

DRILL ASSESSMENT REPORT  
GREENWOOD 1 CLAIM GROUP  
(BROOKLYN WORKINGS)  
N.T.S. 82E/2  
118°35'W Long. 49°15'N Lat.  
GREENWOOD MINING DIVISION

Author: John Keating  
Noranda Exploration Company, Limited (n.p.l.)

Date : November, 1985

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**14,092**

TABLE OF CONTENTS

PAGE

1.	INTRODUCTION	
2.	LOCATION AND ACCESS	
3.	TOPOGRAPHY AND VEGETATION	
4.	CLAIM INFORMATION	
5.	HISTORY - BROOKLYN MINE	
6.	DRILLING PROGRAMME	
	A. Introduction	
	B. Core Analysis	
	Ba. Sample Preparation	
	Bb. Analysis	
	C. Grid Control	
	D. Diamond Drill Hole B-1-85	
	Da. Target	
	Db. Geology/Structure	
	Dc. Mineralization	
7.	CONCLUSIONS AND RECOMMENDATIONS	
	REFERENCES	

## APPENDICES

- A. Drill Log B-1-85
- B. Geochem Analyses
- C. Statement of Costs
- D. Statement of Qualifications

## DRAWINGS

- 1. Drill Hole Section B-1-85
- 2. Grid Map with Brooklyn Workings and Drill Hole Location
- 3. Greenwood 1 Claim Map

## INTRODUCTION

Between March 25, 1985 and April 5, 1985, Noranda Exploration Company, Limited (no personal liability), in joint venture with Kettle River Resources Ltd., drilled a diamond drill hole on the Greenwood 1 group of claims.

This hole was drilled into the eastern section of the Brooklyn Mine in order to explore a possible Au bearing silicified and/or calcified Sharpstone Conglomerate.

## 2. LOCATION AND ACCESS

The Greenwood 1 Group of claims are located some 6 km east of Greenwood, B.C., centered on longitude  $118^{\circ}35'W$  and latitude  $49^{\circ}15'N$ , within the Greenwood Mining Division, on N.T.S. mapsheet 82E/2.

Access is excellent in the south via the partially paved Twin Creek Road which runs east from Greenwood for some 7 km, at which point it bisects the grid and drill hole. Access in the north is good via Highway #3 which bisects the claim group.

## 3. TOPOGRAPHY AND VEGETATION

The Greenwood 1 Group is situated in relatively gentle to rolling hilly terrain, with a maximum elevation of approximately 4,850 feet on Deadman Hill.

Southern slopes are often open with sparse spruce, whereas, northern slopes tend to be denser with a second growth of cedar, spruce and alders.

## 4. CLAIM INFORMATION

The Greenwood 1 Group of claims consisting of 73 claim units, are owned in part by Noranda Exploration Company, Limited (No Personal Liability) situated at 1050 Davie Street, Vancouver, B.C. and in part by Kettle River Resources Limited of Greenwood, B.C.

