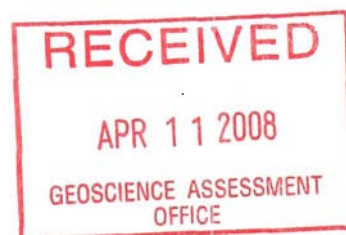


**REPORT**  
**on the**  
**FALL 2007 POWER-STRIPPING PROGRAM**  
**KIRANA CLAIM GROUP**  
**FIDELITY SHAFT AREA**  
**PATENT L2845**  
**TECK TOWNSHIP, ONTARIO**  
**NORTHERN GOLD MINING INC.**

2 • 3 7 6 8 3

**Ken Rattee, BSc**  
**Project Geologist**  
**April 2, 2008**



## **INTRODUCTION**

Northern Gold Mining Inc. Kirana Claim Group in which the work covered in this report was carried out on comprises 86 contiguous claim units, 4 patent blocks and 8 non-contiguous claim units just south of the main group. The claim group is spread across 4 townships (Morrisette, Lebel, Berhardt and Teck), 5 kms. to the northeast of Kirkland Lake, Ontario. The stripping, mapping and sampling project, the subject of this report, was carried out between Nov. 15 and Nov. 30, 2007 occurred on Patent L2845 in Teck Township within Northern Gold's Kirana Claim Group. The area is readily accessible via well-maintained paved and dirt roads from the town of Kirkland Lake. The stripping area can be reached by following the Airport Road northeast from Kirkland Lake for 4.3 kms where a poorly maintained bush road is followed northwest for approximately 300 metres to reach the capped Fidelity Mine shaft.

The Fidelity Mine was operated intermittently from 1912 to 1920 with an inclined shaft being sunk to a shallow depth. There are conflicting accounts on the actual depth the shaft was sunk to with one report stating the shaft was sunk to a 180' depth with levels at 90' and 180' (Mine Openings in Teck & Lebel Townships, L.J. Cunningham & Associates Inc., 1985) and an older report stating the shaft was sunk to a depth of 140' with a level at 140' (Kirkland Lake Gold Area, ODM Vol. 29, Part 4, Burrows, A.G., & Hopkins, P.E., 1920). It is not known whether actual production occurred from this mine as the only historical record describing the underground operation (ODM Vol. 29, Part 4, p.46) provides just a paragraph describing the mine with no mention of production or underground sampling results and little mention of underground observations.

The goal of the Fall 2007 Power Stripping program was to expose the Fidelity Mine Vein on surface and follow on-strike to map and channel or grab sample. To this purpose a 14 metre by 14 metre area was stripped immediately west of the capped mine shaft and two areas along strike was opened, one being 32 metres east of the shaft covering an area 16 metre by 10 metre with the other being 84 metres east of the shaft covering an area 26 metres by 9 metres. Quartz mineralization as veins, stringers or blebs was observed in all three of the stripped areas and is presumed to represent the strike extension of the Fidelity Vein.

## **GENERAL GEOLOGY**

The Fidelity stripping lies on the southwestern limb of the Blake River Syncline within the southwestern limb of the Blake River Syncline. Mafic volcanics of the Kinojevis Group dominate the property area. The Kinojevis mafic volcanic assemblage generally consists of Mg-rich and Fe-rich tholeiitic basalt lavas, although minor lenses of tholeiitic dacite and rhyolite may occur to the top of the group. Minor interflow sedimentary horizons also occur in this volcanic assemblage. Overlying the Kinojevis to the north of the property, is the predominantly calc-alkaline volcanic assemblage of the Blake River group that occupies the core of the regional synclinal structure. The Kinojevis volcanics have been intruded by tholeiitic gabbroic sills, syenite and quartz-feldspar porphyry

dykes and plugs, and finally by late diabase dykes. The stratigraphy is near vertical with local variations in dip to 70°N. Carbonatization is widespread and most intense along the porphyries and the stronger shear zones. Sericite alteration occurs with the more intense areas of carbonatization. Leucoxene alteration in basalt and gabbro is widespread.

Though no significant structure is shown on the regional geology maps in this area the Lakeshore Cross-Fault which, approximately 4 kms to the south of the Fidelity Mine, offsets the Kirkland Lake Main Break Au mineralization, projects through the general area of the Fidelity Mine though its existence has never been established with any certainty in the Fidelity area. The Kirana Fault which appears to control the Au mineralization at the Kirana Mine approximately 1 km east of the Fidelity Mine projects to approximately 200 metres north of the stripping area.

In the area of the Fidelity Mine the rock formations are basalts of the Kinojevis Group with intrusions of diabase and a grey quartz-feldspar porphyry. The mineralization is reported to be predominantly hosted by an altered basalt with porphyry on the hanging wall side (north). The mineralized zone is characterized by vein quartz and silicified rock containing pyrite and some molybdenite with calcite occurring as indefinite veinlets. Native gold in fine-grains was reported to have been observed. The mineralized zone was reported to be 20 inches wide on surface opening to a 7 foot width at the 140' level.

## **LOCAL OBSERVATIONS**

In the shaft area stripping the Fidelity Vein was exposed for a length of 7 metres immediately west of the capped shaft. The mineralized zone was observed to be characterized as a 5-30 cm irregular quartz vein with 2-3% finely disseminated sulphides in the adjacent wallrock. The lithology of this stripping was exclusively a mafic volcanic being characterized as greyish-green, fine to medium-grained, massive and featureless. The mafic volcanic showed alteration and bleaching adjacent to the quartz vein. No significant structure was observed in this stripping. Three samples were collected from the mineralized zone only averaging 0.2 g/t.

In the Central Stripping area approximately 32 metres east of the shaft the mineralized zone was exposed for 16 metres along strike. The mineralized zone was characterized as a 30 cm. quartz vein locally blebby and brecciated with abundant moly and chlorite infilling and 2-3% fine pyrite. The vein dipped 40° to the northeast. The adjacent mafic volcanic was altered and bleached. The lithology of this stripped area was exclusively a mafic volcanic being greyish-green, fine to medium-grained, massive and featureless becoming locally altered and bleached adjacent to the quartz vein. No significant structure was observed in this stripping though the rock was observed to be well fractured and jointed with a prominent joint plane striking at 105° and dipping south at 35°. Six channels were cut along the strike of the vein all of a standard 1.0 metre width. The individual assays of these 1.0 metre lengths ranged from 40.56 g/t to 130 ppb averaging 7.68 g/t over 1.0 metre.

