

2.1665



52F13SE0027 2.1665 DOCKER

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PROJECTS UNIT

REPORT ON THE GEOLOGY OF BRIDGES  
AND DOCKER TOWNSHIP CLAIMS  
VERMILION BAY AREA  
KENORA MINING DIVISION  
N.T.S. 52 F/13

by

R.T. GARVEY

IMPERIAL OIL LIMITED  
TORONTO

SEPTEMBER, 1974

## INTRODUCTION

Imperial Oil Limited optioned two separate claim groups, totalling 60 claims, in Bridges and Docker townships in the Vermilion Bay area of northwestern Ontario. The claim groups are as follows: K374245 to K374250 inclusive, K374254 to K374257 inclusive, and K383008 to K383056 inclusive.

The claim groups are accessible by Hwy. No. 17 and a rough gravel road leading northward for two miles to Game Lake.

Since the late 1940's the pegmatites in the area have been investigated by extensive trenching and limited diamond drilling for uranium, beryl and mica mineralization.

In 1967, Coulee Lead and Zinc Mines Ltd. conducted an aerial radiometric survey over the eastern portion of the map area, and the following year carried out ground follow-up work over the anomalous zones.

## GEOLOGICAL MAPPING

Geological mapping was done by R. Garvey from August 4th to September 8th, 1974. Traverses were taken along claim lines, lake shoreline, and at approximately 400 foot intervals where topographic control was possible. Outcrop maps of the claim groups are presented in Figs. 1 & 2.

## GENERAL GEOLOGY

Bedrock is of Archean age. The oldest rocks, underlying about one-half of the map area, are mafic to felsic metavolcanics and metasediments.

The metavolcanics vary in composition from mafic to intermediate and consist mainly of pyroclastic material with minor amounts of massive and pillowed flows.

The metasediments, interbanded with the metavolcanics, are predominantly greywacke but include minor amounts of arkose and quartzite.

Metamorphosed gabbro intrudes as irregular shaped bodies often resembling mafic metavolcanics.

Metamorphism (upper greenschist to amphibolite) has recrystallized nearly all volcanic and sedimentary rocks with the result that mafic to intermediate volcanic rocks and quartzofeldspathic sediments have all been converted to biotite-quartz-feldspar gneiss.

The remainder of the map area is underlain by felsic plutonic rocks emplaced during the migmatization and granitization of the area. The bulk of the felsic plutons are pegmatite dykes,

sills and irregular branching bodies that cut all the rocks of the area. Crosscutting relations in individual outcrops suggest several penecontemporaneous injections.

#### STRUCTURAL GEOLOGY

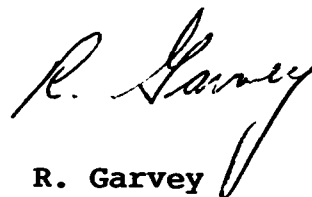
The dominant structural feature of the area is foliation. Primary layering is occasionally present in the metavolcanic-metasedimentary rocks. The foliation invariably conforms to primary layering.

No major fold structures were observed. Minor folds occur throughout the map area and are predominantly Z-shaped and plunge 40°- 60° in a northeasterly direction.

#### ECONOMIC GEOLOGY

Pegmatites occurring as dykes, sills, pods and irregular branching bodies are the host rock for uranium mineralization.

The radioactivity is found in darker zones within the pegmatite often associated with yellow secondary uranium minerals occurring along fractures of various orientation, with the highest readings obtained in biotite, apatite, and/or magnetite-rich phases erratically distributed throughout the pegmatite.

  
R. Garvey



IMPERIAL OIL LIMITED  
 RETURN TO  
 111 ST. CLAIR AVENUE W.  
 TORONTO, CANADA  
 M6W 1K3



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DEC 12 1974

PROJECTS UNIT

Mr. J.R. McGinn  
 Director  
 Lands Administration Branch  
 Ministry of Natural Resources  
 Whitney Block, Room 1617  
 Queen's Park  
 Toronto, Ontario M7A 1X1



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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.

DEC 12 1974

PROJECTS UNIT

Type of Survey GEOLOGICAL MAPPING  
Township or Area BRIDGES & DOCKER TWP S  
Claim holder(s) AUGMITTO EXPLORATIONS & IMPERIAL OIL LIMITED  
Author of Report R.T. GARVEY  
Address 111 ST. CLAIR AVE. W. TORONTO  
Covering Dates of Survey AUGUST 4 TO SEPT 8, 1974  
(linecutting to office)  
Total Miles of Line cut LIMITED AMOUNT

MINING CLAIMS TRAVERSED  
List numerically

(prefix) (number)  
K 374246 to 374250 INCL  
K 374254 to 374257 INCL  
K 383015, 383017,  
383024, 383026,  
383027

SPECIAL PROVISIONS CREDITS REQUESTED	DAYS per claim
Geophysical	
- Electromagnetic _____	
- Magnetometer _____	
- Radiometric _____	
- Other _____	
Geological <u>20</u>	
Geochemical _____	

ENTER 40 days (includes line cutting) for first survey.  
ENTER 20 days for each additional survey using same grid.

