

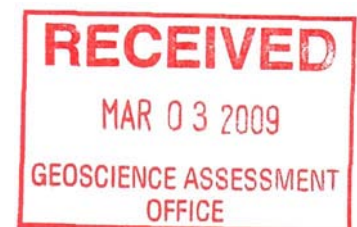
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**2008 Mobile Metal Ions Process  
Geochemical Survey**  
*Kirana Property*  
*(Mallard Lake Mine Region)*

**BERNHARDT, MORRISETTE, TECK & LEBEL TOWNSHIPS**

**LARDER LAKE MINING DIVISION**

February 8, 2009



**NORTHERN**  
G O L D MINING INC.

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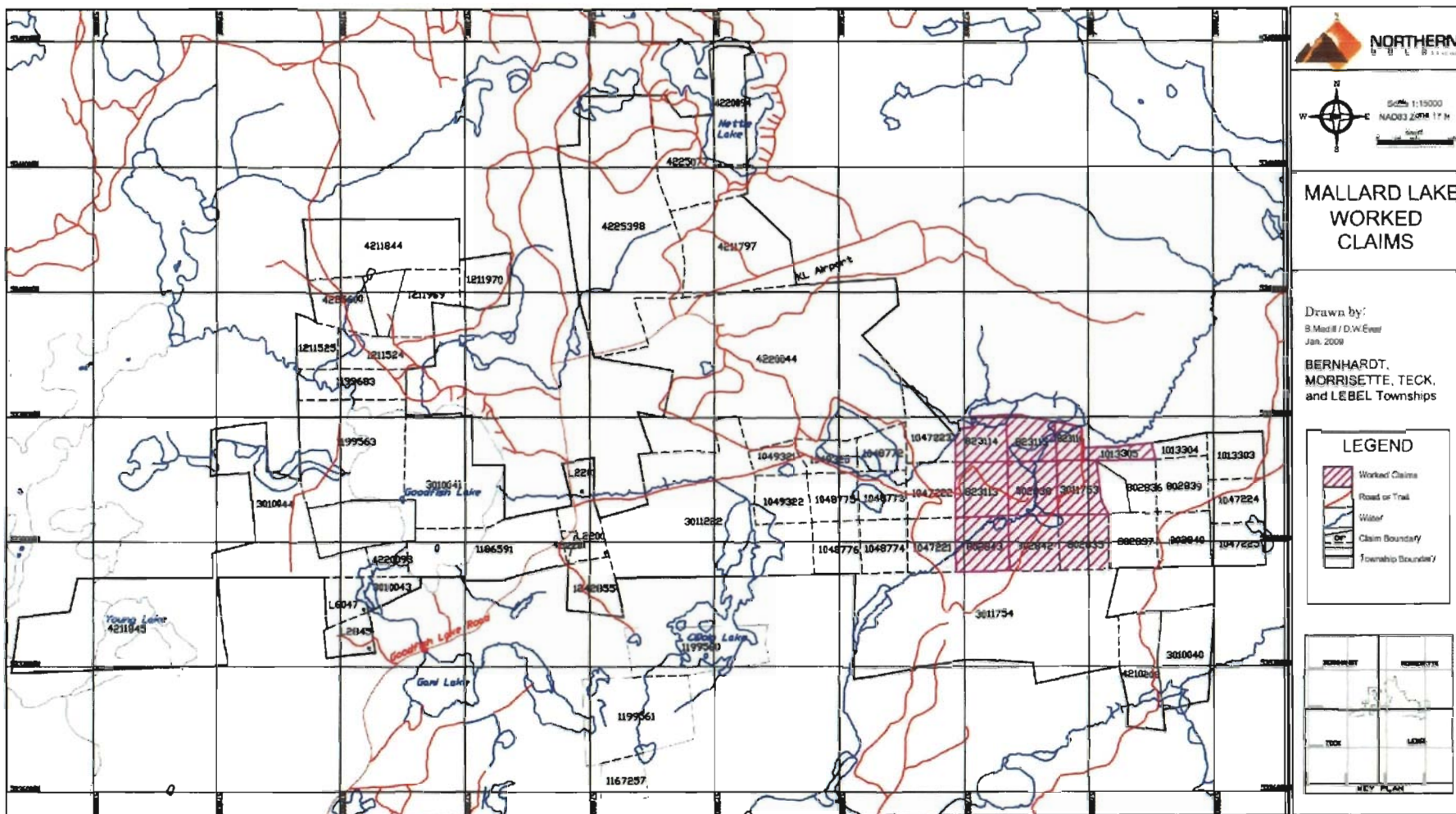
## Introduction

Between October 16<sup>th</sup> and October 20<sup>th</sup>, 2008 Northern Gold Mining Inc. conducted a MMI (Mobile Metal Ion) soil geochemical survey; this was done on a portion their Kirana property in Morrisette Townships, northeastern Ontario. The Kirana Property consists of 57 unpatented mining claims and 4 patented mining claims; this totals 150 claim units. The Kirana property includes claims under option to Northern Gold Mining Inc as well as claims held 100% by Northern Gold Mining. A consortium of prospectors optioned the claims to Northern Gold Mining in 2007; the consortium is comprised of T. O'Connor, M. Sutton, R. Harvey and T. Link. The claim numbers on which work was performed are listed below (see map #1):

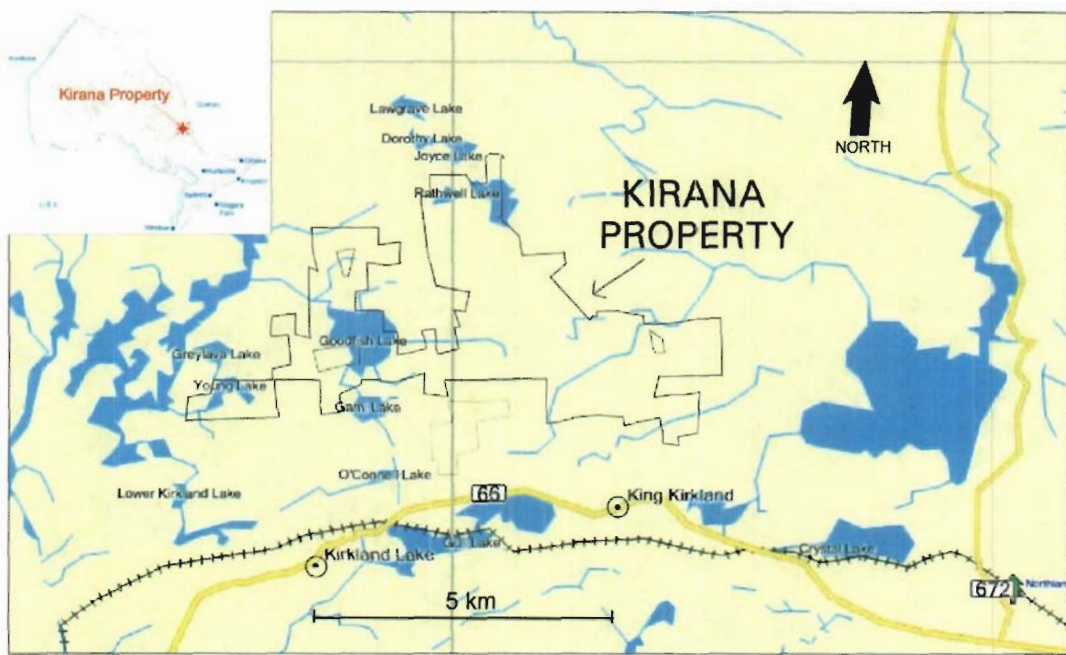
823113 (1 claim unit)  
823114 (1 claim unit)  
823115 (1 claim unit)  
823116 (1 claim unit)  
802838 (1 claim unit)  
3011753 (1 claim unit)  
1013305 (1 claim unit)  
802843 (1 claim unit)  
802842 (1 claim unit)  
802835 (1 claim unit)

The property is located in the Larder Lake mining division, northeastern Ontario, 5 Km north of the town of Kirkland Lake (see map #2). The western portion of the property is accessible by heading north from Kirkland Lake on Goodfish Rd; from this point access was gained via several bush roads which are shown on map #2. The eastern portion of the property was accessed by traveling east from Kirkland Lake on Hwy 66. From the highway two roads lead north into the claim group as shown on map #3; one road is located across from Gull Lake and leads north to the Mallard Lake showing, a second access road leads north from Craig St. in the village of King Kirkland. Northern Gold Mining Inc cut 92 km of line grid on the Kirana property which was used for access and points of reference for this survey.

Hydro electric power, road and rail transportation are readily available and a skilled labour force with all necessary facilities can be found in the nearby Town of Kirkland Lake.

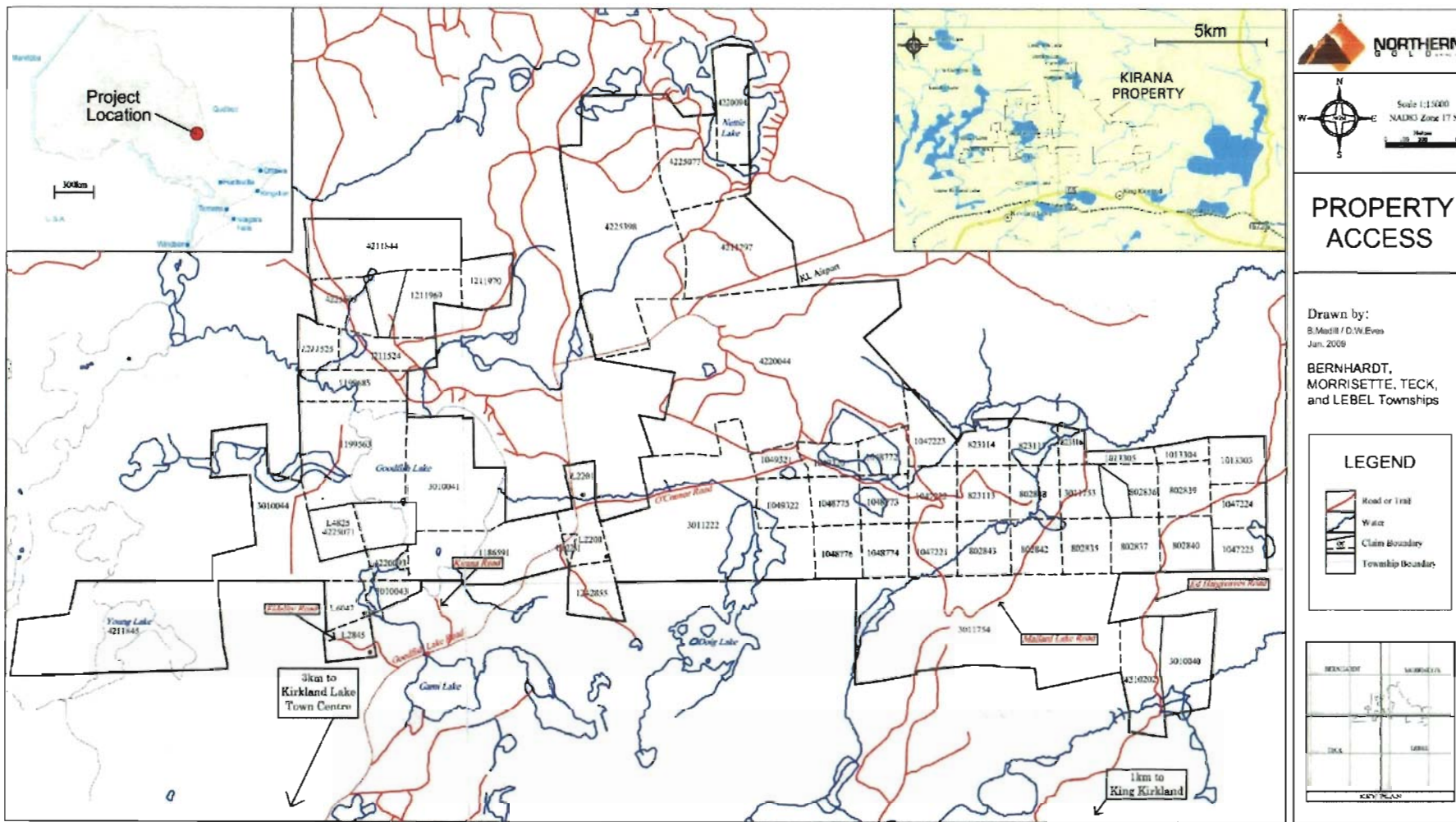


Map#1 - Claim Contiguity and Claims Worked



Map#2 - General Location Map





Map #3 – Property Access

## Purpose and Logic

The Mobile Metal Ion geochemical survey is designed to delineate buried ore bodies. The current survey is centered around the historical Mallard Lake Gold mine in the eastern portion of the Kirana property (see map #5). The Mallard Lake Gold mine has high tenor silver, gold, lead and zinc mineralization. The mineralized vein is only exposed for a short distance before it dives beneath substantial overburden. Most of the region surrounding the vein is covered in overburden. The purpose of the MMI survey is to identify additional mineralized veins and or the continuation of the Mallard Lake vein which may be buried under overburden. The MMI survey has been tailored to target the type of mineralization found at the Mallard Lake gold mine.

## Property History

A report written in 1916 titled "Goodfish Lake Gold Area" by A.G. Burrows and P.E. Hopkins gives the earliest accounts of gold prospecting in the vicinity of the Kirana property. According to Burrows and Hopkins the first gold discovery was made in the summer of 1912 on claim number L 2194, which later became the Goodfish Mine (not held by Northern Gold Mining). In 1915 significant prospecting was done in the vicinity of Goodfish Lake, with several gold discoveries; some of the gold showings are located on claims adjacent to the Kirana property claim L-2194 which were later amalgamated as the Goodfish mines. Another gold showing was found on the south shore of Goodfish Lake which later became the Kirana Gold Mine (not held by Northern Gold Mining). Northern Gold Mining's Kirana property surrounds both the Goodfish Mine and the Kirana Mine. Since 1916 significant exploration has occurred on the Kirana property by private prospectors and mining companies. An outline of previous work and gold discoveries are listed chronologically below:

### 1918 Fidelity Gold Mines

Sunk a 140 ft inclined shaft on a gold mineralized vein on current mining patent # L-2845. The shaft was deepened to 300 ft with 747 ft of lateral development in 1920. The grades of mineralization were not published but it was reported that the mineralized vein widened to 7 ft at a depth of 140 ft.

