

**ASSESSMENT REPORT ON  
DIAMOND DRILLING  
BORDEN EAST PROJECT**

**HELLYER TOWNSHIP  
PORCUPINE DISTRICT, ONTARIO**

Submitted to:  
Geoscience Assessment Office  
Ministry of Northern Development and Mines and Forestry  
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## **INTRODUCTION**

Between December 7<sup>th</sup> and December 17<sup>th</sup> 2012, Probe Mines Limited completed a diamond drilling program on the Borden East Project. This report describes the results of one diamond drill hole, WO12-03 on the Borden East property. The Borden East property, part of Probe's ongoing regional exploration initiative, is located approximately 20kilometres east of Probe's main Borden lake project. It comprises a number of claims acquired through property acquisitions and staking.

A surface gold showing is present on Probe's main Borden Lake Project and has been identified over an area 150 metres long by up to 45 metres wide, hosted by a highly altered and metamorphosed suite of rocks within the volcano-sedimentary horizon. Grab samples from selected outcrop returned values of up to 3.4 g/t gold, and the property is considered to have excellent potential to host a low-grade, bulk tonnage-type of gold deposit.

In July 2010, an initial drill program on the Borden Lake Project was completed to test the extent of the surface showing. Results indicated that there was excellent potential to host a low-grade, bulk tonnage gold deposit on the property. Additional drilling on the property has continued to illustrate this potential and Probe released an updated NI 43-101 compliant Resource Estimate in May 2012 on the Borden Lake Deposit. Previous assessment for the first stage drilling was filed under work report W1060.02610 in November 2010. Additional drilling was filed in August 2012 under work report W1260.02025.

All maps coordinates are UTM Nad 83, Zone 17. All costs are in Canadian dollars.

## LOCATION AND ACCESS

The Borden East project claims are located in the 1:50,000 NTS topographic sheets 41O14, 41O15 and 42B02, approximately 120 km southwest of the city of Timmins and 36 km east-northeast of the town of Chapleau, Ontario (Figure 1). Townships include Chewett, Sandy, Crockett, Raney, Hellyer, Evans, Pinogami, Ivanhoe and Carty. Access to the property is via Highway 101 and logging roads off the main highway.

The current report details work applicable to 1 claim, 4259567, located in Hellyer Township. The amount of credits applied from the work completed as detailed in this report is \$26,272 and is being used towards keeping the project claims in good standing.

Mineral Claim information is displayed in Table 1.

**Table 1 – Mineral Claim Information**

	Mineral Claim	District	Claim Due Date	Township	G-Plan	NTS	Units	Assess Required by Due Date
1	4259567	POR	2013-Feb-03	HELLYER	G-1140	42B02	16	\$6,400.00

## GEOLOGY

The Borden East Project is located in the Superior Province of Northern Ontario. The Superior Province is divided into numerous Subprovinces, bounded by linear faults and characterized by differing lithologies, structural/tectonic conditions, ages and metamorphic conditions. The Subprovinces are divided into 4 categories: Volcano-plutonic; Metasedimentary; Gneissic/plutonic; and High-grade gneissic (Thurston, 1991). The rocks range in age from 3.5Ga to less than 2.76 Ga and form an east-west trending pattern of alternating terranes.

Regionally (Figure 2), the Kapuskasing Structural Zone (KSZ), an elongate north to northeast trending structure, transects the Wawa Subprovince to the west, and the Abitibi Subprovince to the east. The KSZ is approximately 500km long, extending from James Bay at its northeast end to the east shore of Lake Superior at its southwest end. Typically the KSZ is represented by high metamorphic grade granulite and amphibolite facies paragneiss, tonalitic gneisses and anorthosite-suite gneisses occurring along a moderate northwest dipping crustal scale thrust fault believed to have resulted from an early Proterozoic event (Percival and McGrath 1986).

