12/87

1986 ASSESSMENT REPORT
DIAMOND DRILLING PROGRAM
on the
HEK CLAIM GROUP
PASS CREEK AREA

GREENWOOD MINING DIVISION
BRITISH COLUMBIA

for

owner/Operator: CONSOLIDATED BOUNDARY EXPLORATION LTD.

and

GRAND FORKS MINES LTD.

NTS 82E/1W 49° 1/21'N 118° 27.9 W

FILMED

LAURENCE SOOKOCHOFF, P. Eng. CONSULTING GEOLOGIST

JANUARY 26, 1987 VANCOUVER, B.C.

Sookochoff Consultants Inc.

ASSESSMENT REPORT

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GEOLOGICAL BRANCH ASSESSMENT REPORT

15,554

# 1986 ASSESSMENT REPORT DIAMOND DRILLING PROGRAM on the HEK CLAIM GROUP PASS CREEK AREA

# INTRODUCTION

From May to August, 1986, a diamond drilling program was carried out on the HEK mineral claim of the HEK claim group. The purpose of the drill program was to test for vertical and horizontal continuity of mineralized intersections obtained in previous drill holes and to test a Max-Min EM anomaly.

The drilling was performed by Consolidated Boundary Exploration Ltd. as operator of the exploration project. A Longyear 38 machine was utilized with BQ size drill rods. A total of 783 meters (2,569 feet) of drilling was completed in nine drill holes.

The core is stored in the property.

#### SUMMARY

The HEK group is comprised of two claims (25 units) located in the Pass Creek area 21 km north of Grand Forks, B.C. Exploration of gold occurrences covered by the claim group dates back to 1901. In the 1930's the property was referred to as the Simpson Mine with open cuts, shafts and drifts completed exploring pyrrhotite-pyrite-chalcopyrite zones.

In 1939 Hecla Mining shipped 364 tons which averaged 0.71 oz. Au/ton and 0.25 oz. Ag/ton. A drill hole drilled by Fento Mines reportedly intersected "18 feet" of 0.30 oz. Au/ton, 3.75 oz. Ag/ton and 0.5% Cu. Drilling by Consolidated Boundary up to 1976 disclosed significant gold values in six of the eleven drill holes. The values ranged from 0.083 oz. Au/ton over "nine feet" to 0.28 oz. Au/ton over "34 feet". In 1983 the property was

optioned and explored by Grand Forks Mines Ltd. In 1984, two diamond drill holes were put down, the results of which returned a maximum of .028 oz. Au/ton.

In 1986 nine drill holes were completed on the Glover zone - a westerly extension of the Main zone and the location of the 18 foot intersection by Fento Mines.

The drilling disclosed a massive sulphide zone trending northwesterly and dipping steeply to the northeast. Assays from the zone which is open to depth and to the northwest returned up to a weighted avearage of 0.259 oz. Au/ton over 6.2 meters.

A volcanogenic sulphide zone was also located. Intermittent bedded sulphides within the westernmost drill hole returned up to 4,953 ppm Zn and 110 ppb Au.

Additional geophysical surveys and diamond drilling are recommended on the two zones.

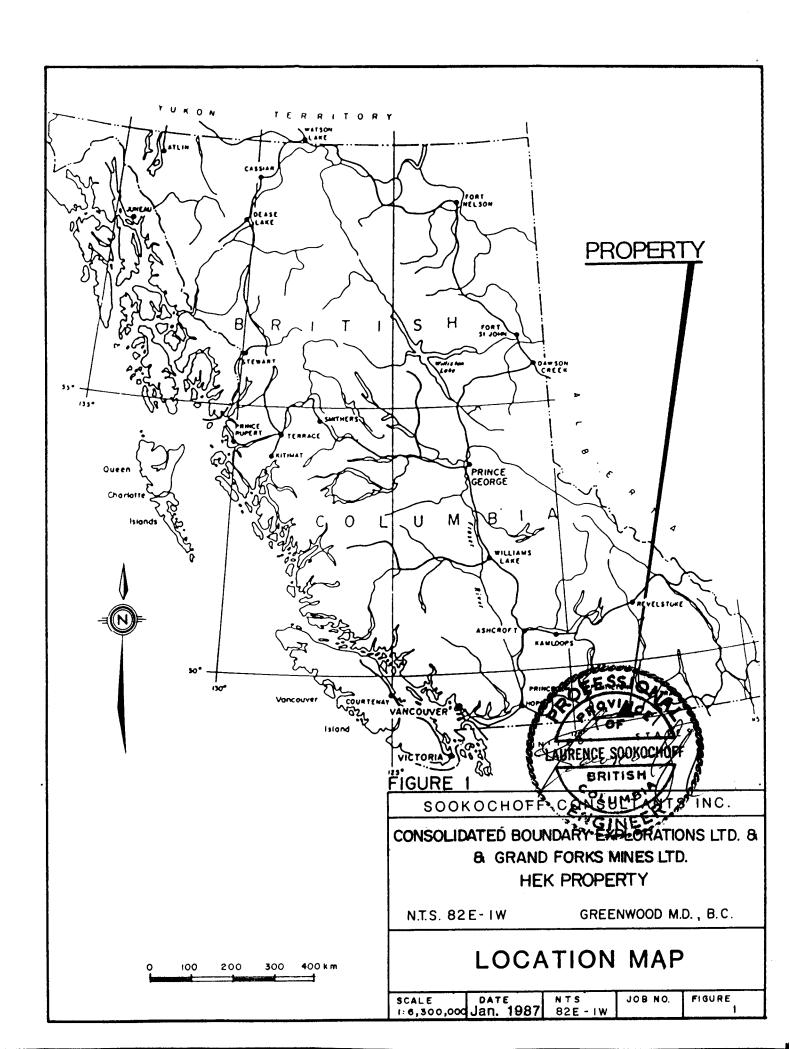
# **PROPERTY**

The property is comprised of two contiguous located mineral claims totalling 25 units. Particulars are as follows:

<u>Claim Name</u>	<u>Units</u>	Record No.	Exp	iry [	<u>Date</u> *
HEK HEL	9 16	159 211		-	1990 1991

\*Upon approval of three years assessment work applied December 4, 1986 for which this report forms a part thereof.

The claims are registered in the name of Consolidated Boundary Explorations Ltd. and are under option to Grand Forks Mines Ltd.



# LOCATION AND ACCESS

The property is situated 21 km north of Grand Forks adjacent to and north of Pass Creek, an easterly-flowing tributary of the north fork of Granby River.

Access is provided by paved, gravel and secondary roads to the property.

# WATER AND POWER

Sufficient water for all phases of the exploration program are available from Glover Creek or other water courses on the property.

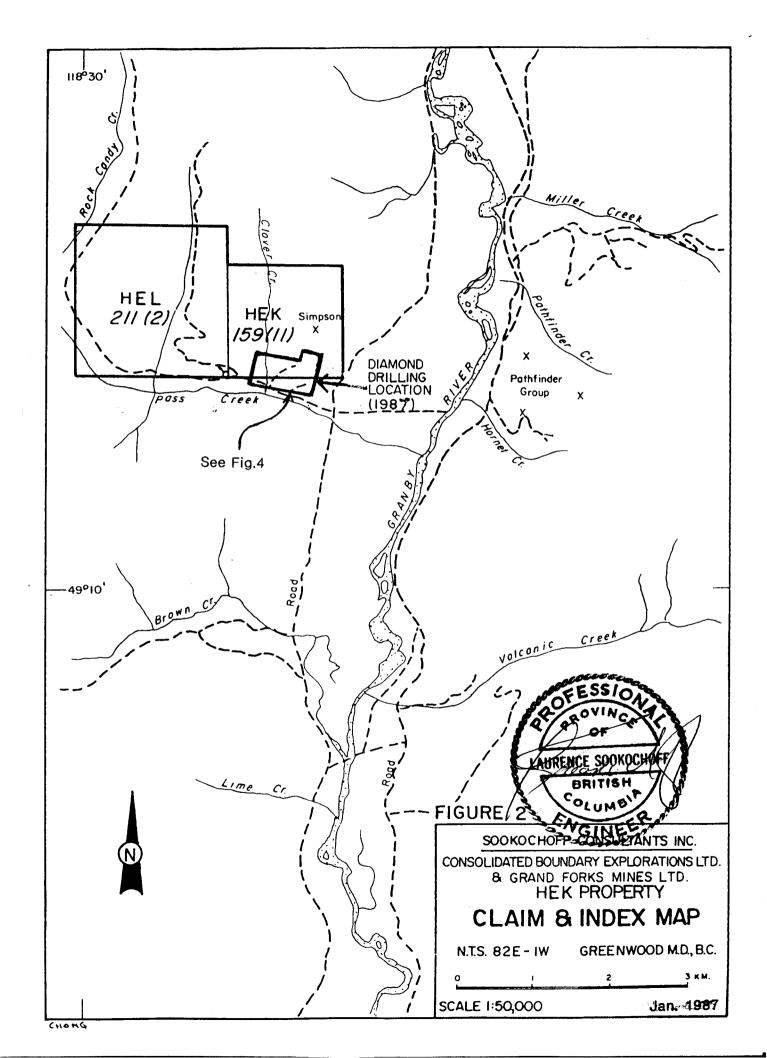
#### TRANSPORTATION AND SUPPLIES

Trail is located 90 km east of Grand Forks where smelter facilities are available. Castlegar, 90 km east of Grand Forks, is served daily by commercial airlines from Vancouver. Skylink Airlines has recently commenced a one day a week service to Grand Forks from Vancouver utilizing a DASH 7 aircraft.