### 1935 Mallard Lake Gold Mines

Completed work on current claims #3011753 and #823115. Work was done to follow up on a silver, lead, copper, gold and barite showing; they drilled 5 holes to intersect the vein at depths up to 115 ft below the shaft; assays from this drilling



were not significant and averaged less than 0.01 oz/ton Au, 2.57 oz/ton Ag, with minor amounts of lead and copper. Mallard Lake gold mines also discovered a gossan zone south of Morrisette Lake; this gossan zone was exposed for a width of 7-8 ft and followed along strike for 200 ft. One pit along this gossan assayed up to 0.45% Cu, however diamond drilling across this zone at 115 ft depth showed only 0.04% Cu across 12 ft.

### **1936 Kirgood Gold Mines**

Held a claim block in north Lebel Township which covered part of the Murdoch Creek fault. They sunk a 40 ft shaft along the Murdoch Creek fault and drilled four holes into this structure. The structure was intersected at depths up to 300 ft. The only gold values occurred in drill hole #4 which intersected 0.35oz/ton over 1 ft and a second intersection of 0.35oz/ton over 1 ft. Both of which occurred in a mineralized syenite unit with quartz fracturing.

### **1974-1981 Haas Warner Mining Ltd**

Held a large group of claims covering the western portion of the Kirana property. This also includes the Kirana mine which in 1974 was the subject of an engineering report; this report outlined a 50,000 ton resource of unlisted grade at the Kirana mine. A stripping program was done on claim# 1186591 with no results listed. They completed three drill holes totaling 380m on current claim #1186591; no assays are listed for the holes; although it has been reported that 79-1 intersected good gold values.

### **1980 Rosario Resources**

Completed a geological and geophysical survey and drilled 4 holes on the eastern portion of the property. Several conductors were outlined by the VLF survey. These conductors were then tested with four drill holes; mineralization in these holes was negligible.

### **1985 Lac Minerals**

Completed a mag survey over 8 claims in Morrisette Township. Drilled one 170m hole on claim# 1048775. No assays were reported.

### **1986-1996 T. Link**

Held the claim group covering the eastern portion of the Kirana property, and has since optioned the property to Northern Gold Mining. Drilled 5 holes totaling 669.3m on claim# 802838; these holes intersected a mineralized sedimentary unit

with gold assays up to 0.05oz/ton over 20 ft. Completed power stripping on the same claim and found gold mineralization up to 883ppb over 3 ft. Completed a VLF-EM survey over the same claim but it failed to delineate the gold zone. Then drilled 2 holes totaling 614.5m on claim# 823114 which intersected minor pyrite and chalcopyrite mineralization but negligible gold. Drilled one 295.7m hole across claims #802834 and 802835 which intersected a pyritic sedimentary unit with negligible gold. Drilled an additional 3 holes on claim# 802838 in 1996; one of which intersected gold mineralization occurring as quartz stringers in a cg mafic unit; one assay from this zone was 234g/t over a 2 ft interval with additional assays being 5.5g/t over 2 ft and another interval assayed 3.8g/t over 5 ft.

#### **1987-1998 F.T. O'Connor**

Held claim block covering Goodfish Lake and some of the surrounding lands. Completed a ground magnetic and VLF-EM survey over most of Goodfish Lake. Four conductors were found but were never drill tested. A Geological report was conducted over several claims in 1987; the only sample of significance from this report was on claim L-2845 which was 21g/t and presumably from the Fidelity mine. In 1998 a mechanical stripping was completed north of Goodfish Lake; some significant values were found, the best being 3.4g/t over 2.0m. Conducted a small IP survey over the same property and drilled two holes to test the targets; the best intersection was 2.1g/t over 4.1 ft.

#### **1987 - 1990 Minnova Inc.**

Held a large claim group which covers the current Northern Gold claims 1211525, 1211524, 1199683, 4220048, 3010044, 3010041, 3010043, 1186591, L2200 and L2201. They also held the claims which cover the Kirana mine. They completed a considerable amount of exploration with the objective of finding the continuation of the "Kirana Break" a known gold bearing structure. The work which was completed includes geological mapping, geophysical surveys, mechanical powerstripping and channel sampling, they also drilled 14 diamond drill holes, 7 of which were drilled on Northern Gold's Kirana property; the best assays from this drilling was in KIR-5 which intersected 6.8g/t Au over 0.5m on claim #1186591.

#### **1999 Medici Minerals**

Held a block of claims covering some of the eastern claims on the Kirana property Drilled two holes on claim # 802834; one hole M-99-01 intersected 18.7g/t Au over 1.05m as well as 0.45% Cu over a 0.7m interval.

#### **2003 M. Sutton**

Completed work on claim # 1186591 which has since been optioned to Northern Gold Mining. Drilled one hole to follow up on previous gold intersections on property. The hole intersected a quartz ankerite vein carrying molybdenite, pyrite and gold; the assay from this vein across 1.1 ft was 47.0g/t Au.

## Recent Work

Northern Gold Mining Inc. acquired the current claim group in 2007. Since that time they have completed a small powerstripping program on claim# 802838 in 2007. In 2008 two diamond drill holes were drilled on claim # 118591. 92 km of lines were cut which was used for access and points of reference for the MMI survey.

## Geography

**Physiography:** The project area lies within the central Canadian Shield in the central Abitibi geologic subprovince. The region can be generalized as being in the boreal climactic region, characteristically covered by forest, swamps and lakes with relatively little relief.

Relief on the Kirana property is less than 35m. The western portion of the claim group has moderate bedrock exposure and generally thin overburden. The eastern portion of the claim group is covered by esker sand deposits. Outcrop exposure in the western portion is about 20%; in the eastern portion however outcrop is scarce. Generally the property can be characterized by scattered outcrops and overburden thicknesses of less than 10m. The overburden is comprised of glaciofluvial and proglacial lacustrine sediments: primarily sand and but locally cobble and boulder sized clasts.

**Climate:** The climatic conditions are typical for the central Canadian Shield with short, mild summers and long, cold winters. Mean temperatures range from  $-17^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ) in January, to  $18^{\circ}\text{C}$  ( $64^{\circ}\text{F}$ ) in July, and mean annual precipitation throughout the region ranges from 812 to 876 mm (32-35 inches).

## Geology

**Regional Geology:** The Kirana property lies in the Superior Geological province and the Abitibi subprovince. The Abitibi subprovince is an 800 by 300 kilometer area underlain by granite greenstone stratigraphy of Archean age (see map #4). In the Archean of northern Ontario, the supracrustal rocks are divided into rock

packages based on their composition, morphology and geographic distribution. Individual “assemblages” consist of stratified volcanic and/or sedimentary rock units built during a discrete interval of time in a common depositional or volcanic setting. According to R. Rupert and H. Lovell the geology in the project area from oldest to youngest is comprised of Keewatin type mafic and felsic volcanic flows, Keewatin or Laurentian age early felsic intrusive rocks, Keewatin or Timiskaming metasediments, Haileyburian type mafic and ultramafic intrusive rocks, Algoman age late felsic intrusive rocks, finally late mafic intrusive rocks. Several of these rock types were found to occur on the Kirana property although Keewatin metavolcanics appear to be the dominant rock type.

**Property Geology:** The Kirana property is comprised entirely of Archean age rocks and quaternary sediments. The property covers parts of Bernhardt, Morrisette, Lebel and Teck townships. Bernhardt and Morrisette were mapped at a scale of 1 Inch to ½ Mile by R. Rupert and H. Lovell in 1967; this was then followed by Geological Report 84 by the same authors in 1970.. A small portion of the property is in Teck Township which was last mapped in 1945 by Thomson, Hopkins, Gerrie and Maclean; this is published as map# 1945-1.

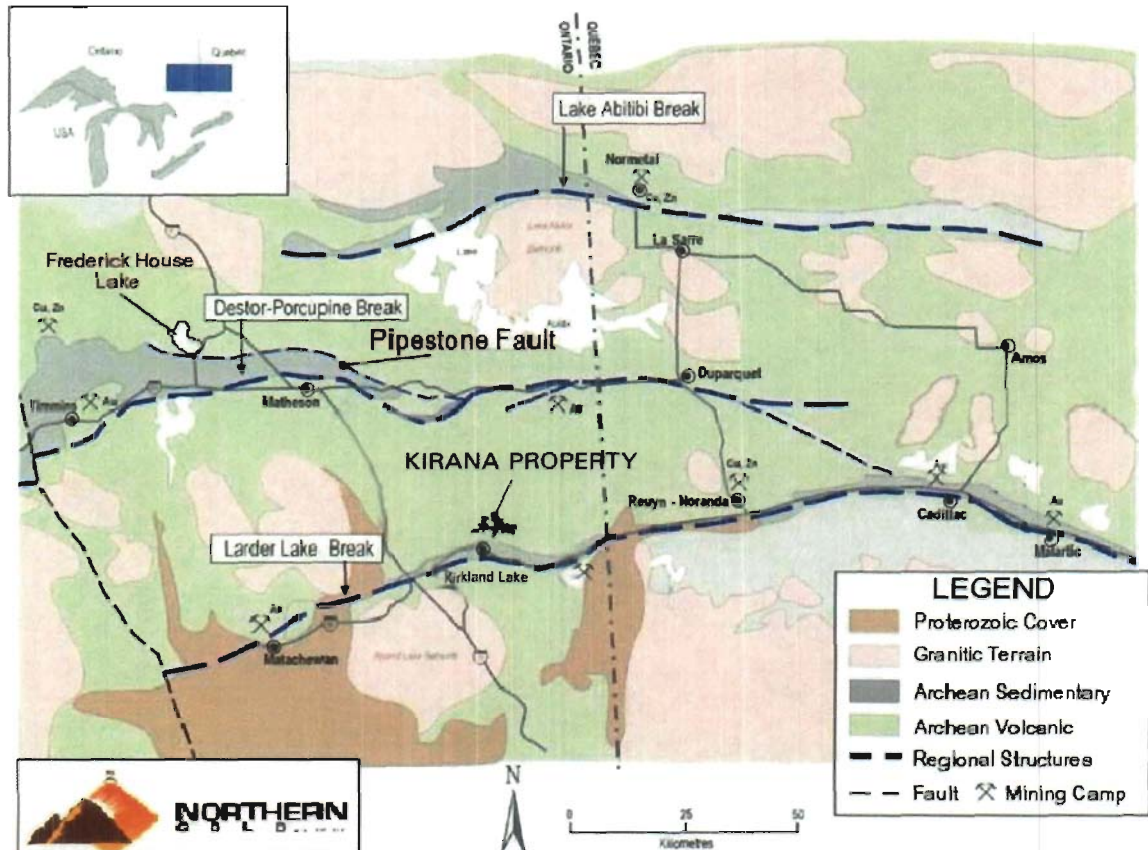
The dominant rock types are Keewatin mafic metavolcanics and Keewatin or Laurentian age early felsic intrusive rocks. The Keewatin mafic metavolcanics were found to occur in three distinct phases; these are textural differences, the first of which is a variolitic texture, the other a flow top brecciated texture. The Keewatin metavolcanics are intruded by masses of quartz feldspar porphyry which is probably Keewatin or Laurentian. The property geology is shown in map #5.

The MMI survey was only completed on a portion of the Kirana property and was centered around a silver, gold, lead, zinc showing; this is the Mallard Lake gold mine. A brief outline of the history and geology of the Mallard Lake mine based on a mechanical stripping conducted in 2008 is below:

**History:** The Mallard Lake showing occurs on mining claim # 3011753. Originally a silver prospect, a shaft was sunk 62 ft on a north striking quartz-barite vein. The shaft is at the location (E-577779 N-5338357). Rich mineralization was found down the shaft, channel samples cut in the shaft averaged 0.35oz/ton Au, 10.8oz/ton Ag, 9.14% Pb and less than 1% Cu over widths of 2-3 ft. Initial prospecting and mapping located the old shaft and samples from the rock dump confirmed the high tenor mineralization.

