NORANDA MINING AND EXPLORATION INC.

REPORT OF WORK - 1994

PETAWANGA PROJECT

N.T.S. 52P/8

WEST PRECAMBRIAN DISTRICT

Qual. #2.3297

PROJECT NO. 327
THUNDER BAY, ONTARIO
APRIL 1995

REG FELIX
SR. PROJECT GEOLOGIST

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1.0 INTRODUCTION

This report describes linecutting, ground HLEM surveying, geological mapping and lithogeochemical surveying on the Petawanga claim group in the Fort Hope area in Northwestern Ontario during 1994. The objective of these exploration programs was to aid in the evaluation of favourable volcanic stratigraphy for VMS type base metal mineralization. The programs focused on the stratigraphy, structure, and potential hydrothermal alteration around mineral showings, as well as untested or partially tested HLEM targets delineated by previous workers.

2.0 LOCATION AND ACCESS

The property is located in the Thunder Bay Mining District approximately 100 kilometers north of Armstrong and 25 kilometers west of Fort Hope. The property is situated about 5 kilometers south of Petawanga Lake on the Albany River. The Discovery Lake grid is accessible from Armstrong, Nakina or Pickle Lake via float or ski-equipped plane charter to a tent camp on Disco Lake. The lake is shallow and small allowing fixed wing aircraft to exit with only partial cargo loads. Diamond drilling programs require helicopter support. Landing strips for wheel based aircraft near the property include Fort Hope and Miminiska Lake (15 kilometers northwest (Figure 1).

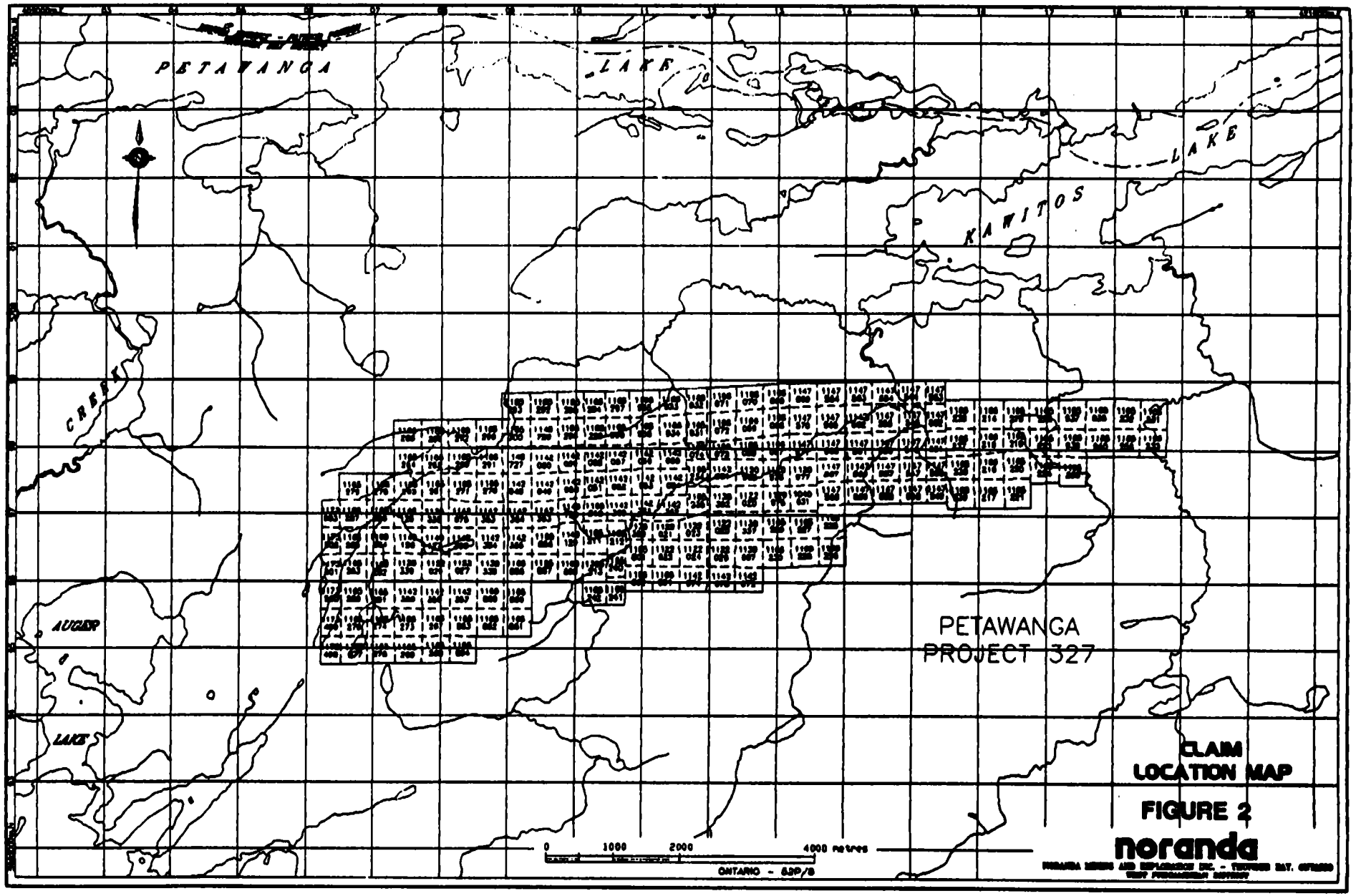
3.0 PROPERTY DESCRIPTION

The property encompasses 193 unpatented mining claims (193 units) totalling 3088 hectares. The claims are situated within claim map areas G-378 (Petawanga Lake) and G-287 (Kawitos Lake) of the Thunder Bay Mining Division and are listed below (Figure 2).

Table 1: Petawanga Claims

Claim Numbers	Recorded	Claim Numbers	Recorded	Claim Numbers	Recorded
TB 1,040,631	7/17/89	TB 1,138,389	3/8/90	TB 1,165,231-233	9/24/90
TB 1,120,975-978	7/17/89	TB 1,138,392	3/8/90	TB 1,165,234-242	9/7/90
TB 1,122,020	7/17/89	TB 1,139,667	3/8/90	TB 1,165,258	9/24/90
TB 1,122,021-022	9/20/89	TB 1,142,048-061	3/8/90	TB 1,165,260-287	8/24/90
TB 1,122,023-024	8/23/89	TB 1,142,072-075	3/8/90	TB 1,165,288	9/7/90
TB 1,122,025-026	9/20/89	TB 1,142,353-364	3/8/90	TB 1,165,290-300	8/24/90
TB 1,122,027	8/23/89	TB 1,147,544-571	9/6/90	TB 1,165,801-803	8/24/90
TB 1,122,029	8/23/89	TB 1,148,726-727	8/24/90	TB 1,165,856-865	8/24/90
TB 1,138,336	9/20/89	TB 1,149,125-129	8/24/90	TB 1,165,931-940	9/7/90
TB 1,138,337	3/8/90	TB 1,165,210-213	8/24/90	TB 1,166,065-073	9/7/90
TB 1,138,338-339	9/20/89	TB 1,165,214-230	9/7/90		

The project is covered by an option agreement between Falconbridge Limited/S.Parent/M. Smith and Noranda Mining and Exploration Inc. The claims were staked by S. Parent and M. Smith who together hold a 25% interest. Noranda has the right to earn 50% (37.5%) of Falconbridge's 75% interest subject to an NSR by spending $900,000 over four years and 100% of Parent/Smith's total 25% interest by making cash payments totalling $50,000 to Parent/Smith. Noranda is the operator.


PETAWANGA
LAKE
LAKE
KAWITOS
CREEK
AUGER
LAKE
PETAWANGA
PROJECT 327
0 1000 2000 4000 metres
ONTARIO - 52P/9
CLAIM
LOCATION MAP
FIGURE 2
noranda

4.0 PREVIOUS WORK

Through the years geological mapping and exploration in the Petawanga Lake - Kawitos Lake areas has been limited by its remote location and poor accessibility. Geological maps published by government agencies (Geological Survey of Canada - 1960 and the Ontario Department of Mines -1969) which encompassed the current property were the result of reconnaissance surveys that were part of much larger areas. These maps provided a very generalised geological data base. In 1973 the Ontario Geological Survey iniated a program of detailed geological mapping in the eastern part of the Uchi Subprovince. Included in this program were the Attwood Lake area (Wallace 1977) situated immediately to the southwest of the Petawanga property, and the Miminiska Lake and Opikeigen Lake areas (Wallace 1978) situated immediately to the north. In the past 35 years four companies are known to have directed mineral exploration activity on the Petawanga property toward the location of base - metal sulphide or gold deposits.

In 1961, Boylen Engineering Offices followed up a previous airborne reconnaissance survey with ground magnetic and magniphase EM surveys, geological mapping, trenching and 11 diamond drill holes totalling 1276 meters.

In 1976, New Jersey Zinc Exploration Company Limited undertook geological mapping and prospecting and completed 9 diamond drill holes totalling 317 meters followinf an A.E.M. survey of the region.

During 1986 Goldfields followed up a Mag, VLF, EM airborne survey with linecutting, outcrop stripping and 1 drill hole totalling 245 meters.

Falconbridge Limited obtained an option on the property in 1990 and conducted linecutting, geological mapping, ground Mag, VLF and HLEM geophysical surveying and mechanical stripping. In the summer of 1991, nine drill holes totalling 1723.5 meters tested a number of geological and geophysical anomalies.

5.0 PERSONNEL

Linecutting and ground HLEM geophysical surveying were completed by Northwest Geophysics of Thunder Bay. The programs were supervised by R. Swire and R. Sharpe; both are or were employees of Noranda.

Geological mapping and lithogeochemical sampling were completed by J. Harper, C. Galeschuk, M. Stares and the author. The surveys were supervised by the author. All personnel are or were employees of Noranda Mining and Exploration Inc.

6.0 REGIONAL GEOLOGY (Figures 1 and 3)

The property is located within an "underexplored" northeast-trending belt of metavolcanics and metasediments along the southern margin of the Uchi Subprovince, part of the Superior Province of the Canadian Shield. This belt connects with the main regional greenstone belt of the Uchi Subprovince about 16 kilometers north of Attwood Lake. According to Wallace (1977), the older metavolcanics are predominantly pillowed and massive mafic flows intermixed with units of andesitic to rhyolitic pyroclastic rocks. The metavolcanics are conformably overlain by clastic metasedimentary rocks consisting mainly of polymictic conglomerate rocks rich in metavolcanic clasts. Ferruginous chemical metasediments occur in several places close to the metavolcanic-metasedimentary interface. The supracrustal sequence is surrounded by granitoid rocks, predominantly trondhjemitic to granodioritic in composition. The rocks have been metamorphosed under amphibolite facies conditions. The property has been interpreted by Falconbridge to consist of five distinct geological domains, the Cormac Volcanics, Central Volcanics, Western Volcanics, and the Northern and Southern Granite Domains. A number of small localized Cu +/- Zn occurrences occur within the Cormac Volcanics and have been previously trenched and/or drill tested. The Central Domain contains "brickwork" style chlorite-amphibolite-garnet alteration within "lahar-type" deposits where lapilli to block sized fragments occur infrequently.

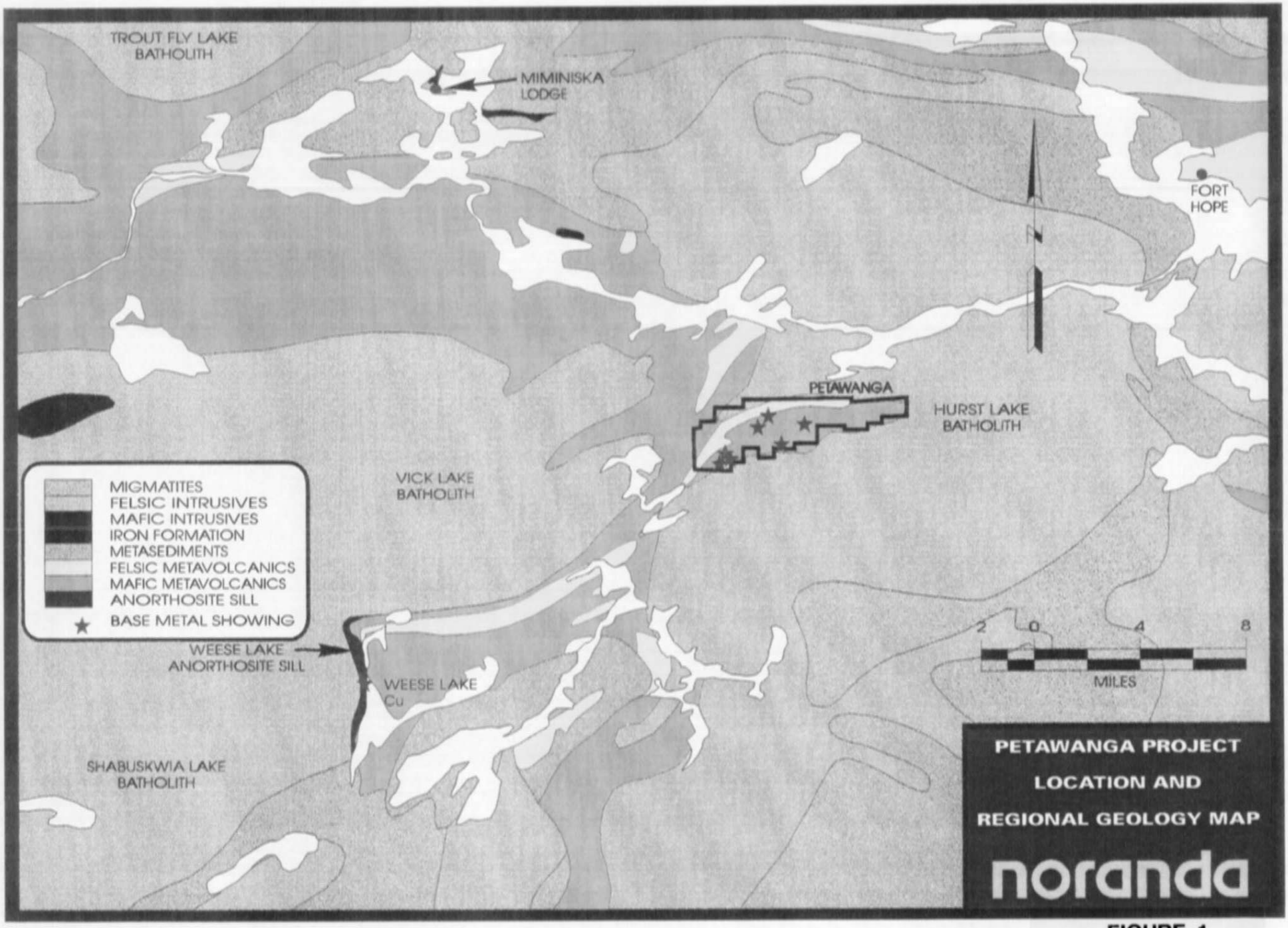

TROUT FLY LAKE BATHOLITH
MIMINISKA LODGE
FORT HOPE
N
PETAWANGA
HURST LAKE BATHOLITH
VICK LAKE BATHOLITH
MIGMATITES
FELSIC INTRUSIVES
MAFIC INTRUSIVES
IRON FORMATION
METASEDIMENTS
FELSIC METAVOLCANICS
MAFIC METAVOLCANICS
ANORTHOSITE SILL
BASE METAL SHOWING
WEESE LAKE ANORTHOSITE SILL
WEESE LAKE Cu
SHABUSKWIA LAKE BATHOLITH
2 0 4 8
MILES
PETAWANGA PROJECT
LOCATION AND
REGIONAL GEOLOGY MAP
noranda

FIGURE 1

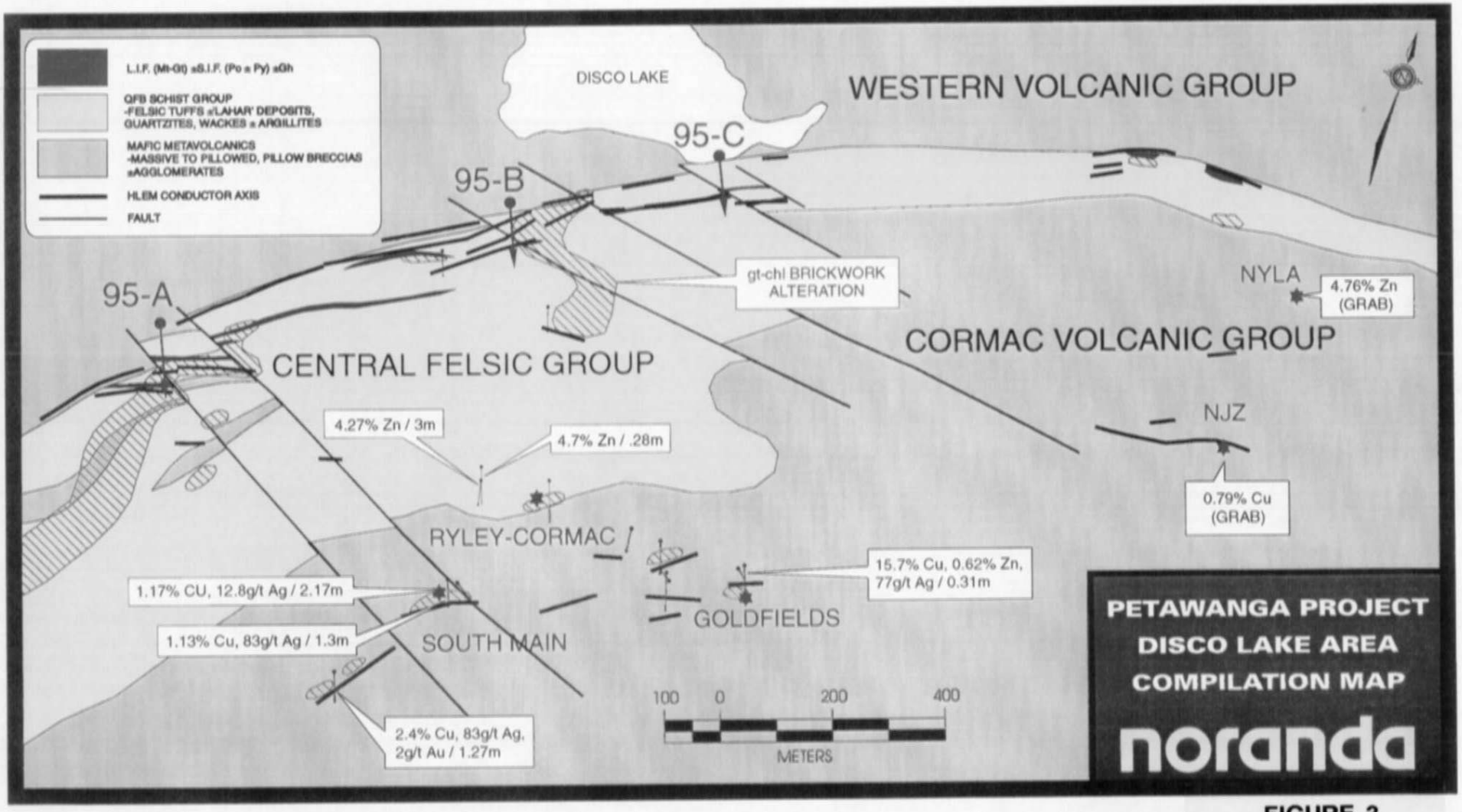

L.I.F. (Mt-Gt) ±S.I.F. (Po ± Py) ±Gh
QFB SCHIST GROUP
-FELSIC TUFFS ±'LAHAR' DEPOSITS, QUARTZITES, WACKES ± ARGILLITES
MAFIC METAVOLCANICS
-MASSIVE TO PILLOWED, PILLOW BRECCIAS ±AGGLOMERATES
HLEM CONDUCTOR AXIS
FAULT
DISCO LAKE
WESTERN VOLCANIC GROUP
95-C
95-B
95-A
gt-chl BRICKWORK ALTERATION
NYLA
4.76% Zn (GRAB)
CORMAC VOLCANIC GROUP
CENTRAL FELSIC GROUP
NJZ
4.27% Zn / 3m
4.7% Zn / .28m
0.79% Cu (GRAB)
RYLEY-CORMAC
15.7% Cu, 0.62% Zn, 77g/t Ag / 0.31m
1.17% CU, 12.8g/t Ag / 2.17m
GOLDFIELDS
1.13% Cu, 83g/t Ag / 1.3m
SOUTH MAIN
2.4% Cu, 83g/t Ag, 2g/t Au / 1.27m
100 0 200 400
METERS
PETAWANGA PROJECT
DISCO LAKE AREA
COMPILATION MAP
noranda

FIGURE 3

7.0 1994 PROGRAMS

7.1 Linecutting

Surveys were carried out on three selected grid areas, part of a large grid established by Falconbridge Ltd in 1990. Lines were rechained and cleaned in preparation for the surveys. On the West Grid, baseline 0+00 (Azimuth 070 deg.) was extended from 38+00W to 47+00W and an additional 9.0 km of line were cut.