# **HISTORY**

The history of the are stems from placer deposits discovered along Rock Creek and Boundary Creek west of Grand Forks in the early 1850's.

In 1890, gold-copper deposits were discovered at Rossland, 55 km east of Grand Forks stimulating prospecting throughout the area. The following year, large low grade copper deposits were



discovered near <u>Phoenix</u>, 13 km northeast of Grand Forks. The Phoenix district produced about 15 million tons of ore averaging slightly over 1.5% copper with significant gold and silver values. The Phoenix mine ceased operations in 1919, however was later reopened and in production to 1978.

In the immediate vicinity of the HEK claim group, exploration and development on the Pathfinder property (one km to the east) to 1920 resulted in "1,250 tons of ore being shipped assaying0.43 oz. Au/ton and 3.9 oz. Ag/ton".

In a 1983 drill program on the Richmond claim of the Pathfinder property, values of up to 1.4 oz. Au/ton across 2.4 feet and .12 oz. Au/ton across 12.2 feet were reported. Geological mapping and sampling on the <u>Pathfinder</u> in 1984 returned encouraging results in the location of gold values associated with volcanic flows.

Recent exploration has also been performed on other properties in the immediate area, including an adjacent property to the north.

On the ground covered by the <u>HEK and HEL claims</u>, the history dates back to 1901 when the property was known as the "Exchange". In 1939, Hecla Mining carried out a program of drifting and crosscutting resulting in the shipment of 364 tons of material from the Simpson zone (on the HEK claim) to the Trail smelter.

From 1966 to 1969, Byrell Minerals and Fento Mines carried out an exploration program of I.P. surveys, stripping and the diamond drilling of six holes on the Glover zone on the HEK claim (F69 1-6).

From 1975 to 1976, Consolidated Boundary Exploration carried out a program of geological mapping, magnetometer surveys and the diamond drilling of eleven holes (CB75 1-11) for 1,973 feet on the Glover zone on the HEK claim.

In June and July of 1976, Hecla Mining Company of Canada carried out a program of geological mapping, magnetometer surveys and

the diamond drilling of eleven holes (CB75 1-11) for 1,973 feet on the Glover zone on the HEK claim.

In 1983, Grand Forks Mines, under option from Consolidated Boundary Exploration and as operator completed an exploration program of geological mapping, soil sampling, magnetometer surveys and trenching. The work was concentrated on the Glover zone.

In May, 1984, two diamond drill holes (CBG 85-102) were completed on the HEK claim. In 1986 nine drill holes were completed. The purpose of this report is to report on the results of the 1986 drill program.

# RESULTS OF PREVIOUS EXPLORATION

- T. Klobusicky reported on the exploration results to 1972 that:
  - 1. Numerous anomalous areas were indicated from a 1966 I.P. survey. The readings ranged from two to three times that of background.
  - 2. The geological environment is comparable to the geology of the gold and silver bearing copper ores of the Greenwood-Phoenix-Grand Forks mining district.
  - 3. Diamond drill hole No. F-69-1 drilled to a depth of 389 feet encountered trace mineralization. Diamond drill hole No. F-69-2 intersected an estimated 18 feet (true width) of .30 oz. Au/ton, 3.75 oz. Ag/ton and .54% Cu. The length of the hole was 258 feet.

The Consolidated Boundary Exploration program results of 1975 - 1976 were as follows:

1. In the 1,973 feet of AQ drilling in 11 holes pertinent and significant intersections were obtained in six of the holes. The information on the holes is as follows:

Hole No.	<u>D1p</u>	Depth <u>(feet)</u>	Intersection (footage)	Length <u>(feet)</u>	oz. Au/ton
CB75- 1	-50	93	10 - 85	75	0.0732
CB75- 2	-90	39	0 - 34	34	0.2802
CB75- 3	-50	60	30 - 55	25	0.0924
CB75- 4	-50	45	0 - 23	23	0.164
CB75- 5	-45	100	no significant values		
CB75- 6	-70	245	no significant values		
CB75- 7	-50	340	60 - 89	26	0.200
CB75- 8	-50	442	160 - 169	9	0.088
CB75- 9	-50	112	no significant values		
CB75-10	-50	242	four feet of massive su	lphides	- no assays
CB75-11	-50	255	no significant values	•	_

The results of the 1976 Hecla exploration program are reported as follows:

- 1. The soil copper-gold geochemical results was reportedly unsuccessful in delineating known bearing areas.
- 2. The magnetometer survey revealed low to moderate magnetic variations. An extension of the magnetometer survey was recommended.

From the 1983 Grand Forks Mines - Consolidated Boundary results, geological mapping by D. Runkle, M.Sc., disclosed that mineralization is limited to Anarchist Group rocks.

Trenching and sampling of the Glover zone disclosed a correlation between gold and copper mineralization. A possibility of several similar parallel zone were indicated.

The soil geochemistry disclosed a small area of interest between the main (Glover) showing and the Simpson Mine on line 1400E.

The 1984 diamond drill hole particulars is as follows:

Hole No.	Location	Dip	Bearing	Length (meters)	Intersection
CBG 84-1	0+75N 3+80E	-50°	310°	65.2 m	.05 Au/ton over 1.5 m
CBG 84-2	0+74N 5+14E	-50°	120°	65 m	.027 oz. Au/ton over 1.2 m

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# **REGIONAL GEOLOGY**

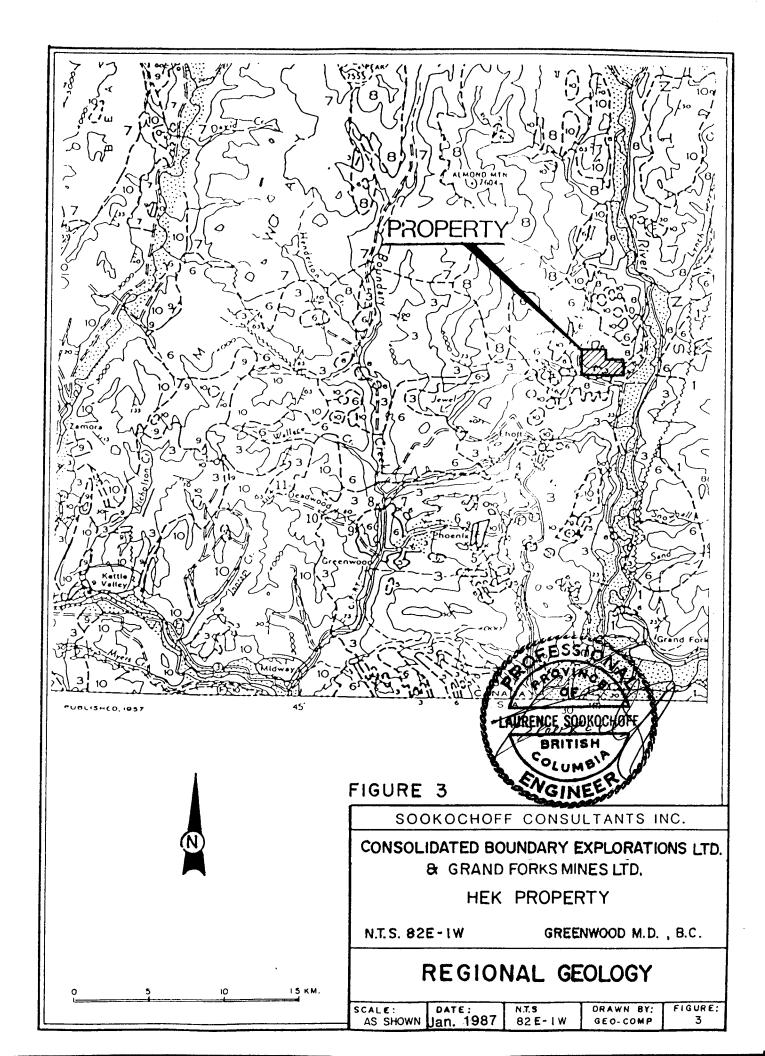
The general geology of the area is of Nelson, Coryell and Valhalla Intrusives to the north in contact with sedimentary rocks and greenstones (Arnarchist Group) of Palaezoic age to the south. Local to extensive areas of Intrusive also occur within the Palaezoic rocks. Overlying are the Paleocene or Eocene Phoenix group of predominantly volcanics with minor tuffs and sediments and the Kettle River Formation of predominantly rhyolitic intrusives and flows in addition to local sediments.

The <u>Anarchist Group</u> consists very largely of highly metamorphosed sedimentary rocks but includes also altered greenstones and possibly also altered intrusive rocks. The sedimentary members of the group are the altered equivalents of quartzite, slate and limestone, micaceous quartzites, mica schists and crystalline limestone. The sheared greenstones possibly represent both intrusive and extrusive types.

A second group of rocks within the Anarchist series are light grey, granitic rocks, quite generally gneissic, the outcrops of which have in some cases a slightly rusty appearance. Quartz and microcline predominate with orthoclase and albitic oligocalse generally present. These granitic rocks are intrusive into the schists of the Anarchist series.

Another group of rocks within the Anarchist series consists of sheared basic intrusives which can in local areas be represented as serpentine with considerable pyrite development in association with shear zones.

Feldspar porphyry "dykes" are also common. The rock is described as a "pale pink to flesh colored, fine grained rock with granitic texture. Quartz is fairly common and feldspar, shreds of biotite, hornblende, small individuals of apatite and some iron ore make up the balance of the rock."



