Geological Reconnaissance
and
Petrological Study
on part of the
Manchester Claim Group
N.T.S. 41 I/10 SW
For
Wallbridge Mining Company

Patrick Toth, B.Sc.
September 2001
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Introduction

On August 22nd and 23rd of 2001, geological traverses were conducted across the northern portions of the Manchester claim group. The purpose was to locate and sample any Quartz Diorite Dikes that may trend onto the claim group. A dike was located and sampled. Petrographic thin sections were made and examined.

Location and Access

The property is located approximately 500 metres southeast of the Town of Falconbridge, Ontario and comprises the southern halves of Lots 6, 7 and 8, Con 1, of Falconbridge Township (figures 1 & 2). The property can be most easily accessed via good gravel road that originates at Falconbridge Limited's office complex just east of the Town of Falconbridge. The security office at Falconbridge must be notified prior to crossing their ground. Alternatively, one can travel north from the Town of Wahnapitea via the old “French Settlement Road”. This is not advised, as this trail is extremely rough with many wet and washed-out sections.

Claim Status

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<th>Property Name:</th>
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<td>Principal Commodity of Interest:</td>
<td>Ni, Cu, and PGE’s</td>
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<tr>
<td>Location:</td>
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<td>Falconbridge</td>
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<td>Mining District:</td>
<td>Sudbury</td>
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<td>Province:</td>
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<td>Date of Acquisition:</td>
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<td>Renewal Dates:</td>
<td>September 30, 2001 and September 30, 2002</td>
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<td>Operators Names:</td>
<td>Wallbridge Mining Company</td>
</tr>
<tr>
<td>Title Status:</td>
<td>The claims are wholly owned and are in good standing.</td>
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Table 1: Claim Status

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<th>Size (units)</th>
<th>Recording Date</th>
<th>Due Date</th>
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</table>
Figure 1
Property History

July 1951: Falconbridge Nickel Mines conducted a geological mapping and ground magnetic survey. Gabbro, conglomerate and quartzite units were mapped. A 10' rusty shear zone with minor pyrite mineralization in quartzite was located close to the conglomerate contact. The magnetic geophysical survey did not indicate any potential targets.

March 1967: E. Walsh drilled one diamond drill hole (107') and intersected gray quartzite. No assays indicated.

July 1967: Falconbridge Nickel Mines drilled one diamond drill hole (401') and intersected arkose with minor conglomerate units followed by quartzite. No significant assays.

August 1967: E. Walsh drilled one diamond drill hole (103') and intersected greywacke and quartzite with a 15' section that contained trace sulphides. No assays indicated.

April 1970: Pershland Gold Mines Ltd. conducted a ground magnetic and electromagnetic geophysical survey. No significant anomalies were indicated.

August 1971: E. Walsh drilled two diamond drill holes. Hole 1 (115') intersected gabbro with no significant assays. Hole 2 (106') intersected gabbro with minor quartz lenses. Trace pyrite in gabbro; no assays indicated.

September 1971: E. Walsh drilled two diamond drill holes. Hole 1 (104') intersected gabbro with thin layers of quartz; no assays indicated. Hole 2 (108') intersected gabbro with trace sulphides; no assays indicated.

1997: Millstream Mines Ltd completed trenching, sampling and stripping. An 8 metre trench was excavated across an older, existing trench in a gossan zone. Massive pyrrhotite with chalcopyrite and chalcopyrite seams up to 1.5 cm thick. Six samples, 1.25 metres in length each, were taken and returned Cu assays of 1.06%, 1.49%, 0.213%, 0.283%, 0.462% and 1.53%. There were no significant Ni assays. Approximately 70 m of stripping was completed to better expose the gossan.

1998: Millstream Mines Ltd completed an IP survey to provide more information about the underlying mafic lithologies and to better map the distribution of potentially nickeliferous sulphide stringers. The survey outlined several conductors not previously known. These conductors were interpreted as magnetic gabbros.

2000: Walbridge Mining Company drilled one diamond drill hole (101 m). Conglomerate and greywacke units were intersected. No assays were taken.

Topography

The property consists of several large outcrop ridges of low to moderate relief. These ridges are largely devoid of overburden and any substantial vegetation. The valleys between the ridges are filled with sand, gravel, soil and vegetation. A narrow strip of low, wet ground covers the extreme southern portion of the claim group.
Regional Geology

The Sudbury Structure is one of the most intensively studied geological features in Ontario. There are numerous volumes written about this subject that can provide the reader with greater insight than the brief summary provided here. Table 2 provides an overview of the lithological units encountered in the Sudbury Region.

The 1850 Ma Sudbury Structure is located just northwest of the Grenville Geological Province, at the present boundary of the Superior Geological Province and the Southern Geological Province. The origin is a result of a catastrophic event and subject of debate. It is now generally accepted that Sudbury Structure is the result of a large meteorite impact. Table 2 shows the various lithological units in and around the Sudbury area.