7.2 Geophysics

In 1990 Falconbridge carried out ground magnetometer and VLF surveys over the entire grid area. In the present program HLEM surveys using two frequencies (440 and 1760 Hz.) were performed to re-establish favourable AEM targets for possible drill testing (Figures 4). Coverage is summarised in Table II. Data are plotted on Maps 1 - 6.

Table II. 1994 HLEM Survey Areas

Grid	HLEM Survey (km)
West	70.9
Central	25.1
T-Bone	9.7

7.2.1 Instrumentation

An Apex Parametrics MaxMin I horizontal loop electromagnetic unit was used. In-phase and quadrature readings are measured as a percentage of the primary transmitted field. The readings represent characteristics of the secondary induced field. They are recorded at a phase separation of 90 degrees to provide maximum information. The readings are normalised to the primary field using a cable which connects the transmitter to the receiver. Readings can be read to +/- 0.2 percent although they are usually only accurate to +/- 1 percent.

For this survey readings were taken at a 25 meter interval along the line. A coil separation of 100 meters was used and readings were recorded at frequencies of 1760 and 440 hertz.

7.3 Property Geology

A portion of the property, specifically the West grid area (Figure 4) was mapped along a cut and chained grid at a scale of 1:5000. Outcrop, physiographic features, and geological interpretation are presented on Map 7. Geological inspections were also made of the two HLEM conductive features within the Central grid area. There was no bedrock exposed within the northern region of the grid area except for subcroppings of felsic intrusive. The southern HLEM anomaly is signatured by the "Boylen" showing. The area about the HLEM conductive features west of T-Bone Lake was inspected and no outcrop could be found. The collar location of the 1986 Goldfields drill hole was located and it appears that it tested one of the two HLEM anomalies.

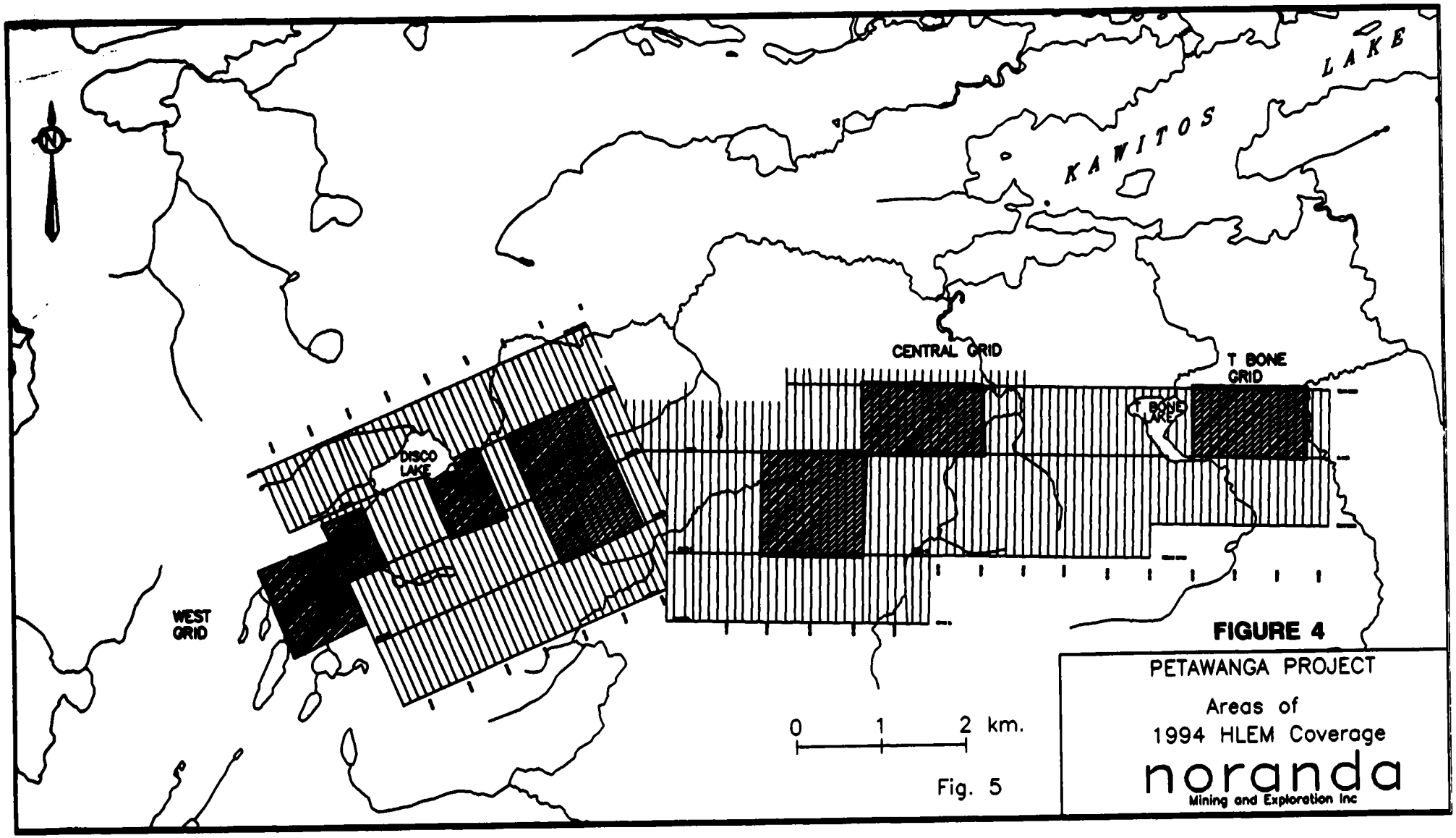


FIGURE 4

PETAWANGA PROJECT

Areas of
1994 HLEM Coverage

noranda
Mining and Exploration Inc

Fig. 5

7.4 Lithogeochemistry

A total of 27 surface lithogeochemical samples collected in 1994 consist of grab samples taken along grid lines spaced generally at 100m apart. Samples were analysed for the major element oxides and trace elements by Chemex Labs of Vancouver, B.C. In addition 21 samples were collected and analysed for copper, zinc, silver and gold content. Major element oxide (SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, Cr_2O_3, Na_2O, K_2O, TiO_2, MnO, P_2O_5) and trace element (Cu, Zn, Ba, Zr, Y, Rb, Sr and Nb) analyses were carried out by the ICAP-AES technique. Analyses for Cu, Zn, Ag, Ni, Co and Au were carried out by Atomic Absorption measurements following acid digestion of the prepared samples. Sample descriptions, analytical procedures and assay certificates are provided in Appendix I. Sample locations are shown on the geology map (Map 7).

The purpose of the lithogeochemical sampling was to identify major element enrichment/depletion trends related to mineralogical and chemically distinct hydrothermal alteration zones associated with volcanogenic massive sulphide deposits (Table III).

Table III - Enrichment/Depletion Geochemical Trends
Typical of Hydrothermal Alteration Associated
With VMS Deposits

	ENRICHMENT	DEPLETION
Major Elements	$^{+}/-SiO_2$,>FeO,>MgO,$^{+}/-$ Al_2O_3 ,$^{+}/-K_2O$,$^{+}/-CO_2$	<Na_2O,<CaO,$^{+}/-$MnO $^{+}/-TiO_2$
Trace Elements	$^{+}/-$Co,Y,Zr,Rb,Ba,Cu,Zn,Ag,Au(erratic)	

The enrichment/depletion trends are manifested by alteration mineral assemblages such as silicification ((>(SiO_2, Al_2O_3), <(Fe_2O_3, MgO, MnO, TiO_2)), chloritization ((>(MgO, FeO, Co, Y, Zr),<(Na_2O, SiO_2-K_2O-Rb-Ba)), sericitization ((<(Na_2O, CaO), >(K_2O, Rb-Ba)),carbonatization ((>(CO_2, Fe_2O_3), <(SiO_2, Na_2O)) and sulphidization >(FeO, $^{+}/-$ Cu, Zn, Ag). It is generally accepted that these alteration mineral assemblages/zones represent crosscutting, subconformable or conformable synvolcanic alteration zones, which were coeval with and have been metamorphosed with the massive sulphides. Whether massive sulphide ore metals are derived from sub-volcanic magma chambers, or whether they are wholly leached from the footwall volcanics during attendant hydrothermal alteration, the alteration zones associated with VMS deposits are more extensive than the deposits themselves, and therefore represent important targets for exploration. Various alteration indices such as Ishikawa ((Alteration Index : $(MgO+K_2O)/(MgO + K_2O + CaO + Na_2O) \times 100$)) and ACNK ((Al: (molecular proportion Al_2O_3 /($CaO+Na_2O+K_2O$), Chlorite (Al: $(MgO+Fe_2O)/((MgO+Fe_2O_3)$ $+2(Na_2O+CaO))*100$ and Zn/Na_2O can be used to quantify the intensity of the alteration (Table IV).

TABLE IV Alteration Indices

INTENSITY OF ALTERATION	ISHIKAWA ALTERATION INDEX	ACNK ALTERATION INDEX	CHLORITE INDEX	Zn/Na_2O INDEX
UNALTERED	30-50	<1.2	<40	<10
WEAK	51-70	1.2-2.0	40-60	10-100
MODERATE	71-80	2.0-3.0	60-80	100-200
STRONG-INTENSE	>80	>3.0	>80	>200

The alteration indices together with variations within the Cu - Zn metal distributions may be useful in identifying areas of alteration proximal to sites of significant mineralization and can be used as vectors leading to ore. A listing of the lithosamples collected on the property with the accompanying calculated alteration indices is provided in Appendix II.

8.0 DISCUSSION OF RESULTS

8.1 Geophysics

WEST GRID (Maps 1 and 2)

The 1994 HLEM surveying re-established one of the North Central Anomalies previously delineated by Falconbridge (lines 25W to 33W, 6+50N to 4+00N) and further extended the conductive feature to line 23W to the east and line 43W to the west. This conductive feature is truncated on line 20W (possibly by a north-westerly trending structure - see figure 5), but reappears along strike to the east from lines 9W to 4W, 6+00N to 7+00N, and is still open to the east. The NYLA Showing (4.76% Zn - grab) lies about 400 meters to the south on line 2W, 2+00N. On line 43W the anomaly is again truncated and possibly offset 100 meters to the south. An en echelon anomalous feature extends from 40W to 47W and is still open to the southwest. Another weak to moderate conductor was delineated from lines 9W to 4W within the area of the New Jersey Zinc Showing (line 5W, 3+50S).

Significant anomalous trends delineated in the 1994 HLEM survey have been tabulated as follows:

Table V: HLEM Anomaly Trends - Discovery Lake Grid (West)

Anomaly	Northing	Easting	Length
1a	150S	4000W-4700W	700 m.+
1b	50N-550N	2300W-4300W	2000 m.+
1c	600N-700N	400W-900W	500 m.+
1d	100N	2800W-2900W	100 m.
2	275S-350S	400W-900W	500 m.+

Anomalous trend 1a displays moderate to high conductivity (17-100 mhos) and a consistent depth of 10-25 metres. Width varies from 15 to 175 metres and represents a geophysically interesting and potential massive sulphide target. The anomaly may extend southwest beyond the survey area.

Anomalous trend 1b is a lengthy "formational" feature displaying moderate to high conductivity (20-60 mhos) and consistent depth of 10-30 metres. Conductor width varies from 20-100 m.

Anomalous trend 1c displays moderate conductivity (16-21 mhos) and a depth of 12-40 metres. Width varies from <10 m to 75 m. The anomaly may extend east beyond the survey area.

Anomalous trend 2 displays low to moderate conductivity (3-12 mhos) and a depth of 16-23 metres. Width varies from <10 metres to 15 metres. The anomaly may extend east of the presently surveyed area.

CENTRAL GRID (Maps 3 and 4)

Two anomalous trends exist at approximately 750S from 1800E to 2600E and at 750N from 3000E to 4100E (see Figure 6). The southern anomaly displays weak to moderate conductivity (1 to 25 mhos) and a variable depth from 1 to 60 m. The anomaly is best defined on lines 2100E to 2300E and exhibits a width of about 40 to 50 m. This conductive feature is associated with the Boylen showing (line 24E, 6+50S), where previous drilling intersected a best assay of 4.01% Cu over 0.61 meters. The northern anomaly displays moderate conductivity on the higher frequency (1760 Hz.) and high conductivity on the low frequency (440 Hz). Depth is fairly consistent at 22-40 m. The best defined part of the anomaly extends from 3000E to 3600E and exhibits widths of 10 to 15 m.

T-BONE GRID (Maps 5 and 6)

Two anomalous trends exist at approximately 300N from 6900E to 7500E and at 400N from 7500E to 7900E (see Figure 7). The trends display moderate to high conductivity (51 to 97 mhos) and a relatively

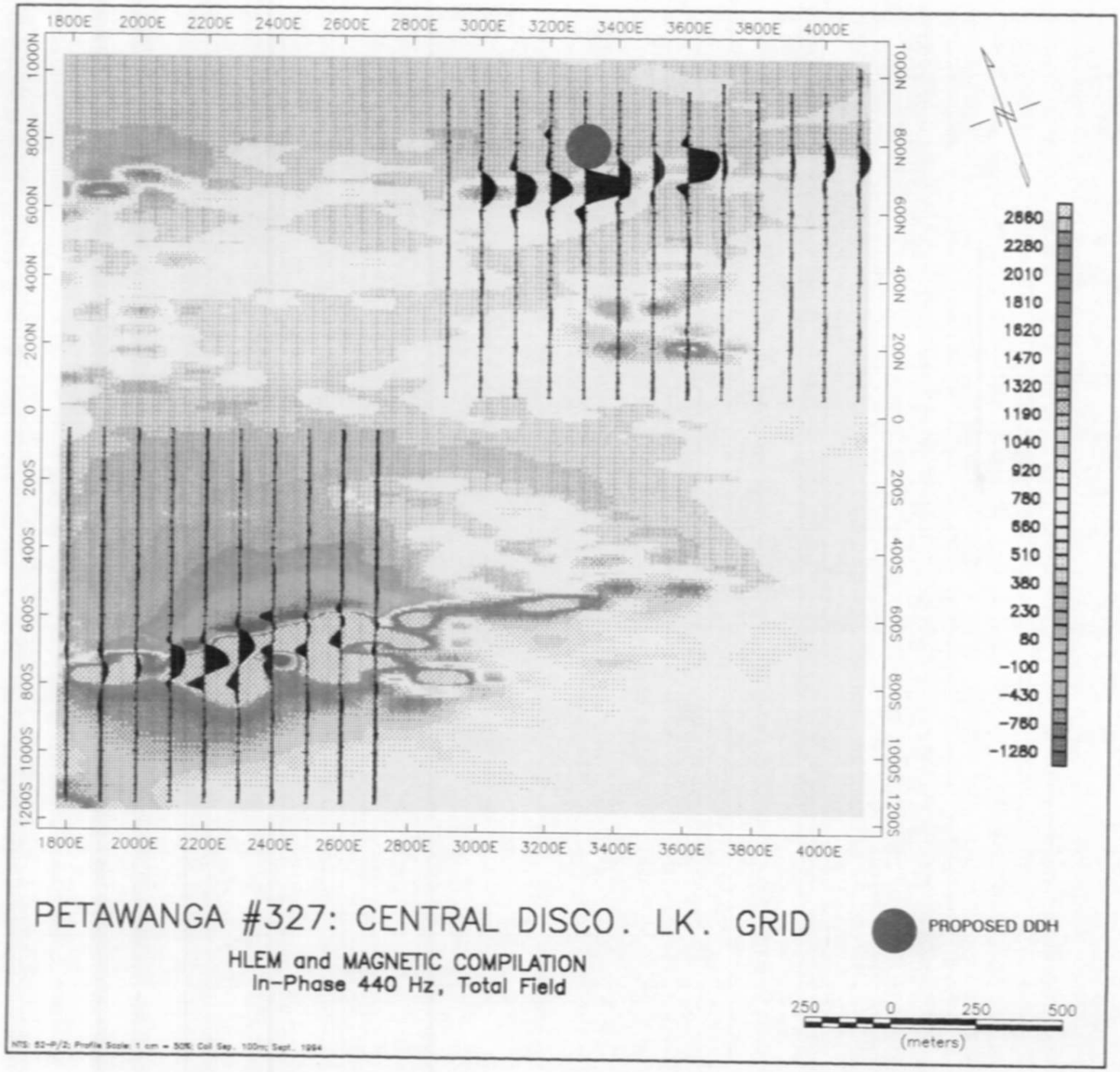

1800E 2000E 2200E 2400E 2600E 2800E 3000E 3200E 3400E 3600E 3800E 4000E
1000N 800N 600N 400N 200N 0 200S 400S 600S 800S 1000S 1200S
2660
2280
2010
1810
1620
1470
1320
1190
1040
920
780
660
510
380
230
80
-100
-430
-760
-1280
PETAWANGA #327: CENTRAL DISCO. LK. GRID
HLEM and MAGNETIC COMPILATION
In-Phase 440 Hz, Total Field
PROPOSED DDH
250 0 250 500
(meters)
NTS: 52-P/2; Profile Scale: 1 cm = 50M; Coil Sep.: 100m; Sept., 1994

