FROM G-21-ML

MINOREX

INTER-OFFICE

From: Keith Peden
Exploration Geologist - Red Lake

Date: 22 Aug. 1981

To: Denis Bray
Senior Exploration Geologist

NORTH PARA CREEK - PARA LAKE CLAIM GROUP

INTRODUCTION

The North Para Creek - Para Lake claim block consists of 10 unpatented claims in Fairlie Township (Fig. 1). They are numbered KRL 560830 to 560839 inclusive and were staked on behalf of Minorex Limited in April 1981.

A geological survey was carried out by the author between June 20 and August 5, 1981. Concurrently, Mr. C. Morgan and Mr. B. Foster conducted a VLF electromagnetic survey.A cut grid with lines spaced 400 feet apart was used for control. Geophysical readings were taken at 50 foot intervals.

Access to the property was gained by a diamond drill road leading from the shore of Red Lake to the Altura shaft, immediately south of the property. Exposure is average to poor amongst an immature, thick spruce forest cover.

STRATIGRAPHY

The property is underlain by a steeply dipping, bedded sequence of metasedimentary rocks, with the exception of the granitoid plutonic rocks in the extreme northwest corner of the group. Bedding strike is from 075 in the west to 050 in the east. Facing direction was not determined on the property. Regional government mapping infers an anticline passing through the south edge of the map area making tops to the north.

The stratigraphy from south to north is:

Argillite
Quartz Porphyry
Greywacke/Conglomerate
Granite

A single outcrop of iron formation and several small gabbro dikes were also seen.

