



52F16NE8244 2.3756 KABIK LAKE

010
CO LTD

2.3756

EXPLORATION

EASTERN DISTRICT

TAK PROPERTY

YEAR-END REPORT - 1980

JANUARY, 1981

J.S. OLVER

1. SUMMARY

The Tak property is a felsic quartz-feldspar porphyry surrounded by mafic metavolcanics. Gold mineralization occurs associated with quartz veining and intensely altered porphyry. Best values are 3.6 oz/Ton Au found in old trenches on the claims optioned from Little Long Lac Mines Ltd. An I.P. survey and diamond drilling are recommended.

2. INTRODUCTION

A. Location

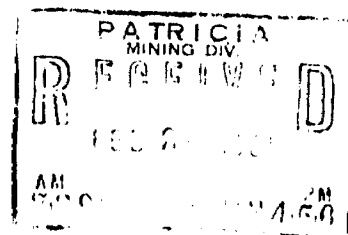
Lat. : 49°58'	Province : Ontario
Long. : 92°04'	Township : Pickerel
NTS. : 52-F-16	Mining District : Kenora

The Tak property is located at the east end of the peninsula separating Minnitak Lake from Pickerel Arm. It lies 20km SW of Sioux Lookout and 275km NW of Thunder Bay. Access is by boat from the tourist camps located 5km west of the property on the north shore of Pickerel Arm.

B. Ownership

The property is in two sections consisting of 32 unpatented claims owned 100% by Cominco, and 6 patented mining leases optioned from Little Long Lac Mines Ltd.

<u>Cominco Claims</u>	<u>Total</u>	<u>Work Due*</u>
PA551444	80	Jan 10, 1983
551445	80	"
551446	80	"
551447	80	"
551448	80	"
551449	80	"
551450	80	"
551451	80	"
551452	80	"
551453	80	"
551454	80	"
551455	80	"
551456	80	"
551457	80	"
551458	80	"
551459	80	"
551460	80	"
551461	80	"
551462	80	"
551463	80	"
551464	80	"
551465	80	"
551466	70	"



<u>Cominco Claims</u>	<u>Total</u>	<u>Work Due:</u>
PA551467	60	Jan 10, 1983
551468	60	"
551469	60	"
551470	60	"
551471	60	"
551472	60	"
551473	40	Jan 10, 1982
551474	60	Jan 10, 1983
551475	60	"

Little Long Lac Option

This option covers 6 patented mining leases numbered KRL 24476, KRL 23915, KRL 23916, KRL 23939, KRL 23940, and KRL 23941.

Under the proposed option agreement Cominco must spend on the optioned claims:

- a) \$10,000 before December 30, 1981
- b) \$140,000 before December 31, 1985.

C. Objective

Rece sampling in 1978 located anomalous Au values in rocks from the quartz-feldspar porphyry stock which occurs across most of the property. This work was confirmed by 1979 sampling. Of 76 samples collected, 7 contained 50 ppb Au or more with a maximum of 3600 ppb Au (0.1 oz/T Au). The 1980 program included claim staking, linecutting, geological mapping, humus sampling and a magnetometer survey.

D. Previous Work

There is no assessment record of work performed on the six patented claims although extensive trenching was carried out during the 1940's. The area to the west of these patented claims was surveyed by I.P., magnetometer and diamond drilled 13 holes (5600') by Dome in 1971 for porphyry Cu-Mo mineralization. Copper values up to 0.6% over 10 feet were reported, with wide intervals of lower-grade material (e.g. 300 ft. x .198% Cu).

3. METHOD OF EXPLORATION

A. Linecutting

Metric grid with 100m line spacing and 25m picket interval.

B. Geology

Entire grid mapped at 1:4000.

C. Geochemistry

- a) All outcrops sampled.
- b) All trenches chip sampled plus best mineralized grab sample.
- c) Humus samples taken every 50m over Cominco claims and 25m over optioned claims.

D. Geophysics

Scintrex MP-2 magnetometer survey over ground east of line 10W (to outline porphyry-greenstone boundary).

4. GEOLOGY

A. Regional Geology

F.J. Johnston reports in ODM Geological Report 75 that the area is made up of alternating belts of Precambrian metavolcanics and metasediments intruded by felsic porphyries. The metavolcanics are intermediate to mafic flows, tuffs and some pyroclastics. The metasediments are greywackes and slates. The contact relations of the metavolcanics and metasediments vary. In places they are marked by faults and elsewhere are gradational. The metavolcanics are intruded by a large 4km x 2km quartz-feldspar porphyry.

B. Local Geology

Introduction

Local geology is predominated by a 2km x 4km oval shaped quartz feldspar porphyry which grades locally and on the southern margin to a feldspar-quartz porphyry. This porphyry intrudes mafic metavolcanic flows and tuffs. A conglomerate composed of detritus from the porphyry separates the north-east flank of the porphyry from the metavolcanics. Greywackes, cherts and argillites are exposed in the north central portion of the property. Quartz veins from 10-100cm in width and the porphyry and to a minor extent the mafic metavolcanics. These veins and their surrounding host rocks carry gold values up to 1 oz/Ton Au.

C. Rock Units

Mafic Metavolcanics

This unit consists of massive and pillowed flows, tuffs and dykes. The flows are fine to medium grained, medium to dark green in colour, and mostly massive. Pillow and flow textures can be seen in places. These rocks are rich in epidote, are often carbonatized and contain trace to 1% pyrite. The tuffs are fine to medium grained, medium to dark green and schistose. These rocks consist mainly of chlorite epidote and carbonate. They intermix with the lavas and conform to the general strike of the property of 070°. They often contain trace to 1% pyrite. The dykes in the area are small in extent. They are medium grained, massive, and magnetic. One to 5mm quartz veins cut both the flows and tuffs.

Greywackes

Greywackes are fine to medium grained and light to dark grey in colour. They are evenly and thinly (1-5mm) laminated. Graded bedding on the northern islands indicates that tops are to the south. Mineral composition is quartz, feldspar, biotite, carbonate and sericite. White angular to subangular quartz and feldspar grains up to 4mm are present. Trace pyrite occurs.

Cherts

The cherts are fine grained and cream to grey cream in colour. They are evenly laminated and interbedded with greywackes. They contain 1-2% pyrite and appear as gossans in outcrop.

/...

Porphyry

The porphyritic rocks weather pale green to buff to rusty. The phenocrysts are, (a) rounded glassy quartz grains in sizes from 2-15mm and in proportions from 5-20% of the rock, and (b) rounded to euhedral green to cream plagioclase from 2-10mm in size making up 5-15% of the rock. The groundmass is felsic, and sericitic. In most places quartz is the predominate phenocryst but feldspar predominates along the southern shore of the peninsula. This change happens gradually. Generally speaking, the feldspar quartz porphyry is barren with respect to pyrite and gold mineralization.

Conglomerate

Unit 5 on the geology map is a conglomerate and lies on the north shore of Pickeral Arm. It closely resembles the nearby porphyry but displays sedimentary features. The shoreline outcrop on line 6E has definite bedding laminations. The conglomerate is made up of 5-20% glassy quartz pebbles and 5-15% subrounded plagioclase. Cobbles of metavolcanics ranging to 10cm x 7cm in size were also observed. It appears to be composed of detritus from the nearby porphyry.

Alteration

An alteration exists within the quartz-feldspar porphyry characterized by; increased sulphide content (pyrite 1% - 3%, and chalcopyrite Tr - 1%), pyrite cubes increase in size from 2mm - 1cm, the matrix becomes more felsic and the carbonate content increases. This alteration zone covers the northern two thirds of the porphyry and is most intense from lines 0 - 11E between 1+00S and 3+00S. This intense alteration is mostly within the optioned claims.

Mineralization

Along the axis of this alteration zone (L3E, 1+75S - L9E, 1+50S) exist a network of white quartz veins from 1-100cm in width with trace to 2% pyrite+chalcopyrite+galena. These veins trend with the schistosity of 070°. This area has been extensively trenched in the 1930's and 1940's. Results of the 1980 resampling of these trenches are listed in Table and shown in Plate . This axis of alteration is also a prominent hill which has resulted on good exposure. There is no sign or record of diamond drilling in this area. The quartz veins appear to be closely related to the intense alteration and gold mineralization.

Between this axis of intense alteration and the north shore of the peninsula outcrop exposure decreases substantially, but as seen on the outcrop geochemistry map, 7 out of 20 outcrops sampled contained between 150 ppb Au and 2600 ppb Au. Moderate alteration is seen in these porphyry outcrops and quartz veins up to 20cm in width are present.

