

LOC NO:	0714	PD
A. T. G.		
FILE #		

1989 Assessment Report  
on the  
**NIGHTOUT CREEK PROPERTY**  
Canyon 53 Claim

FILMED

Liard Mining Division  
NTS:104G/14  
Lat:57° 45'N  
Long:131° 18'W

Owners: Homestake Mineral Development Company  
1000 - 700 W. Pender St.  
Vancouver, B.C.  
and  
Equity Silver Mines Ltd.  
Suite 708 - 1155 Melville St.  
Vancouver, B.C.

Operator: Homestake Mineral Development Company

Author: P. Southam

Date: August 10, 1989

CH  
RT

10,000

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## SUMMARY

The Canyon 53 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 7, 1989 and involved 1 : 10 000 scale mapping as well as the collection of 9 rock samples, 8 silt samples, and 1 heavy mineral sample.

Following the discovery of anomalous gold values in the southeast corner of the claim, the Day In claim was staked to the east and south of Canyon 53, also connecting it to the Gran 15 claim to the south. Detailed mapping and sampling is recommended for both the Canyon 53 and Day In claims.

## 1.0 INTRODUCTION

### 1.1 Location and Access

The Canyon 53 property is located in the Stikine region of northwestern British Columbia approximately 18 km south-southwest of the village of Telegraph Creek (Figure 1.1). The claim is centered at 57° 45' north latitude and 131° 18' west 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.