The argillite and the quartz porphyry are stratigraphically con-

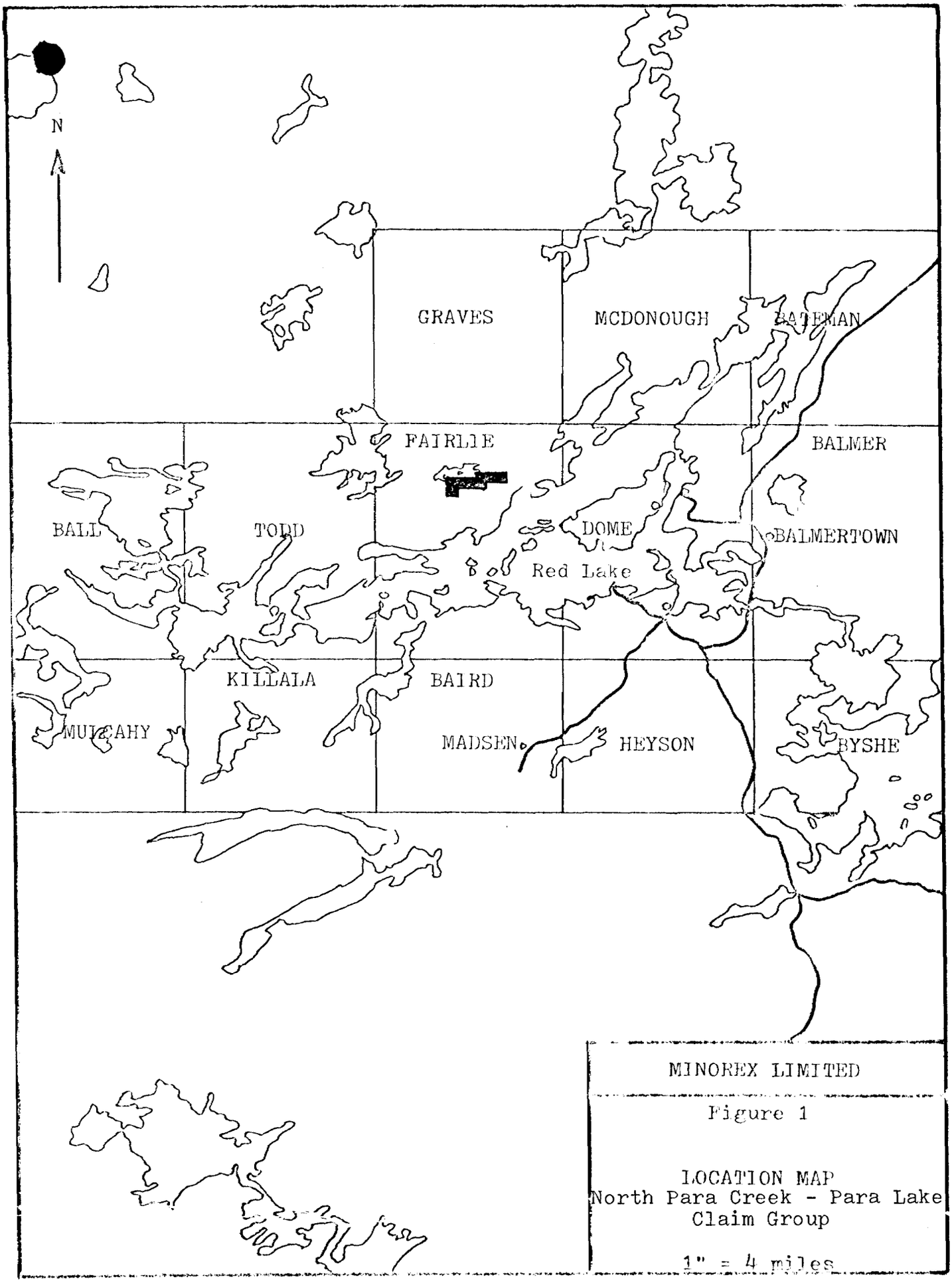

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Figure 1

LOCATION MAP
North Para Creek - Para Lake
Claim Group

1" = 4 miles

tir[redacted]us to the vicinity of the Altura shaft. One outcrop of quartz porphyry in the northeast corner of the group does not fit into the assumed stratigraphy.

The sandstone-greywacke-conglomerate cannot be separated into units without extremely detailed mapping. They are likely lateral facies equivalents.

GEOLOGY

Argillite

This unit is the same as near the shaft site on the Altura option. It is very fine grained, dark grey and thinly bedded up to 2 cm. Bedding strikes 055 degrees true.

Quartz Porphyry

The quartz porphyry is sedimentary in origin and is also a continuation of the quartz porphyry near the Altura shaft. It is laght grey,medium to fine grained and strongly foliated at 050. A layering effect (schlieren) is visible on the weathered surface. Blue quartz eyes, less than 1.5 mm in size, form up to 5% of the rock. The matrix is sericitic and homogenous.

Greywacke

Underlying a majority of the claim group, the greywacke is grey to grey-green in colour and weathers buff to white. The rock is hard,medium to coarse grained and moderately siliceous. Outcrops are massive to moderately foliated and have a granular texture. Although generally homogenous, the greywacke displays "beds" of vaguely conglomeratic material. It also grades into distinct conglomerate units.

The matrix is weakly feldspar porphyritic with subhedral plagioclase up to 4 mm in size. Volume of the feldspars varied from 0 to 60% of the rock.

Biotite and chlorite porphyroblasts, up to 1.5 mm, appeared locally and were usually oriented parallel to foliation.

Epidote veining and a "grid" veining of quartz were located primarily on claims 560836 and 560837. This veining has a thickness of less than 1 mm. Trace quartz veining, from 2mm up to 1 cm, were also more prominent in the area. These quartz veins and some lamprophyre dikes are truncated and offset by bedding plane shear. Ptygmatic quartz-chlorite

epidote veins infrequently appear, as well.

Magnetite occurs detritally in the matrix, on occasion. One example of a pure magnetite stringer is 1.5 cm wide, subparallel to bedding and pinches out over 50 cm.

Trace carbonate alteration is common but a strong alteration that occurs in patches was also noted. This carbonatization did not define a zone or horizon.

Outcrops of the greywacke carry varying amounts of euhedral pyrite from nil up to 2%.

Dikes of gabbro, lamprophyre and granitoid plutonic material are found primarily in the northern fringes and central area of the property.

Adjacent to the northwest corner of the Altura property are rocks with a distinctly mafic appearance. This was termed mafic porphyry on the Altura property, however it does not seem to have any stratigraphic continuity on the North Para claim group. It is similar in general appearance to the greywacke, being fine to medium grained, granular grey-green, not carbonate altered and weakly to moderately foliated. It can also be weakly feldspar porphyritic. The rock is green on the weathered surface, slightly softer but still fairly silicic. More epidote-chlorite veining, biotite-amphibole porphyroblasts and a chloritic matrix give the mafic appearance. The porphyroblasts are up to 2 mm in size and occupy up to 20% of the rock. Quartz veining up to 2 mm is common and all samples taken from the property are associated with or are close to this material. Some matrix magnetite was detected and a red weathering rind, reminiscent of siderite-ankerite was noted. The chlorite alteration decreases towards the fringes of the zone and on one occasion grades into a greywacke-conglomerate unit with 70% mafic looking matrix and 30% intermediate to felsic volcanic fragments.

Conglomerate

This unit has a matrix of greywacke as described above. The fragments are polymict, mainly argillite, feldspar porphyritic greywacke granitoid plutonic, iron formation and intermediate to felsic volcanics. They are generally more granular than the matrix.Fragments comprise up to 70% of the rock but are matrix supported. Size of the fragments is les than 20 cm and they are commonly subangular to subround. The fragments are most frequently seen subparallel to foliation, particularly the prismatic variety, however examples with no preferred orientation

are evidenced.

