

**2014 GEOLOGICAL ASSESMENT REPORT  
ON THE  
CLEMENT PROPERTY**

CLEMENT AND MACBETH TOWNSHIPS  
SUDBURY MINING DIVISION, ONTARIO, CANADA

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## **EXECUTIVE SUMMARY**

This is a technical report for assessment purposes on the recently completed 2014 reconnaissance geological mapping, prospecting and sampling program on the Clement property in Clement and MacBeth Townships.

The claims are located 130 km northeast of Sudbury, Ontario within Clement and MacBeth Townships in the Sudbury Mining Division. The property is bounded by UTM NAD83 coordinates 17U 550447E to 558200E and 5185603N to 5192388N. The property consists of 8 contiguous unpatented mining claims containing 119 units and covers an area of approximately 1,904 Ha.

In the summer of 2014, a program of reconnaissance geological mapping, prospecting and sampling was completed on the Clement property. The 47 day program commenced on June 5<sup>th</sup> and was completed by November 8<sup>th</sup>, 2014.

The program focused on three main targets:

- 1) gold mineralization in altered mafic metavolcanics (diamond drill hole CL11-03)
- 2) massive sulphide mineralization in intermediate metavolcanics (diamond drill holes CL11-04 and CL11-05)
- 3) Cu-Ni PGE mineralization in the Nipissing gabbro.

A total of 19 samples were collected. The analytical results for these samples will be reported in a separate assessment report.

## **1.0 INTRODUCTION**

The Clement property is located 130 km northeast of Sudbury, Ontario within Clement and MacBeth townships in the Sudbury Mining Division. The property is bounded by UTM NAD83 coordinates 17U 550447E to 558200E and 5185603N to 5192388N. The property consists of 8 contiguous staked mining claims containing 119 units covering an area of approximately 1,904 Ha.

From June 5<sup>th</sup> to November 8<sup>th</sup>, 2014, a 47 day program of reconnaissance geological mapping, prospecting and sampling was completed on the Clement property. This work forms the basis of this report.

## **2.0 PROPERTY DETAILS**

### **2.1 Location and Access**

The property is located 130 km northeast of Sudbury, Ontario within Clement and MacBeth Townships in the Sudbury Mining Division (Figure 1). The property is bounded by UTM NAD83 coordinates 17U 550447E to 558200E and 5185603N to 5192388N.

Excellent year round access to the property is provided by Highway 17 East from Sudbury to the town of Warren and then north onto highways 539, 539a and 805.

A full range of services and supplies are provided in the city of Sudbury located 130 km to the southwest. Local accommodations can be found at lodges located along Highway 805.

### **2.2 Topography and Vegetation**

The local terrain is typical of the Precambrian Shield, with low rolling hills and marshy areas. Vegetation on higher ground consists of a variety of hardwoods such as poplar and birch, with coniferous trees that include spruce, balsam and pine. In the lower ground, typically more wet in character, black spruce, tamarack, alder and cedar predominate. Water for exploration purposes is available from beaver ponds, marshes,

small streams and lakes. Snowfall generally begins in November and extends into late March, early April. Lakes are usually passable with adequate ice thickness from late December through to late March. Between 50 and 100 mm of monthly rainfall is normal from April to October. The mean temperature is  $-13^{\circ}\text{C}$  in January and  $19^{\circ}\text{C}$  in July.