The <u>Coryell Intrusives</u> are reddish to buff syenite that grade locally into granite or shonkenite. Some of the smaller bodies are composed of augite monzonite or olivine syenite.

On the <u>Pathfinder workings</u> within one km east of the HEK group there are reportedly four distinct veins "running parallel and from eight to twenty-one feet in width. There are good showings on all the veins.".

# PROPERTY GEOLOGY

From a detailed geological program carried out by Hecla in 1976 the geology of the HEK claim is described by Ostensoe and Kruchkowski as follows:

"The geology of the HEK claims is dominated by a comagmatic assemblage of alkalic rocks intrusive into and bordered by granite and by siliceous volcanic and sedimentary rocks. The latter rocks are generally weakly pyritized and in an area just east of Glover Creek contain zones of abundant to massive iron sulphides and traces of chalcopyrite and gold."

"There is little doubt that assimilation has occurred. Most structural and textural details have been erased by metamorphism but an overall east-west trend is evident both in distribution of sedimentary rock units and in their remnant internal structures. Heavy sulphide mineral concentrations are attributed to contact metamorphism of favourable metal rich beds by the intrusive events. At the Simpson-Zucco Mine a small quantity of gold-base metal ore was formed in a structural trap in a dyke-riddled bedded sequence."

In a geological mapping program performed in 1983, D. Runkle reports that:

"Geological mapping on the property has recognized three major rock units: Permian(?) Anarchist Group metasedimentary and metavolcanic rocks; Paleocene(?) Coryell Intrusions, primarily syenite, grading to other phases; and Phoenix Volcanics, consisting of andesite, trachyte, occurs at the tops of volcanic flows, specifically the altered (skarn/silica) tips and edges. Mapping is in progress to delineate the Anarchist flows, and locate the tops. It appears that rocks previously mapped as Nelson diorite, are actually coarser portions of the Anarchist flows, and that they may be more extensive

than previously thought."

"A trench adjacent ot DDH 75-1, 2 & 4, cuts across syenite, fine grained porphyritic andesite, fragmental andesite, gray tuff, and green felsite tuff containing sulphide mineralization. Initial sampling of the trench vielded disappoingint results, but did show up the correlation between gold and copper mineralization in this location. An additional twenty-eight samples were taken to test the mineralization in the trench, and are plotted on the accompanying figure. The most concentrated mineralization in this location. An additional twentyeight samples were taken to test the mineralization in the trench, and are plotted on the accompanying figure. The most concentrated mineralization in the trench occurs in the upper portion of a resistent felsite unit. The rock is a medium to light gray, hard, brittle, extremely fine-grained felsite tuff with 1% fine disseminated pyrite and little evidence of mafic minerals in the lower section. The upper, mineralized section, contains secondary biotite, garnet and small clots of pyrite, pyrrhotite and minor chalcopyrite. The entire unit has a greenish cast toit, indicating silicification and/or skarn alteration. It has an average thickness of at least 40 cm (the upper portion is partially eroded), and the mineralization is 15 to 20 cm thick. The lower contact is a shear that trends 025/53S. The remainder of the rock in the trench is primarily medium gray, very fine grained porphyritic andesite. Phenocrysts are feldspar, and the groundmass contains 1% disseminated pyrite. This rock is cut by numerous joint surfaces and shears, many of which are caoted with limonite and perhaps Some fractures are filled with calcite. ankerite. Local areas contain thin veinlets of pyrite and very minor pyrrhotite. Immediately below the felsite, the andesite has been strongly sheared, and is very crumbly. Limonite coatings on fracture surfaces trace rounded areas that were perhaps originally fragments in a clastic volcanic flow. A minor portion of the trench is intruded by medium grained syenite of the Coryell Intru-The rock is predominantly potassium-feldspar with some quartz and very few mafic minerals.

Mineralization on the <u>HEK Claim</u> occurs as "veins" of massive pyrrhotite with accompanying pyrite and chalcopyrite in varying degrees and variable to no quartz.

The <u>Simpson Mine zone</u> is "a quartz filled shear zone in the Anarchist greenstone skarn area which has been mineralized with pyrite, pyrrhotite and chalcopyrite across a width of 100 feet or more". Former production from this area returned an average of 0.71 oz. Au/ton and oz.25 Ag/ton.

A second mineralized area is in part indicated by a gossan zone with "disseminated pyrite, pyrrhotite and chalcopyrite within quartz diorite over an area of 500 feet by 1,000 feet".

# 1986 DIAMOND DRILL PROGRAM

From May to August, 1986, nine diamond drill holes were completed for a total of 783 meters (2,569 feet). The purpose of the drill program was to test the Glover zone, a westerly extension of the main zone. A previous drill hole on the Glover zone returned .30 oz. Au/ton over a 30 foot intersection.

Particulars of the 1986 drill holes are as follows:

D.D.H. No.: H 86-1 Bearing : 220° Dip : -55°

Length : 87.5 m (287 feet)

# Results:

The hole was predominently in greenstone and skarn with variable disseminated pyrite throughout the section. The skarn contained heavier pyritic sections with the most significant assay value of .031 oz. Au/ton across three feet (one meter). The purpose of the drill hole was to test a massive sulphide zone exposed within Glover Creek 40 meters at 240° from the collar of H 86-1. The massive sulphide zone was not intersected.

D.D.H. No.: H 86-2 Bearing : 240° Dip : -60°

Length : 57 m (187 feet)

#### Results:

A four meter (13 foot) section of massive sulphides was intersected between the 41.1 and 45.1 meter interval. The section assayed a weighted average of 0.176 oz. Au/ton across four meters with a 1.2 meter section returning .330 oz. Au/ton. The sulphide section is enveloped by a skarn.

D.D.H. No.: H 86-3 Bearing : 240° Dip : -70°

Length : 56.5 m (185 feet)

#### Results:

This hole was steepened to intersect the H 86-2 sulphide zone to greater depth in order to determine the continuity of the zone. A 6.2 meter intersection of sulphides was obtained which assayed weighted of .259 oz. Au/ton. The zone was intersected eight meters below the H 86-2 intersection.

D.D.H. No.: H 86-4 Bearing : 240° Dip : -70°

Length : 65.5 m (215 feet)

#### Results:

The purpose of drill hole H 86-4 was to determine the vertical continuity and tenor of the massive sulphide zone. A sulphide zone was intersected 10 meters below the H 86-3 intersection. The zone locally contained up to 50% sulphides and assayed a weighted average of .083 oz. Au/ton over a 7.6 meter interval.

D.D.H. No.: H 86-5 Bearing : 270° Dip : -60°

Length : 72 m (237 feet)

#### Results:

Drill hole H 86-5 was spotted and drilled to determine the horizontal continuity of the sulphide zone. The zone was intersected 10 meters along strike to the northwest and assayed .216 oz. Au/ton over a 3.4 meter interval.

D.D.H. No.: H 86-6 Bearing : 270° Dip : -75°

Length : 100 m (327 feet)

#### Results:

Drill hole H 86-6 was to test for the down dip continuity of the H 86-5 intersection. The zone was not intersected, however, anomalous values in gold were obtained within a skarn zone.

D.D.H. No.: H 86-7 Bearing : 210° Dip : -60°

Length : 54.5 m (179 feet)

#### Results:

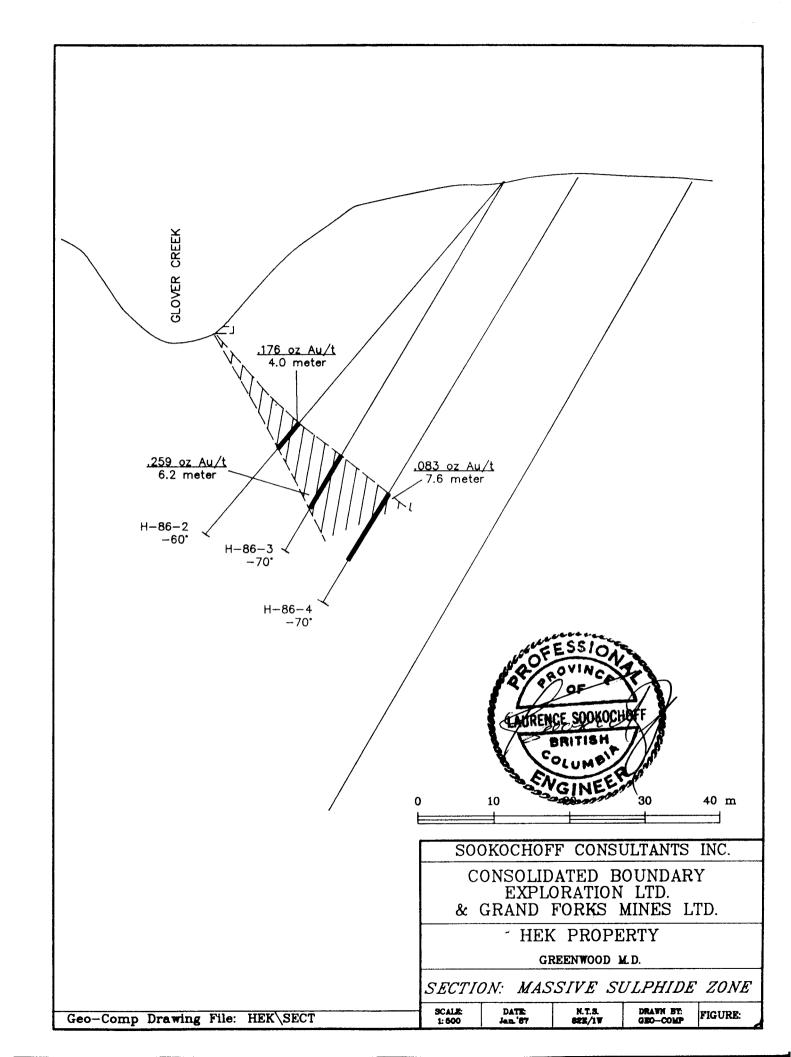
The purpose of H 86-7 was to test for the mineralized zone intersected in H 86-4. A three meter zone of 10% pyrite was intersected which could indicate the eastern extension.

