

MAR 19780013: RICHARDSON RIVER

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NORCEN ENERGY RESOURCES LIMITED

1978003

1979 WORK PROPOSAL
QUARTZ MINERAL EXPLORATION PERMITS

Original

#6876120002
#6876120004
#6876120005

L. J. Smith
D. A. Sawyer.

1978 December

I. SUMMARY AND CONCLUSIONS

A Questor Input Mark VI airborne electromagnetics and magnetics survey was flown over the permit areas during the period of April 4 to 6, 1978. This data and corresponding maps were received in Questor's Report (File #20006) of June, 1978.

The airborne electromagnetic survey located three conductive zones on Permit #6876120005. Permits #6876120002 and #6876120004 were devoid of any conductive bedrock responses.

In the 1978 Work Proposal the airborne survey was to be followed up by ground geophysical surveying and a diamond drilling program. However the location of the major conductive zone on Permit #6876120005 along the Richardson River made this impossible during the remainder of 1978.

Ground electromagnetic and magnetic surveying and follow-up diamond drilling (minimum of eight (8) drill holes) is proposed for Permit #6876120005. Ground gravity profiling and follow-up diamond drilling (minimum of two (2) drill holes) is proposed for Permit #6876120002. Depending on the drilling results on Permit #687612005, one drill hole is tentatively planned for Permit #6876120004. Enclosed is a cheque in the amount of \$11,520.00 for renewal fees for Permits #6876120002, #6876120004, and #6876120005.

<u>Areas Retained</u>	
Permit #6876120002	48 640 acres
Permit #6876120004	3 200 acres
Permit #6876120005	<u>24 960 acres</u>
	76 800 acres

II. SYNOPSIS OF 1978 WORK PROGRAM

The three permits (#6876120002, #6876120004 and #6876120005) were flown by the Questor Input Mark VI airborne electromagnetic and accompanying magnetic systems in April of 1978. A total of 850 line miles were flown in two blocks at a line spacing of roughly 1340 feet. This data was presented to Norcen Energy Resources Limited in June, 1978 under Questor Survey's Ltd. File #20006. The total cost of the survey was \$32,512.50.

Three conductive zones were located on Permit #6876120005 by the Questor survey. No bedrock conductive zones on Permits #6876120002 and #6876120004 were located by the airborne survey.

Previous drilling (1977) by Norcen Energy Resources Limited defined the potential for uranium mineralization to lie east of the Richardson River. This eliminates one of the conductive zones located by the Questor survey.

Of the two remaining conductors, the best bedrock responses were obtained along the Richardson River for a strike length of four to four and one half miles. Outcrop exposures in this area are completely absent. A short reconnaissance radon soil sampling (RD-200 unit) survey and ground geophysical (VLF-EM) survey was planned for this summer. However the only lake (Boat Lake) in the immediate area was too shallow to land a float equipped bush plane and the summer program was abandoned.

A work program was planned to begin early in 1979 when the area is frozen to allow access across the Richardson River.

Expenditures During 1978

Questor Input Survey	\$32,512.00
Maps and Publications	\$ 63.10
Air Transportation - charter	\$ 548.00
Salaries -	\$ 450.00
Miscellaneous	\$ 67.04
Overhead	\$ 1,625.63
Total	\$35,880.81