Quartz veins up to 100cm are seen cutting the porphyry from L 11E 5+50S to L 17E 3+00S carrying gold values of 480 ppb to 950 ppb. The alteration zones around these veins appear narrower than 25m.

Moderate alteration especially chalcopyrite enrichment up to 1% is seen from L0 to L12W with 400m of the north shore of the peninsula. Dome Exploration has explored this area for porphyry Cu-Mo mineralization by geological mapping, magnetometer surveys, I.P. and diamond drilling.

Copper values of up to 0.6% over 3m were reported with wider intervals of lower grade material (e.g. 90m of .198% Cu).

TRENCH SAMPLING OF ALTERATION ZONE AXIS

<u>Trench</u>	<u>Chip Sample of Muck (ppb Au)</u>	<u>Best Mineralized Sample</u>	<u>Present Quartz Veins</u>	<u>Line</u>
1	440	-	Yes	2+50E
2	1800	-	Yes	2+75E
3	1100	-	No	3+10E
	18	3900	Yes	3+60
	830	17	No	3+90
	30	61	No	4+00
	23000	620	Yes	6+30
	1400	3500	Yes	7+10
	4400	-	No	7+40
10	420	31	No	7+75
	110	-	No	7+80
	550	-	No	8+00
	4300	760	Yes	8+05
	7800	6300	No	8+10
	3900	19000	Yes	8+10
	4700	-	No	8+10
	1400	16000	Yes	8+20
	730	2000	No	8+30
	2500	122000	Yes (100cm)	8+35
20	920	-	No	8+35
	210	-	No	8+40
	210	-	No	8+50
	-	3400	Yes	8+80
	1600	-	No	8+94
	63000	210	No	8+95
26	910	230	Yes	9+10

5. GEOCHEMISTRY

Humus Geochemistry

1016 humus samples (Ao-A, soil horizon) were collected over the grid during the summer of 1980. Samples were taken every 50m on Cominco ground and at 25m stations on the optioned claims. The humus samples were analyzed for Au by neutron activation at X-Ray Assay Labs. Anomalous results are shown on the Humus Plate . All anomalous Au values are within the porphyry and are concentrated in two areas. The highest values outline the axis of intense alteration and the corresponding zone of anomalous rock geochemistry values. Two anomalous values are located near the gold bearing quartz vein on lines 16E and 17E. On the western end of the property 7 low anomalous values are located over the alteration zone explored by Dome Exploration for Cu-Mo mineralization.

6. GEOPHYSICS

An "in-house" magnetometer survey was conducted over the portion of the property from line 10W to 21E. A Scintrex MP-2 proton magnetometer was used. Drift calculations were determined by looping. The data is shown on Plate , contoured at 250 intervals.

Generally the contours conform to the schistosity of the rock i.e. 0/0°. The mafic metavolcanics are marked by very strong magnetic contours, a feature which was noted in the outcrops. A 1000-3000 anomaly exists on lines 7W and 8W at station 6N. It is located over an area of swamp.

7. FINANCE

A. 1980 Expenditures

Communications	\$ 206
Salaries	12,716
Supplies	432
Expense Accounts	2,770
Linecutting	6,598
Geophysics	517
Assays	6,663
Transportation	1,469
Camp Supplies	3,559
Staking	4,000
Option Payments	6,000
	<u>\$44,930</u>

B. Previous Expenditures

1979-79 Gold Recce \$4,000

8. PERSONNEL

Permanent

J.S. Olver, Geological Mapping

Temporary

G.Z. Muise, Humus Sampling, Magnetometer Survey
Neil Dawson " " " "

/...

9. CONCLUSIONS

The best possibility for economic gold mineralization on the Tak property is in the strongly altered pyritiferous quartz-feldspar porphyry cut by numerous gold bearing quartz veins in the area of lines 0 - L12E from 2+00S - 2+00N. This area is mostly within the six optioned claims from Little Long Lac G.M.L.

10. RECOMMENDATIONS

An I.P. survey should be conducted between line 0 and L18E, from station 5+00S to the north shore of the peninsula to help delineate future diamond drill testing.

11. ATTACHMENTS

- 1. List of Assays of Sampled Trenches.
- 2. 1:4,000 Geology Map.
- 3. 1:4,000 Humus Geochemistry.
- 4. 1:4,000 Rock Geochemistry.
- 5. 1:4,000 Magnetometer Map.
- 6. 1:2,000 Trench Location Map.

12. REFERENCES

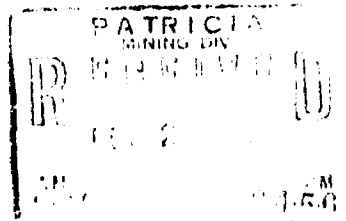
Johnston, F.J. (1968): Geology of Western Minnitaki Lake Area. ODM Geological Report 75.

Barnett, E.S. (1979): Gold Recce Year-End Report, Cominco Files.

Submitted by: J.S. Olver
 J.S. Olver
 Geologist
 Exploration, E.D.

Endorsed by: W.M. Little
 W.M. Little
 Senior Geologist
 Exploration, E.D.

Distribution
 Vancouver (1)
 Toronto (1)
 Files (1)



JSO/ijt



Ontario

Ministry of
Natural
Resources

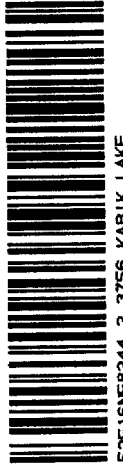
Technical Assessment
Work Credits

2.3756

900

Recorded Holder _____
 Township or Area _____
 Cominco Ltd.,
 Kabik Lake & Pickering Township

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ days	PA 551444 to 56 incl. 551459 to 75 incl.
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Section 86 (18) _____ days	
Geological _____ 33 _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	



52F16NER244 2.3756 KABIK LAKE

Special credits under section 86 (15a) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed

PA 551457-58

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on



Ontario

Ministry of
Natural
Resources

Technical Assessment
Work Credits

FILE

2.3756

Recorded Holder	Cominco Ltd.,
Township or Area	Kabik Lake & Pickereel Township

Type of survey and number of Assessment days credited per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ 16 _____ days Radiometric _____ days Induced polarization _____ days Section 86 (18) _____ days Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	PA 551444 to 56 incl. 551459 to 66 incl.

Special credits under section 86 (15a) for the following mining claims

--

No credits have been allowed for the following mining claims

<input checked="" type="checkbox"/> not sufficiently covered by the survey	<input type="checkbox"/> Insufficient technical data filed
PA 551457-58	

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on



Recorded Holder **Cominco Ltd.**

Township or Area **Kabik Lake & Pickerel Township**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Section 86 (18) _____ days Geological _____ days Geochemical <u>18</u> days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input checked="" type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	PA 551444 to 56 incl. 551459 to 72 incl. 551474 - 75

Special credits under section 86 (15a) for the following mining claims

[Empty box for special credits]

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed

PA 551457-58



Ministry of
Natural
Resources

Your file:

October 19, 1981

Our file: 2.3756

Albert Hanson
Mining Recorder
Ministry of Natural Resources
P.O. Box 669
Sioux Lookout, Ontario
POV 2T0

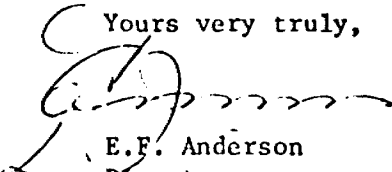
Dear Sir:

Re: Geophysical (Magnetometer), Geochemical and Geological
Survey on Mining Claims Pa.55144 et al, in the Area of
Kabik Lake and Township of Pickerel.

The Geophysical (Magnetometer), Geochemical and Geological
Survey assessment work credits as listed with my Notice of
Intent dated September 17, 1981 have been approved as of
the above date.

Please inform the recorded holder of these mining claims
and so indicate on your records.