Granite

These rocks are part of the granitic terrain extending north of the Red Lake greenstone belt. It is pink, coarse grained, anhedral granular and massive

METAMORPHISM AND STRUCTURE

Metamorphic grade is greenschist facies. Most primary textures are preserved.

Bedding plane shear, possibly caused by folding action, has obliterated all contact sedimentary stuctures.

The presence of an anticline passing through the southern edge of the property has not been confirmed.

Stuctural analysis was not attempted on the group after the failure of such analysis to provide significant results on the adjoining Altura property.

No major faults are suspected on the property.

MINERALIZATION AND ALTERATION

Only 7 samples were taken on the property, with the best assay to date giving 0.08 oz. Au per ton. Quartz veining of interesting size and mineralization are found only on claims 560835, 560836 and 560837. Associated with or in close proximity to the veins is the chlorite alteration described above. A listing of samples with descriptions is given in Table 1.

There is no mineralogical alteration that can be defined in terms of stratigraphy or structure.

GEOPHYSICS: VLF Electromagnetic Survey

This survey utilized a Crone Radem receiver. A total of 682 readings were taken on 34,100 feet of cut lines. The data was Fraser filtered to assist in interpretation. Notes on operation of the unit and Fraser filtering are included in Appendix 1.

Most of the anomalous readings can be attributed to conductive overburden.

On the North Para Creek sheet, there is only one unexplained anomaly. It is a single point anomaly on L8E at the south claim line. The

size, intensity and lack of continuity suggest this to be spurious.

On the Para Lake sheet, 3 similar insignificant anomalies are found; on L40W at the lakeshore; on L52W at TL50N; and on L72W at 45+00N.

The only notable anomaly is located immediately south of claim 560832 and strikes in excess of 1500 feet. This can not be related to geology or quartz veining.

CONCLUSIONS

Quartz veining is sparse on the property. Detected mineralization to date has been associated with the chlorite alteration, found on claims 560835, 560836 and 560837. As with the Altura option, the genesis of the quartz veining has not been determined making new target prediction impossible without more work. Geophysics has not isolated any new targets on the claim group.

RECOMMENDATIONS

Claims 560835, 560836 and 560837 hold the only potential for gold mineralization within the group. No further work is recommended, however these claims should be held pending any regional developments. The remainder of the claim group should be allowed to lapse.

Keith Reeder.

APPENDIX " 1 "

OPERATION OF THE RADEM VLF-EM RECEIVER

The VLF Communication Broadcast stations are positioned throughout the world. At present,17 of these stations broadcast continuously except for weekly maintenance periods. The broadcast frequency is between 15 and 24 Khz. Using these higher than normal EM frequencies the instrument is capable of detecting disseminated sulphide deposits and small sulphide bodies. It accurately isolates banded conductors and operates through areas of high hydro noise. The method is capable of deep penetration but due to the high frequency used its penetration is limited in areas of clay and conductive overburden.

A station should be selected that is in the same direction as the regional strike and must be maintained throughout the entire survey.

The field measurement taken is the dip angle of the resultant field. This is the angle of inclination, measured from the horizontal in degrees, of the direction of the resultant VLF field. The VLF field is normally horizontal (0 degrees). The dip angle measurement is independent of the strength of the field and the gain setting of the RADEM receiver. When plotted on a profile the dip angles usually form a cross-over pattern above the conductor as with the standard vertical loop EM method. A filtering method devised by D.C. Fraser(Geophysics, Vol. 34, No. 6,P. 958-967) manipulates the data from profiles to a set of contourable values. This system has been applied to this survey.

To measure the dip angle, the RADEM is first held with the instrument face horizontal and rotated until a null is obtained (visual minimum on the field strength meter and an audio null). This aligns the RADEM with the direction of the VLF field. The RADEM is the held vertically and tilted from right to left until another null is obtained. The instrument is then held steady in the null position and the dip angle read from the inclinometer. Note that the arrow in the Crone logo points towards the conductor, that is, if the arrow points north the dip is read as say 10 degrees north. In making the dip angle measurement, the Normal-Keyed switch must be in the normal position.