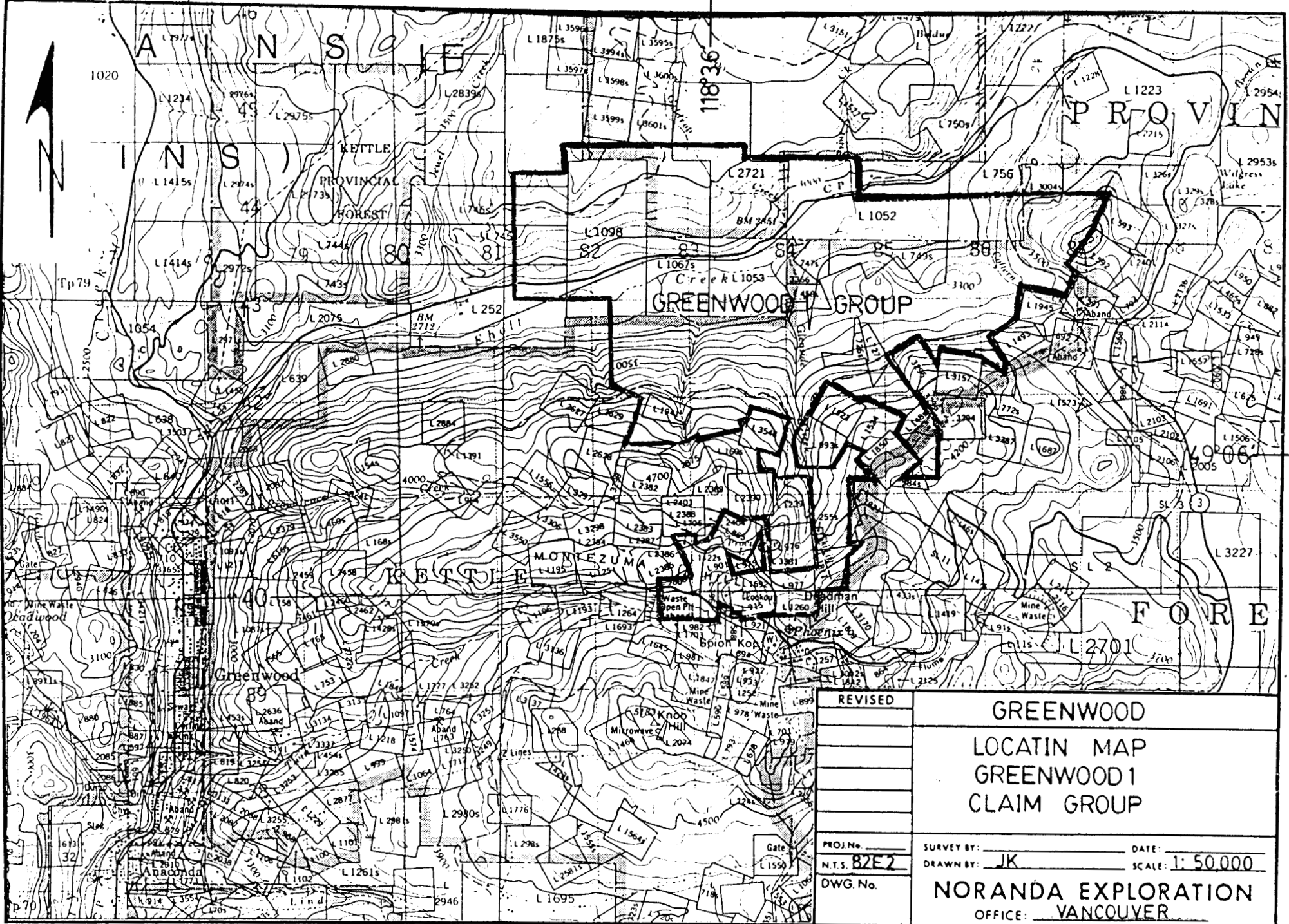
GREENWOOD 1 GROUP OF CLAIMS

Claim Name	Owner	Record No.	Record Date
Pipe *	Kettle River Resources	3165	Aug. 23/82
Pipe 1 Fr. *	Ltd.	3166	Aug. 23/82
Pipe 2 Fr. *	" "	3167	Aug. 23/82
Pipe 3 Fr. *	" "	3168	Aug. 23/82
Pipe 4 Fr *	" "	3169	Aug. 23/82
Laxey	" "	3242	Oct. 7/82
Barron Fr.	" "	3281	Oct. 26/82
File Fr.	" "	3280	Oct. 26/82
Iron King	" "	3279	Oct. 26/82
Pal	" "	3275	Oct. 26/82
Ron	" "	3273	Oct. 26/82
Bonnie	" "	3334	Oct. 26/82
Ron Fr.	" "	3333	Oct. 26/82
Gem Fr.	" "	3172	Aug. 23/82
Bullion Fr.	" "	3171	Aug. 23/82
Bobcat #9	Noranda Exploration	21763	July 7/65
Bobcat #10	Company, Limited (No	21764	July 7/65
Sylvester K Fr.	Personal Liability)	(ML) 289	Sept. 22/65
Gypsy	" "	(CG) 1811	July 2/65
Gilt Edge	" "	" 977	July 2/65
Monte Christo Fr.	" "	" 3381	July 2/65
Bullion	" "	" 865	July 2/65
Timer Fr.	" "	" 1705	July 2/65
New York	" "	" 901	July 2/65
Cimeron	" "	" 980	July 2/65
Brooklyn	" "	" 796	July 2/65
Joker	" "	" 1692	July 2/65
Montezuma	" "	" 915	July 2/65

(ML) Mineral Lease

(CG) Crown Grant

\* Claims which assessment work is being applied to.



REVISED	GREENWOOD	
	LOCATIN MAP	
	GREENWOOD 1	
	CLAIM GROUP	
PROJ. No.	SURVEY BY: _____	DATE: _____
N.T.S. 82E2	DRAWN BY: JK	SCALE: 1:50,000
DWG. No.	NORANDA EXPLORATION	
	OFFICE: VANCOUVER	

## 5. HISTORY

### Brooklyn Mine

The Brooklyn Mine was discovered in 1891 by Joseph Taylor and Stephen Mangott (LeRoy, 1912). The Dominion Copper Company operated the mine between 1901 and 1908. According to W.R. Gilmour (1983), there are discrepancies in the estimated production tonnages of the Brooklyn Mine. One estimate by W.H. White (1949) states, 250,293 tons grading 1.2% copper, 0.068 oz/ton gold and 0.35 oz/ton silver; a second estimate by O.E. LeRoy (1912) is, 135,000 tons of ore, but fails to give any grade estimates.

Two zones of interesting gold values associated with the Brooklyn Mine were discovered by R Forshaw in 1932, as well as a third zone mentioned by LeRoy in 1912, and a fourth zone discovered by Brooklyn-Stemwinder Gold Mines Limited in 1934.

The zones found by R. Forshaw are related to the "Glory Hole" and the "80 foot level" of the mine, and are as follows:

"The rocks in which copper ores were mined in the past were limestone, whereas the recently found gold values are associated with the pyrite and calcite in brecciated volcanics lying on the hanging wall side of the tilted sedimentary beds. A general sample of ore across a 6-foot section in the "glory hole" assayed gold 1.70 oz; silver 1.3 oz per ton; and a 5 foot chip sample taken across the face of the 80 foot level in the Brooklyn assayed: gold 0.80 oz; silver 0.2 oz per ton; copper nil". (1932, B.C.M.M Annual Report, p.129)

The gold zone mentioned by LeRoy in 1912 is related to the "150 foot level" of the Brooklyn Mine and is as follows:

"Beyond the ore body proper in the north end of the Brooklyn, pyritic crystalline limestone occurs in a raise from the 150 foot level. A sample was taken across the face and an assay made by H.A. Laverin of the Mines Branch, which gave 0.3 ounce of gold and 0.4 ounce of silver to the ton". (1912, LeRoy, O.E. p.101)

The fourth gold zone is displayed on a 1934 Brooklyn-Stemwinder Gold Mines Limited plan map of New Exploratory Work, held on file at Noranda Exploration Company, Limited's Vancouver office.

The map shows an east drift at the 250 foot level of the Brooklyn Mine which runs south east towards the Stemwinder Mine and follows a 10 inch wide vein assaying \$100/150/ton Au.

In the spring of 1984, Diamond Drill Hole SK-26-84 (1984 Keating/Bradish, P.11) was drilled into the Brooklyn Mine's northern section in order to test the first two gold zones and in part the third zone mentioned above. No significant gold values were intersected, but a gold positive zone of higher

than background gold values was noted to occur within the Sharpstone Conglomerate (volcanic breccia) at or near the limestone contact.

## 6. DRILLING PROGRAMME

### 6a. Introduction

Diamond drill hole B-1-85 totalling 597 feet was drilled between March 25th. and April 5th, 1985 in order to further test a gold positive zone discovered by 1984 drilling. (1984, Keating/Bradish, P.11 & 12), as well as a zone encompassing and including a 10 inch wide vein running \$100.150/ton Au in 1934, which is referred to as the east drift on Drawing 2.

The drill used was a Diamec 260 deisel hydraulic diamond drill which is owned and operated by Foxy Creek Services Limited of Greenwood, B.C.

Dip test was taken at the completion of the hole and was measured by the use of a Thompson-Cumming Tru-Dip etch reader (corrected for capillarity).

Drill rods used were "B" type thin-wall which produce an "N" size (approx.) core. Core is currently being stored at the Kettle River Resources core shack, located some 3 kilometers south of Greenwood, at the Stewart farm.

### 6b. Core Analysis

Sampling was done in 5 foot intervals unless otherwise warranted by changes in rock type and/or mineralization.