Yours very truly,

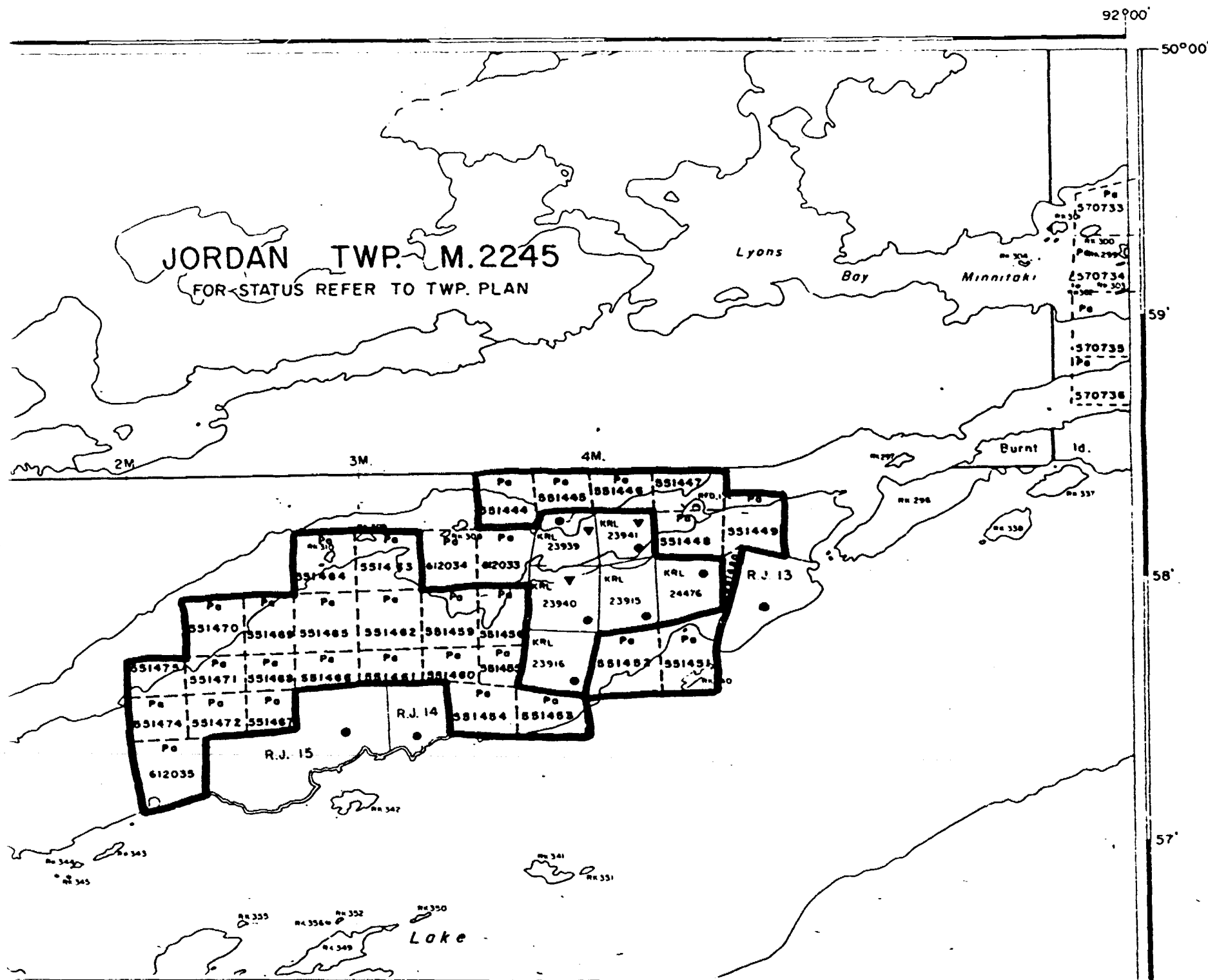

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

A. Barr/bk

cc: Cominco Ltd.
Toronto, Ontario

cc: Resident Geologist
Sioux Lookout, Ontario



AREA OF
KABIK LAKE
 AND
PICKEREL TWP.

DISTRICT OF
 KENORA

PATRICIA
 MINING DIVISION

SCALE : 1-INCH = 40 CHAINS

DISPOSITION OF CROWN LANDS

- PATENT, SURFACE AND MINING RIGHTS ----- ●
- " SURFACE RIGHTS ONLY ----- ○
- " MINING RIGHTS ONLY ----- ◐
- LEASE, SURFACE AND MINING RIGHTS ----- ■
- " SURFACE RIGHTS ONLY ----- ▣
- " MINING RIGHTS ONLY ----- ▤
- LICENCE OF OCCUPATION ----- ▼
- HIGHWAY & ROUTE No -----
- ROADS -----
- TRAILS -----
- RAILWAYS -----
- POWER LINES -----
- MARSH OR MUSKEG -----
- MINES -----
- S.R., M.R. SURFACE RIGHTS, MINING RIGHTS ----- X
- CANCELLED ----- C.
- QUARRY PERMIT - (⊙)

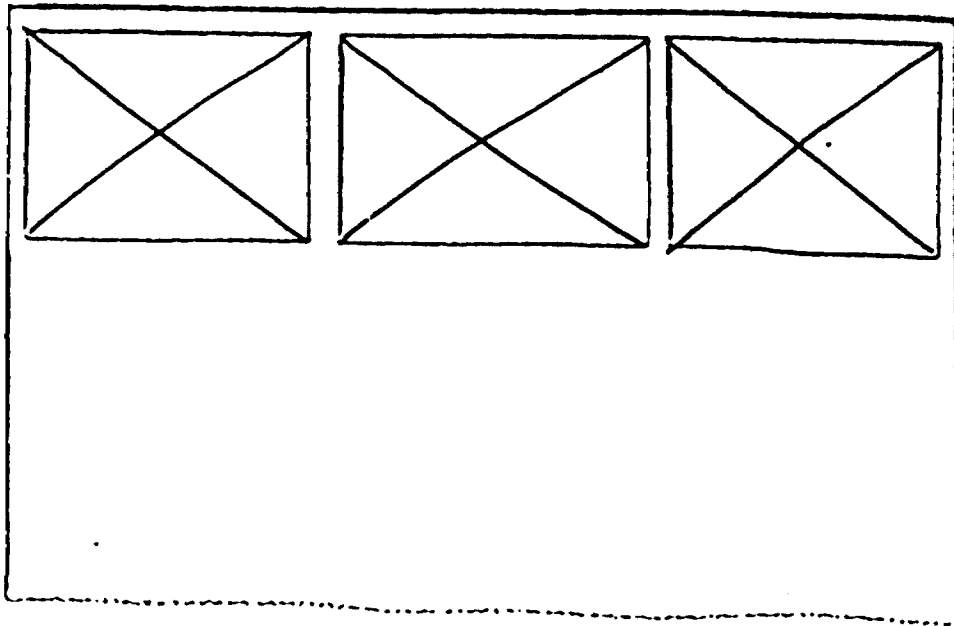
NOTES

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

Surface rights on all islands in Minnitaki Lake Withdrawn from Staking.
 File 67051.

SEE ACCOMPANYING
MAP(S) IDENTIFIED AS
52 F/16 NE - 0033, #1-3

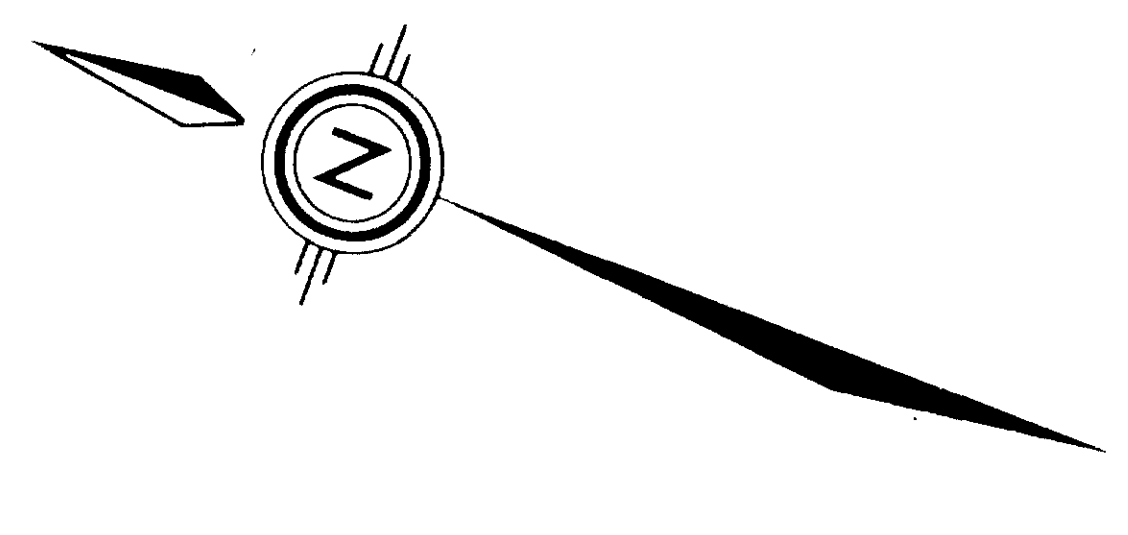
LOCATED IN THE MAP
CHANNEL IN THE FOLLOWING
SEQUENCE (X)



