

81-#695  
-9604

PERCUSSION DRILLING REPORT  
ON THE  
LIDE 9, 10, 11 AND ANN 19 FRACTION  
MINERAL CLAIMS  
RECORD NUMBERS 25707, 25708, 25709 AND 46154  
PART OF MINERAL LEASE NO. 14 - HIGHLAND VALLEY  
KAMLOOPS MINING DIVISION  
NTS 92I/6, 92I/7  
50°25'N 121°00'E  
OWNED BY TECK CORPORATION  
OPERATED BY HIGHMONT OPERATING CORPORATION

Report Prepared By  
G.R. Sanford - Highmont Mine Geologist  
August 10, 1981

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**9604**  
NO.

PERCUSSION DRILLING REPORT  
ON THE  
IDE 9, 10, 11 AND ANN 19 FRACTIONAL  
MINERAL CLAIMS

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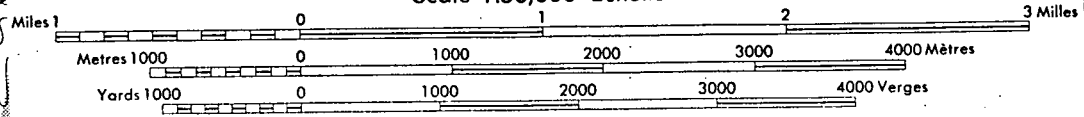
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**INDEX MAP**  
**SPENCES BRIDGE**  
 KAMLOOPS DIVISION OF YALE LAND DISTRICT  
 BRITISH COLUMBIA  
 WEST OF SIXTH MERIDIAN - OUEST DU SIXIEME MÉRIDIEN

Scale 1:50,000 Échelle



**SPENCES BRIDGE MAMIT LAKE**

92 I/6

92 I/7

43 44 45 46

PERCUSSION DRILLING REPORT  
ON THE  
IDE 9, 10, 11, ANN 19 FR. MINERAL CLAIMS

Introduction

i) Location and Access

The IDE Mineral Claims are located in the Highland Valley on the southwest flank of Gnawed Mountain, at an elevation of 1660 m. The claims lie approximately 1700 m south of the mill site of Highmont Operating Corporation (see Dwg. 1).

Access to the claims is by dirt trail through the Highmont Open Pit Operation.

