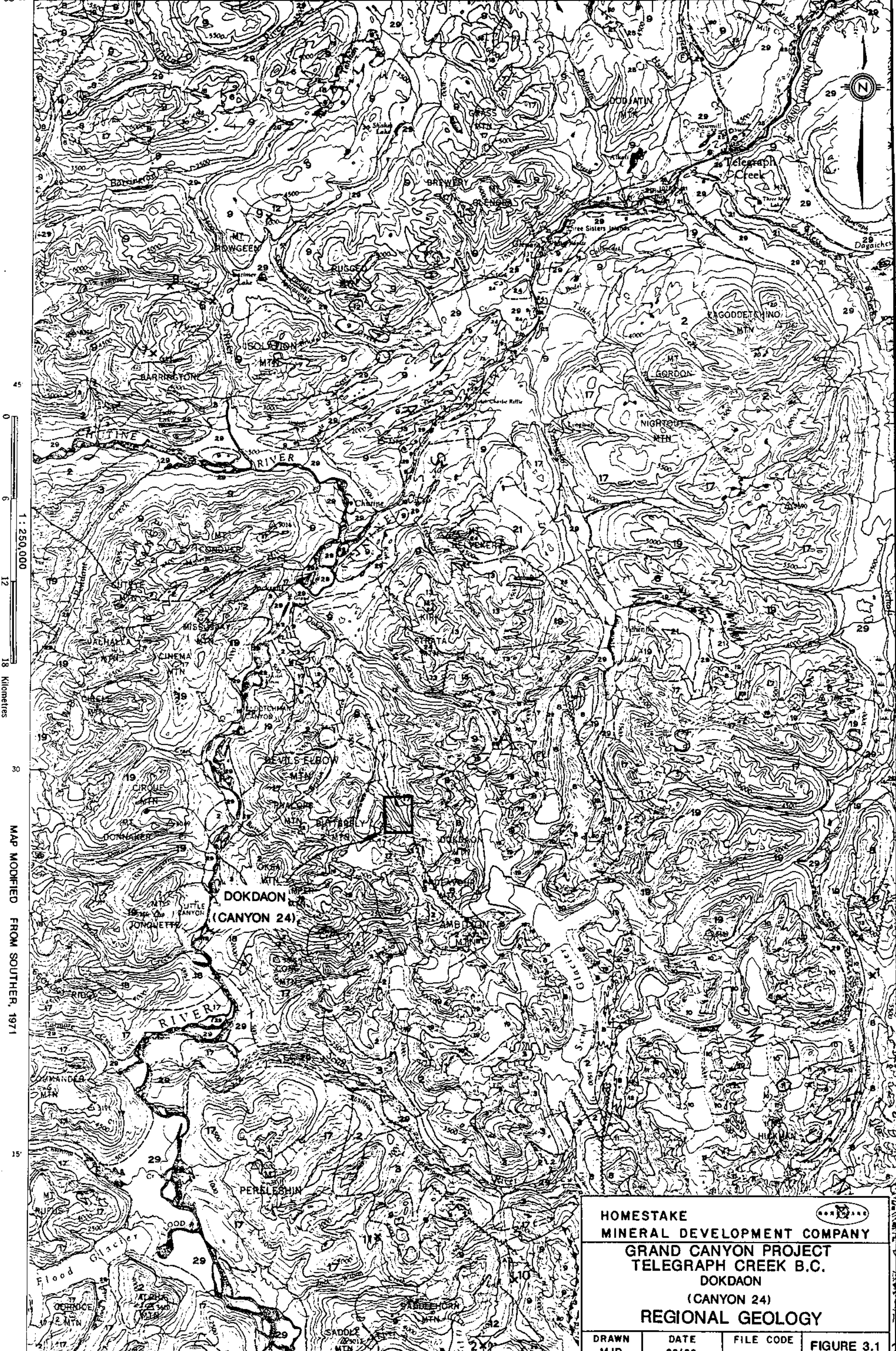
## 2.0 REGIONAL GEOLOGY

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 Upper Paleozoic to Upper Triassic sedimentary and volcanic rocks of the Stuhini Group (Kerr, 1948), Middle Jurassic to Early Late Cretaceous Successor Basin sediments of the Bowser Lake Group, and Late Cretaceous to Tertiary continental volcanic arc assemblages of the Sloko Group (Logan and Koyanagi, 1989). This stratigraphy is intruded by Upper Triassic to Tertiary plutonic rocks ranging in composition from syenite and quartz monzonite to granodiorite and hornblende diorite (Souther, 1972).

