

**GEOLOGICAL REPORT  
CANADIAN ARROW MINES LTD.**

***“Night Danger Grid”***

**Dryden, Ontario**

**N.T.S. 052F/10SE**

**Sudbury, Ontario  
January 21, 2009**

**Jean Bernard  
Todd Keast**

## **SUMMARY**

In 2008, Canadian Arrow Mines Ltd explored for nickel copper sulphides and platinum group elements on a grid in the Turtlepond Lake Area. Canadian Arrow Mines has a 100% interest in this property. The Night Danger Property is located 40 km south of the City of Dryden and easily accessible by 502 Highway.

In 2008, an exploration program consisting of airborne VTEM-MAG, geological mapping, line cutting, and ground geophysics was carried out on Canadian Arrow Mines Ltd. Night Danger Grid. Claim K-4219025 is part of a larger group of claims controlled by Canadian Arrow Mines Ltd in the Turtlepond Lake Area, south of Dryden. The work was designed as a preliminary evaluation of the property prior to a diamond drilling program.

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## **INTRODUCTION**

During the months of January, June, July and August of 2008, Canadian Arrow Mines Ltd. completed an integrated exploration program on the claim K-4219025, located on the northeast lobe of the felsic to intermediate Atikwa-Lawrence Plutonic-Volcanic Complex. This report has been prepared primarily for the purpose of fulfilling assessment requirements on the property.

Background work involved in the preparation of the report included a review and compilation of exploration work activities by previous operators and a review and compilation of work completed by Canadian Arrow Mines Ltd during the 2008 exploration programs.

Work on the Night Danger Grid was carried out by Canadian Arrow Mines exploration personnel, Tamaras Taras (Student Geologist), Fred Paulus (Student Geologist), Jason Patterson (Student Geologist), Jean Bernard (Senior Geologist) and Todd Keast (P.Geol. Manager). The program was directed at evaluating the mafic-ultramafic rocks favourable for hosting nickel-copper-PGM sulphide mineralization.