D.D.H. No.: H 86-8 Bearing : 013° Dip : -50°

Length : 108.5 m (356 feet)

#### Results:

Drill hole H 86-8 was to test a Max-Min anomaly north of the Glover Zone along the east side of Glover Creek. A dacitic zone



of fine disseminated pyrite was intersected in addition to a local zone of light sulphide banding. The highest assay was 100 ppb Au across 1.5 meters. The cause of the Max-Min anomaly is possibly due to the disseminated sulphides.

D.D.H. No.: H 86-9 Bearing : 360° Dip : -50°

Length : 182 m (596 feet)

#### Results:

The drill hole tested a Max-Min anomaly west of Glover Creek. Light localy banded pyrite in addition to variable dissemination of pyrite occurs over a 30 meter length within a dacite. More significantly local banding of sulphides occur within a meta andesite to a drilled depth of 138 meters. The hole was terminated within a syenite and syenodiorite with local sections of meta andesite. The highest assay was a 1.5 meter section of 110 ppb Au. A lower section was significant in that a 1.3 meter interval assayed 98 ppb Au and 4953 ppm Zn within a banded sulphide zone.

The drilling was carried out by Consolidated Boundary Exploration Ltd. The core was logged by L. Sookochoff, P. Eng. with pertinent sections marked for splitting.

Sections of massive sulphides or heavily disseminated sulphides were split with half sent for assay and half retained in the core box for future reference.

The split section intervals, were placed in a plastic sample bag with a duplicate numbered tag for reference and sent for assay.

Local sections of unsplit core (grabs) were also sent for assay to check for gold values in lightly mineralized (pyrite) or altered zones. These core pieces were referenced as to hole number and footage. i.e. 86-9-409

All samples were assayed for gold with massive sulphide sections also assayed for silver and copper. The local pieces of core were assayed as rock geochem for 30 elements by ICP.

The assaying was performed by Acme Analytical Laboratories of Vancouver by the following procedure:

The drill core samples were crushed and pulverized to -100 mesh. A .50 gm sample is digested with 3 ml of 3:1:3 HCl:HNO3:H<sub>2</sub>O at 90°C for one hour. The sample is diluted to 10 mls with water. Elements analysed by AA:Cu, Ag, Au\*.

Au\* - 10 gm, ignited , hot aqua regia leached, MIBK extraction, AA analysis.

# DISCUSSION

Drilling on the Glover zone resulted in the intersection of a zone of massive sulphides bearing significant gold values. The zone is indicated to trend west north-westerly with a steep dip to the northeast. It appears that three holes along a vertical plane (H 86-2, 3 & 4) extended the zone 33 meters along dip with the zone increasing in width with lower gold values down dip. The extension of the zone was intersected 10 meters to the northwest (H 86-5) where gold values of .216 oz./ton indicate a possible plunge to the northwest. The plunge is substantiated from the lack of intersections by H 86-1 and 86-7 along the southeast extension.

The two drill holes (H86-8 & H86-9) that tested the Max-Min anomalies indiated disseminated pyrite and more significantly volcanogenic sulphides indicated as banding along bedding planes. Drill

hole H 86-8 indicated minimal banding whereas H 86-9 manifested a substantial interval of locally banded sulphides from 71 meters to 138 meters with intervals of syenite resulting in metamorphic pyrite - as disseminations - throughout the section.

# CONCLUSIONS

A massive sulphide zone assaying up to .259 oz. Au/ton across an interval of 6.2 meters has been located at Glover Creek. This zone designated as the Glover zone trends northwesterly, is open to depth and to the northwest and appears to terminate to the southeast. the zone is indicated to widen with lower gold values at a depth of 33 meters and appears to plunge to the northwest. The bounding intersections delineate a 33 meter by 10 meter massive sulphide zone. More significantly, a zone of volcanogenic sulphide zone.

The zone appears to increase in zinc (up to 4, 953 ppm) to the west with consistently anomalous gold (up to 110 ppb) values. The encouraging features of the Glover Creek area is in the potential of delineating a volcanogenic-related zone with economic copper-zinc-gold-silver values.

#### RECOMMENDATIONS

It is recommended that an IP survey be carried out to the west of Glover Creek to locate anomalous areas that may indicate increased metal values in a volcanogenic environment. Drilling of the anomalous zones would follow.

Diamond drilling if the massive sulphide zone should also continue to delineate the zone to the northwest and to depth.



January 27, 1987 Vancouver, B.C.

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# HEK CLAIM GROUP 1986 ASSESSMENT REPORT DIAMOND DRILLING PROGRAM AFFIDAVIT OF EXPENSES

The diamond drilling of the two holes on the HEK claim group was carried out from June 1, 1986 to December 3, 1986 to the value of the following:

2,569 feet BQ core @ \$20.00

\$51,380.00

# CERTIFICATE

I, LAURENCE SOOKOCHOFF, of the City of Vancouver, in the Province of British Columbia, do hereby certify;

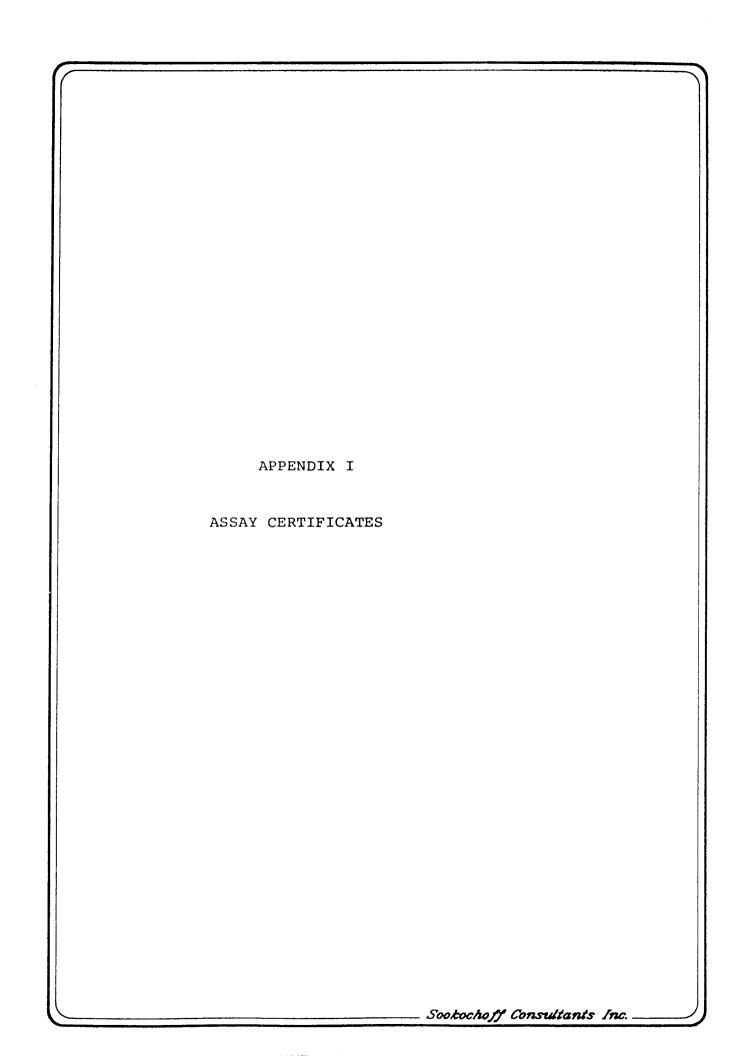
That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with offices at 311-409 Granville Street, Vancouver, B.C. V6C 1T2.

I further certify that:

- 1. I am a graduate of the University of British Columbia (1966) and hold a B.Sc., degree in Geology.
- 2. I have been practising my profession for the past twenty years.
- 3. I am registered with the Association of Professional Engineers of British Columbia.
- 4. The information for this report was obtained from sources as cited under bibliography and from the supervision of the drilling program reported on herein.
- 5. I have no direct or indirect interest whatsoever in the property described herein, nor in the securities of Grand Forks Mines Ltd. and do not expect to receive any interest therein. I am a director of Consolidated Boundary Exploration Ltd. and own more than 5000 shares.

Dated at Vancouver, British Columbia this 27th day of January, 1987.

Enq.



ACME ANALYTICAL LABORATORIES LTD.

852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6

PHONE 253-3158 TELEX 04-53124

DATE RECEIVED: MAY 7 1986

DATE REPORT MAILED:

Mey 9/86

# ASSAY CERTIFICATE

SAMPLE TYPE: CORES AUE 10 GRAM REGULAR ASSAY

ASSAYER: ALCHEN DEAN TOYE. CERTIFIED B.C. ASSAYER.