Ontario

Ministry of Nat

GEOPHYSICAL – GEOLOC
TECHNICAL DAT

52N04SW0134 2.4125 FAIRLIE TWP

RECEIV
SEP 1 1 198
MINING LANDS SI 900

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Linecutting, VLF E.M., Geological
Township or Area Fairlie Township
Claim Holder(s) Minorex Limited
P.O. Box 1111, Red Lake, Ont. P0V2M0
Survey Company same/Independent Exploration Ltd.
Author of Report Keith Peden
Address of Author P.O. Box 1111, Red Lake, Ont. P0V2M0
Covering Dates of Survey 24Mar.-1Apr.'81&20June-5Aug.'81 (linecutting to office)
Total Miles of Line Cut 34,100 feet or 6.5 miles

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	40
–Magnetometer	
–Radiometric	
–Other	
Geological	20
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____ (enter days per claim)

DATE: 5 Aug. 1981 SIGNATURE: Keith Peden. Author of Report or Agent

Res. Geol. _____ Qualifications 2,4080

Previous Surveys

File No.	Type	Date	Claim Holder

F.D

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)	Geol	EM
KRL	560831	0	0
KRL	560832	✓	✓
KRL	560833	✓	✓
KRL	560834	✓	1/4
KRL	560835	✓	1/4
KRL	560836	✓	1/2
KRL	560837	✓	✓
KRL	560838	✓	1/4
KRL	560839	✓	✓
KRL	560830	✓	1/4

E M

9X40 = 360 ÷ 10½ = 34 days

If space insufficient, attach list

TOTAL CLAIMS 10

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 341 Number of Readings 682

Station interval 100 feet Readings @ 50 feet Line spacing 400 feet

Profile scale ---

Contour interval 20 units

MAGNETIC

Instrument N/A

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument Crone Radem VLF Receiver

Coil configuration ---

Coil separation ---

Accuracy +/- ½ degree

Method: --- ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency Seattle, Washington (specify V.L.F. station)

Parameters measured Dip angle measured from the horizontal in degrees of the direction of the resultant VLF field