FIGURE 6

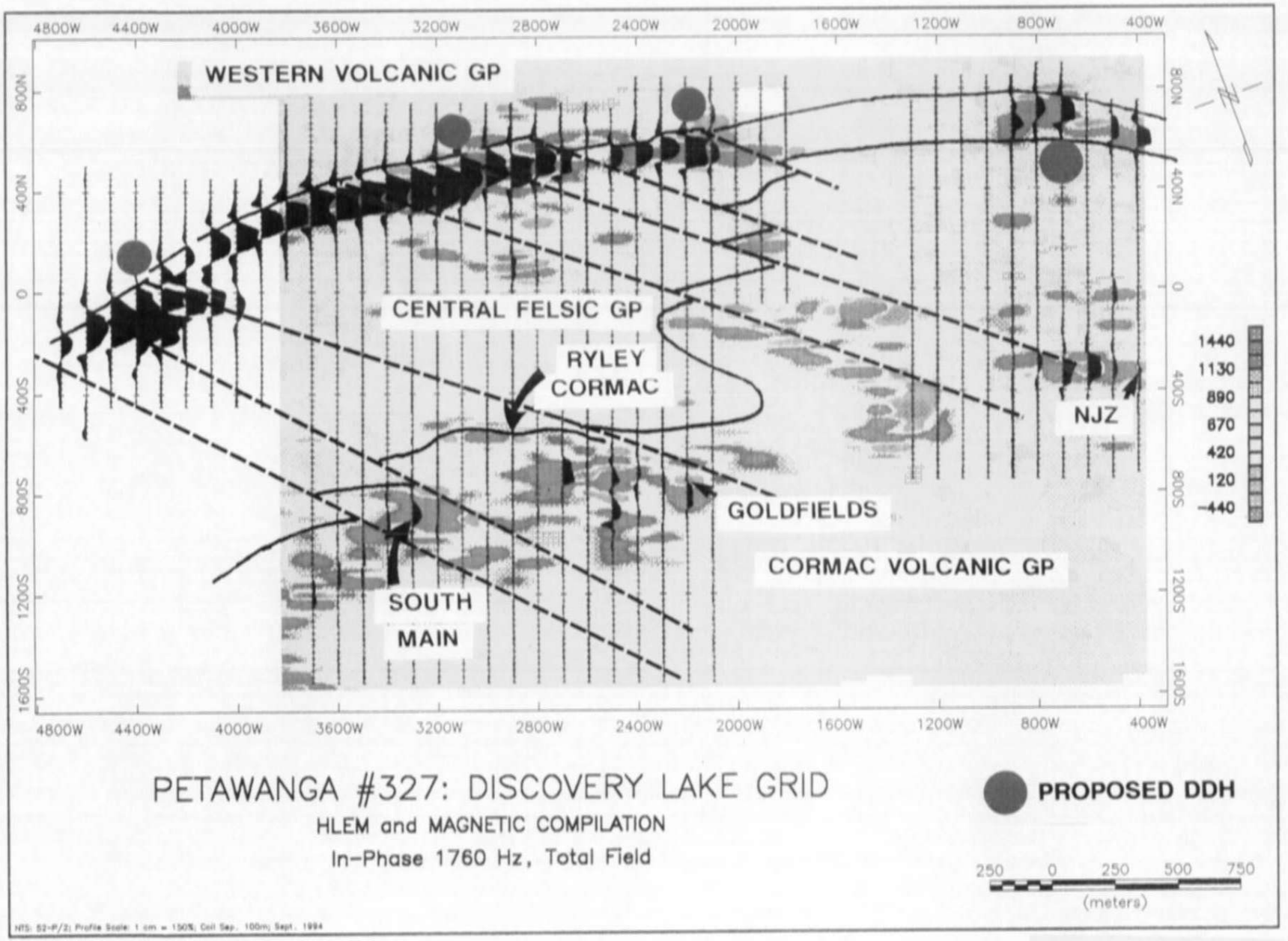
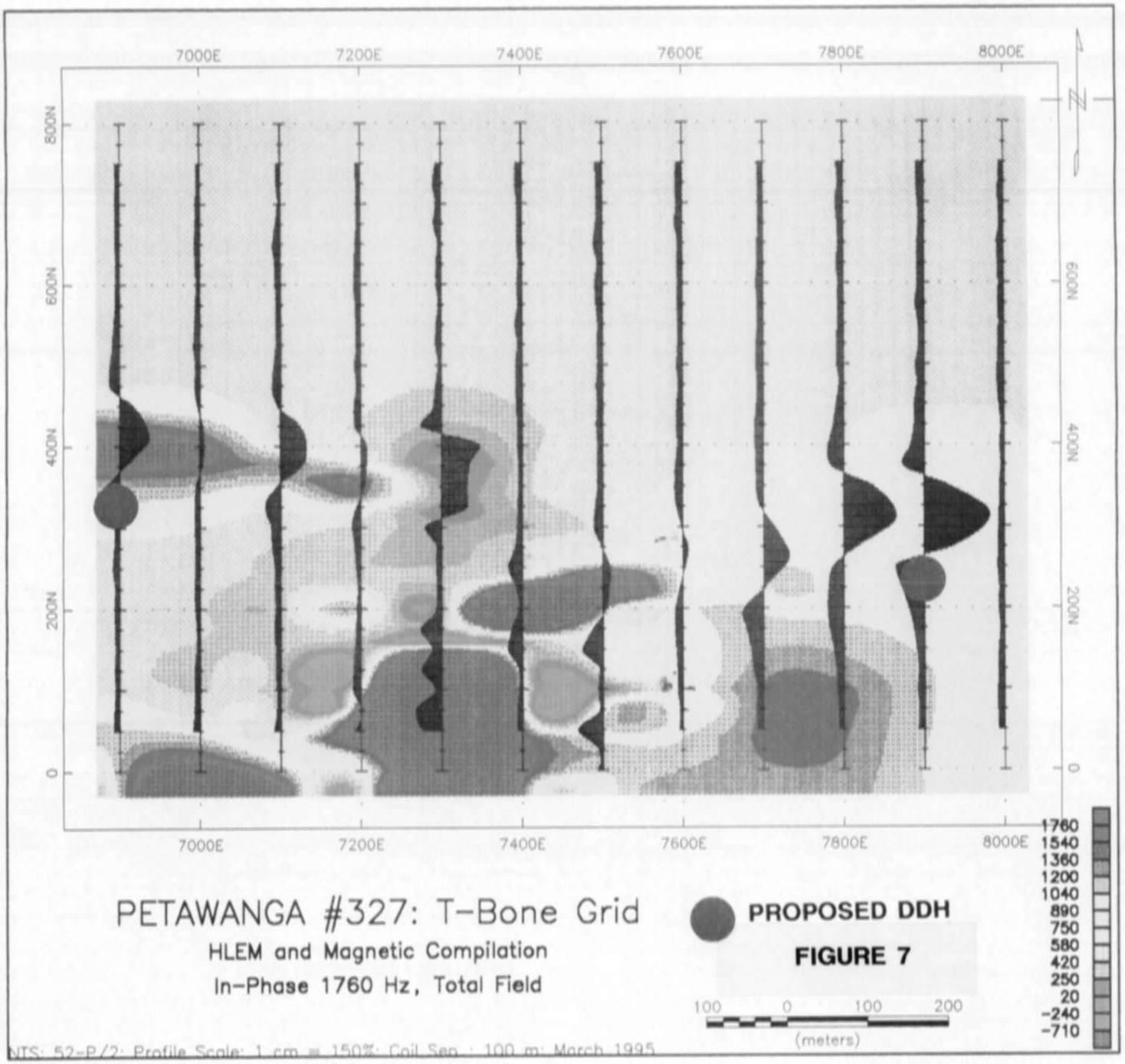

4800W
4400W
4000W
3600W
3200W
2800W
2400W
2000W
1600W
1200W
800W
400W
800N
400N
0
400S
800S
1200S
1600S
WESTERN VOLCANIC GP
CENTRAL FELSIC GP
RYLEY
CORMAC
NJZ
GOLDFIELDS
CORMAC VOLCANIC GP
SOUTH
MAIN
1440
1130
890
670
420
120
-440
PETAWANGA #327: DISCOVERY LAKE GRID
HLEM and MAGNETIC COMPILATION
In-Phase 1760 Hz, Total Field
PROPOSED DDH
250 0 250 500 750
(meters)
NTS: 52-P/2; Profile Scale: 1 cm = 150%; Coil Sep.: 100m; Sept., 1994

FIGURE 5


7000E
7200E
7400E
7600E
7800E
8000E
800N
600N
400N
200N
0
1760
1540
1360
1200
1040
890
750
580
420
250
20
-240
-710
PETAWANGA #327: T-Bone Grid
HLEM and Magnetic Compilation
In-Phase 1760 Hz, Total Field
PROPOSED DDH
FIGURE 7
100 0 100 200
(meters)
NTS: 52-P/2; Profile Scale: 1 cm = 150%; Coil Sep. : 100 m; March 1995

consistent depth of 37-50 m. The best defined anomalies are at 400N on line 7100E and 325N on line 7900E. The anomalous zones generally exhibit widths of less than 10 metres, but may be as wide as 30 meters on line 7900E at 325N. These anomalies represent the most geophysically interesting targets for massive sulphide mineralization. The 1987 Goldfields diamond drill was collared at 75+75E, 1+00N and tested the weakest section of the HLEM anomaly. An 8 meter sulphide zone varying from 3 - 30 % pyrite-pyrrhotite was intersected.

8.2 Geology

Outcrop exposure on the property is relatively poor; approximately 3 - 5%. The most prominent and abundant rock outcrops are basaltic pillowed and massive flows and tuffs intermixed with quartz feldspar biotite schists localised within the northwestern sector of the claim group. Most of the property is covered by extensive areas of sphagnum swamp, a few small shallow ponds, and rare small inland outcrops that form low ridges. Esker ridges also contribute to the topographic relief in a relatively subdued area. Drainage is poor and is generally oriented north-eastwards towards Petawanga Lake on the Albany River. The region between Disco Lake and T-Bone Lake has been subject in part to a forest fire in the early 1990's.

The property is dominantly underlain by metavolcanic and metasedimentary supracrustal rocks of Archean age, which extend south-westwards to Attwood Lake. The supracrustals on the Petawanga property are bound to the north, east, and south by felsic to intermediate intrusive batholiths. The rocks have been metamorphosed to amphibolite facies and possibly because of the high metamorphic grade previous classification of a central band of quartzofeldspathic rocks has been a problem. They have been mapped either as impure quartzites (Boylen Engineering and Goldfields) or felsic volcanics (New Jersey Zinc and Falconbridge). This band is about 1 kilometer wide in the western portion of the property and appears to lens out to the east. It is bounded to the north and south by mainly mafic metavolcanic stratigraphy. In the interest of continuity the 5 geological domains outlined and described in the work completed by Falconbridge with the exception of one were utilized. The Central Felsic Volcanic Domain as described by Falconbridge is referred to in this report as the Central Felsic Group. It is comprised of a mixed group of interlayered felsic tuffs, well banded to cross bedded quartz feldspar biotite schists, finely laminated to thickly bedded argillites and coarse 'lahar-style' deposits with lapilli to block size fragments. Anastomosing "brickwork style" fracture controlled chlorite - garnet alteration is often exhibited in this group especially in the outcrops south of the baseline between Line 40+00W and Line 47+00W and north of the baseline between Line 27+00W and Line 31+00W (Map 7).

In 1990 - 1991, Falconbridge focused much of its exploration efforts within the Cormac Volcanic Domain, specifically geophysical surveying, detailed geologic mapping, outcrop stripping and diamond drilling of several Cu or Zn occurrences and HLEM anomalies between lines 20W to 38W. All of the mineral showings and geophysical anomaly sites were re-examined in 1994 during the course of the current program. The predominant litholigies include medium grained to coarse grained, massive to pillowed mafic flow units with minor amounts of felsic volcaniclastic tuffs and debris flow sediments. The southern contact of the Central Felsic Group with the Cormac Volcanics is complex and several northwesterly trending offsetting structures are inferred (see Figure 5). Alteration again occurs mainly as chlorite - garnet assemblages within the felsic units.

8.2.1 Description of Main Rock Types

A stratigraphic table and descriptions of major rock types is provided below:

Table VI: Stratigraphic Sequence - Major Rock Types
On The Petawanga Property

Chemical and Clastic Metasedimentary Rocks

5 - Chemical Sediment - Quartz - Magnetite - Garnet +/- (Pyrite - Pyrrhotite) Schist/Iron Formation

Mixed Metasedimentary and Metavolcanics Rocks

4a - Chlorite - Garnet - Staurolite Schist
4 - Quartz - Feldspar - Biotite Schist with local Felsic Volcaniclastic Tuff, 'Lahar-style' Lapilli Tuff, and finely laminated Argillite
1 - Mafic Metavolcanics

Mafic Metavolcanics

The mafic metavolcanics occur as massive and pillowed, coarse to medium to fine grained, dark green to black flows, flow breccias and tuffs. They are composed essentially of amphibole and feldspar. The coarse grained nature of some massive flows mimic those of gabbroic intrusions, however intrusive contact features were not observed. The pillows are elongated and top determinations are speculative at best; pillow tops in a few localities indicate younging is to the north. These rock types are predominant both within the Western Volcanic Group and the Cormac Volcanic Group.

Quartz Feldspar Biotite Schist

These rocks make up most of the Central Felsic Group which is sandwiched, up to 1 kilometer in thickness between the two mafic metavolcanic groups. Texturally, they range from medium to coarse grained, granular quartzofeldspathic rocks to true schists, but most are porphyroblastic with relatively equiangular, weakly foliated biotitic matrices. In most rocks, biotite and garnet form small (0.5cm.) equant, subhedral crystals ranging from 5% to greater than 20%. Local anastomising "brickwork style" fracture controlled chlorite-garnet-amphibole +/- magnetite alteration occurs with varying intensities in a number of outcrop exposures. The intensity of the alteration appears to increase near the northern (top?) boundary of the Central Felsic Group.

Felsic Tuff

There are fine grained quartzofeldspathic units within the more dominant coarser grained quartz-feldspar-biotite schist described above. Texturally they appear to be felsic volcaniclastic tuffs and they sometimes exhibit crystal rich components with about 10 to 15% feldspar crystals/grains and 3-10%, 2-3mm quartz eyes.

Felsic Debris Flow

These rocks are characteristically 'lahar style' deposits composed of several, generally unsorted, subrounded felsic fragments of varying sizes up to 0.5 meters set in a medium grained quartzofeldspathic matrix. The matrix was typically intensely altered with the chlorite-garnet brickwork alteration at the outcroppings of this rock type at the south end of Lines 45+00 and 46+00 W.

Chlorite-Garnet-Staurolite Schist

These argillaceous units are very fine grained and characteristically contains subhedral 1 to 5 mm staurolite porphyroblasts. They were noted near the Main HLEM conductor axis at 45+00W/2+00S.

Quartz-Magnetite-Garnet Schist/Iron Formation

These rocks are characteristically banded with 1 to 4 cm. thick alternating layers of white siliceous bands, dark red, coarse-grained clusters of garnet rich bands and dark grey to black magnetite (5-10%).

Sulfide Iron Formation

Sulphide facies iron formation is confined to a few rare outcrop exposures along the northern or Main HLEM conductor axis. Pyrite and pyrrhotite occur as disseminations and bands, from 3 to 5%, locally up to 20% (2+90W/5+50N) hosted within a very fine grained, siliceous, banded cherty tuff. On the weathered surface the rock is typically gossanous and characteristically rusty brown and generally is intimately associated with the quartz-magnetite-garnet schist.

Argillaceous Metasediments

These sediments are gray to brown, very fine grained, finely laminated to well bedded. They are typically phyllitic and generally contain up to 30% biotite. Outcroppings of this unit are rare due to the recessive weathering character of the rocks.

8.2.2 Structure

The Western Volcanic, Central Felsic, and Cormac Volcanic Domains form a west to south-southwest trending sequence bounded by the Northern and Southern Granitic Domains. Foliation and geologic contacts generally have a vertical to steep northerly dip. Foliations vary in strike from 030 degrees to 090 degrees from west to east across the map area. Pillow directions where developed (e.g. NJZ and Ryley Cormac occurrences) indicate younging to the north. The magnetic and HLEM patterns have assisted in defining gross stratigraphic variation and three major structural regimes (Figure 6). Firstly the initial aggregation of supracrustal assemblages to produce the greenstone belt. The north and south contacts of the Central Felsic Group correlate with anomalous high magnetics. The northern contact with the Western Volcanic Group is also signatured with a strong northeast-southwest trending HLEM conductor. Secondly, magnetic patterns along the inferred south contact of the Central Felsic Group with the Cormac Volcanic Group, as well as the en echelon pattern of the North-Central and South-Main HLEM Anomalies suggest a number of WNW and NW-trending faults with off-sets from tens to several hundred meters. Within the large areas of felsic to intermediate intrusive rock in the southeastern region of the claim group are anomalous magnetic high trends as well as local fracture patterns (Alpamayo occurrence) which also trend at 100-120 degrees. Where outcrop is present along these postulated faults intense chlorite-garnet alteration is present. Thirdly, at roughly right angles to these breaks are less prominent magnetic lineaments (055 degrees) which parallel topographic lineaments and are for the most part parallel to the greenstone belt trend and batholith margin. This structural style appears to have been operative during the emplacement of the batholithic intrusions and has not affected the internal parts of the Petawanga greenstone belt. Previous detailed exploration by Falconbridge in the vicinity of the Ryley Cormac and Goldfields showings suggested tight folding of the stratigraphy. On a mesoscopic scale a fourth structural regime may be represented by the axial traces of tight folds related to either batholithic emplacement or deformation that postdates magmatism.

8.2.3 Sulphide Mineralization

The copper rich Goldfields showing and the zinc rich Ryley Cormac showing appear to be remobilized mineralization to some extent. The former occurs as a local pod of massive chalcopyrite within weakly mineralized (pyrite-pyrrhotite) quartz feldspar-biotite schists near their contact with pillowed mafic volcanics. Green malachite staining was observed in other localized narrow gossan zones which returned anomalous copper (6300 ppm) and zinc (570 ppm) values. The Ryley Cormac occurrence occurs as very thin fracture controlled bands of sphalerite within a narrow (0.25m) silicified zone hosted by mafic volcanics. Portions of the exposed mineralized zone exhibit an argillaceous character. The footwall pillowed mafics are mineralized with large porphyroblastic garnets, while the mafic tuffs to the north are banded and mineralized with pinhead size garnets. Of particular note is the exposure of intense chlorite-garnet alteration within an outcrop exposure 150 meters to the south.

Inspections were also made of the NYLA, NJZ, Boylen, and Alpamayo mineral occurrences. The NYLA zinc occurrence is hosted by thin biotitic interflow metasediments within a relatively unaltered mafic tuff locally mineralized with finely disseminated sphalerite up to 5%. A grab sample returned an assay of 4.76% zinc. The occurrence is approximately 200 meters south of the Cormac Volcanic Group - Central Felsic Group contact. The NJZ occurrence is also hosted by mafic flows of the Cormac Volcanic Group, however the rocks are much coarser grained and distinctively pillowed with tops to the north. A number of localized patches of gossanous amphibole rich units are mineralized with 2-5% pyrite and pyrrhotite. Interestingly enough the best mineralization (up to 5% cpy) was reported by New Jersey Zinc to have been intersected in the most southern drill hole (ATT-8) which tested the showing. A sample of the only felsic rock to outcrop in the area (100 meters to the southwest) returned anomalous Cu-Zn metal enrichment of 1800 ppm and 1500 ppm respectively. The Boylen showing occurs within the Central grid area and is signatured by anomalous HLEM conductivity and high magnetics. Disseminated pyrrhotite-pyrite mineralization with scattered blebs of chalcopyrite is hosted by magnetite iron formations within fine grained mafic flows which locally exhibit intense chlorite-carbonate-garnet alteration. Previous trenching (4 trenches from 6m to 50m long) and diamond drilling (5 holes totaling 582m) tested the zone along the most conductive 300m of strike length. Best intersections of 4.01% Cu over 0.4m and 3.44% Cu over 0.46m were hosted within magnetite rich zones and intense carbonate altered sections respectively. The Alpamayo mineralization (12E, 15+50S) appears to be a structurally controlled sulfide burn localized along northwesterly trending fractures within a felsic intrusive. This fracture orientation roughly parallels the northwesterly trending lineaments interpreted from magnetic and HLEM patterns (see Figure 5). The only new sulfide mineralization observed to were angular subcrop located at lines 43W, 0+50S; 35W, 3+50N; 34+50W, 3+50N; 22W, 5+75N. They were mineralized with 5-40% pyrite-pyrrhotite. A narrow (<1m) sulfide iron formation was uncovered on line 3W, 5+50N.