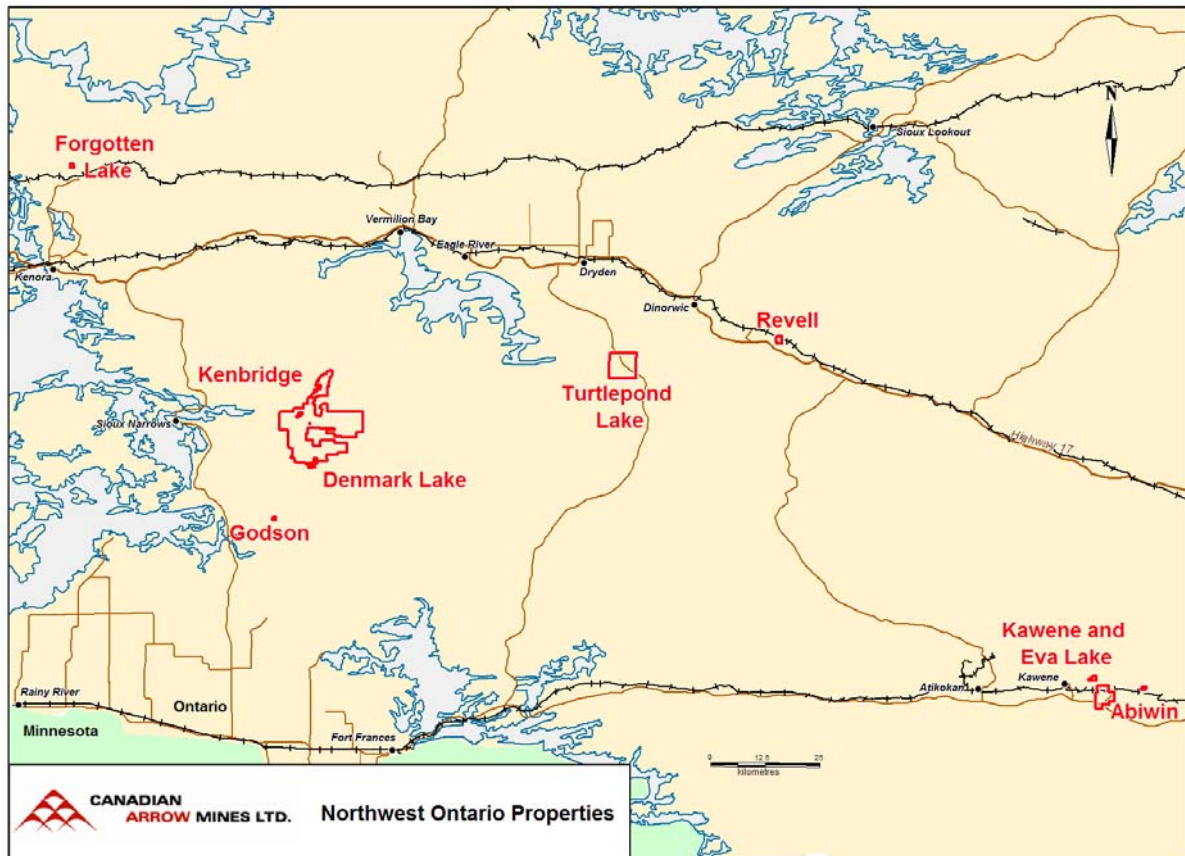
## **LOCATION, ACCESS AND OWNERSHIP:**

The Night Danger Grid is located approximately 40 kilometres south of Dryden Ontario. The center of the property is latitude 49°35'N, longitude 92°45'W and UTM Nad 83 (Zone 15) coordinates 520068E, 5488463N. The property is situated on claim map TurtlePond Lake (G-2595), NTS: 052F/10SE.

The property is accessed by travelling from Dryden south along Highway 502 for approximately 40 km. The Domtar logging road (Desare) runs west from Highway 502. Approximately 800 metres west along the Desare road is a north trending ATV trail which provides excellent access to north portion of the grid.

The Night Danger grid is situated on a portion of 1 claim within Turtlepond Lake Township (Map G2595) of the Kenora Mining Division (**Figure 1**). Canadian Arrow Mines Ltd. is the registered holders (100%) of the claim K-4219025.

The Night Danger Grid is characterized by relatively scarce bedrock exposures and extensive glacial deposits. Associated with the outcrop areas is a thin cover of glaciolacustrine sand and boulder till. Several small lakes are located in the northern parts of the claim.



**Figure 1 - Location**

## **GEOLOGY**

The Night Danger Grid is underlain by Archean Aged rocks of the Superior Province of the Canada Shield. The Emmons Lake property is situated along the western margin of the Dinorwic Lake - Upper Manitou Lake greenstone belt (figure 2).

Satterly (Vol. L, Part 2, OEM Annual Report, 1941, Map No. 50e, The Dryden-Wabigoon Area) indicates that the present property is underlain by diorites, quartz-hornblende diorites, and some porphyritic biotite granodiorites that comprise the extreme eastern border zones of the very large Atikwa Batholith. Satterly's contact between the felsic to intermediate batholithic rocks, and a very thick pile of north-south striking, slightly metamorphosed, intermediate to mafic volcanic rocks occurs approximately 100m north of Emmons Lake. On Satterly's map gabbroic rocks occur in minor quantities immediately south of Emmons Lake, however later exploration work indicates that most of the rocks near Emmons Lake are mafic volcanic medium-grained gabbro, pyroxenite, peridotite and locally aplitic dikes and sills.

The majority of the intrusive rocks which underly the property can be classified as border phases of the large Atikwa Batholith, which is centered some 30 kilometers to the west. The most recent mapping which covers the Emmons Lake area goes back to 1940 (Satterly, 1940). Canadian Arrow Mines Ltd geologists identified the following rock types as underlying the property:

### **1) Aplitic dikes and sills:**

Porphyry dykes and sills are found, varying from a few centimeters to 15 or 30 meters in width. The siliceous porphyry is definitely an intrusive rock. The best area to observe the aplitic dike is at the proximity of the nickel-copper showing and north east of the grid. The felsic body trends northwest over 150 meters and parallels the mineralized zone. According to the old diamond drill holes, several diorite porphyry and aplitic sills and dikes were intersected on the east portion of the grid and intruded the mafic to the ultramafic rocks.