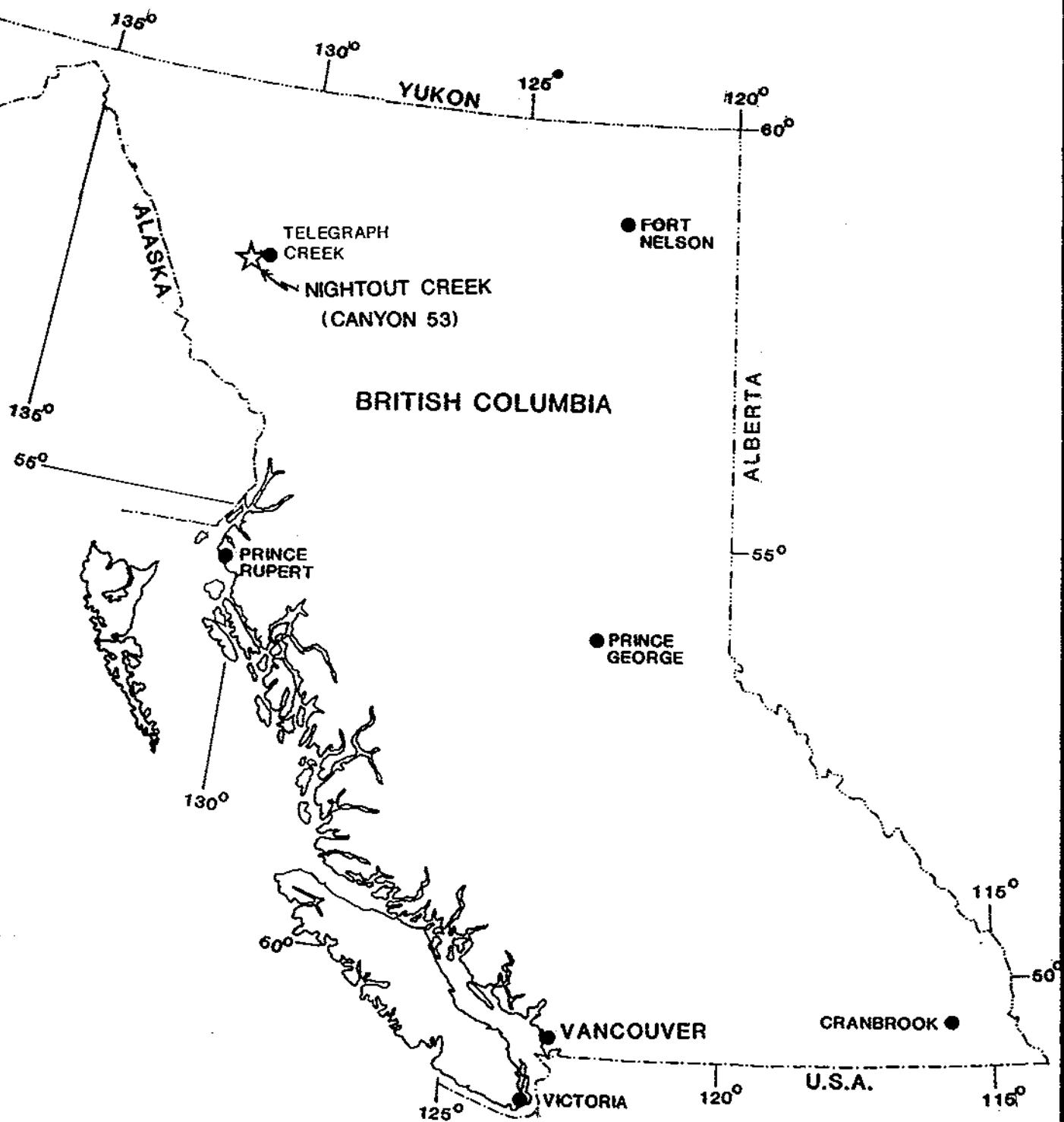
### 1.2 Claim Status

The Canyon 53 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 53	20	4739	28/06/88	28/06/90

### 1.3 Physiography

The claim is centered over the junction of Tsikhini Creek and Nightout Creek. The elevation varies from approximately 800 meters in the Tsikhini Creek valley up to 1400 meters on the west slope of Mount Gordon in the southeast corner of the claim.