Geochem analysis was done for ppm Ag and ppb Au, at Noranda Exploration Company, Limited (no personal liability) geochem laboratory, which is situated at 1050 Davie Street, Vancouver, B.C.

#### 6ba. Sample Preparation

The split (halved) core sample is pulverized to -120 mesh (0.13 mm). This -120 mesh fraction is then used for geochemical analysis.

#### 6bb. Analysis

Ag: 0.200 grams of -120 mesh material is digested in concentrate perchloric acid and nitric acid (3:1) at reflux temperature for 5.0 hours. A Varian Techtron Model AA-5 or AA-75 Atomic Absorption Spectrophotometer is then used to determine silver concentration.



Au: 10.0 grams of -120 mesh material is digested with aqua regia (one part nitric acid and 3 parts hydrochloric acid). The resulting solution is subjected to MIBK (Methylisobutyl Ketone) extraction, which extract is analyzed for Au using an AA-475 Atomic Absorption Spectrophotometer.

6c. Drilling Control

For control, a picketed imperial grid was established over the Brooklyn workings (see Drawing 2) which consisted of a 700 foot baseline (Azimuth 0°) and 7 perpendicular winglines spaced every 100 feet, with 25 foot stations along them. The northern most raise of the Brooklyn Mine was used as a control point for the baseline.

TABLE 1

DRILL HOLE PARAMETERS

Hole #	Grid	Azimuth	Inclin -ation	Length (Ft)	Dip Test Depth/Angle	Date Coll.	Date Comp
B-1-85	600N, 1390E	270°	63°	597	590 64°	Mar.27	Apr.3

Recovery was generally between 95% - 98% unless otherwise noted.

6d. Diamond Drill Hole B-1-85 (Refer to Table 1 for Drilling Parameters).

6.d.a Target

Purpose was to explore the potential of low grade bulk tonnage Au lying within a Sharpstone Conglomerate at or near the Brooklyn Limestone contact.

Evidence for such mineralization are the two gold bearing zones discovered by R. Forshaw in 1932 (see Historical Section). As well as the gold positive zone lying within a Sharpstone Conglomerate near a limestone contact in Drill Hole SK-26-84 (1984 Keating/Bradish) and the 10 inch wide vein running \$100/150 per ton Au (1934 dollars) which lies within Sharpstone Conglomerates well above the limestone contact.

6.d.b Geology

Lithology: Refer to drill hole log (Appendix A) for lithological descriptions and Drawing 1 for drill hole section.

The large fault zone near the bottom of the hole represents an unconformity between Triassic Brooklyn Formation rocks above and Permian Knob Hill Group rocks below.

The Brooklyn Formation represents a shallow marine sequence, majority of which is a chaotic angular polymictic conglomerate (Sharpstone Conglomerate) interbedded with minor carbonate and tuffaceous silt horizons. Sharpstone becomes increasingly sheared towards the fault zone.

Numerous syenitic to dioritic dykes occur within the Brooklyn Formation. Attitudes are believed to be somewhat flat lying as this was the case in previous drilling and proximal surface mapping.

Below the fault zone are Knob Hill Group andesitic flows and/or pyroclastics interbedded with chert horizons. These units also become increasingly sheared toward the fault zone.

Structure: Very little structure was noted. All contacts and dips were drawn from their angle to core axis on the drill section (Drawing 1).

Attitudes of the Sharpstone Conglomerate were taken from preferred grain alignment and marked changes in granularity. Eastwardly steep dips of these attitudes is similar to proximal surface geology.

True width and attitude of the fault zone is unknown but, the fault may be somewhat flat lying as it appears to have no proximal surface expression.

#### 6.d.c. Mineralization & Assay Results (For Assaying Parameters Refer to Section 6b)

Disseminated pyrite (1-3%) occurs throughout the hole with the exception of minor increases in pyrite, pyrrhotite and chalcopryrite, which are usually associated with quartz calcite veining (as shown in Drawing 1).

Alteration varied throughout the hole from intense to non-existent, epidotization, calcification, chloritization, hematization and/or silicification.

All gold and silver geochem analyses are presented in Appendix B with only those Au values greater than 10 ppm occurring adjacent to their sample number on the Drill Hole Section (Drawing 1).

Gold and silver analyses were generally very low, with the exception of four samples (60260, 60263, 64110, 64109) which ranged from 420 ppb to 3.19 g/tonne Au and 26 ppm to 47.0 g/tonne Ag. These are not of economic importance but, they do appear to be intimately associated with polymetallic calcite and/or quartz veining. It is this type of mineralization which may be similar to that mentioned by R. Forshaw in 1932 (see Historical Section).

## 7. CONCLUSIONS AND RECOMMENDATIONS

No significant economic gold bearing zones were intersected. The massive chalcopryrite/quartz vein (sample 64109) is believed to represent the east drift's 10 inch wide Au vein, (see Historical Section) as it intersects the east drift when extrapolated down dip along the vein's angle to core axis.

Also of interest are the gold positive polymetallic calcite veins within

the Sharpstone Conglomerate. These are similar to those in Hole SK-26-84 (1984, Keating/Bradish) and may represent those mentioned by R. Forshaw in 1932 (1932, B.C.M.M. Report, p.129).

The best potential for economic Au mineralization would be a stockwork of, or a increased density in, polymetallic calcite veining.

The east drift which follows R. Forshaw's 1932 Au vein, runs SE-NW, between the Brooklyn and Stemwinder Mines. This SE-NW direction appears to represent the strike of a zone containing most of the best Au values.

Recommended is exploration (drilling) of this SE-NW zone between the Brooklyn and Stemwinder Mines, in search of an increase in or stockwork of auriferous polymetallic calcite-quartz veining and alteration.

## REFERENCES

- Freeland, P.B.: 1932, B.C. Minister of Mines Annual Report.
- Gilmour, W.R. : 1982, Assessment Report on the Brooklyn Crown Granted Claim.
- Leroy, O.E. : 1949, B.C. Minister of Mines Annual Report.
- White, W.H. : 1912, Geological Survey of Canada, Memoir No.21.
- Keating, J/ : 1984, Drill Assessment Report for Sylvester "K" Grid  
Bradish, L : of the Greenwood 1 Claim Group.