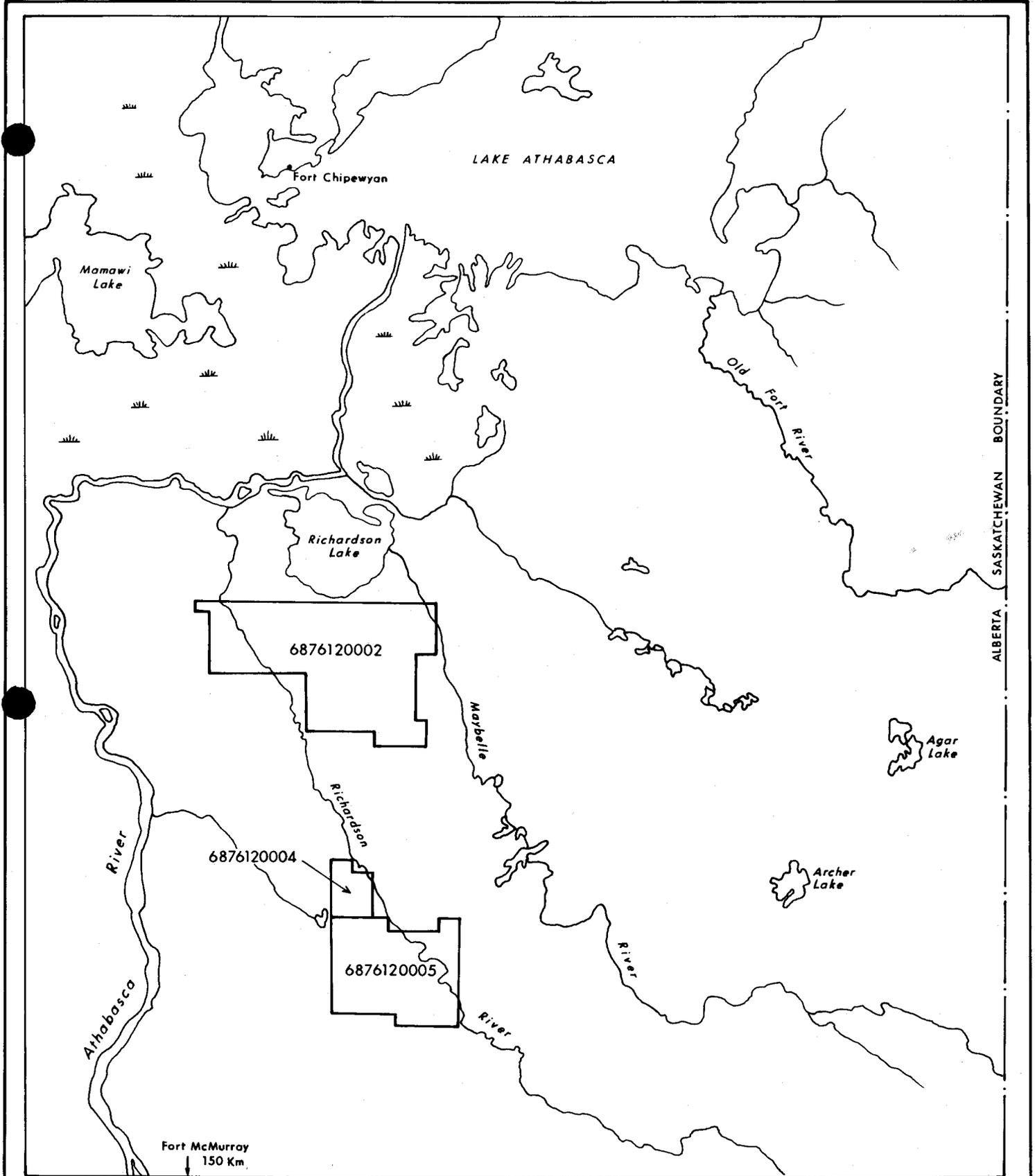
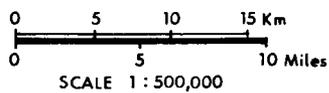


FIGURE 6

NORTH - EASTERN
ALBERTA

 NORCEN JOINT VENTURE
LAND HOLDING



19780013

III. PROPOSED EXPLORATION PROGRAM FOR 1979

Since the best exploration target was inaccessible for ground geophysical surveying and follow-up diamond drilling, the program had to be suspended until the winter freeze up.

A ground geophysical program is tentatively planned to commence in early January. For the bedrock electromagnetic conductors located on Permit #6876120005, a linecutting program is necessary to establish control over the two conductors. Roughly 30 - 35 line miles (over the 4 - 4 1/2 miles in strike length conductor along the Richardson River) and an additional 10 line miles (over the second conductor east of the Richardson River) of linecutting are planned. A Max Min II electromagnetic instrument with a backup vertical loop instrument for deep or shallow dipping conductors would be run along the two grids. A ground magnetic survey would also be run along the two grids, probably with a proton procession magnetometer. A strong linear magnetic feature on Permit #6876120002 was located by the airborne survey. Five gravity traverses, spaced one mile apart and roughly a mile in length, are proposed to evaluate the basement rock characteristics and structure of this area.