GRAVITY

Instrument N/A

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument N/A

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

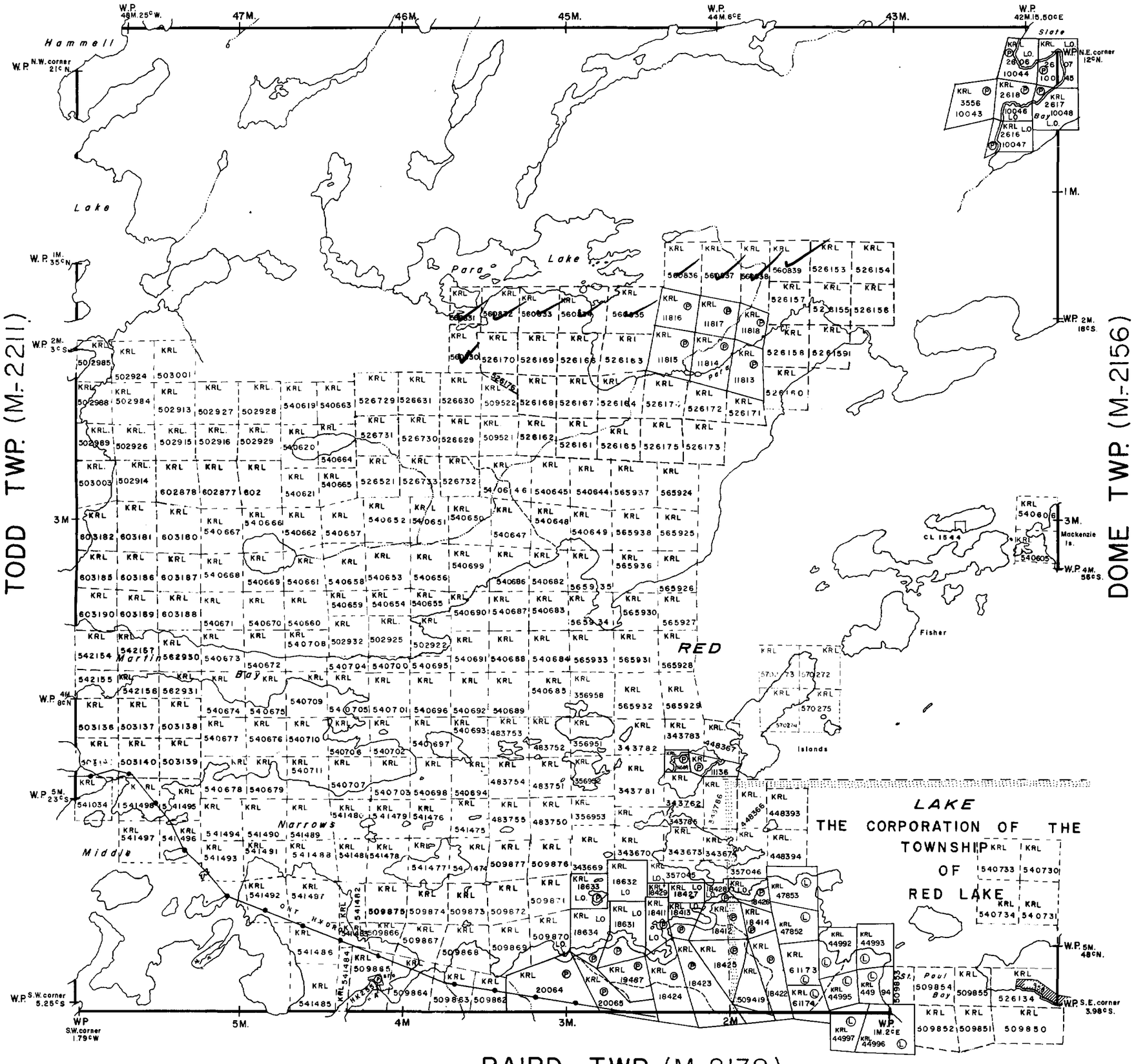
Power

Electrode array

Electrode spacing

Type of electrode

GRAVES TWP. (M-2166)



BAIRD TWP. (M-2138)

THE TOWNSHIP OF

FAIRLIE

DISTRICT OF
KENORA
(PATRICIA PORTION)

RED LAKE
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

NOTES

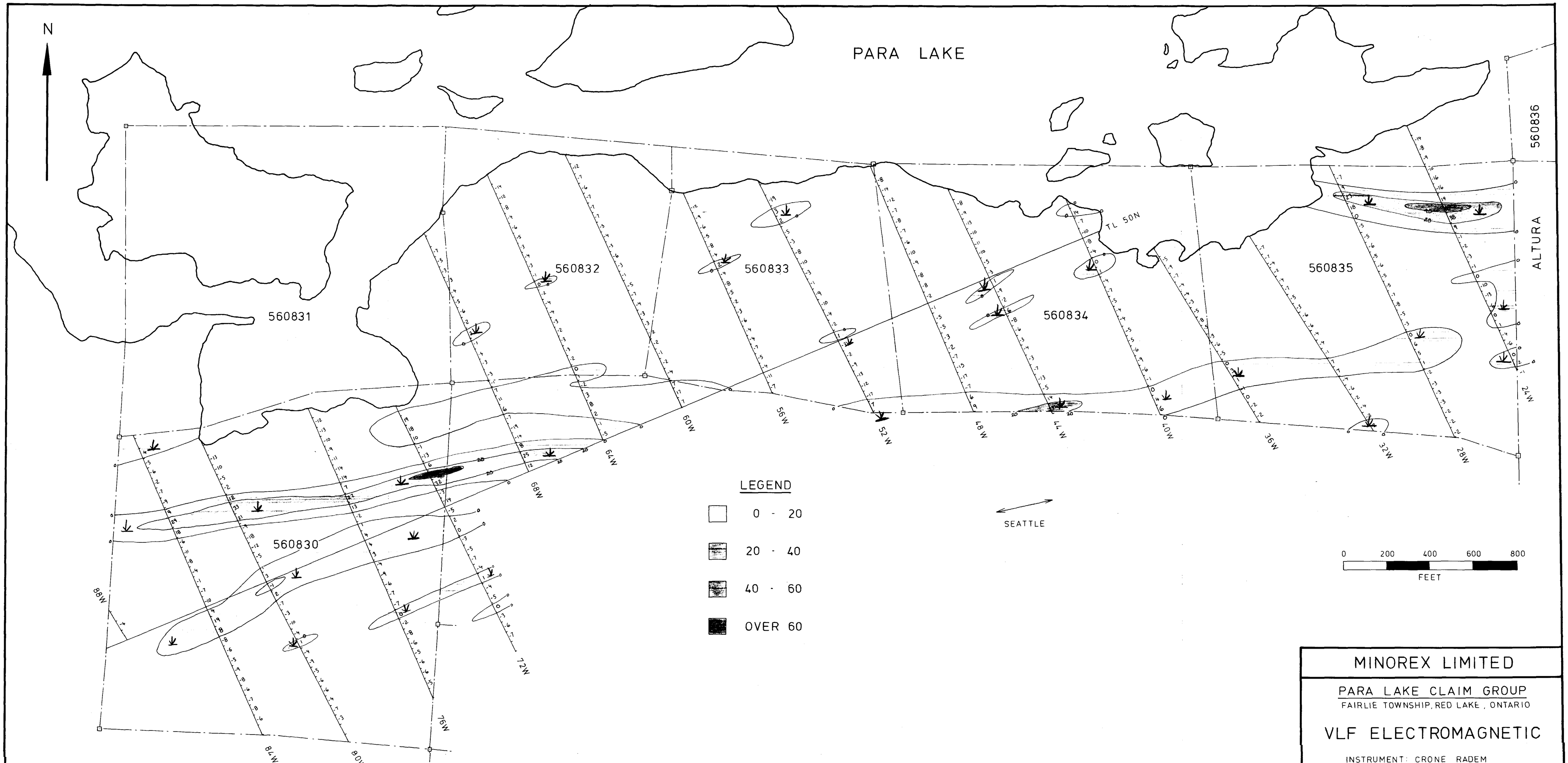
400' surface rights reservation along the shores of all lakes and rivers