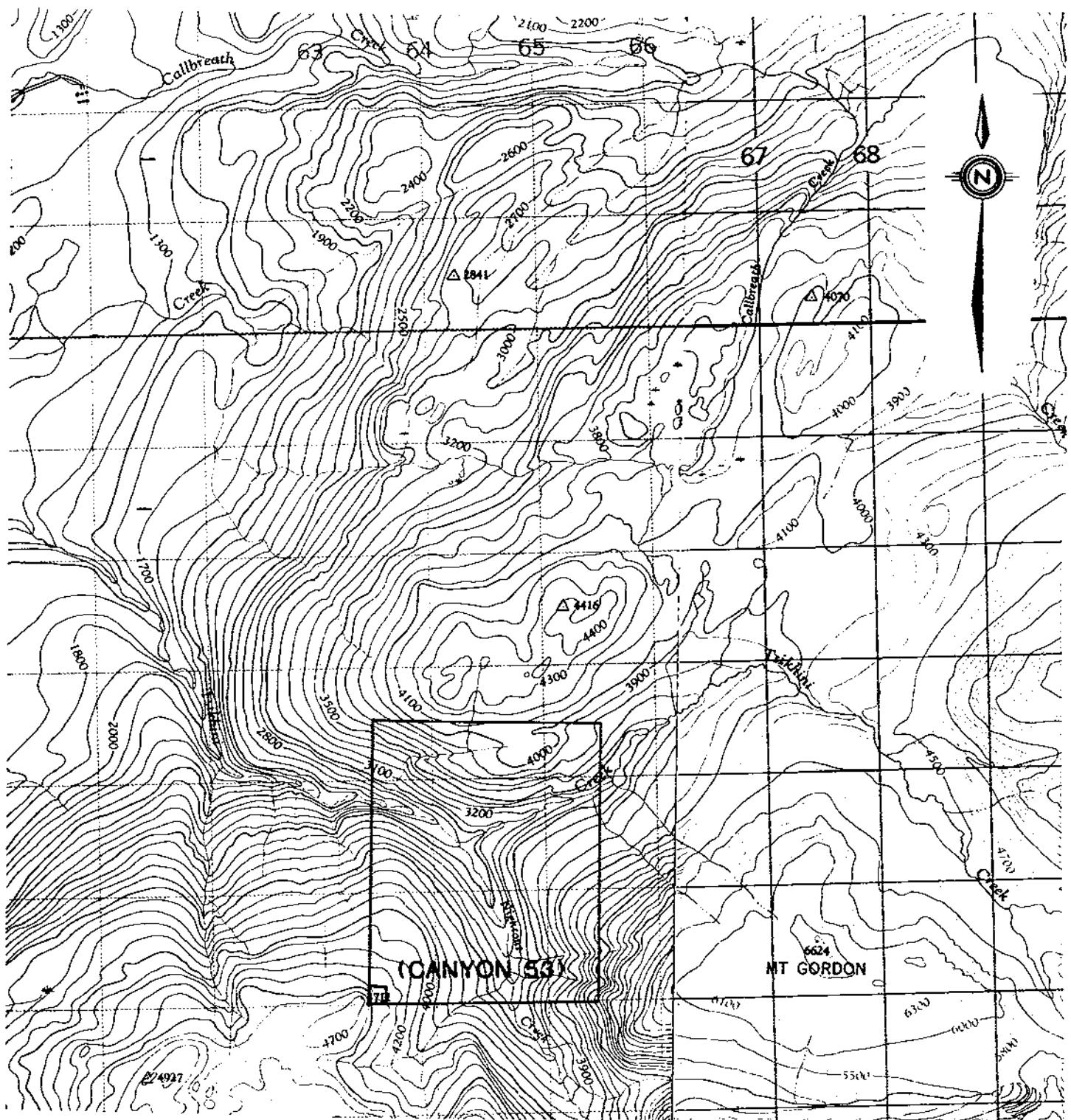


**HOMESTAKE  
MINERAL DEVELOPMENT COMPANY**

**GRAND CANYON PROJECT, B.C.  
NIGHTOUT CREEK  
(CANYON 53)**

**LOCATION MAP**

DRAWN KMc	DATE 15/87	FILE CODE 104G	FIGURE 1,1
Revised _____			



SCALE 1: 50,000

**HOMESTAKE  
MINERAL DEVELOPMENT COMPANY**

**NIGHTOUT CREEK (CANYON 53)**

**DETAILED CLAIM LOCATION**

DRAWN P. H.	DATE AUG. 10, 89	FILE CODE 104G/14	FIG. 2.2
Revised _____			

The entire claim is below treeline and is thickly forested with spruce ,therefore outcrop exposure is limited.

#### 1.4 Exploration History

No previous work has been recorded around the Canyon 53 and Day In claims.

#### 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, 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).

### 3.0 PROPERTY GEOLOGY

The property is underlain by Permian phyllites, schists, and quartzites. The phyllites outcrop in the southeast corner of the claim in a steep sided creek gully and on the ridge north of the gully. Within this gully the phyllites are cut by a felsic dyke hosting pyrite mineralization in quartz veins and silicified host rock.

Overburden covered most of the lower slopes on the property.



LEGEND

CENOZOIC	QUATERNARY PLEISTOCENE AND RECENT			
	29	Fluviatile 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 sub-volcanic 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	Graudiorite, 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 volcanioclastic 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 volcanioclastic rocks		
	TRIASSIC AND JURASSIC POST-UPPER TRIASSIC PRE-LOWER JURASSIC			
	12	Syenite, 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		
MESOZOIC	TRIASSIC			
	UPPER TRIASSIC			
	9	Undifferentiated volcanic and sedimentary rocks (units 5 to 8 inclusive)		
	8	Augite-andesite flows, pyroclastic rocks, derived volcanioclastic 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		
PALAEZOIC	PERMIAN AND OLDER			
	2	Phyllite, argillaceous quartzite, quartz-sericite schist, chlorite schist, greenstone, minor chert, schistose tuff and limestone		
	MISSISSIPPIAN			
	1	Limestone, crinoidal 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		
	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 .....			

INDEX TO MINERAL PROPERTIES

- 1. Liard Copper
- 2. Galore Creek
- 3. QC, QCA
- 4. Nabs
- 5. Bam
- 6. Gordon
- 7. Limpoke
- 8. Poke
- 9. MH
- 10. BIK
- 11. JW
- 12. Copper Canyon
- 13. Ann, Su
- 14. SF
- 15. Goat
- 16. Mary
- 17. 15x

GRAND CANYON PROJECT B.C.  
GEOLOGICAL  
LEGEND

## 4.0 GEOCHEMISTRY

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

### 4.1 Stream Sediment Samples

8 sediment samples were taken from the Canyon 53 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 taken from Nightout Creek and were generally not anomalous with the exception of sample 31202 which returned a gold anomaly of 80 ppb.

### 4.2 Heavy Mineral Samples

1 heavy mineral sample was taken from Nightout Creek. Stream sediment was sieved through a 20 mesh screen and collected in large plastic sample bags. A standard sample weight of 8kg was used. The sample was shipped to C.F. Mineral Research Ltd. of Kelowna, B.C. for heavy mineral and magnetic separation of the -150 mesh and 150-60 mesh fractions.