FOR ADDITIONAL
INFORMATION

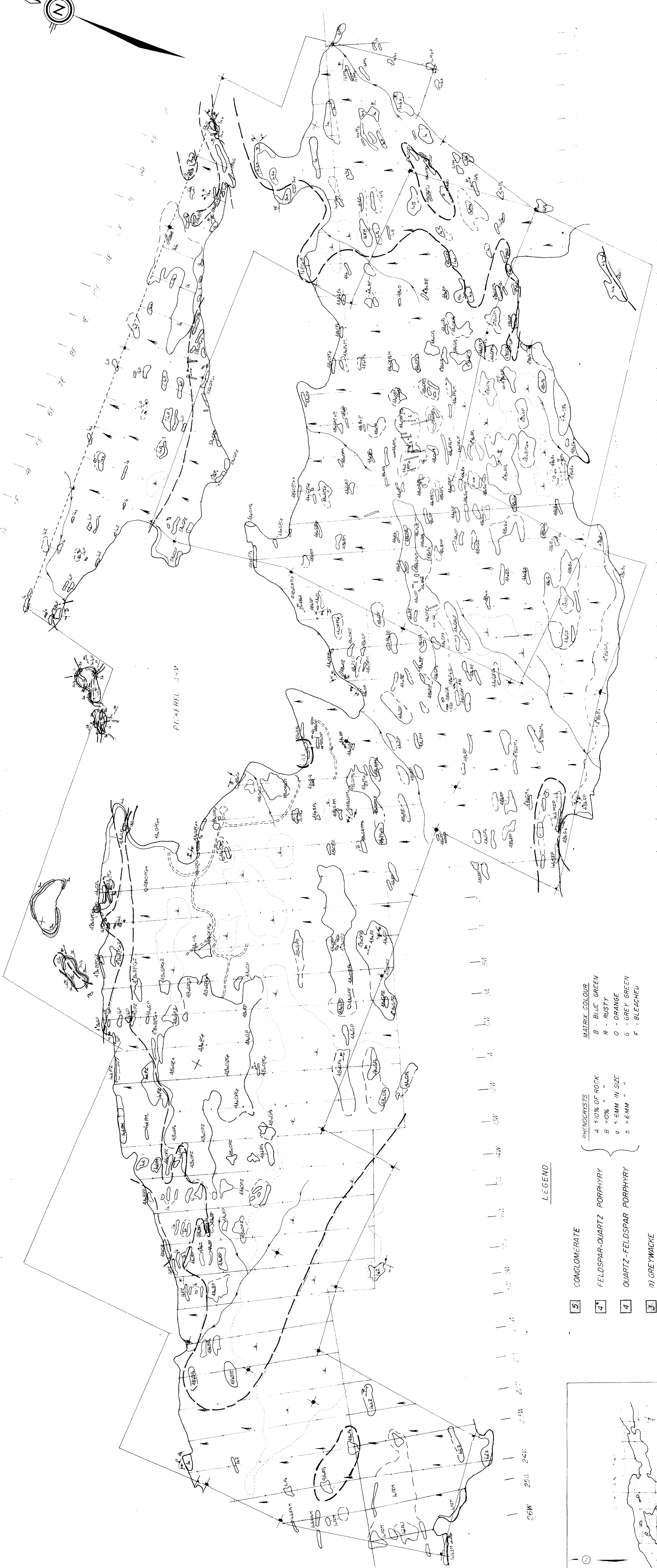
SEE MAPS:

52 F/16 NE-0033 # 4, 5



52F/16NE-0033-#1
J.S. Cur

EASTERN DISTRICT	
TAK PROPERTY	
GEOLOGY	
NTS 52-F-6	DATE AUG. 1980
Scale 1:4000	



MATRIX COLOUR
 B - BLUE GREEN
 R - RUSTY
 O - ORANGE
 G - GREY GREEN
 F - BLEACHED

PHENOCRYSTS
 A < 10% OF ROCK
 B > 10% " "
 0 < 5MM IN SIZE
 b > 6MM " "

SULPHIDES
 P - PYRITE > 1%
 E - PYRITE > 1%
 Ch - CHALCOPYRITE < 1%
 Sp - CHALCOPYRITE > 1%

CARBONATE CONTENT
 1 - MODERATE
 2 - ABUNDANT
 M - MAGNETIC

CONGLOMERATE
 5

FELDSPAR-QUARTZ PORPHYRY
 4

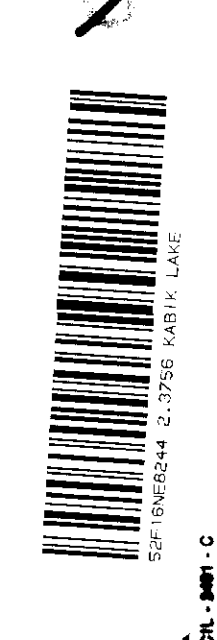
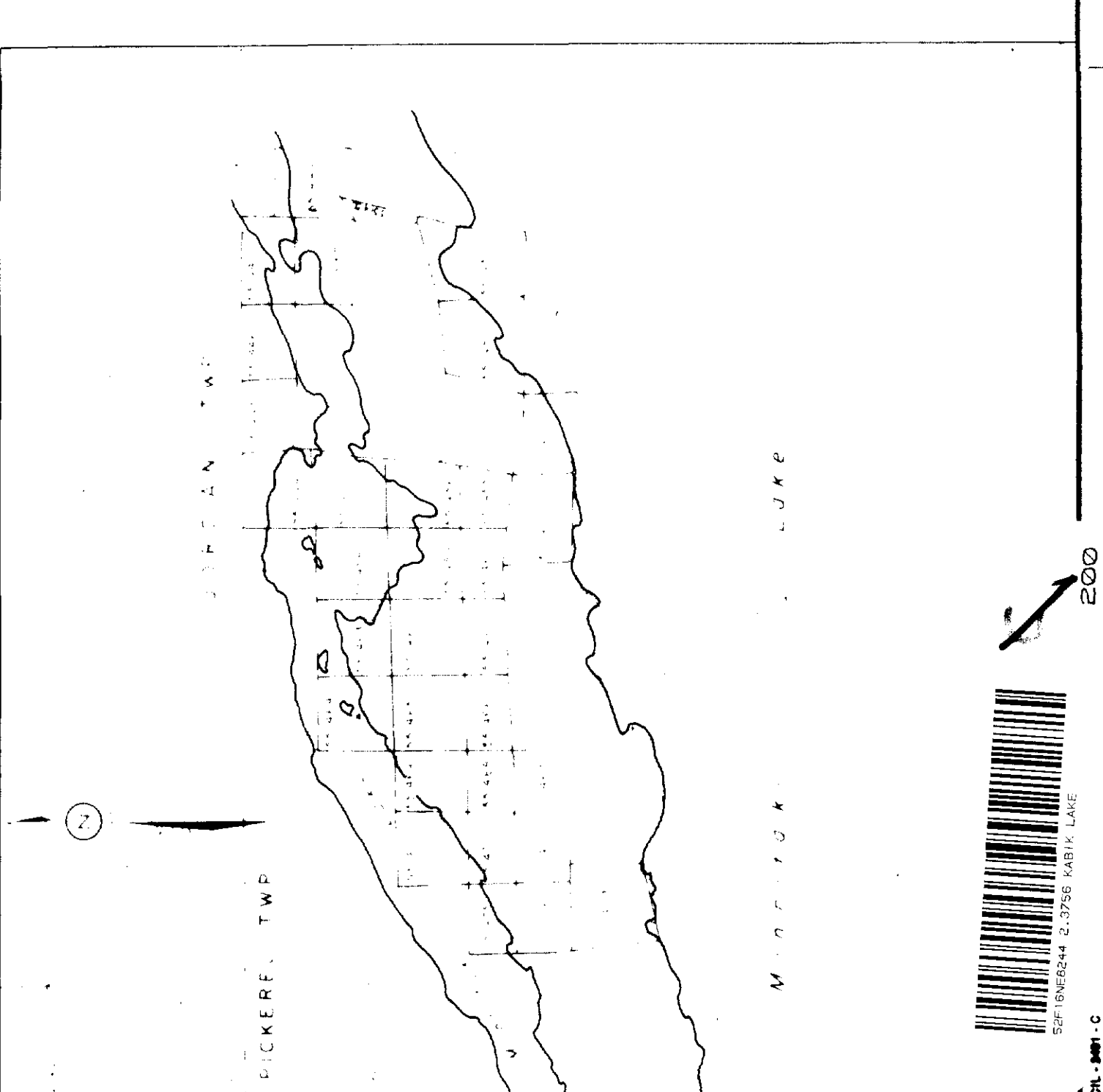
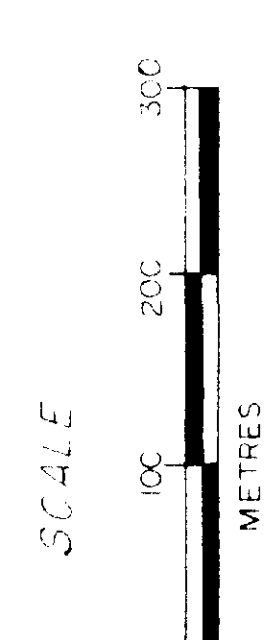
QUARTZ-FELDSPAR PORPHYRY
 4