 MONTHOFF CONSULTANT	F.	ROJECT	- HEK	FILE #	86-0647	FAGE	1
SAMPLE	Cu	Zn	Aq	Au			
	*:	11	OZ/T	OZ/T			
0652		.02	. 42	.031			
0673	. 3.7	- 04	. 53	.157			
50674	.17	.45	. 42	.047			
0675		.02	. 58	.330			

ME ANALYTICAL LABORATORIES LTD.
2 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
ONE 253-3158 TELEX 04-53124

DATE RECEIVED: MAY 21 1986

DATE REPORT MAILED: May 22/86.

# ASSAY CERTIFICATE

SAMPLE TYPE: CORES AUT 10 GRAM REGULAR ASSAY

ASSAYER: ACCEPTIFIED B.C. ASSAYER.

SOOKOCHOFF CONSULTANT PROJECT - HEK FILE # 86-0725 PAGE

SAMPLE#	Cu	Ag	Au	
	%	OZ/T	OZ/T	
<				
677	.08	. 16	.003	
677 -678	. 61	1.43	. 299	
5679	.18	.33	.046	
. 680	. 24	.78	. 228	
681	. 44	. 58	.415	
			_	-
682	. 41	. 46	.042	
683	.03	.09	.043	

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 TELEX 04-53124

HEL 86-5 228-202

HEK 86-5 232-237

DATE RECEIVED: DATE REPORT MAILED: June 3/86.

PAGE 1

# ASSAY CERTIFICATE

SAMPLE TYPE: CORES AU. 10 GRAM REGULAR ASSAY

HIDEAN TOYE. CERTIFIED B.C. ASSAYER.

1				
CONSULTANTS	PROJECT	- HEE	FILE	# 86-0809
PLEII	Cu	Aq	nu	
	%	DZZT	OZ/T	
86-5 159-164	.20	.27	.038	
86-4 164-169	.40	. 68	. 140	
86 4 169-174	. 22	.38	.039	
86-4 174-179				
86 7 179 184	.47	.87	.049	
86-4 184-197	. 33	. 76	. 151	
96 4 189-192	- 14	. 32	. 0.31	
85 5 189.2 198				
86-5 202 205	.30			
96-3 180-185	.01	.01	.001	
			. 0007	
	86-5 159-164 86-4 164-169 86-4 169-174 86-4 174-179 86-4 179-184 86-4 189-192 86-5 189-2 194 86-5 196.8-202 86-5 194-196.8 86-5 194-196.8 86-5 203-210	PLEII Cu X  86-5 159-164 .20 86-4 164-169 .40 86-4 169-174 .22 86-4 174-179 .42 86-4 179-184 .47  86-4 189-192 .14 86-5 189.2 194 .27 86-5 196.8-202 .29 86-5 202-205 .30  86-3 180-185 .01 86-5 194-196.8 .02 86-5 205-210 .07 86-5 219-223 .05	PLEII Cu Aq Z 0Z/T  86-5 159-164 .20 .27  86-4 164-169 .40 .68  86-4 169-174 .22 .38  86-4 174-179 .42 .77  86 4 179-184 .47 .87  86 4 189-192 .14 .32  86 5 189.2 194 .27 .37  86-5 196.8-202 .29 .59  86-5 202-205 .30 .56  86-3 180-185 .01 .01  86-5 194-196.8 .02 .12  86-5 205-210 .07 .12  86-5 219-223 .05 .08	Cu Aq Au Au BA-TT 02/T 02/T 02/T 02/T 02/T 02/T 02/T 02

.05 .08 .004

.01 .01 .001

ACME ANALYTICAL LABORATORIES LTD.

14-7-114

852 E.HASTINGS ST. VANCOUVER B.C. V&A 1R6

PHONE 253-3158

7 4 1.14 20 .17 7 1.25 .10 .04

DATA LINE 251-1011

#### GEOCHEMICAL ICP ANALYSIS

. SOO GRAA SARPLE IS DIGESTED WITH 3HL 3-1-2 HCL-HKO3-H2O AT 95 DEG. C FOR DNE HOUR AND IS DILUTED TO 10 ML WITH MATER. THIS LEACH IS PARTIAL FOR MK.FE.CA.P.CR.MG.BA.TI.B.AC.XA.K.W.SI.IR.CE.SX.Y.XB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPX.

- SAMPLE TYPE: CORE AUI AMALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JULY 14 1986 DATE REPORT MAILED: July 17/86

9 96 .7 7 15 738 6.58 48 16 KD 2 76 1 2 2 103 5.15 .109

ASSAYER. Naty DEAN TOYE. CERTIFIED B.C. ASSAYER.

								500 <del>)</del>	COCH	OFF	COM	SUL T	TANT	S F	FOJ	ECT	- H	E)	FΊ	LE (	86	-145	5.3							PAC	SE 1
SMPLET	Ra PPR	Ca PPR	Ph PPN	Za PPR	Aq PPN	#1 PPR	Co PPR	<b>ሽ</b> ስ <b>ዖ</b> ዮቹ	Fe 1	As PPM	U <i>P\$</i> *	Au PPR	Th PPR	Sr PPN	Cd PPH	S6 PPR	B: PPR	V РРЯ	Ca I	1	La PPR	Cr PPR	Aq 1	\$4 PPR	Ts.	1 7771	Al I	1	r 1	T PPR	Aut PF3
H-7-84A		20	72	14	.1	1	ı	49	2.96	12	3	MD	1	40	1	2	2	56	. 84	. 165	12	17	. 04	54	. 12	7	. 40	.12	.07	1	14
H-7-843	1	14	,	73	. 7	3	5	712	3.24	1	19	10	•	62	i	2	2	80	.78		19	12	. 55	133	. 28		1.47	.17	. 80	1	1
H-7-86C	i	15	29	11	.1	11	Ĭ		2.91	į		XD.	23	43	1	2	2	57	1.30	.118	66	38	. 79	88	. 19	7	. 71	. 10	.21	ı	3
N-7-643	j	2914	13	29	12.1	30	,		44.74	49	5	2	4	2	1	3	3	11	. 03	.008	1	1	.10	5	.01		. 27	.05	.03	1	750
76-11	1	40	10	28	.3	4	7	305	3.60	19	5	KD	2	56	1	2	2	18	1.39	.000	•	\$	. 34	45	.16	7	.57	.12	.20	1	33
76-11A	2	132	17	39	1.0	4	12	423	5.15	55	12	KD.	2	71	ì	2	2	48	1.70	. 083	4	2	.43	27	. 12	ţ	.59	.09	. 05	2	90
84-3-127	i	37	11	47	.4	11	12	434	3.71	30	1	XI)	2	51	1	2	2	61	2.05	. 105		21	и.	24	.18		.70	.12	. 05	2	27
14-4-73	i	14	31	175		5	11	525	3.41	47	12	XD	2	13	1	2	2	42	5.06	. 089	4	3	. 29	11	.01		.73	. 07	. 03	1	50
¥++#5		14	1	¥	. 1	2	1	257	1.43	•	5	ND:	7	17	1	2	2	7	. 93	.015	41	2	.14	•	. 04	5	.34	. 06	. 06	1	1
84-4-239	1	54	14	129	.7	14	14	532	4.41	44	5	ED	1	58	1	2	2	112	1.62	. 123	7	30	1.25	33	.19	í	1.24	.14	.16	41	115
84-4-304	1	582	26	4	3.8		12	322	1.34	31	á	KD.	5	42	1	2	1	11	, 80	.016	9		. 20	11	. 04	2	.91	. •7	.14	1	720
84-4-312	,	ÅI	41		2.3	12	14		5.71	41	5	10	2	79	i	2	2			.122		26	1.79			-	1.50				150

\$TB C/AU 6.5 21 58 41 137 7.1 71 29 1117 3.94 35 21 7 34 48 18 16 20 69 .48 .107 37 39 .88 181 .08 39 1.73 .09 .13 14 500

DATA LINE 251-1011

#### GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIBESTED WITH JML 3-1-2 MCL-MX03-M20 AT 95 DEG. C FOR ONE MOUR AND IS DILUTED TO 10 ML WITH MATER.
THIS LEACH IS PARTIAL FOR MM.FE.CA.P.CR.MG.BA.TI.B.AL.XA.K.M.SI.ZR.CE.SN.Y.NR AND IA. AU DETECTION LIMIT BY 1CP 15 3 PPM.
- SAMPLE TYPE: CORES & ROCKS AUI ANALYSIS BY AA FROM 10 GRAM SAMPLE.