The heavy non-magnetic fractions was then shipped to Acme Analytical Labs of Vancouver B.C. for analysis by 30-element ICP and gold by fire assay. A portion of each sample was retained and sent to Acme where it was analyzed in the same manner as the stream sediment samples.

Sample 31374 had no anomalous results from the geochemical analysis or the 60 - 150 mesh fraction, but returned a value of 1683 ppb gold from the -150 mesh fraction. The sample was taken from the south end of the property in Nightout Creek.

### 4.3 Rock Samples

10 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.

Six samples were taken from a silicified/ altered felsic unit with quartz veining and 2 - 10% pyrite. One sample, 31370, returned 87 ppb gold associated with a 528 ppm arsenic anomaly. The remainder of the samples from the property were not anomalous in any of the elements tested.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

It was concluded that anomalous gold values were detected in the southeast corner of the property to warrant the staking of the Day In claim and propose a program for more detailed exploration. Detailed mapping and sampling is recommended for both claims.

## 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.

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
Senior Assistant	1 day @ \$115/day	\$ 115.00
Junior Assistant	1 day @ \$90/day	\$ 90.00
Food and Accommodation	4 mandays @ \$ 90/day	\$ 360.00
Geochemical Analysis + Freight		
Rock Samples	9 @ \$ 25/sample	\$ 225.00
Silt Samples	8 @ \$ 25/sample	\$ 200.00
Heavy Mineral Samples	1 @ \$100/sample	\$ 100.00
Supplies		\$ 200.00
Mob/Demob		\$ 200.00
Helicopter Support (including fuel)		
	0.6 hrs @ \$700/hr	\$ 420.00
Report Preparation	2 days @ \$165/day	\$ 330.00
TOTAL		\$2595.00

**APPENDIX I**  
**Analytical Results**

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE (604) 253-3158 FAX (604) 253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

*MASTER  
H.S.  
VTS:STKNE NIGHTOUT CREEK  
11.BC 1046  
PMB/ACT.*

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3:1:2 HCl-HNO<sub>3</sub>-H<sub>2</sub>O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
THIS LEACH IS PARTIAL FOR Mn Fe Sr Ca P La Cr Mg Ba Ti B V AND LIMITED FOR Na K AND Al. Au DETECTION LIMIT BY ICP IS 3 PPM.  
• SAMPLE TYPE: P1 ROCK P2 SOIL Au\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUN 29 1989 DATE REPORT MAILED: July 5/89 SIGNED BY... C.L., D.TOH, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

HOMESTAKE MINERAL DEV. CO. PROJECT NIGHTOUT CREEK 5711NK File # 89-1836 Page 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mo	Fe	As	U	Au	Tb	Sr	Cd	SD	Bi	V	Ca	F	La	Cr	Mg	Ba	Ti	B	Al	Na	I	K	Au*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM								
HK 53-1 31098	2	14	2	29	.1	17	4	71	1.12	2	5	ND	1	52	1	2	2	15	.10	.005	3	10	.19	1772	.01	77	.24	.01	.03	1	1
HK 53-1 31099	3	10	3	18	.2	4	2	827	1.71	43	5	ND	1	63	1	4	2	1	.88	.051	10	4	.21	24	.01	3	.15	.06	.07	2	44
HK 53-1 31107	3	184	5	13	.5	4	5	1965	4.15	9	5	ND	1	90	1	23	2	3	1.67	.063	14	3	.38	40	.01	14	.16	.04	.06	1	24
HK 53-1 31368	2	3	2	3	.1	7	1	210	.58	17	5	ND	1	12	1	4	2	2	.04	.008	2	9	.01	417	.01	11	.05	.01	.01	4	1
HK 53-1 31369	1	6	2	29	.2	5	4	1684	2.97	6	5	ND	1	156	1	2	2	4	2.30	.049	14	5	.67	37	.01	6	.18	.03	.06	1	3
HK 53-1 31370	3	6	3	6	.7	4	3	46	2.32	528	5	ND	1	14	1	9	2	1	.09	.034	15	5	.02	36	.01	2	.16	.03	.07	2	87
HK 53-1 31371	3	29	2	11	.2	6	3	829	2.38	52	5	ND	1	56	1	6	2	1	.83	.041	9	6	.18	18	.01	4	.11	.03	.04	1	10
HK 53-1 31372	2	6	2	31	.2	2	3	2278	3.82	4	5	ND	1	121	1	2	2	2	1.84	.062	15	3	.36	21	.01	3	.18	.03	.06	2	9
HK 53-1 31373	3	12	4	3	.3	21	5	27	1.67	11	5	ND	1	4	1	2	2	3	.03	.003	3	10	.02	79	.01	4	.17	.01	.07	1	23
STD C/AU-R	18	62	36	133	6.7	67	31	1112	4.09	43	19	7	38	49	19	14	19	59	.51	.091	39	57	.91	176	.07	34	1.97	.06	.13	12	510