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

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Dec 10/74 SIGNATURE: [Signature]  
Author of Report or Agent

PROJECTS SECTION

Res. Geol. \_\_\_\_\_ Qualifications 2.1481

Previous Surveys 63-2071 mag performed 1967  
63-2267 mag-Radiometric

Checked by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH

Approved by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH

Approved by \_\_\_\_\_ date \_\_\_\_\_

TOTAL CLAIMS 14

OFFICE USE ONLY

If space insufficient, attach list

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

**GEOPHYSICAL TECHNICAL DATA**

GROUND SURVEYS

Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_  
Station interval \_\_\_\_\_ *CONTINUOUS OBSERVATION* \_\_\_\_\_  
Line spacing \_\_\_\_\_ *100-500 FT* \_\_\_\_\_  
Profile scale or Contour intervals \_\_\_\_\_  
(specify for each type of survey)

MAGNETIC

Instrument \_\_\_\_\_  
Accuracy - Scale constant \_\_\_\_\_  
Diurnal correction method \_\_\_\_\_  
Base station location \_\_\_\_\_

ELECTROMAGNETIC

Instrument \_\_\_\_\_  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency \_\_\_\_\_  
(specify V.L.F. station)

Parameters measured \_\_\_\_\_

GRAVITY

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

INDUCED POLARIZATION – RESISTIVITY

Instrument \_\_\_\_\_  
Time domain \_\_\_\_\_ Frequency domain \_\_\_\_\_  
Frequency \_\_\_\_\_ Range \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_

# X-RAY ASSAY LABORATORIES

Game Lake 2.16.65

45 LESMILL ROAD

LIMITED

DON MILLS ONTARIO M3B 2T8

445-5755

## Certificate of Analysis

NO. 10409 PAGE 1 of 1

TO. Imperial Oil Limited,  
Business Development Dept.,  
111 St. Clair Ave. W.,  
Toronto, Ontario

P.O. #90L-1441879 (V77446)

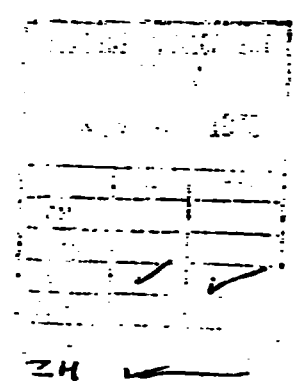
RECEIVED October 29, 1973

INVOICE NO. 10409

SAMPLE(S) OF Rock

SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

SAMPLE	% U <sub>3</sub> O <sub>8</sub>	% ThO <sub>2</sub>
3616 1	Trace	Trace
17 2	0.04	Trace
18 3	0.01	Trace
19 4	0.02	Trace
20 5	Trace	Trace
21 6	Trace	Trace
22 7	Nil	Trace
23 8	Trace	Trace
24 9	Trace	Trace
25 10	Trace	Trace
26 11	Trace	Trace
27 12	Trace	Trace
28 13	Trace	Nil
29 14	Nil	Trace
30 15	Nil	Nil
31 16	Trace	Trace
32 17	Trace	Trace
33 18	0.02	Trace
34 19	Trace	Trace
35 20	Trace	Trace
36 21	Nil	Trace
37 22	Trace	Trace
38 23	Trace	Trace
39 24	Trace	Trace
40 25	0.01	Trace



X-RAY ASSAY LABORATORIES LIMITED

DATE October 31, 1973

CERTIFIED BY

*E. Beach*



M-1051

DISTRICT OF  
KENCORA

KENORA  
MINING DIVISION

SCALE: 1-INCH 40 CT

LEGEND

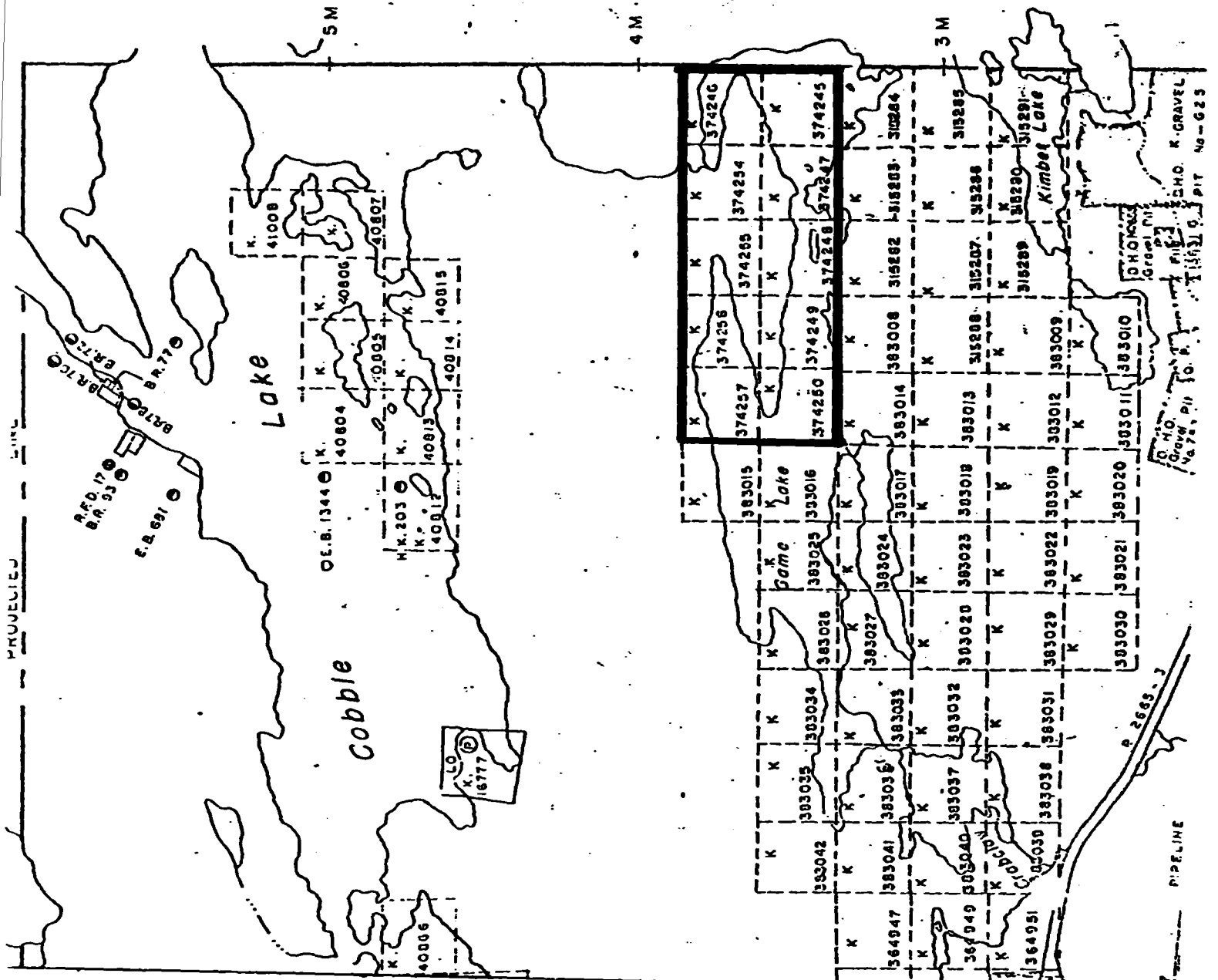
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- CROWN LAND SALE
- LEASES
- LOCATED LAND
- LICENSE OF OCCUPATION
- MINING RIGHTS ONLY
- SURFACE RIGHTS ONLY
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- CANCELLED