APPENDIX A  
DIAMOND DRILL HOLE  
LOG B-1-85

B-1-85

- 0' - 20' Casing.
- 20' - 55.8' Sharpstone Conglomerate: mottled green-grey with angular to subrounded, 0.5-5 cm fragments set in a fine to coarse grained siliceous groundmass, similar in composition to the fragments.
- Fragments in decreasing order of frequency are:  
**Chert** - v.f.g. beige, tan to dark grey  
**Limestone** - white to grey, fine grained to massive  
**Andesite** - green very fine grained to aphanitic  
**Jasper** - bright red, angular  
**Siltstone** - grey-black, fine grained, calcareous  
**Rhyolite** - tan-brown, with 1-2 mm quartz-eyes
- Alteration: minor to extensive, variable sporadic chloritization, epidotization, silicification and/or calcification.
- Sulphides: generally less than 1% finely disseminated Py in the groundmass.
- 30.0' - 41.5' - Intense epidotization.
- 55.8' - 55.9' Fault @ 45° to C.A.
- 55.9' - 58.9' Tuffite: green, fine grained, siliceous, moderately fractured. Contains minor black to dark green lithic fragments.
- 58.9' - 59.0' Fault @ 20° to C.A.
- 59.0' - 107.0' Sharpstone conglomerate (similar to 20'-55.8'), fragments vary from 0.5 cm - 15.0 cm, calcareous.  
59.0' - 59.3' - Quartzitic calcite vein with 5% combined Py, Cpy @ 20° to C.A.  
67.0' - Preferred grain alignment @ 30° to C.A.  
94.2' - Preferred grain alignment @ 38° to C.A.
- 107.0' - 113.7' Pyroxene-feldspar porphyry (diorite). Dark green subhedral pyroxene phenocrysts (<0.5 cm) with subhedral white to cream laths of feldspar, set in a mottled light green to grey aphanitic groundmass.  
**Alteration:** pervasive chlorite, minor epidote and carbonate.  
107.0' - 107.1' - Highly chloritic contact zone (possible fault)  
112.5' - Minor fault @ 29° to C.A.  
113.7' - Lower contact, broken & @ 72° to C.A.

- 113.7' - 117.3' Altered sharpstone conglomerate: similar to 20.0'-55.8' only moderately Bx with Cc, Chl, and diss. Py (<3%) in filling.  
- may be a large xenolith within the diorite.
- 117.3' - 123.0' Pyroxene-feldspar porphyry (diorite) same as 107.0'-113.7'.  
117.3' - Upper contact @ 30° to C.A.  
123.0' - Lower contact @ 60° to C.A.
- 123.0' - 132.5' Altered sharpstone conglomerate: same as 20.0'-55.8' only slightly Bx with Cc, Chl. & disseminated Py (<4%) in filling.
- 132.5' - 136.8' Pyroxene - feldspar porphyry (diorite) same as 107.0'-113.7'.
- 136.8' - 144.0' Sharpstone conglomerate: same as 20.0'-55.8'.  
140.2' - Preferred gr. alignment @ 45° to C.A.
- 144.0' - 148.0' Pyroxene-feldspar porphyry (diorite) same as 107.0'-113.7'
- 148.0' - 174.0' Sharpstone conglomerate: same as 20.0'-55.8' - appearance of trace, sporadic, fine disseminated Cpy  
161.2' - 172.0' - Core becoming increasingly broken  
172.0' - 174.0' - Highly broken with first noticeable appearance of hematite on fractures.
- 174.0' - 193.2' Sharpstone conglomerate: similar to 20.0'-55.8'.  
Increase Cc & hematite conc. on fractures giving a reddish appearance to the core.  
Contact with 148'-174' is gradational and somewhat arbitrary  
175.9' - Small quartz rich zone with blebs of Cpy.  
177.3' - Cpy blebs in chert fragments.  
178.2' - 179.3' - Highly fractured & broken core with intense hematization on fractures.  
180.3' - Preferred gr. alignment @ 45° to C.A.  
184.0' - Preferred gr. alignment @ 30° to C.A.  
180.5' - 182.7' - Calcite as opposed to hematite on fractures.  
186.8' - 186.95' - Minor Py & Cpy in highly silicified & epidotized zone.  
188.2' - 190.6' - Increased epidotization with depth  
190.6' - 192.1' - Intensely hematized
- 193.2' - 215.0' Syenitic feldspar porphyry. Cream to pink feldspar phenocrysts (0.5 - 1.0 cm) set in a pinkish grey-green very fine grained matrix. Fracturing is pervasive with minor ep. alteration.

- 215.0' - 355.7'      Sharpstone conglomerate: Similar to 20.0'-55.8'.  
Alteration - minor to moderate sporadic ep., Chl. and Hem.  
on fractures.
- 219.1' - 219.3' - Calcite breccia @ 65° to C.A.
- 237.4' - 237.9' - Highly Bx. with chlorite, Py (2.5%) and  
Cpy (0.5%) in filling. Lower contact @ 45° to C.A.
- 238.5' - Preferred gr. alignment @ 38° to C.A.
- 239.5' - 1 inch wide calcite vein @ 45° to C.A.
- 242.8' - 244.5' - 1 inch wide calcite vein with chlorite,  
hematite, 20% combined Py/Po and 15% Cpy. Subparallels  
C.A.
- 244.9' - 245.7' - Highly epidotized (20%)
- 246.5' - 249.0' - Highly broken (50%)
- 251.0' - 252.0' - Highly broken (50%)
- 253.0' - 0.5 inch wide Cc vein @ 45° to C.A.
- 253.3' - 0.2 inch wide Cc vein @ 25° to C.A.
- 254.2' - Preferred grain alignment @ 40° to C.A.
- 259.1' - 259.6' - 0.5 inch wide Cc vein @ 15° to C.A. with  
20% combined Po/Py + 20% Cpy.
- 265.2' - 265.6' - Highly chloritized & calcified; minor  
sericite with 10% finely disseminated Py/Po + trace of  
Cpy.
- 269.3' - 1 inch calcite vein with 4% Py/Po and bounded on  
both sides by 1 inch wide 15% pyritic zones.
- 270.5' - 4 inch wide quartz vein (45° to C.A.) with 7% Cpy  
+ 8% Py.
- 273.7' - 274.0' - 3 inch wide quartz vein (30° to C.A.)  
with 8% Cpy + 9% Py.
- 277.1' - 277.7' - Bx zone infilled with Cc, hematite + 2%  
Py.
- 284.8' - Preferred grain alignment ? @ 45° to C.A.
- 289.8' - 290.4' - Bx with 40% epidote + 10% Cc.
- 291.7' - 292.5' - 20-30% epidotization.
- 295.3' - 297.7' - Partial to 100% replacement ? of numerous  
fragments by Py.
- 299.2' - 300.0' - 10 inch wide quartz vein (45° to C.A.)  
with 40% Cpy.
- 325.0' - 326.0' - Fault - intensely broken, minor gouge, no  
orientation.
- 327.3' - Hematized magnetite forming red blebs.
- 346.5' - 348.0' - 70% broken core.
- 355.7' - 359.5'      Aphanitic diorite - green & essentially aphanitic with  
what appear to be sharpstone xenoliths.
- 355.7' - Vague contact 50° to C.A.
- 359.5' - Sharp contact 55° to C.A.
- 359.5' - 369.5'      Silicified sharpstone conglomerate: similar in  
composition to 20.0'-55.8'. Green-grey, highly fractured,  
healed with quartz + minor Cc. Fragment outlines are  
vague & faint, displaying a ghost like texture.  
Pyrite (3-5%) is pervasive as disseminations & replacing  
fragments.