### **2) Mafic Volcanics:**

The volcanic rocks occupy the north-eastern part of the claim K-1247471 and the contact with the mafic intrusive rocks to the north and the south and strikes approximately east-west (figure 6). The contact appears to be faulted to the west by about 100 meters along the ridge. This fault is based on the relative shearing structural feature. A typical mafic volcanic is medium to dark green in hand specimen, is moderately. The rocks are fine-grained and non-magnetic. The volcanic rocks are locally silicified and appear to be intermediate in composition. Foliations, where present, are at N80°.

### **3) Gabbro:**

This rock is generally medium to coarse grained, although finer-grained phases are locally developed throughout most of the property. It is medium to dark green in hand specimen. Contacts between the fine and coarse grained phases appear to be highly irregular and sometimes are difficult to map. This rock type was originally called leucogabbro to a melanogabbro in the field, because of its high mafic content. However, on close inspection, essential blue quartz eyes was observed in the rock, thus the term leucogabbro has been used. The typical gabbro contains 5-7% fine to medium grained biotite. The gabbro is massive to weakly foliated (finer-grained phases). Magnetite is locally abundant in the gabbro. This unit is in contact on east side of the mineralized zone.

### **4) Pyroxenite-peridotite:**

Pyroxenite underlies several small areas on the property, especially in the area of the nickel-copper Showing. The two most prominent pyroxenite bodies are located in the western and southern parts of the grid in the vicinity of claim K1247471 and along the Snow Flake Road north of the Emmons Lake Showing. The pyroxenite is commonly very dark green with occasional brown rust staining. It is coarse grained, massive and equigranular. Magnetite is often associated with this rock. All the ultramafic intrusive rocks have been metamorphosed, resulting in the partial replacement of clinopyroxene to talc and magnetite. The pyroxenite is interpreted to be the host rock of the mineralized zone and all the exposures are located on the west or inside of the ore zone.