NOTES

400' Surface Rights Reservoirs  
All Lakes And Rivers.

Parcels indicated Thus:

Docker Twp. (M. 1968)



THE TOWNSHIP  
OF **2.1665**  
**BRIDGES**

DISTRICT OF  
KENORA

KENORA  
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             | —      |

**NOTES**

400' Surface Rights Reservation Around  
All Lakes And Rivers.

Pieces indicated thus:

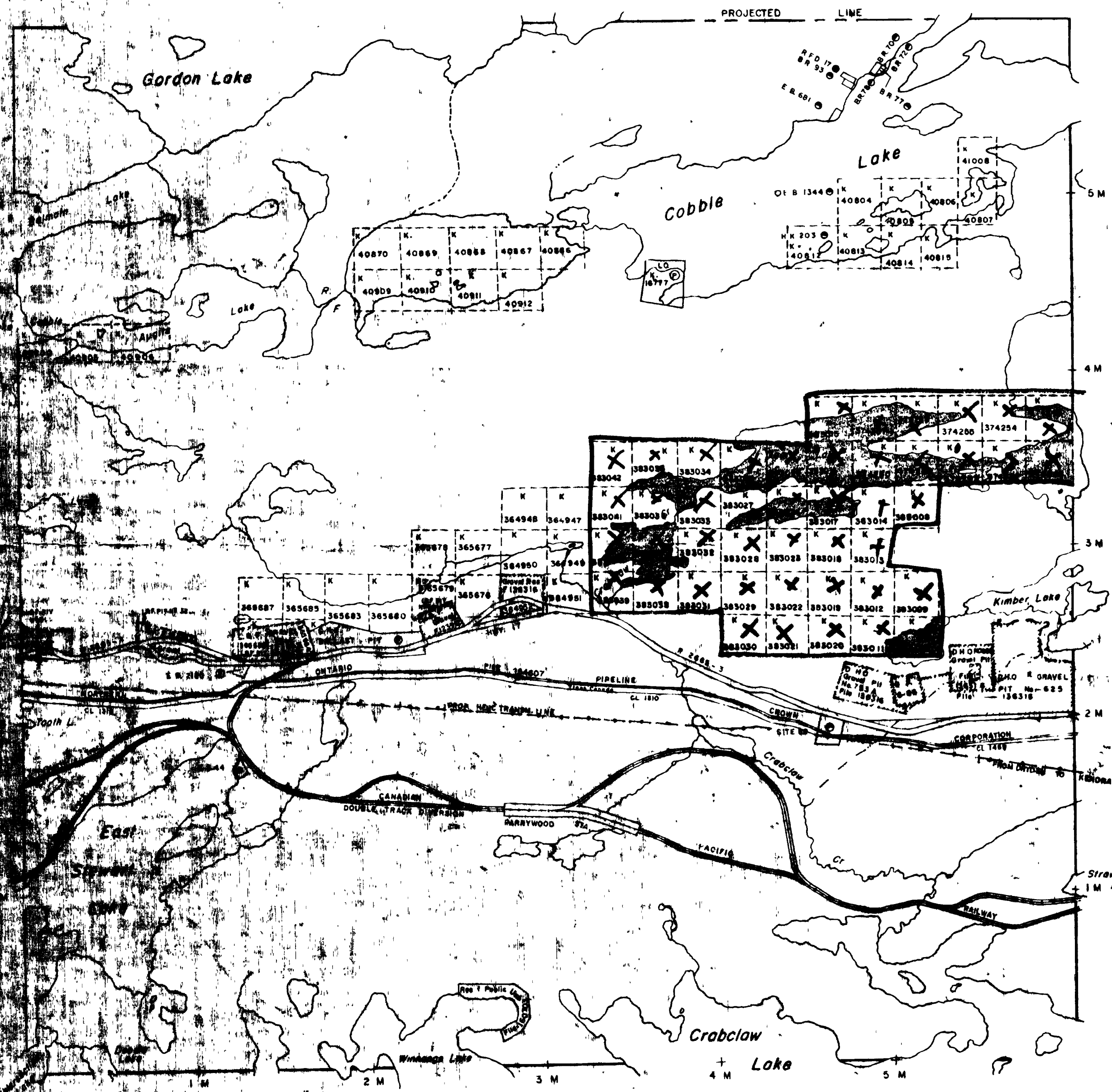
- Patented for Mining & Surface Rights
- Ⓢ Surface Rights Only