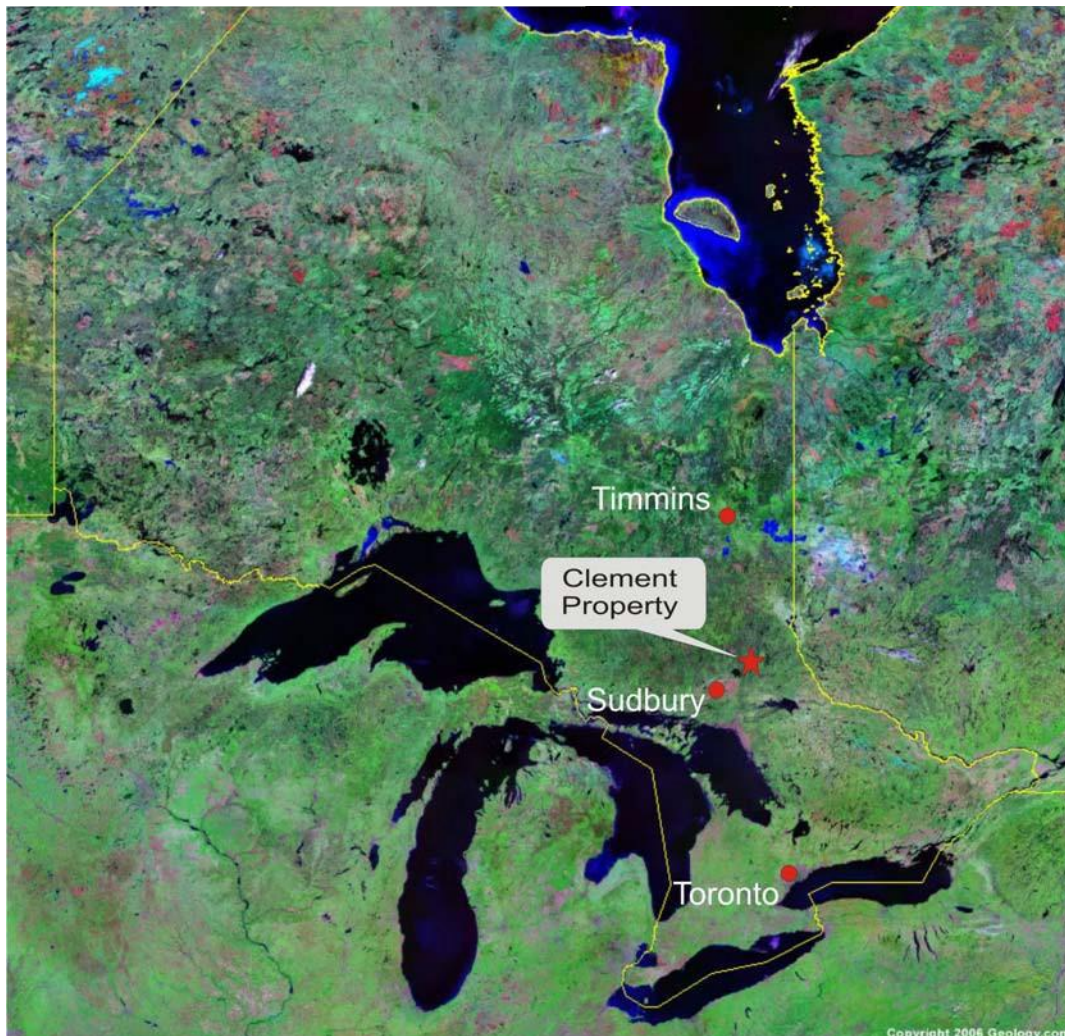


Figure 1: Location of the Clement Property in Ontario, Canada

### 2.3 Claims

The property is located 130 km northeast of Sudbury, Ontario within Clement and MacBeth Townships in the Sudbury Mining Division. The property is bounded by UTM NAD83 coordinates 17U 550447E to 558200E and 5185603N to 5192388N. The

property consists of 8 contiguous staked mining claims containing 119 units and covers an area of approximately 1904 Ha (Table 1, Figure 2). The claims are held by Brian James Wright (60%), client number 210254 and Randy Irwin Stewart (40%), client number 408174.

Table 1: Claim Summary of the Clement Property.

Township	Claim Number	Recording Date	Due Date	Work Required	Total Applied	Total Reserve	Units	Ha
CLEMENT	4206133	2006-Jun-30	2015-Jun-30	\$4,760	\$33,640	\$0	12	192
CLEMENT	4206164	2006-Jun-30	2014-Dec-30	\$6,382	\$38,418	\$0	16	256
CLEMENT	4229376	2010-May-12	2014-Nov-12	\$6,300	\$12,900	\$0	16	256
CLEMENT	4229377	2010-May-12	2014-Nov-12	\$6,400	\$12,800	\$0	16	256
CLEMENT	4229378	2010-May-12	2014-Nov-12	\$3,120	\$11,280	\$0	12	192
MACBETH	4206167	2006-Jun-30	2014-Dec-30	\$6,382	\$38,418	\$0	16	256
MACBETH	4206196	2006-Jun-30	2014-Dec-30	\$5,982	\$32,018	\$1,000	15	240
MACBETH	4229379	2010-May-12	2014-Nov-12	\$6,400	\$12,800	\$0	16	256
<b>Totals</b>				<b>\$45,726</b>	<b>\$192,274</b>	<b>\$1,000</b>	<b>119</b>	<b>1904</b>