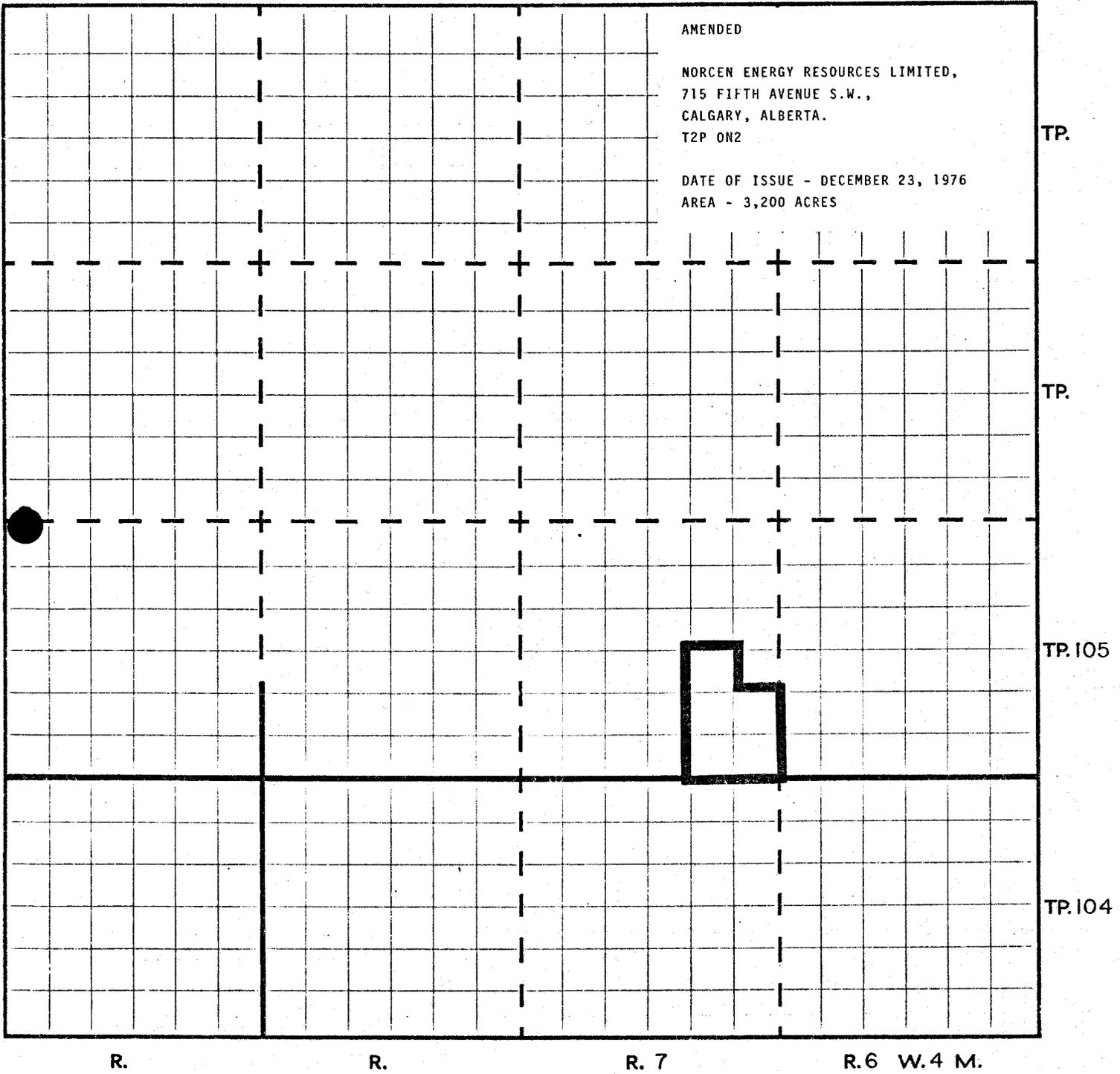
A diamond drilling program is tentatively scheduled for late February. This drilling program would include 8 - 10 drill holes (400 - 500 feet in length) across the two electromagnetic conductors profiled by the ground electromagnetic and magnetic survey. Depending upon the results in these holes, at least one drill hole is tentatively planned along strike on Permit #6876120004. A minimum of two (2) drill holes (350 - 500 feet in length) are planned to test the linear magnetic feature of Permit #6876120002. All drill holes will be probed by down-logging methods. If radioactivity is encountered in any of the drill holes, then additional drilling will be warranted.

Expenditures for 1979

45 line miles of linecutting @ \$225.00/line mile	\$ 10,125.00
Support for linecutting crew (mobilization, demobilization, camp equipment, food and miscellaneous supplies)	\$ 3,000.00
45 line miles of ground magnetics @ \$50.00/line mile	\$ 2,250.00
50 line miles of Max Min II or vertical loop ground electromagnetics @ \$125.00/line mile	\$ 6,250.00
5 line miles of gravity @ \$350.00/line mile	\$ 1,750.00
Support for ground magnetic, electromagnetic and gravity crew (mobilization, demobilization, camp equipment, food and miscellaneous supplies)	\$ 5,000.00
Report Writings (contractor) for ground geophysics	<u>\$ 4,000.00</u>
Diamond drilling - 5000 feet @ \$40/foot	\$ 32,375.00 <u>\$200,000.00</u>
Overhead 10%	\$232,375.00 <u>\$ 23,237.50</u>
TOTAL	\$255,750.50

19780013

QUARTZ MINERAL EXPLORATION PERMIT NO. 6876120004



19780013

QUARTZ MINERAL EXPLORATION PERMIT NO. 6876120004

NORCEN ENERGY RESOURCES LIMITED,
715 - 5th AVENUE S.W.,
CALGARY, ALBERTA.
T2P 0N2

DATE OF ISSUE - DECEMBER 23, 1976
AREA - 49,920 ACRES

TP.