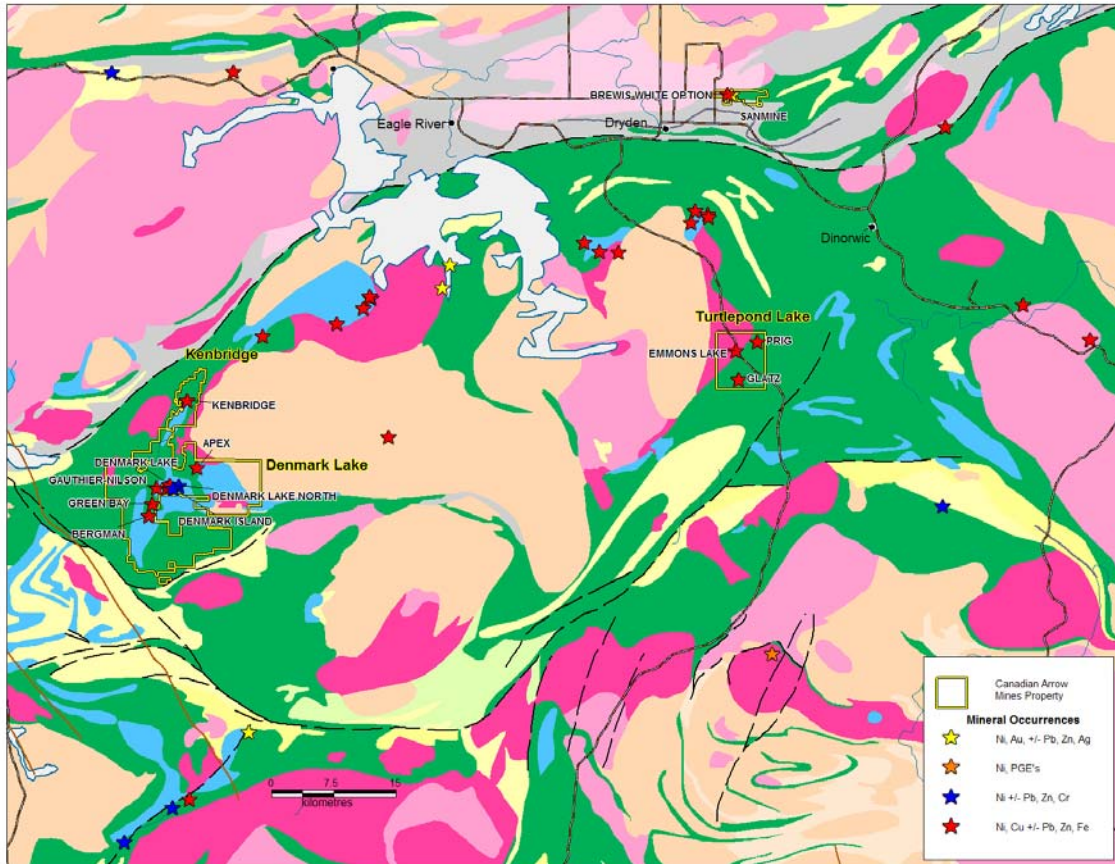


Figure 2 – Regional Geology

## PREVIOUS WORK

There is no reported assessment work filed for this area.

## CANADIAN ARROW 2008 EXPLORATION PROGRAM

In 2008, Canadian Arrow Mines contracted an airborne geophysical survey over a larger group of claims in the area. Based upon the geophysical survey results, Canadian Arrow Mines Ltd established a cut grid, conducted reconnaissance prospecting, mapping and sampling of the grid area.

An east-west baseline was put in using a handheld GPS unit for control. North-South grid lines were established at 100 meters intervals. The lines were picketed every 25 meters to allow for detailed geological mapping and ground geophysical surveys.

In August 2008, R.J Meikle & Associates was contracted by Canadian Arrow to conduct ground magnetic, and IP surveys over the Night Danger Grid. The surveys were carried out to assist in the exploration for Ni-Cu-PGM sulphide deposits associated with mafic to ultramafic bodies. Results of the geophysics are included in a separate report.

A detailed geological map of the Night Danger Grid is shown on **Map 1**.

Several small outcrops were identified which mark a contact between a gabbro and granite bodies. The airborne anomaly is situated in the central portion of the grid, however lack of outcrop exposure has found no explanation for the anomaly.