*analysis*

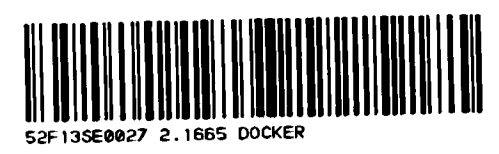
MINING LANDS  
DATE OF ISSUE  
DEC 18 1974  
MINISTRY  
OF NATURAL RESOURCES

PLAN NO. **M.1951**

ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH



Crabclaw Lake Area (M.1971)



Smellie Twp. (M. 2040)

THE TOWNSHIP  
OF

2.1665

# DOCKER

DISTRICT OF  
KENORA

KENORA  
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

### LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C S
LEASES	(L)
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	X
CANCELLED	C

### NOTES

400' Surface Rights Reservation Around  
All Lakes And Rivers

File	Date	Disposition
154607 vol 9 136316	Sept 1, 1970	S R O

Areas withdrawn from staking under Section  
43 of the Mining Act (R.S.O. 1970)

File	Date	Disposition
163473	30/11/71	surface & mining rights

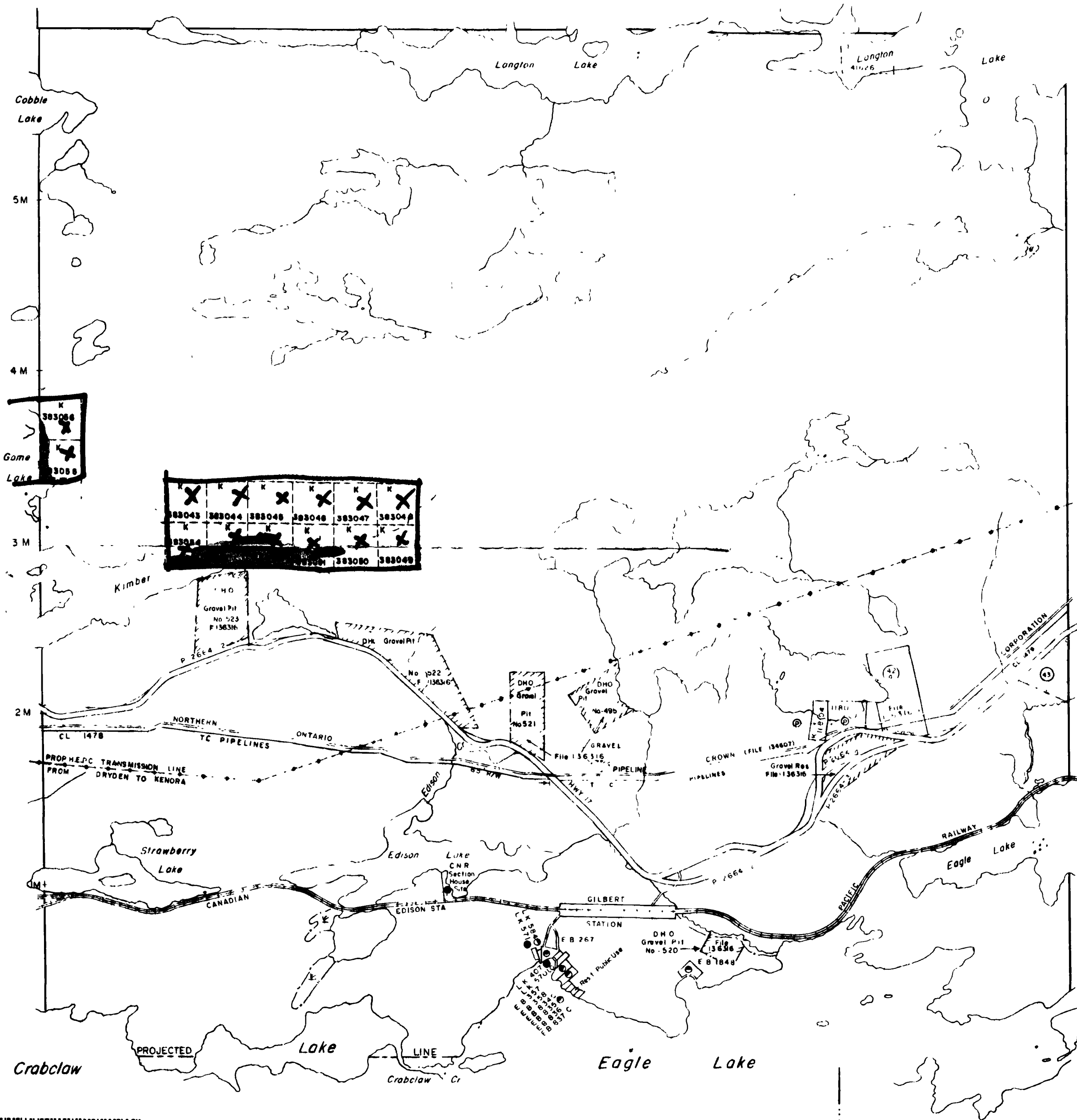
MINING LANDS  
DATE OF ISSUE  
DEC 13 1974  
MINISTRY  
OF NATURAL RESOURCES

PLAN NO. M.1968

ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

Bridges Twp. (M.1951)

Langton Twp. (M.1999)



abclaw Lake Area (M.1971)

Vermilion Bay (Eagle Lake)  
(M.2046)