TP.106

TP.105

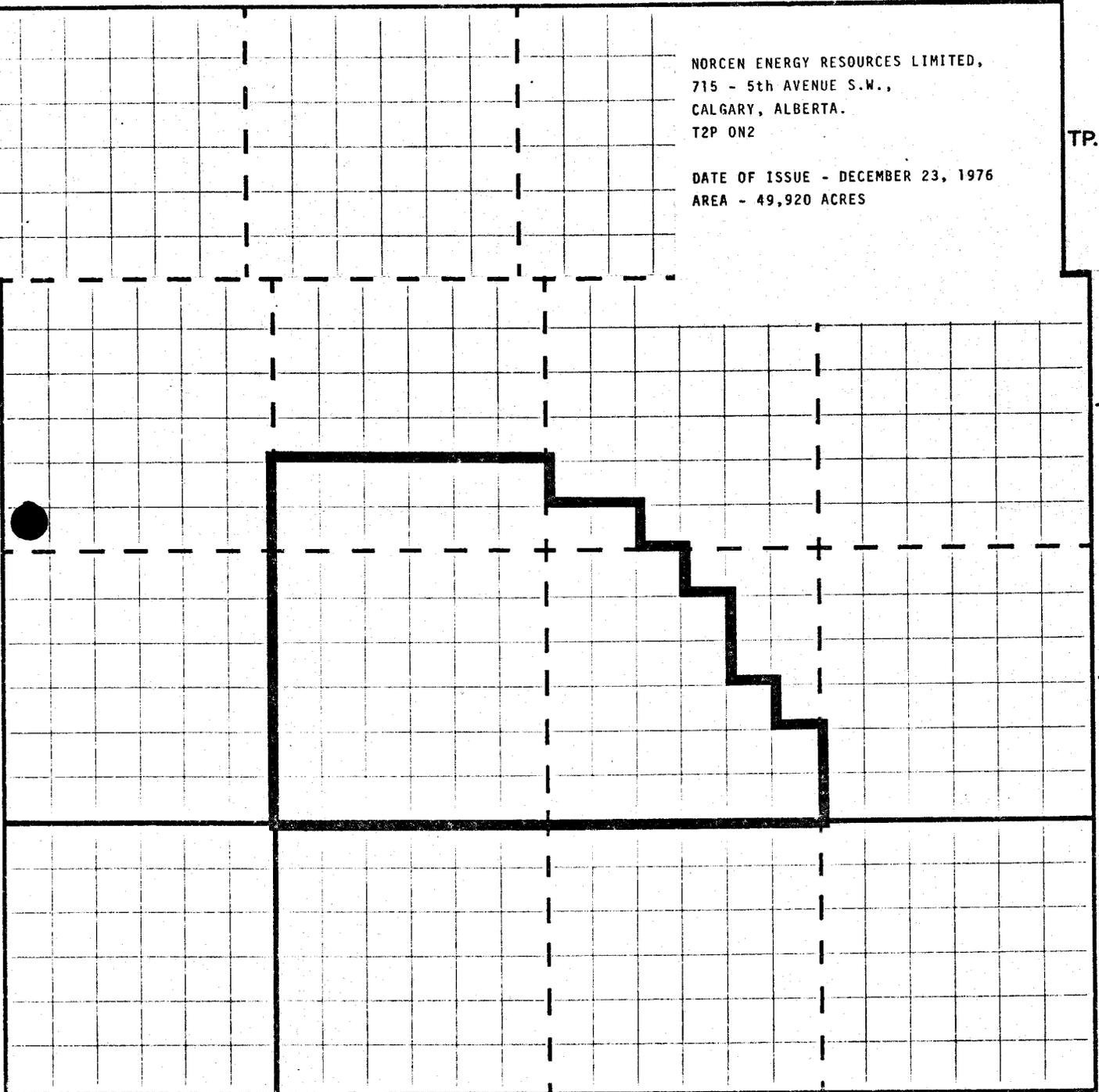
TP.104

R.

R.8

R.7

R. 6 W. 4 M.



Alberta Mineral Deposits and Occurrences

Commodity: Uranium

NTS Area: 74L/2

DepN IE13738

Name: Larocque Lake

Map Symbol:

DLS Coordinates: LSD NE Sec 28 Tp 104 R 6 Mer 4

Status: Showing

UTM Coordinates: Easting: 503500 Northing: 6434200

Nature of Deposit: Drill core assays

Size Classification:

Geological Formation: metasediments

Age: Precambrian

Economic Use:

Description of Deposit:

Four diamond drill holes to basement on an electromagnetic anomaly trending NW for 6.4 km along a fault paralleling the Richardson River. The holes were drilled on a 600 m section of the main conductor which consists of graphitic schists in sheared, steeply dipping metasedimentary rocks and chloritized shear zones.