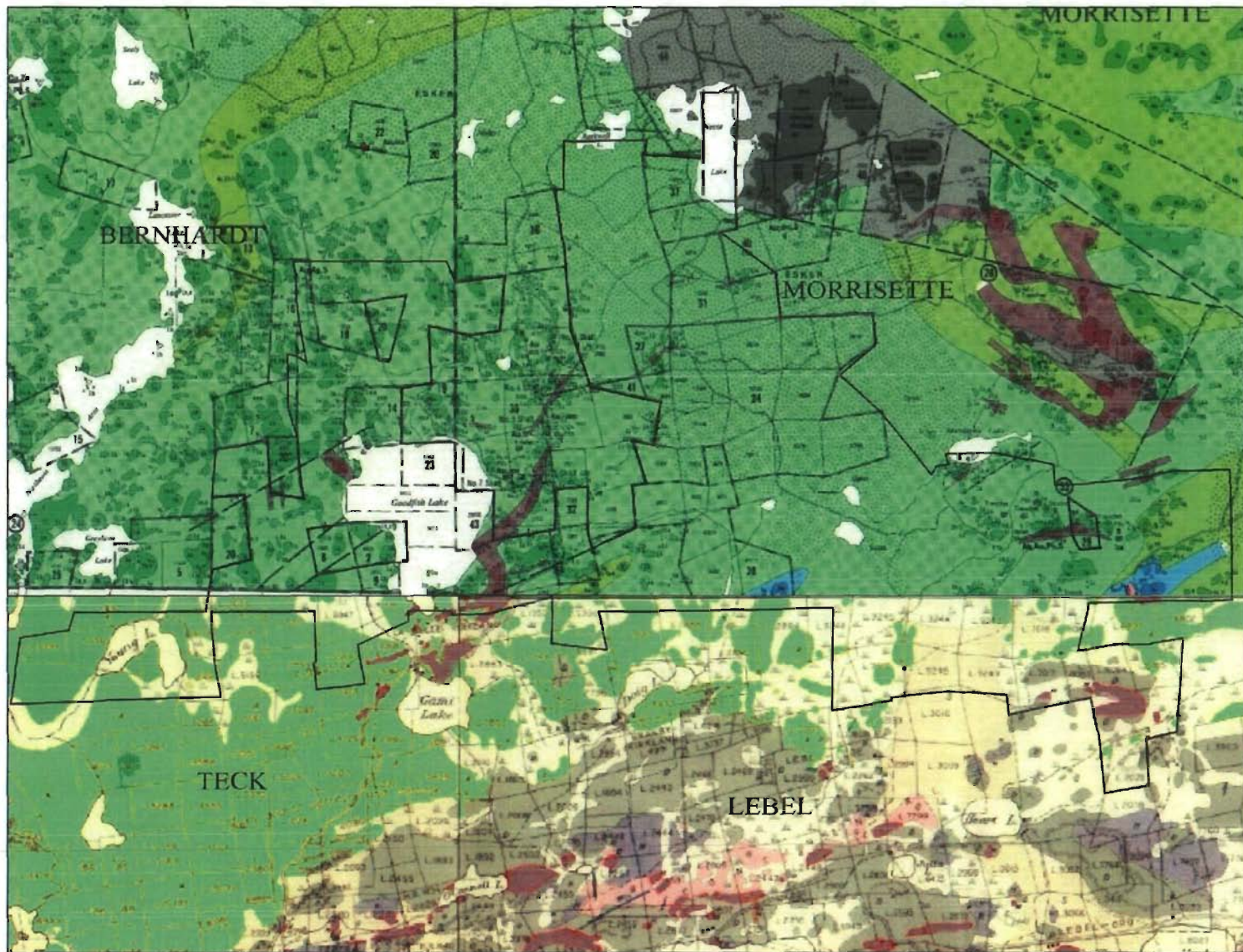
**Geology:** A braided quartz vein system up to 30cm in width strikes due north from the shaft; the shaft is sunk along the contact of an east-west quartz porphyry body and mafic volcanic rock. Several shear zones were noted but did not appear to control the mineralization. The quartz vein system pinches out 20 ft north of the shaft when it encounters a bedded chert unit; the vein is continuous southward and cuts the porphyry body. High tenor silver and lead mineralization is found along

the vein. A larger quartz barite vein occurs 10m east of the shaft which runs subparallel to the main vein; this vein reaches widths up to 3m although it very rarely shows mineralization.



Map #4 – Regional Geology of the Kirana Claims





**GEOLOGY OF THE  
KIRANA PROPERTY**



**PLEISTOCENE AND RECENT**

Clay, silt, sand, gravel, organic rich peat  
Quaternary deposits

**PRECAMBRIAN  
ARCHAIC  
LATE MAFIC INTRUSIVE ROCKS  
(Mantleflow)**

Orthopyroxene

**LATE FELSIC INTRUSIVE ROCKS  
(Algonquin)**

Orthopyroxene, ilmenite, apatite, zircon  
Plagioclase  
Pyroxene, ilmenite, apatite, zircon

**EARLY MAFIC AND ELTHERAPIC  
INTRUSIVE ROCKS  
(Ottawa)**

Orthopyroxene  
Plagioclase  
Ilmenite, apatite, zircon

**FELSIC TO INTERMEDIATE  
METAVOLCANIC  
(Algonquin)**

Orthopyroxene, ilmenite, apatite, zircon  
Plagioclase, ilmenite, apatite, zircon  
Amphibole, ilmenite, apatite, zircon  
Ilmenite, apatite, zircon

**METASOMATITES  
(Kamathit or Timiskaming)**

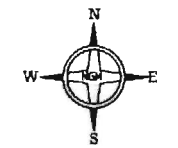
Orthopyroxene, ilmenite, apatite, zircon  
Amphibole, ilmenite, apatite, zircon  
Ilmenite, apatite, zircon

**EARLY FELSIC INTRUSIVE ROCKS  
(Kamathit or Timiskaming)**

Quartz, ilmenite, apatite

**MAFIC TO INTERMEDIATE  
METAVOLCANIC  
(Kamathit)**

Orthopyroxene, ilmenite, apatite, zircon  
Amphibole, ilmenite, apatite, zircon  
Ilmenite, apatite, zircon



**Property Boundary**

**Map #5** – Kirana Property Geology (Modified from Rupert&Lovell 1967 , Maclean&Hogg 1945, and Thomson 1945)



## Soil Sampling Procedure

A total of 205 soil samples were collected from the above mentioned claim block. An additional 7 samples were taken to test the reproducibility of the results from the first set of samples. The samples were from the eastern portion of the Kirana grid and centered around the Mallard Lake showing. The grid line spacing was 100m. A 25m spacing between samples was appropriate for the type of mineralization sought in this program. Soil sampling was done in accordance with SGS MMI sampling procedures for Boreal Climactic Zones which is briefly described as such: Using a spade the organic layer is removed, then the spade is sunk to a depth of 25cm into the substrate and removed with sample, the top 10cm is discarded and remainder is taken as the sample. When taking the sample the type of substrate was also noted, this included sands, soils, clays and black muck; several locations did not have proper substrate for MMI sampling, primarily in very swampy terrain or where no overburden existed (bedrock). GPS was used to establish definitive sample locations and recorded in a database in UTM coordinates; this database also contains the corresponding line grid location for each sample.

## Assay Method

The 205 samples were sent to XRAL Laboratories (A Division of SGS Canada Inc.) in Toronto, Ontario for analysis. The method used was the Mobile Metal Ion Process developed by Wamtech. The Mobile Metal Ions Process uses a weak partial extraction scheme to improve the conventional geochemical response over buried ore deposits.

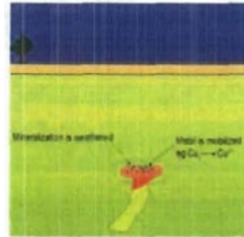
The anomalies are sharply bounded and in most cases directly overlie and define the extent of the surface projection of buried primary mineralized zones. (see Fig #1). Multi-component extractants are used and metals are determined by ICP/MS (Inductive Coupled Plasma Spectroscopy) in the parts per billion range.

The MMI analysis currently offers eight element MMI digestions. The elements chosen for MMI analysis on this program was Au, Ag, Ni, Zn, Cu, Pb, Pd, Ba.

### The MMI Theory - What is MMI Geochemistry

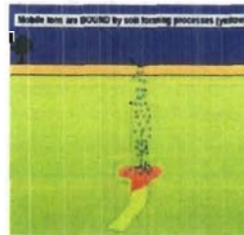
Mobile Metal Ions is a term used to describe ions which have moved in the weathering zone and that are only weakly or loosely attached to surface soil particles. It is a widely held belief that these Mobile Metal Ions are transported from deeply-buried ore bodies to the surface. Scientists from around the world have been studying this phenomenon for many years.

No-one is completely clear on exactly how the metal ions migrate to the surface. However, research and case studies over known ore-bodies have shown that mobile metal ions accumulate in surface soils above mineralization, indicating that the metals are derived from the mineralization source. The diagram below demonstrates a hypothetical model by which mobile ions are released from ore bodies, migrate vertically and accumulate in surface soils.



As the ions reach the surface, they attach themselves weakly to the soil particles. These are the ions that are measured by the MMI Technique to find mineralization at depths. The weakly attached ions are at very low concentrations. Because the ions have recently arrived to the surface they provide a precise 'signal' on where the ore-bodies are.

When the mobile metal ions have arrived at the surface they have a limited lifetime as 'mobile' ions. At the surface the ions are subject to weathering and are bound up by soil forming processes (i.e. they become part of the soil). The diagram below demonstrates this process. Note that bound ions (yellow) are subject to lateral movement away from the mineralization. The mobile ions (blue), however, do not move away from the source (mineralization) because they have a limited lifetime before they are converted to a bound form.



By only measuring the mobile metal ions in the surface soils, MMI Geochemistry will produce very sharp responses (anomalies) directly over the source of mobile ions. This source is ore-bodies at depth, which emit metal ions, which make up that ore-body. For example a Cu, Pb, Zn base metal deposit will emit (release) Cu, Pb and Zn ions.

Fig #1 – Showing the MMI theory from SGS minerals

## Results

The results of the MMI survey have been plotted on maps in the appendix of this report. A brief discussion of each individual element that was analyzed has been given.

**Gold:** Detection Limit = 0.1ppb

Of the 205 samples that were collected for analysis, Au showed low variability with the exception of one sample; samples ranged from <0.1 to 13.6ppb; of the samples, 36 were at or above the detection limit. Of these however only 1 sample was above 0.5ppb which was the sample of 13.6ppb. Since this value is significantly anomalous it was then recommended that the location be resampled to see if the result could be reproduced. The resampling however was unsuccessful and it showed gold values of <0.1ppb. It is thought that the initial sample may have contained a grain of gold which could have increased the sample response. The other gold values found on the property are not significantly anomalous.

**Silver:** Detection Limit = 1 ppb

Of the 205 samples collected for analysis Ag showed moderate variability between samples. Silver values on the Kirana property ranged from <1 to 35ppb; only 79 of the samples had values above the detection limit. The values which are at or above 15ppb can be considered anomalous in this case; only 3 samples however were at or above this value. The three samples do not correlate with each other. The only region of anomalous silver values occurs around the highest sample of 35ppb, this is at the point (E-577271, N-5338518); samples in this region all have values above 10ppb; it is unclear if this is representative of a buried ore body.

**Copper:** Detection Limit = 10ppb

Of the 205 samples collected for analysis Cu showed moderate variability between samples. Copper values on the Kirana property ranged from <10ppb to 4190ppb; 200 of the samples were above the detection limit. Only one copper value is highly anomalous which is 4190ppb, this sample occurs at the point (E-577905, N-5338481). This sample correlates well with several other samples with elevated copper values; these values clearly outline an east-west region of anomalous copper values which extends over 300m. The anomalous region covers a region known for hosting copper mineralization; this is a sedimentary chert unit which contains substantial pyrite, pyrrhotite and chalcopyrite mineralization. A drill hole 100m east of the highly anomalous sample intersected 0.45% Cu over 0.7m when

drill through the sedimentary unit; this is drill hole M99-01 by Medici minerals. This intersection lies directly beneath two anomalous samples at the location (E-578010, N-5338450). It is thought that the elevated copper values do represent buried mineralization and it is a legitimate anomaly.

**Nickel:** Detection Limit = 5ppb

Of the 205 samples collected for analysis Nickel showed very little variability. Nickel values on the Kirana property ranged from 7 to 404ppb; these values are not considered to be significantly anomalous. Since there are no known nickel deposits in the area it was expected that nickel values would be low.

**Lead:** Detection Limit = 10ppb

Of the 205 samples collected for analysis Lead showed moderate variability. Lead values on the property ranged from <10 to 4580ppb. Five of the samples had values above 1000ppb; due to the high tenor of mineralization at the Mallard Lake mine, up to 25.5% Pb, it is thought that this would produce a very high MMI response. The highest value of 4580ppb is considered to be highly anomalous and is located 250 m north of the Mallard Lake shaft. This anomaly may represent the northern extent of the Mallard Lake vein. Additional high lead values were located just 50m north of the Mallard Lake shaft, which may be related to the mineralization at the shaft. A third region of anomalous lead values occurred on the eastmost grid line 88E; this sample was 3350ppb; follow up reconnaissance was done at this location to see if mineralization was present nearby; no mineralization was found because it was covered in overburden but the soil anomaly was retested; the retested value was significantly lower than the original but still showed anomalous lead values, this value was 990ppb; it is unknown why there is such a large discrepancy between the original and retest.

**Zinc:** Detection Limit = 20ppb

Of the 205 samples collected for analysis Zinc showed minor variability in the sample values. The Zinc values ranged from 10 to 2640ppb. There was moderate correlation between the elevated samples. One region of anomalous Zinc mineralization is located around the highest sample of 2640ppb; this is centered around the point (E-577900 N-5338668). This region extents 200m in an east-west direction widens to the east. It is unknown if this represents a buried mineralization as the values are not exceptionally high.

**Palladium:** Detection Limit = 1ppb

Of the 205 samples collected for analysis Palladium had only one sample which was above the detection limit. This sample was 18ppb which is considered to be significant; upon resampling of the location however the palladium value was <1ppb. The original sample is thus thought to be erroneous.

**Barium:** Detection Limit = 20ppb

Of the 205 samples collected for analysis Barium showed low variability between samples. Barium values ranged from 20 to 1800ppb. Since high concentrations of Barite are known to occur on the property (>50% Ba) it would be expected that sample values would be quite high. Only 4 samples had values above 1000ppb; these samples do not correlate with each other. It is unclear if any of these samples indicate barium mineralization.

**Resampling:**

Two results were considered significant enough that resampling of that location was required. A total of 7 samples were taken for the retest. For sample K-08-110 which had a high gold value, a total of 6 samples were taken within a 10m radius of the original sample, none of these showed high gold values. Sample K-08-108 initially showed a high lead value which was retested at the same location; the retested sample returned moderate lead values.

## Recommendations

Several areas have been outlined in this geochemical soil survey which have shown anomalous values. The two most prominent anomalies are listed below: (1) A 300m wide zone of anomalous copper values; this zone is probably related to the pyritic sedimentary rocks, powerstripping may be effective at uncovering this zone. (2) The high lead values found scattered on the property require further investigation; the thicknesses of overburden at these locations are unknown; field investigation techniques can be utilized such as powerstripping and or diamond drilling. The resampling of several locations in this survey proved to be unsuccessful; before further work is completed on these anomalies the MMI results should be tested for reproducibility.