Several rock units were formed by this event including pseudotachylytes (Sudbury Breccia), Footwall Breccia and various heterolithic breccias of the Onaping Formation. Shock metamorphic features are present in all of the breccias and in the footwall rocks of the Sudbury Igneous Complex. The Sudbury Igneous Complex consists of several different units. Norite, quartz gabbro and granophyres constitute the "Main Mass" while fine- to medium-grained quartz diorite to norite form the "Sublayer" at its base. The sublayer is host to much of the Ni-Cu sulphide ores of the Sudbury Structure. The sublayer also occurs as quartz diorite offset dikes. These dikes extend radially or lie concentrically in the country rocks of the Sudbury Structure and contains significant ore deposits. All dikes dip steeply to vertically and have sharp contacts with the host rocks.

The Sudbury Structure has been deformed into its present day elliptical shape by northwesterly directed thrusting followed by regional metamorphism during the Penokean Orogeny.

Property Geology

The claim group for the most part is underlain by conglomerate. This unit is a massive, pebble-boulder conglomerate containing abundant granite and quartz clasts with lesser felsic and mafic volcanic clasts. The clasts are generally well rounded and poorly sorted. This unit locally contains beds of greywacke and quartzite. The southeast corner of the claim group consists largely of quartzite and gabbroic diorite. The quartzite occurs as a thick bed sandwiched between the conglomerate to the northwest and the gabbroic diorite to the extreme southeast. The unit is generally well bedded with cross-bedding often well displayed. Beds range from 30 cm to 2 metres and locally separated by agillitic partings. The gabbroic diorite is confined to the extreme northwestern and southeastern portions of the claim group. This unit is generally dark-green, equigranular, moderately coarse-grained and massive. Minor units of greywacke occur throughout the claim group and are especially abundant in the conglomerate units. The greywacke is well bedded, displaying large-scale cross-bedding. Locally this unit contains small interbeds of conglomerate. Two, thin olivine diabase dikes cut the claim group in the southwestern corner.
Table 2: Table of Lithological Units

**PHANEROZOIC**

**CENOZOIC**

**QUATERNARY**

**RECENT**

Organic deposits (peat bog); floodplain (alluvial) deposits

**PLEISTOCENE**

Glacial deposits, glaciofluvial deposits, glaciolacustrine deposits

**UNCONFORMITY**

**PROTEROZOIC**

Olivine Diabase

*INTRUSIVE CONTACT*

Trap Dikes

*INTRUSIVE CONTACT*

Sudbury Igneous Complex

Sublayer

*INTRUSIVE CONTACT*

Main Mass

Gabbro

Whitewater Group

Chelmsford Formation

Onwatin Formation

Onaping Formation

Black Member

Grey Member

Basal Member

Sudbury Breccia

Footwall Breccia

Shock Metamorphism

*SUDBURY EVENT*

Nipissing Intrusive Rocks

*INTRUSIVE CONTACT*

Creighton and Murray Granites

*INTRUSIVE CONTACT*

Huronian Supergroup

Copper Cliff Formation

**UNCONFORMITY**

**ARCHEAN**

Diabase

*INTRUSIVE CONTACT*

Mafic Plutonic Rocks and Anorthosite Intrusive;

Contact Migmatite and Felsic Plutonic Rocks

*INTRUSIVE & METAMORPHIC CONTACT*

Metavolcanic and Metasedimentary Rocks;

Granodioritic-Quartzdioritic Gneisses and

Associated Mafic Rocks
Exploration Surveys

August 22nd, while taking the old “French Settlement Road” from the Town of Wahnapitea, the truck became quite mired in a mud hole on a flooded section of the trail. The truck was eventually freed from the mud hole with the help of another truck from Walbridge’s office. The remainder of the day was spent traversing and sampling.

On August 23rd, the northeastern part of the claim group was traversed and sampled. The work consisted of observing the outcrops traversed and taking grab samples for petrological and geochemical analysis. Regional geological maps for this area indicated a quartz diorite dike that may trend onto the claim group in this area. A dike was located and sampled by the prospecting party.

Four samples for petrological and assay purposes were taken at various locations along the dike with a fifth taken for assay purposes only (figure 3). Sample PT-01-72 was described as a fine to medium-grained, quartz diabase. Sample PT-01-73 was a grab taken from the dike contact and contained 1 to 2% po, py and trace cpy. Sample PT-01-74 was described as medium to coarse-grained, late quartz diabase. Sample PT-01-75 was described as a fine to medium-grained, sheared and crushed inclusion of leucogabbro in Sudbury Breccia. Sample PT01-76 was described as a boudinaged, fine-grained metasediment. The samples with the exception of PT-01-73 were cut, examined and areas to be thin sectioned were selected. A detailed description of the petrographic work can be found in Appendix A. No significant assay values were returned.