Chemical Analysis:

Hole No.	ppm/U3O8
RR-5	3.3
RR-6	3.1
RR-8	1.8

Mineral Analysis: All values 2-3 X background

Geophysical Survey: Airborne EM and magnetometer survey. Ground Horizontal and Vertical loop EM survey.

Geochemical Survey:

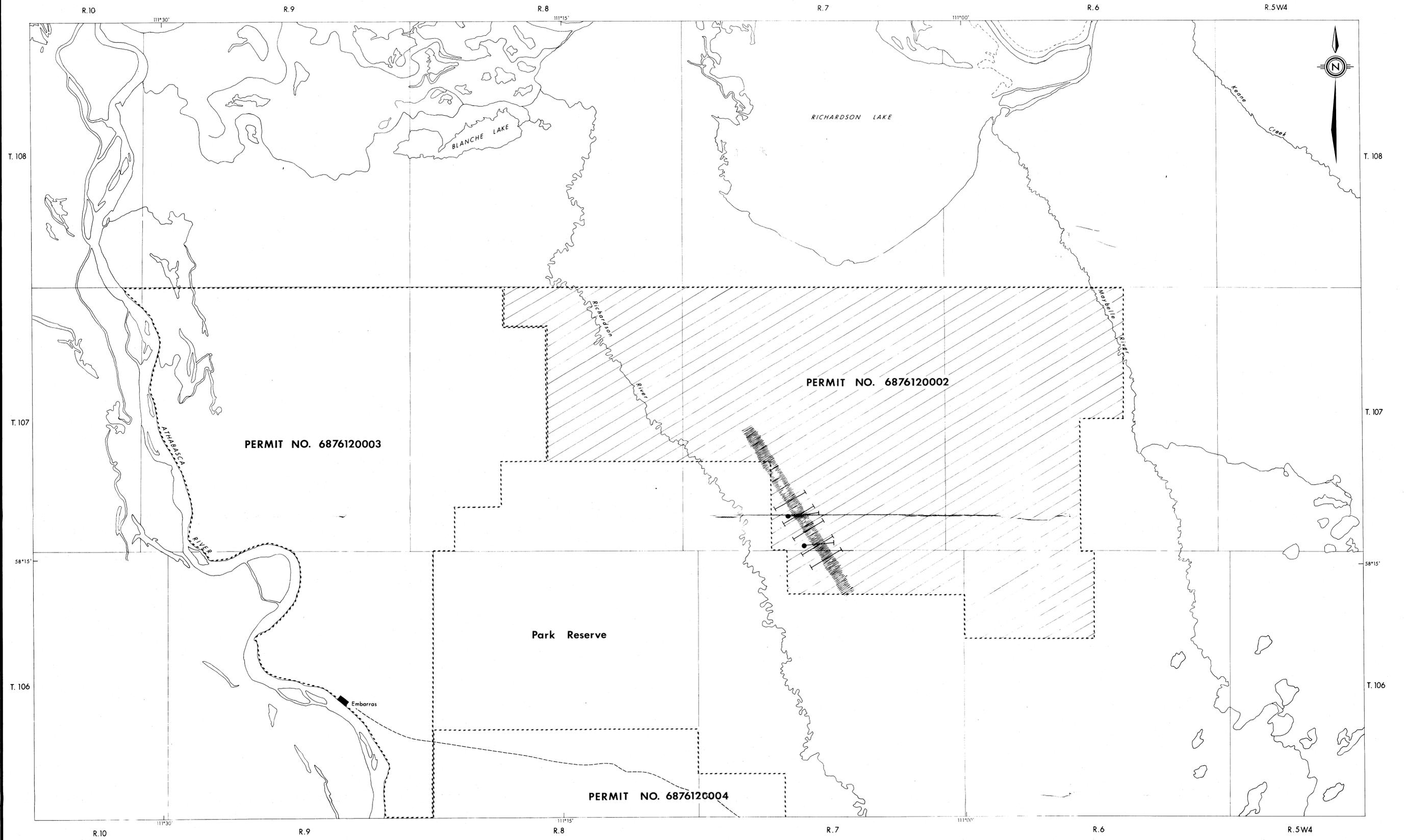
Recoverability: Poor

Accessibility: Poor

Owner or Operator: Norcen Energy Resources: Quartz Mineral Permit #6876120005

Development: No leases taken

References: A.G.S. Mineral Assessment Files: U-AF-161(1-3)