My .. DEAN TOYE. CERTIFIED B.C. ASSAYER. ASSAYER . . / AUG 1 1986 DATE REPORT MAILED: SOOKOCHOFF CONSULTANTS FROJECT - HER FILE # 86-1786 PAGE SAMPLET Pb Zn Ag Ni Co Mn Fe As ∐ Au Th Sr £3 St Bi V Ca P La Cr Ag Es PPM PPB PPR PPR 1 PPR PPR PPM PPH PPR PPA PPR PPR PPR PPR PPR PPR H-86-8-76 663 2.70 6 1.72 .023 1 . 24 .01 . 91 M-86-8-113 520 2.38 2 15 27 1 4 5 ND. 1 4 3 6 .65 .021 19 2 . 17 14 .01 7 . 69 .06 . 14 M-86-8-116 3 10 112 12 15 1281 5.28 2 24 ЖĎ ò 275 1 2 2 102 5.06 .294 48 12 2.05 50 . 04 13 1.84 . 09 . 10 4-84-8-1eC 8 7 526 1.95 2 5 KD. 8 64 1 2 1 4 1.13 .017 18 2 14 . 20 .01 6 .59 .08 M-66-6-187 2 639 2.11 11 1.5 2 81 2 2 5 1.36 .022 2 .10 17 .02 5 .73 7 H-86-8-250 394 2.32 5 .84 .022 . 24 4 .54 8 .0€ . 05 . 07 M-86-8-275 350 1.78 5 XD 31 2 1 1.00 .022 8 2 . 29 15 . 04 3 . 47 M-86-8-202 30 35 20 1057 5.11 15 120 . 1 14 ç ИĎ ۵ 191 1 3 2 118 6.08 . 248 34 130 2.73 113 . 23 8 2.35 . 07 H-86-8-297 4 86 7 207 .4 28 10 667 6.16 5 7 ЖĎ 1 101 2 108 2.31 .119 5 34 5.27 209 .13 11 2.39 .04 1.94 1 M-86-8-298 45 120 3.97 17 3 .94 .159 11 21 41 . 09 7 .41 H-86-8-321 30 108 3,81 46 1.29 .108 11 .22 8 .40 11 31 .06 ۵۵ ، H-8e-8-356 262 17 6 501 3.03 13 ΚĎ - 1 135 2 84 8.48 .114 8 25 1.14 . 06 10 2.22 7 ۵۵، . 03 2 3 M-86-9-68 13 åå 2 755 2,43 2 ΚÇ 23 15 2.19 .056 1 86 7 61 1 . 35 27 .01 5 .75 1 N-86-4-96 23 79 1 2 276 2.65 5 ĸ 86 7 . 1 2 e 1 2 12 .27 .066 62 2 . 15 33 .01 4 1.02 H-66-9-175 19 10 473 3.76 41 20 **80** 3 127 3.71 .17B 14 37 .78 . 08 7 .89 H-66-9-185 227 , b 100 29 563 6.32 171 13 1. 338 5 \$6 4.07 .116 20 , 89 30 7 1.10 .08 M-86-9-190 377 2.50 5 23 Αï 33 1.95 .099 10 Ł 15 144 55 .77 50 .0: 3 .98 .09 .10 4-8a-9-274 10 47 5 798 1.97 13 21 Nū 15 632 29 8.24 .079 . 63 32 .01 . 92 2 .07 M-86-9-242 7 52 14 28 355 3.44 69 ΣL 114 153 . 5 3 123 3,53 ,101 12 32 .59 2 2 5: .11 5 .67 1 14 4-86-9-217 11 152 4.02 66 1.37 .178 16 ΙŁ . 25 38 .08 6 .38 . 04 . 61 H-86-9-284 72 244 4.85 87 1.53 .156 . 33 10 18 64 .08 10 .96 . 13 . 05 á H-86-9-306 70 .5 55 11 145 4.04 11 5 ND 4 34 3 55 .84 .126 16 13 .19 49 . 10 . . 39 .06 .05 7 47 18 297 3.64 N-84-9-402 2 71 12 5 ND 119 43 4.76 .109 5 30 . 58 62 . 08 5 .93 . 05 H-86-9-406 116 13 182 4.22 162 5 ND 57 3 3 285 1.47 .117 13 . 45 43 .10 6 .67 .07 . 04 20 2 150 1.95 .171 5501 55 14 157 22 30 950 5.43 10 25 3 224 2 13 25 1.22 40 .24 16 1.69 . 13 . 1 . 13 3 STD C/AU-0.5 42 137 7.3 73 30 1121 3.98 19 34 49 18 16 18 70 .48 .105 37 60 .89 184 .09 39 1.73 .09 .14 15 440

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ACME ANALYTICAL LABORATORIES LTD.

852 E.HASTINGS ST. VANCOUVER B.C. VOA 186

PHONE 253-3158

DATA LINE 251-1011

# GEOCHEMICAL ICF ANALYSIS

,200 SEAR SAPPLE IS BISESTED WITH IR. DID I HOLLHAGENIO AT 45 DES. C 105 ONE HOW HAD IS DIDITED TO 10 PL WITH WATER.
THIS SENEM IS FABILIAL FOR PAUFELOUPLE, FILE HOLLHAUST, ALLESS, P. CELEN, CAR HAD THE BUILDING CHIEF BY 100 IS I FEM.
- SAMPLE TIPE: CORE - MUT HAMOSES BY HA FORM TO BEAUF SAPPLE.

								50	DK.OC	HOF	F CC	NSU	LIAN	3	FFUI	1: 1.	3 1	15.1	+ 1	E #	Hz-	210	7							FH	UE
arines		Lu	Po	2n	49	N1 .	(c	ħn	Fe	+1	- 12	89		11	Co	55	Ťi.	¥	Ç4	+	4.1	i.	*:	te	11	ŀ	41	**	60		au t
	FF.	***	FF.	F 5-10	***	11.	FFA	F4.4			11.	444	11.	::.		***	-1.	+5.	-	:	FFR	FFM	:	***	:	***	1	:		+++	FFE
11	27	95	51	490	1.0	62	11	17:	1.13	11	5	10	:	1:		:	3	24		.124	12	24	.34	1+	.14		. 50	.04	.04	1	108
54 55 54		2.	21	141		e	19	254	4.16	23		14.2	1	4.5	1	-		44	. 45	.10!					.14					t	110
**	15	77	44	234	- 0	60	11	254	4.40	50	5	MI-	4	150	2		3													1	
Se	47	63	20	421	.:	22	17	227	4.44	24		MD		1.	1			126	7.95	.140	21	34	. 22	41	.17	i	1.12	10	.05	÷	- 7
1.1		20	10	21	.5	27	12	20:	1.11			45		21						.111			. 10		.12		.17			,	- 7

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PROPERTY	нек	HOLE NO.	H 86-1	LATITUDE	
COMPANY	Grand Forks Mines Consolidated Boundary Exploration	BEARING	220	DEPARTURE	
LOGGED BY	L.Sookochoff, P.Eng.	DIP	<b>-</b> 55	ELEVATION	
		LENGTH	87.5 m (287 ft.)	STARTED	May 1, 1986
	1 Engl = 0.3048 metres			FINISHED	May 3, 1986

133-1"@30°; 137-1"@ 25°; 192-193.5 @ 40°.

153- 1.0' pinkish q v @ 50°

179- syenite 6" @ 45° 194- pink c g syenite 1.0' @ 35°

From fee	То	Recovery	Description M:	neralization		Samp				Λss
166		/6			Number	From	То	<del></del>	1	
0	39		CASING	•		f.	t	ft	oz/t	OZ
39	60		GREENSTONE:w/ pinkish hyp. granular c.g. syenite sections @ 47-56.5; 57.5-60 45°contact; greenstone-massive prolific fine fels.& less amphib. phenos; lt qtz carb irreg vlets.	No sulphides	Par Co	FESS/				
60	82		MONZONITE: porph-prolific black pyroxene sub xls in an obscure aphanitic c.g. tex soft chloritic g.m.; 1t flow banding @ 35. Rare cal str @ 30.40.	No sulphides		BRITIS	doubly H			
82	94		GREENSTONE: lt silicified; mod lim on fr @ 45 & var. 91-94 laharic skarn 91 8" q-carb @ 75° sharp contact @ 30°	Lt diss py	0651	91	94	3.0	.005	.01
94	111		GREENSTONE: porph w/ flow banded fels 0 3 102.5-104 broken w/ cal str 108.5-109.5	0. Mod-lt py Lt diss py	0652	112	115	3.0	.031	. 42
111	228		SKARN: laharic & gs, patchy pinkish & lt	10-15% f diss	0653	115	121	6.0	.008	.06
			grn & occ diffuse epidote	<pre>&amp; patchy py</pre>	0654	121	126	6.0	.001	.04
			112-115 soft broken, blackish meta- volcanics		0655	126	131	5.0	.003	.02
			Granitic sections @:126-3"; 132-3";		0656	163	167.5	4.5	.001	. 01
	l		133-1"@30"; 137-1"@ 25";			. 4				

0657

0658

167.5 170

170 174

2.5

4.0

.001 .01

.001 .01

2	/	2
	/	_

	COMPANY		BEARING	DEPARTURE
	LOGGED BY		DIP	ELEVATION
: : : : : : : : : : : : : : : : : : :			LENGTH	
	From To Recovery	Description		

From To	Recovery	Description M	ineralization	Sample				Assa		
	7.			Number	From	То	Width	Au	Ag	
ft		SKARN (cont'd)			f	t	ft	oz/t	oz/t	
		213-218 laharic, mod epidote	mod diss py	0659	213	218	5.0	.001	.01	
				0660	218	223	5,0	.001	.01	
28 244.5		DACITE: gray to lt grn; f-mg; porph w/ lt-mod cal str	lt diss py							
4.5 287		SKARN: greenstone w/ rare pinkish cg cg syenite vl @ 25-35; 273-2"; 274-2".	up to 5% py loc	0661	282	287	5.0	.001	.01	
		287 END OF HOLE								
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Grand Forks Mines
Consolidated Boundary Exploration COMPANY

LOGGED BY L.Sookochoff, P.Eng.