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).

132° 00' 45' 30' 15' 131° 00'



0 6 12 18 Kilometres

MAP MODIFIED FROM SOUTHER, 1971

<p>HOMESTAKE MINERAL DEVELOPMENT COMPANY</p>			
<p>GRAND CANYON PROJECT TELEGRAPH CREEK B.C. DOKDAON (CANYON 24) REGIONAL GEOLOGY</p>			
<p>DRAWN MJD</p>	<p>DATE 08/89</p>	<p>FILE CODE</p>	<p>FIGURE 3.1</p>



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 22. 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 volcanolastic 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 volcanolastic rocks
- TRIASSIC AND JURASSIC**  
**POST-UPPER TRIASSIC PRE-LOWER JURASSIC**
- 12 Syenite, orthoclase porphyry, monzonite, pyroxenite
- HICKMAN BATHOLITH**
- 10, 11 10. 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 Augite-andesite flows, pyroclastic rocks, derived volcanolastic 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, fossil 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, orinoidal 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 .....
- Glacier .....

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

INDEX TO MINERAL PROPERTIES

1. Lizard 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. Nabs	8. Poke	12. Copper Canyon	16. Mary

### 3.0 PROPERTY GEOLOGY

The Canyon 24 property geology consists of mid-Jurassic quartz diorite intrusive in contact with a pod of upper-Triassic mafic volcanics. The contact zone is reported to host sub-economic gold values.

### 4.0 GEOCHEMISTRY

Two types of geochemical samples (stream silt and rock) were collected during the work program. Sample locations and results are plotted on Figure 4.1.

#### 4.1 Stream Sediment Samples

6 sediment samples were taken from the Canyon 24 property. The samples were collected with a hand trowel or by hand and placed in kraft sample bags, air dried and shipped to Acme Analytical Labs of Vancouver, B.C. Sample analysis consisted of 30 element ICP and gold by fire assay. Sample sites were located by elevation and topography and marked by metal tags and orange flagging tape.

The samples were collected from a creek at the north end of the property flowing west into Dokdaon Creek. Unfortunately, none of the samples were anomalous.

#### 4.2 Rock Samples

4 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.

Three of the samples, numbers 31127, 31128 and 31221, were from an altered quartz diorite with vuggy quartz veining, 10 - 25% pyrite and 1 - 2% molybdenite. These samples were weakly anomalous in copper, molybdenum, and tungsten but not in gold. The fourth sample, 31222, was taken from a silicified breccia with 10% pyrite and returned a value of 1440 ppb gold. All four samples were located in the southern part of the property.

### 5.0 CONCLUSIONS AND RECOMMENDATIONS

The Canyon 24 claim is underlain by good alteration zones and mineralization in the southern part of the claim which requires further exploration. A detailed mapping and sampling program is recommended for follow up work on this property.

## 6.0 REFERENCES

B.C. Ministry of Mines, Assessment Report #9617

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.

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	2 days @ \$165/day	\$ 330.00
Junior Assistant	2 days @ \$90/day	\$ 180.00
Food and Accommodation		
	4 mandays @ \$ 90/day	\$ 360.00
Geochemical Analysis + Freight		
Rock Samples	4 @ \$ 25/sample	\$ 100.00
Silt Samples	6 @ \$ 25/sample	\$ 150.00
Supplies		\$ 200.00
Mob/Demob		\$ 200.00
Helicopter Support (including fuel)		
	0.8 hrs @ \$700/hr	\$ 560.00
Report Preparation	3 days @ \$165/day	\$ 495.00
TOTAL		<u>=====</u> \$2127.00

**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 FS SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 1 PPM.  
 - SAMPLE TYPE: P1 ROCK P2 SILT AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GR SAMPLE.