### 3.0 PREVIOUS WORK

**1897:** Gold was first discovered in weathered iron formation on the shoreline of Emerald Lake in Afton Township.

**1935-1941: The Consolidated Mining and Smelting Company of Canada Limited** carried out extensive surface and underground exploration and development at the Golden Rose Mine located in Afton Township. A total of 45,360 ounces of gold and 8,296 ounces of silver were recovered from 144,237 tons milled for a recovered grade of 0.31 ounces per ton.

**1937: Walsh** completed geological work on an old adit near the northern tip of Arcand

Lake. This adit was previously known as the Turcotte showing but there is no record of the actual adit work.

**1958 – 1959: W.H. Nichol** optioned his group of 17 claims to Little Long Lac Gold Mines Ltd. The claims were located on the eastern side of Cucumber Lake, on the eastern side of Arcand Lake and on Manitou Lake just east of the northern tip of Arcand Lake. 8 trenches and five diamond drill holes (210 feet) tested a quartz vein over a 210 foot strike length (the A showing) hosted in porphyritic andesite on the shore of Cucumber Lake. One trench sample returned 1.76 oz/t Au. This showing is now located on the Anderson claim 4258541 adjacent to the Clement property. At the northern tip of Arcand Lake, 5 diamond drill holes totaling 1007 ft. tested the iron