- 369.5' - 375.4' Silicified diorite (?): mottled grey-green, remnant silicified anhedral feldspar phenocrysts, set in a siliceous chloritized groundmass containing grey indiscrete, variably shaped blebs, which may be remnant xenoliths of sharpstone.
- 375.4' - 388.5' Silicified sharpstone conglomerate: same as 359.5'-369.5'.
- 388.5' - 393.7' Limestone: white-grey, massive, fractured with chlorite. Contains 1% disseminated Py.  
388.5' - Contact @ 45° to C.A.
- 393.7' - 394.5' Chert pebble limestone: grey-green round to subangular chert fragments set in a calcareous silt to fine sandy matrix.  
393.7' - Contact is fractured & uneven.  
394.5' - Clay zone (contact) @ 70° to C.A.
- 394.5' - 396.0' Limestone: same as 388.5'-393.7'
- 396.0' - 400.8' Syenite feldspar porphyry: grey feldspar phenocrysts (0.2 - 0.5 cm), set in a reddish-green, finely crystalline groundmass of 65% (K-Spar ?) & 35% biotite.
- 400.8' - 401.8' Siltstone breccia: dark grey to black, angular to subrounded, 0.1-1.0 cm, very fine grained, calcareous siltstone fragments set in a slightly calcareous green-grey matrix.  
401.8' - Contact @ 54° to C.A.
- 401.8' - 402.2' Tuff/siltstone: green to grey, fine grained, calcareous tuff/silt.  
402.2' - Contact @ 75° to C.A.
- 402.' - 408.6' Sharpstone conglomerate: same composition as 20.0'-55.8' - fragment size ranges from 0.1-1 cm.
- 408.6' - 429.8' Altered sharpstone conglomerate: similar in composition to 20.0'-55.8'. Extensively altered by chlorite, clays, talc & minor calcite with cavities and open spaces formed in the groundmass and fragments displaying a porous appearance.
- 429.8' - 433.4' Altered diorite: dark green, medium grained. Well fractured & fairly porous with intense chloritization. Calcite blebs and veins are evident. Contains 1-2% finely disseminated Py.  
429.8' - Broken chloritized contact @ 30° to C.A.  
433.4' - Broken (possible fault) @ 11° to C.A.
- 433.4' - 449.4' Altered sharpstone conglomerate: same as 408.6'-429.8'  
448.2' - 449.4' - Broken & crumbly appearance similar to fault gouge.

- 449.4' - 449.7' Feldspar porphyry: grey-cream, 0.5-2.0 mm, feldspar phenocrysts & minor chlorite blebs set in a grey-green aphanitic matrix.  
 449.4' - Contact @ 40° to C.A.  
 449.7' - Contact @ 40° to C.A.
- 449.7' - 456.1' Sheared sharpstone conglomerate: similar to 408.6'-429.8' only much more intensely altered with chlorite, clay & talc as well as appearing schistose and banded.  
 453.0' - Banding & schistosity @ 45° to C.A.
- 456.1' - 456.3' Feldspar porphyry: same as 449.4'-449.7'. Upper and lower contacts are at 50° to C.A.
- 456.3' - 459.0' Sheared sharpstone conglomerate: same as 449.7'-456.1'
- 459.0' - 460.6' Fault: gouge zone with 40% recovery.
- 460.6' - 461.5' Feldspar porphyry: same as 449.4'-449.7'  
 460.6' - Sharp contact @ 40° to C.A.  
 461.5' - Sharp contact @ 55° to C.A.
- 461.5' - 524.0' Sheared sharpstone conglomerate: same as 449.4'-449.7'  
 \* Trace quantities of very fine, wire-like fibres and aggregates of a bronze to pyritic coloured metallic mineral occurs throughout the section and are most evident on smooth slick'n'slide surfaces.  
 469.4' - Schistosity @ 35° to C.A.  
 475.4' - Schistosity @ 59° to C.A.  
 479.3' - Schistosity @ 24° to C.A.  
 480.0' - Schistosity @ 55° to C.A.  
 481.0' - Schistosity @ 38° to C.A.  
 485.5' - Schistosity @ 61° to C.A.  
 488.2' - Schistosity @ 59° to C.A.  
 496.3' - Schistosity @ 40° to C.A.  
 497.2' - Schistosity @ 30° to C.A.  
 507.1' - Schistosity @ 35° to C.A.  
 510.1' - Schistosity @ 45° to C.A.  
 519.0' - Schistosity @ 40° to C.A.
- 524.0' - 533.6' Fault gouge: grey to grey-green soft talcose clay with coarse to pebble size lithic fragments.
- 533.6' - 538.0' Sheared sharpstone conglomerate: same as 461.5'-524.0'  
 \* trace quantity of unknown fibrous metallic mineral is present.  
 535.5' - Schistosity @ 25° to C.A.
- 538.0' - 560.0' Fault gouge: same as 524.0'-533.6'  
 538.0' - 543.5' - White 55% talc gouge.