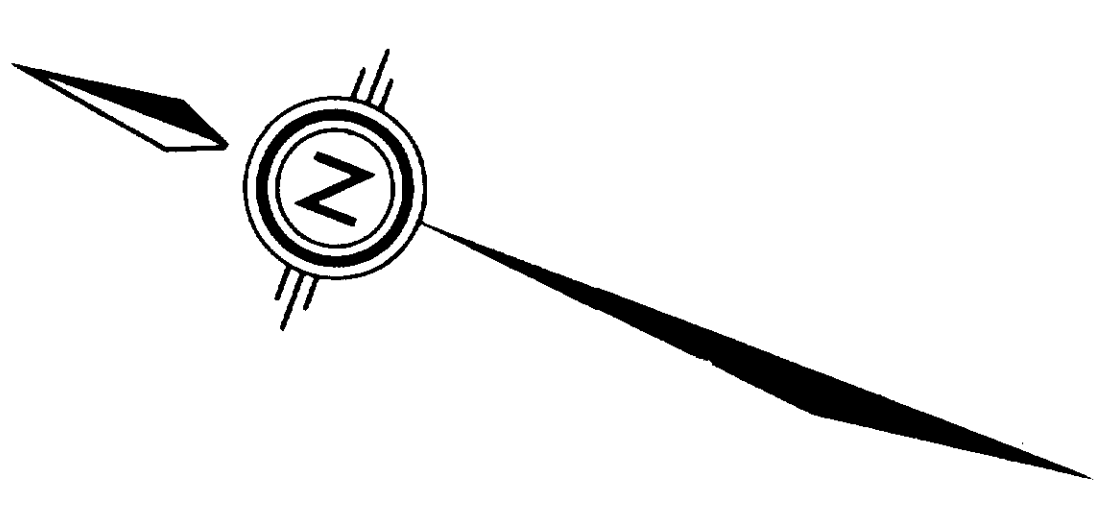
GREYWACKE
 a) ARGILLITE
 b) ARGILLITE
 c) CHERTS

MAFIC VOLCANICS
 b) MAFIC TUFFS
 c) MAFIC DYKES

LEGEND

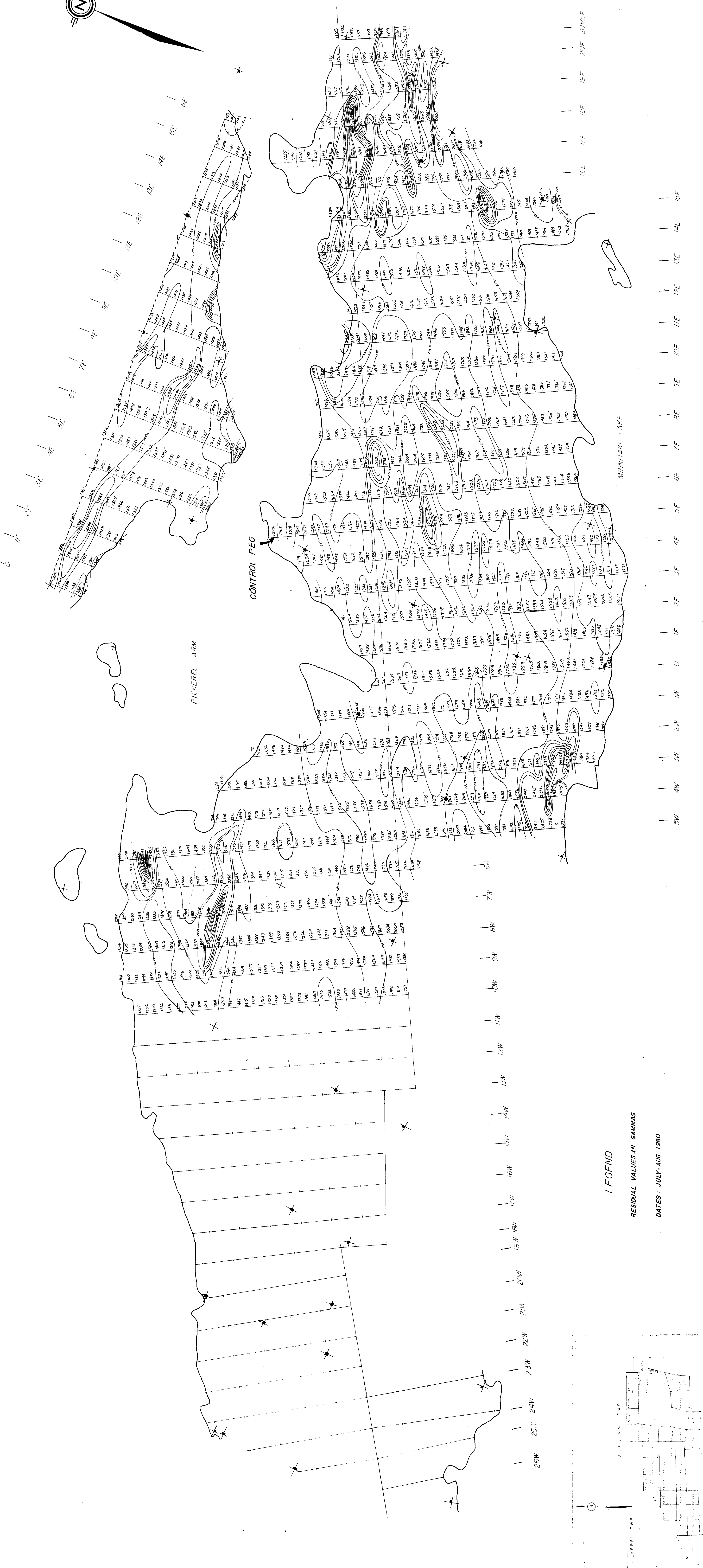
- OUTCROP
- GEOLOGICAL CONTACT
- BEDDING
- FOLIATION
- JONTING
- TRENCH
- CLAIM POST
- STREAM
- CEDAR SWAMP
- DRILL ROAD
- FOREST