## HOMESTAKE MINERAL DEV. CO. PROJECT NIGHTOUT CREEK 5711NK FILE # 89-1836

Page 2

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V %	Ca PPM	P %	La PPM	Cr PPM	Hg PPM	Ba PPM	Tl PPM	B PPM	Al PPM	Na PPM	K PPM	W PPM	Au <sup>+</sup> PPB
31100	2	.39	.5	112	.7	23	17	695	5.53	112	5	ND	1	148	1	12	2	41	.95	.199	21	18	.93	311	.02	9	1.16	.01	.08	1	.47
31108	1	.51	.5	81	.2	33	16	636	4.81	9	5	ND	2	62	1	2	2	55	1.02	.229	14	36	1.39	115	.11	12	1.60	.01	.10	1	.14
31201	1	.37	.4	80	.1	40	17	725	6.77	6	5	ND	1	59	1	2	2	97	.81	.162	13	125	1.31	144	.16	3	1.51	.01	.12	1	.3
31202	1	.38	.4	79	.2	36	15	646	5.27	13	5	ND	1	66	1	2	3	75	.84	.185	16	78	1.26	139	.13	9	1.54	.01	.09	1	.80
31203	1	.39	.5	79	.3	34	14	755	4.51	3	5	ND	1	63	1	2	3	64	.83	.168	15	58	1.27	140	.12	7	1.50	.01	.10	1	.3
31204	1	.42	.2	84	.1	36	16	772	5.20	4	5	ND	1	59	1	2	2	73	.79	.154	14	71	1.36	151	.14	2	1.59	.01	.11	1	.6
31205	1	.42	.2	84	.5	36	16	704	5.41	10	5	ND	2	57	1	3	2	76	.77	.161	15	69	1.33	132	.13	9	1.64	.01	.10	1	.2
31374	1	.35	.4	75	.3	36	15	694	5.24	7	5	ND	1	58	1	3	2	73	.82	.169	14	77	1.29	128	.15	5	1.47	.01	.10	1	.4
STD C/AU-S	13	.59	.41	132	7.1	70	30	1025	4.21	42	17	7	38	50	19	15	19	60	.49	.090	39	55	.82	181	.07	40	1.96	.06	.13	11	.49

## 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 Mn Fe 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: Pulp Au\*\* ANALYSIS BY EA/ICP FROM TOTAL SAMPLE.

DATE RECEIVED: JUL 18 1989 DATE REPORT MAILED: July 29/89 SIGNED BY C.L. TOW, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