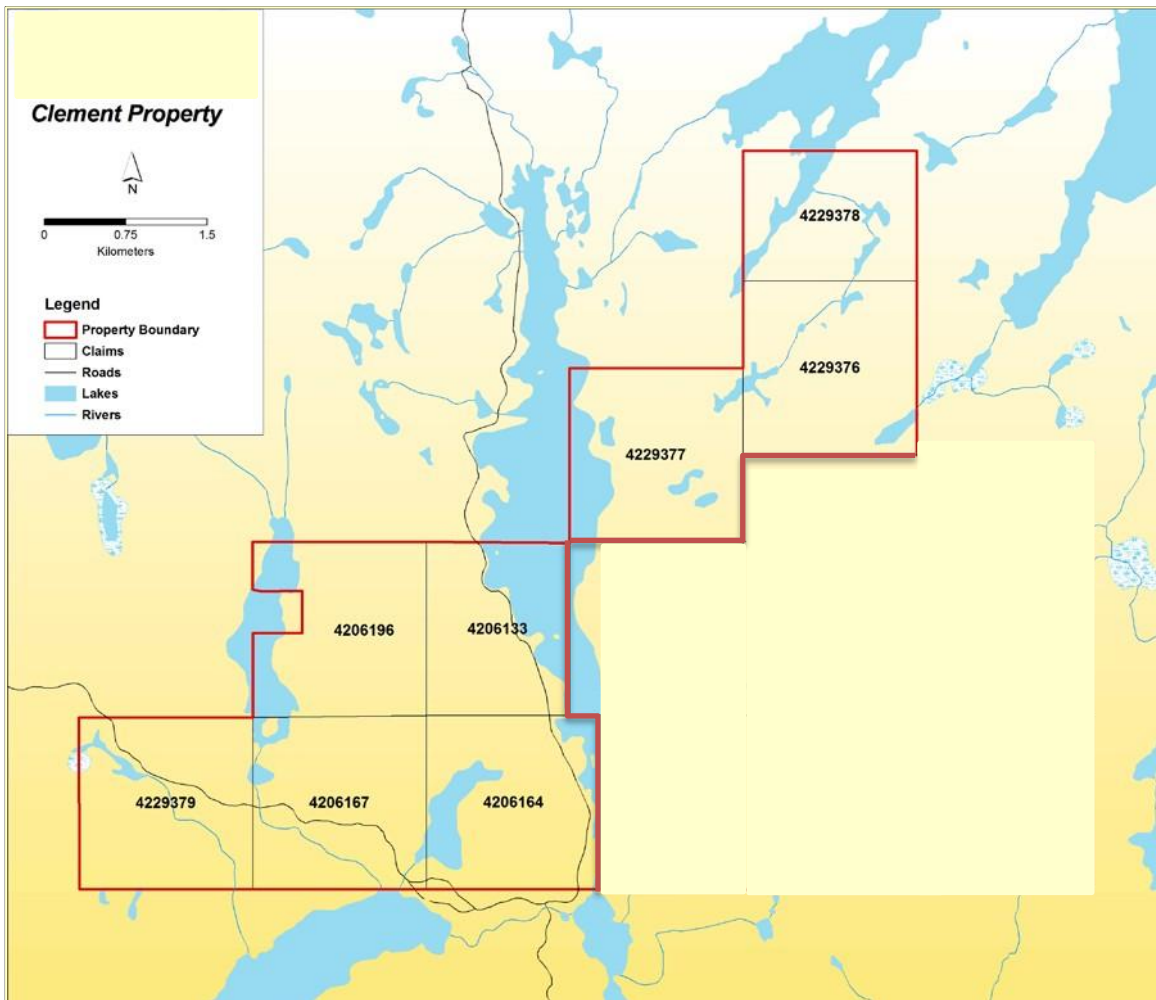


Figure 2: Tenure of the Clement Property, Clement and MacBeth Townships, Ontario.

formation. Another 82 ft. hole was drilled south to north. This hole tested the iron formation but the exact location is not known. Trenching the B showing in iron formation was performed near the south-eastern tip of Cucumber Lake. A sample of siliceous iron formation returned 0.28 oz/t Au. Trenching was also performed on their C showing at the south eastern corner of Arcand Lake. 2 holes were drilled close to the western shore of Lake Manitou totaling 685 ft. testing the Nipissing/Gowganda contact. These holes encountered localized chalcopyrite and pyrrhotite mineralization in both the sediments and the gabbro but returned no significant values.

**1960: Geophysical Engineering and Surveys Limited** held a contiguous group of 16 unpatented mining claims just east of the centre of Clement Township. A magnetometer survey over the whole group and a self-potential survey over areas of special interest were carried out in the winter of 1960-1961. Sulphide mineralization (pyrite, pyrrhotite and chalcopyrite) was encountered but returned no significant values.

**1964: Socrates Mining Corporation Limited** held a group of five claims in a continuous east-west strip just east of the centre of Clement Township. In 1965, an airborne magnetometer and electromagnetic survey was flown over a large area that included the five-claim group. A magnetic anomaly was identified immediately south of their claims which corresponds to outcropping iron formation to the east. No further work was reported.

**1968: Kennco Explorations (Canada) Ltd.** performed airborne magnetic and electromagnetic surveys over the southwest corner of Clement Township and the southern third of Macbeth Township in search for copper in the Nipissing gabbro. No further work was reported.

**1974-1976: Pelican Mines Ltd.** performed geological mapping, ground magnetics and EM surveys and 4 diamond drill holes totaling 1403 ft. The drilling concentrated on the iron formation and returned no significant values. The surveys were performed between the creek running out of the southern tip of Cucumber Lake and extending to the western edge of Arcand Lake. A grab sample from a large piece of quartz float now located on



claim 4206167 and underlain by the large olivine diabase dike returned a gold content of 0.15 oz/t Au.

**1975: M. Green and Associates Ltd. (Hames, C.M.)** performed a ground magnetic survey between the eastern shore of Arcand Lake and the western shore of Lake Manitou. Nothing of significance was reported.

**1976 -1995:** Temagami Land Caution, no work performed.

**1996: Brian Wright,** in the staking rush that followed the Temagami Land Caution, staked the first claims that would become the present day Clement property.

**1998: Temex Resources** performed a ground magnetic and VLF survey on the southern portions of claims 4229379 and 4206167. The survey outlined a northwest trending diabase dike.

**1998-2000: Steve and Ted Anderson** performed work on their claims surrounding Cucumber Lake including the quartz veins of the Nichol (A) showing (claim 4258541). The work performed was a ground magnetic and VLF survey and sampling of the old Nichol (A showing) trenches. This sampling returned 23.45 g/t Au in quartz and anomalous values in the host metavolcanics. The magnetic survey outlined a north-west trending diabase dike.