DATE OF ISSUE
SEP 25 1981
Ministry of Natural Resources
TORONTO

24125

PLAN NO - M·2158

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



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PARA LAKE CLAIM GROUP

FAIRLIE TOWNSHIP, RED LAKE, ONTARIO

VLF ELECTROMAGNETIC

INSTRUMENT: CRONE RADEM
READINGS : FRASER FILTERED
OPERATOR : B. FOSTER

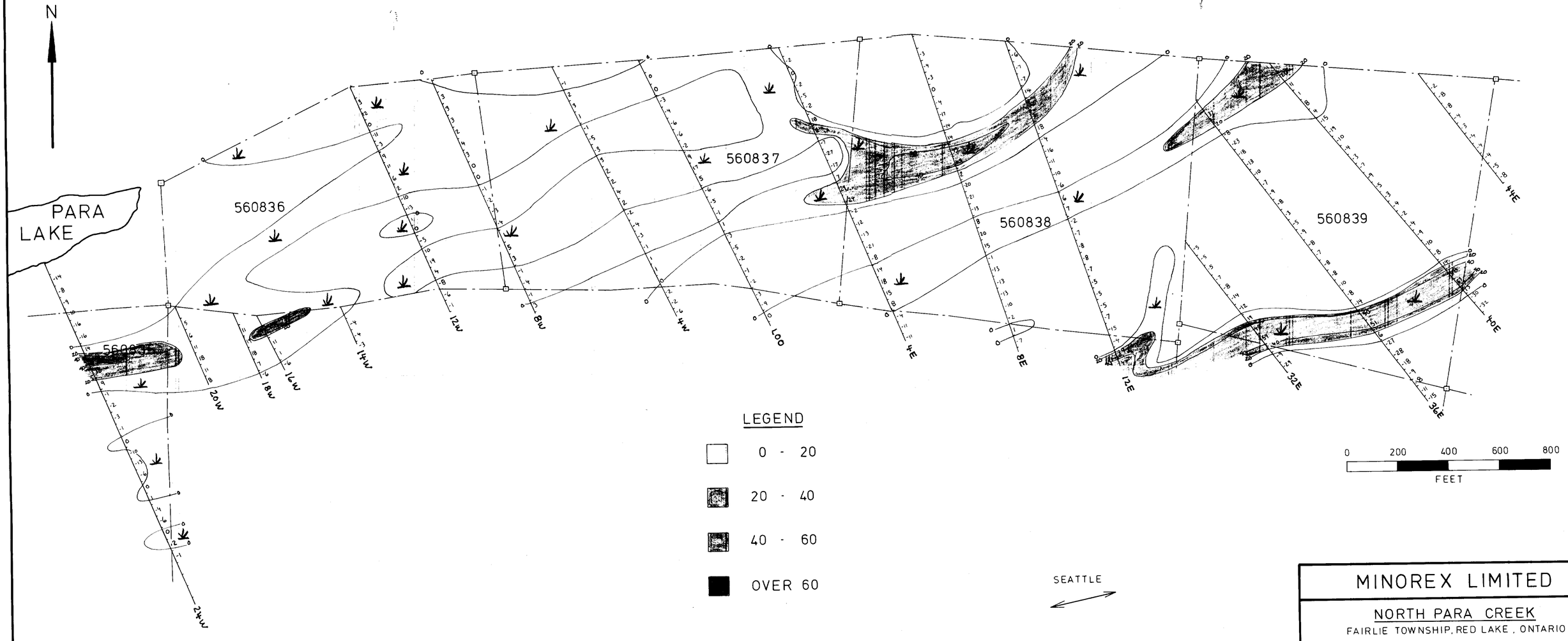
Keith Peden.