TN

BUSH ROAD

GAME LAKE

BRIDGES TOWNSHIP  
DOCKER TOWNSHIP

KIMBER LAKE

TRANS-CANADA HIGHWAY NUMBER 17  
CRAWLWY CREEK

**LEGEND**

- CENOZOIC**  
PLEISTOCENE AND RECENT  
SAND, GRAVEL, CLAY AND SWAMP
- UNCONFORMITY
- PRECAMBRIAN**  
GRANITIC ROCKS
- 4 4a BIOTITE GRANITE  
4b MIGMATITE  
4c PEGMATITE, PEGMATITIC GRANITE
- INTRUSIVE CONTACT
- ULTRAMAFIC META-INTRUSIVE ROCKS**
- 3 3a GABBRO
- INTRUSIVE CONTACT
- METASEDIMENTS**
- 2 2a BIOTITE-QUARTZ-FELDSPAR GNEISS
- INTERMEDIATE METAVOLCANICS**
- 1 1a AGGLOMERATE, BRECCIA  
1b TUFF

**SYMBOLS**

- AREA OF BEDROCK OUTCROP
- GNEISSOSITY (INCLINED, VERTICAL)
- GEOLOGIC BOUNDARY (OBSERVED, INTERPRETED)
- CLAIM BOUNDARY AND CORNER POST
- ROCK TRENCH OR PIT
- RATIO TO BACKGROUND RADIOACTIVITY (BACKGROUND RADIOACTIVITY = 1500 C.P.M.)
- SWAMP
- SMALL BEDROCK OUTCROP
- DRAG FOLD WITH PLUNGE
- LINATION WITH PLUNGE