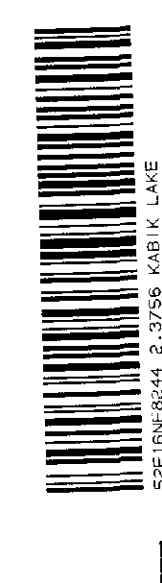
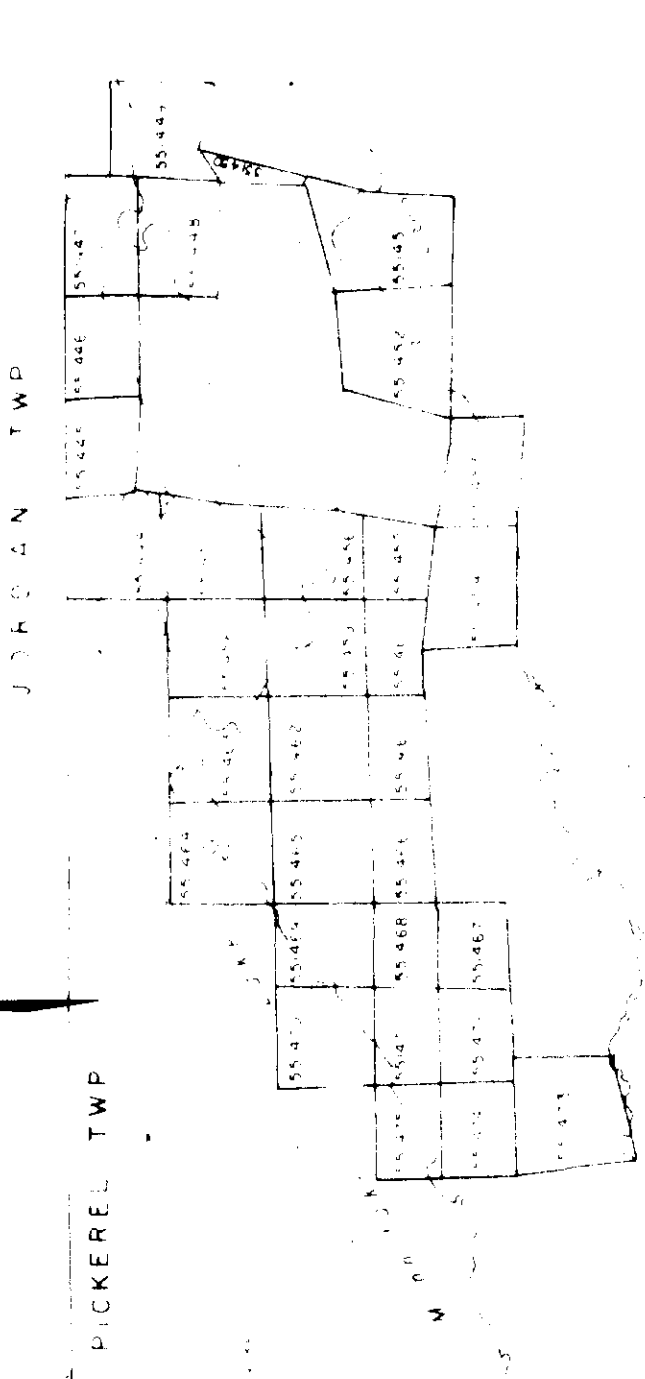
52F/16E-0033-12

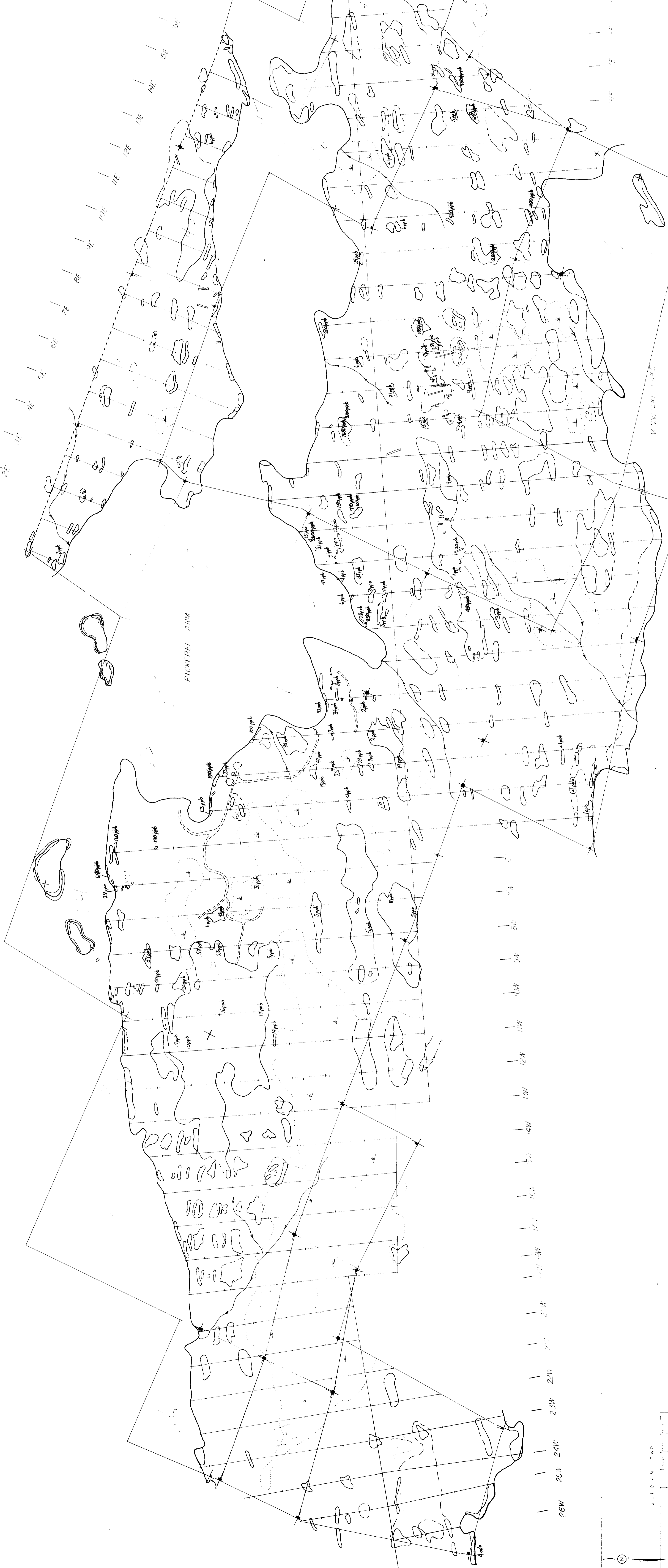
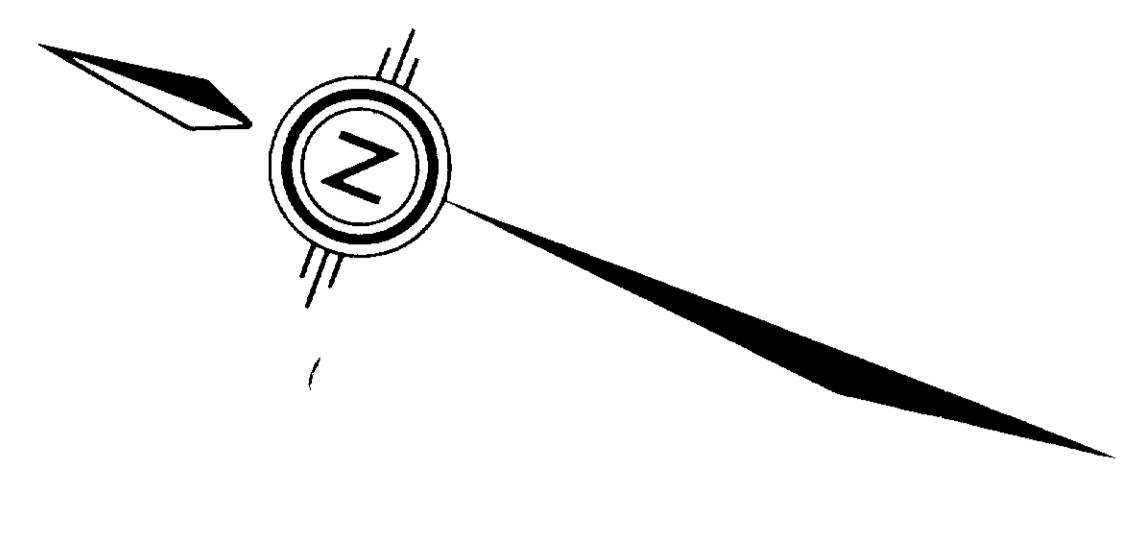
EASTERN DISTRICT
TAK PROPERTY
MAGNETOMETER MAP
ONTARIO
Scale: 1:4000
Date: AUG. 1980