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## Certificate of Author

I, Greg Matheson of the Town of Kirkland Lake, Ontario hereby certify:

- 1) I am a graduate of Brock University, St. Catharines, Ontario having recieved a B.SC (Honours) in Earth Sciences in 2008.
- 2) I have worked as a geologist for 2 years, predominantly in the Kirkland Lake mining camp.
- 3) I am employed as an exploration geologist with 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: February 8, 2009

  
\_\_\_\_\_  
Greg Matheson, B.Sc(Hon)

## Appendix

- #1 MMI Certificates of Analysis – TO104511, TO103957, TO103927,  
TO103956, TO103928
- #2 Map of Gold (Au) MMI results
- #3 Map of Silver (Ag) MMI results
- #4 Map of Copper (Cu) MMI results
- #5 Map of Nickel (Ni) MMI results
- #6 Map of Lead (Pb) MMI results
- #7 Map of Zinc (Zn) MMI results
- #8 Map of Palladium (Pd) MMI results
- #9 Map of Tellurium (Ba) MMI results



## Certificate of Analysis

Work Order: TO103928

To: **Northern Gold Mining Inc.**  
Attn: Ken Rattee  
Box 453  
1470 Government Rd. W.  
KIRKLAND LAKE  
ON P2N 3J1

Date: Nov 13, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples 56  
Date Submitted Oct 23, 2008  
Report Comprises Pages 1 to 3  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

STORE: 56 Soils

Certified By :

Gavin McGill  
Operations Manager

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Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
	1	0.1	10	10	5	10	1	20
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-061	12	0.3	360	4550	58	70	<1	30
*Rep K08-061	18	0.4	320	3830	58	60	<1	<20
K08-062	2	<0.1	260	250	73	1300	<1	320
K08-063	<1	<0.1	250	150	48	380	<1	130
K08-064	2	0.2	330	960	234	870	<1	1430
K08-065	3	<0.1	180	380	52	80	<1	210
K08-066	<1	0.1	880	320	77	180	<1	110
K08-067	<1	0.1	180	260	33	390	<1	120
K08-068	<1	<0.1	170	70	19	10	<1	290
K08-069	<1	<0.1	130	60	83	530	<1	2640
K08-070	<1	<0.1	130	40	41	200	<1	580
K08-071	<1	<0.1	140	<10	22	20	<1	470
K08-072	3	<0.1	240	290	52	370	<1	370
K08-073	<1	<0.1	210	260	62	180	<1	210
*Rep K08-073	<1	<0.1	190	200	57	210	<1	210
K08-074	<1	<0.1	160	150	74	140	<1	740
K08-075	<1	<0.1	180	50	55	50	<1	400
K08-076	<1	<0.1	130	80	30	330	<1	1040
K08-077	<1	<0.1	100	50	76	30	<1	410
K08-078	<1	0.2	110	70	36	190	<1	740
K08-079	<1	<0.1	140	70	21	160	<1	330
K08-080	<1	<0.1	130	50	23	60	<1	<20
K08-081	<1	<0.1	300	30	63	40	<1	70
K08-082	1	<0.1	520	30	46	20	<1	<20
K08-083	2	<0.1	380	120	70	200	<1	80
K08-084	5	<0.1	450	210	52	190	<1	210
K08-085	1	<0.1	1370	190	87	120	<1	120
*Rep K08-085	1	<0.1	1480	270	115	120	<1	130
K08-086	4	0.2	180	340	197	110	<1	840
K08-087	6	0.1	180	1220	237	220	<1	760
K08-088	1	<0.1	250	960	96	40	<1	200
K08-089	<1	<0.1	400	140	123	<10	<1	400
K08-090	<1	<0.1	110	90	88	10	<1	820
K08-091	1	<0.1	80	80	46	200	<1	280
K08-092	<1	<0.1	110	50	24	10	<1	1220
K08-093	<1	<0.1	90	30	45	140	<1	920
K08-094	<1	<0.1	110	30	35	110	<1	1390
K08-095	<1	<0.1	90	30	51	50	<1	1240
K08-096	<1	<0.1	80	40	15	80	<1	900
K08-097	<1	<0.1	60	40	26	250	<1	860
*Rep K08-097	<1	<0.1	70	40	24	210	<1	930
K08-098	2	<0.1	80	90	36	390	<1	40
K08-099	<1	0.1	560	350	56	440	<1	230

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Element	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	0.1	10	10	5	10	1	20
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-100	<1	<0.1	230	590	102	460	<1	490
K08-101	<1	<0.1	210	190	81	130	<1	100
K08-102	<1	<0.1	190	120	38	280	<1	460
K08-103	<1	<0.1	140	80	31	340	<1	480
K08-104	<1	<0.1	120	50	28	250	<1	470
K08-105	<1	<0.1	110	150	72	740	<1	290
K08-106	<1	<0.1	530	80	45	580	<1	520
K08-107	1	<0.1	640	360	59	740	<1	260
K08-108	<1	0.3	660	850	129	3350	<1	360
K08-109	12	<0.1	720	140	72	170	<1	<20
*Rep K08-109	12	<0.1	750	130	52	160	<1	50
K08-110	13	13.6	300	540	389	570	18	260
K08-111	7	0.1	600	190	262	120	<1	190
K08-112	3	0.1	330	100	44	250	<1	40
K08-113	1	<0.1	380	350	64	170	<1	480
K08-114	7	<0.1	330	180	87	380	<1	1070
K08-115	<1	<0.1	100	320	59	<10	<1	150
K08-116	<1	<0.1	80	40	39	200	<1	660
*Std MMISRM18	20	8.8	140	710	534	440	16	620
*Std MMISRM18	21	8.7	150	730	533	440	17	690
*Bik BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20
*Bik BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20

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# Certificate of Analysis

Work Order: TO104511

To: Northern Gold Mining Inc.

Attn: Ken Rattee  
Box 453  
1470 Government Rd. W.  
KIRKLAND LAKE  
ON P2N 3J1

Date: Dec 11, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples : 7  
Date Submitted : Nov 20, 2008  
Report Comprises : Pages 1 to 2  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

STORE: 7 Soils

Certified By :   
Gavin McGill  
Operations Manager

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Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element	Cu	Pb	Zn	Au	Ni	Pd	Ag	Ba
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	10	10	20	0.1	5	1	1	10
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-110 B	170	460	70	<0.1	89	<1	4	600
*Rep K08-110 B	210	430	80	<0.1	105	<1	6	630
K08-110 N	110	70	<20	<0.1	126	<1	24	760
K08-110 E	240	660	110	<0.1	60	<1	5	910
K08-110 S	170	220	30	<0.1	132	<1	6	930
K08-110 W	<10	<10	<20	<0.1	<5	<1	<1	<10
K08-110 P	60	180	<20	<0.1	90	<1	11	240
K08-108 B	390	990	490	0.1	105	<1	<1	430
*Std MMISRM18	820	400	720	8.7	665	15	22	210
*Blk BLANK	<10	<10	<20	<0.1	<5	<1	<1	<10
*Std MMISRM16	710	140	280	31.2	239	32	20	130

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# Certificate of Analysis

Work Order: TO103957

To: Northern Gold Mining Inc.  
Attn: Ken Rattee  
Box 453  
1470 Government Rd. W.  
KIRKLAND LAKE  
ON P2N 3J1

Date: Dec 04, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples 38  
Date Submitted Oct 23, 2008  
Report Comprises Pages 1 to 3  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

STORE: 38 Soils

Certified By :   
Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

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\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	0.1	10	10	5	10	1	20
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-251	6	<0.1	80	70	40	150	<1	60
*Rep K08-251	5	0.1	70	70	35	150	<1	70
K08-252	4	0.2	100	190	48	460	<1	230
K08-253	1	0.2	350	210	40	300	<1	200
K08-254	8	<0.1	510	70	69	60	<1	60
K08-255	6	<0.1	110	80	22	160	<1	210
K08-256	35	<0.1	60	70	23	170	<1	270
K08-257	9	0.5	130	80	29	130	<1	70
K08-258	5	<0.1	20	30	18	170	<1	150
K08-259	5	<0.1	310	310	61	150	<1	130
K08-260	<1	<0.1	140	40	28	680	<1	540
K08-261	<1	<0.1	180	20	34	240	<1	670
K08-262	<1	<0.1	220	160	42	200	<1	270
K08-263	1	<0.1	540	220	42	240	<1	110
*Rep K08-263	1	<0.1	430	300	61	320	<1	110
K08-264	4	0.3	1520	750	253	240	<1	570
K08-265	1	<0.1	200	140	48	280	<1	80
K08-266	1	<0.1	160	120	21	160	<1	60
K08-267	1	<0.1	730	410	142	20	<1	<20
K08-268	3	<0.1	330	250	82	90	<1	30
K08-269	<1	<0.1	280	160	44	50	<1	70
K08-270	1	0.2	570	240	148	120	<1	120
K08-271	5	<0.1	530	550	190	320	<1	120
K08-272	1	<0.1	290	160	49	30	<1	20
K08-273	3	<0.1	530	720	76	320	<1	100
K08-274	<1	<0.1	290	50	36	10	<1	<20
K08-275	<1	<0.1	240	50	27	140	<1	340
*Rep K08-275	<1	<0.1	220	60	32	170	<1	340
K08-276	<1	<0.1	240	40	23	130	<1	1610
K08-277	<1	<0.1	250	840	83	40	<1	130
K08-278	2	0.2	210	600	85	480	<1	460
K08-279	<1	0.1	90	90	18	130	<1	160
K08-280	13	0.1	220	260	22	130	<1	<20
K08-281	7	0.2	240	410	132	200	<1	180
K08-282	2	<0.1	1470	310	82	1230	<1	1120
K08-283	7	0.2	570	220	53	380	<1	340
K08-284	3	<0.1	220	170	41	230	<1	120
K08-285	5	<0.1	200	130	21	250	<1	260
K08-286	1	0.1	70	120	17	150	<1	150
K08-287	<1	<0.1	80	10	43	80	<1	<20
*Rep K08-287	<1	<0.1	70	10	42	80	<1	<20
K08-288	<1	<0.1	180	30	30	210	<1	340
*Std MMISRM18	20	8.8	140	800	508	320	17	580

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Element	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	0.1	10	10	5	10	1	20
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
*Std MMISRM18	22	8.8	110	820	562	320	18	640
*Blk BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20
*Blk BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20

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## Certificate of Analysis

Work Order: TO103927

To: Northern Gold Mining Inc.

Attn: Ken Rattee  
Box 453  
1470 Government Rd. W.  
KIRKLAND LAKE  
ON P2N 3J1

Date: Nov 20, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples 60  
Date Submitted Oct 23, 2008  
Report Comprises Pages 1 to 3  
(Inclusive of Cover Sheet)

### Distribution of unused material:

STORE: 60 Soils

Certified By :

Gavin McGill  
Operations Manager

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Element	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	0.1	10	10	5	10	1	20
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-001	<1	<0.1	130	20	7	30	<1	670
*Rep K08-001	<1	<0.1	160	10	9	20	<1	590
K08-002	<1	<0.1	140	30	15	20	<1	360
K08-003	<1	<0.1	210	20	38	70	<1	1080
K08-004	<1	<0.1	150	60	34	230	<1	710
K08-005	<1	<0.1	260	60	14	90	<1	1410
K08-006	<1	<0.1	240	30	19	50	<1	440
K08-007	<1	<0.1	570	70	16	20	<1	750
K08-008	<1	<0.1	240	200	46	150	<1	430
K08-009	<1	<0.1	360	1090	56	80	<1	230
K08-010	<1	<0.1	160	130	30	150	<1	110
K08-011	<1	<0.1	360	340	60	40	<1	50
K08-012	<1	<0.1	680	30	31	90	<1	290
K08-013	<1	<0.1	170	60	56	410	<1	490
*Rep K08-013	<1	<0.1	120	60	43	340	<1	400
K08-014	<1	<0.1	190	90	44	180	<1	30
K08-015	2	<0.1	120	90	24	220	<1	210
K08-016	<1	<0.1	60	130	7	90	<1	70
K08-017	<1	<0.1	150	180	59	110	<1	140
K08-018	4	0.4	1800	700	152	20	<1	120
K08-019	<1	<0.1	870	40	26	110	<1	320
K08-020	<1	<0.1	190	10	16	100	<1	230
K08-021	<1	<0.1	180	20	16	110	<1	710
K08-022	<1	<0.1	140	20	11	100	<1	240
K08-023	<1	<0.1	230	20	11	60	<1	50
K08-024	<1	<0.1	200	600	174	4580	<1	1310
K08-025	2	0.2	730	600	193	360	<1	1600
*Rep K08-025	2	<0.1	590	680	190	320	<1	1740
K08-026	<1	<0.1	60	40	40	220	<1	90
K08-027	<1	<0.1	200	340	51	910	<1	1360
K08-028	6	<0.1	200	300	76	260	<1	300
K08-029	1	<0.1	280	100	36	170	<1	230
K08-030	5	<0.1	120	90	27	230	<1	130
K08-031	11	<0.1	280	50	59	140	<1	60
K08-032	4	0.2	200	660	120	2580	<1	200
K08-033	7	0.1	170	130	40	500	<1	80
K08-034	<1	<0.1	180	70	33	360	<1	530
K08-035	<1	0.1	200	60	69	260	<1	770
K08-036	<1	<0.1	400	10	12	80	<1	540
K08-037	<1	<0.1	220	10	8	20	<1	550
*Rep K08-037	<1	<0.1	250	10	12	40	<1	640
K08-038	<1	<0.1	230	30	29	170	<1	620
K08-039	<1	<0.1	160	40	48	140	<1	840