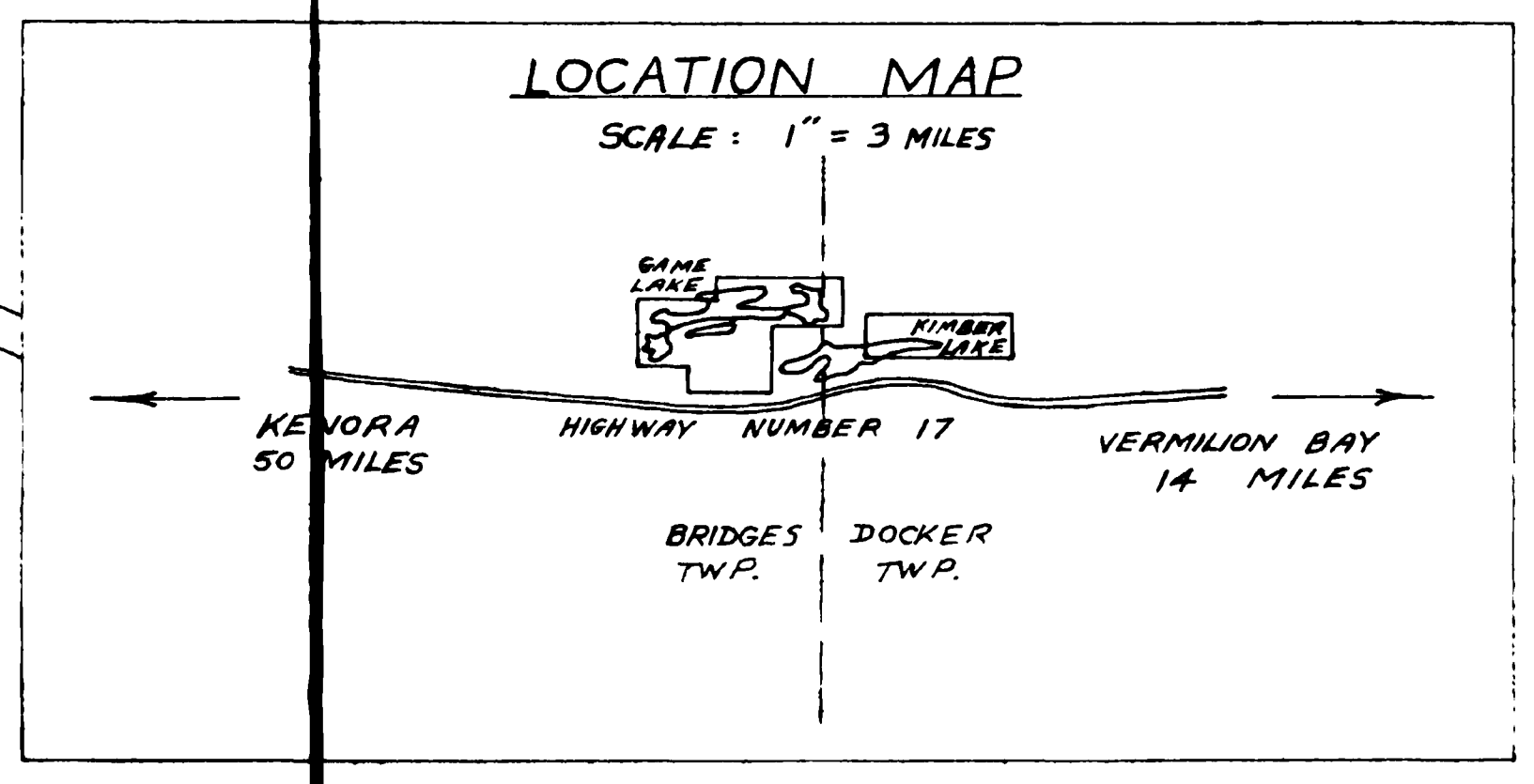


FIG. 1

IMPERIAL OIL LIMITED

BRIDGES + DOCKER TWP.'S  
VERMILION BAY AREA  
GEOLOGIC MAP OF  
GAME LAKE CLAIM GROUP

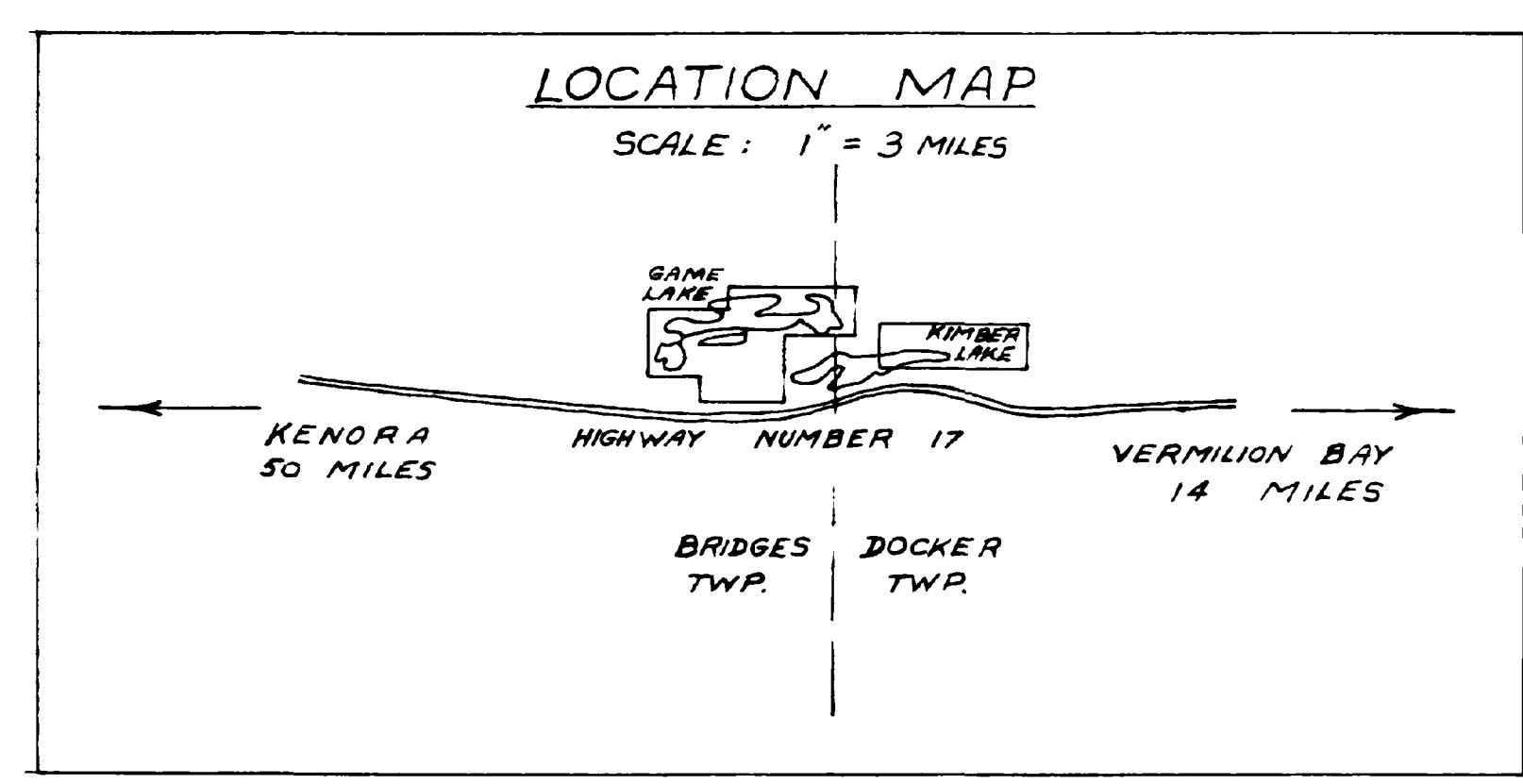
SCALE: 1" = 400'  
DATE: SEPT. 1974.  
DRAWN BY: R. GARVEY

GAME LAKE

KIMBER LAKE



TRANS-CANADA HIGHWAY NUMBER 17



- SYMBOLS**
- AREA OF BEDROCK OUTCROP
  - GNEISSOSITY (INCLINED, VERTICAL)
  - GEOLOGIC BOUNDARY (OBSERVED, INTERPRETED)
  - CLAIM BOUNDARY AND CORNER POST
  - ROCK TRENCH OR PIT
  - RATIO TO BACKGROUND RADIOACTIVITY (BACKGROUND RADIOACTIVITY = 1500 C.P.M.)
  - SWAMP
  - LINEATION WITH PLUNGE

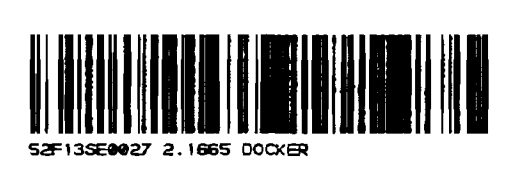
- LEGEND**
- CENOZOIC**  
PLEISTOCENE AND RECENT  
SAND, GRAVEL, CLAY AND SWAMP
- UNCONFORMITY
- PRECAMBRIAN**  
GRANITIC ROCKS
- 4a BIOTITE GRANITE
  - 4b MIGMATITE
  - 4c PEGMATITE, PEGMATITIC GRANITE
- INTRUSIVE CONTACT
- ULTRAMAFIC META-INTRUSIVE ROCKS**
- 3a GABBRO
  - 3b AMPHIBOLITE
- INTRUSIVE CONTACT
- METASEDIMENTS**
- 2a BIOTITE-QUARTZ-FELDSPAR GNEISS
- INTERMEDIATE METAVOLCANICS**
- 1a AGGLOMERATE, BRECCIA
  - 1b TUFF