Conclusions and Recommendations

Although the petrographic analysis showed that the dike was not a quartz diorite, one cannot over look the fact that the projected extension of the “Manchester Offset Dike” runs through the claim group. More mapping and prospecting is required on the claim group to ascertain if in fact the “Manchester Offset Dike” is present.
Bibliography


Dressler, B.O. 1984: Chapter 4, General Geology of the Sudbury Area; in The Geology and Ore Deposits of the Sudbury Structure, Ontario Geological, Special Volume 1, pp. 57-82.

Statement of Qualifications

I, Patrick E. Toth, of the City of Toronto, in the Province of Ontario, Canada, do hereby certify that:

1. I am a professional exploration geologist residing at 42 Nursewood Road, Toronto, Ontario, M4E 3R8.

2. I hold a B.Sc., Geological Sciences degree conferred by Brock University of St. Catharines, Ontario in 1995.

3. I have practiced as an exploration geologist since 1995.


5. This report is based on personal examination and the implementation of work on the property on the dates of September 22 & 23, 2001 on behalf of Wallbridge Mining Company.

6. I have no direct interest in the properties or securities of Wallbridge Mining Company.

Dated at Sudbury, Ontario,
this 20th Day of September, 2001

Patrick E. Toth, B.Sc.
Appendix A

Petrographic Descriptions
Sample #  PT-01-72  
Thin Section #  W-01-0282
Hand Specimen Description:  Medium-gray, fine to medium-grained quartz diabase.
Thin Section Description:  Fine-grained, partially subophitic, quartz diabase with minor ilmenite and magnetite. Contains few medium-grained plagioclase phenocrysts. The plagioclases are fine-grained, lath-like and partly saussuritized. The mafic component is largely amphibole, possibly after clinopyroxene. Quartz content is approximately 2%.

Sample #  PT-01-74  
Thin Section #  W-01-0283
Hand Specimen Description:  Medium-gray, medium to coarse-grained quartz diabase.
Thin Section Description:  Medium-grained, partially subophitic, quartz diabase with 2 to 3% ilmenite and magnetite. Plagioclase phenocrysts are more common. The most common mafic mineral is clinopyroxene with minor biotite possibly after pyroxene.

Sample #  PT-01-75  
Thin Section #  W-01-0284
Hand Specimen Description:  Fine to medium-grained, sheared and crushed inclusion of leucogabbro in Sudbury Breccia.
Thin Section Description:  Highly crushed and altered gabbroic inclusion in Sudbury Breccia. Consists largely of anhedral plagioclase (75%) with interstitial amphibole after pyroxene. Rare grains display relict, prismatic habit.

Sample #  PT-01-76  
Thin Section #  W-01-0285
Hand Specimen Description:  Boudinaged, fine-grained metasediment.
Thin Section Description:  Fine-grained, crushed and altered, argillaceous arkose cut by medium-grained quartz-carbonate veins.
Appendix B

Analytical Results
Assay Certificate

Company: WALLBRIDGE MINING COMPANY LTD
Project: Manchester
Aim: R. Murphy

We hereby certify the following Assay of 5 Grab samples submitted SEP-04-01 by.

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<tr>
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<th>Ag g/tonne</th>
<th>Co %</th>
<th>Cu %</th>
<th>Ni %</th>
<th>Pt g/tonne</th>
<th>Pd g/tonne</th>
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One assay ton portion used for Au, Pt, Pd.

Certified by [Signature]

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244    Fax (705) 642-3300
# Work Report Summary

**Transaction No:** W0170.30779  
**Status:** APPROVED  
**Recording Date:** 2001-SEP-25  
**Work Done from:** 2001-SEP-09  
**Approval Date:** 2001-NOV-01  
**to:** 2001-SEP-25  
**Client(s):**  
392385 WALLBRIDGE MINING COMPANY LIMITED  
**Survey Type(s):** ASSAY GEOL MICRO  

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Total: 3,085 3,085 330 330 0 2,755 2,755

Status of claim is based on information currently on record.
Submission Number: 2.22148
Transaction Number(s): W0170.30779

Subject: Approval of Assessment Work

Dear Sir or Madam

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact JIM MCAULEY by email at james.mcauley@ndm.gov.on.ca or by phone at (705) 670-5855.

Yours Sincerely,

Ron Gashinski
Supervisor, Geoscience Assessment Office

Cc: Resident Geologist
    Mark Hall
    (Agent)
    Wallbridge Mining Company Limited
    (Claim Holder)
    Wallbridge Mining Company Limited
    (Assessment Office)