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Element Method	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Det.Lim.	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Units	1	0.1	10	10	5	10	1	20
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-040	<1	<0.1	110	30	18	130	<1	670
K08-041	<1	<0.1	130	50	33	70	<1	620
K08-042	<1	<0.1	70	30	20	70	<1	520
K08-043	<1	<0.1	100	30	28	310	<1	910
K08-044	<1	<0.1	120	30	20	90	<1	460
K08-045	<1	<0.1	70	40	22	70	<1	570
K08-046	<1	<0.1	110	80	35	220	<1	1040
K08-047	<1	<0.1	170	70	19	50	<1	580
K08-048	<1	<0.1	140	30	40	110	<1	480
K08-049	<1	<0.1	220	30	18	80	<1	790
*Rep K08-049	<1	<0.1	190	20	14	70	<1	610
K08-050	<1	<0.1	550	<10	9	20	<1	500
K08-051	<1	<0.1	420	<10	7	20	<1	290
K08-052	<1	<0.1	350	110	8	20	<1	20
K08-053	5	0.3	80	600	404	100	<1	70
K08-054	1	<0.1	290	460	118	170	<1	270
K08-055	15	0.3	510	180	141	140	<1	80
K08-056	<1	<0.1	110	120	66	630	<1	390
K08-057	<1	<0.1	130	200	81	310	<1	370
K08-058	2	0.1	240	310	176	440	<1	370
K08-059	9	0.1	340	360	36	480	<1	430
K08-060	5	0.1	370	270	109	280	<1	480
*Std MMISRM18	21	9.4	140	740	508	270	13	670
*Std MMISRM18	19	8.6	130	670	463	260	12	620
*BIK BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20
*BIK BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20

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## Certificate of Analysis

Work Order: TO103956

To: **Northern Gold Mining Inc.**  
Attn: Ken Rattee  
Box 453  
1470 Government Rd. W.  
KIRKLAND LAKE  
ON P2N 3J1

Date: Nov 19, 2008

P.O. No. :  
Project No. : DEFAULT  
No. Of Samples 51  
Date Submitted Oct 23, 2008  
Report Comprises Pages 1 to 3  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

STORE: 51 Soils

Certified By :

Gavin McGill  
Operations Manager

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Det.Lim.	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Units	1	0.1	10	10	5	10	1	20
	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-200	<1	<0.1	430	80	83	30	<1	260
*Rep K08-200	<1	<0.1	380	120	72	60	<1	370
K08-201	<1	<0.1	500	60	52	30	<1	130
K08-202	<1	<0.1	620	30	64	20	<1	450
K08-203	<1	<0.1	250	20	86	370	<1	920
K08-204	<1	<0.1	180	30	78	210	<1	780
K08-205	<1	<0.1	210	20	57	120	<1	430
K08-206	<1	<0.1	320	30	68	450	<1	540
K08-207	<1	0.1	260	30	30	80	<1	30
K08-208	1	<0.1	150	50	21	70	<1	130
K08-209	<1	<0.1	320	70	36	580	<1	170
K08-210	<1	<0.1	630	10	32	60	<1	330
K08-211	<1	<0.1	330	60	31	110	<1	80
K08-212	<1	<0.1	420	10	40	130	<1	420
*Rep K08-212	<1	<0.1	400	10	43	110	<1	480
K08-213	3	<0.1	80	50	23	170	<1	150
K08-214	<1	<0.1	340	50	14	70	<1	50
K08-215	<1	<0.1	540	<10	40	20	<1	270
K08-216	<1	<0.1	370	10	65	90	<1	360
K08-217	<1	<0.1	210	60	58	10	<1	50
K08-218	<1	<0.1	150	10	30	530	<1	230
K08-219	<1	<0.1	170	50	49	290	<1	230
K08-220	<1	<0.1	170	50	43	50	<1	50
K08-221	<1	<0.1	30	50	21	90	<1	70
K08-222	<1	<0.1	380	10	41	120	<1	620
K08-223	<1	<0.1	110	<10	58	190	<1	630
K08-224	<1	<0.1	220	30	47	20	<1	60
*Rep K08-224	<1	<0.1	230	40	43	20	<1	80
K08-225	1	<0.1	70	230	17	90	<1	100
K08-226	<1	<0.1	20	20	36	100	<1	30
K08-227	3	<0.1	370	50	30	70	<1	30
K08-228	1	<0.1	460	110	56	280	<1	500
K08-229	4	<0.1	60	50	18	90	<1	40
K08-230	7	<0.1	20	210	38	130	<1	150
K08-231	11	<0.1	280	160	43	110	<1	60
K08-232	3	<0.1	350	100	28	110	<1	60
K08-233	2	<0.1	710	200	86	460	<1	930
K08-234	6	0.1	200	70	45	200	<1	120
K08-235	2	<0.1	40	180	26	240	<1	120
K08-236	<1	<0.1	150	30	25	100	<1	180
*Rep K08-236	<1	<0.1	110	30	24	90	<1	170
K08-237	<1	<0.1	310	80	42	80	<1	60
K08-238	<1	<0.1	330	40	39	120	<1	550

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Element	Ag	Au	Ba	Cu	Ni	Pb	Pd	Zn
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	0.1	10	10	5	10	1	20
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB
K08-239	<1	<0.1	250	30	41	200	<1	1410
K08-240	<1	<0.1	320	80	49	200	<1	440
K08-241	<1	<0.1	210	10	55	40	<1	200
K08-242	<1	<0.1	300	10	35	30	<1	410
K08-243	<1	<0.1	90	10	23	80	<1	40
K08-244	<1	<0.1	350	10	37	90	<1	270
K08-245	<1	<0.1	160	60	25	20	<1	120
K08-246	<1	<0.1	600	60	77	210	<1	180
K08-247	1	<0.1	580	100	117	120	<1	40
K08-248	2	<0.1	80	30	30	130	<1	30
*Rep K08-248	2	0.2	80	40	32	140	<1	20
K08-249	3	<0.1	100	90	51	140	<1	70
K08-250	6	<0.1	60	190	49	370	<1	240
*Std MMISRM18	25	9.3	140	850	633	460	16	700
*Std MMISRM18	23	8.2	150	860	605	450	13	670
*Blk BLANK	<1	<0.1	<10	<10	<5	<10	<1	<20
*Blk BLANK	<1	<0.1	<10	<10	10	<10	<1	<20

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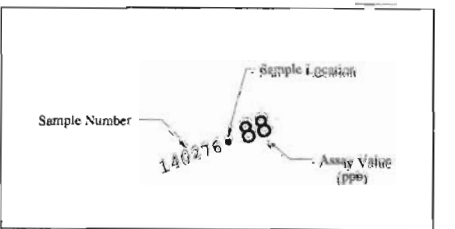
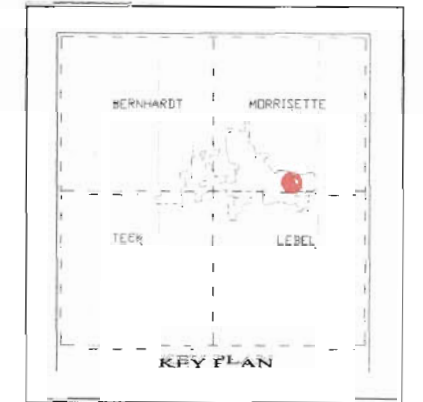
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Meters  
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- Legend**
- shafts
  - Water
  - Claim Lines
  - Property Boundary
  - Road
  - Line Grid
  - Trail

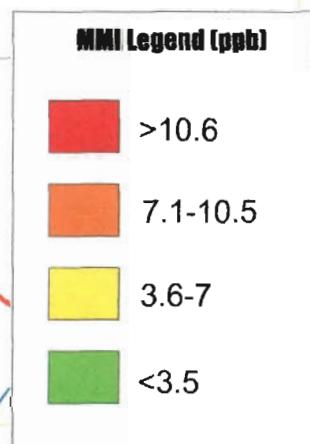
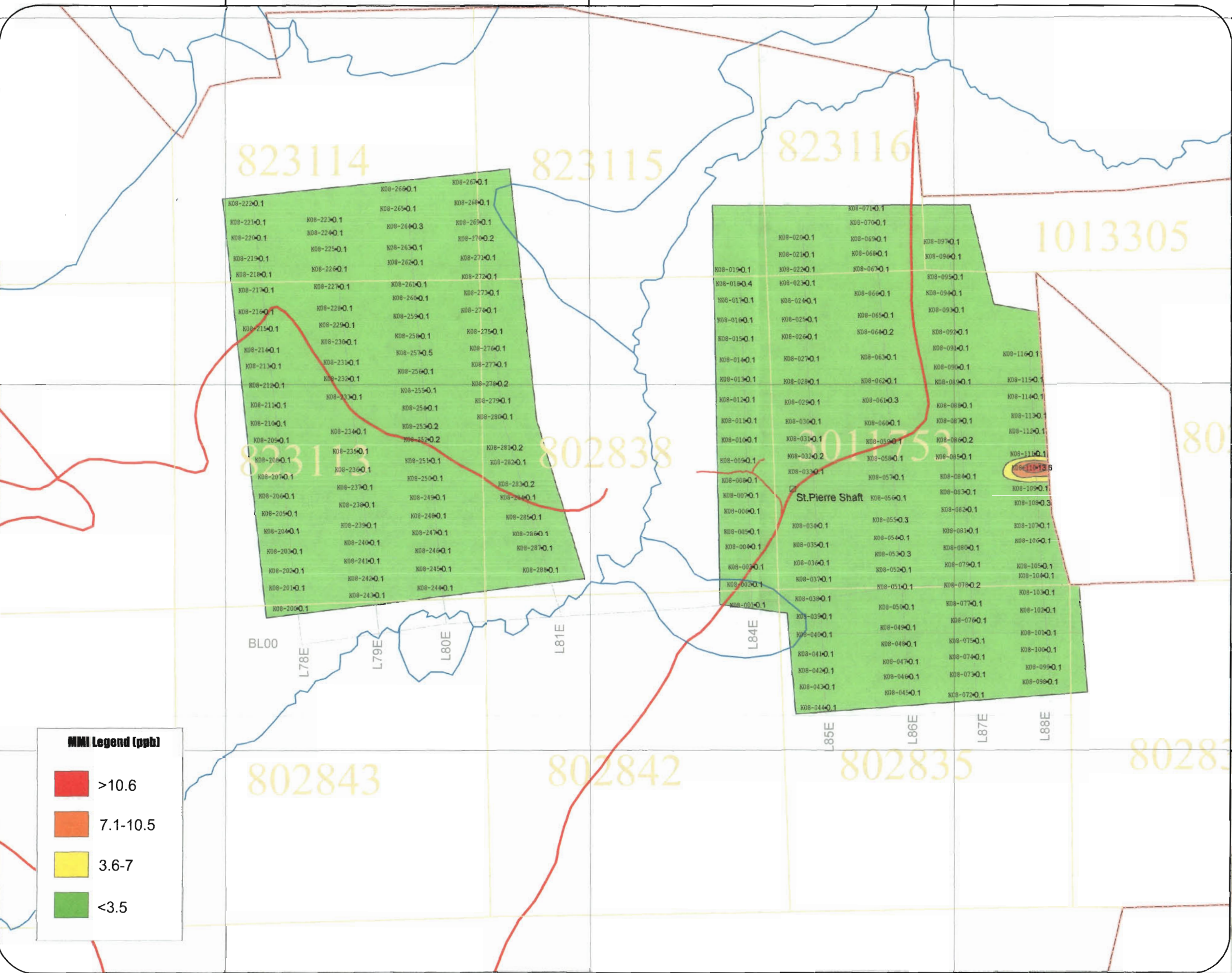
**MALLARD LAKE MMI (Au)**  
 Morrisette Township  
 Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
 Geochemical Survey  
 Gold (Au)

Data and Drawing By:  
 David W. Eves  
 Jan. 26, 2009.

Magnetic declination is taken at 11°36' W  
 as per National Geophysical Data Centre Standards.

All measurements are in metric units unless otherwise stated.  
 Grid Stationing is at 25m with gridlines spaced 100m apart.