**2008: GoldTrain Resources (Brian Wright option)** completed 13 km of line cutting, ground magnetic and VLF surveys, and geological mapping east of Arcand Lake. A total of 28 samples were assayed for gold however no significant results were obtained.

**2010: GoldTrain Resources** contracted Geotech Ltd. to carry out a helicopter-borne VTEM and aeromagnetic survey over the property. Several significant EM anomalies and magnetic signatures were identified. Between March 23 and March 26, 2010, following a geophysical interpretation of one EM anomaly, GoldTrain undertook a bedrock stripping, sampling and geological mapping program of the

anomaly area. Huronian cover rocks impeded any explanation of the anomaly.

**2011: Gold Train Resources** completed five diamond drill holes totaling 564.5 m on several EM conductors interpreted by Geotech Ltd. All holes intersected sulphide mineralization consisting of pyrite, pyrrhotite, and chalcopyrite. Hole CL11-03 outlined a newly discovered gold zone in altered mafic volcanics (0.4 g/t over 9 m including 2.95 g/t over 0.5 m and 1.06 g/t over 0.5 m). Holes CL11-04 and CL11-05 outlined massive sulphide and chert horizons with locally anomalous Cu, Zn, Au and Ag.

## **4.0 GEOLOGY**

### **4.1 Regional Geology**

The Clement property is located within the Temagami greenstone belt thought to be part of the Western Abitibi Subprovince (figure 3). The greenstone belt is an Archean window within the Cobalt embayment of the Southern Geological Province (Jackson and Fyon, 1991). The area is underlain by a sequence of Early Precambrian metavolcanic and metasedimentary rocks locally interbedded with chert-magnetite and sulphide iron formation. This sequence is overlain unconformably by Early Proterozoic Huronian Supergroup sedimentary rocks of the Gowganda Formation and possibly the Mississagi Formation. All rocks, in turn, are intruded by sheet like sills of Nipissing gabbro. Olivine diabase and diabase dikes following NW-SE structures are the youngest rocks in the area. Several major structural trends are defined by north-south trending faults that include the Cucumber Lake Fault, Manitou Lake Fault (Meyn, 1977) and the recently identified Arcand Lake Fault. The property also lies on the southern edge of the Temagami (Wanapetei) magnetic anomaly that represents a mirror image of the prolific Sudbury structure.

### **4.2 Property Geology**

The most pronounced feature on the property is a band of Archean iron formation (figure 4). It is bounded to the north by Archean intermediate (locally feldspar porphyritic) massive flows and proclastics to Archean mafic