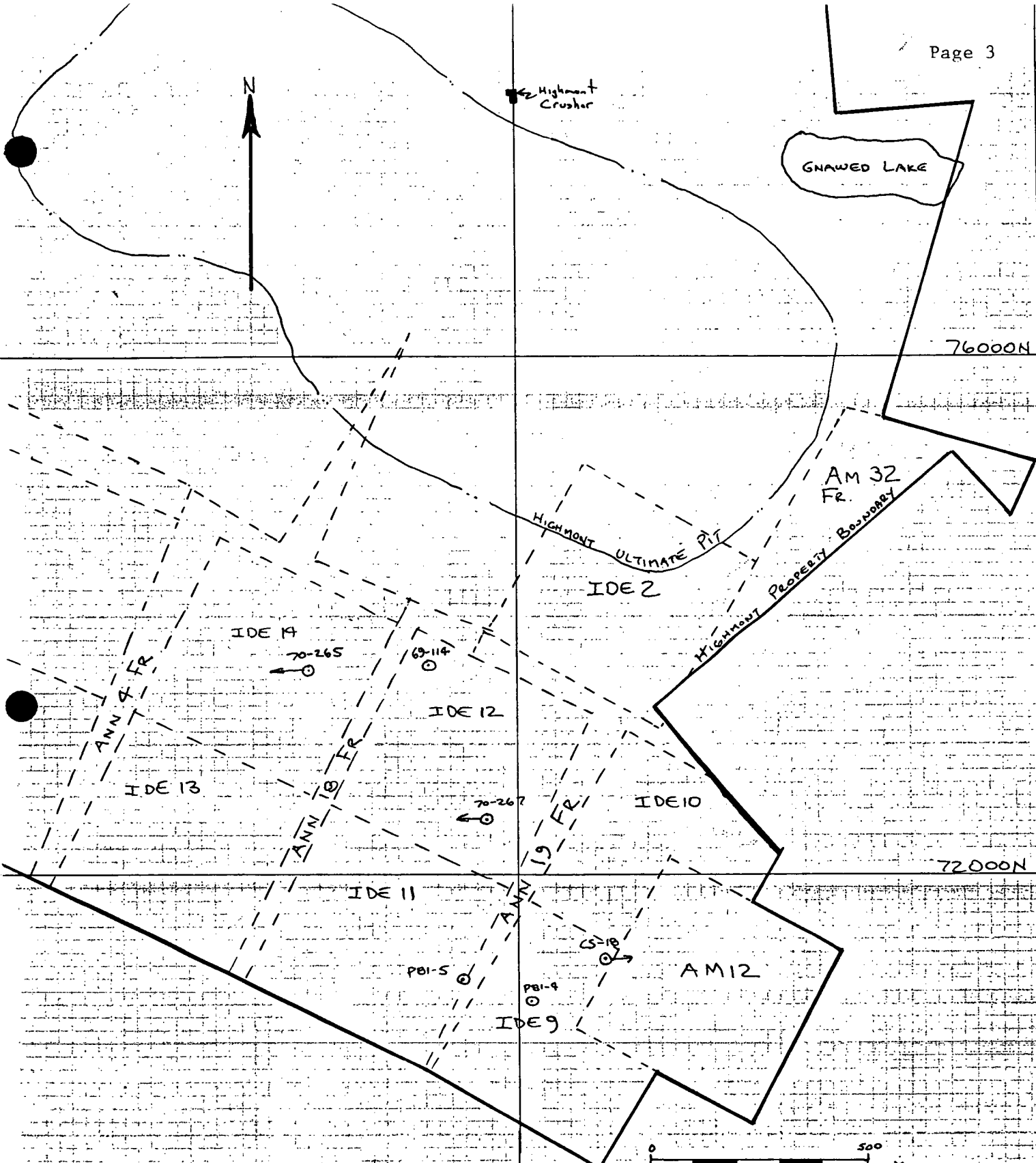
ii) Claim Description

Seven claims comprise Mining Lease number 14, issued 10 September 1980 for a period of 21 years. The list of claims within this lease is as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Due Date for Assessment Work</u>
IDE 2	24995	10 Sept. 1990
IDE 9	25707	10 Sept. 1990
IDE 10	25708	10 Sept. 1990
IDE 11	25709	10 Sept. 1990
AM 12	31199	10 Sept. 1990
AM 32	31483	10 Sept. 1990
ANN 19 FR.	46154	10 Sept. 1990

All claims have been legally surveyed by a B.C. Land Surveyor. The IDE claims were staked in the mid to late 1950's. The claims within Mining Lease 14 were purchased by Teck Corporation from Minex Development for potential waste disposal in July of 1976.

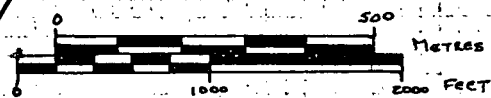
All claims in this area, whether Highmont's or Minex, have been extensively examined. Geophysics such as IP, EM and Magnetometer has been done, the area has been soil sampled, trenched and both percussion and



LOCATION MAP  
IDE CLAIMS

GNAWED MOUNTAIN

⊙ ← DRILL HOLE CORNER  
WITH DIP DIRECTION



SCALE 1:12000 CRS

DWG 1

diamond drilling have been done. Numerous companies - American Smelting and Refining Company, Kennco Explorations, Anaconda American Brass, Torwest Resources, Canadian Superior, Highmont Mining and Teck Corporation have all performed portions of the above mentioned work. Several of the reports submitted for assessment purposes are:

- 1) Kennco Explorations "Report on the Geological, Geochemical and Geophysical Survey on the Gnawed Mountain Group" by R.W. Stevenson May 25th to August 31st, 1959.
- 2) "Geophysical Report on an Airborne Magnetometer Survey of AM, IDE and Ann Claims" by G.E. White, J.P. Cerne, D.R. Cochrane - 12 January 1969.
- 3) "Geophysical Report on IDE, AM, Ann, New IDE, and New Ann Mineral Claims" by A.J. Reed - 6 January 1975 and 10 March 1975.