## **CONCLUSION AND RECOMMENDATIONS**

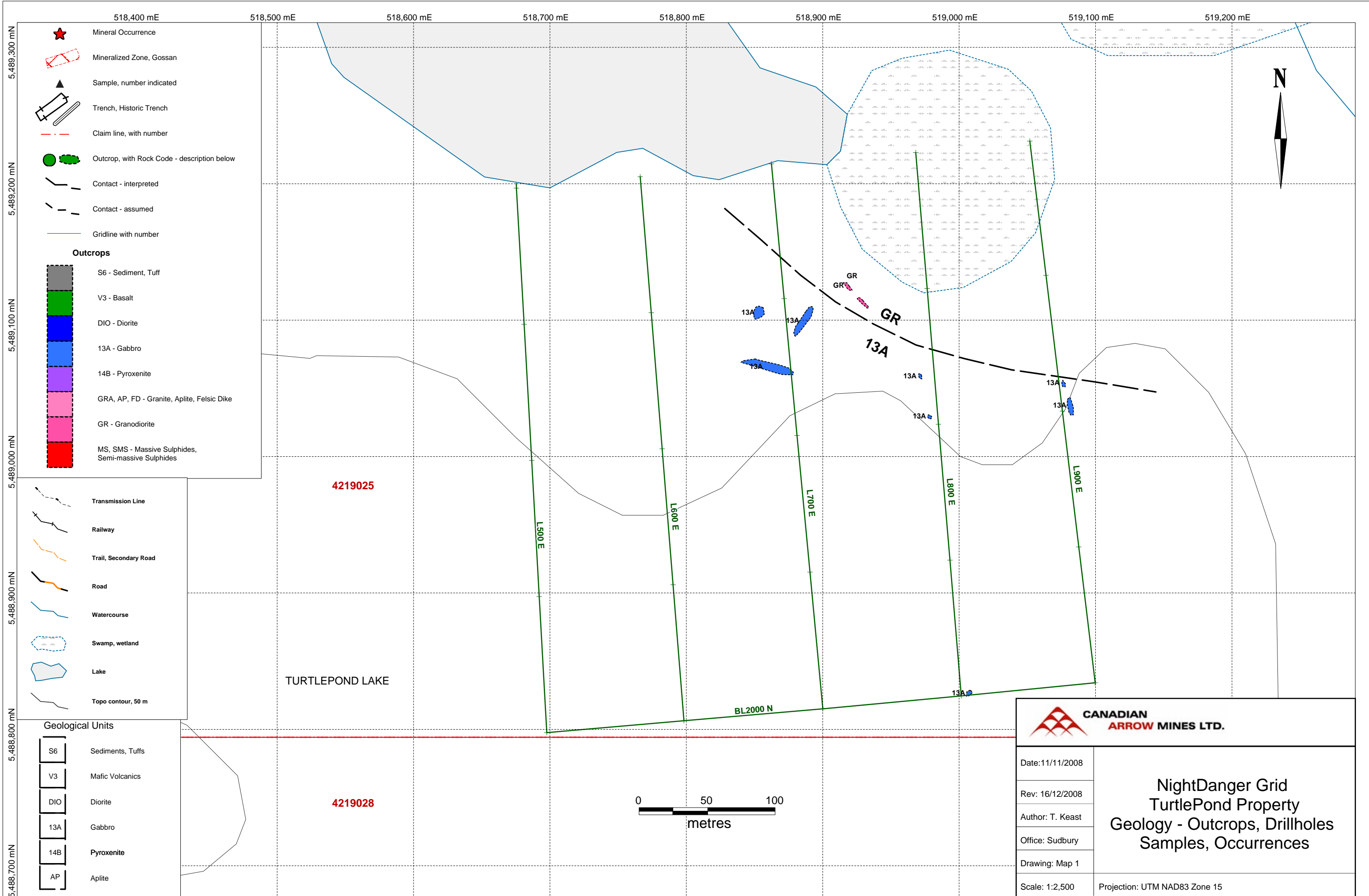
The geophysical survey has identified an airborne electromagnetic anomaly which could not be explained by ground mapping and prospecting. The anomaly is overburden covered but is situated in a gabbro body, which is a known host rock for Ni-Cu sulphide mineralization in the area.

It is recommended that the anomaly be tested by diamond drilling.



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- Mineral Occurrence
- Mineralized Zone, Gossan
- Sample, number indicated
- Trench, Historic Trench
- Claim line, with number
- Outcrop, with Rock Code - description below
- Contact - interpreted
- Contact - assumed
- Gridline with number

**Outcrops**

- S6 - Sediment, Tuff
- V3 - Basalt
- DIO - Diorite
- 13A - Gabbro
- 14B - Pyroxenite
- GRA, AP, FD - Granite, Aplite, Felsic Dike
- GR - Granodiorite
- MS, SMS - Massive Sulphides, Semi-massive Sulphides

- Transmission Line
- Railway
- Trail, Secondary Road
- Road
- Watercourse
- Swamp, wetland
- Lake
- Topo contour, 50 m

- Geological Units**
- S6 Sediments, Tuffs
  - V3 Mafic Volcanics
  - DIO Diorite
  - 13A Gabbro
  - 14B Pyroxenite
  - AP Aplite



Date: 11/11/2008  
 Rev: 16/12/2008  
 Author: T. Keast  
 Office: Sudbury  
 Drawing: Map 1  
 Scale: 1:2,500

**NightDanger Grid  
 TurtlePond Property  
 Geology - Outcrops, Drillholes  
 Samples, Occurrences**

Projection: UTM NAD83 Zone 15