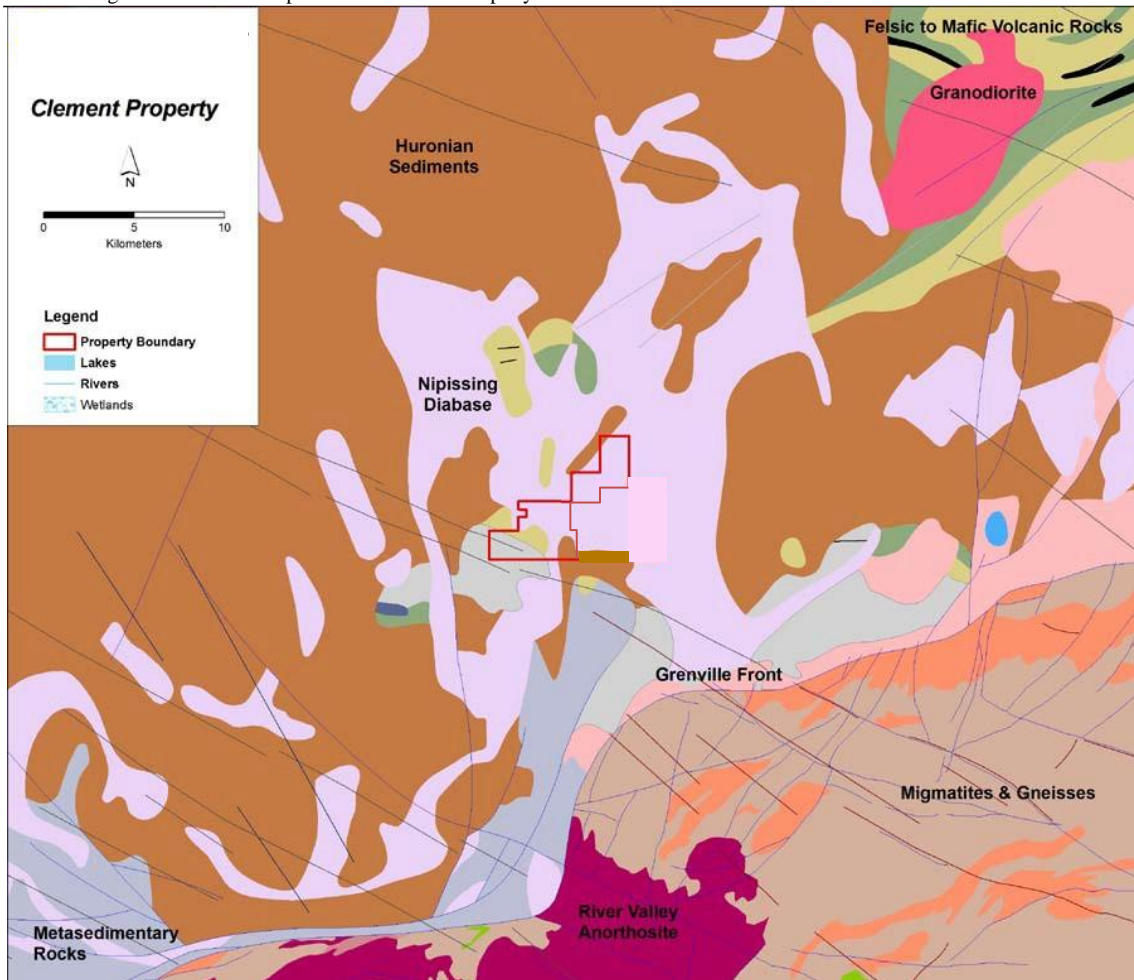


Figure 3: Regional Geology

volcanic massive flows. To the south it is bounded by Archean metasediments consisting predominately of greywacke with lesser interbeds of arkose/quartzite and conglomerate. The iron formation is a banded sequence of quartz/chert, actinolite and magnetite with localized pyrite, pyrrhotite and trace chalcopyrite. The iron formation has been traced in outcrop and historical diamond drilling from the north east corner of claim 4229379 to just east of Arcand Lake where it is covered by Nipissing gabbro. Also, a small band, quite recognizable in GoldTrain's airborne magnetic survey, has been mapped west of the outcrop stripping performed by GoldTrain and to the east of diamond drill hole CL11-03 that contains significant gold mineralization. This Archean sequence of rocks has an approximate trend of 275 to 280 degrees and a dip of 70 to 75 degrees northward.