- LEGEND**
- STRONG MAGNETIC LINEAR
 - GRAVITY PROFILE LINE
 - PROPOSED DIAMOND DRILL HOLES

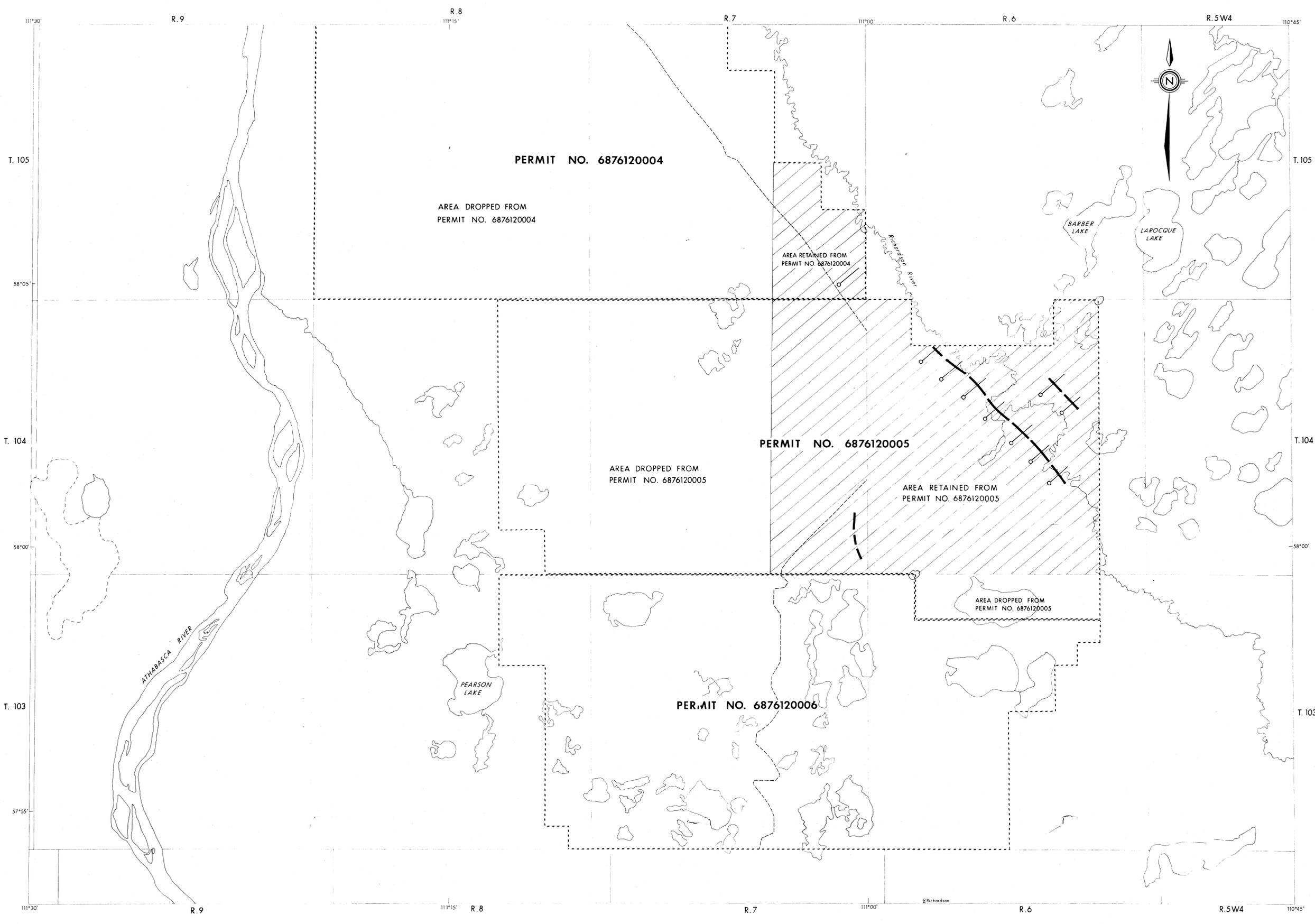
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Norcen
Energy Resources Limited