K.P. AUGUST 1981

1" = 200'

210

2.4125



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NORTH PARA CREEK

FAIRLIE TOWNSHIP, RED LAKE, ONTARIO

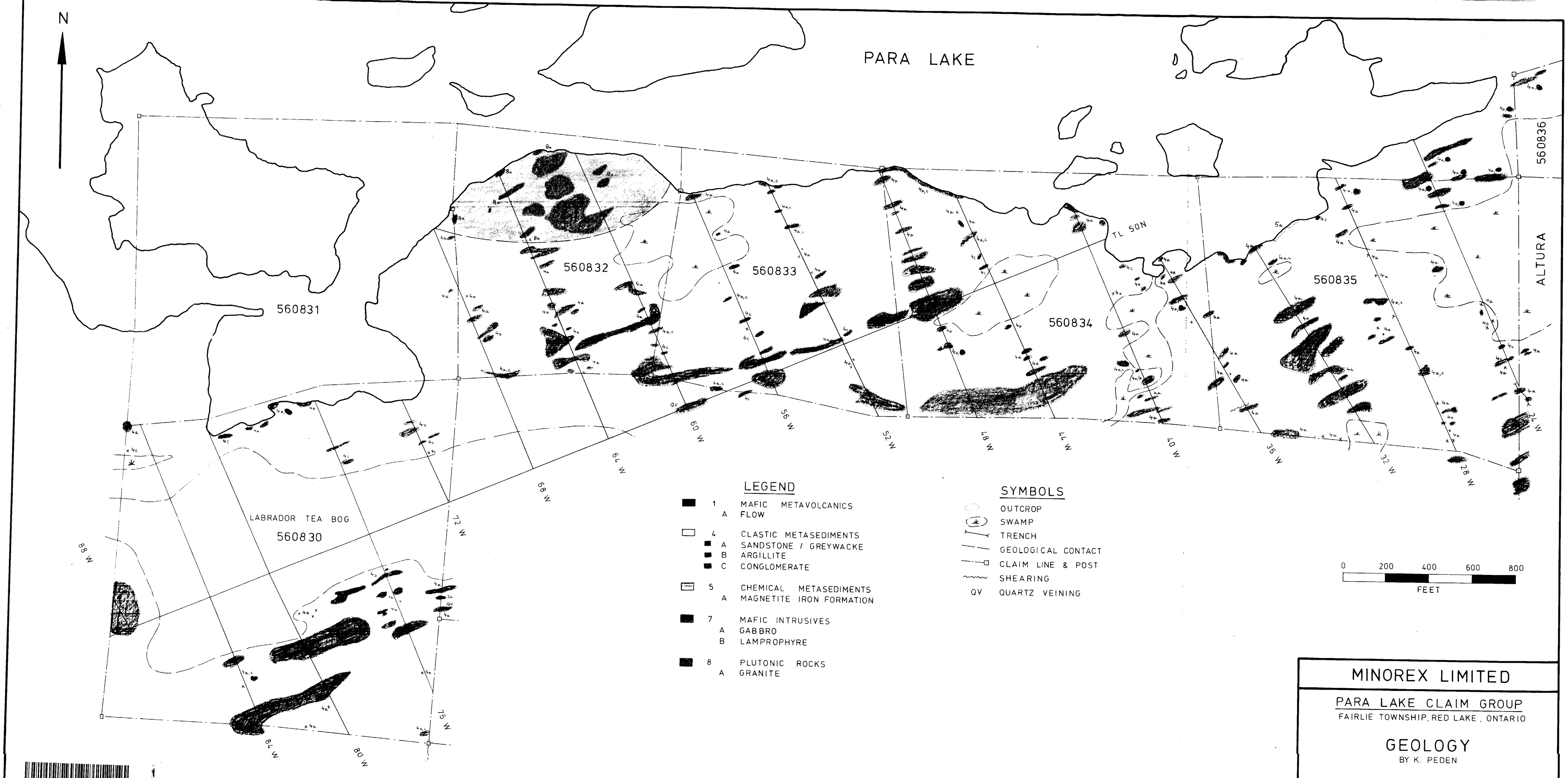
VLF ELECTROMAGNETIC

INSTRUMENT : CRONE RADEM
READINGS : FRASER FILTERED
OPERATOR : C. MORGAN

Keith Peden. 2412 S.