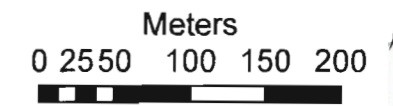




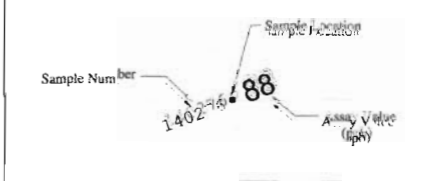
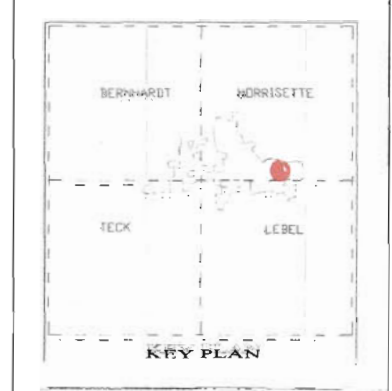
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NAD83 Zone 17 N



**Legend**

- shafts
- Water
- Claim Lines
- Property Boundary
- Road
- Line Grid
- Trail

**MALLARD LAKE MMI (Ag)**  
Morrisette Township  
Larder Lake Mining Division, Ontario

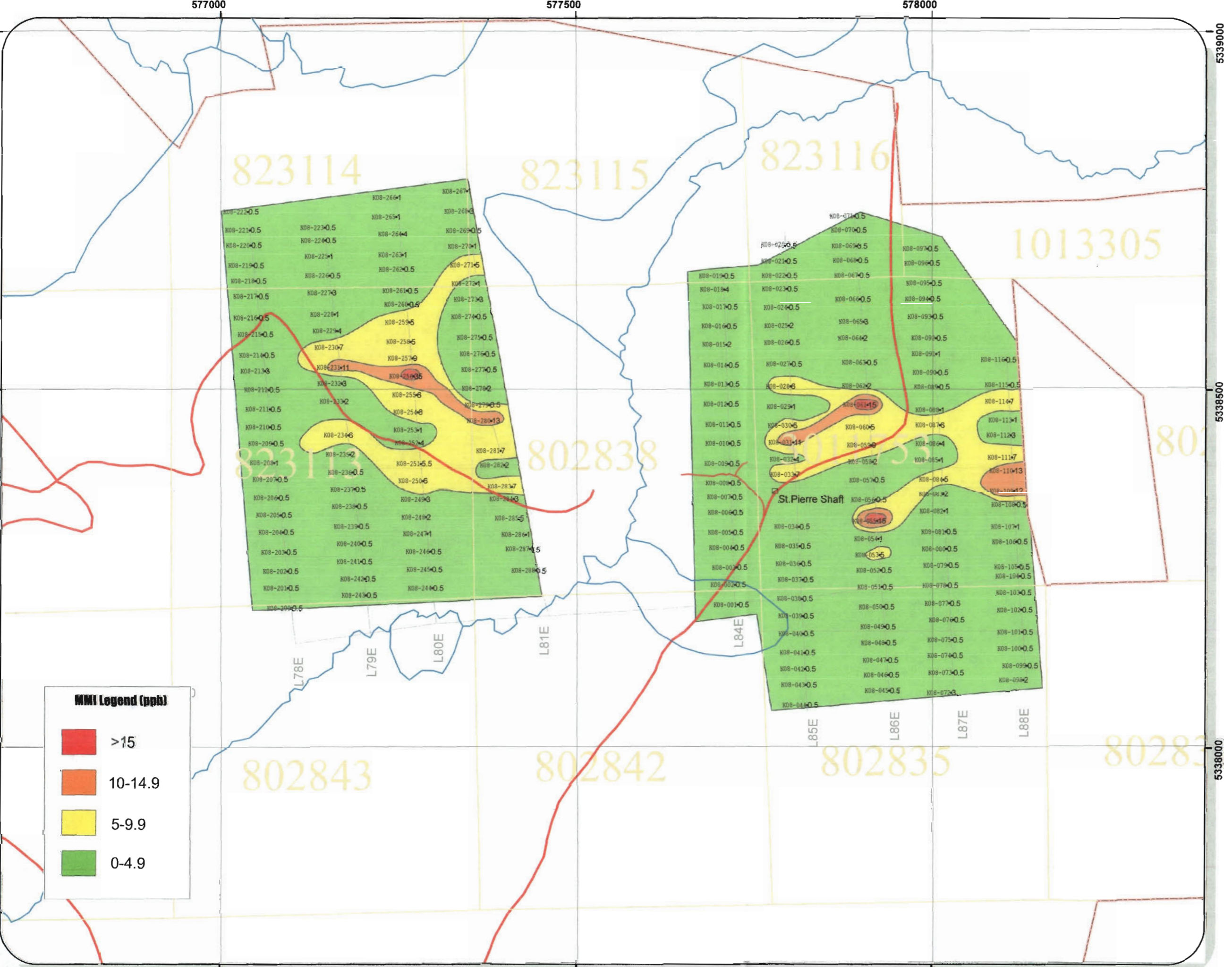
Mobile Metal Ions Process  
Geochemical Survey  
Silver (Ag)

Data and Drawing By:  
David W. Eves  
Jan. 26, 2009.

Magnetic declination is taken at 11°36' W  
as per National Geophysical Data Centre Standards.

All measurements are in metric units unless otherwise stated.

Grid Stationing is at 25m with gridlines spaced 100m apart.



**MMI Legend (ppb)**

- >15
- 10-14.9
- 5-9.9
- 0-4.9



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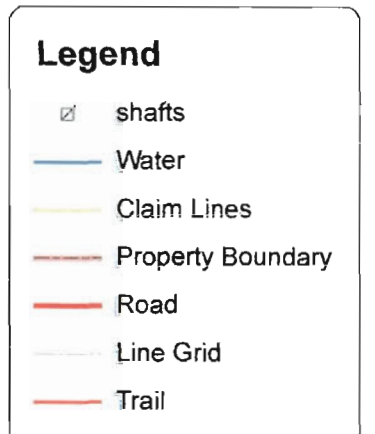
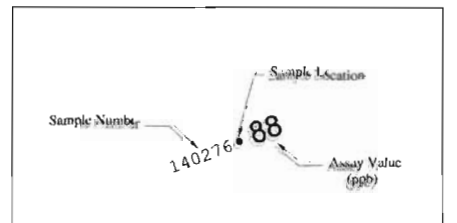
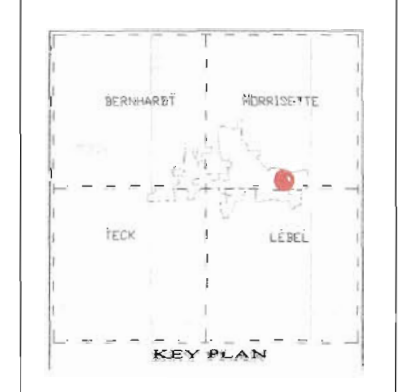
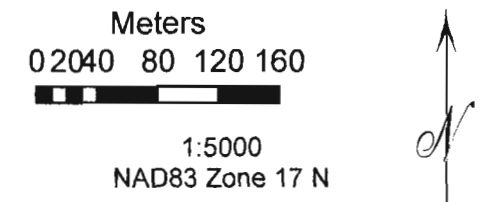
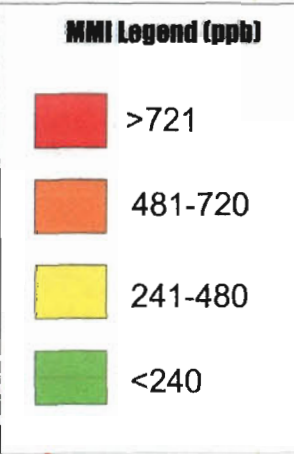
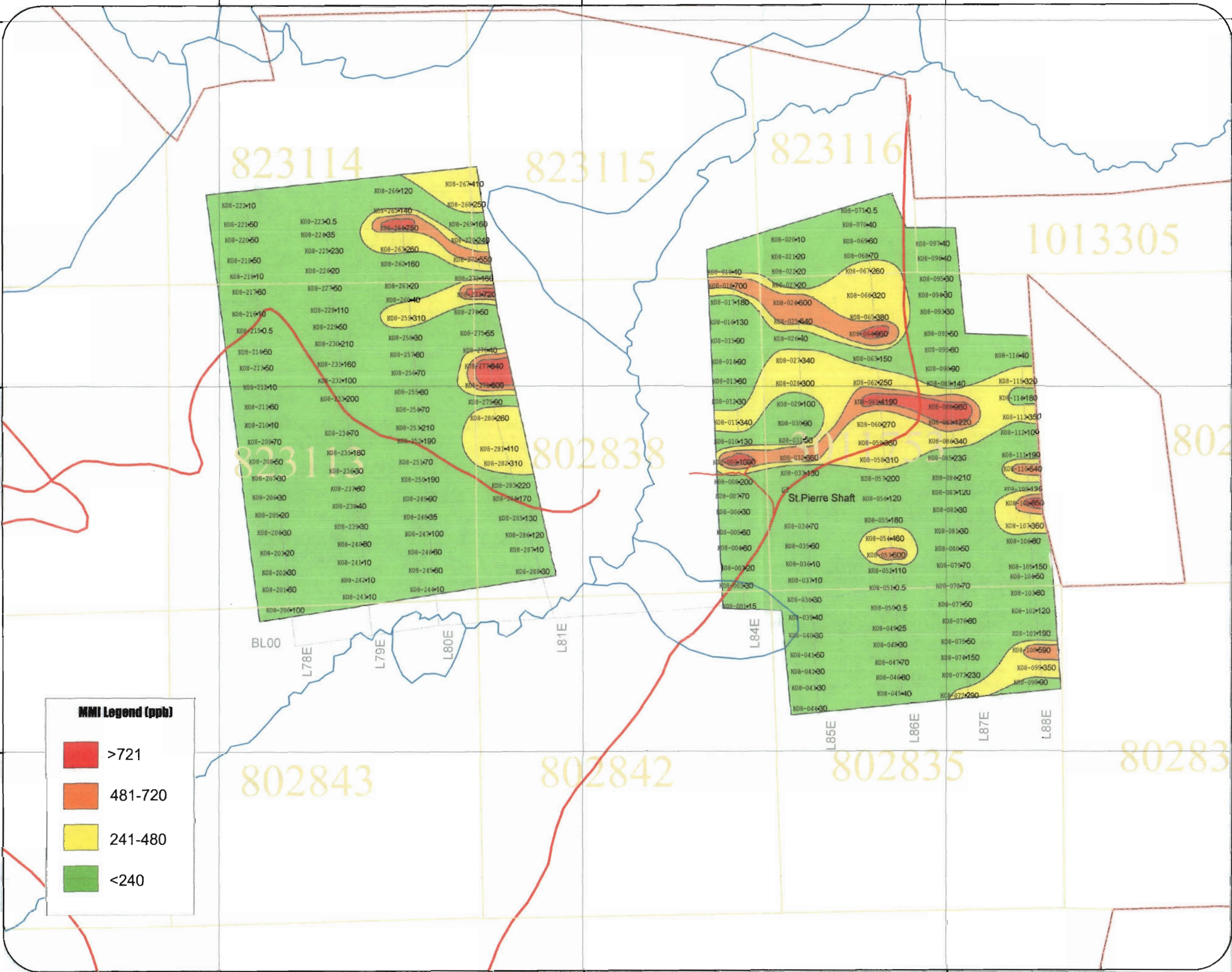
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**MALLARD LAKE MMI (Cu)**  
 Morrisette Township  
 Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
 Geochemical Survey  
 Copper (Cu)

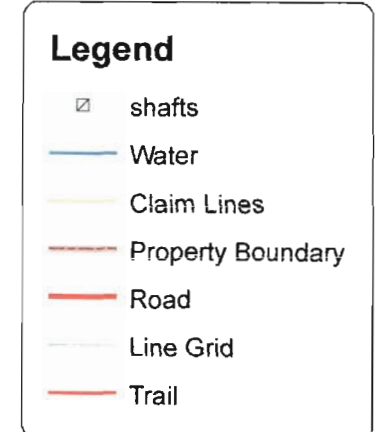
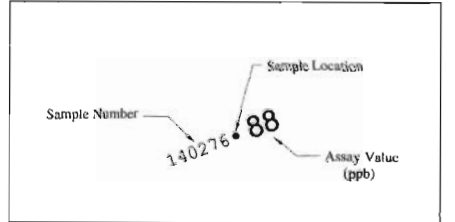
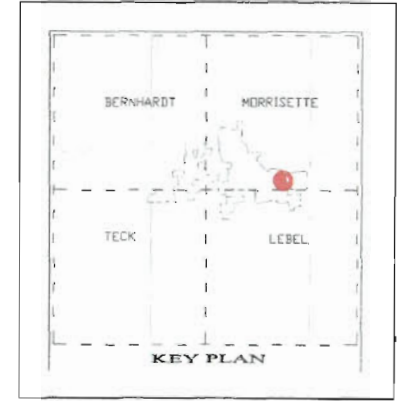
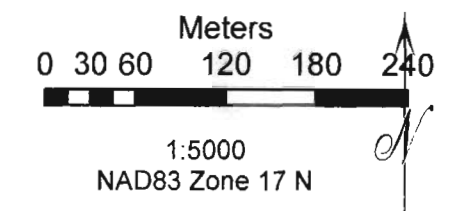
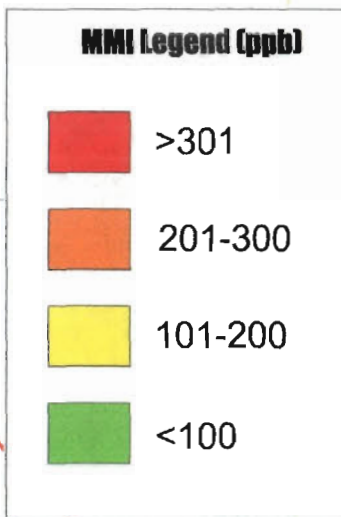
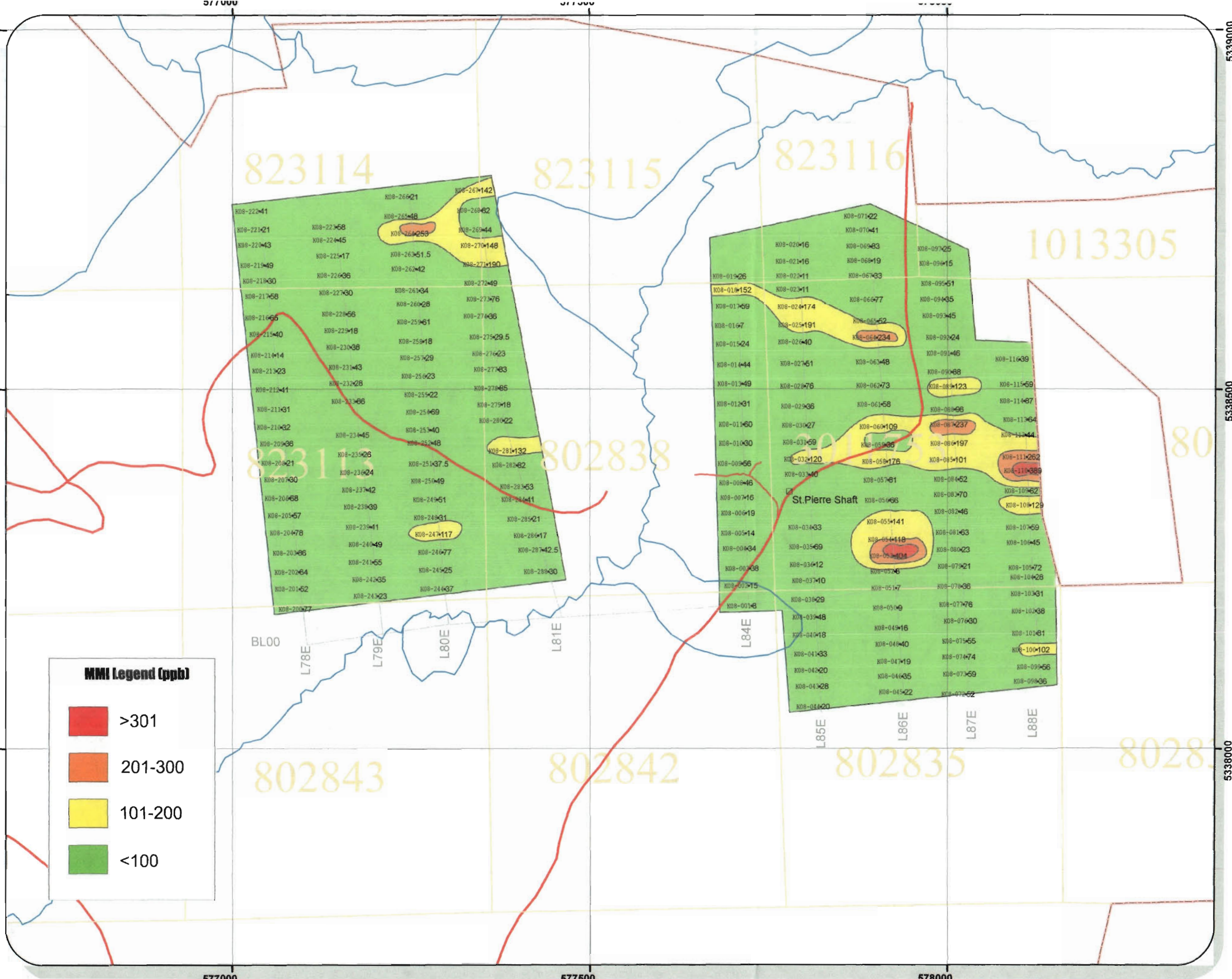
Data and Drawing By:  
 David W. Eves  
 Jan. 26, 2009.