8.3 Lithogeochemistry

The paucity of outcrop and consequent very low sample density prevent a rigorous lithogeochemical evaluation. On the basis of surface mapping, sporadic zones exhibiting chlorite +/- amphibole +/- garnet alteration mineral assemblages typify the most widespread style of alteration manifested within the felsic rocks on this property. They are signatured geochemically with enriched Fe_2O_3 and MgO or K_2O and depleted Na_2O trends relative to their unaltered equivalents. The altered mafic rocks in the vicinity of Cu+/-Zn showings are enriched with Fe_2O_3 and CaO and depleted in SiO_2 and Na_2O relative to background levels in their unaltered equivalents. Alteration is also expressed as anomalous Cu-Zn enrichment.

Table VII: Partial Whole Rock And Trace Element Geochemistry Of Petawanga Property Volcanics

	SAMPLE	SiO_2 %	Al_2O_3 %	Fe_2O_3	MgO %	K_2O %	CaO %	Na_2O %	TiO_2 %	Cu ppm	Zn ppm
Mafic Flow	2040B	51.38	16.03	11.72	7.24	0.15	8.19	2.62	1.11	100	15
	2042A	53.15	15.32	12.12	4.17	0.59	8.87	2.31	1.60	40	42
Altered Mafic Flow	2013A	40.76	11.00	18.5	3.53	.0.01	20.23	0.17	0.11	6300	570
	2014S	40.59	11.72	20.9	5.91	0.51	13.09	0.78	0.84	1150	66
Unaltered Felsic	2040D	64.13	13.48	11.15	1.87	0.67	4.54	3.6	0.55	17	33
Altered Felsic	2013C	65.7	15.83	10.06	1.81	3.29	1.1	0.54	0.54	120	17
	2013B	60.15	13.54	12.29	4.6	0.84	4.39	0.65	0.49	160	500
Chlorite-Garnet-Staurolite Schist	2014P	60.27	4.67	16.17	2.42	0.23	2.58	0.62	0.16	87	19
Altered Quartz Phyric Felsic	2014T	70.3	12.71	5.79	0.86	0.35	7.1	0.93	0.16	1800	1500

A number of the calculated alteration indices including Ishikawa, ANCK, Chlorite, Sericite, Spits as well as, Add-Depletion ratios and Na_2O depletion indicate the presence of weak to moderate hydrothermal alteration within the Petawanga stratigraphy, however, the extent of the alteration is uncertain due to poor exposure. They are graphically represented on Figures 8-17. The broad zones of zinc and copper enrichment intersected in Falconbridge drill holes PO-3 (100 meters with anomalous zinc varying from 284 ppm to 1900 ppm) and PO-5 (100 meters with anomalous copper varying from 400 ppm to 1400 ppm) lend credence to the supposition that hydrothermal alteration potentially attendant to a VMS deposit is present within that region of the Cormac Volcanic Group. It is premature to dismiss the potential for similar geochemical alteration along the north contact zone of the Central Felsic Group. Limited data from samples collected to date depict alteration patterns that compare to some extent with that of well known VMS deposits (Table VIII).

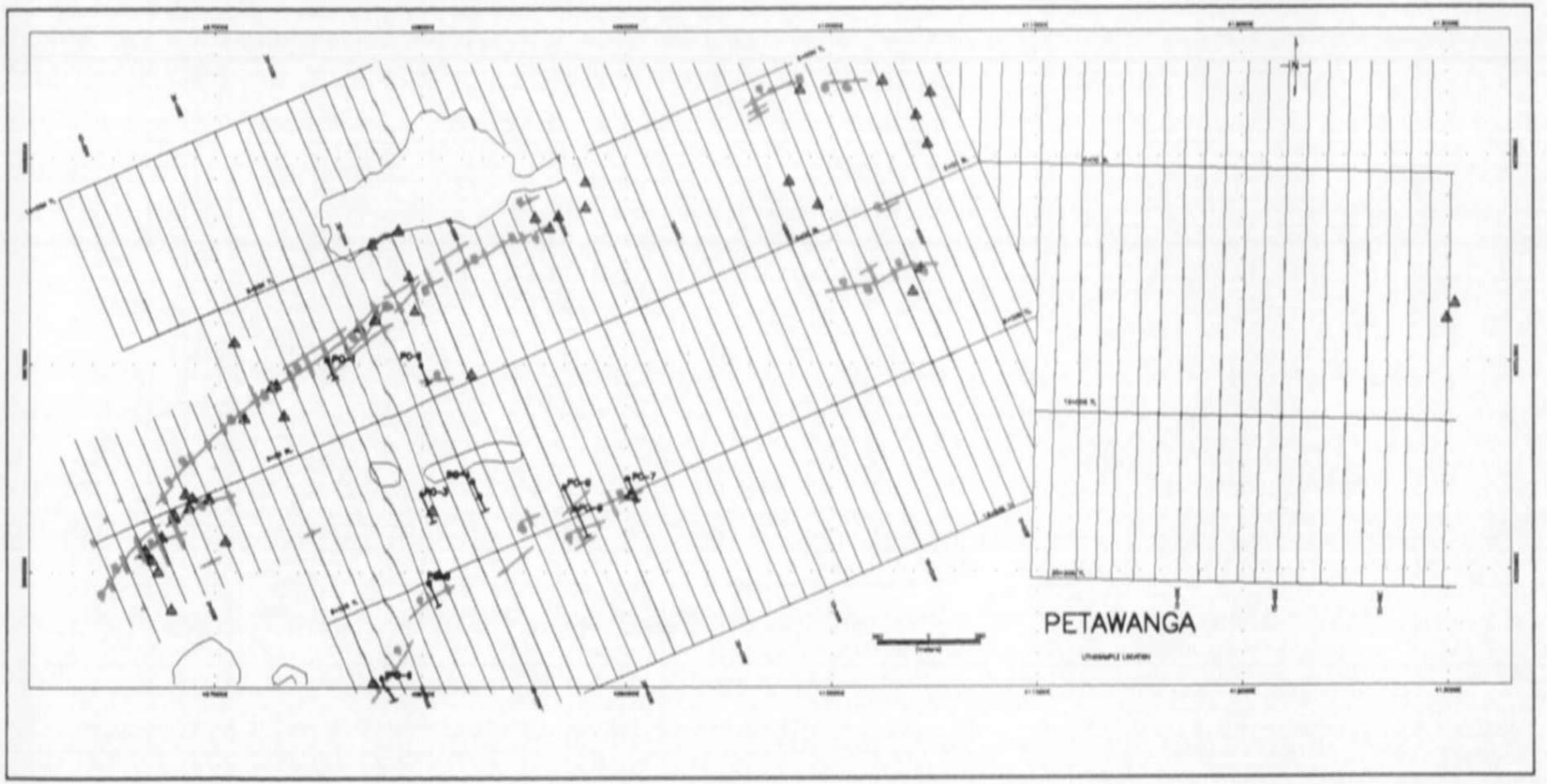


FIGURE 8

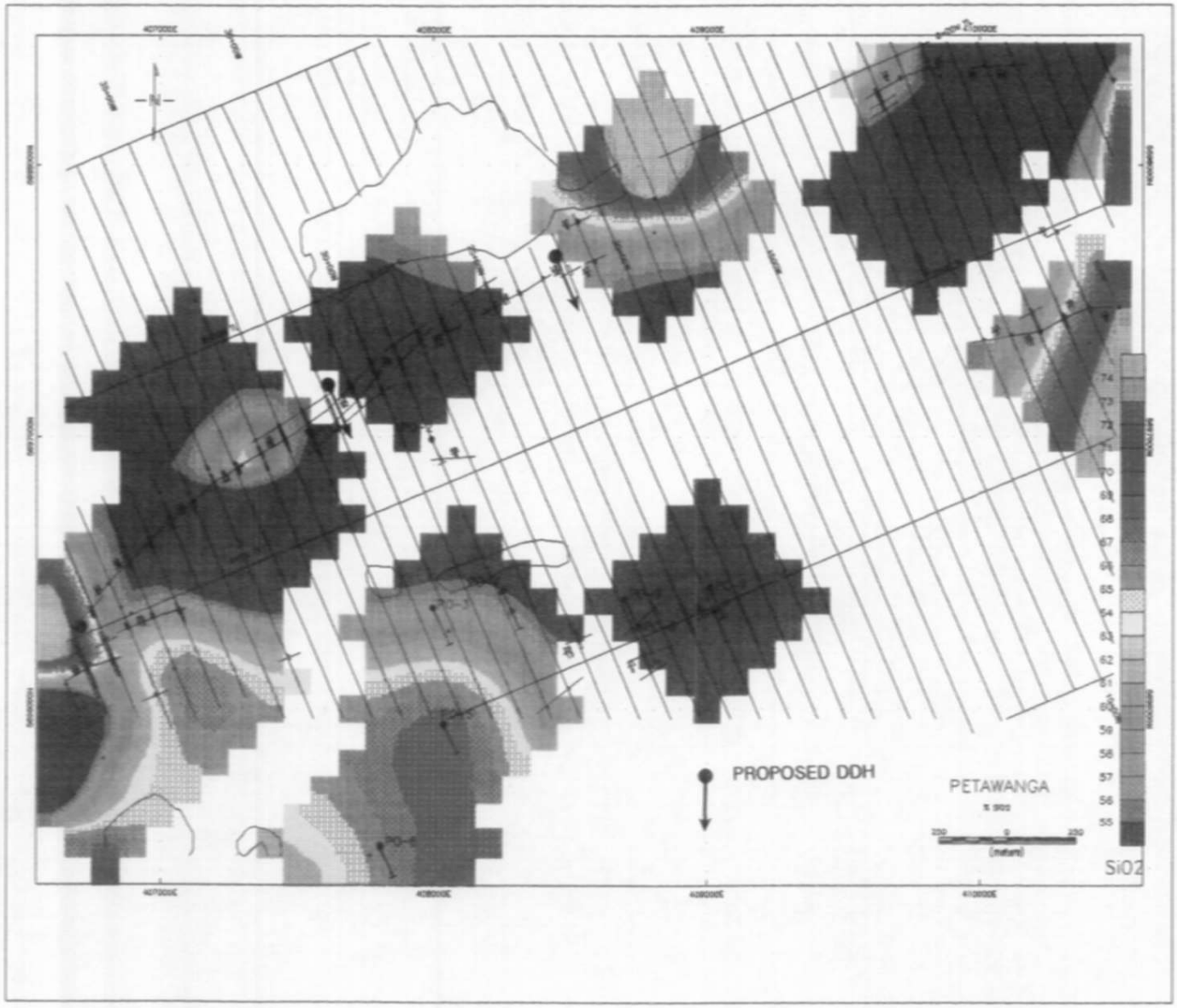


FIGURE 9

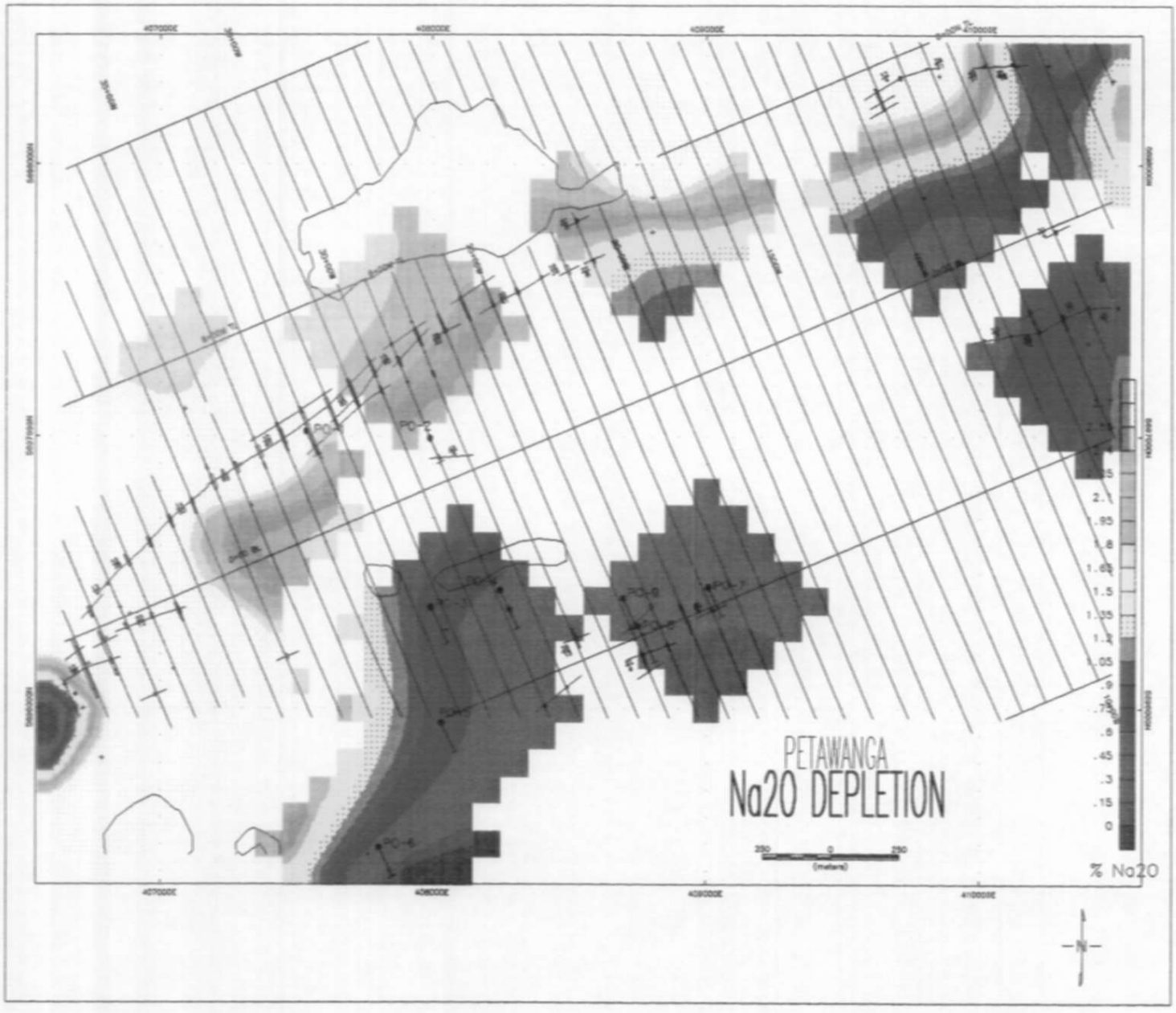


FIGURE 10

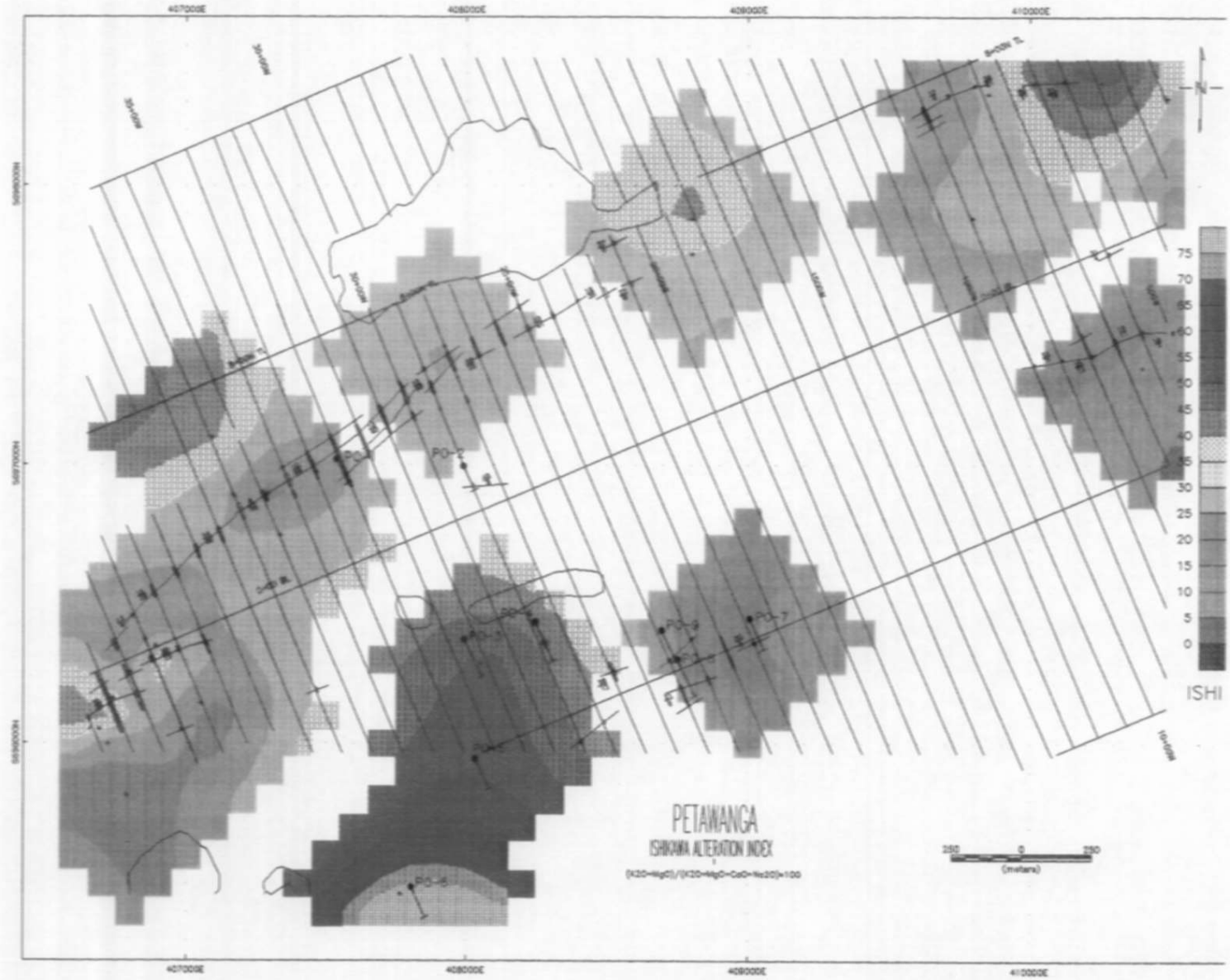

407000E
408000E
409000E
411000E
9998000N
9997000N
9996000N
PD-1
PD-2
PD-3
PD-4
PD-5
PD-6
PD-7
PD-8
PD-9
PETAWANGA
ISHIKAWA ALTERATION INDEX
[K2O+MgO]/[K2O+MgO+CaO+Na2O]x100
250
0
250
(meters)
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
ISHI