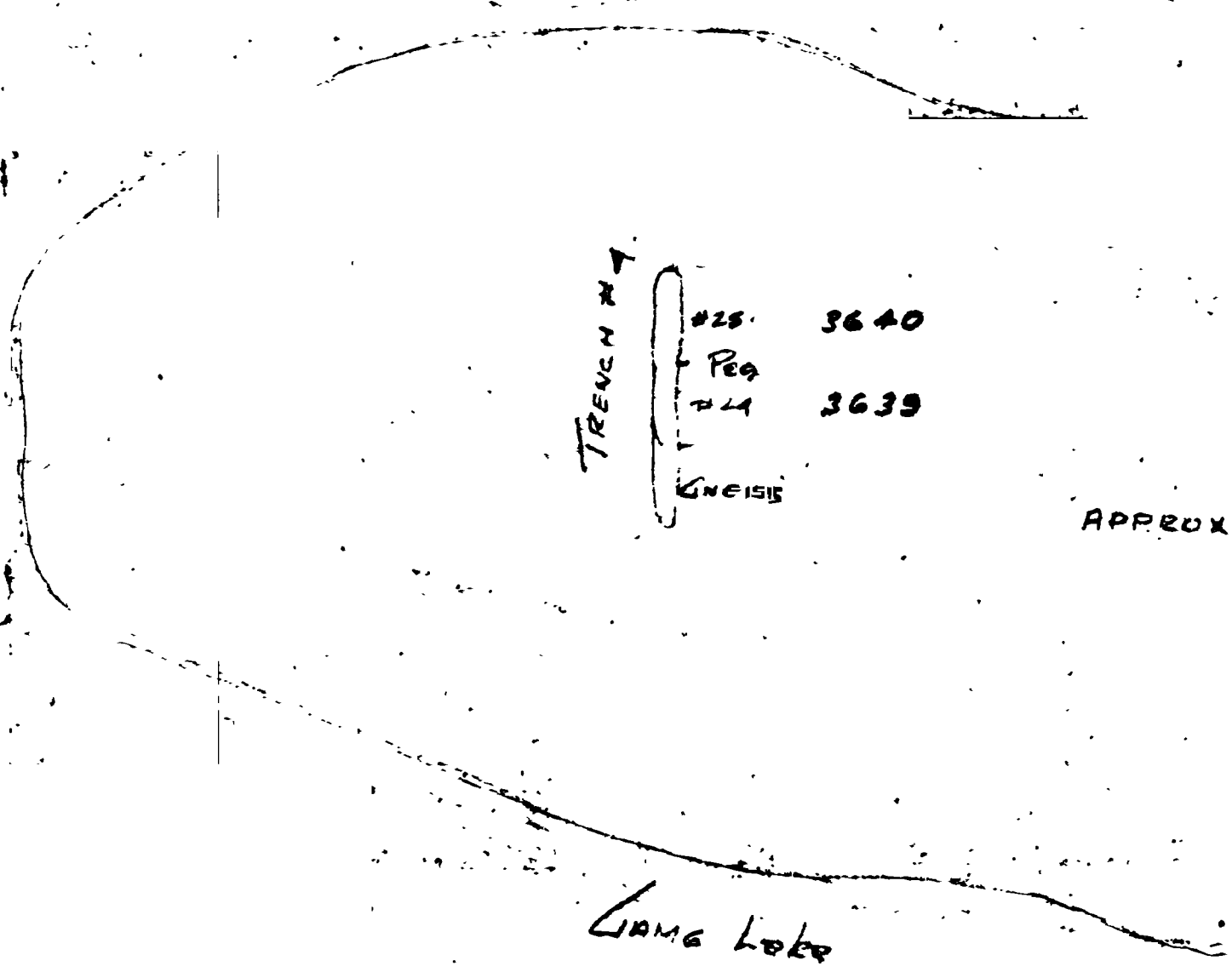
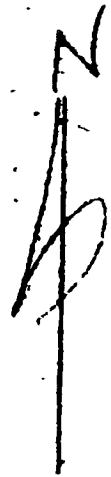
FIG. 2 *RJA*

IMPERIAL OIL LIMITED

DOCKER TWP  
VERMILION BAY AREA  
GEOLOGIC MAP OF  
KIMBER LAKE CLAIM GROUP

SCALE: 1" = 400'  
DATE: SEPT. 1974  
DRAWN BY: R. GARVEY





TRENCH #1

#25 3640  
#24 3639

UNCLAS

APPROX 1500' ETO TRENCH #1

LIANG LOBE

SKETCH SHOWING LOCATION  
SAMPLES TAKEN TRENCH #1  
BRIDGE TWP  
KONORA MINING DIST ONT.