The geophysics to date has indicated a weak IP anomaly across the northern half of IDE 10, AM 12 and AM 14, roughly coinciding with a copper soils geochemistry anomaly. Based on 10 widely spaced diamond drill holes, Minex Development estimated an indicated tonnage of 12 million tons of 0.20% Cu and 0.010% Mo. This mineralized area lies northeast and outside of the proposed dump location.

### iii) Summary of Work Done

Two 1 7/8" (4.8 cm) percussion drill holes totalling 61.0 m were drilled. 899 meters of road construction and rehabilitation were required to provide access to the drillsites. Work was performed on IDE 9, 10, 11, 12 and ANN 19 FR, with hole P81-4 drilled on IDE 9 and P81-5 on IDE 11.

### Detailed Technical Data and Interpretation's

#### i) Purpose

The purpose of the drilling was to evaluate the mineral potential in the immediate vicinity of the proposed waste dumps, which will lie on the

western side of the old access road indicated on Dwg. No. 2.

This area is entirely underlain by Skeena Phase Granodiorite of the Guichon Batholith.

### ii) Results

All road work was done under contract to Pooley Brothers of Merritt, using a D6-D Cat. All drilling was under contract to Tonto Drilling Company, using a truck mounted percussion drill rig. Samples were taken at 10 foot (3 meter) intervals. The cuttings were automatically split by an electrically driven rotating cup splitter, yielding a one-eighth total sample. Each sample was then assayed for copper and molybdenum at Highmont's Assay Lab, using standard Atomic Absorption techniques. Assay results are shown in Appendix II.

A small portion of the cuttings was washed and then examined, using a binocular microscope. The logging results are attached as Appendix I, and contain a self explanatory legend.

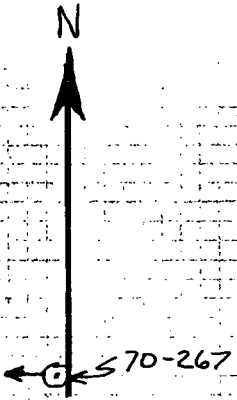
The co-ordinates of the drill holes are:

<u>HOLE #</u>	<u>LENGTH</u>	<u>NORTHING</u>	<u>EASTING</u>	<u>ELEV.</u>	<u>AZIM</u>	<u>DIP</u>	<u>B/R DEPTH</u>
P81-4	30.5 m	71051.38	110098.94	5450	—	-90°	9.1 m
P81-5	30.5 m	71210.06	109568.20	5430	—	-90°	7.6 m

### iii) Interpretations

Neither hole indicated any mineralization - the highest assays being .01% Cu and .002% Mo. The cuttings were substantially weathered but only slight amounts of mineral alteration were present.

Diamond drill hole 70-267 (-45°, S88°W) previously drilled on IDE 12 (see Dwg. No. 2) also indicated no mineralization south of the old access road. This hole was drilled to 227.1 m and was assayed from the collar to 227.1 m at 3.0 m intervals. The average grade over this interval was .012% Cu and .001% Mo with only widely separated intervals assaying better than .1% Cu or .005% Mo.



IDE 12

NEW ROAD CONSTRUCTED

OLD

5500 ELEV.

ACCESS

72000N

ANN  
19  
FR.