BEARING

DIP

\_240\_\_\_

-60

LENGTH 57m (187 ft) DEPARTURE

ELEVATION

STARTED May 3, 1986

FINISHED May 5, 1986

From	•	Recovery	Description Mineral	ization		Samp	ole			Assay
	feet	7.			Number		To	Width	Au	I Ag
0	38		CASING:			ft.		ft.	oz/t	
38	40		PEBBLES							
40	61.5		GREENSTONE: w/ numerous cg veinlets syenite @50; 45°; lt porph-fels pheno	1t-mod py						
51.5	65.5		SYENITE: allot granular texture; whitish- gray							
55.5	94.8		MONZONITE: porphyritic; black pyroxene xls in pinkish granular texture		0662	81.5	86.5	5.0	.001	.01
			77-87 broken brownish		0663	86.5	91.5	5.0	.001	.13
4.8	115		SKARN: patchy pink & white; epidote patches		0664	91.5	94.8	3.3	.001	.08
			& stringers; grnstone frags	lt py in qtz-	0665	94.8	100	5.2	.001	.02
15	135		SKARN: hornfelsic; blackish-grn; f-mg w/ occ	carb .	0666	100	105	5.0	.001	.04
			qtz str @ 45; local heavy fine granular	mod diss py	0667	105	110	5.0	.001	.02
			130+ diffuse epidote		0668	110	115	5.0	.004	.02
35	148		MASSIVE SULPHIDE ZONE: w/ granular qtz &	50-75% po,py	0669	115	120	5.0	.001	.01
			loc biotite; contact @ 60°	& loc cpy	0670	120	125	5.0	.001	.01
48	187		SKARN: greenstone; sil'd & carb'd w/ granitic	lt-mod py	0671	125	130	5.0	.003	.01
	į		veinlets @ 60°65°: 149- 1"; 149.5- 2"; 150-14"@ 45°;		0672	130	135	5.0	.007	.01
			154.6-1"@ 30°; 162'-variable & pinkish;		0673	135	140	5.0	.157	.63
		i	172'-1"@ 90°; 177-187 granular texture, pinkish,blebs	lt diss py	0674	140	144	4.0	. 0.47	.42
			epidote	ic diss by	0675	144	148	4.0	.330	.68
	Ì				0676	148.	153	5.0	.001	.01
	1	1	187 END OF HOLE				1		j	

PROPERTY HOLE NO.H 86-3 LATITUDE \_\_\_\_ Grand Forks Mines COMPANY 240 Consolidated Boundary Exploration BEARING DEPARTURE LOGÇED BY L. Sookochoff, P.Eng. DIP -70 ELEVATION LENGTH 56.5m (185 ft) STARTED May 6, 1986

FINISHED May 8, 1986

From ft	To	Recovery	Description Mineraliza	tion		Samp	le		1	Assay	
	<del></del>	%			Number			Width	Au	ASSAY	73
כ	35		CASING			ft		ft	oz/t		
35	56		GREENSTONE PORPHYRY: trachytic pyroxene & fels	•							
			phenos @ 35 in an aphanitic fg gray-lt brownish matrix; limonite on fr plane 46-56 no fels & veins of syenite								
56	68		SKARN: laharic; patchy amoeboid, pinkish, mottled 68-71 greenstone, pinkish; loc porph; pyrox phenos in a f-mg texture; qtz-carb to 71	lt-mod py diss & patches on fr	6						
1	87		MONZONITE: pinkish gray, seriate texture; lim on fr; loc porph; cal & black film on fr								
37	88.5	83-85: 6"	DACITIC GREENSTONE: tuffaceous shards; cal str parallel & @20°								
8.5	131.5		SKARN: silicified w/ occ granitic vl @ 90°& 60°	lt-mod py							
			<pre>&amp; irreg; patchy pink w/ lt patches epidotes&amp;</pre>	loc & on fr	677	131.5	136.5	5.0	.003	.16	30.8
			grnstone; rare qtz vl @ 40°; macro amoebic texture; 127+ less skarny; cherty grnstone	mod py	678	136.5	141.5	5.0	.299	1.43	61
31.5	157		MASSIVE SULPHIDE ZONE:		679	141.5	145.	4.0	.046	.33	.18
31.3	137		131.5-136.5 3% sul in sil'd grnstone		680	145.5	151.5	6.0	.228	.78	. 24
			136.5-141.5 8% sul 141.5-145.5 25% sul w/ 1'+6" granite		681	151.5	157	5.5	.415	.58	. 44
			145.5-151.5 20% sul in sil'd gs		682	157	162	5.0	.042	46	.41
			151.5-157 60% sul & inc qtz		683	162	167	5.0	.043	.09	03
			rare banded sul @ 35°& 70° 157-162 75% sul; sharp cont @ 55°								i
57	185		SKARN: greenstone w/ rare patches pink;	2% sulphides							i 1
			182 END OF HOLE				1		1		i

PROPERTY	HEK	HOLE NO.	н_86-4	LATITUDE	
COMPANY	GRAND FORKS MINES Consolidated Boundary Exploration	BEARING		DEPARTURE	
LOGGED BY	L.Sookochoff, P.Eng.	DIP	-70	ELEVATION	
		LENGTH	65.5m (215 ft)	STARTED	May 15, 1986

FINISHED May 18, 1986

From ft	To	Recovery	Description Miner	alization		Sam	ple			Assays	
Ιτ		7.			Number	From	То	Width	Au	Ag	C
0	40		CASING	-		ft	:	ft	oz/t	oz/t	_
40	71		SKARN: laharic; mod patchy pikish & dk grn & var 51-55 dirty brn white gtz	lt-mod loc py							
71	74		GREENSTONE: tuffaceous,grn-gray w/ blk share	ls							
74	94		GREENSTONE: porph & tuff's; black dhards & gray euhedral fels in a fg to aph tex								
94	159		SKARN: laharic, lt patchy pinkish; 104 granitic vl 6'& l' @40° 109+ grnstone skarn 147+ cg diorite vl 152 4° @ 40° flowage in grnst @ 40° 148 diorite 3" irreg 154.5-158	<pre>lt-mod diss py mod diss sul &amp; str diss &amp; patches py</pre>							
159	192		SULPHIDE ZONE: irreg py & po mixed & sep in a reddish skarny matrix w/ occ blobs of diorite 10%  159-164 15% blebs & str 164-169 15% blebs & str w/ occ qtz 169-174 20% blebs & str w/ diorite 174-179 50% w/10% silica; random blebs 179-184 50% loc 75%; agglomeritic tex 184-189 same 189-192 pinkish w/ diss & blebs py		0684 0685 0686 0687 0688 0689	159 164 169 174 179 184 189	164 169 174 179 184 189	5.0 5.0 5.0 5.0 5.0 5.0 3.0	.038 .140 .039 .037 .049	.27 .68 .38 .77 .87 .76	•
192	215		SKARN: laharic; grnish & dk brn; banded frags set in a matrix of lt grn to								

Grand Forks Mines
COMPANY Consolidated Boundary Exploration

BEARING 270

DEPARTURE \_\_\_\_

LOGGED BY L.Sookochoff, P.Eng

DIP

ELEVATION

LENGTH

72m (237 ft)

H86-5

-60

STARTED

May 18, 1986

FINISHED

May 22, 1986

From		Recovery	Description Minera	lization	L	Samp	ole			Assay	s
f	t	%			Number	From	То	Width	Au	Ag	T
0	46		CASING:			ft	:	ft	oz/t	oz/t	
46	57		DIORITE: cg w/ black chloritic vl	lt diss py							
57	88		SKARN: laharic; pinkish & dk grn; rounded patches & irreg in a lt grn-gray matrix 67 qtz vl @ 25°&45°	• •							
88	94		GREENSTONE: w/ qtz str								
94	116		GREENSTONE: porphyritic & tuffaceous; black shards 10% in an occ pinkish matrix; black chlorite-heavily on fr								
116	118.5		DACITE: gray fg-aph					<u> </u>			
118.5	137		SKARN: laharic, pinkish & dk grn in a lt grn matrix 127.5 alaskite @ 40°4" 137-139 diorite cg								
L37	189		SKARN: greenstone to hornfelsic tex; dk grn in a lt grn matrix to reddish; occ vl alaskite to diorite; 171.5 2" @ 50*	mod diss py							
			176-182 prolific fine vl qtz carb @ 50° 182+ spotty agglom tex	mod diss py		180	185	5.0	.001	01	. 0
.89	205		SULPHIDE ZONE: 189.2-189.3	100% py lt cpy	0691	189.2	194	4.8	.042	37	. 2
			189.3=189.7 sil'd zone; no sul 189.7-194 194 4"sil zone @ 10•	75-95% po							
			<pre>194-196.8 siliceous skarn zone;   patchy ep in hfelsic tex</pre>	lt sul	0692	194	196.8	2.8	.560	.12	.0
			198.5-202 202-205	75-95% sul 10% po lt cpy	0693 0694	196.8 202	202 205		.055		. 2

COMPANY	BEARING	DEPARTURE
LOGGED BY	DIP	ELEVATION
	LENGTH	

From	10	Recovery	Description Mineral	zation		Sam	ple			Assay	s
<u></u>		%			Number	From	To	Width	Au	Ag	
205	231		ALASKITE: washy mafic & peppery tex; obscure allot tex; var sil'd & loc carb w/ carb str	diss, blebs & patchy py	0695	205	210	5.0	oz/t .004	oz/t	.87
31	237		DIORITE: fg, blackish-gray; blebs hem; lt car'd; carb str @ 60°& var;	mod fg py	0696	219	223	4.0	.110	.08	. 05
			contact zone 230-233 skarned	cpy blebs & str	0697	223	228	5.0	.009	.09	.05
					0698	228	232	4.0	.004	.08	.05
			237 END OF HOLE		0699	232	237	5.0	.001	.01	.01
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H-86-6

Grand Forks Mines
- Consolidated Boundary Exploration

BEARING 270 DEPARTURE

1/1

LOGGED BY L.Sookochoff, P.Eng.