The Eastern area stripping opened up an area 26 metres by 9 metres approximately 84 metres of the shaft opening up the mineralized zone for 20 metres along strike. The mineralized zone was characterized as a 30 cm blebby quartz vein in highly altered, bleached mafic volcanics with 3-7% very finely disseminated pyrite. The vein was measured dipping northeast at 50°. The lithology of this stripped area was exclusively mafic volcanic described as greyish-green, fine to medium-grained, massive and featureless basalt being locally altered and bleached. Local areas within the stripped area exhibited strong shearing with widths up to 1.5 metres. The shearing generally trended along a northeast to eastern strike direction and generally dipped northwest at 40°. The shearing did not seem to extend north of the main quartz vein but south of the quartz vein the intensity of the shearing was suggestive of a strong fault. Six channels were cut crossing the quartz vein at widths varying from 0.9 metres to 0.4 metres with assays varying from 2.28 g/t to 0.50 g/t averaging 1.49 g/t over 0.6 metres.

### **FUTURE WORK**

In 2008 Northern Gold Mining proposes a regional exploration program to cover the area of this power-stripping as well as the entire Kirana Claim Group. Following research and available data compilation, surface grids will be cut over selective regions. Geophysical, geochemical and geological surveys will be conducted to define targets for follow-up diamond drilling. The program will undoubtedly be multi-year in duration.

## **FIDELITY STRIPPING ASSAY LIST**

- 48694 – GRAB: Qtz Vn at shaft stripping, 6' No of shaft, blebby Qtz, moderate moly fracturing, trace fine-grained py, bleached Mafic Volcanic, Shaft Area  
Au 446 ppb
- 48695 – GRAB: Qtz Vn at shaft stripping, 10' N of shaft, blebby Qtz + graphite, moderate moly fracturing, Shaft Area  
Au 278 ppb
- 48696 – GRAB: Mafic Volcanic with Qtz-moly fractures, minor fine-grained py + rust, from muck pile, Shaft Area  
Au 7 ppb
- 48697 – GRAB: sheared material 4' east of vein in shaft stripping, highly fractured Mafic Volcanic, rusty appearance, Shaft Area  
Au 27 ppb
- 48698 – GRAB: Mafic Volcanic, medium-grained, grey, Qtz with moly fracturing, rusty weathered surface, Qtz zone 6' west of vein on shaft stripping, Shaft Area  
Au 17 ppb
- 48699 – GRAB: sheared material 2' north of shaft, minor mud seam + fractured Mafic Volcanic, rusty, Shaft Area  
Au Nil
- 48700 – GRAB: muck pile grab, medium-grained Mafic Volcanic + moly fractured Qtz, 1-2% sulphides, minor rust, minor epidote, minor rhombohedral carb, Shaft Area  
Au 34 ppb
- 22943 – GRAB: Eastern Area stripping, bleached Mafic Volcanic, 5-7% fine-grained pyrite, minor qtz + moly  
Au 1.65 g/t
- 22944 – GRAB: Eastern Area stripping, bleached Mafic Volcanic, 5-7% fine-grained pyrite, minor qtz + moly fracturing  
Au 891 ppb
- 22945 – GRAB: Eastern Area stripping, Qtz + moly fracturing, minor bleached Mafic Volcanic, weathered rusty surface  
Au Nil
- 22947 – GRAB: Eastern Area stripping, Qtz + moly fracturing, minor bleached Mafic Volcanic, weathered rusty surface  
Au 55 ppb

- 48404 – Eastern Area stripping, Channel #1, 0.6m length, blebby Qtz + fine-grained pyrite + moly fractures  
Au 1.80 g/t
- 48405 – Eastern Area stripping, Channel #2, 0.4m length, blebby Qtz + fine-grained pyrite + moly fractures  
Au 1.27 g/t
- 48406 – Eastern Area stripping, Channel #3, 0.6m length, blebby Qtz + fine-grained pyrite + moly fractures  
Au 497 ppb
- 48407 – Eastern Area stripping, Channel #4, 0.65m length, blebby Qtz + fine-grained pyrite + moly fractures  
Au 1.21 g/t
- 48408 – Eastern Area stripping, Channel #5, 0.7m length, blebby Qtz + fine-grained pyrite + moly fractures  
Au 1.44 g/t
- 48409 – Eastern Area stripping, Channel #6, 0.9m length, blebby Qtz + fine-grained pyrite + moly fractures  
Au 2.28 g/t
- 48410 – GRAB: Eastern Area stripping, bleached Mafic Volcanic + Qtz, moly fractures, 1-2% fine-grained pyrite  
Au 291 ppb
- 48411 – GRAB: Eastern Area stripping, 2 cm. Qtz stringer perpendicular to Main Vn., Qtz + moly + 1-2% fine-grained pyrite, sheared, fractured Mafic Volcanic  
Au 34 ppb
- 48412 – Central Area stripping, Channel #1, W→E, 0.0-1.0m, blebby Qtz Vn + bleached Mafic Volcanic, 1% fine-grained pyrite, moly fracturing  
Au 130 ppb
- 48413 – Central Area stripping, Channel #1, W→E, 1.0-2.0m, blebby Qtz with abundant moly fractures, 1% fine-grained pyrite  
Au 926 ppb
- 48414 – Central Area stripping, Channel #1, W→E, 2.0-3.0m, Qtz, moly fracturing, 1% fine-grained pyrite as coarse clots  
Au 1.76 g/t

- 48415 – Central Area stripping, Channel #1, W→E, 3.0-4.0m, blebby Qtz + moly fractures, 1% fine-grained pyrite, grey Porphyry?  
Au 40.56 g/t
- 48416 – Central Area stripping, Channel #1, W→E, 4.0-5.0m, blebby Qtz, bleached Mafic Volcanic, 1% fine-grained pyrite, moly fractures  
Au 1.61 g/t
- 48417 – Central Area stripping, Channel #1, W→E, 5.0-6.0m, blebby Qtz, bleached Mafic Volcanic, 1% fine-grained pyrite, moly fractures  
Au 1.07 g/t
- 48418 – Central Area stripping, Channel #2, W→E, 0.7m length, blebby Qtz, bleached Mafic Volcanic, strong moly fracturing, 1-2% fine-grained pyrite in fractures  
Au 1.06 g/t
- 48419 – Central Area stripping, Channel #3, W→E, 0.7m length, blebby Qtz + moly fractures, 1-2% fine-grained pyrite  
Au 435 ppb
- 48420 – Shaft Stripping, Channel #1, bleached Mafic Volcanic, minor Qtz blebs, minor fine-grained pyrite  
Au 233 ppb
- 48421 – Shaft Stripping, Channel #2, Mafic Volcanic + moly fractured Qtz, 1-2% fine-grained pyrite  
Au 137 ppb