HOMESTAKE MINERAL DEV. CO. PROJECT 5711 File # 89-2244 Page 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	G	Au	Tb	Sr	Cd	SD	B1	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	PPM	PPM	PPM	PPM	PPM	PPM	PPB	
CC-29-4-31452 -60+150	2	520	8	43	.1	22	20	136	2.24	18	5	ND	2	38	1	2	2	25	1.03	.274	10	26	.43	63	.06	2	.34	.01	.05	44	675
CC-29-4-31157 -60+150	1	425	8	25	.2	16	17	119	2.27	15	5	ND	1	88	1	2	2	27	.69	.162	7	19	.40	56	.06	5	.32	.01	.08	10	18
DD054-31170 -60+150	3	255	38	25	.3	57	61	144	12.78	23	5	ND	2	25	1	2	2	25	.43	.062	7	19	.31	8	.07	8	.37	.01	.02	2	20
DD054-31171 -60+150	3	870	220	143	19.9	49	297	120	21.51	82	5	52	14	20	1	2	15	11	.38	.030	6	4	.15	5	.03	2	.20	.01	.02	108	1061
GR-8-4-31028 -60+150	1	713	67	97	2.5	31	144	180	13.55	210	5	ND	3	23	1	2	2	37	.67	.071	7	5	.20	7	.10	5	.51	.01	.01	1	6300
GX074-31081 -60+150	2	228	20	48	.2	22	78	284	6.42	43	5	ND	2	62	1	2	2	74	.98	.069	7	8	.53	11	.15	6	.84	.01	.01	1	191
BHG-13-4-31055 -60+150	3	525	43	203	3.3	91	99	166	20.83	259	5	3	2	12	4	3	2	27	.44	.035	4	17	.29	6	.07	33	.39	.01	.01	1	146
BHG-13-4-31057 -60+150	2	218	22	224	1.0	30	94	202	16.52	103	5	3	1	31	5	2	2	31	.59	.065	5	8	.32	13	.11	2	.41	.01	.01	1	2167
LC924-31154 -60+150	1	154	28	34	.1	10	9	121	1.58	14	5	ND	16	15	1	2	2	27	.30	.025	4	18	.27	45	.07	2	.28	.01	.01	22	63
LC924-31177 -60+150	1	108	3	19	1.9	7	4	97	.80	14	5	ND	3	16	1	2	2	24	.30	.023	7	20	.21	128	.09	2	.24	.01	.01	7	1295
LCB2-4-31085 -60+150	3	688	152	342	1.3	117	98	135	24.18	408	5	5	2	32	6	30	2	23	.35	.030	2	8	.16	6	.02	3	.24	.01	.02	13	520
LC11-4-31155 -60+150	5	178	16	78	.1	21	17	193	3.70	52	5	ND	27	31	1	5	2	43	.51	.046	20	13	.33	76	.16	5	.35	.01	.02	56	16891
CH17-3-31097 -60+150	4	1042	16	53	.3	29	31	150	3.56	51	18	ND	122	24	1	2	2	42	.64	.062	16	12	.54	28	.22	4	.34	.01	.01	11	38
CH10-4-31157 -60+150	1	223	2	19	.1	93	9	99	.72	4	5	ND	4	11	1	2	2	9	.36	.052	5	28	1.39	86	.04	8	.19	.01	.01	1	5
HC20-4-31059 -60+150	1	71	9	66	.1	51	32	144	4.50	16	5	ND	21	19	1	2	3	14	.85	.054	102	6	.22	26	.10	2	.24	.01	.01	1	13
HC214-31094 -60+150	2	188	30	71	2.4	36	159	68	8.21	113	5	ND	31	24	2	3	3	13	1.30	.158	47	5	.17	15	.08	3	.30	.01	.01	19	44
CC-29-4-31149 -60+150	1	579	14	72	.1	25	39	138	5.51	19	5	ND	1	58	1	2	2	46	.084	3	16	.34	28	.05	2	.29	.01	.08	5	44	
HR-53-4-31174 -60+150	1	76	9	34	.1	19	20	227	1.99	9	5	ND	1	18	1	2	2	55	1.03	.074	5	21	.73	62	.61	2	.59	.01	.13	1	6
BR32-4-31811 -60+150	5	860	272	311	42.6	179	116	225	26.06	186	5	34	8	22	3	11	67	19	.41	.053	4	9	.20	7	.15	7	.30	.01	.01	22	99999
BR32-4-31612 -60+150	14	1236	885	871	9.3	76	144	153	17.20	637	105	ND	507	31	9	4	86	34	.38	.120	101	7	.17	14	.14	8	.43	.01	.08	103	117
BR-32-4-31510 -60+150	5	1062	156	471	5.4	183	126	257	24.30	213	5	3	9	23	6	3	2	43	.51	.051	5	6	.27	6	.25	2	.43	.01	.01	4	2953
XH84-4-31243 -60+150	9	86	11	46	.1	22	72	215	19.82	19	5	4	6	33	3	11	2	66	.38	.067	22	17	.32	9	.03	2	.38	.01	.01	1	8
DD24-4-31398 -60+150	3	801	50	33	.6	19	52	124	2.49	31	5	ND	23	22	1	3	2	20	.34	.039	13	20	.36	50	.07	6	.32	.01	.01	35	10
STD C/AU-S	18	58	43	132	7.1	67	28	925	3.85	43	16	7	36	47	18	14	21	58	.48	.093	38	54	.95	175	.07	34	1.90	.06	.14	11	49

\* Gold values ≈ 10600 ppb.