- 560.0' - 564.5' Sheared andesite: remnant fragments altered to chlorite, talc and minor calcite set in a green-grey, banded, swirled, chlorite/talc, schistose groundmass.  
561.0' - Schistosity @ 35° to C.A.  
561.5' - Schistosity @ 50° to C.A.
- 564.5' - 570.1' Brecciated argillite?: (Graphitic chloritic Bx). Grey-white, sand to cobble size, subround to angular siliceous fragments, randomly set in a soft to hard black chloritic/graphitic matrix.
- 570.1' - 574.7' Sheared andesite: same as 560.0'-564.5'  
570.7' - Schistosity @ 60° to C.A.
- 574.7' - 587.0' Brecciated argillite? (graphitic/chloritic Bx). Same as 564.5' - 570.1'.
- \* Scanning electron Microanalysis by Vancouver Petrographics Limited, Fort Langley, B.C. proved to acicular fibrous metallic mineral to be millerite.
- 587.0' - 597.0' Interbedded andesite (flows/tuffs) and argillite: narrow (1-2 ft.) alternating beds of andesite - green swirls & bands of fine grained material often containing sporadic anhedral feldspar phenocrysts (flows?). Argillite - grey siliceous bands (quartz) swirled within black graphitic/chloritic bands.  
593.6' - 596.1' - Fault: 20% recovery & 85% broken, talcosed & chloritized rock.

**APPENDIX B**  
**GEOCHEM ANALYSES**

SAMPLE #	FROM	TO (FT)	LENGTH	SAMPLE RESULTS	
				Au (ppb)	Ag (ppm)
60251	113.7'	117.3'	3.6'	10	0.2
52	123.0'	128.0'	5.0'	10	0.2
53	128.0'	132.5'	4.5'	10	0.2
54	136.8'	144.0'	7.2'	10	0.2
55	215.0'	220.0'	5.0'	10	0.2
56	220.0'	225.0'	5.0'	10	0.2
57	225.0'	230.0'	5.0'	10	0.2
58	230.0'	235.0'	5.0'	10	0.2
59	235.0'	242.7'	7.7'	30	0.4
60	242.7'	244.9'	2.2'	420	28
61	244.9'	250.0'	5.1'	30	0.2
62	250.0'	258.8'	8.8'	30	0.2
63	258.8'	259.6'	0.8'	1200	26
64	259.6'	265.0'	5.4'	20	0.2
60265	265.0'	270.0'	5.0'	50	0.4
64110	270.0'	274.5'	4.5'	2.06*	6.9*
60267	274.5'	280.0'	5.5'	30	0.2
68	280.0'	285.0'	5.0'	20	0.4
69	285.0'	289.8'	4.8'	20	0.2
70	289.8'	295.0'	5.2'	10	0.2
60271	295.0'	299.2'	4.2'	30	0.2
64109	299.2'	300.0'	0.8'	3.19*	47.0*
60273	300.0'	305.0'	5.0'	10	0.2
74	305.0'	310.0'	5.0'	10	0.2
75	310.0'	315.0'	5.0'	10	0.2
76	315.0'	320.0'	5.0'	10	0.2
77	320.0'	325.0'	5.0'	10	0.2
60278	325.0'	330.0'	5.0'	20	0.2
79	330.0'	335.0'	5.0'	30	0.2
80	335.0'	340.0'	5.0'	30	0.2
81	340.0'	345.0'	5.0'	10	0.2
82	345.0'	350.0'	5.0'	10	0.2
83	350.0'	355.0'	5.0'	20	0.4
84	355.0'	360.0'	5.0'	10	0.2
85	360.0'	365.0'	5.0'	50	0.2
86	365.0'	369.5'	4.5'	40	0.4
60287	369.5'	378.0'	8.5'	10	0.2
64111	378.0'	383.0'	5.0'	<.07*	1.0*
64112	383.0'	388.5'	5.5'	<.07*	0.7*
60290	388.5'	396.0'	7.5'	10	0.2
91	396.0'	400.8'	4.8'	10	0.2
92	400.8'	403.0'	2.2'	10	0.2
93	403.0'	408.6'	5.6'	20	0.2
94	408.6'	413.7'	5.1'	40	0.2
95	413.7'	418.9'	5.2'	10	0.2
96	418.9'	424.0'	5.1'	10	0.2
97	424.0'	429.8'	5.8'	20	0.2
98	429.8'	433.4'	3.6'	910	0.4
299	433.4'	439.0'	5.6'	10	0.2
300	439.0'	444.0'	5.0'	10	0.2
01	444.0'	449.7'	5.7'	10	0.2
02	449.7'	456.1'	6.4'	10	0.2

\* = ANALYSED BY BONDER-CLEGG IN GRAMS/TONNE.

SAMPLE #	FROM	TO (FT)	LENGTH	SAMPLE RESULTS	
				Au (ppb)	Ag (ppm)
04	456.1'	- 461.5'	5.4'	10	0.2
05	461.5'	- 467.0'	5.5'	10	0.2
06	476.0'	- 472.0'	5.0'	10	0.2
07	472.0'	- 477.0'	5.0'	10	0.2
08	477.0'	- 482.0'	5.0'	10	0.2
09	482.0'	- 487.0'	5.0'	10	0.2
10	487.0'	- 492.0'	5.0'	10	0.2
11	492.0'	- 497.0'	5.0'	10	0.2
12	497.0'	- 502.0'	5.0'	10	0.2
13	502.0'	- 507.0'	5.0'	10	0.2
14	507.0'	- 512.0'	5.0'	10	0.2
15	512.0'	- 517.0'	5.0'	10	0.2
16	517.0'	- 524.0'	7.0'	10	0.2
17	524.0'	- 529.0'	5.0'	10	0.2
18	529.0'	- 533.6'	4.6'	10	0.2
19	533.6'	- 538.0'	4.4'	10	0.2
20	538.0'	- 543.5'	5.5'	10	0.2
21	543.5'	- 550.0'	6.5'	10	0.2
22	550.0'	- 554.5'	4.5'	10	0.2
23	554.5'	- 560.0'	5.5'	10	0.2
24	560.0'	- 564.5'	4.5'	10	0.2
25	564.5'	- 570.1'	5.6'	10	0.2
26	570.1'	- 574.7'	4.6'	10	0.2
27	574.7'	- 579.0'	4.3'	10	0.2
28	579.0'	- 587.0'	8.0'	10	0.2
29	587.0'	- 592.0'	5.0'	10	0.2
60330	592.0'	- 597.0'	5.0'	10	0.2

\* = ANALYSED BY BONDAR-CLEGG IN GRAMS/TONNE.