## **CERTIFICATE OF AUTHOR**

I, Ken Rattee, of the town of Kirkland Lake, Ontario hereby certify:

- 1) I am a graduate from the University of Toronto, Toronto, Ontario having received a Bachelor of Science degree, Geology Major in 1980.
- 2) I have worked for 28 years as a Professional Geologist, predominatly in the north-eastern Ontario area, as a production, exploration and consultant geologist.
- 3) I am currently employed as Vice-President Exploration for Northern Gold Mining Inc.
- 4) I have made use of the records of the Ontario Geological Survey as well as field observations and personal knowledge of the area in the preparation of this report.

Dated April 7, 2008



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Ken Rattee, BSc





Established 1928

# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 2

## Geochemical Analysis Certificate

7W-3820-RG1

Company: **NORTHERN GOLD MINING INC.**

Date: JAN-02-08

Project:

Attn: **K. Rattee**

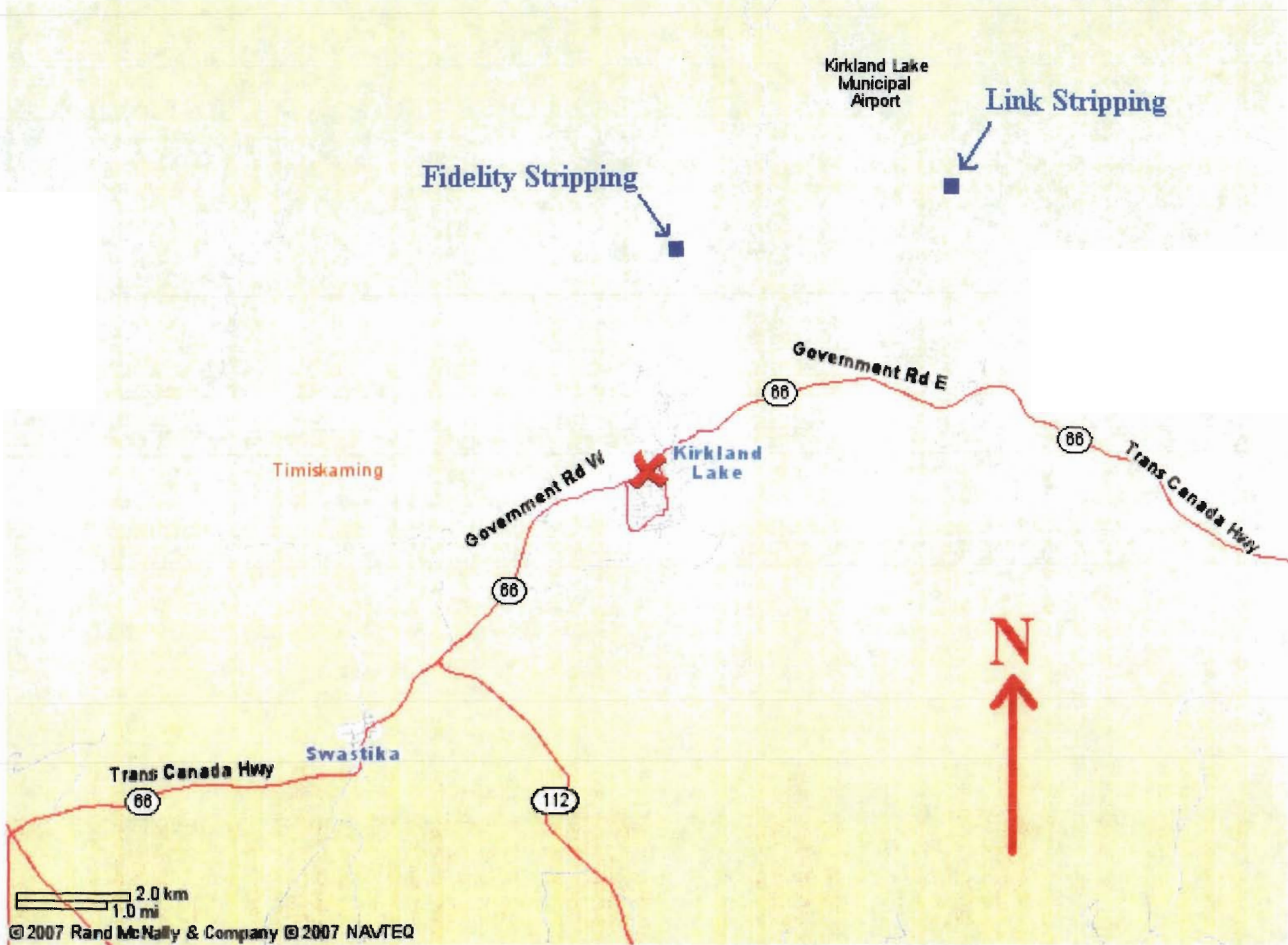
We hereby certify the following Geochemical Analysis of 52 Core samples submitted NOV-22-07 by .

Sample Number	Au PPB	Au Check PPB
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48697	27	-
48698	17	-
48699	NIL	-
48700	34	-
22943	1653	-
22944	891	-
22945	NIL	-
22947	55	-
48404	1803	-
48405	1347	1190
48406	497	-
48407	1210	-
48408	1440	-
48409	2280	-
48410	291	-
48411	34	-
48412	130	-
48413	926	-
48414	1762	-
48415	46629	34492
48416	1605	-
48417	1046	1097
48418	1056	-
48419	435	-
48420	233	-
48421	137	-