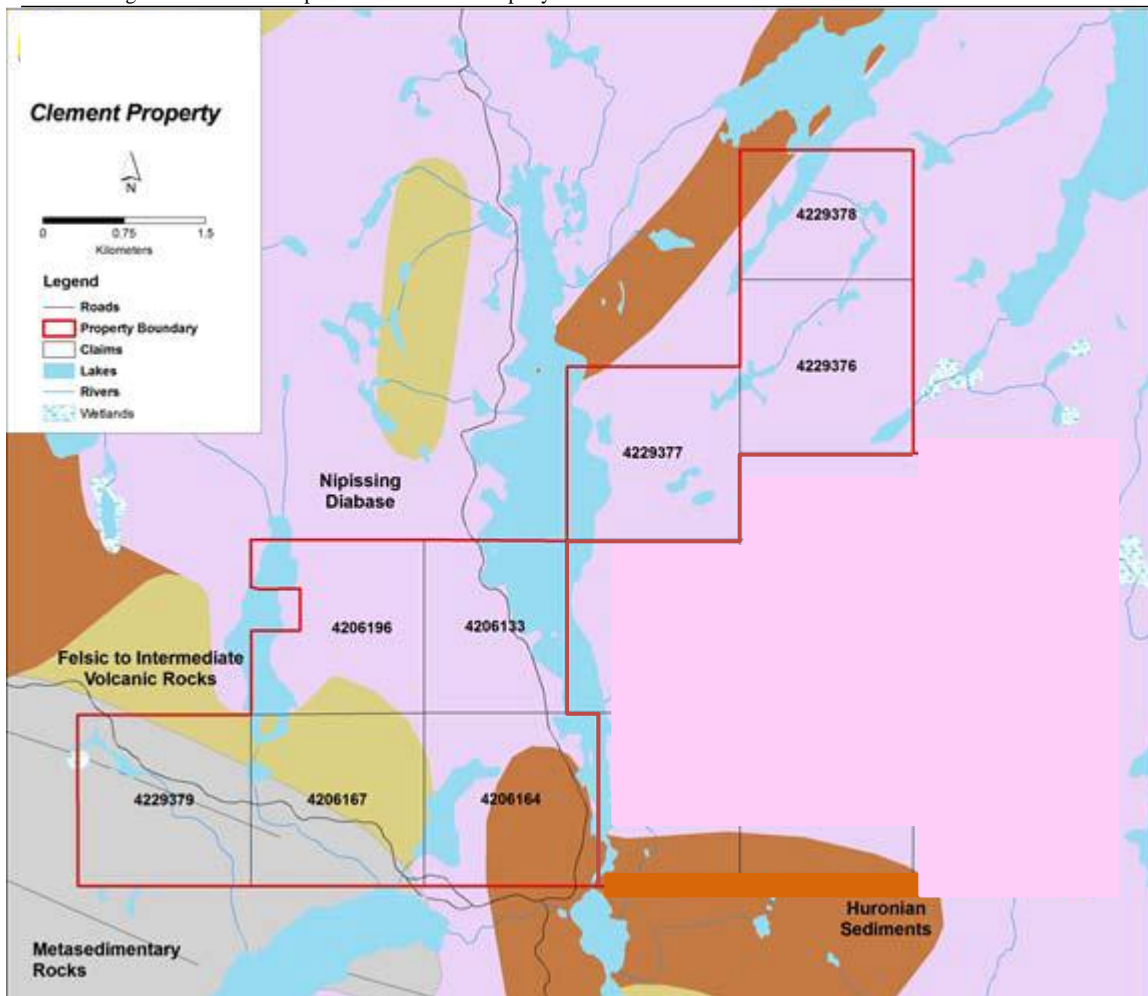


Figure 4: Property Geology

The Archean rocks are unconformably overlain by flat lying sedimentary rocks of the Gowganda formation. In turn all these rocks are intruded by sheet like sills of Nipissing gabbro which cover a large portion of the property. The rocks of the Gowganda formation consist of conglomerate, arkose/quartzite and greywacke/lithic wacke. The conglomerate is matrix supported and composed of subrounded to angular pebbles, cobbles and minor boulders set in a fine to medium grained greywacke/lithic wacke. The clasts consist predominately of granitic rocks with lesser amounts of metasediments and metavolcanics. The greywacke/lithic wacke is feldspathic and forms interbeds in and is gradational to the conglomerate. The conglomerate and greywacke/lithic wacke are difficult to distinguish between in limited outcrop exposure areas. The Nipissing gabbro rocks are massive, medium grained, dark greenish grey, finer grained near the margins with localized pegmatitic phases. Following NW-SE structures, the youngest

rocks in the area consist of olivine diabase and diabase dikes.

Two of the most recognizable N-S structures on the property are the Cucumber lake fault to the west and the Manitou Lake fault to the east. A third N-S structure was mapped in the vicinity of the western shore of Arcand Lake during the 2014 program.

## **5.0 2014 PROGRAM**

### **5.1 Methods**

In 2014, a reconnaissance geological mapping, prospecting and sampling program on the Clement property was completed. The 47 day program occurred between June 5<sup>th</sup> and November 8<sup>th</sup>, 2014.

The program focused on massive sulphide and gold mineralization in the Archean rocks and Cu-Ni PGE mineralization in the Nipissing gabbro. A total of 19 samples were collected. The analytical results will be presented in a separate report.

## **6.0 RESULTS and CONCLUSIONS**

The 2014 program outlined a window of Archean metavolcanics, metasediments and iron formation within Huronian Supergroup, Gowganda Formation sediments. In turn, all rocks are intruded by Nipissing gabbro sills and olivine diabase dikes.