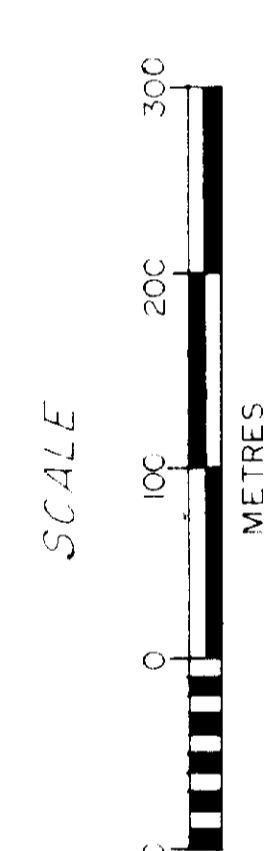
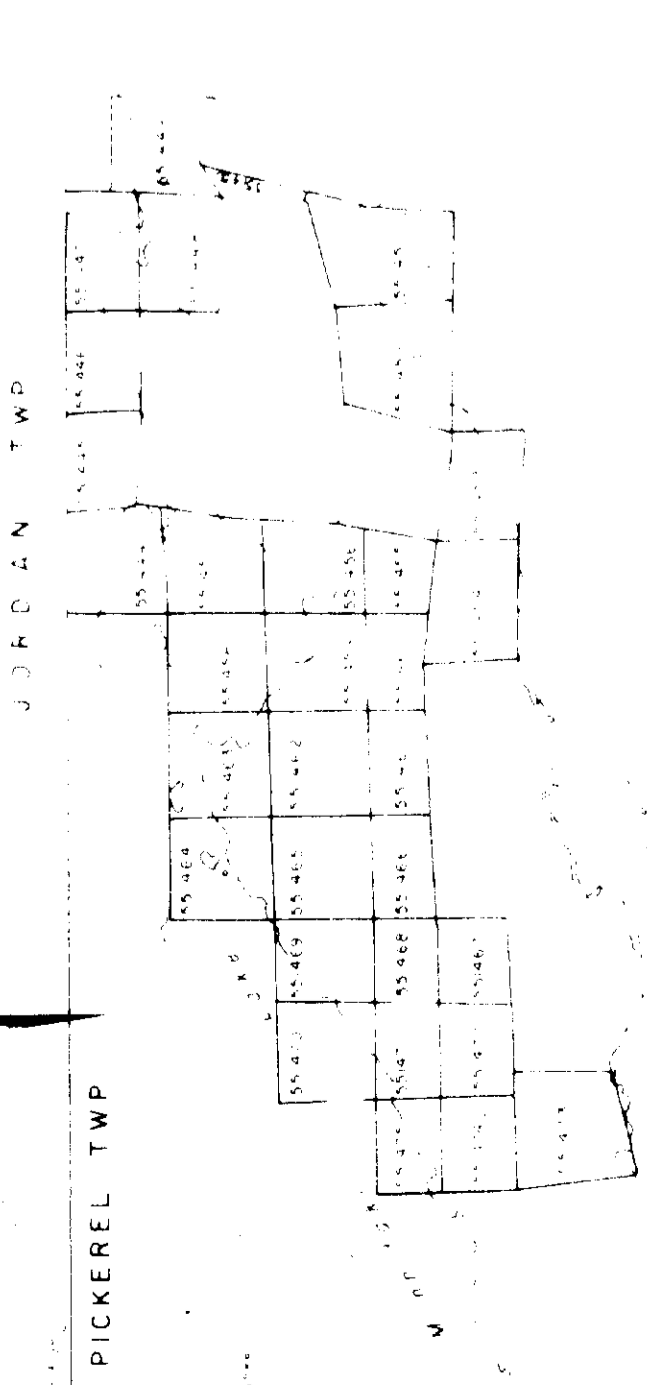
LEGEND

RESIDUAL VALUES IN GAMMAS
DATES: JULY-AUG. 1980



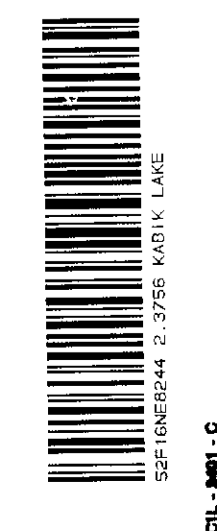


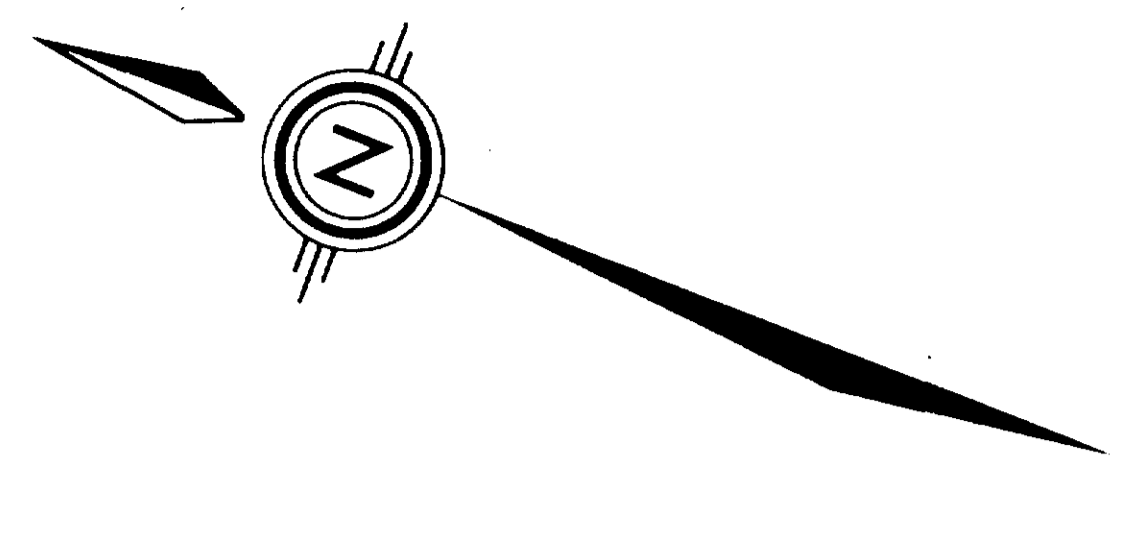
LEGEND
 > 100 ppb Au
 50-100 ppb Au
 10-50 ppb Au
 < 10 ppb Au



SZFL16NE-0033-#3
J. Blum

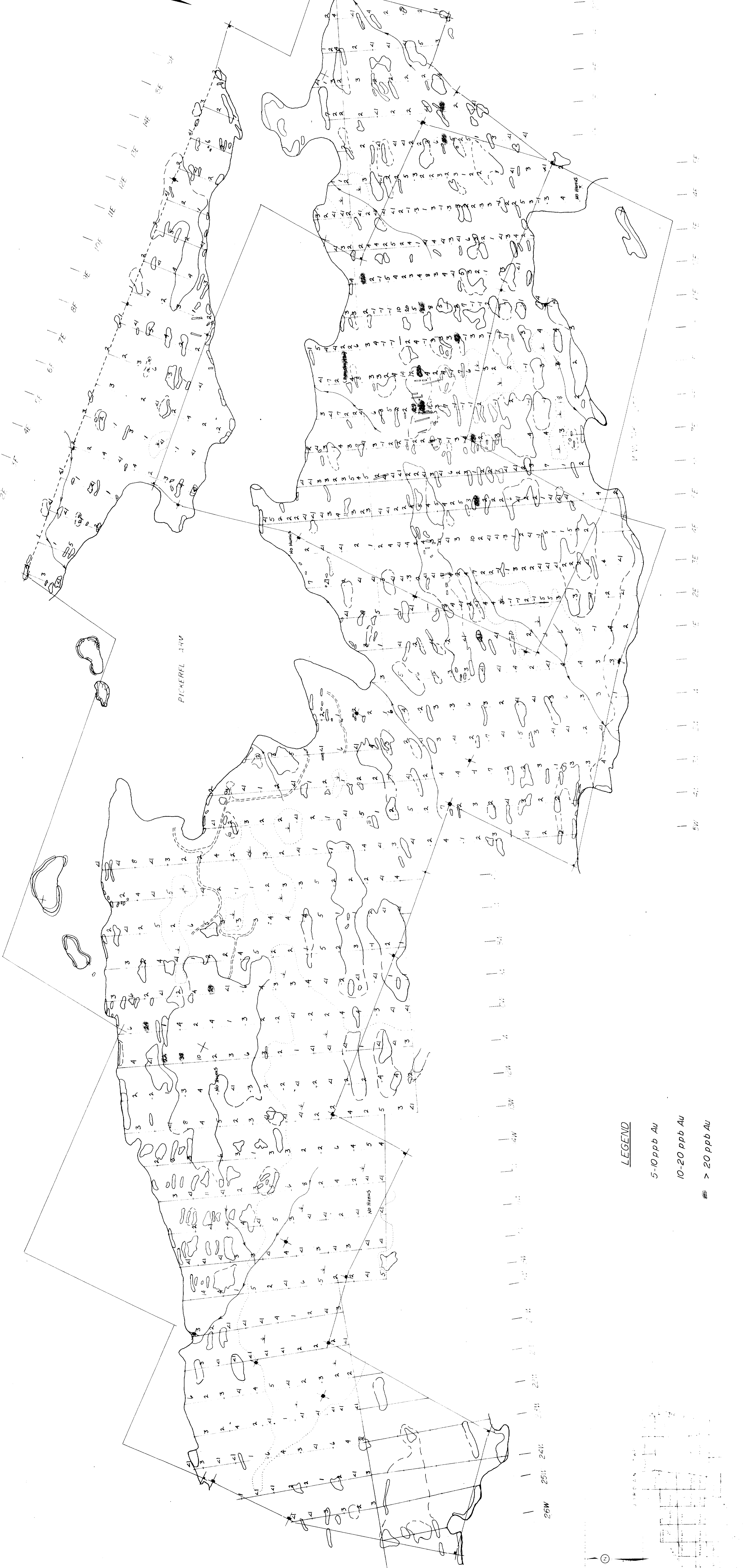
EASTERN DISTRICT	
TAK PROPERTY	
Drawn by: JSO	Checked by: JSO
Scale: 1:4000	Date: AUG. 1980
ROCK GEOCHEMISTRY	
ONTARIO N/S 52-F-6	