KP AUGUST 1981 1"=200'

220



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PARA LAKE CLAIM GROUP

FAIRLIE TOWNSHIP, RED LAKE, ONTARIO

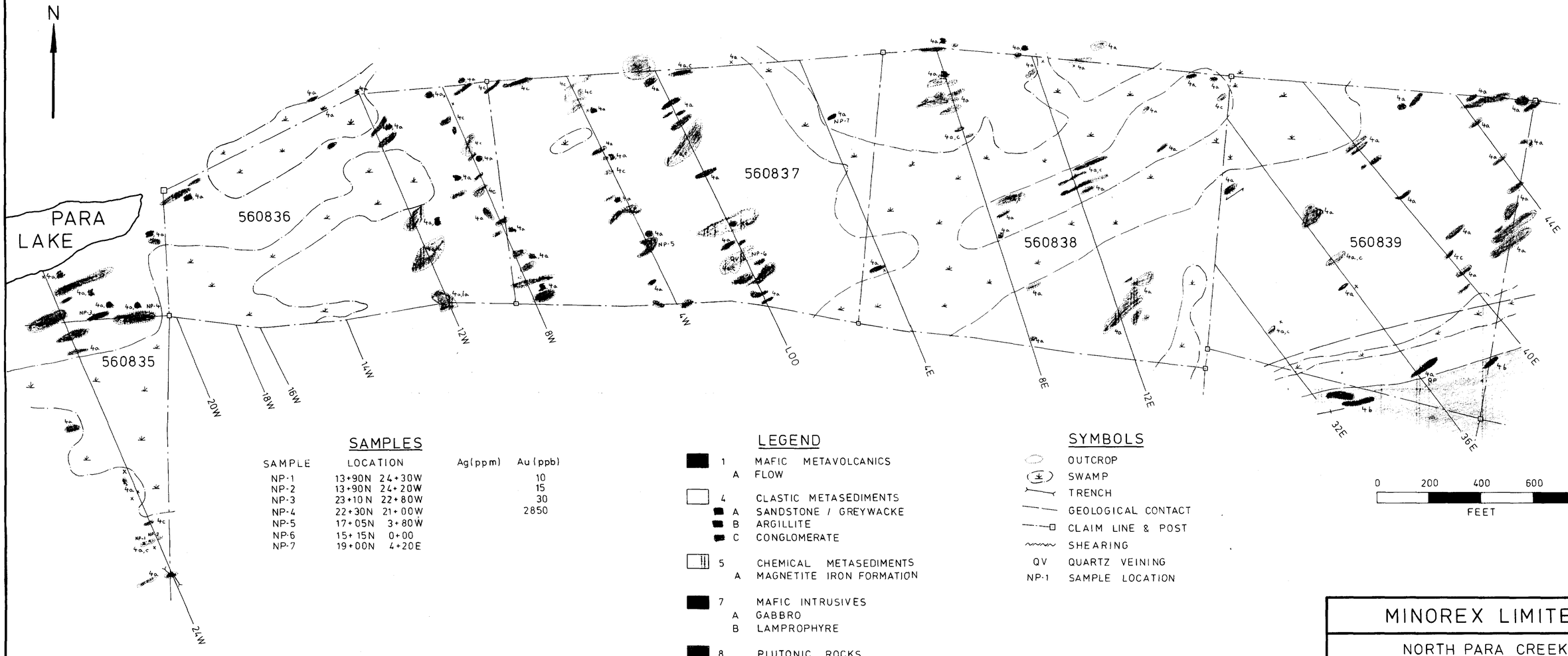
GEOLOGY

BY K. PEDEN

Keith Peden

KP JULY 1981 1"=200'

2.4125



SAMPLES

SAMPLE	LOCATION	Ag(ppm)	Au(ppb)
NP-1	13+90N 24+30W		10
NP-2	13+90N 24+20W		15
NP-3	23+10N 22+80W		30
NP-4	22+30N 21+00W		2850
NP-5	17+05N 3+80W		
NP-6	15+15N 0+00		
NP-7	19+00N 4+20E		

LEGEND

- 1 MAFIC METAVOLCANICS
  - A FLOW
- 4 CLASTIC METASEDIMENTS
  - A SANDSTONE / GREYWACKE
  - B ARGILLITE
  - C CONGLOMERATE
- 5 CHEMICAL METASEDIMENTS
  - A MAGNETITE IRON FORMATION
- 7 MAFIC INTRUSIVES
  - A GABBRO
  - B LAMPROPHYRE
- 8 PLUTONIC ROCKS
  - A GRANITE

SYMBOLS

- OUTCROP
- SWAMP
- TRENCH
- GEOLOGICAL CONTACT
- CLAIM LINE & POST
- SHEARING
- QV QUARTZ VEINING
- NP-1 SAMPLE LOCATION

MINOREX LIMITED

NORTH PARA CREEK

FAIRLIE TOWNSHIP, RED LAKE, ONTARIO

GEOLOGY

BY K. PEDEN

Keith Peden

2.4125

KP | AUGUST 1981 | 1"=200'

240