The most prominent geological feature and the one that has received the most attention on the property is the Archean iron formation. The iron formation is a banded sequence of quartz/chert, actinolite and magnetite with localized pyrite, pyrrhotite and trace chalcopyrite. It is bounded to the north by intermediate metavolcanic massive flows (locally feldspar porphyritic) and pyroclastics to mafic metavolcanic massive flows. To the south the iron formation is bounded by an extensive sequence of metasediments. They consist predominately of greywacke with interbeds of arkose/quartzite and minor conglomerate.

A large portion of the property is underlain by massive, medium grained, dark

greenish grey Nipissing gabbro and conglomerate, arkose/quartzite and greywacke/lithic wacke of the Gowganda Formation.

The 2014 program outlined a major N-S structure not previously recognized along the western shore of Arcand Lake.

Also, 19 samples were taken during the program. The sampling concentrated on alteration, mineralization and select EM target locations. The most notable sample (WP568) is a rusty quartz vein with 0.5% disseminated sulphides. The 80 cm wide vein is hosted within a gossanous and siliceous mafic metavolcanic with 1-2% blebby, finely disseminated and fracture filling sulphides. The vein has a 345 degree strike and a vertical dip. All analytical results will be presented in a separate report.

Table 2: Sample Locations and Descriptions

Sample No	Easting	Northing	Rock Type	Mineralization
E5251582	552527	5185922	Olivine Diabase Dike	No visible sulphides
E5251583	554126	5186093	Nipissing Gabbro	No visible sulphides
E5474451	552312	5185827	Siliceous Metased/vol	0.5% disseminated sulphides
E5474452	554198	5186123	Quartzite	1% disseminated cpy+py+po?
E5251595	553140	5187382	Nipissing Gabbro	No visible sulphides
E5251596	553196	5187512	Nipissing Gabbro	No visible sulphides
E5251597	553479	5187003	Iron Formation	1-2% diss po, 0.5% cpy along fractures
WP461	553911	5185639	Greywacke/Arkose	No visible sulphides
WP465	553866	5185676	Greywacke	1-2% disseminated po+py+/-cpy
WP508	553509	5186414	Iron Formation	2-3% disseminated and stringer po
WP514	553532	5186523	Iron Formation	0.5-1% disseminated po
WP522	551714	5186204	Quartz Vein	0.5% disseminated sulphides, tr cpy
WP534	552175	5186414	Greywacke	1% disseminated/fracture sulphides
WP548	553616	5186696	Intermed Volcanic	No visible sulphides
WP553	553687	5186748	Intermed Volc	1% blebby/disseminated po+cpy
WP562	551974	5186591	Greywacke/Mafic Volc	1-2% disseminated sulphides
WP567	550864	5187066	Mafic Volc	1-2% fracture/blebby/finely diss sulphides
WP568	550864	5187064	Quartz Vein	0.5% disseminated py
WP571	550511	5187090	Mafic Volc	No visible sulphides

## **7.0 RECOMMENDATIONS**

The following recommendations can be made on the basis of the 2014 and previous programs completed on the Clement Property:

- 1) A diamond drill program to test the remaining EM anomalies. Drilling should also test the down dip and strike extension of the gold zone (0.4 g/t Au over 9 m including 2.95 g/t Au over 0.5 m and 1.06 g/t Au over 0.5 m ) outlined in CL11-03.
- 2) Line cutting and detailed mapping and lithogeochemical sampling over the entire property with special attention being paid to the gold zone area (CL11-03) and massive sulphide zone area (CL11-4 and CL11-05).

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## **Appendix I**

### **Statement of Qualifications**

I, Randy I. Stewart, B.Sc. of 213 Kingsmount Boulevard, Sudbury, Ontario, P3E 1L1, do hereby certify that:

I graduated from the Mining Engineering Technician program at Cambrian College of Applied Arts and Technology, Sudbury, Ontario, in 2002.

I graduated with a Bachelor of Science Degree (Honours) in geology in 1991 from the University of Waterloo, Waterloo, Ontario.

Randy Irwin Stewart

November 8, 2014  
Sudbury, Ontario

## **Statement of Qualifications**

I, Brian James Wright, of 92 Main Street, Markstay, Ontario, P0M 2G0, do hereby certify that:

I am a Geological Technologist receiving my education from Haileybury School of Mines.

I have been actively involved in Mining and Exploration for 28 years.

Brian James Wright

November 8, 2014  
Markstay, Ontario