IDE 10

ROAD



IP IDE 11, 12  
FP IDE 9, 10

IDE 11

NEW ROAD CONSTRUCTED

5450 ELEV

CS-18

P81-5

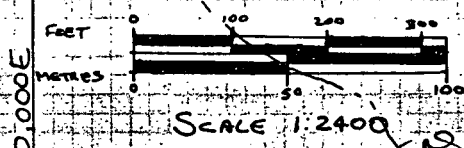
IDE 9

P81-4

71000N

Drill Hole COLLAR  
WITH Dip Direction

LOCATION MAP  
DRILL HOLE COLLARS  
IDE CLAIMS



110,000E

DWGNo2



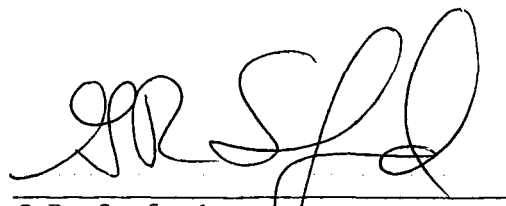
Diamond drill hole Canadian Superior 18 (see Dwg. 2), an angle hole drilled to the east some 300 - 400 m southwest of the previously mentioned Minex mineralized area, assayed .03% Cu/.003% Mo over its length of 70.1 m.

Diamond drill hole 69-114 (vertical - 178.6 m) - see Dwg. 1, was assayed from 30 to 64.0 m and averaged .04% Cu/.003% Mo with the best 3m interval assaying .10% Cu/.005% Mo. The other assayed interval 140.2 - 152.4 m averaged .01% Cu/.005% Mo.

Diamond drill hole 70-265 ( $-45^{\circ}\text{S}88^{\circ}\text{W}$ , 304.8 m) see Dwg. 1, collared outside the proposed dump area, was assayed from 6.1 - 222.5 m and averaged .02% Cu/.001% Mo to 158.5 m. The only intervals of note were past the 158.5 m mark.

#### Conclusions

Previous and present drill holes have confirmed that no mineralization of any economic significance is indicated to the southwest of the old access road on IDE 9, 10, 11, 12 and Ann 19 Fraction in the proposed dump area.



G.R. Sanford  
Highmont Mine Geologist

ITEMIZED COST STATEMENT  
IDE CLAIMS

## 1. ROAD CONSTRUCTION AND SITE PREPARATION

899 metres road constructed or rehabilitated,  
two drill sites, 18 x 18 m

D-6D Cat and Operator, Pooley Bros., Merritt  
9 hrs @ \$72.50/hr, 17-18 June 1981

\$ 652.50

Mobilization/Demobilization

\$ 186.00

\$ 838.50

Supervision - G. Sanford

9 hrs @ \$13.00/hr

\$ 117.00

\$ 955.50

## 2. PERCUSSION DRILLING - Tonto Drilling Company

60.96 metres @ \$18.05/m

\$ 1,100.00

Moves/Demobilization

5 hrs @ \$85.00/hr

\$ 425.00

\$ 1,525.00

Supervision - G. Sanford

8 hrs @ \$13.00/hr

\$ 104.00

\$ 1,629.00

## 3. SURVEY - Hole Collars and Tie In

Traverse from Pit area - 8-15 July 1981

\$ 666.00

K. Everitt, D. Liddicoat, R. Gross,  
A. Wager and K. Bostock

## 4. ASSAY COSTS

15 Cu @ \$5.50/each

\$ 82.50

15 Mo @ \$8.50/each

\$ 127.50

\$ 210.00

## 5. PLANNING

L. Tsang - 5 hrs @ \$15.00/hr

\$ 75.00

## 6. VEHICLE USE

4 days @ \$35.00/day

\$ 140.00

7. REPORT PREPARATION AND CUTTINGS LOGGING

G. Sanford - 2 days @ \$104.00/day

\$ 208.00

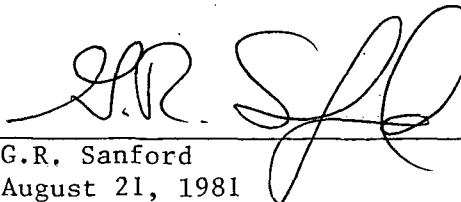
TOTAL

\$ 3,883.50

AUTHOR'S QUALIFICATIONS

I, GERALD R. SANFORD, OF 1901 PARKER DRIVE, MERRITT, BRITISH COLUMBIA,  
DO HEREBY CERTIFY THAT:

- 1) I am a Geologist employed by Highmont Operating Corporation;
- 2) I graduated from the University of British Columbia in 1969 with a Bachelor of Applied Science Degree in Geological Engineering;
- 3) I have been continuously employed in the mining industry since graduation; and that
- 4) this report describes work performed on IDE 9, 10, 11, 12 and Ann 19 Fraction Mineral Claims under my supervision during the period of 16 June - 1 August, 1981.

  
G.R. Sanford  
August 21, 1981

APPENDIX I  
DRILL CUTTINGS LOGS

LEGEND & CODING USED FOR LOGGING CUTTING

Legend

S= <5%                    ✓ mineral present                    L lightly altered  
 A= 5-10%                \* mineral significant                M medium alteration  
 H= >10%                \*\* mineral very significant           I intensely altered

CODING

ROCKS: plutonic: mafic 1a-1, H-1; H/b-2; H-3; B/h+4; B-5; gabbro-1; diorite-2; gneiss 3; granodiorite-4; gneiss 5; granite-6; syenite-7; syenodiorite-8.

Others:

argillite-AG	Conol. plut-CP	phyllite-PII	tuff-TI
arkose-AK	dacite-DA	pillow lava-PL	uncl. ammetite-MA
slaskite-AL	Granulite-GA	quartzite-QU	uncl. gneiss-IG
amphibolite-AM	greenstone-GR	rhyolite-RH	uncl. mm. rock-UM
andesite-AN	greyschale-GW	sandstone-SS	uncl. plut. rock-UP
aplite-AP	hornfels-HF	Schist-SC	uncl. sediment-US
basalt-BA	limestone-LS	shale-SH	uncl. ultrabas-UU
chert-CH	marble-MA	skarn-SK	uncl. volcanic-UV
Conglomerate-CO	pegmatite-PG	slate-SL	uncl. migmatite-UX
			volc. breccia-VB

Minerals:

actinolite-AC	chromite-CH	leucite-LU	rutile-RU
andalusite-AN	chrysothile-CR	limonite-LI	sanadine-SA
apatite-AP	cordierite-CO	magnetite-MA	scheelite-SC
arsenopyrite-AS	diopside-DI	malachite-ML	serpentine-SH
augite-AU	epidote-EP	moscovite-MU	sillimanite-SI
azurite-AZ	galena-GL	mica (MUSBI)-MI	anhaltite-AL
barite-BA	garnet-GA	molybdenite-MO	aphene-SP
beryl-BE	glass (vol)-GS	olivine-OL	staurolite-ST
biotite-BI	glaucophane-GC	opal-OP	stibnite-SB
bornite-BO	graphite-GR	orthoclase-OF	calc-TA
calcite-CA	hematite-HE	plagioclase-PC	tourmaline-TO
chalcedony-CD	hornblende-HO	pyrite-PY	tremolite-TR
chalcocite-CC	hyperthene-HY	pyroxene-PX	zeolite-ZE
Chalcopyrite-CP	ilmeneite-IL	pyrrhotite-PR	zircon-ZI
chlorite-CL	kyanite-KY	quartz-QU	zoisite-ZO

Migmatites:

stockwork-ST	Dykes:	Folds:
banded unclas-BG	(rock code above +)	gentle (180°-120°)-G
Irreg. b. unclas-IG	synplutonic-SP	open (120-70) -O
veined unclas-VG	feldspar porph-FP	close (70-30) -C
angular ammetite-AA	qtz-feld -OF	tight (30-5) -T
rounded ammetite-RA	lamprophyre-LA	isoclinal (5-0) -I
elongate ammetite-EA	swarm, basalt-SB	drag (limbs unreg) -D
Schlieren unclas-SG	swarm, andesite-SA	chevron (" equal) -V
nebulite-NE	swarm, rhyolite-SR	zig-zag (" unreg) -Z
	swarm, synpluton-SS	box fold -B
		'M' fold -M
		flowage (irregul) -F