FIGURE 11

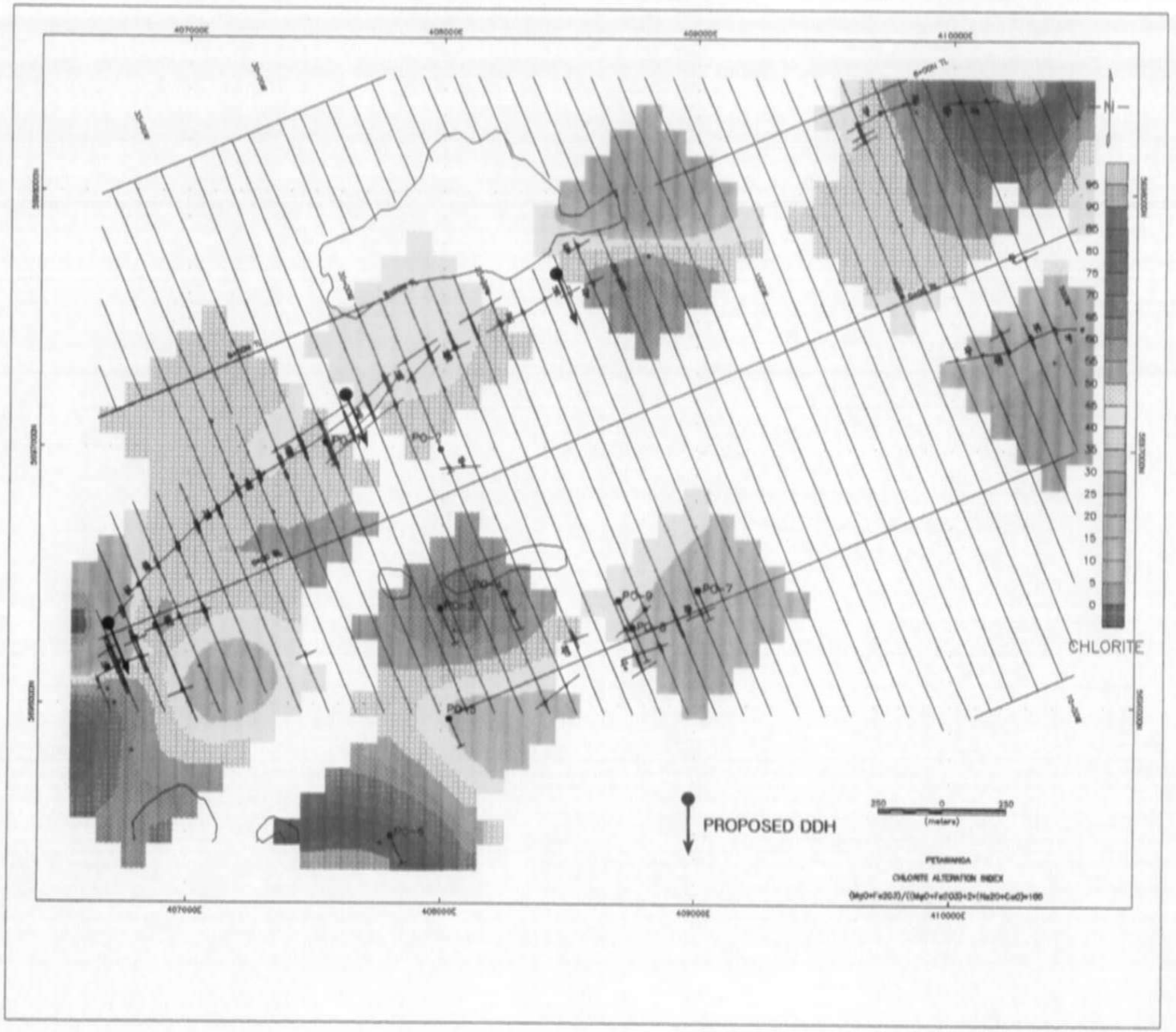

407000E
408000E
409000E
410000E
N
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
CHLORITE
PD-1
PD-2
PD-3
PD-4
PD-5
PD-6
PD-7
PD-8
PD-9
PROPOSED DDH
350
0
350
(meters)
PETAINAMIA
CHLORITE ALTERATION INDEX

FIGURE 12A


407000E
408000E
409000E
410000E
5698000N
5697000N
5696000N
N
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
CHLORITE
PROPOSED DDH
250
0
250
(meters)
PETAWANGA
CHLORITE ALTERATION INDEX
(MgO+Fe2O3)/((MgO+Fe2O3)+2*(Na2O+CaO

FIGURE 12B

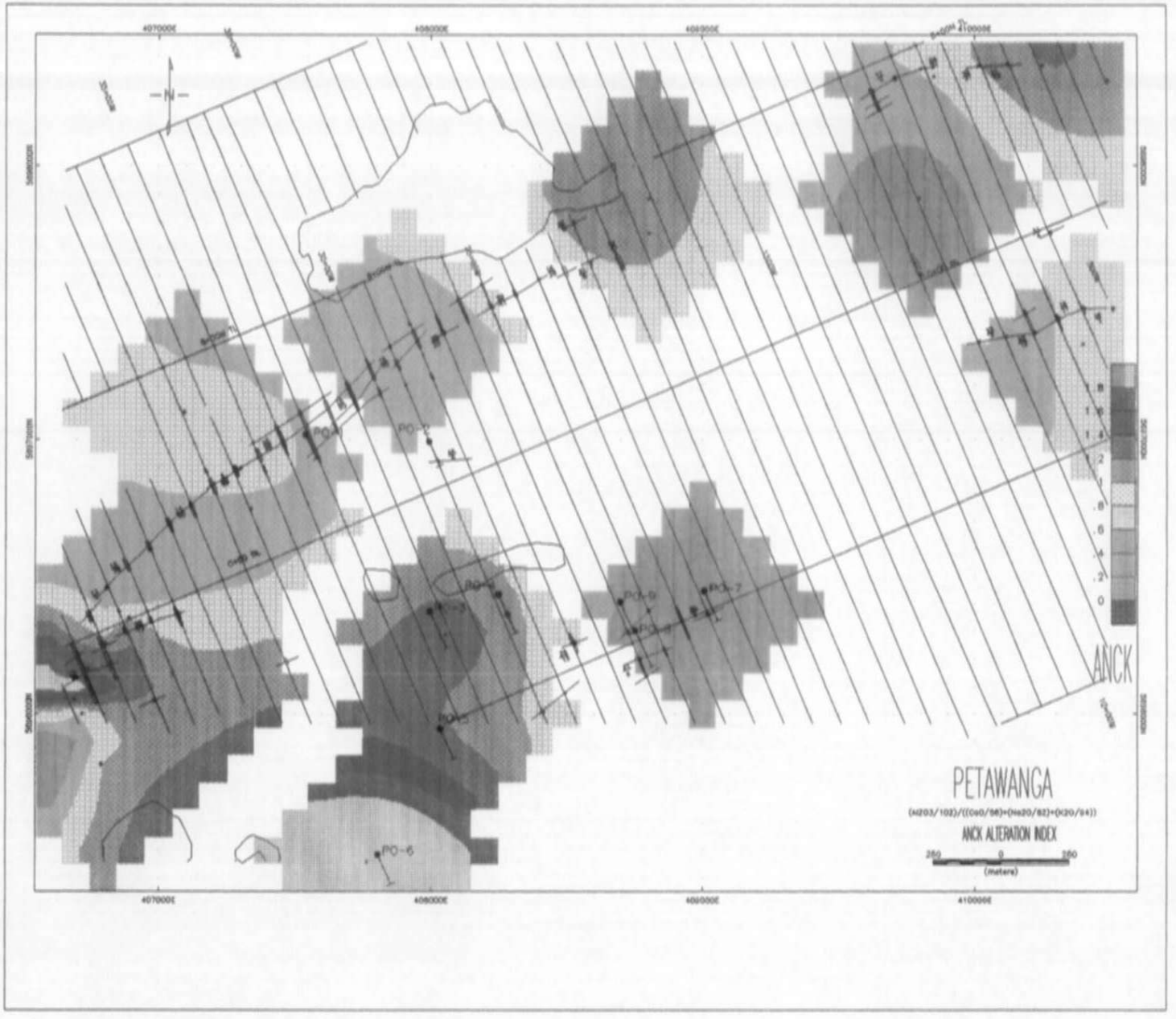

407000E
408000E
409000E
410000E
PO-1
PO-2
PO-3
PO-4
PO-5
PO-6
PO-7
PO-8
PO-9
PETAWANGA
(b4/b3)/((b2/b6)+(b4/b2)+(b3/b1))
ANCK ALTERATION INDEX
250
0
250
(meters)
ANCK

FIGURE 13

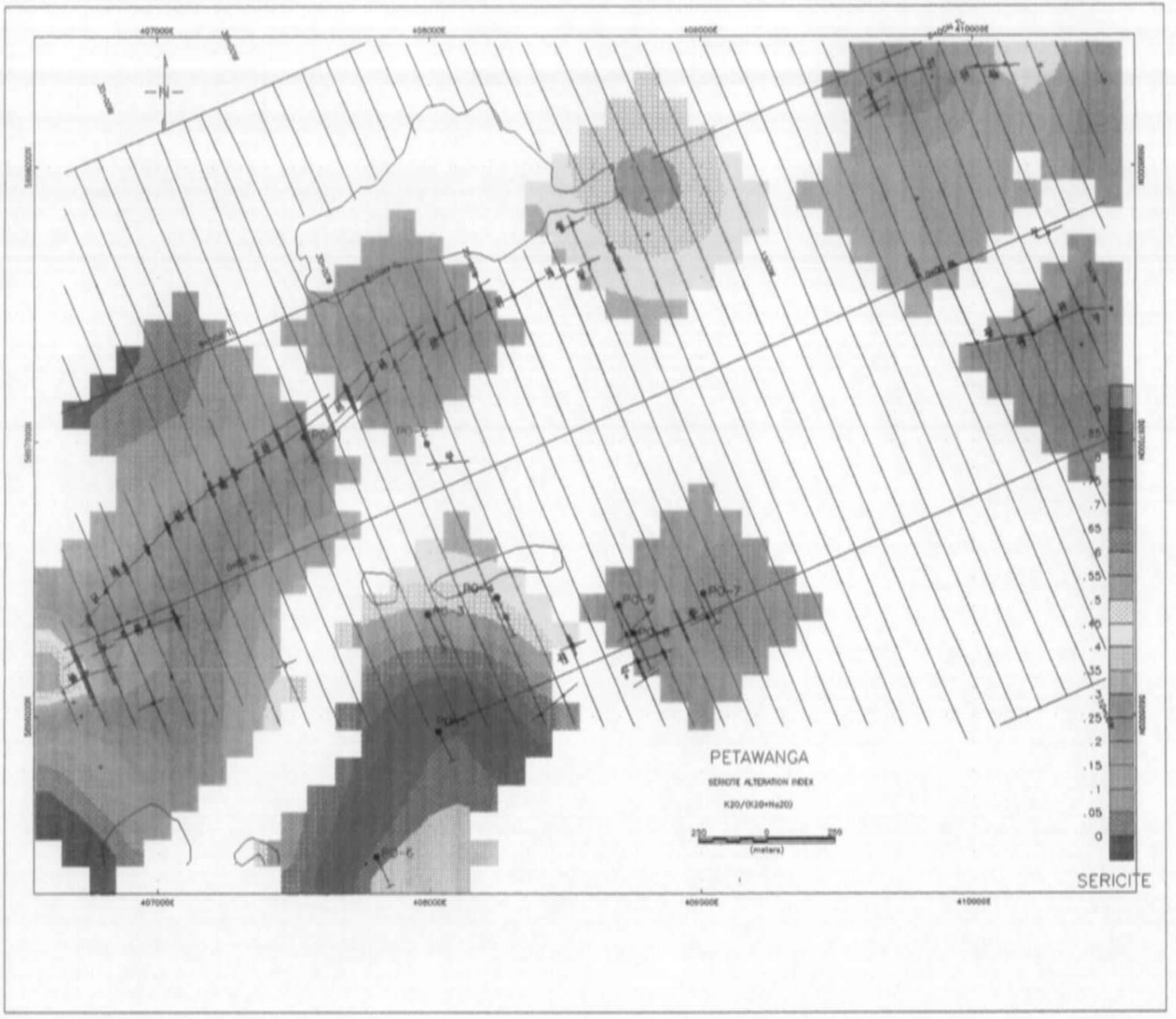

PETAWANGA
SERICITE ALTERATION INDEX
K2O/(K2O+Na2O)
(meters)
SERICITE

FIGURE 14

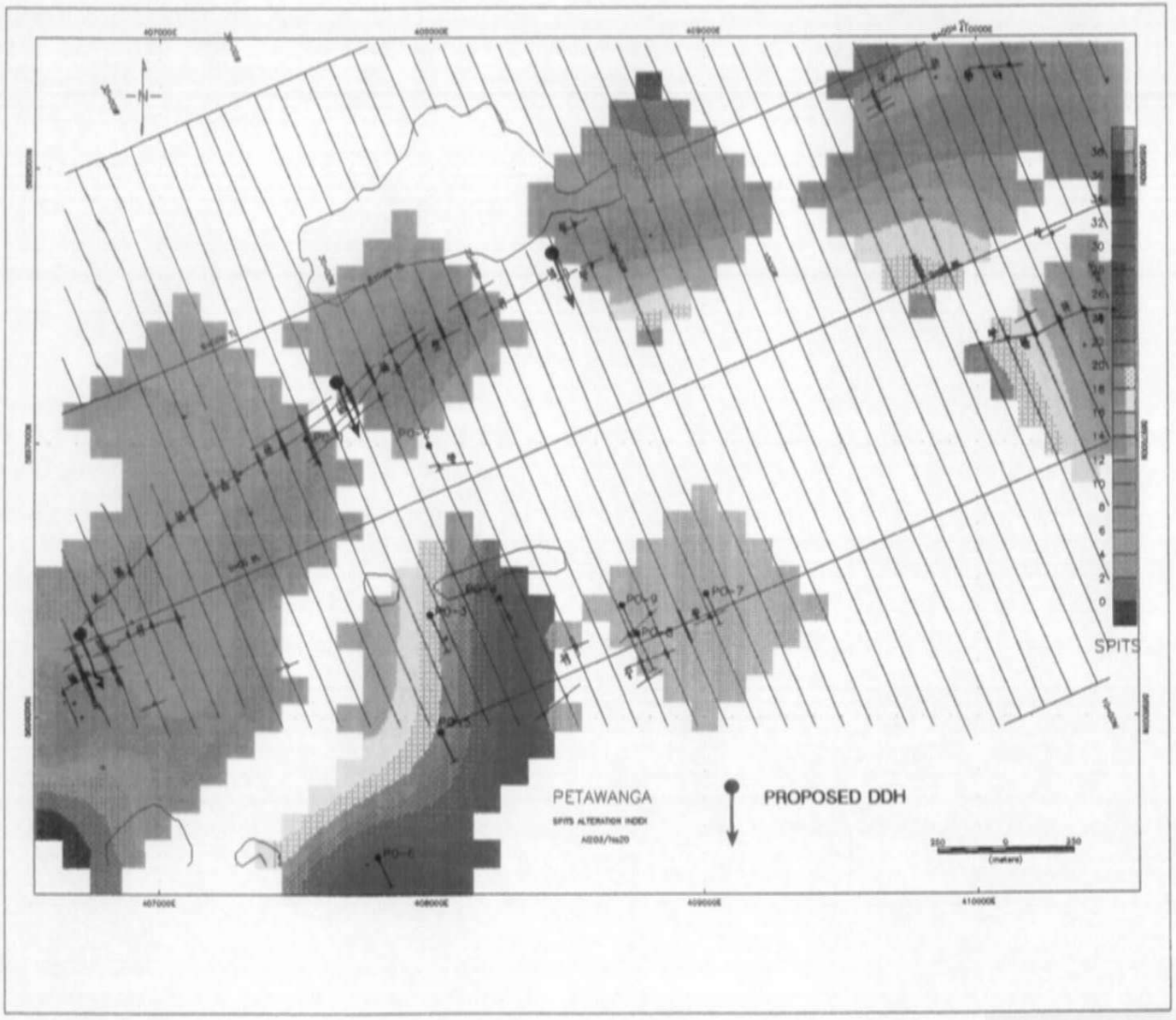


FIGURE 15

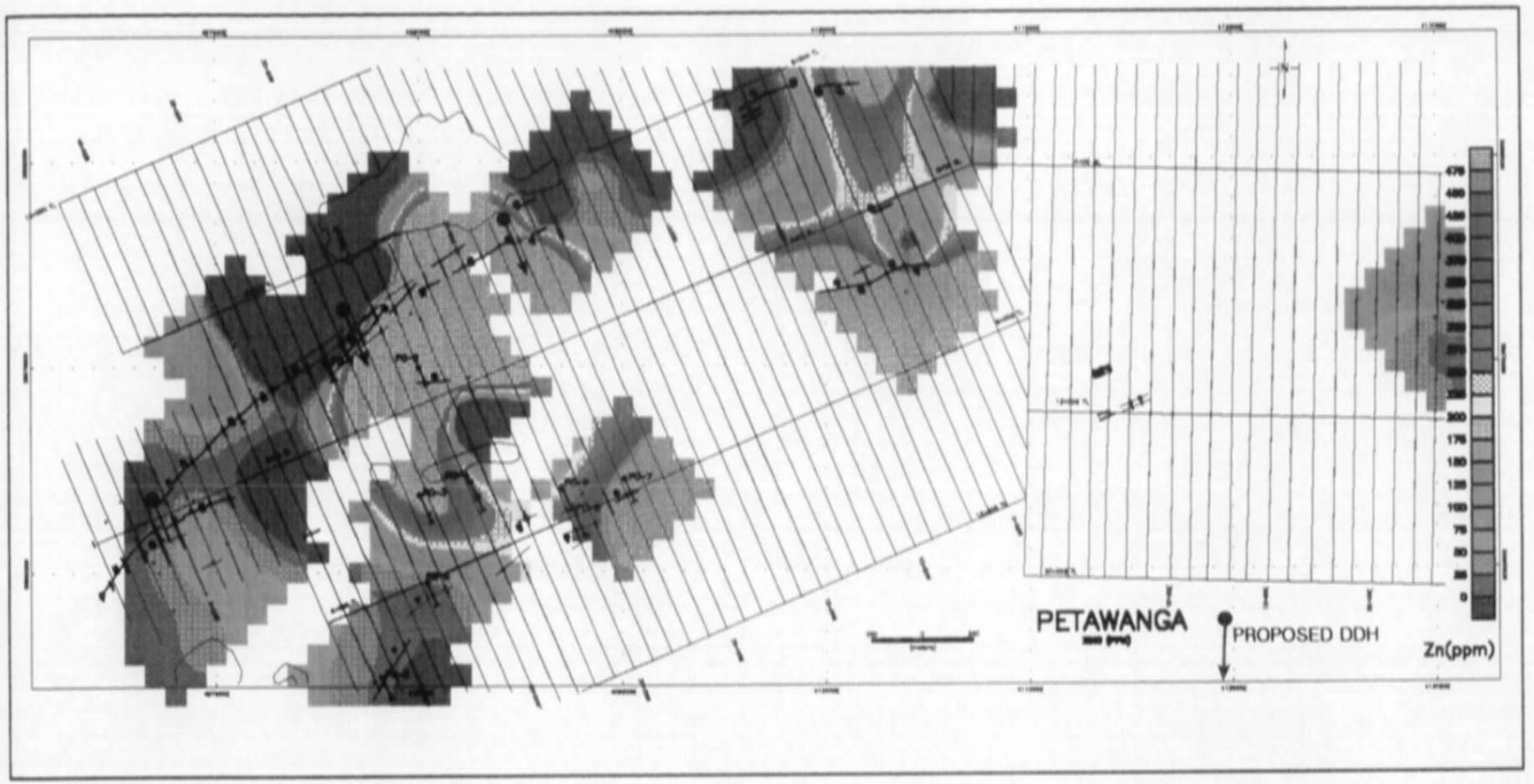


FIGURE 16

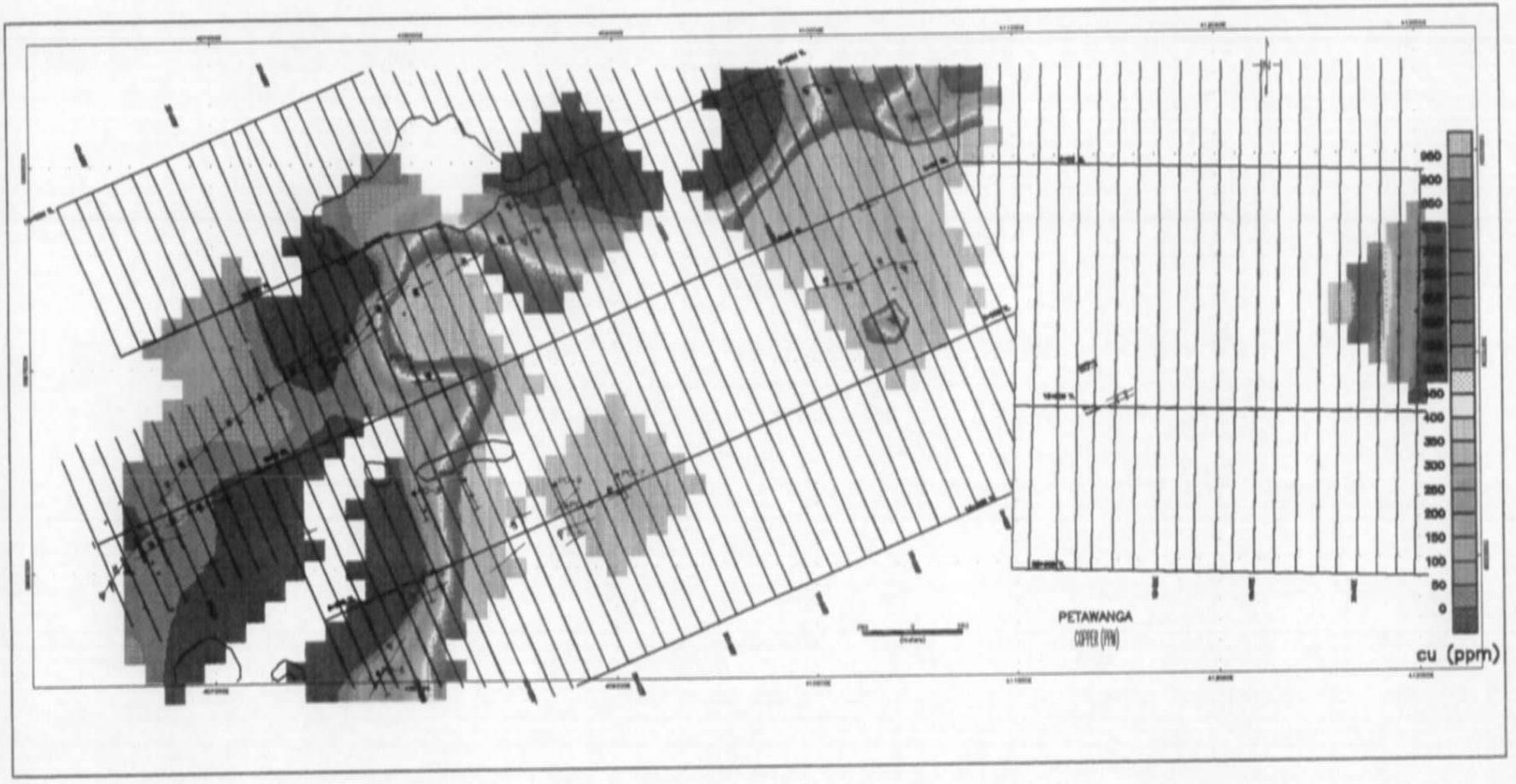

950
900
850
450
400
350
300
250
200
150
100
80
0
PETAWANGA
COPPER (PPM)
cu (ppm)