*MASTER*  
*NTS: STIKINE/DOAK/DAN*  
*11-PL-1046*  
*DMB/AGT.*

DATE RECEIVED: JUN 29 1989

DATE REPORT MAILED: *July 7/89*

SIGNED BY: *C. Long* D. TOYS, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

HOMESTAKE MINERAL DEV. CO. PROJECT 5711 DD24 #19 File # 89-1835 Page 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Hg	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
DD 24-1 31127	132	1000	100	98	4.1	5	7	449	3.20	2	5	ND	7	19	1	7	27	36	.85	.035	7	8	.55	35	.05	6	.71	.02	.09	591	1
DD 24-1 31128	4	40	28	118	.8	18	13	928	3.70	8	5	ND	5	51	1	2	18	71	1.08	.062	4	47	1.34	61	.12	2	2.03	.12	.39	29	1
DD 24-1 31221	20	514	42	83	1.2	6	7	597	3.20	2	5	ND	9	18	1	2	4	54	.76	.044	7	9	.84	42	.07	2	.94	.03	.09	129	3
DD 24-1 31222	5	149	11	76	2.4	40	6	535	4.62	9	5	ND	4	21	1	2	13	40	.66	.069	3	73	.93	28	.08	2	1.29	.06	.21	20	1440
DD 24-1 31232	12	1811	4	28	1.7	7	30	264	3.29	2	5	ND	11	23	1	2	5	51	.70	.042	10	7	.79	71	.09	5	1.00	.03	.05	5	19
DD 24-1 31233	1	87	5	10	.1	15	6	126	1.80	2	5	ND	1	61	1	2	2	23	1.54	.103	5	17	.19	21	.11	5	1.87	.15	.04	1	43
STD C/AU-2	18	61	42	132	6.7	70	31	1018	4.11	40	22	7	38	49	18	15	21	59	.51	.091	39	57	.91	176	.07	38	1.97	.06	.13	12	510

HOMESTAKE MINERAL DEV. CO. PROJECT 5711 DD24 #19 FILE # 89-1835

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Mn PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Tb PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Hg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	Y PPM	Au* PPB
31215	1	67	4	37	.1	12	14	338	5.76	6	5	ND	5	22	1	2	2	147	.52	.065	12	42	.61	85	.06	11	.73	.01	.03	1	2
31216	3	62	2	37	.1	10	13	327	4.73	11	5	ND	4	24	1	2	2	116	.78	.062	11	39	.62	77	.06	4	.72	.01	.03	1	5
31217	1	54	13	38	.1	8	11	337	3.80	4	5	ND	4	21	1	2	2	90	.52	.058	11	29	.63	81	.05	3	.71	.01	.03	1	3
31218	1	69	5	36	.1	9	13	371	6.53	9	5	ND	5	17	1	2	2	171	.39	.063	12	39	.60	92	.05	2	.73	.01	.03	1	5
31219	3	63	7	53	.2	10	11	348	3.43	4	5	ND	3	24	1	2	2	78	.74	.060	11	29	.63	80	.05	2	.73	.01	.03	1	10
31220	1	65	3	33	.1	10	12	324	4.88	8	5	ND	4	23	1	2	2	118	.70	.066	12	40	.61	77	.06	4	.70	.01	.03	1	2
31230	1	122	22	100	.2	35	17	521	4.42	21	5	ND	3	34	1	2	3	98	.71	.062	9	47	1.54	136	.08	5	1.89	.01	.07	1	98
31231	3	233	24	77	.9	28	19	588	4.39	33	5	ND	5	47	1	3	2	91	1.68	.074	15	33	1.17	334	.07	2	1.50	.03	.07	1	8
31396	2	133	13	53	.2	22	14	440	4.01	14	5	ND	4	33	1	2	2	91	.86	.067	13	32	.97	199	.06	6	1.16	.02	.04	1	33
31399	1	104	13	37	.2	29	18	606	5.05	15	5	ND	3	34	1	2	2	117	.68	.069	11	51	1.47	126	.09	2	1.67	.01	.06	1	2
STD C/AU-5	17	57	36	132	6.5	67	31	940	4.03	42	18	6	36	48	17	14	21	57	.50	.086	37	55	.87	173	.06	34	1.96	.06	.14	13	49

**APPENDIX II**  
**Sample Summary**





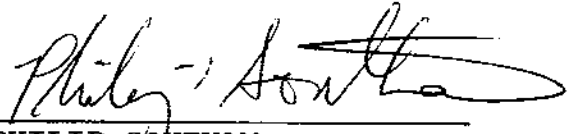
**APPENDIX III**

**Statement of Qualifications**

STATEMENT OF QUALIFICATIONS

I, Philip James Southam of #D-123 West 14th Avenue, Vancouver, British Columbia, Canada, hereby certify that:

1. I am a graduate of Brandon University, having been granted the degree of Bachelor of Sciences - Specialist 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 described in this report was done with my participation and a review of all previous available information.