Glaciation, joints:

glac. feat. uncl-C	Joints, prominent-J
drumlin-D	erratic-E
esker -K	lake deposit-L
moraine-M	nunatak-N
outwash channel-C	rock glacier-R
striae-S	till-T

Veins:

marble-M	pyrometite-P	serpentine-S	calcite-C	qtz stringers-X	unclass vein-U
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Grain size:

Granitoid:	fine -F	medium -M	coarse -C	permatitic-P
Other:	aphanitic -A	very fine -V	fine -F	medium -M
			coarse -C	very coarse-P

Folds:

gentle (180°-120°)-G
open (120-70) -O
close (70-30) -C
tight (30-5) -T
isoclinal (5-0) -I
drag (limbs unreg) -D
chevron (" equal) -V
zig-zag (" unreg) -Z
box fold -B
'M' fold -M
flowage (irregul) -F

Foliation:

massive -O	faint -F	moderate -M	good -C	excellent-E	shearing -S	gneissic -N
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Faults:

major-M	minor-X	shear-S
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Inclusions:

shape:	mainly angular-A	mainly rounded-R	mainly elongate-E
abundances:	<1%-1; >1 <5-1; >5 <10-2; >10 <20-3; >20 <30-4; >30 <50-5		

type:	bedded-B	foliated-F	nebulous-N	porphyroblastic-P
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BOREHOLE CUTTING LOG

Hole No	Essential Minerals			Secondary minerals										Intensity of Pt	Rock Type	Mineralization								Assay		Remarks/Date	
	Feldspar KF PC	QU	Mafic BI HO	QU	KF	BI	MU	PY	CY	CL	EP	CB	CP			MO	BN	CC	PY	HE	LI	Spec	Mo	Cu			
1072	Yellow	A	✓	✓			✓			✓			L	P/O													P81-4 MINOR QZ-SPEC.
1073	Yellow	A					✓			✓	✓		L	P/O													
1074	Yellow	A								✓			L	P/O													SOME KAOLINIZATION
1075	Reddish	A								✓			L	P/O	✓		✓	✓	✓								GRAIN BN SEVERAL GRAINS P.O.
1076	Yellow	P/O A		✓			✓			✓			L	P/O		✓											MINOR BN
1077	Yellow	A		✓			✓			✓			L	P/O		✓		✓	✓								" "
1078	Yellow	A		✓			✓			✓	✓		L	P/O				✓	✓								
																											VERY FEW MAFICS IN
																											ANY SAMPLE P/O = PARTIALLY OXIDIZED G.S.





APPENDIX II  
ASSAY RESULTS

HIGHMONT OPERATING CORPORATION

Mine Assay

Laboratory Report Form

Date: July 13 / 81

Assayed By: DE

TAG NO.	FOOTAGE	LAB. NO.	% MO	% CU	% CU E	REMARKS
		1				P81-4
1072	30-40	2	.002	.01		
1073	40-50	3	.001	.01		
1074	50-60	4	.001	.01		
1075	60-70	5	.001	.01		
1076	70-80	6	.002	.01		
1077	80-90	7	.002	.01		
1078	90-100	8	.002	.01		
		9				
		10				
		11				
		12				
		13				
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		29				
		30				

HIGHMONT OPERATING CORPORATION

Mine Assay

Laboratory Report Form

Date: July 13/81

Assayed By: DE

TAG NO.	FOOTAGE	LAB. NO.	% MO	% CU	% CU E	REMARKS
		1				P81-5
1079	25-30	2	TR	.01		
1080	30-40	3	.001	.01		
1081	40-50	4	TR	.01		
1082	50-60	5	.001	.01		
1083	60-70	6	TR	.01		
1084	70-80	7	TR	.01		
1085	80-90	8	.001	TR		
1086	90-100	9	.001	.01		
		10				
		11				
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		13				
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