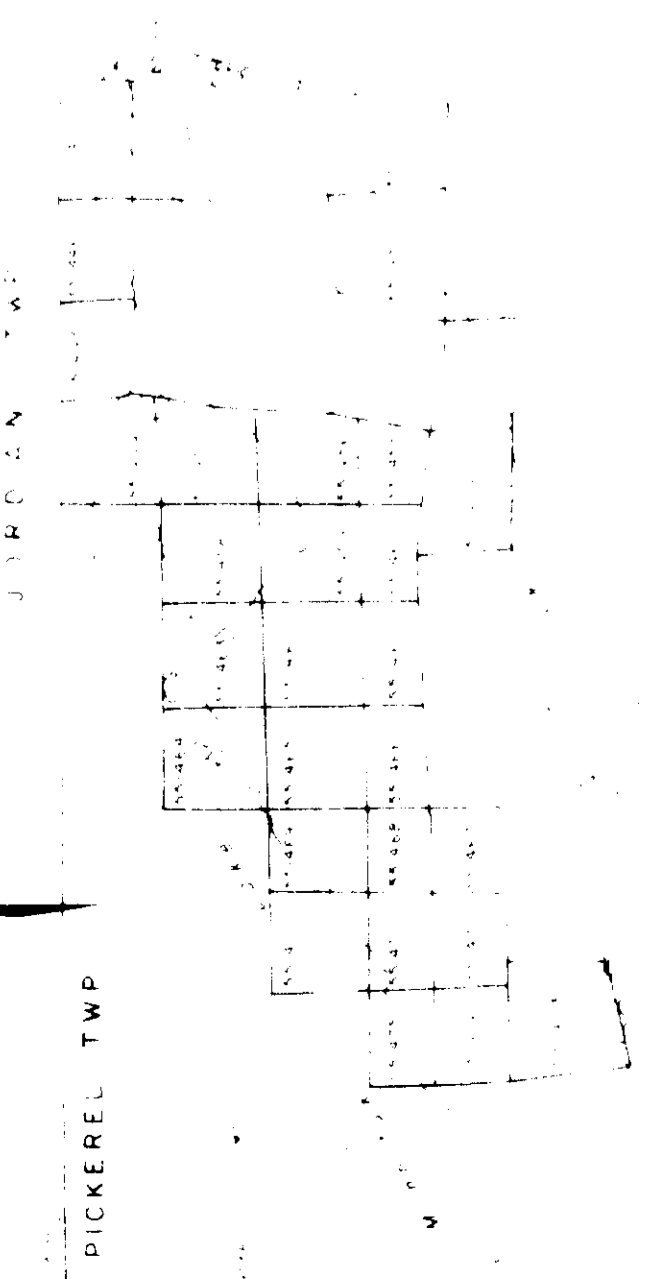


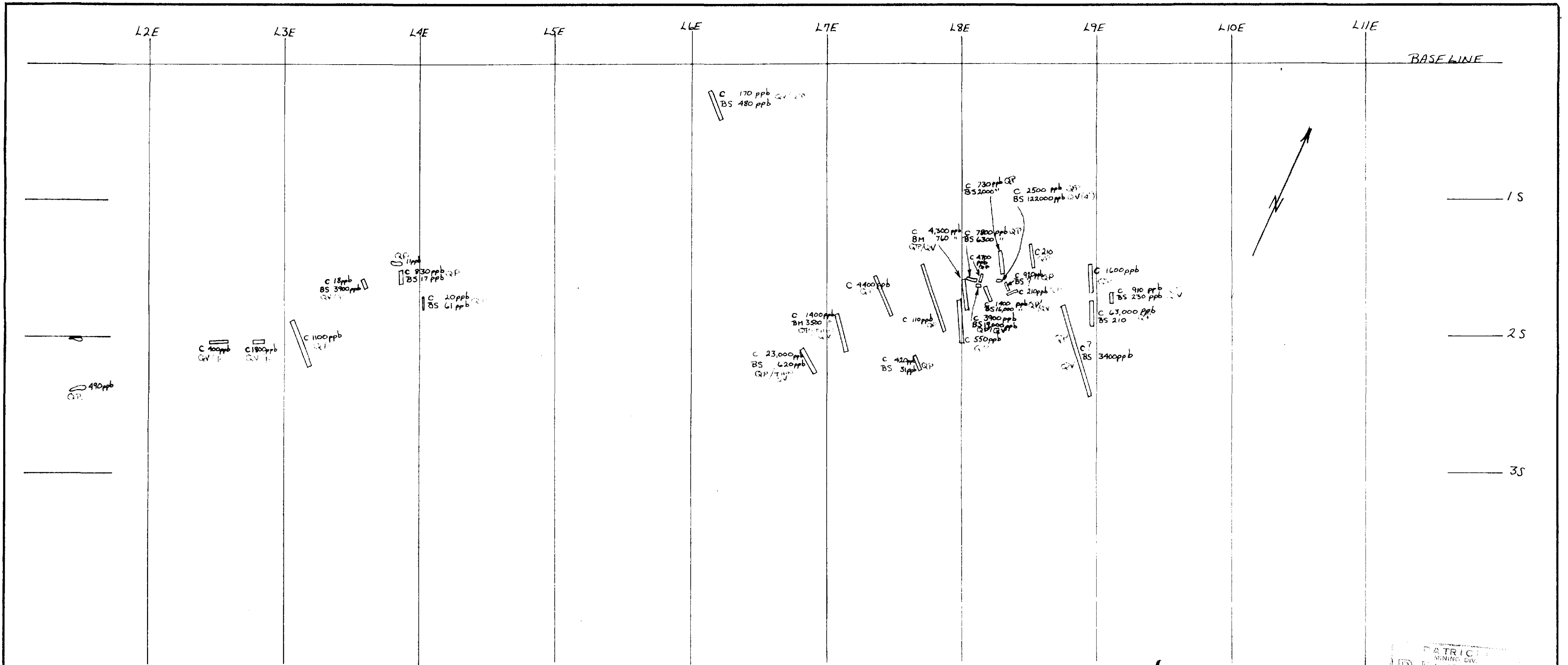
52F/16NE-0033-4
J. Ober

EASTERN DISTRICT	
TAKPROPERTY	
Drawn by: JSO	Checked by:
Scale: 1:4000	Date: AUG. 1980
HUMUS GEOCHEMISTRY	
ONTARIO NTS 52-F-16	



LEGEND
 5-10 ppb Au
 10-20 ppb Au
 > 20 ppb Au



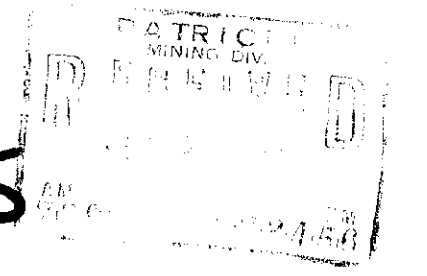


LEGEND

C - CHIP SAMPLE
 BS - BEST MINERALIZED SAMPLE
 ALL ASSAYS ARE OF GOLD
 1.0 oz./ton = 34,300 ppb

52F/16NE-0033-15

J.S. Ober



EASTERN DISTRICT				
Drawn by: JSO		Traced by:		TAK PROPERTY
Revised by:	Date:	Revised by:	Date:	
TRENCH SAMPLING				
ONTARIO				52-F-16
Scale: 1:2000		Date: AUG. 1980		Plate:



52F16NE024 2,3756 KABIK LAKE