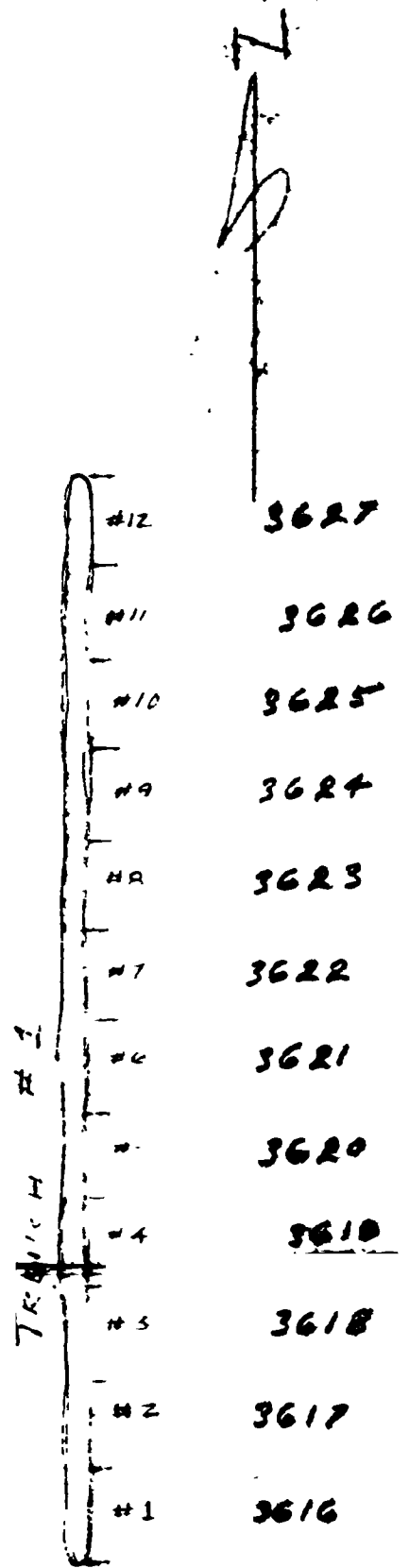
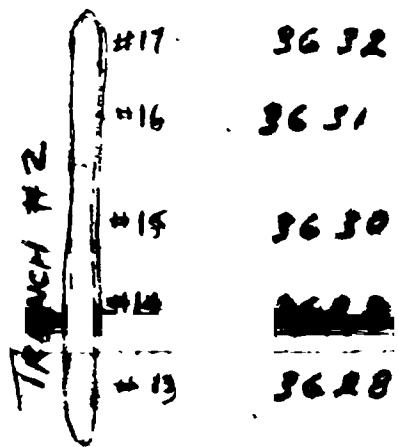
RVA

Scale 1" = 20'

Oct/73



52F135E0027 2.1885 DOCKER



500' South To  
 Claim Post  
 #1-374248  
 2-374255  
 3-374254  
 4-374247

SKETCH SHOWING LOCATION  
 OF SAMPLES TAKEN BRIDGES TWP,  
 KENORA MINING DIST., ONT

Scale 1" = 20'

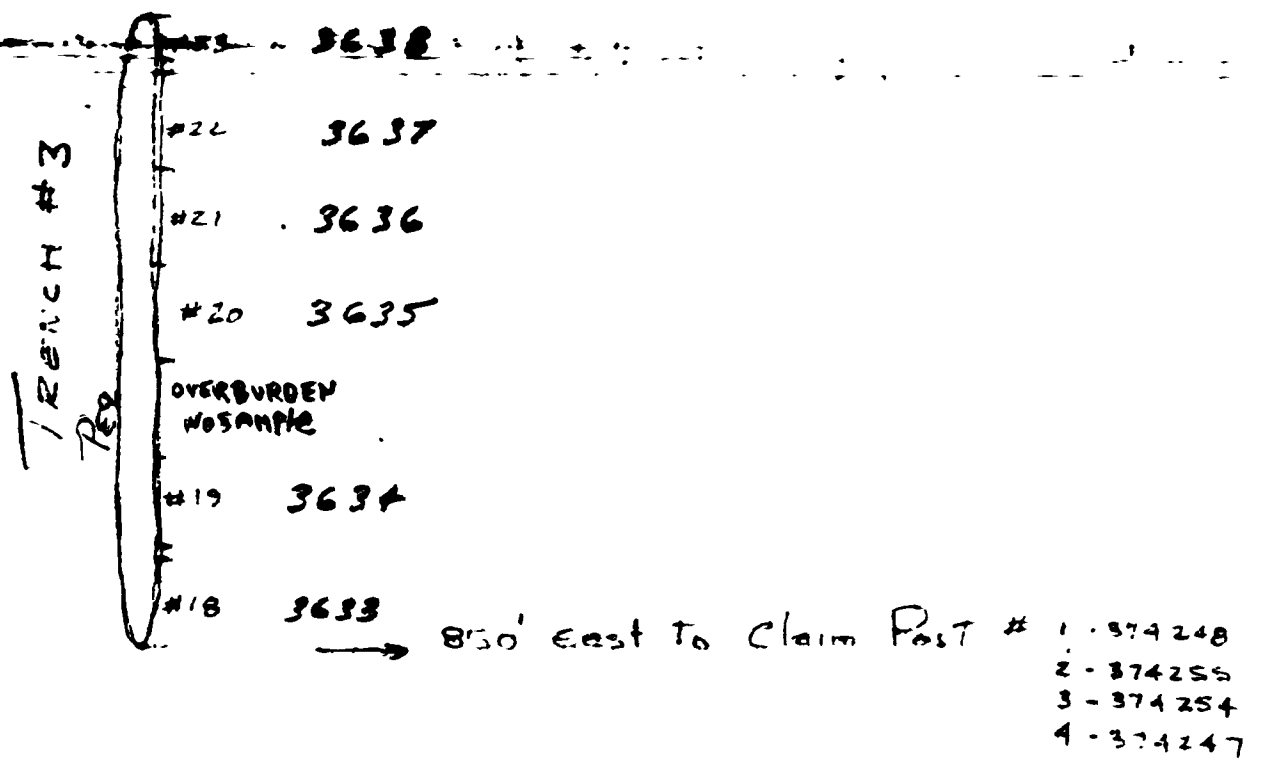


52F135E0027 2.1685 DOCKER

250

*Handwritten initials*

05/73



SKETCH - SHOWING LOCATION  
 SAMPLES TAKEN TRENCH #3.  
 BRIDGES TRIP  
 KENORA MINING DIST ONT.

Scale 1" = 20'

*K.A.*

oct 73