Certified by *Denis Chantre*

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0

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Fidelity Stripping

Link Stripping

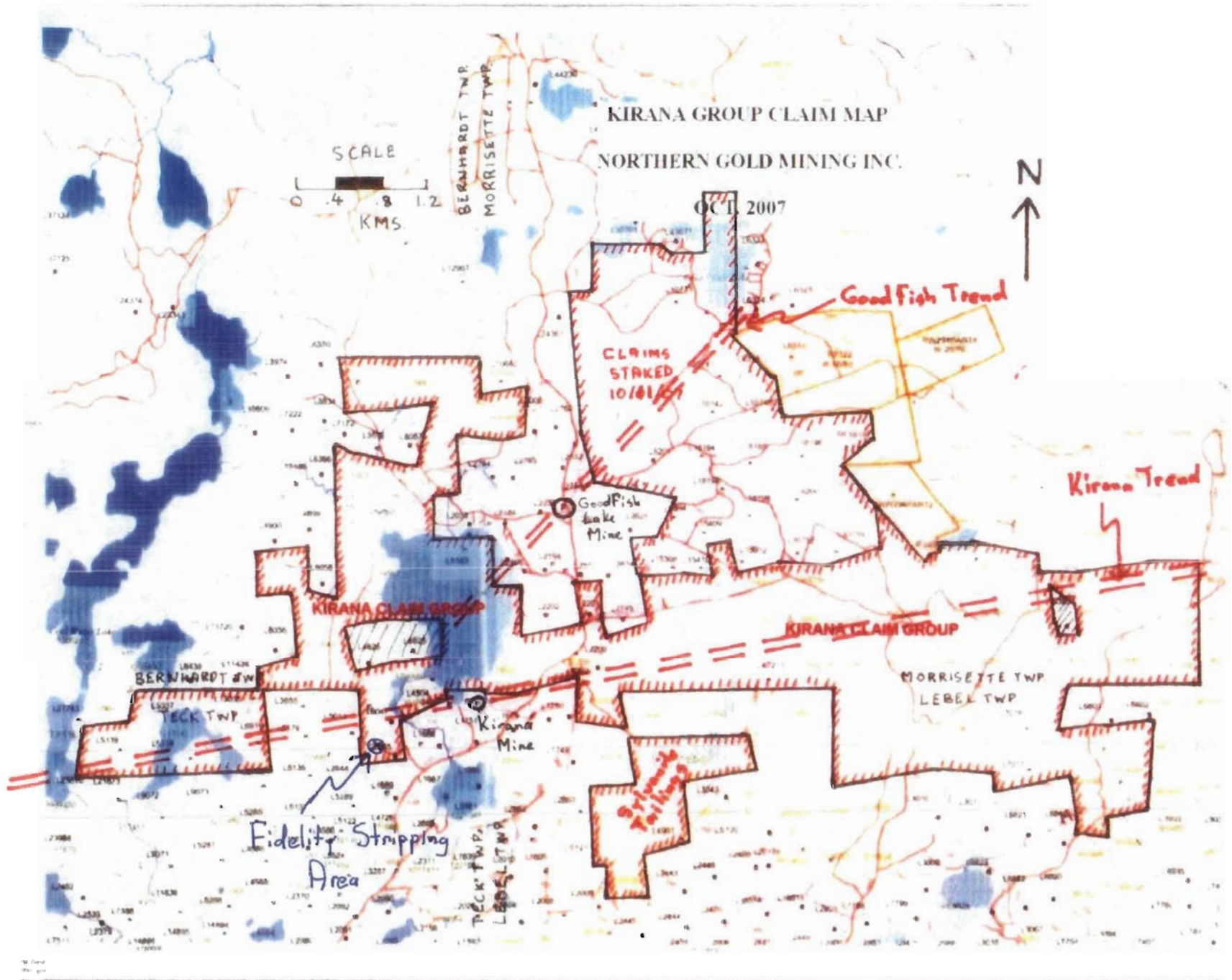
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Airport

Timiskaming

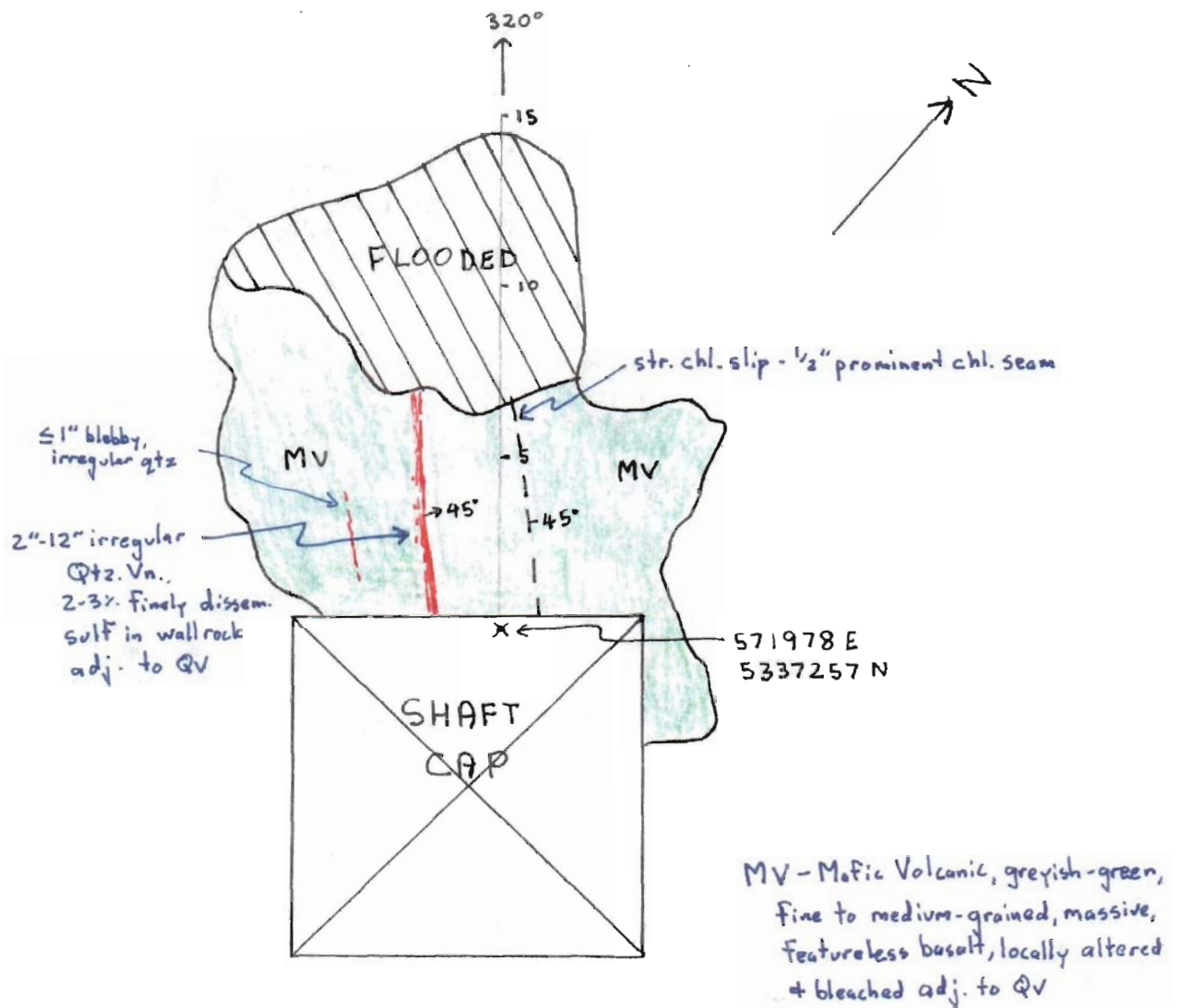
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Swastika