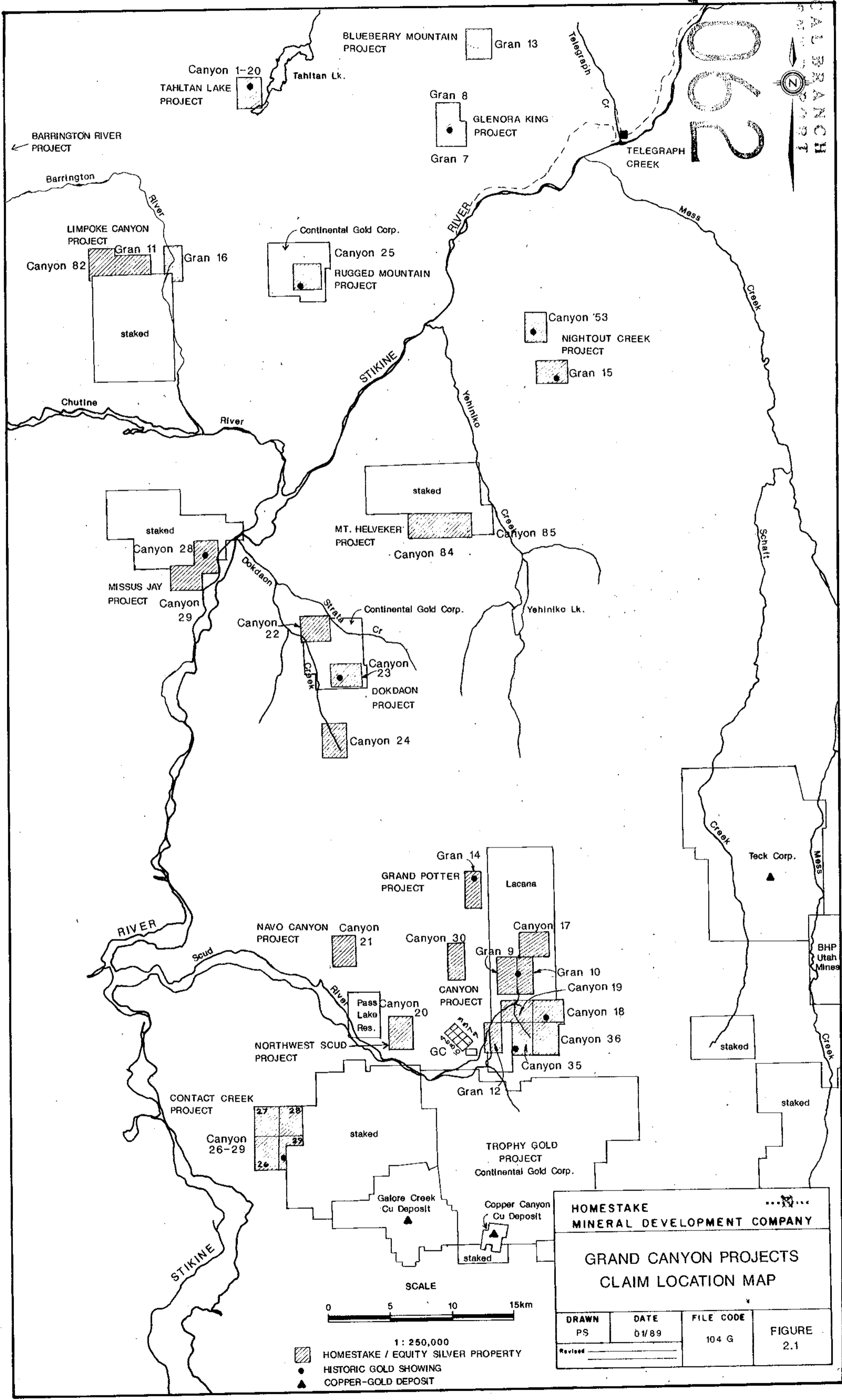
  

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PHILIP SOUTHAM

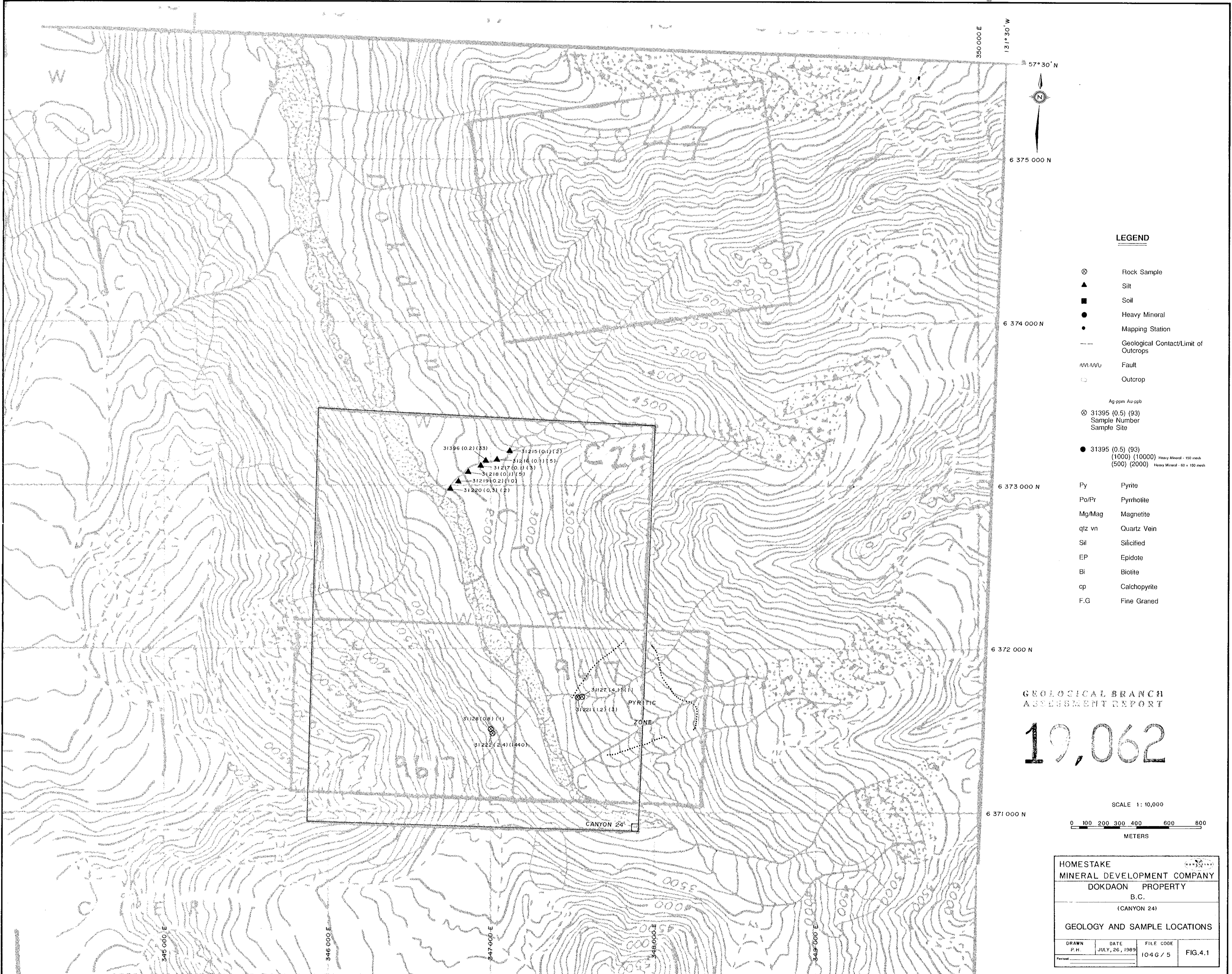
1062

GEOLOGICAL BRANCH



HOMESTAKE MINERAL DEVELOPMENT COMPANY			
<b>GRAND CANYON PROJECTS CLAIM LOCATION MAP</b>			
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



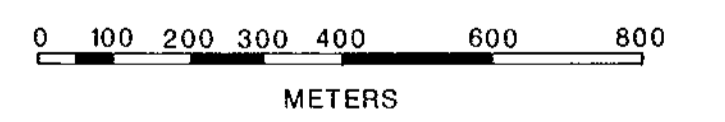
**LEGEND**

- ⊗ 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 Calcoppyrite
- F.G Fine Grained

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**19,062**

SCALE 1:10,000



HOMESTAKE MINERAL DEVELOPMENT COMPANY			
DOKDAON PROPERTY B.C. (CANYON 24)			
GEOLOGY AND SAMPLE LOCATIONS			
DRAWN P.H.	DATE JULY, 26, 1989	FILE CODE 104G / 5	FIG. 4.1