NORTHEASTERN ALBERTA PERMIT AREAS
AIRBONE MAGNETIC LINEAR
AND PROPOSED DIAMOND DRILL PROGRAM
FOR 1978

0 200 400 600 meters

Scale 1:50,000
L. Smith
December 1978



LEGEND

- AIRBORNE ELECTROMAGNETIC CONDUCTOR
- TENTATIVE DRILL HOLE LOCATION

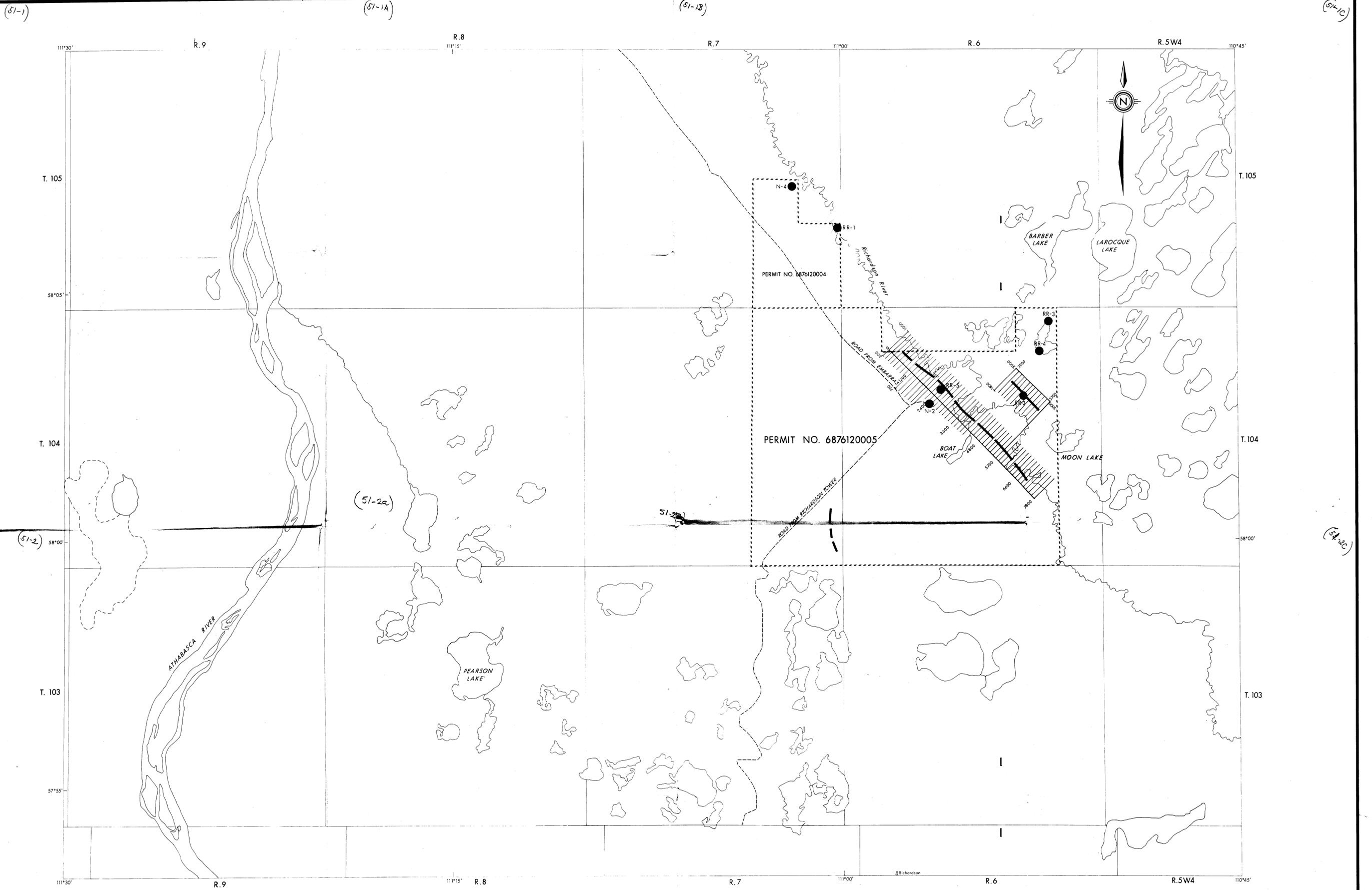
1978003

Norcen
Energy Resources Limited

NORTHEASTERN ALBERTA PERMIT AREAS
AIRBORNE ELECTROMAGNETIC CONDUCTORS
AND PROPOSED DIAMOND DRILL
PROGRAM FOR 1978

0 200 400 600 meters

Scale 1:50,000
L. Smith
December, 1978



(51-1)

(51-1A)

(51-1B)

(51-1C)

(51-2)

(51-2a)

(51-2c)