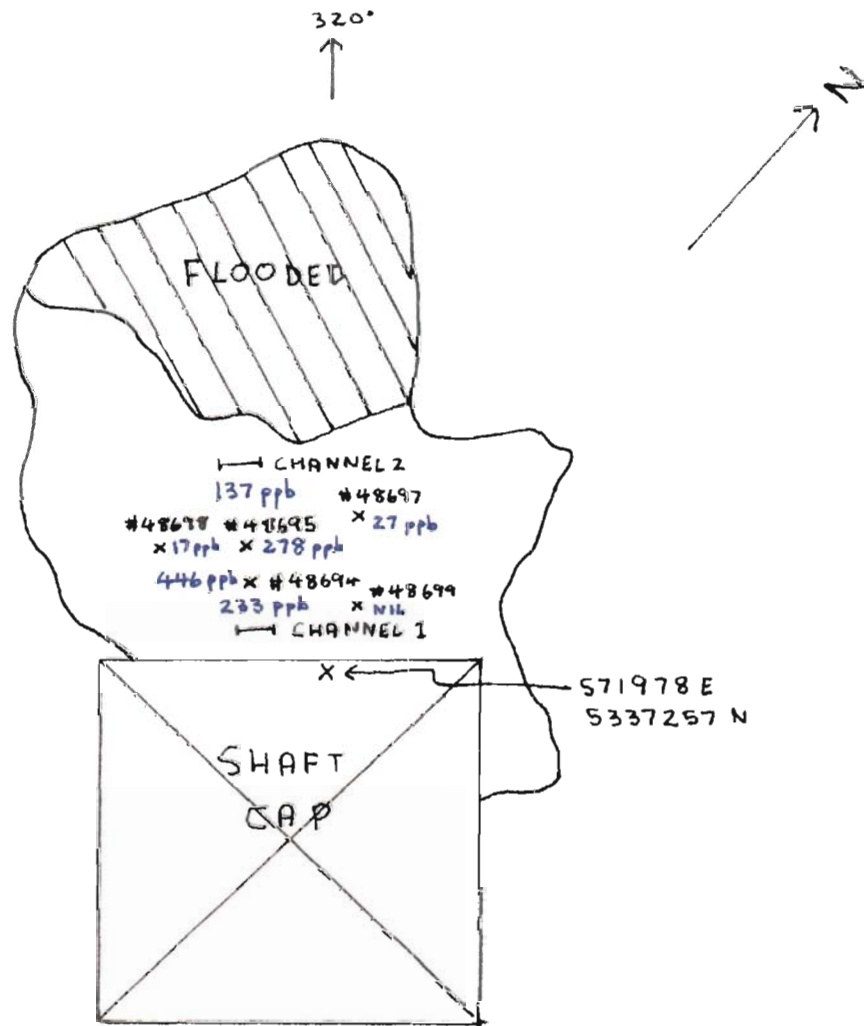








Fidelity Stripping  
 Shaft Area  
 Teck Township  
 Patent #L2845  
 1:200  
 1 cm = 2 m  
 Ken Rattee  
 Map Datum: NAD 83



Fidelity Stripping

Shaft Area

Teck Township

Patent # L2845

1:200

1 cm = 2 m

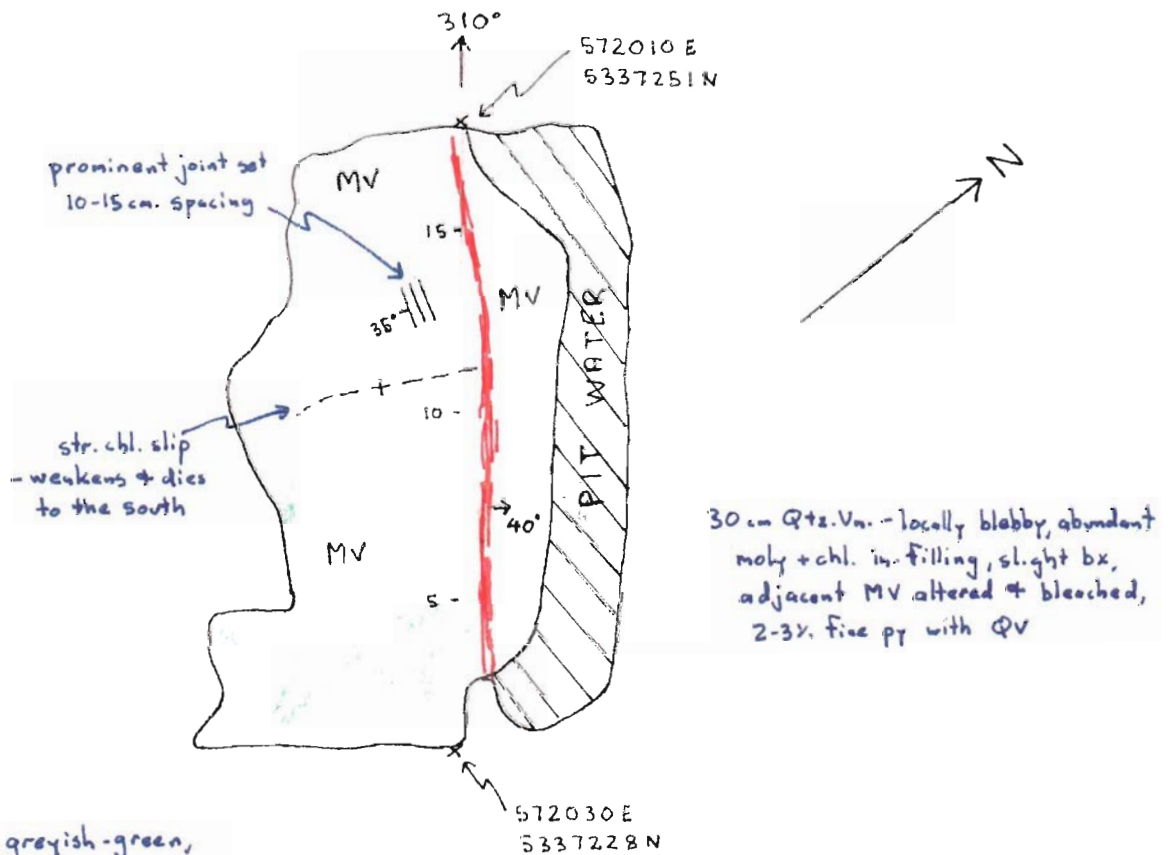
Ken Rattee

Map Datum: NAD 83

Muck Grabs:

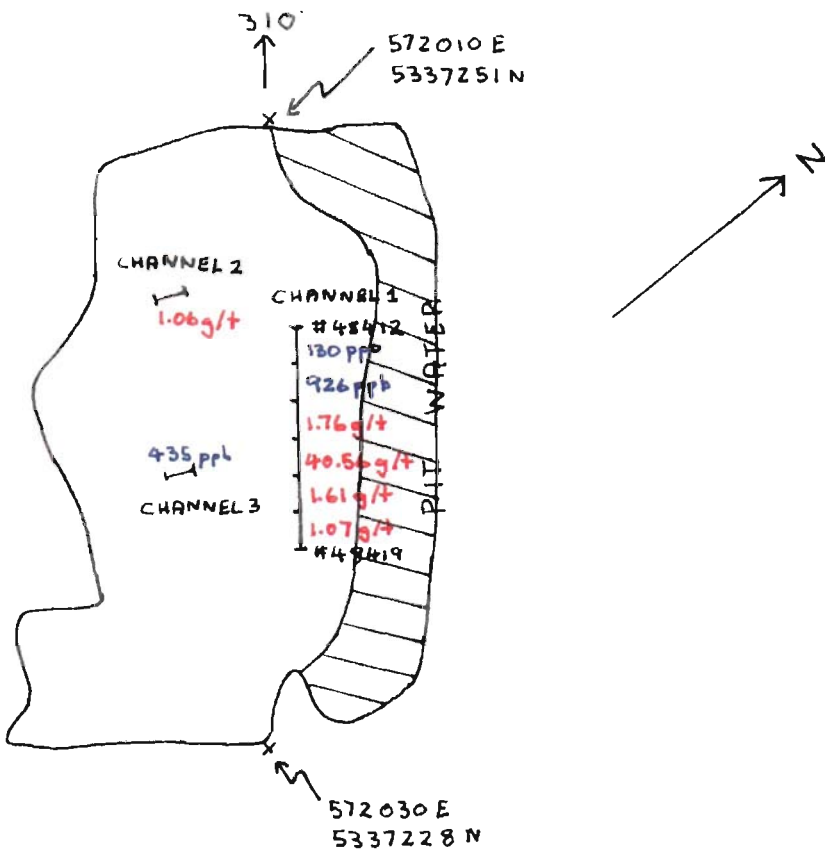
#48696 7 ppb

#48700 34 ppb

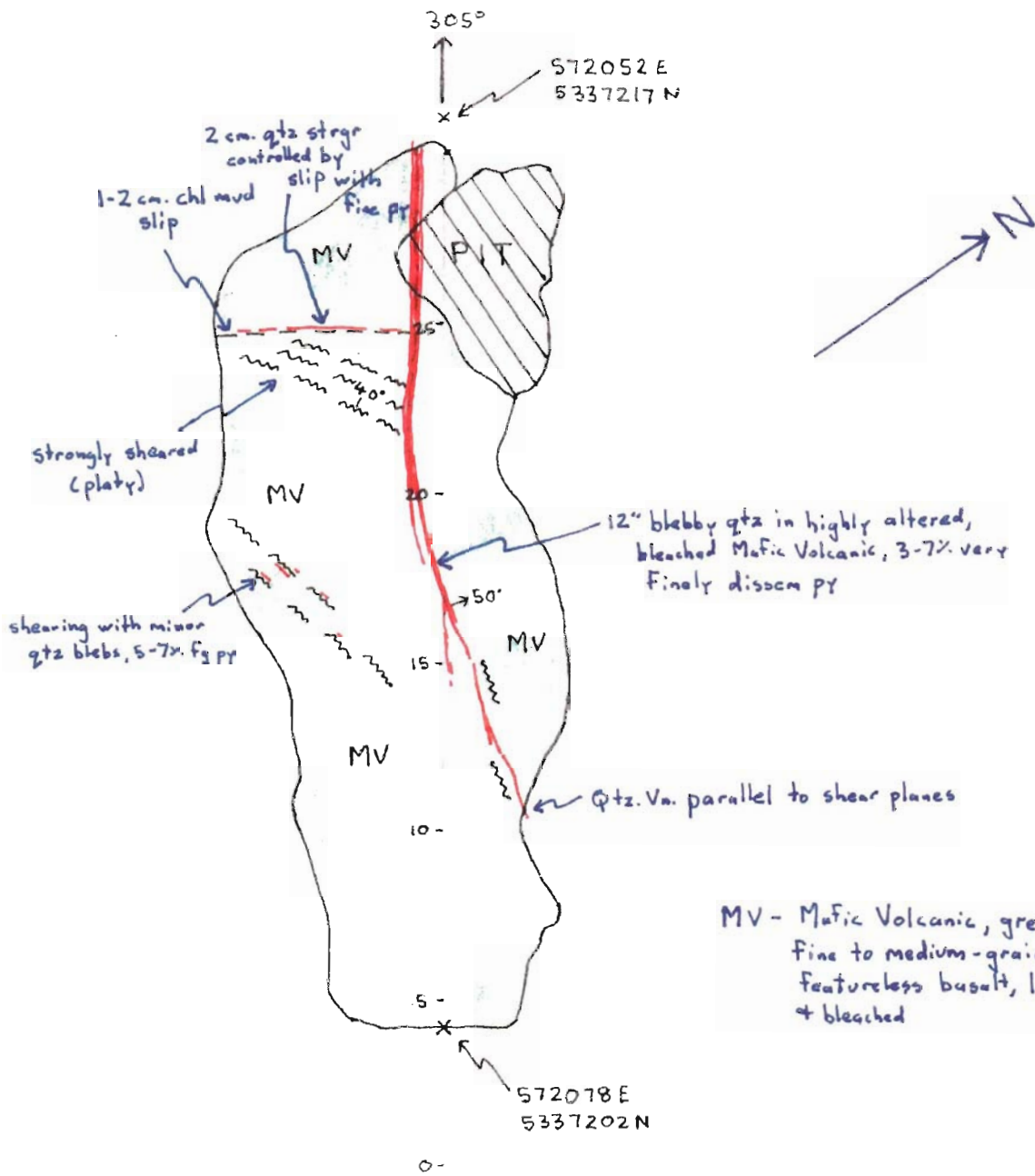


MV - Mafic Volcanic, greyish-green, fine to medium-grained, massive, featureless basalt, locally altered & bleached