## HOMESTAKE MINERAL DEV. CO. PROJECT 5711 FILE # 89-2244

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SAMPLE	No	Cu	Pb	Zn	Ag	Hg	Co	Mn	Fe	As	U	Au	Tb	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Tl	B	Al	Na	S	N	As*	PbP
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM			
CC-29-4-31452 -150	1	538	16	57	.1	31	21	244	2.86	39	5	ND	10	326	1	2	2	55	3.29	.993	30	40	.67	61	.08	7	.64	.02	.08	73	3869	
CC-29-4-31457 -150	7	557	36	52	3.3	25	25	323	3.49	92	5	12	8	634	1	2	2	88	5.96	1.850	55	29	.58	51	.07	9	.69	.02	.10	72	19892	
DD054-31170 -150	6	193	29	53	.7	62	61	408	12.40	23	5	ND	5	42	1	2	2	64	1.18	.277	22	28	.47	27	.08	4	.67	.01	.03	1	160	
DD054-31171 -150	5	772	55	82	5.1	43	239	150	14.33	71	65	ND	228	26	1	1	52	15	1.09	.224	19	5	.17	8	.06	3	.32	.02	.02	253	11215	
GT-8-4-31228 -150	1	68	11	39	6.8	5	9	237	1.27	12	5	49	8	29	1	2	2	60	2.65	.286	10	8	.44	30	.22	17	1.52	.01	.01	7	12123	
GT074-31081 -150	1	321	43	89	4.9	27	122	239	15.10	246	5	6	5	23	2	2	2	49	1.81	.270	11	4	.23	8	.13	8	1.01	.01	.02	1	20361	
BHG-13-4-31055 -150	2	413	44	145	3.0	77	104	335	16.21	399	5	3	5	30	1	8	6	53	.86	.089	9	19	.49	9	.12	50	.78	.01	.02	1	5809	
BHG-13-4-31057 -150	1	242	45	95	3.1	33	115	197	19.97	162	5	6	3	21	1	2	3	35	1.05	.157	7	6	.21	7	.12	5	.55	.01	.01	1	2622	
CG924-31154 -150	3	107	14	68	5.3	11	11	219	2.12	49	5	21	5	36	1	2	2	54	.97	.149	11	20	.46	71	.12	5	.54	.01	.01	99	18226	
CG924-31177 -150	2	138	19	53	6.5	12	10	168	1.99	43	5	22	13	56	1	2	2	44	1.27	.289	19	22	.32	66	.15	2	.48	.01	.04	204	20229	
LCB2-4-31085 -150	6	897	198	379	11.9	123	101	261	26.79	942	5	4	5	46	5	29	2	35	.62	.061	5	9	.22	4	.05	3	.33	.01	.04	36	19173	
LC11-4-31155 -150	5	145	15	59	27.2	19	17	229	3.40	58	5	104	30	87	1	6	2	56	1.78	.420	31	15	.40	73	.14	7	.65	.02	.05	475	99999	
CN17-3-31097 -150	15	1430	125	77	.6	28	41	156	2.56	166	5	2	440	50	1	2	19	32	4.10	1.021	79	11	.24	30	.12	17	.26	.01	.02	114	2238	
CN10-4-31157 -150	1	156	10	32	.1	352	29	377	2.23	43	5	ND	14	16	1	2	2	17	.59	.153	10	30	5.17	51	.05	8	.23	.01	.02	1	60	
NC20-4-31039 -150	3	190	15	133	.3	85	127	207	6.73	127	5	ND	73	35	1	2	7	19	1.16	.117	160	5	.20	31	.13	5	.29	.01	.02	23	194	
NC214-31094 -150	5	179	34	59	1.0	32	103	86	4.83	179	40	ND	170	34	1	2	13	13	2.55	.457	42	4	.22	32	.09	7	.39	.02	.02	83	335	
CC-29-4-31449 -150	3	1112	44	80	.6	49	77	276	11.03	111	5	ND	5	108	2	2	2	60	3.59	1.090	32	25	.45	14	.06	2	.50	.01	.09	21	1883	
KK-53-4-31374 -150	1	117	27	68	.1	26	31	313	2.76	21	5	ND	21	129	1	2	3	43	3.75	.946	34	31	.77	50	.16	2	.67	.01	.11	2	1683	
BB32-4-31611 -150	7	1259	119	256	38.2	205	130	368	24.15	328	5	28	17	68	2	6	15	24	1.25	.380	21	13	.34	6	.19	5	.54	.01	.03	36	77034	
BB32-4-31612 -150	70	943	801	539	7.7	43	89	145	4.66	960	1300	ND	2012	13	6	6	170	37	1.60	.371	88	7	.11	29	.14	10	.38	.02	.04	396	1941	
BR-32-4-31510 -150	7	1230	212	406	19.8	204	160	396	27.08	600	5	28	15	68	4	5	2	23	.98	.251	17	7	.22	7	.11	6	.39	.01	.02	1	13065	
MH84-4-31243 -150	2	129	28	65	.1	17	38	519	5.56	23	5	ND	16	45	2	2	9	51	2.01	.675	70	16	.33	203	.10	2	.80	.02	.02	3	195	
DD24-4-31298 -150	10	407	216	49	4.8	26	43	289	3.82	62	5	12	58	78	1	2	6	56	1.12	.187	47	18	.60	76	.09	2	.72	.01	.02	68	1934	
STD C/Au-S	18	59	42	132	7.1	70	29	1029	3.96	42	22	7	36	47	18	15	22	58	.46	.094	37	58	.95	182	.07	34	1.92	.06	.14	11	52	