LEGEND

- AIRBORNE ELECTROMAGNETIC CONDUCTOR
- DRILL HOLE LOCATION

19780013

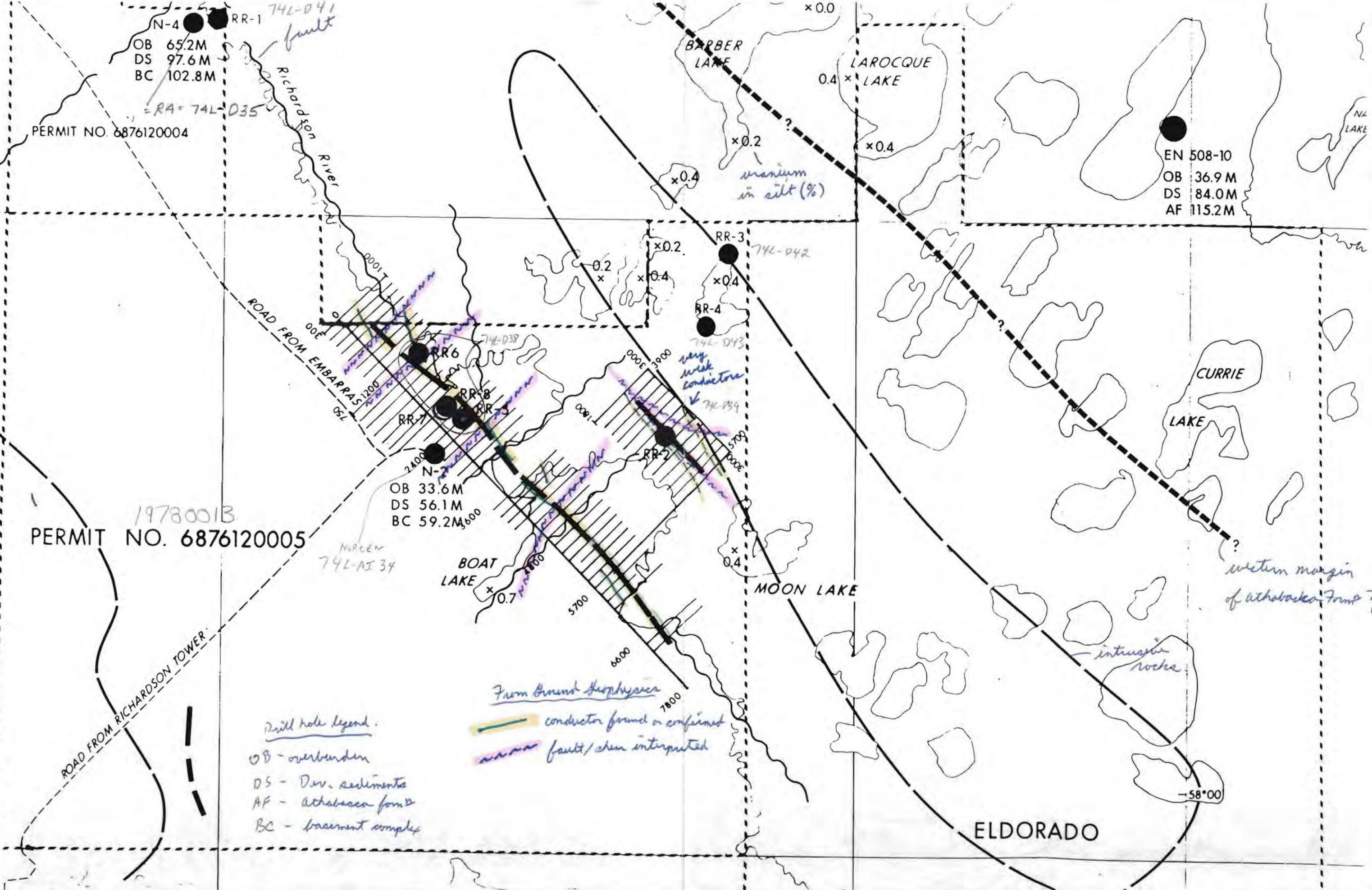
Norcen CAMPBELL CHIROUGAMAU MINES LTD.
E & B EXPLORATIONS LTD.
Energy Resources Limited ONTARIO HYDRO-URANIUM JOINT VENTURE

NORTHEASTERN ALBERTA PERMIT AREAS

AIRBORNE ELECTROMAGNETIC CONDUCTORS
PROPOSED LINE CUTTING AND
DIAMOND DRILL PROGRAM FOR 1979

0 1000 2000 3000 meters

March, 1979 Scale 1:50,000 L. Smith



PERMIT NO. 6876120004

19780013
PERMIT NO. 6876120005

Drill hole legend:
 OB - overburden
 DS - Dev. sediments
 AF - Athabasca form
 BC - basement complex

From Ground Geophysics
 — conductor found or confirmed
 ~~~~~ fault / shear interpreted

EN 508-10  
 OB 36.9 M  
 DS 84.0 M  
 AF 115.2 M

N-2  
 OB 33.6 M  
 DS 56.1 M  
 BC 59.2 M

19780013

ROAD FROM RICHARDSON TOWER

ROAD FROM EMBARRAS

ELDORADO

-58°00'