Fidelity Stripping  
 Central Area  
 Teck Township  
 Patent # L2845  
 1:200  
 1cm = 2m  
 Ken Rattee  
 Map Datum: NAD 83



Fidelity Stripping  
 Central Area  
 Teck Township  
 Patent # L2845  
 1:200  
 1cm = 2m  
 Ken Rattee  
 Map Datum: NAD 83



Fidelity Stripping

Eastern Area

Teck Township

Patent # L2845

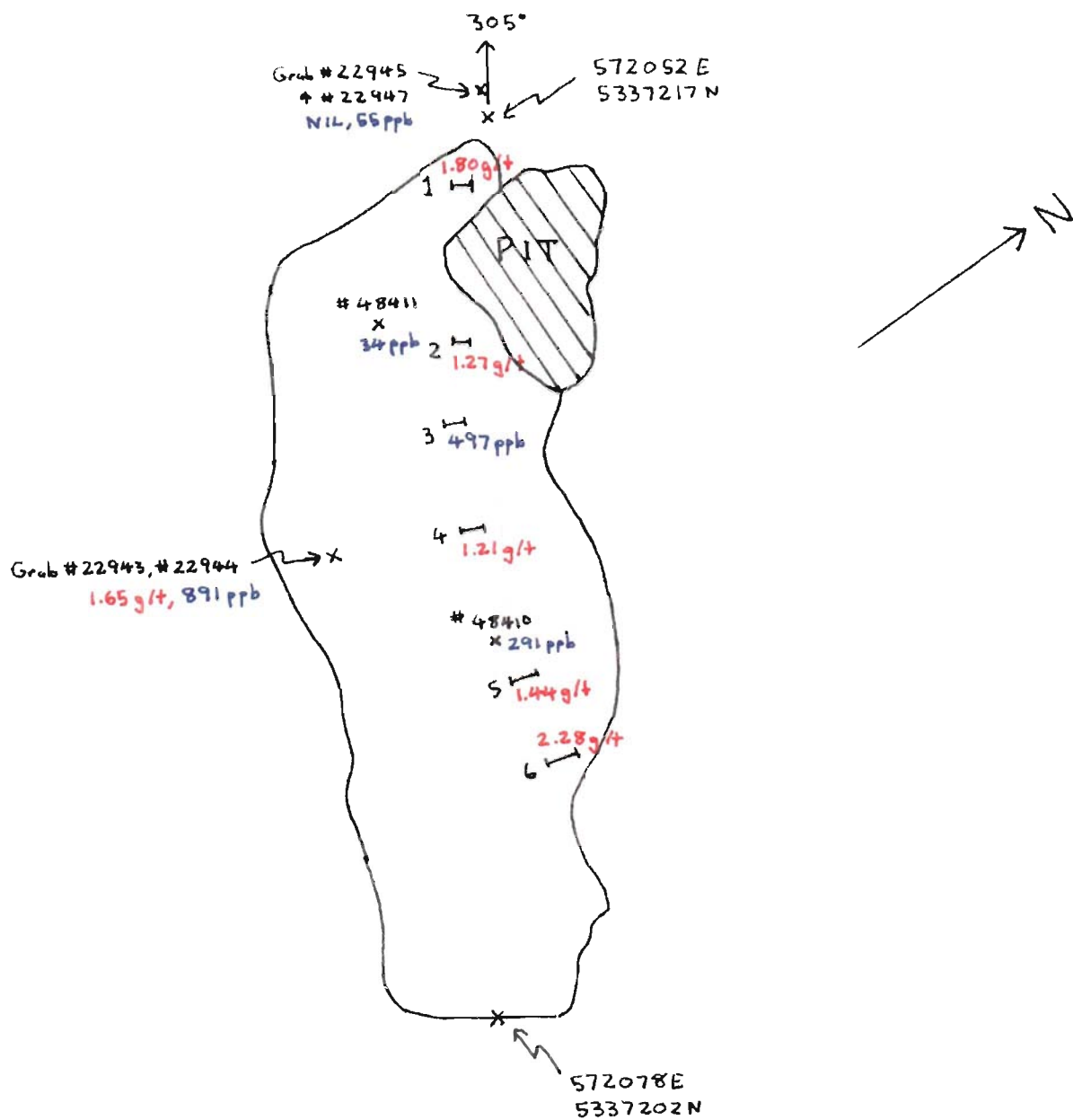
1:200

1 cm = 2 m

Ken Rattee

Map Datum: NAD 83





Fidelity Stripping  
 Eastern Area  
 Teck Township  
 Patent # L2845  
 1:200  
 1 cm = 2 m  
 Ken Rattee  
 Map Datum: NAD 83