FIGURE 17

Table VIII
Comparison of Camp Alteration Indices

VMS CAMP/LOCATION	ALTERATION INTENSITY	ISHIKAWA	SERICITE	CHLORITE	SPITS	ADD./DEP.
STURGEON LAKE	UNALTERED	46	0.52		4	1.5
	ALTERED	75	0.9		42	3.9
HORNE MINE	UNALTERED	26	0.17		3	1.4
	ALTERED	99	0.99		22	42.9
KIDD CREEK	UNALTERED	15	0.15		4	0.3
	ALTERED	85	0.86		83	30
WINSTON LAKE	UNALTERED	16	0.05		2	0.6
	ALTERED	82	0.63		10	7.2
LYNN LAKE	UNALTERED	14	0.15		2	0.2
	ALTERED	75	0.41		14	8.4
SOUTH BAY	UNALTERED	15	0.16		2	0.6
	ALTERED	7	0.3		9	1
CONFEDERATION LAKE	UNALTERED	40	0.32	30	3	
	ALTERED	96	0.9	95	86	
MARSHALL LAKE	UNALTERED	35	0.35	35	8	
	ALTERED	94	0.89	91	35	
FLY LAKE	UNALTERED	28	0.31		3	0.3
	ALTERED	93	0.82		47	22.8
PETAWANGA	UNALTERED	22	0.23	31	4	0.7
	ALTERED	54	0.56	68	15	38.2

Ishikawa Index = $(MgO+K_2O)/(MgO+K_2O+Na_2O+CaO)*100$
Sericite Index = $K_2O/(Na_2O+K_2O)$
Chlorite Index = $(MgO+Fe_2O)/((MgO+Fe_2O_3)+2(Na_2O+CaO))*100$
Spits Index = Al_2O_3/Na_2O
Add/Dep Index = $MgO+Fe_2O/Na_2O+CaO$

9.0 CONCLUSIONS AND RECOMMENDATIONS

Geophysical surveying, geologic mapping and lithogeochemical sampling were completed over the Petawanga property in 1994.

All of the mineral showings and HLEM targets encompassed by the Discovery Lake (West) grid appear to have been tested (drill hole +/- trenches). The North Central HLEM conductor occurs at the top contact of the Central Felsic Group with the overlying Western Volcanic Domain and has a strike extent of over 2500 meters. The conductor has only been tested with two drill holes (343-1, PO-1), collared near the middle of the conductive feature (3300W/384N). The first hole(Boylen Engineering 1961) is reported to have interested 7.3 meters of massive to semi-massive po-py with traces of chalcopyrite and sphalerite. The second hole (Falconbridge 1991) was collared on the axis of the HLEM anomaly and intersected anastomosing "brickwork style" chlorite - garnet alteration with minor pyrite and pyrrohtite mineralization. The host rocks are "lahar style" deposits within the Central Felsic Domain which appear to become more dominant towards the west boundary of the claim group. The "brickwork style" alteration has been mapped intermittentingly due to the paucity of outcrop with varying intensities along the strike of the host lithology. Zones of intense chlorite - garnet alteration may be the loci of hydrothermal fluids along fracture/shear

splays tangential to the strike or possibly venting conduits to an exhalitive horizon that is signatured by the North Central HLEM conductor (Figures 3 and 5). A diamond drilling program is recommended to further test the top of the Central Felsic Group. A number of sites are proposed based on optimum geophysical features.

HLEM surveying in 1994 also delineated 3 more untested conductive features : 1) Discovery Lake Grid (West) - north of the NYLA showing -lines 4W-9W, 600N-700N; 2) Central Grid - at 750N from 3000E to 4100E; 3) T-Bone Lake Grid - 300N from 6900E to 7500E. Another anomaly at 400N from 7500E to 7900E was previously drill tested at the weakest point of conductivity. An 8 meter sulphide zone varying from 3 - 30 % pyrite-pyrrhotite was intersected. The strongest part of the conductor is on line 7900E. Drill testing of these targets is recommended.

Previous exploration by Falconbridge has delineated two areas of hydrothermal alteration within the Cormac Volcanic Group in the vicinity of the Ryley Cormac showing and the South Main HLEM anomaly. Copper rich disseminated sulfide and remobilized massive sulfide intersections were also reported from the Goldfields showing area. In conjunction with the proposed drilling program, borehole pulse EM surveying or deep penetrating electromagnetic surveying is recommended to be done within or about the old Falconbridge drill holes PO-3 to PO-9. Follow-up drilling will be contingent on the outcome of this surveying.

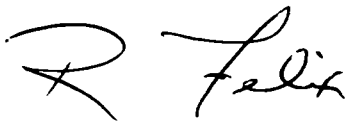
The lithogeochemical sampling program on the Petawanga property has confirmed sporadic alteration by Ishikawa, Chlorite, Sericite, Spits and Add/Dep alteration patterns and some localised copper and zinc enrichment trends. The extent of the alteration is limited to a great part to paucity of outcrop.

A diamond drilling program is recommended to evaluate a number of anomalous electromagnetic/magnetic features at the following sites:

Diamond Drill Hole	Line	Station Azimuth	Dip	EOH
A	44+00W	00+25NGrid South	-50°	300 Meters
B	31+00W	05+00NGrid South	-50°	200 Meters
C	22+00W	06+00NGrid South	-50°	150 Meters
D	07+00W	06+50NGrid North	-50°	110 Meters
E	33+00E	07+50NGrid South	-50°	150 Meters
F	69+00E	03+25NGrid North	-50°	150 Meters
G	79+00E	02+50NGrid North	-50°	150 Meters

Respectfully submitted,

NORANDA MINING AND EXPLORATION INC.



Reg Felix
SrProjectGeologist
West Precambrian District

Thunder Bay, Ontario
April 20,1995

STATEMENT OF EXPENDITURES (SEPTEMBER-DECEMBER, 1994)

GEOLOGY			
	Labour	29,385.65	
	Supplies	4467.94	
	Equipment Rental	3630.65	
	Transportation	14,477.44	
	Food and Lodging	4767.33	
	SUBTOTAL	57,728.01	
GEOPHYSICS			
	Labour	2449.35	
	Contractors	17320.00	
	Transportation	6605.31	
	Supplies	213.32	
	Equipment Repair and Rental	449.80	
	SUB-TOTAL	27,037.78	
GEOCHEMISTRY			
	Labour	1299.97	
	Assaying	826.20	
	SUB-TOTAL	2126.17	
	GRAND TOTAL		**$86,891.96**

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APPENDIX I

SAMPLE DESCRIPTIONS, ANALYTICAL PROCEDURES AND ASSAY CERTIFICATES

PETAWANGA
LITHOGEOCHEMICAL SAMPLE DESCRIPTIONS

SAMPLE	EASTING	NORTHING	TYPE	LITHOLOGY
2013A	409019	5696362	GRAB	GOSSANOUS MAFIC METAVOLCANIC WITH 1-2% MALACHITE.
2013B	408051	5696288	GRAB	GARNETIFEROUS QUARTZ FELDSPAR SCHIST
2013C	407765	5695460	GRAB	RUSTY GARNETIFEROUS QUARTZ FELDSPAR SCHIST
2013D	408084	5695982	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST
2014A	406654	5696087	GRAB	ALTERED QUARTZ FELDSPAR BIOTITE SCHIST,2-5% GAR-MT
2014B	406657	5696098	GRAB	CHLORITE GARNET MAGNETITE IRON FORMATION, 5-10% MT
2014C	406692	5696052	GRAB	CHLORITE-STAUROLITE SCHIST(BIOTITE MUDSTONE)
2014D	406721	5695999	GRAB	CHLORITE-GARNET SCHIST(MAFIC VOL)
2014E	406788	5695815	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST
2014F	406740	5696163	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST;WEAK CHL-SER ALT.
2014G	406804	5696257	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST
2014H	406800	5696272	GRAB	LEAN IRON FORMATION;10-20% MT,2-3% PO
2014I	406800	5696272	GRAB	LEAN IRON FORMATION;10-20% MT,5-10% GH
2014J	406855	5696371	GRAB	QFB SCHIST WITH CHLORITE-GARNET BRICKWORK ALTERATN
2014K	406891	5696349	GRAB	GARNET-BIOTITE MUDSTONE
2014L	406874	5696306	GRAB	GARNETIFEROUS QUARTZ FELDSPAR BIOTITE SCHIST
2014M	407051	5696145	GRAB	QFB SCHIST WITH CHL-GAR BRICKWORK ALTERATION
2014N	406969	5696347	GRAB	QFB SCHIST WITH INTENSE CHL-GAR BWK ALTERATN
2014O	410486	5698312	GRAB	CHLORITE-STAUROLITE SCHIST
2014P	410486	5698312	GRAB	CHLORITE-STAUROLITE SCHIST
2014Q	410252	5698367	GRAB	GOSSAN,10-20% PYRITE
2014R	409851	5698326	GRAB	GOSSAN,2-3% MAGNETITE,TR. PYRITE
2014S	409795	5697882	GRAB	GOSSANOUS MAFIC VOLCANIC,1-2%PYRITE,TR, CPY
2014T	410398	5697346	GRAB	GOSSANOUS QFB SCHIST, 1-2% PY-PO, TR.SPH.,CPY
2017A	413112	5697234	GRAB	MAFIC METAVOLCANIC WITH INTENSE CHL-ACTINOLITE ALT
2017B	413036	5697278	GRAB	GOSSANOUS QFB SCHIST WITH MT-ACT ALT
2017C	412996	5697205	GRAB	SEMI-MASSIVE PO BAND IN MAFIC METAVOLCANIC
2039A	408803	5697880	GRAB	FINELY LAMINATED FELSIC TUFF
2039B	408803	5697754	GRAB	FELSIC DEBRIS FLOW WITH RIP UP BEDS
2039C	408670	5697711	GRAB	GOSSAN WITH GARNET AND MAGNETITE
2039D	408627	5697655	GRAB	IRON FORMATION WITH GH AND MT, VEINLETS OF PY-PO
2039E	408556	5697705	GRAB	SULPHIDE IRON FORMATION,SEMI-MASSIVE PO, MINOR PY
2040A	407142	5696736	GRAB	GOSSANED LEAN IRON FORMATION, 1%PO
2040B	407092	5697100	GRAB	MAFIC-VOLCANIC FLOW
2040C	407273	5696889	GRAB	BANDED SULFIDE IRON FORMATION
2040D	407296	5696896	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST WITH WEAK GARNETS

PETAWANGA
LITHOGEOCHEMICAL SAMPLE DESCRIPTIONS

2040E	407336	5696747	GRAB	GABBROIC DYKE, GARNETS
2041A	408590	5697715	GRAB	LEAN IRON FORMATION
2042A	407921	5697424	GRAB	MAFIC META-VOLCANIC
2042B	407956	5697255	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST WITH BRICKWORK ALT.
2042C	408244	5696945	GRAB	QTZ FSPAR PEGMATITE WITH 1% MOLY
2043A	410472	5698062	GRAB	NYLA SHOWING,SPHALERITE IN THIN BANDS
2043B	410417	5698200	GRAB	GARNET ALTERED MAFIC FLOW WITH TRACE PO,PY
2043C	409936	5697768	GRAB	GOSSAN WITH 1-2% DISS PO
2043E	410437	5697456	GRAB	3%CPY,1%MT FROM NJZ SEMI MASSIVE SHOWING
2047A	407773	5697208	GRAB	QUARTZ FELDSPAR BIOTITE SCHIST WITH MOD. GOSSAN
2047B	407696	5697173	GRAB	BANDED MAFIC VOLCANIC, WITH MODERATE GOSSAN, 5% PO
2047C	407870	5697643	GRAB	QFB SCHIST WITH STRONG GOSSAN,SEMI-MASSIVE PO, 5% GH
2047D	407754	5697575	GRAB	QFB SCHIST, STRONGLY GOSSANED,5%PO-GH
2047E	406218	5695626	GRAB	PILLOWED MAFIC VOLCANIC

NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ 2013**

WHITE - OFFICE
YELLOW - FIELD

LAB Chemex PROJECT NO./PROPERTY 327 - PETAWANGA N.T.S. 52 P/8

GEOLOGIST/PROSPECTOR R FELIX / M Stares GRID REFERENCE Goldfields, Ryley Corners, South Main DATE June 1/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A		Gossanous Mafic Meta vol; 1-2% mal, strong	grab			✓	✓	✓		✓		22+00 W 8+15 S	409019 5696362
B		Garnet, Feldspar QFB schist; 5-10% gt	grab		✓							31+25 W 5+00 S	408051 5696288
C	*	Rusty garnet, feldspar QFB schist; 20% gt	grab		✓							32+40 W	407765 5695460
D		QFB Schist; (Met sediment)	grab		✓							32+00 W 8+00 S	408084 5695982
E													
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NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ . 2014**

WHITE - OFFICE
YELLOW - FIELD

LAB Chemex PROJECT NO./PROPERTY 327 - Petawanga N.T.S. 52 P/8

GEOLOGIST/PROSPECTOR R Felix / M Stares GRID REFERENCE Northwest HLEM Anomalies; NYLA DATE June 2 - /94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A		QFB Schist; 2-5% mt, 2-5% gt	Grab		✓							7+00 W 1+45 S	406654 5696087
B		Chl-Garnet-Magnetite Fe Fm; 5-10% mt	Grab			✓	✓	✓		~~19~~ 28		7+00 W 1+40 S	406657 5696098
C		Chl-Corundum Schist	Grab		✓							7+00 W 2+00 S	406692 5696052
D		Chlorite-Garnet Schist	"		✓							7+00 W 2+50 S	406721 5695999
E		QFB Schist	"		✓							7+00 W 4+50 S	406788 5695815
F		QFB Schist, weakly chl. ser.	"		✓							6+00 W 1+00 S	406740 5696163
G		QFB Schist	"		✓							5 W 0+75 S	406804 5696257
H		LIF; 10-20% Mt, 2-3% Py	"			✓	✓	✓		~~19~~ 18		5 W 0+50 S	406800 5696372
I		LIF; 10-20% Mt, 5-10% Gh	"			✓	✓	✓		73		5 W 0+50 S	406800 5696272
J		QFB Schist, gnrl chl-ser alt	"		✓							4+00 W 0+50 N	406855 5696321
K		Garnet-Biotite Mudstone	"		✓							3+85 W 0+00	406891 5696349
L		Garnet-Magnetite Fe Fm	"		✓				~			4+00 W 0+25 S	406874 5696306
M		QFB Schist; mod chl ser. alt	"		✓							3+00 W 2+30 S	407051 5696145
N		QFB Schist	"		✓							3+00 W 0+25 S	406969 5696347
O		Gh-Cor Schist, gh 5-10%	"		✓							1+00 W 5+00 N	410486 5698312
P		" " " " "	"		✓							1+00 W 5+00 N	410~~486~~ 5698312
Q		SIF w 10-20% pyrite	"									2+90 W 5+50 N	410252 5698367
R		BFQ Schist; 2-3% Mt, tr S	"									7+00 W 7+00 N	409851 5698326
S		Mafic Volc; 1-2% gh, 1-2% py, tr cpy						1100		95		9 W 5+00 N	409295 5697882
T		Interflow Sed; 1-2% py, tr sph, cpy						1850		1350		4+50 W 0+25 S	410398 5697346

NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ 2017**

WHITE - OFFICE
YELLOW - FIELD

LAB Chemex PROJECT NO./PROPERTY 327-Petaquanga N.T.S. 52P/8

GEOLOGIST/PROSPECTOR R FELIX / M Stares GRID REFERENCE Boylen Occurrence DATE June 12/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A		Massive Mafic Meb rock, chl fact	Grab		✓							24E 6+50S	
B		QFB schist ± Mt-Act Alt	Grab			✓	✓	✓		✓		23+25E 6+25S	
C		Gossan in M. Vol, ± 15% opq, 5-10% Mt in qtz	"			✓	✓	✓		✓		23E 7S	
D													
E													
F													
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NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ 2039**

WHITE - OFFICE
YELLOW - FIELD

LAB _____ PROJECT NO/PROPERTY 327 Petawanga N.T.S. 52 P 8

GEOLOGIST/PROSPECTOR Harper/Galeschuk GRID REFERENCE _____ DATE June 2/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A		finely laminated wacke	grab	2 m	✓							19+00W 6+75N	
B		wacke with rip up frags	grab	1m	✓							19+75W 5+60N	
C		black f.g. bio-chl-gar-mag-graph. HLEM conductor	grab	0.5m				✓		✓		20+90W 5+50N	
D		Lean Iron Formation. gar, mag veinlets of py, po	grab	0.5m				✓		✓		22+50W 5+35N	
E		semi massive sulphide - local float po, minor py	grab	0.2 m				✓		✓		22+00W 5+75N	
F													
G													
H													
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NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ 2040**