COMPANY

DIP <del>-</del>75 ELEVATION

LENGTH

100m (327 ft)

STARTED May 22, 1986

FINISHED May 25, 1986

From	То	Recovery	Description Miner	alization		Sampl	e			Assay
ft		%			Number	From	То	Width	Au	Ag
0	42		CASING	•						
42	94		SKARN: occ laharic; lt patchy pink & lt grn mod qtz carb vl @ 35 50°; carbonated	<pre>lt diss py to loc mod</pre>						
94	145.5		MONZONITE: pinkish; loc porph w/ pyroxene phenos; fg grayish; seriate tex; chloritic matrix; lt ep along fr; fels & pyroxene phenos for 2'@ contact  119.5-121.5 chloritic diorite  contact @ 30°& 70°  126.5-145.5 diorite	mod py mod-lt py						
145.5	213		SKARN: greenstone; dacitic w/ loc laharic w/ pink extended frags 169.5-172 monzonite; lt chlorite w/ seriate s&p tex; lt pyrox & fels 182 mod ep assoc w/ syenite @ 35° 182-183 heavy skarn 183-184 syenite @ 80° 188-192 blackish grnstone; lt fels	lt py						
213	222		MONZONITE: pinkish fg w/ pyrox phenos	1.2						
222	238		SKARN: grnstone w/loc patches ep & pods; mod qtz-carb str							
238	246		SKARN:hornfelsic w/ pinkish sec; carb'd vl alaskite l" @ 75 •	mod diss py &						
246	251		SYENITE: allot tex; chloritic	mod-lt fg py on fr						
251	274		PULASKITE: gray w/ euhedral fels phenos	O.1. 11						
274	327		SKARN: mod laharic; loc hornfelsic; mod ep 299-302 diorite	loc str & p py						

314-316 s&p syenite

1/1

Grand Forks Mines Consolidated Boundary Exploration COMPANY

BEARING

210

DEPARTURE

LOGGED BY L. Sookochoff, P. Eng.

DIP

-60

H86-7

ELEVATION

LENGTH

54.5m (179 ft)

STARTED

May 26,1986

FINISHED May 29,1986

From	To	Recovery	Description Mine	eralization		Sam	ple	,	1	Assay
	· · · · · · · · · · · · · · · · · · ·	%			Number			Width	Au	Ag
ft		'			•	ft		ft	1	
	60	1	CASING					1		
0	62	1	GREENSTONE: w/ gray-grn shards					1	1	
2	87		MONZONITE: porph w/ black pyroxene phenos pinkish; lt carb; black chlorite on fr & occ lim; fg on contact for 3';							
7	114.5		SKARN: laharic; pinkish & lt grn patches in grn chl & sil carb matrix 91-94 dirty brn qtz; broken 106.2 hornfelsic, dk reddish							
14.5	125		SULPHIDE ZONE: cont @ 50	10% py	0751	114.5	120	5.5	•	
:5	139	1	SKARN: grnstone; loc pinkish, gray, sil'd		0752	120	124.5	4.5	1	
39	166		DIORITE: meta; m-fg; soft; lt gray	lt py on fr					1	
66	179		SKARN: laharic		`				f	
			179 END OF HOLE				l		l	
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Grand Forks Mines
Consolidated Boundary Exploration COMPANY

BEARING

DEPARTURE

LOGGED BY L. Sookochoff, P. Eng.

DIP

ELEVATION

-50

013

H86-8

STARTED July 22,1986

108.5m (356 ft) LENGTH

FINISHED July 27,1986

From	ft To	Recovery	Description Mineralization	ation		Sample			ŀ	Assa
	1.6	%			Number	From	То	Width	Au	Λg
0	24		CASING	•		ft		ft		
24	285		SYENITE: pinkish-white; cg, hyp-gran tex; fr @ 40°; mod chl on fr; loc chlorite str & fels vl @ 15°, loc brecc'd & healed w/ chlorite lim on fr 66-68 fg dacite 76-81 soft,broken 91 series of fr @ 40°w/ chlorite contact @ 45; sharp unaltered Andesite @: 116-119; 123-125.5 cont @05°& 70° 131 6" @45°, 144-152 cont @ 50°& 05° red hem in and & ep in syenite 205-208 dacite cont @75°& 75° 226 chlorite @ 35°; mod rhem 236+ chlorite on fr @ 10° 245+ more py & ep blebs 251 diffuse tex-porph appearance more mafic alt'n; ep assoc w/ hbl	py str @ 15 *  It diss py mod diss fg py on fr mod py blebs py on fr general disspy py assoc w/maf	250	grab grab grab grab grab			ppb 2 3 1 1 5 5	ppm .1 .1 .1 .1 .1 .1
285	356		282 fuchsite patches 285 contact @ 15° DACITE: lt gray; v fine gr w/ anhedral fels	lt-heavy f dis	282	"			3	.1
			phenos 292-293 sugary qtz & brn biotite 304 4" syenite @ 15° 314-315 syenite @ 40°; sharp unalt'd con	<pre>py &amp; occ str lt py  lt sulphide</pre>	292 298	"			7 8	.4
			340+ greater calcite  356 END OF HOLE	banding @42°	0753 321 356	321 326 grab "	5	5.0	108 10 3	1.0 .5 .2

PROPERTY Hek. HOLE NO. H 86-9 LATITUDE 217.5 N. Grand Forks Mines Ltd. COMPANY Consolidated Boundary Exploration Ltd. DEPARTURE 500 E. BEARING 360 LOCCED BY L. Sookochoff P. Eng. DIP ELEVATION 3375 -50 LENGTH 182m (596ft.) START July 28, 1986

FINISH August 10, 1986.

From To	Tn.				August 1	1, 1900	<u>.</u>			
From To	Recovery %	Description	Mineralization		Sample				Assay	s
1660	/0			Number	From	To Wi	dth	Au	Ag	Cu
0 - 10		CASING.						ppb	ppm	
10 - 173		SYENITE: Pink, graphic texture, f.g., sub hbl xls in a matrix of pink graphic amoebic fels. xls. chlorite on most fr.+ as occ. str.	lt. diss + blebs py.							
		Lt. alt'n of 44+ porph tex w/ fine biotite	rare py.							
		57+ trending to pinkish grey w/ green alt'n of fels + str q. carb. occ. to mod. @ 35'+ var. 86 + argillic alt'n	lt. diss py.							
		to mod. clay minerals, lt-grey porph grey green fels phenos str. q carb. + v.1 @ 25435° 104+ arg. alt'n to clay	·						!	
		soft friable.  122-173 heavy arg'c alt'n w/ 40% mafics;  trending to pinkish @ 129+; granular tex  cont@ 40.								
173 334		DACITE: porph fg to aphanitic gray matrix w/ variable irreg amoeboid fels up to ½"; var hbl.	lt diss py & blebs loc heavy diss	175 185		gra	b	8	.4	
		193-198 occ porph 198-233 porph; loc brecc'd 231-233 cont @ 10° 300-305 silic's; laharic; cont @ 45° 306 prolific f diss py @ 30°	275 loc banded sul @ 10°	190 226 242 247 284		11		1 1 14 3 4	.1 .2 .5 .4 .5	
				302 306		" 9 .6 " 4 .5				

COMPANY	BEARING	DEPARTURE
LOGGED BY	DIP	ELEVATION
	LENGTH	

From To	Recovery	y Description Mineralization	Mineralization	Sample				Assays Au Ag			
		7.			Number		То	Width	Au	Ag	T
							ft		ppb	ppm	T
334	344	••••	321 banded @ 15° cont @40° SYENITE SCHIST: irregular & disc bands of chloritic syenite	<pre>lt sul banding &amp; irreg patches from 233 lt blebs py, po on fr</pre>	0756	321	327	6.0	8	5	
344	352	1	SYENITE: hornblende; og		0757	339	344	5.0	4	•5	
352	37 <b>7</b>	v	GREENSTONE TUFF: grn chloritic aph matrix w/ fels phenos; rare ep blebs syenite @: 359-360 @ 40°; 366.5-367 @ 40°	occ lt py							
			371-372 @40*		0755	395	400	5.0	8	.6	
377	453		META ANDESITE: chloritic, graphitic; lt graph	occ py blebs & disc str	0766	400	405	5.0	110	.5	
		y e	on fr planes @ 40°; massive w/carb str;	loc banded sulph and/or	402		:	grab	6	.3	
			loc var brec'd 430-453 lt banding; sil'd; skarny;pinkish	flowage tex & banded @20º25	408		,	grab	20	.5	
153	539		massive & macro brecc'd  451-456  SYENITE: hbl;white-gray fels; fr @ 45;60;20	loc 1" massive po w/py @25° and gen sul on fr	0758	451	456	5.0	98	1.6	
	· And the second		lt prop alt'n 500-510 fg peppery tex 510-514 meta andesite & grnstone	occ mod py on fr @ 45°	466			grab	85	•6	
			520-539 same w/pinkish cg & fg syenite	lt py on fr & diss							
539	596		SYENODIORITE: meta; mod prop alt'n to chlor & biotite; increasing alt'n & pinkish & lt grn to end of hole	lt diss py	566			grab	6	.1	