**APPENDIX C**  
**STATEMENT OF COSTS**

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT  
TYPE OF REPORT

DATE April 1985

a) Wages:

No. of Days 22 man days

Rate per Day \$ 114.77

Dates From: March - April 1985

Total Wages 22 x \$ 114.77 2,524.94

b) Food and Accomodation:

No of days 22

Rate per day \$ 87.56

Dates From: March - April 1985

Total Cost 22 x \$ 87.56 1,926.54

c) Transportation:

No of days 22

Rate per day \$ 22.40

Dates From: March - April 1985

Total Cost 22 X \$ 22.40 492.80

d) Instrument Rental:

Type of Instrument .

No of days

Rate per day \$

Dates From:

Total Cost X \$

Type of Instrument

No of days

Rate per day \$

Dates From:

Total Cost X \$



f) Analysis (See attached schedule)		679.40
g) Cost of preparation of Report		
Author		229.54
Drafting		114.77
Typing		114.77
h) Other:		
Contractor		11,716.04

Total Cost 17,798.80

e) Unit costs for		
No of days	22	
No of units	181.97	
Unit costs	97.81 / metre	
Total Cost	22 × 97.81	17,798.80

NORANDA EXPLORATION COMPANY, LIMITED  
(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT:

<u>ELEMENT</u>	<u>NO. OF DETERMINATIONS</u>	<u>COST PER DETERMINATION</u>	<u>TOTAL</u>
Au	79	4.00	316.00
Ag	79	1.60	126.40
Sample Preparation	79	3.00	<u>237.00</u>
TOTAL COST			\$ 679.40

**APPENDIX D**  
**STATEMENT OF QUALIFICATIONS**

STATEMENT OF QUALIFICATIONS

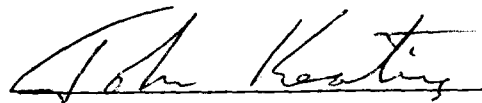
I, John Keating of the City of Vancouver, Province of British Columbia,  
do hereby certify that:

I am a resident of British Columbia, residing at 1877 West 5th.  
Avenue.

I am a graduate of Concordia University, Montreal, with a Bachelor  
of Science Degree in Geology.

I am a member in good standing with the Canadian Institute of  
Mining and Metallurgy.

I have been a temporary employee with Noranda Exploration Company,  
Limited since May, 1979 and a permanent employee since March, 1983.



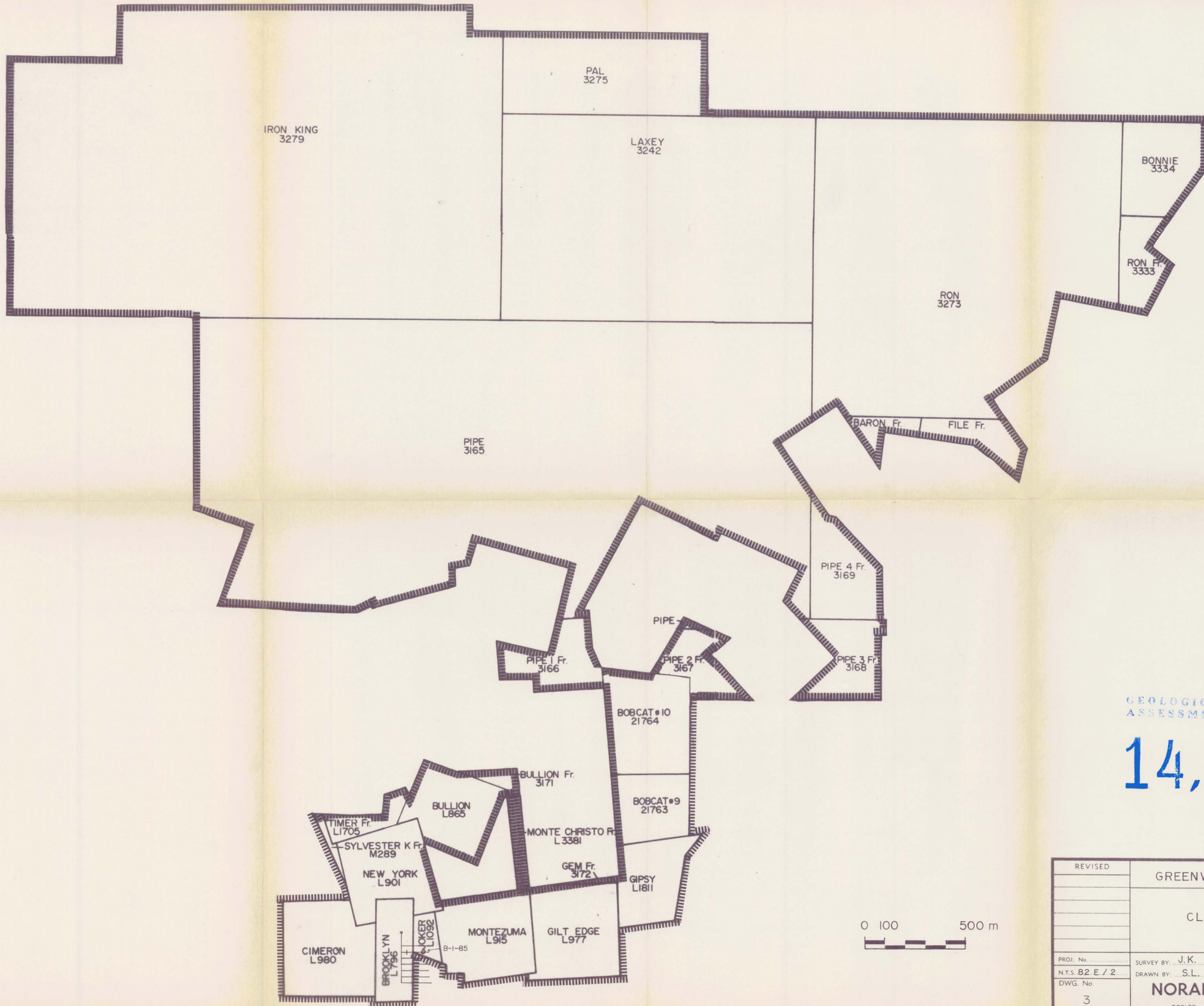
John Keating

Project Geologist

Noranda Exploration Company

Limited(No Personal Liability)





GEOLOGICAL BRANCH  
ASSESSMENT REPORT

14,092

49° 06'  
118° 38'