Magnetic declination is taken at 11°36' W  
 as per National Geophysical Data Centre Standards.

All measurements are in metric units unless otherwise stated.

Grid Stationing is at 25m with gridlines spaced 100m apart.





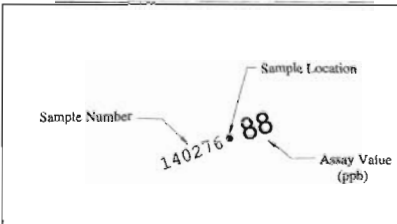
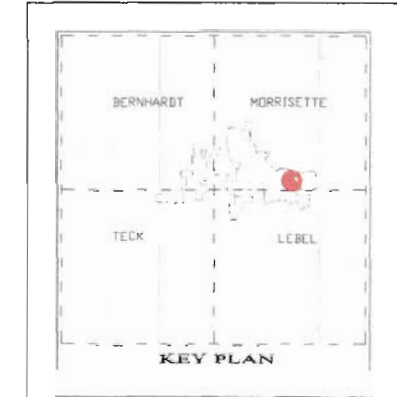
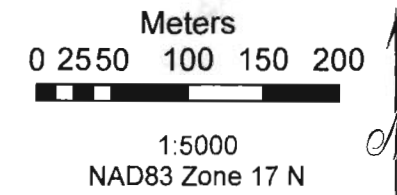
**MALLARD LAKE MMI (Ni)**  
Morrisette Township  
Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
Geochemical Survey  
Nickel (Ni)

Data and Drawing By:  
David W. Eves  
Jan. 26, 2009.

Magnetic declination is taken at 11°36' W as per National Geophysical Data Centre Standards.  
All measurements are in metric units unless otherwise stated.  
Grid Stationing is at 25m with gridlines spaced 100m apart.





**Legend**

- shafts
- Water
- Claim Lines
- Property Boundary
- Road
- Line Grid
- Trail

**MALLARD LAKE MMI (Pb)**

Morrisette Township

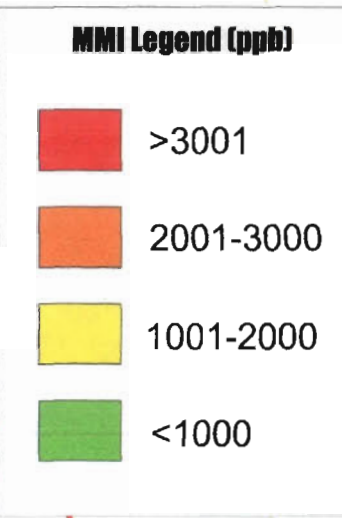
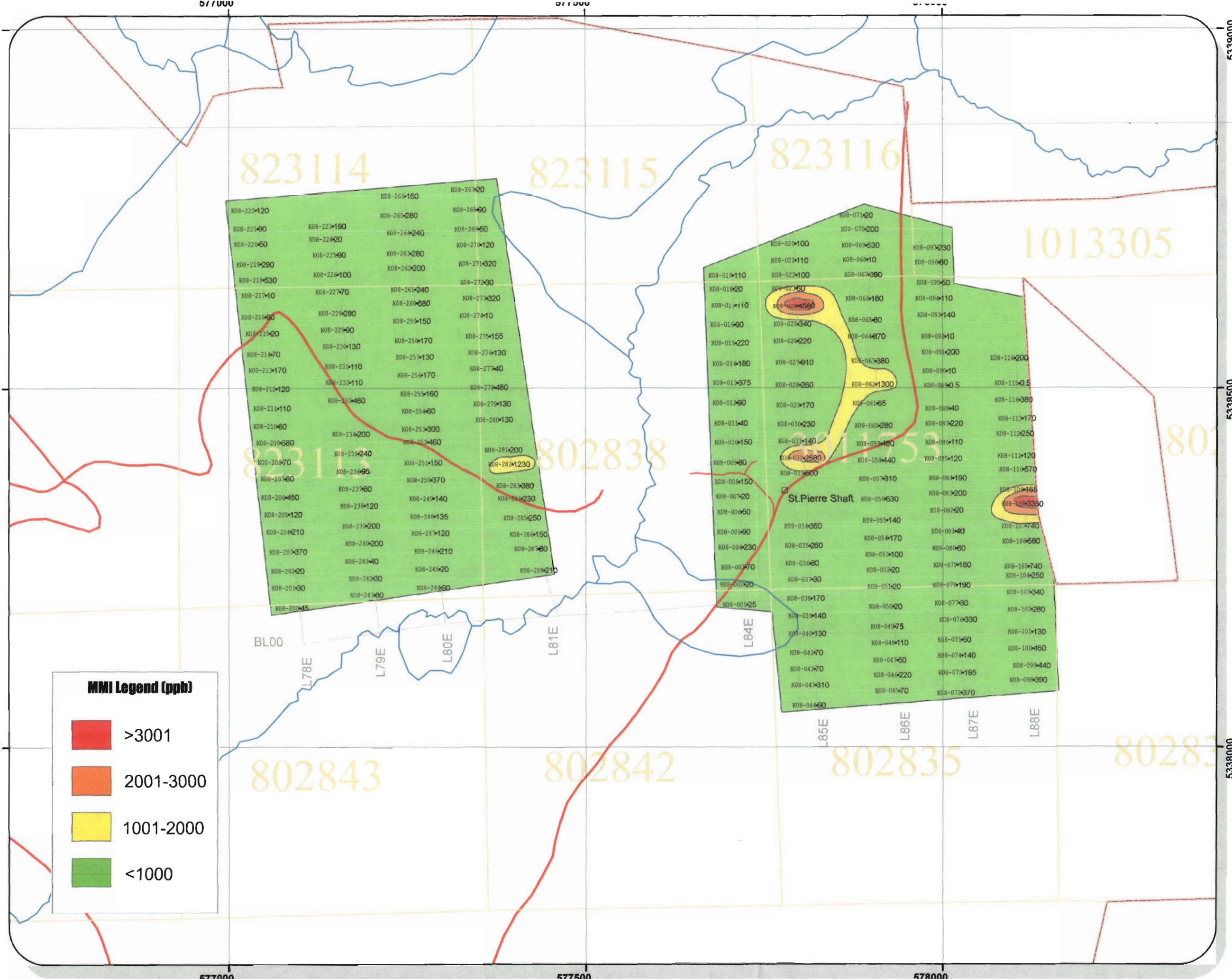
Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
Geochemical Survey  
Lead (Pb)

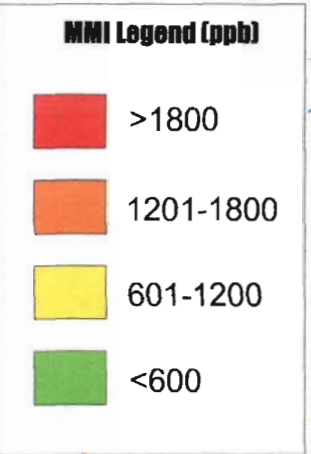
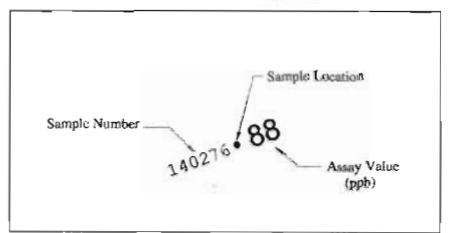
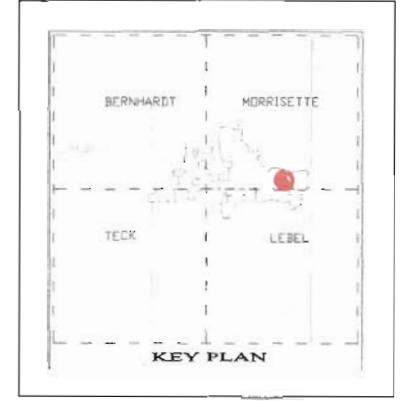
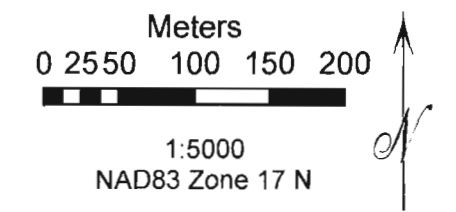
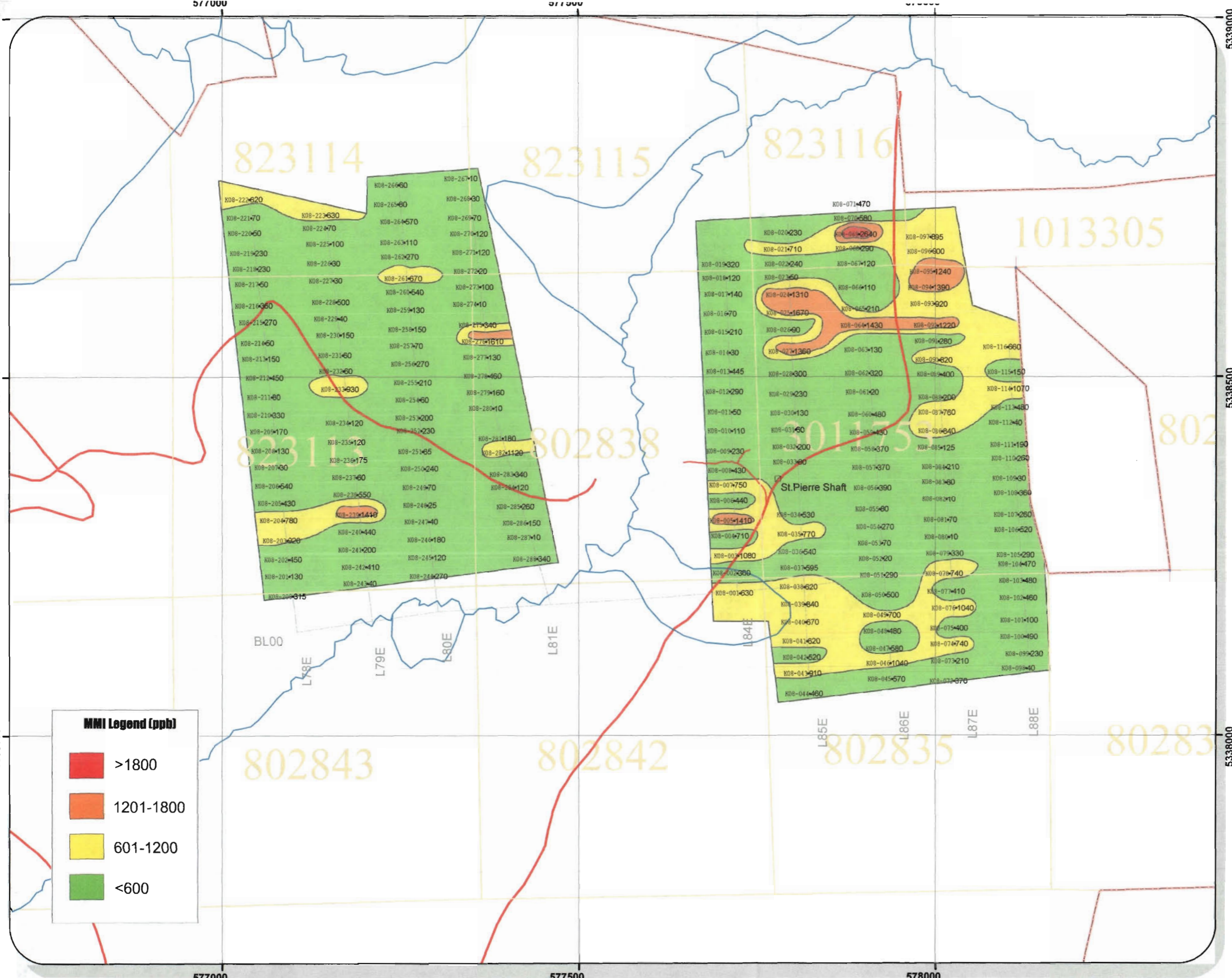
Data and Drawing By:

David W. Eves  
Jan. 26, 2009.