WHITE - OFFICE
YELLOW - FIELD

LAB Chemex PROJECT NO./PROPERTY 327 Pelaswanga N.T.S. 52-P-8

GEOLOGIST/PROSPECTOR C. Galeschuk/J. Harper GRID REFERENCE DATE June 3/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A	2040A	Lean Iron Formation, 1% Po + Mag.	Grab	1 m				✓		✓		37+90W 2+60N	
B	2040B	Mafic volcanic.	Grab	10 m	✓							37+05W 6+25N	
C	2040C	Iron Formation, 1% Po	Grab	1 m				✓		✓		36+00W 3+50N	
D	2040D	Felsic Meta Sediment, wk gnt, tr py	Grab	5 m	✓							35+75W 3+40N	
E	2040E	Coarse grained mafic [illegible]	Grab	~~2~~ 1m	✓							36+00W 2+10N	
F													
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NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ 2041**

WHITE - OFFICE
YELLOW - FIELD

LAB CHEMEX PROJECT NO./PROPERTY Petawanga 327 N.T.S. 52 P8

GEOLOGIST/PROSPECTOR Harper/STARES GRID REFERENCE _____ DATE June 4/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A		L.I.F. mag, Po, graph. old trench over HLEM AXIS	grab	1 m				✓		✓		21+50E 5+80N	
B													
C													
D													
E													
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NORANDA EXPLORATION COMPANY, LIMITED **SAMPLE REPORT** **№ 2042**

WHITE - OFFICE
YELLOW - FIELD

LAB Chemex PROJECT NO./PROPERTY 327 Petaquenaya N.T.S. 52-P-8

GEOLOGIST/PROSPECTOR C. Gulewich GRID REFERENCE DATE June 4/94 & 6/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A	2042A	Mafic Volcanic near conductor	Grab	2m	✓							L28W 5+65N	
B	2042B	Int rust brickwork wacke	Grab	1m		✓	✓	✓		✓		L28+50W 4+25N	
C	2042C	Qtz fsp Peg sweat, 1% mafy	Grab	1m		✓	✓	✓		✓		29+85W 0+15N	
D						210							
E													
F													
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...um EXPLORATION COMPANY, LIMITED

SAMPLE REPORT

No 2043

WHITE - OFFICE
YELLOW - FIELD

LAB Chemex

PROJECT NO./PROPERTY 327

N.T.S. 52 P/8

GEOLOGIST/PROSPECTOR Hooper/Golebchuk

GRID REFERENCE

DATE June 5/94

SAMPLE	FIELD #	DESCRIPTION	TYPE	WIDTH	ASSAYS							CO-ORDINATES	
					WRA	Au	Ag	Cu	Pb	Zn		GRID	UTM
A	2043 A	NYLA showing; sph in bands in interflow seds	grab	2 cm				2880		4176			
B	B	mafic flow, tr. py, po	grab	1 m				162		279			
C	C	Iron Formation, po 1-2%, minor gossan	grab	2 m				350		190			
D	D							200		240			
E	E	gossan HLEMaxis, cpy 3% mag 1% NJ2 trench, semi-massive sulphide	grab	1 m				3850		55			
F													
G													
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PETAWANGA
TRACE ELEMENT ANALYSES

SAMPLE	EASTING	NORTHING	Cu ppm	Zn ppm	Au(ppb)	Ag(ppm)	Zn %
2013 A	409019	5696362	6300	570			
2013 B	408051	5696288	160	500			
2013 C	407765	5695460	120	17			
2013 D	408084	5695982	37	21			
2014 A	406654	5696087	16	93			
2014 B	406657	5696098	94	14	3	0.1	
2014 C	406692	5696052	4	6			
2014 D	406721	5695999	6	30			
2014 E	406788	5695815	5	25			
2014 F	406740	5696163	3	12			
2014 G	406804	5696257	15	44			
2014 H	406800	5696272	210	56	3	1	
2014 I	406800	5696272	28	25	3	0.1	
2014 J	406855	5696371	16	20			
2014 K	406891	5696349	80	117			
2014 L	406874	5696306	11	57			
2014 M	407051	5696145	4	57			
2014 N	406969	5696347	5	32			
2014 O	410486	5698312	9	10			
2014 P	410486	5698312	1100	85	3	0.1	
2014 Q	410252	5698367	1850	1350	10	0.6	
2014 R	409851	5698326	28	28	3	0.1	
2014 S	409795	5697882	1150	66	3	0.1	
2014 T	410398	5697346	1800	1500	10	0.1	
2017 B	413036	5697278	14	134			
2017 C	412996	5697205	52	36			
2039 A	408803	5697880	46	90			
2039 B	408803	5697754	13	43			
2039 C	408670	5697711	36	26			
2039 D	408627	5697655	126	4	3	0.1	
2039 E	408556	5697705	8	17	3	0.1	
2040 A	407142	5696736	67	42	3	0.8	
2040 B	407092	5697100	100	15			
2040 C	407273	5696889	46	15	3	0.1	
2040 D	407296	5696896	17	33			
2040 E	407336	5696747	110	20			
2041 A	408590	5697715	210	10	1	0.6	
2042 A	407921	5697424	40	42			
2042 B	407956	5697255	2800	15000	10	2	4.76
2042 C	408244	5696945	162	270	3	0.1	
2043 A	410472	5698062	350	190	15	0.1	
2043 B	410417	5698200	200	240	3	0.1	
2043 C	409936	5697768	3850	55	3	2.8	
2043 E	410437	5697456	15000	15	25	1.8	1.13
2047 A	407773	5697208	25	48	3	0.1	
2047 B	407696	5697173	18	69	3	0.4	
2047 C	407870	5697643	95	114	3	0.8	
2047 D	407754	5697575	134	42	3	1.2	

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

A9418125

Comments: ATTN: REG FELIX

CERTIFICATE A9418125

NORANDA EXPLORATION COMPANY LIMITED

Project: 327
P.O. # : TB 83564

Samples submitted to our lab in Vancouver, BC.
This report was printed on 21-JUN-94.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	16	Geochem ring to approx 150 mesh
226	16	0-5 lb crush and split
238	16	Nitric-aqua-regia digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	13	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2	16	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
5	16	Zn ppm: HNO3-aqua regia digest	AAS	1	10000
6	13	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
316	1	Zn %: Reverse Aqua-Regia digest	AAS	0.01	100.0

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

A9418124

Comments: ATTN: REG FELIX

CERTIFICATE A9418124

NORANDA EXPLORATION COMPANY LIMITED

Project: 327
P.O. # : TB 83564

Samples submitted to our lab in Vancouver, BC.
This report was printed on 21-JUN-94.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	5	Pulp; prepped on other workorder
238	5	Nitric-aqua-regia digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	5	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2	5	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
5	5	Zn ppm: HNO3-aqua regia digest	AAS	1	10000
6	5	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
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PHONE: 905-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

A9418123

Comments: ATTN: REG FELIX

CERTIFICATE A9418123

NORANDA EXPLORATION COMPANY LIMITED

Project: 327
P.O. # : TB 83564

Samples submitted to our lab in Vancouver, BC.
This report was printed on 29-JUN-94.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	27	Assay ring to approx 150 mesh
226	27	0-5 lb crush and split
200	27	Whole rock fusion
238	27	Nitric-aqua-regia digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	27	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
588	27	CaO %: Whole rock	ICP-AES	0.01	99.99
590	27	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	27	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	27	K2O %: Whole rock	ICP-AES	0.01	99.99
593	27	MgO %: Whole rock	ICP-AES	0.01	99.99
596	27	MnO %: Whole rock	ICP-AES	0.01	99.99
599	27	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	27	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	27	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	27	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	27	L.O.I. %: Loss on ignition	FURNACE	0.01	99.99
540	27	Total %	CALCULATION	0.01	105.00
891	27	Ba ppm	ICP	10	10000
1067	27	Rb ppm	ICP	5	10000
898	27	Sr ppm	ICP	10	10000
973	27	Nb ppm	ICP	10	10000
978	27	Zr ppm	ICP	10	10000
974	27	Y ppm	ICP	10	10000
2	27	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
5	27	Zn ppm: HNO3-aqua regia digest	AAS	1	10000

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

29-06-1994

Project : 327
Comments: ATTN: REG FELIX

Page Number :1
Total Pages :1
Certificate Date: 21-JUN-94
Invoice No. : I9418125
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CERTIFICATE OF ANALYSIS A9418125

SAMPLE	PREP CODE		Au ppb FA+AA	Cu ppm	Zn ppm	Ag ppm Aqua R	Zn %
2014 B	205	226	< 5	38	28	< 0.2	-----
2014 H	205	226	< 5	7	116	< 0.2	-----
2014 I	205	226	10	8	73	< 0.2	-----
2039 C	205	226	-----	14	134	-----	-----
2039 D	205	226	-----	52	36	-----	-----
2039 E	205	226	-----	36	26	-----	-----
2040 A	205	226	< 5	126	4	< 0.2	-----
2040 C	205	226	< 5	8	17	< 0.2	-----
2041 A	205	226	< 5	67	42	0.8	-----
2042 B	205	226	< 5	46	15	< 0.2	-----
2042 C	205	226	210	10	< 1	0.6	-----
2043 A	205	226	10	2800	>10000	2.0	4.76
2043 B	205	226	< 5	162	270	< 0.2	-----
2043 C	205	226	15	350	190	< 0.2	-----
2043 D	205	226	< 5	200	240	< 0.2	-----
2043 E	205	226	< 5	3850	55	2.8	-----

CERTIFICATION: Adriana Alexandru

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

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29-06-1994

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P.O. Number : TB 83564
Account : BUF

CERTIFICATE OF ANALYSIS A9418125

SAMPLE	PREP CODE		Au ppb FA+AA	Cu ppm	Zn ppm	Ag ppm Aqua R	Zn %					
2014 B	205	226	< 5	38	28	< 0.2	-----					
2014 H	205	226	< 5	7	116	< 0.2	-----					
2014 I	205	226	10	8	73	< 0.2	-----					
2039 C	205	226	-----	14	134	-----	-----					
2039 D	205	226	-----	52	36	-----	-----					
2039 E	205	226	-----	36	26	-----	-----					
2040 A	205	226	< 5	126	4	< 0.2	-----					
2040 C	205	226	< 5	8	17	< 0.2	-----					
2041 A	205	226	< 5	67	42	0.8	-----					
2042 B	205	226	< 5	46	15	< 0.2	-----					
2042 C	205	226	210	10	< 1	0.6	-----					
2043 A	205	226	10	2800	>10000	2.0	4.76					
2043 B	205	226	< 5	162	270	< 0.2	-----					
2043 C	205	226	15	350	190	< 0.2	-----					
2043 D	205	226	< 5	200	240	< 0.2	-----					
2043 E	205	226	< 5	3850	55	2.8	-----					

CERTIFICATION: Adriana Ricardi

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 905-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

06 -07- 1994

Project : 327
Comments: ATTN: REG FELIX

Page Number : 1-A
Total Pages : 1
Certificate Date: 29-JUN-94
Invoice No. : I9418123
P.O. Number : TB 83564
Account : BUF

CERTIFICATE OF ANALYSIS A9418123

SAMPLE	PREP CODE		Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
2013 A	208	226	11.00	20.21	< 0.01	18.50	0.01	3.53	0.40	0.17	0.18	40.76	0.11	2.09	96.97	10
2013 B	208	226	13.54	4.39	< 0.01	12.29	0.84	4.60	0.24	0.65	0.19	60.15	0.49	1.25	98.64	100
2013 C	208	226	15.83	1.10	< 0.01	10.06	3.29	1.81	0.10	0.54	0.33	65.70	0.54	0.98	100.30	310
2013 D	208	226	15.13	4.15	< 0.01	4.18	4.04	1.41	0.10	0.70	0.19	67.50	0.33	2.34	100.10	430
2014 A	208	226	14.34	4.76	< 0.01	15.29	2.51	2.92	0.54	2.30	0.18	55.32	0.59	0.52	99.28	320
2014 C	208	226	22.45	1.33	< 0.01	4.15	1.52	0.73	0.15	2.14	0.09	64.50	1.01	2.01	100.10	430
2014 D	208	226	11.41	6.83	< 0.01	22.83	0.28	2.81	1.33	1.09	0.13	47.30	0.47	2.80	97.29	30
2014 E	208	226	13.04	3.85	< 0.01	15.51	0.46	1.64	0.71	3.25	0.14	58.30	0.58	0.25	97.74	50
2014 F	208	226	16.29	2.26	< 0.01	2.06	2.21	0.65	0.04	3.01	0.16	71.60	0.81	1.47	100.55	400
2014 G	208	226	14.24	4.22	< 0.01	12.98	1.01	1.93	0.52	3.21	0.14	58.57	0.76	0.54	98.13	150
2014 J	208	226	13.39	5.66	< 0.01	14.16	0.87	2.68	0.72	3.35	0.08	55.55	0.53	0.43	97.43	190
2014 K	208	226	17.75	3.84	< 0.01	11.41	2.72	2.07	0.35	3.00	0.13	57.34	0.79	1.04	100.45	380
2014 L	208	226	14.02	2.31	< 0.01	13.41	1.74	1.77	0.48	3.61	0.12	59.84	0.50	1.81	99.62	250
2014 M	208	226	15.74	3.08	< 0.01	5.88	1.29	0.85	0.20	4.32	0.16	67.00	0.74	1.18	100.45	500
2014 N	208	226	12.76	4.52	< 0.01	12.90	1.23	2.42	0.57	3.08	0.12	60.82	0.45	0.38	99.26	380
2014 O	208	226	13.15	2.78	< 0.01	5.28	0.35	1.19	0.04	2.70	0.12	68.02	0.49	6.74	100.85	70
2014 P	208	226	4.67	2.58	< 0.01	16.17	0.23	2.42	0.15	0.62	0.15	60.27	0.16	11.77	99.20	30
2014 Q	208	226	2.75	0.87	< 0.01	47.00	0.22	1.08	0.49	0.25	0.10	28.16	0.07	16.77	97.77	40
2014 R	208	226	12.21	4.88	< 0.01	15.86	1.01	2.32	0.96	3.16	0.15	55.12	0.47	1.85	98.00	200
2014 S	208	226	11.72	13.09	< 0.01	20.90	0.51	5.91	0.49	0.78	0.13	40.59	0.84	2.73	97.70	60
2014 T	208	226	12.71	7.10	0.04	5.79	0.35	0.86	0.06	0.93	0.13	70.30	0.16	1.66	100.10	70
2039 A	208	226	13.05	2.29	0.01	2.22	3.12	0.45	0.04	2.70	0.20	75.00	0.32	0.78	100.20	410
2039 B	208	226	13.28	4.72	< 0.01	14.50	1.27	1.86	0.64	1.40	< 0.01	59.36	0.64	0.34	98.03	100
2040 B	208	226	16.03	8.19	0.03	11.72	0.15	7.24	0.16	2.62	0.13	51.38	1.11	0.70	99.46	10
2040 D	208	226	13.48	4.54	0.03	11.15	0.67	1.87	0.49	3.60	0.16	64.13	0.55	0.22	100.90	140
2040 E	208	226	15.15	10.51	0.01	19.00	0.57	5.58	0.74	1.80	0.11	41.99	0.69	1.15	97.30	110
2042 A	208	226	15.32	8.87	0.01	12.12	0.59	4.17	0.23	2.31	0.15	53.15	1.60	1.37	99.89	110

CERTIFICATION: Brent Buchler

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 905-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project : 327
Comments: ATTN: REG FELIX

Page Number : 1-B
Total Pages : 1
Certificate Date: 29-JUN-94
Invoice No. : I9418123
P.O. Number : TB 83564
Account : BUF

CERTIFICATE OF ANALYSIS A9418123

SAMPLE	PREP CODE		Rb ppm	Sr ppm	Nb ppm	Zr ppm	Y ppm	Cu ppm	Zn ppm
2013 A	208	226	< 5	70	< 10	< 10	40	6300	570
2013 B	208	226	15	30	< 10	40	10	160	500
2013 C	208	226	40	10	< 10	110	< 10	120	17
2013 D	208	226	55	40	< 10	90	< 10	37	21
2014 A	208	226	50	120	< 10	80	10	16	93
2014 C	208	226	20	220	10	140	10	4	6
2014 D	208	226	< 5	40	< 10	80	10	6	30
2014 E	208	226	15	130	< 10	90	10	5	25
2014 F	208	226	35	160	< 10	120	10	3	12
2014 G	208	226	20	120	< 10	120	10	15	44
2014 J	208	226	15	280	< 10	70	10	16	20
2014 K	208	226	50	180	10	110	10	80	117
2014 L	208	226	30	180	< 10	110	10	11	57
2014 M	208	226	35	200	10	136	10	4	57
2014 N	208	226	40	220	< 10	100	10	5	32
2014 O	208	226	15	170	10	140	< 10	9	10
2014 P	208	226	20	40	< 10	70	< 10	87	19
2014 Q	208	226	10	10	< 10	50	< 10	183	52
2014 R	208	226	20	180	< 10	80	10	28	28
2014 S	208	226	10	20	< 10	50	20	1150	66
2014 T	208	226	10	60	10	80	10	1800	1500
2039 A	208	226	50	70	10	120	10	46	90
2039 B	208	226	15	140	< 10	110	< 10	13	43
2040 B	208	226	5	140	< 10	70	10	100	15
2040 D	208	226	15	190	< 10	120	10	17	33
2040 E	208	226	10	60	< 10	50	10	110	20
2042 A	208	226	70	100	< 10	96	30	40	42

CERTIFICATION: Stewart Buchles

APPENDIX II

LITHOGEOCHEMICAL ALTERATION INDICES

PETAWANGA
LITHOGEOCHEMICAL ALTERATION INDICES

SAMPLE	SiO2 %	Al2O3 %	CaO %	Fe2O3(total) %	K2O %	MgO %	Na2O %	Cu ppm	Zn ppm	ISHIKAWA	ACNK	Zn/Na2O	Cu/Na2O	CHLORITE	SERICITE	SPITS	ADD/DEP
2013 A	40.76	11	20.21	16.5	0.01	3.53	0.17	6300	570	15	0.3	3353	37059	35	0.06	65	133
2014 T	70.3	12.71	7.1	5.79	0.35	0.86	0.93	1800	1500	13	0.9	1613	1935	29	0.27	14	14
2014 S	40.59	11.72	13.09	20.9	0.51	5.91	0.76	1150	66	32	0.5	86	1474	49	0.40	15	46
2014 Q	28.16	2.75	0.87	47	0.22	1.08	0.25	183	52	54	1.2	208	732	96	0.47	11	190
2013 B	60.15	13.54	4.39	12.29	0.84	4.6	0.65	160	500	52	1.4	769	246	63	0.56	21	28
2013 C	65.7	15.63	1.1	10.06	3.29	1.81	0.54	120	17	76	2.4	31	222	76	0.86	29	22
2014 P	60.27	4.67	2.58	16.17	0.23	2.42	0.62	87	19	45	0.8	31	140	74	0.27	8	31
2040 E	41.99	15.15	10.51	19	0.57	5.58	1 8	110	20	33	0.7	11	61	50	0.24	8	27
2013 D	67.5	15.13	4.15	4.16	4.04	1.41	0.7	37	21	53	1.2	30	53	37	0.85	22	12
2040 B	51.38	16.03	8.19	11.72	0.15	7.24	2.62	100	15	41	0.8	6	38	47	0.05	6	20
2014 K	57.34	17.75	3.84	11.41	2.72	2.07	3	80	117	41	1.2	39	27	50	0.48	6	10
2042 A	53.15	15.32	8.87	12.12	0.59	4.17	2.31	40	42	30	0.7	18	17	42	0.20	7	18
2039 A	75	13.05	2.29	2.22	3.12	0.45	2.7	46	90	42	1.1	33	17	21	0.54	5	4
2039 B	59.36	13.28	4.72	14.5	1.27	1.86	1.4	13	43	34	1.1	31	9	57	0.48	9	17
2014 R	55.12	12.21	4.88	15.86	1.01	2.32	3.16	28	28	29	0.8	9	9	53	0.24	4	12
2014 A	55.32	14.34	4.76	15.29	2.51	2.92	2.3	16	93	43	0.9	40	7	56	0.52	6	14
2014 D	47.3	11.41	6.83	22.83	0.28	2.81	1.09	6	30	28	0.8	28	6	62	0.20	10	31
2014 J	55.55	13.39	5.66	14.16	0.87	2.68	3.35	16	20	28	0.8	6	5	48	0.21	4	13
2040 D	64.13	13.48	4.54	11.15	0.67	1.87	3.6	17	33	24	0.9	9	5	44	0.18	4	10
2014 G	58.57	14.24	4.22	12.98	1.01	1.93	3.21	15	44	28	1.0	14	5	50	0.24	4	10
2014 O	68.02	13.15	2.78	5.28	0.35	1.19	2.7	9	10	22	1.3	4	3	37	0.11	5	6
2014 L	59.84	14.02	2.31	13.41	1.74	1.77	3.61	11	57	37	1.2	16	3	56	0.33	4	6
2014 C	64.5	22.45	1.33	4.15	1.52	0.73	2.14	4	6	39	3.0	3	2	41	0.42	10	4
2014 N	60.82	12.76	4.52	12.9	1.23	2.42	3.08	5	32	32	0.9	10	2	50	0.29	4	11
2014 E	58.3	13.04	3.85	15.51	0.46	1.64	3.25	5	25	23	1.0	8	2	55	0.12	4	10
2014 F	71.6	16.29	2.26	2.06	2.21	0.65	3.01	3	12	35	1.4	4	1	20	0.42	5	4
2014 M	67	15.74	3.09	5.88	1.29	0.85	4.32	4	57	22	1.1	13	1		0.23	4	6