REVISED	GREENWOOD I GROUP	
	CLAIM MAP	
PROJ. No.	SURVEY BY: J.K.	DATE: APRIL, 1984
N.T.S. 82 E / 2	DRAWN BY: S.L., W.M.	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
3	OFFICE: VANCOUVER	

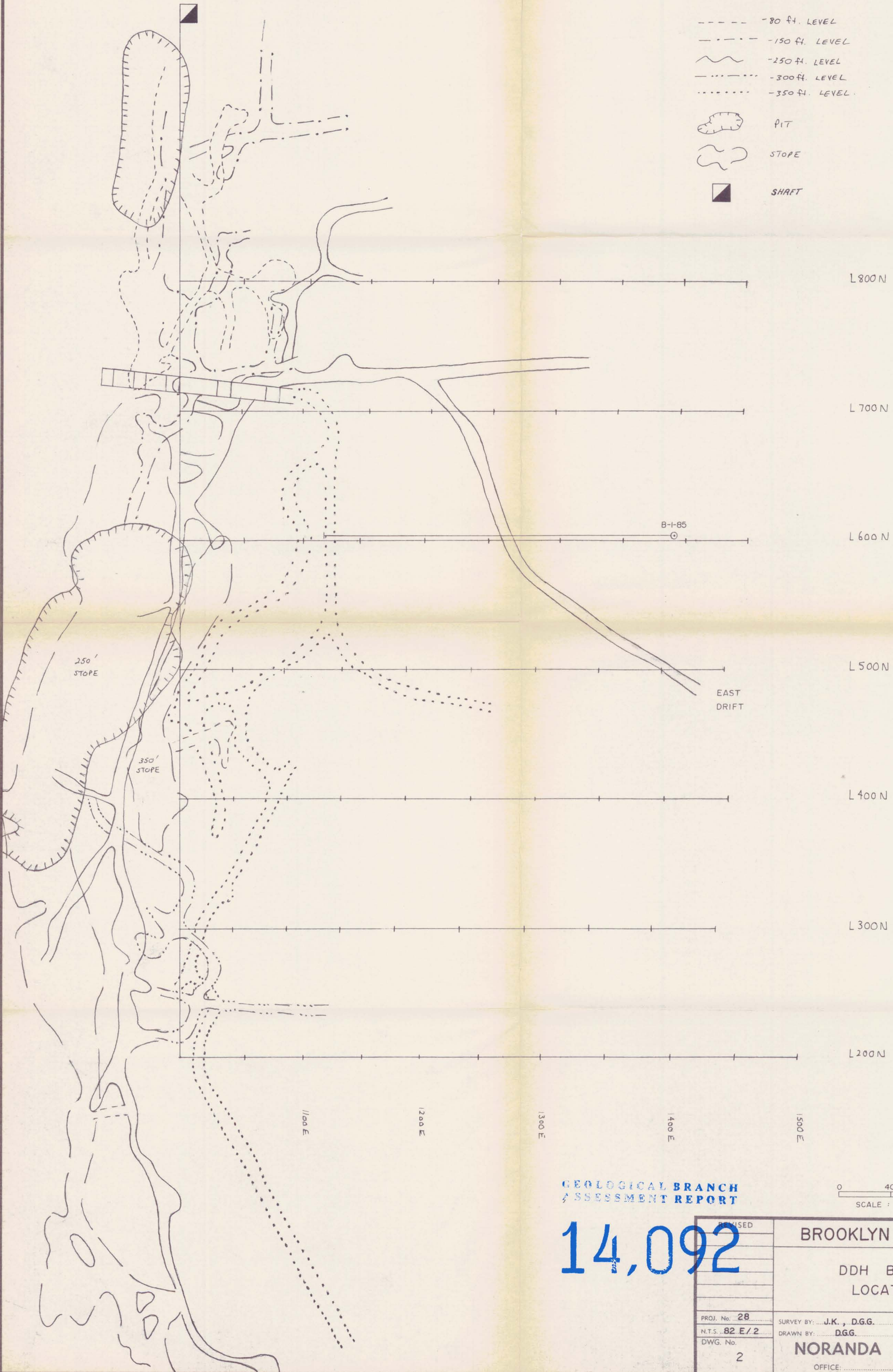


3 L. 1000 E

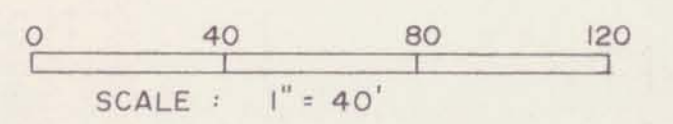
LEGEND



- -80 FT. LEVEL
- - - 150 FT. LEVEL
- ~~~~~ 250 FT. LEVEL
- - - 300 FT. LEVEL
- ..... 350 FT. LEVEL
- PIT
- STOPE
- SHAFT



GEOLOGICAL BRANCH  
ASSESSMENT REPORT



14,092

REVISED	BROOKLYN WORKINGS	
	DDH B-1-85 LOCATION	
PROJ. No. 28	SURVEY BY: J.K., D.G.G.	DATE: MAR 1985
N.T.S. 82 E/2	DRAWN BY: D.G.G.	SCALE: 1:480
DWG. No. 2	NORANDA EXPLORATION	
	OFFICE: .....	



D.D.H. B-1-85

ROAD

Sharpstone Conglomerate

Sharpstone Conglomerate

Possible Fault (Orientation Unknown)

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LEGEND

SYMBOLS

- Geological Contact
- Fault Zone, Inferred
- Schistosity
- Bedding - derived from preferred grain alignment
- Fracturing
- Veining
- Sample Interval & Number
- Cpy, Py
- Qtz, Cc
- Ep
- Overburden
- Fault Gouge
- Breccia Zone

GEOLOGICAL BRANCH ASSESSMENT REPORT

14,092

350Ft. LEVEL

250Ft. LEVEL (East Drift)

T.D. 597.0Ft.

REVISED	<b>BROOKLYN AREA</b>	
	<b>D.D.H. B-1-85</b>	
PROJ. No. 4-28	SURVEY BY: J.K. & D.G.G.	DATE: Nov/85
N.T.S. 82E/2	DRAWN BY: <i>guth</i>	SCALE: 1:240
DWG. No. 1	<b>NORANDA EXPLORATION</b>	
	OFFICE: Vancouver	