Date / Time of Issue: Thu Apr 03 09:59:01 EST 2008

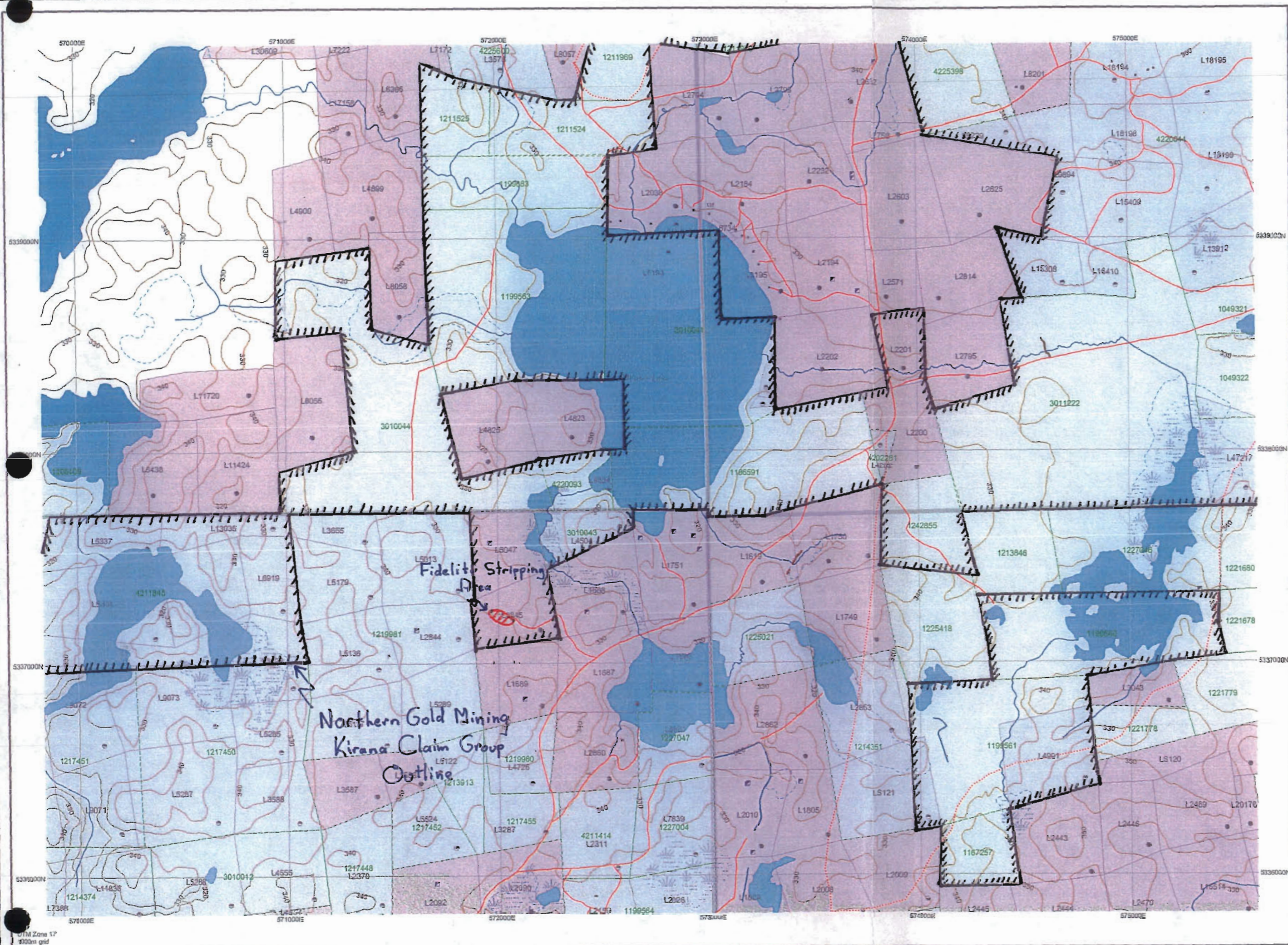
TOWNSHIP / AREA  
BERNHARDT

PLAN  
G-3207

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division  
Land Titles/Registry Division  
Ministry of Natural Resources District

Larder Lake  
TIMISKAMING  
KIRKLAND LAKE

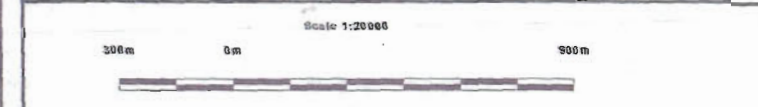


TOPOGRAPHIC

- Administrative Boundaries
- Township
- Concession Lot
- Provincial Park
- Indian Reserve
- Car, Pt & File
- Contour
- Mine Shaft
- Mine Headframe
- Railway
- Road
- Trail
- Natural Gas Pipeline
- Utilities
- Tower

Land Tenure

- Freehold Patent**
  - Surface And Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- Leasehold Patent**
  - Surface And Mining Rights
  - Surface Rights Only
  - Mining Rights Only
- License of Occupation**
  - Uses Not Specified
  - Surface And Mining Rights
  - Surface Rights Only
  - Mining Rights Only
  - Lateral Use Permit
  - Order in Council (see uses for details)
  - Water Power Lease Agreement



LAND TENURE WITHDRAWAL DESCRIPTIONS

Identifier	Type	Date	Description
W 56/80	Wm	Jan 3, 1980	SECTION 36/80 NR W 56/80 3-1-80 M.F.O. 160705
W-L-16/05	Wsm	Mar 31, 2005	<a href="http://www.mndm.gov.on.ca/mndm/mines/lands/wlreop/orders/2005/wl-16-05_e.asp">http://www.mndm.gov.on.ca/mndm/mines/lands/wlreop/orders/2005/wl-16-05_e.asp</a> "W-L-16/05 M&S withdrawal S.35 Mining Act RSO 1990, March 31st, 2005. Click to link to withdrawal order">
W-L-17/00	Wsm	May 27, 2000	SEC.35 W-L-17/00 2000/05/27 S+M 195150
W-L-18/00	Wsm	Apr 27, 2000	Sec. 35 W-L-18/00 2000/04/27 M+S 195150

IMPORTANT NOTICES

Areas under which special regulation, limitations or conditions exist that affect normal prospecting, staking and mineral development activities.

Those wishing to stake mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Northern Development and Mines web site.

**General Information and Limitations**  
 Contact Information:  
 Provincial Mining Recorders' Office  
 Willet Green Miller Centre 833 Ramsey Lake Road  
 Sudbury ON P3E 6B5  
 Home Page: [www.mndm.gov.on.ca/MNDMMINESLANDS/mismpage.htm](http://www.mndm.gov.on.ca/MNDMMINESLANDS/mismpage.htm)

Toll Free  
 Tel: 1 (888) 415-9845 ext 5782  
 Fax: 1 (877) 630-1444

Map Datum: NAD 83  
 Projection: UTM (5 degree)  
 Topographic Data Source: Land Information Ontario  
 Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land tenure and interests in land including certain patents, leases, easements, right of ways, flooding rights, licenses, or other forms of disposition of rights and interest from the Crown. Also certain land tenure and land uses that restrict or prohibit free entry to stake mining claims may not be illustrated.

DISTURBANCE OF THESE REHABILITATED MINE LANDS REQUIRES WRITTEN CONSENT OF THE DIRECTOR, MINE REHABILITATION, SECTION 35(2) OF THE MINING ACT