Ishikawa = (MgO+k2O)/(MgO+K2O+Na2O+CaO)*100
ACNK = (Al2O3/102)/(CaO/56)+(Na2O/62)+(K2O/94)
Sericite = K2O/(Na2O+K2O)
Chlorite = (MgO+Fe2O3)/(MgO+Fe2O3)+2*(CaO+Na2O)*100
Spits = Al2O3/Na2O
Add/Dep = MgO+Fe2O3/Na2O+CaO

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Ac

Transaction Number: W9540-187

Personal information collected on this form is obtained under the authority of th
this collection should be directed to the Provincial Manager, Mining Lands, I
Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

52P08NW0007 2.16149 PETAWANGA LAKE

900

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

327

Recorded Holder(s)		Client No.
Noranda Mining and Exploration Inc./Falconbridge Limited		176208/130679
Address		**Telephone No.**
c/o 960 Alloy Drive, Thunder Bay, Ontario P7B 6A4		(807) 623-4339
Mining Division	**Township/Area**	**M or G Plan No.**
Thunder Bay	Petawanga/Kawitos Lakes	G-378, G-287
Dates Work Performed From: January 1, 1994	To: December 31, 1994	

Work Performed (Check One Work Group Only)

	Work Group	Type
X	Geotechnical Survey	Geology and Geochemistry
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

RECEIVED
AUG 21 1995
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs $ 47,790

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Reg Felix (Author)	c/o 960 Alloy Drive, Thunder Bay, Ontario P7B 6A4
J.Harper,C.Galeschuk,M.Stares	c/o 960 Alloy Drive, Thunder Bay, Ontario P7B 6A4
Chemex Labs	Thunder Bay and Vancouver

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date ~~May 2~~/95 July 10 CB	Recorded Holder or Agent (Signature) C Barrett

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying

Cecilia M. Barrett, 960 Alloy Drive, Thunder Bay, Ontario P7B 6A4

Telepone No.	Date	Certified By (Signature)
(807) 623-4339	July 10/95 CB ~~May 2/95~~	C Barrett

For Office Use Only

Vetting

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
47790		C Allan	RECEIVED 20 JUL 95 9 AM 58 THUNDER BAY MINING DIVISION
	Deemed Approval Date: Oct 19/95	Date Approved	
	Date Notice for Amendments Sent		

0241 (03/91)

Work Report# for Applying Reserve	Claim Number (see note 2)	# of Claim Units	Value of Assesment Work Done on this Claim	Value Applied to this Claim	Values Assigned from this Claim	Reserve:Work to be Claimed at a Future Date
	TB 1,122,023	1	724.00			724.00
	TB 1,122,024	1	724.00			724.00
	TB 1,122,027	1	724.00			724.00
	TB 1,138,336	1	724.00			724.00
	TB 1,138,338	1	724.00			724.00
	TB 1,138,339	1	724.00			724.00
	TB 1,142,048	1	724.00			724.00
	TB 1,142,049	1	724.00			724.00
	TB 1,142,050	1	724.00			724.00
	TB 1,142,051	1	724.00			724.00
	TB 1,142,052	1	724.00			724.00
	TB 1,142,057	1	724.00			724.00
	TB 1,142,058	1	724.00			724.00
	TB 1,142,059	1	724.00			724.00
	TB 1,142,060	1	724.00			724.00
	TB 1,142,075	1	724.00			724.00
BIS	TB 1,142,35[illegible]6	1	724.00			724.00
	TB 1,142,353	1	724.00			724.00
	TB 1,142,354	1	724.00			724.00
	TB 1,142,355	1	724.00			724.00
	TB 1,142,357	1	724.00			724.00
	TB 1,142,358	1	724.00			724.00
	TB 1,142,359	1	724.00			724.00
	TB 1,148,726	1	724.00			724.00
	TB 1,148,727	1	724.00			724.00
	TB 1,149,125	1	724.00			724.00
	TB 1,149,126	1	724.00			724.00
	TB 1,149,127	1	724.00			724.00
	TB 1,165,260	1	724.00			724.00
	TB 1,165,261	1	724.00			724.00
	TB 1,165,262	1	724.00			724.00
	TB 1,165,263	1	724.00			724.00
	TB 1,165,267	1	724.00			724.00
	TB 1,165,270	1	724.00			724.00
	TB 1,165,271	1	724.00			724.00
	TB 1,165,273	1	724.00			724.00
	TB 1,165,274	1	724.00			724.00
	TB 1,165,276	1	724.00			724.00
	TB 1,165,278	1	724.00			724.00
	TB 1,165,280	1	730.00			730.00
	TB 1,165,281	1	724.00			724.00
	TB 1,165,282	1	724.00			724.00
	TB 1,165,283	1	724.00			724.00
	TB 1,165,284	1	724.00			724.00
	TB 1,165,285	1	724.00			724.00
	TB 1,165,286	1	724.00			724.00
	TB 1,165,287	1	724.00			724.00
	TB 1,165,291	1	724.00			724.00

2.16149

Work Report# for Applying Reserve	Claim Number (see note 2)	# of Claim Units	Value of Assesment Work Done on this Claim	Value Applied to this Claim	Values Assigned from this Claim	Reserve:Work to be Claimed at a Future Date
	TB 1,165,294	1	724.00			724.00
	TB 1,165,295	1	724.00			724.00
	TB 1,165,296	1	724.00			724.00
	TB 1,165,297	1	724.00			724.00
	TB 1,165,298	1	724.00			724.00
	TB 1,165,299	1	724.00			724.00
	TB 1,165,856	1	724.00			724.00
	TB 1,165,857	1	724.00			724.00
	TB 1,165,858	1	724.00			724.00
	TB 1,165,859	1	724.00			724.00
	TB 1,165,860	1	724.00			724.00
	TB 1,165,861	1	724.00			724.00
	TB 1,165,862	1	724.00			724.00
	TB 1,165,865	1	724.00			724.00
	TB 1,173,499		724.00			724.00
	TB 1,173,500		724.00			724.00
	TB 1,173,501		724.00			724.00
	TB 1,173,502		724.00			724.00
	66		47,790.00	0.00	0.00	47,790.00
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

Credits you are claiming in this report may be cut back. In order to minimize the adverse affects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (x) one of the following:

1. [ ] Credits are to be cut back starting with the claims listed last, working backwards.
2. [ ] Credits are to be cut back equally over all claims contained in this report of work.
3. [ ] Credits are to be cut back as priorized on the attatched appendix.
4. [x] Credits are to be cut back starting with the claims that have reserve credits.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option payments, memorandum of agreements, etc., with respect to the mining claims.
Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date

C Bamber July 19/95

2.10123

Details for Work Report # 327pool

Work Report# for Applying Reserve	Claim Number (see note 2)	# of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Values Assigned from this Claim	Reserve:Work to be Claimed at a Future Date
	TB 1,122,025	1	724.00			724.00
	TB 1,122,026	1	724.00			724.00
	TB 1,122,027	1	724.00			724.00
	TB 1,138,336	1	724.00			724.00
	TB 1,138,338	1	724.00			724.00
	TB 1,138,339	1	724.00			724.00
	TB 1,142,048	1	724.00			724.00
	TB 1,142,049	1	724.00			724.00
	TB 1,142,050	1	724.00			724.00
	TB 1,142,051	1	724.00			724.00
	TB 1,142,052	1	724.00			724.00
	TB 1,142,057	1	724.00			724.00
	TB 1,142,058	1	724.00			724.00
	TB 1,142,059	1	724.00			724.00
	TB 1,142,060	1	724.00			724.00
	TB 1,142,075	1	724.00			724.00
3142586	~~TB 1,142,352~~	1	724.00			724.00
	TB 1,142,353	1	724.00			724.00
	TB 1,142,354	1	724.00			724.00
	TB 1,142,355	1	724.00			724.00
	TB 1,142,357	1	724.00			724.00
	TB 1,142,358	1	724.00			724.00
	TB 1,142,359	1	724.00			724.00
	TB 1,148,726	1	724.00			724.00
	TB 1,148,727	1	724.00			724.00
	TB 1,149,125	1	724.00			724.00
	TB 1,149,126	1	724.00			724.00
	TB 1,149,127	1	724.00			724.00
	TB 1,165,260	1	724.00			724.00
	TB 1,165,261	1	724.00			724.00
	TB 1,165,262	1	724.00			724.00
	TB 1,165,263	1	724.00			724.00
	TB 1,165,267	1	724.00			724.00
	TB 1,165,270	1	724.00			724.00
	TB 1,165,271	1	724.00			724.00
	TB 1,165,273	1	724.00			724.00
	TB 1,165,274	1	724.00			724.00
	TB 1,165,276	1	724.00			724.00
	TB 1,165,278	1	724.00			724.00
	TB 1,165,280	1	730.00			730.00
	TB 1,165,281	1	724.00			724.00
	TB 1,165,282	1	724.00			724.00
	TB 1,165,283	1	724.00			724.00
	TB 1,165,284	1	724.00			724.00
	TB 1,165,285	1	724.00			724.00
	TB 1,165,286	1	724.00			724.00
	TB 1,165,287	1	724.00			724.00
	TB 1,165,291	1	724.00			724.00

Ministry of Northern Development and Mines

Ontario

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
W9540-187

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

327

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	17,400	
	Field Supervision Supervision sur le terrain	2,500	30,900
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type Chemex-Assaying	825	
			825
Supplies Used Fournitures utilisées	Type Fuel,Flagging,etc.	4,500	
			4,500
Equipment Rental Location de matériel	Type Boat	3,600	
			3,600
	Total Direct Costs Total des coûts directs		39,825

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Air	13,200	
	Ground	600	
	Freight	700	
			14,500
Food and Lodging Nourriture et hébergement		4,800	4,800
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		19,300
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (ne excédant pas 20 % des coûts directs)			7,965
Total Value of Assessment Credit (Total of Direct and Allowable indirect costs)	**Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles**		47,790

RECEIVED
AUG 21 1995
MINING LANDS SECTION

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

Lands Administrator

that as _____ I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
	July 20 ~~May~~ 2/95

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Geoscience Approvals Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

Our File: 2.16149
Transaction #W9540.00187

September 27, 1995

Mining Recorder
Ministry of Northern Development & Mines
435 James Street South
Thunder Bay, Ontario
P7E 6E3

Dear Mr. Weirmeir:

SUBJECT: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS 1122023 ET AL. IN PETAWANGA LAKE AREA

Assessment work credits have been approved as outlined on the original report of work forms for this submission. The credits have been approved under Section 12, Geology, Mining Act Regulations.

The approval date is **September 25, 1995.** Please indicate this approval on the claim record sheets.

If you have any questions regarding this correspondence, please contact Bruce Gates at (705) 670-5856.

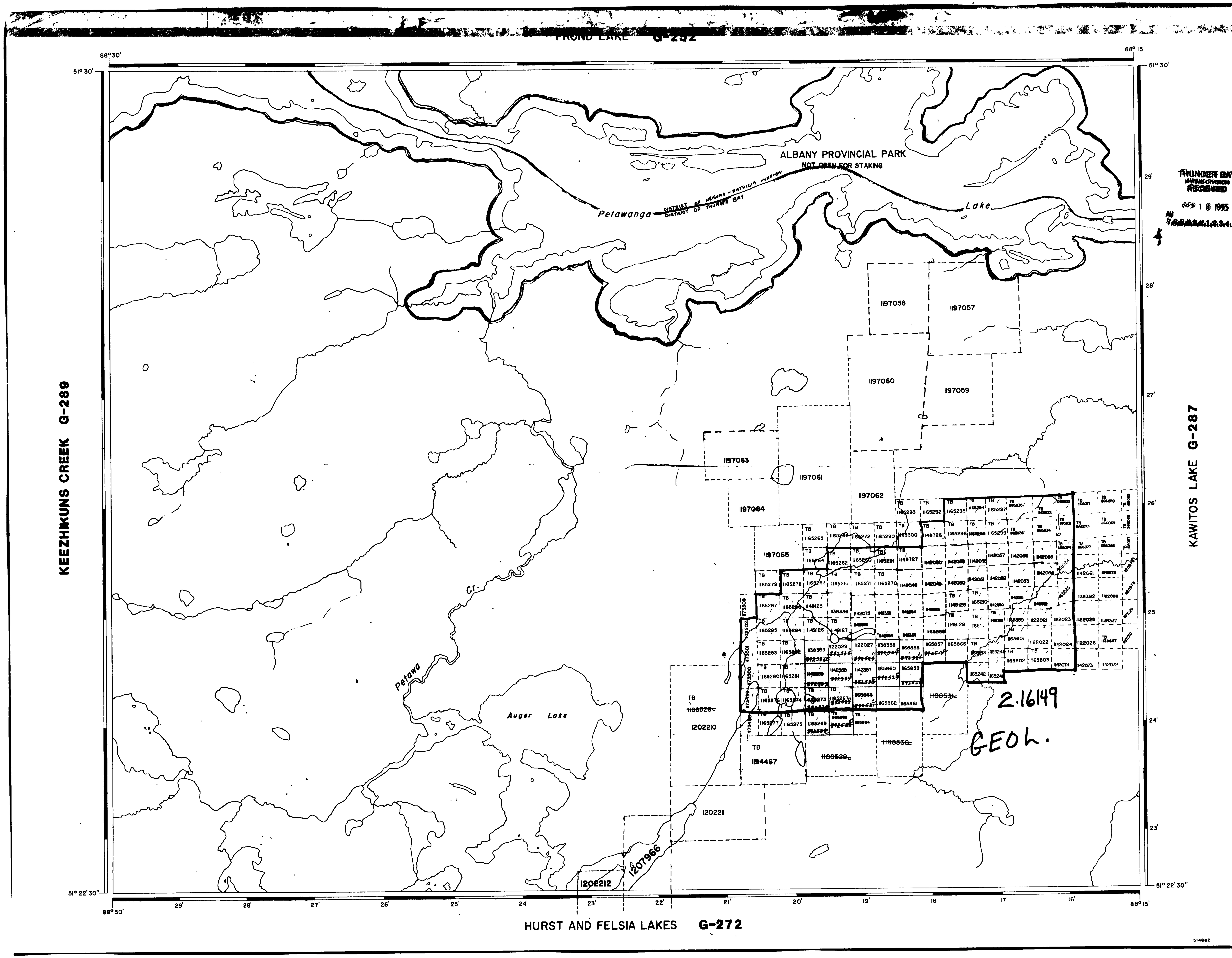
Yours sincerely,

Mark Hall
Acting Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

BIG/

cc: Resident Geologist
Thunder Bay, Ontario

Assessment Files Library
Sudbury, Ontario



THUNDER BAY MINING DIVISION RECEIVED SEP 18 1995

REFERENCES

NOT OPEN FOR STAKING (PROV. PARK)

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC
LOTS, MINING CLAIMS, PARCELS, ETC
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON-PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◐
" , MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	◧
" , MINING RIGHTS ONLY	□
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	⊗
CANCELLED	⊘
SAND & GRAVEL	◎
LAND USE PERMITS FOR COMMERCIAL TOURIST OUTPOST CAMPS	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 (1 KM) 2000 (2 KM)

AREA

PETAWANGA LAKE

M.N.R. ADMINISTRATIVE DISTRICT

GERALDTON

MINING DIVISION

THUNDER BAY

LAND TITLES / REGISTRY DIVISION

THUNDER BAY / KENORA PATRICIA PORTION

Ministry of Natural Resources
Ontario

Land Management Branch

SEPT 14, 1981

Date JULY 14, 1981

Number

G-378

514882

RECEIVED SEP 20 1995 MINING LANDS BRANCH

52P08NW0007 2.16149 PETAWANGA LAKE

200

DISCOVERY LAKE PROJECT 322

PETAWANGA PROJECT 327

WESTERN VOLCANIC GROUP

CENTRAL FELSIC GROUP

CORMAC VOLCANIC GROUP

DISCO LAKE

SOUTH MAIN

RYLEY, CORMAC

GOLDFIELDS

NYLA

NUZ

CAMP

CORE RACKS

TRAIL

PO-1

PO-2

PO-3 4.7%Zn / 0.28m; 4.2%Zn / 3m

PO-4

PO-5 1.13%Cu, 83g/t Ag / 2.17m; 1.17%Cu, 12.8g/t Ag / 1.3m

PO-6 2.09%Cu, 32g/t Ag, 2g/t Au / 1.27m

PO-7 15.75%Cu, 0.62%Zn, 77g/t Ag / 0.31m

PO-8 2.4%Cu, 83g/t Ag, 2g/t Au / 1.27m

PO-9

1 MAFIC METAVOLCANIC ROCKS
– Dark, massive to schistose, hornblende–rich, locally pillowed intercalated with breccias, ±agglomerates.

4 MIXED METASEDIMENTARY ROCKS AND FELSIC METAVOLCANIC ROCKS
– Interlayered quartzites, quartz–feldspar biotite schist with local tuffaceous components (quartz and feldspar crystal clasts), local "lahar" deposits with garnet–chlorite brickwork alteration and finely laminated argillites.

4a CHLORITE–STAUROLITE SCHIST

5 METAMORPHOSED IRON FORMATION
– Includes quartz magnetite–garnet schist
± sulphides facies (quartz rich with dissimenated pyrrhotite–pyrite–graphite).

- MINERAL OCCURRENCE
- DIAMOND DRILL HOLE
- TRENCH
- SHEAR ZONE
- OUTCROP
- GEOLOGICAL CONTACT
- SAMPLE SITE
- 2018A SAMPLE NUMBER
- BEDDING ; TOPS UNKNOWN
- BEDDING ; TOPS KNOWN
- FOLIATION
- JOINTING
- PILLOW ; TOPS KNOWN
- DYKE
- SWAMP

LOCATION MAP 1:100,000

2.16149

MAP 7

Scale 1:5,000

REVISED	GEOLOGY MAP
	PROJECT PETAWANGA
PROJ. No. 327	Surveyed by: R.FELIX/J.HARPER Date: AUGUST 1994
N.T.S. 52P/8	Drawn by: ACAD/E.LANDRY Scale: 1:5,000
DWG. No.	noranda
	NORANDA EXPLORATION CO. LTD.–THUNDER BAY, ONTARIO WEST PRECAMBRIAN DISTRICT