\* Gold value ≈ 12500 ppb

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

## NIGHTOUT GREEK GEOCHEM CN-52

## STIKINE GEOCHEM RESULTS

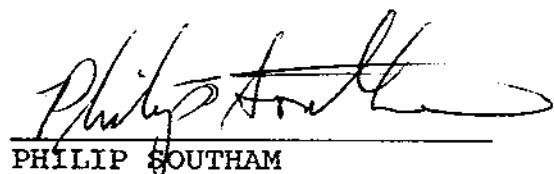
CLAIM	SAMPLE	SAMPLE	SAMPLE	DESCRIPTION	MINERALIZATION	Au	Cu	Pb	Zn	Mo	W	Sb	As
GROUP	NUMBER	TYPE				PPB							
NK-53	31098	o/c	qtz stockwork in silicified phyllitic unit(near felsic volc)	--		1	14	2	29	2	1	2	2
NK-53	31099	o/c	tr. barren wh qtz										
NK-53	31100	silt	qtz in f.g. felsic intrusive	2% diss. py	44	10	3	18	3	2	4	43	
NK-53	31100	silt	20% org.,moss mat	--	47	39	6	112	2	1	12	142	
NK-53	31107	o/c	dk-gr felsic intrusion/dike	1-2% py,1% cpy (5% locally)	24	184	5	13	3	1	23	9	
NK-53	31108	silt	<5% org.,silty sand	--		14	51	5	81	1	1	2	8
NK-53	31201	silt	35-40% org.,sandy	--		3	37	4	80	1	1	2	6
NK-53	31202	silt	35-40% org.,sandy	--		80	38	4	79	1	1	2	13
NK-53	31203	silt	30-35% org.,sandy	--		3	39	5	79	1	1	2	3
NK-53	31204	silt	10-15% org.,sandy	--		6	42	2	84	1	1	2	4
NK-53	31205	silt	30-40% org.,gr-br sandy silt	--		2	42	2	84	1	1	3	10
NK-53	31368	o/c	phyllite?,pu-grey,well-foliated, aphenitic,quite silicified	--		1	3	2	3	2	4	4	17
NK-53	31369	o/c	qtz in altered sed.?, silicified, aph,locally very schistose	tr. py.		3	6	2	29	1	1	2	6
NK-53	31370	o/c	felsic dike?pale green,aph tu v.f.g.,qtz stringers	5-10% diss. py (euhehedral)	87	6	3	6	3	2	9	528	
NK-53	31371	o/c	qtz in felsic dike/intrusive	10% py(euhedral)	10	29	2	11	3	1	6	52	
NK-53	31372	o/c	pale green,aph-v.f.g. ?phyllite or felsic dike	5-7% euh. py.	9	6	2	31	2	2	2	4	
NK-53	31373	o/c	purple, aph., qtz veins/blebs										
NK-53	31373	o/c	grey qtz vein in ?	5-10% f.g. sub-euh	23	12	4	3	3	1	2	11	
NK-53	31374	silt	well foliated sed.? tuffaceous rk?	diss. pyrite									
	31374	h:min.	<5% org.,20 mesh, grey brown	--		4	35	4	75	1	1	3	7
			-60+150mesh	--		5	70	3	34	1	1	2	3
			h:min. 150 mesh	--		1683	117	27	68	1	2	2	21

**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.



Philip Southam

PHILIP SOUTHAM