Magnetic declination is taken at 11°36' W  
as per National Geophysical Data Centre Standards.  
All measurements are in metric units unless otherwise stated.  
Grid Stationing is at 25m with gridlines spaced 100m apart.







- Legend**
- shafts
  - Water
  - Claim Lines
  - Property Boundary
  - Road
  - Line Grid
  - Trail

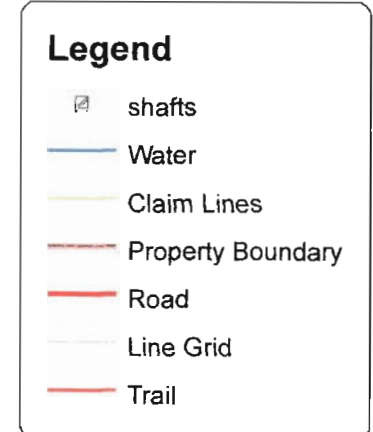
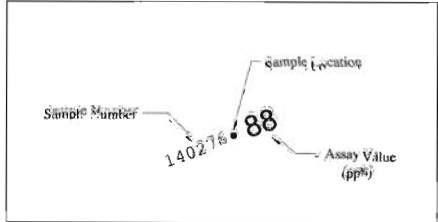
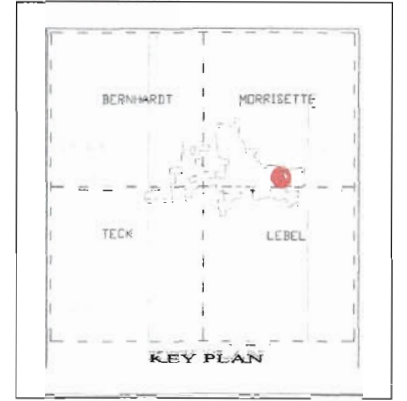
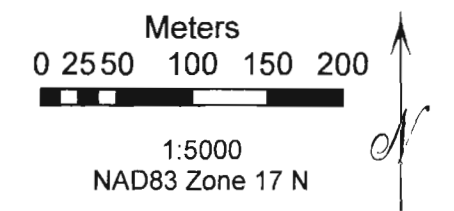
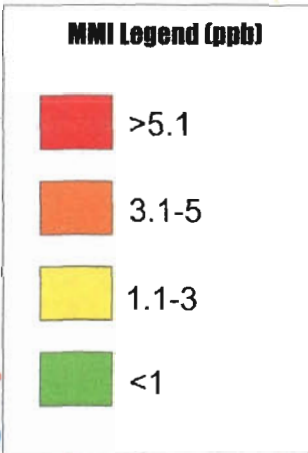
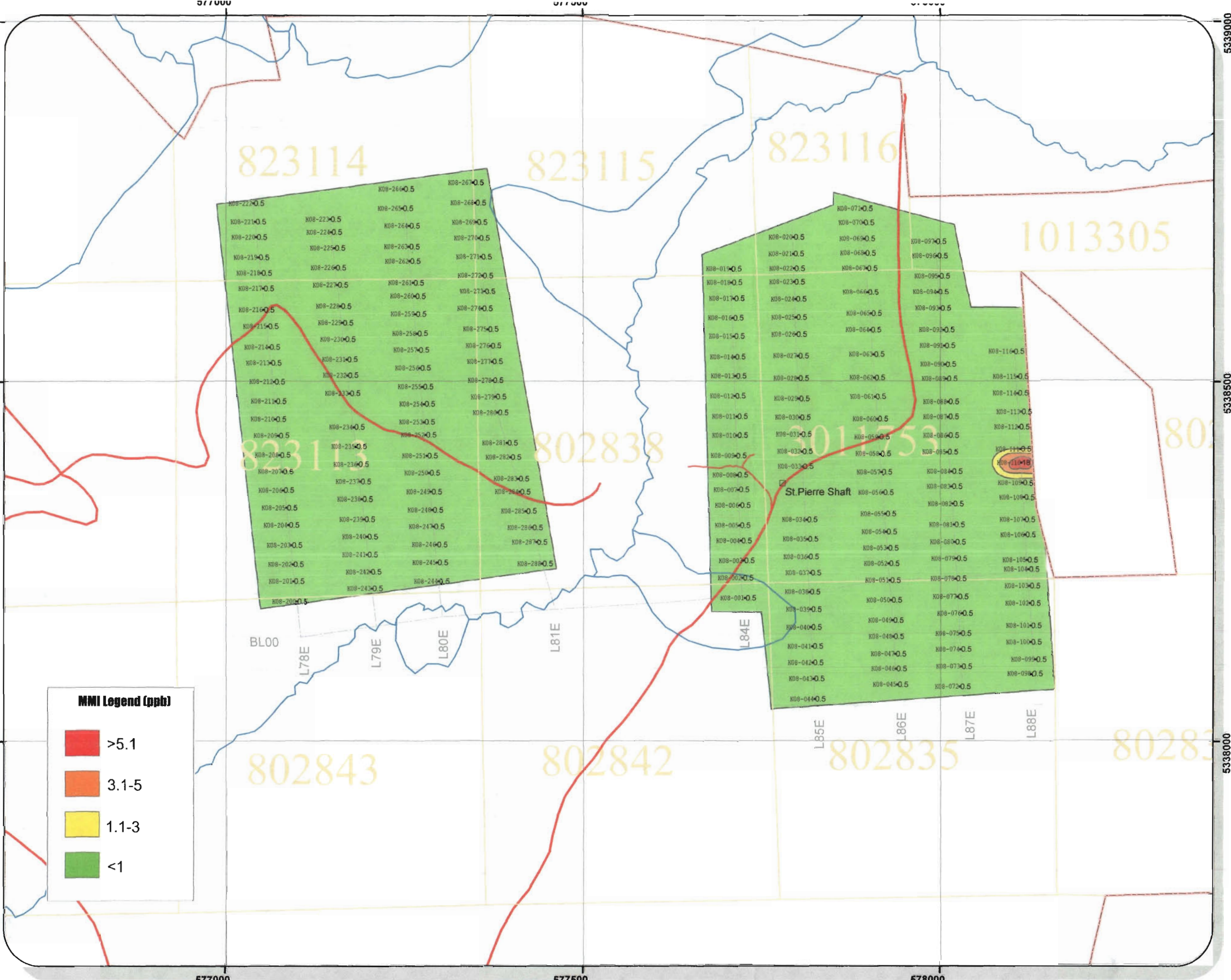
**MALLARD LAKE MMI (Zn)**  
 Morrisette Township  
 Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
 Geochemical Survey  
 Zinc (Zn)

Data and Drawing By:  
 David W. Eves  
 Jan. 26, 2009.

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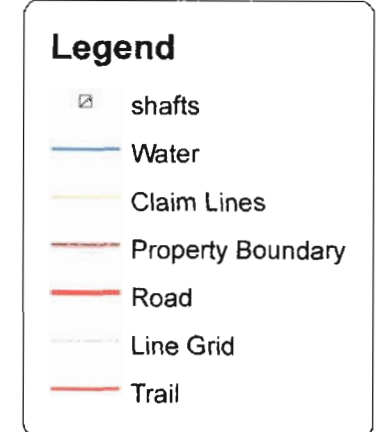
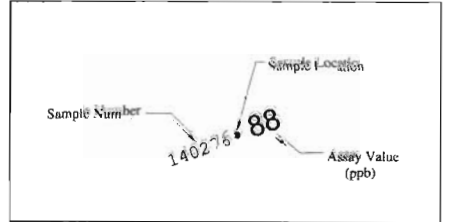
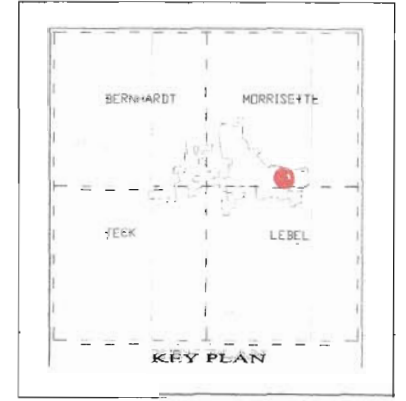
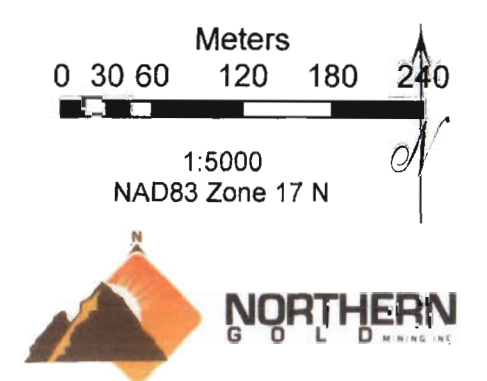
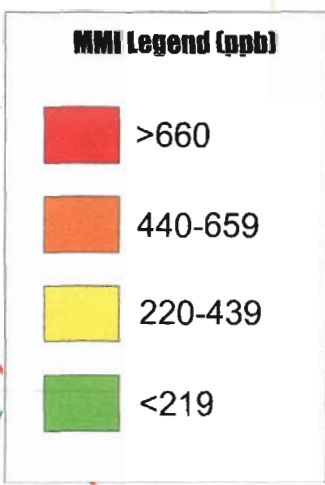
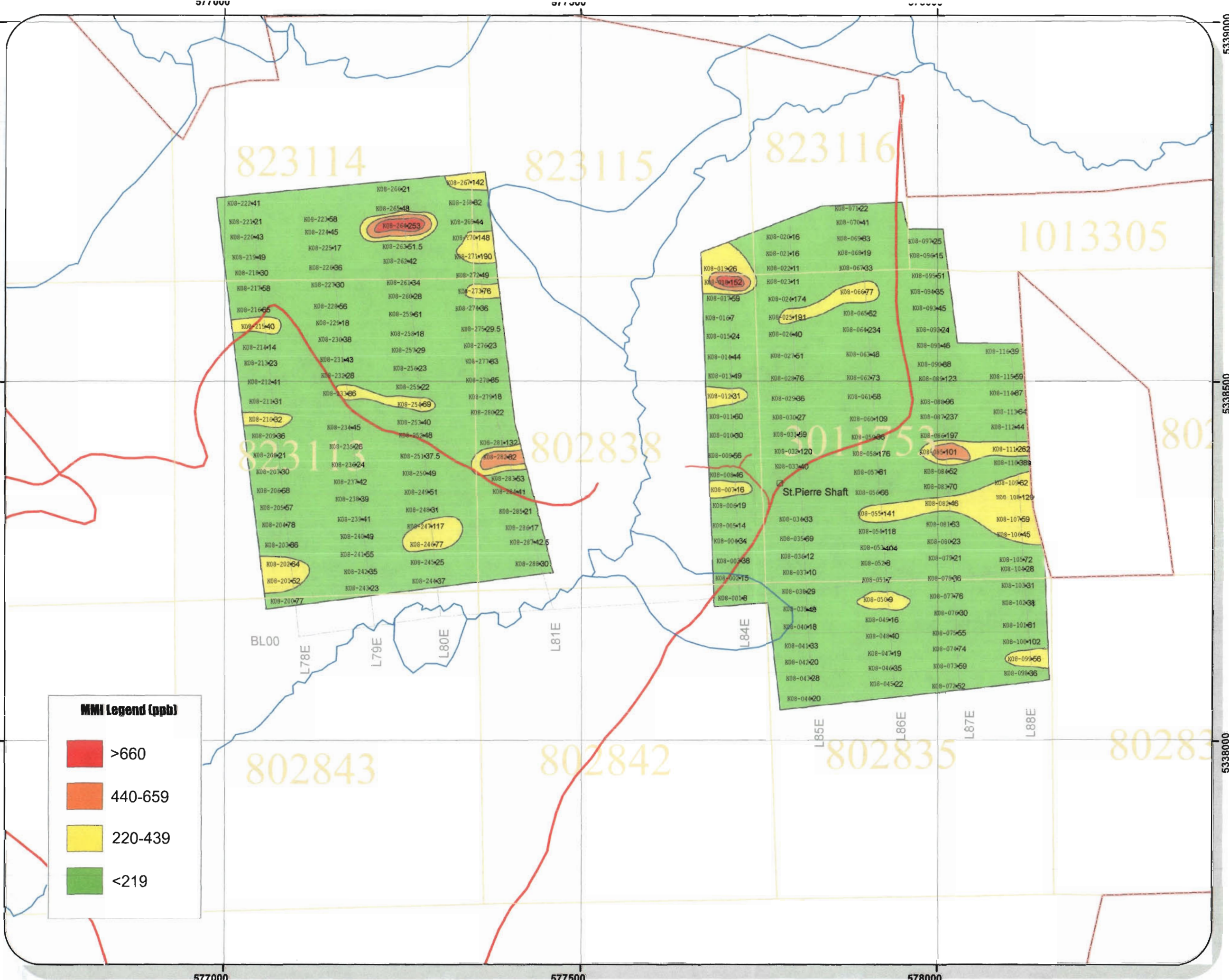
**MALLARD LAKE MMI (Pd)**  
 Morrisette Township  
 Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
 Geochemical Survey  
 Palladium (Pd)

Data and Drawing By:  
 David W. Eves  
 Jan. 26, 2009.

Magnetic declination is taken at 11°36' W as per National Geophysical Data Centre Standards.  
 All measurements are in metric units unless otherwise stated.  
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**MALLARD LAKE MMI (Ba)**  
Morrissette Township  
Larder Lake Mining Division, Ontario

Mobile Metal Ions Process  
Geochemical Survey  
**Barium (Ba)**

Data and Drawing By:  
David W. Eves  
Jan. 26, 2009.

Magnetic declination is taken at 11°36' W as per National Geophysical Data Centre Standards.  
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Grid Stationing is at 25m with gridlines spaced 100m apart.