The Wawa and Abitibi Subprovinces, which abut the KSZ, are volcano-plutonic terranes comprising low metamorphic grade metavolcanic-metasedimentary belts. They contain lithologically diverse metavolcanic rocks with various intrusive suites and to a lesser extent chemical and clastic metasedimentary rocks. The individual greenstone belts within the subprovinces have been intruded, deformed and truncated by felsic batholiths. The east trending Abitibi and Swayze greenstone belts of the Abitibi subprovince have historically been explored and mined for a variety of commodities; while the Wawa subprovince hosts the east-trending Wawa greenstone belt and the Mishibishu greenstone belt where much exploration and mining has occurred.

Several alkalic rocks such as carbonatite complexes along with lamprophyric dykes intruded along the KSZ, approximately 1022 to 1141 Ma ago. The carbonatite occurrences appear to display close spatial

relationships with major northeast-striking shear zones. Proximal to the project area, on the northern side of the KSZ, three (3) such complexes are known to occur. These include the Borden Township carbonatite complex, the Nemegosenda Lake alkalic complex; and the Lackner Lake alkalic complex.

## **LOCAL GEOLOGY**

The Borden Lake greenstone belt is a west trending belt of supracrustal rocks, approximately 3 km wide, that includes mafic to ultramafic gneiss, pillow basalt, felsic metavolcanic rocks, felsic porphyries and tonalites which are overlain by a +30 m thick suite of Timiskaming-aged clastic metasediments (Moser 1989, Moser 1994, Moser 2008, Percival 2008). The metasediments comprise greywackes, arkose, arenite, quartz pebble conglomerate and polymictic cobble conglomerate, metamorphosed to upper amphibolite facies. Gneissic fabrics are evident and the rocks appear to have been affected by regional deformation. Several episodes of deformation are reflected in the structural imprint of the rocks, with the last deformation being related to the development of the KSZ. The Borden Lake belt can be traced continuously for 35 km to the east and is considered to be one of the youngest in the KSZ (Percival and McGrath, 1986; Burnstall et al., 1994; Percival and West, 1994; Heather et al., 1995). The Borden East project is considered to be located within the Borden Lake greenstone belt, along its eastern extension. Similar rock types are observed, with the additional presence of anorthosites.

## **PREVIOUS WORK**

Minimal previous work has been completed in the area of the Borden East property. Keevil Mining Group explored the area in the mid 1960s, as part of their Project Ivanhoe 679. On the Group 27 – Sandy & Crockett townships property, assessment report 41O15NW0001 summarizes the results of geophysical surveys and diamond drilling that was completed. The property was staked to cover a strong AEM anomaly identified from a survey that was flown in 1964. One drill hole was completed which intersected granite and hornblende gneisses, with a narrow zone of disseminated pyrrhotite and scattered stringers of massive pyrrhotite accounting for the conductor. Thinly disseminated pyrite and chalcopyrite were also noted. Results indicated low to nil nickel and copper values, it was reported that one sample of the mineralized core assayed trace in nickel and 0.01% in copper.

A discretionary gold occurrence, MDI42B02SW00007 is also located in the property area. The occurrence is the Keevil Group 38 from work in the mid-1960s. Assessment report 42B02SW0003 details the work completed by Keevil which includes trenching. Rock types encountered included biotite quartz feldspar gneisses and hornblende quartz feldspar gneisses, containing horizons interbedded with either 10-25% magnetite and 30-60% pyrite (west grid) or 10-20% magnetite and 40-70% pyrite (east grid). Reportedly, grab samples did not return any values, however grab samples by the OGS taken in 1992 returned 0.0097% Cu and 0.0172% Zn.

On Probe's main Borden Lake project to the West, Probe completed a diamond drill program comprising eight holes and totaling 790m on claim number 4227868 in July 2010. An assessment report on the drilling was filed in November 2010 under work report W1060.02610. Results indicated that there is excellent potential to host a low-grade, bulk tonnage gold deposit on the property. Additional drilling in 2011 was filed under work report W1260.02025 in August 2012.

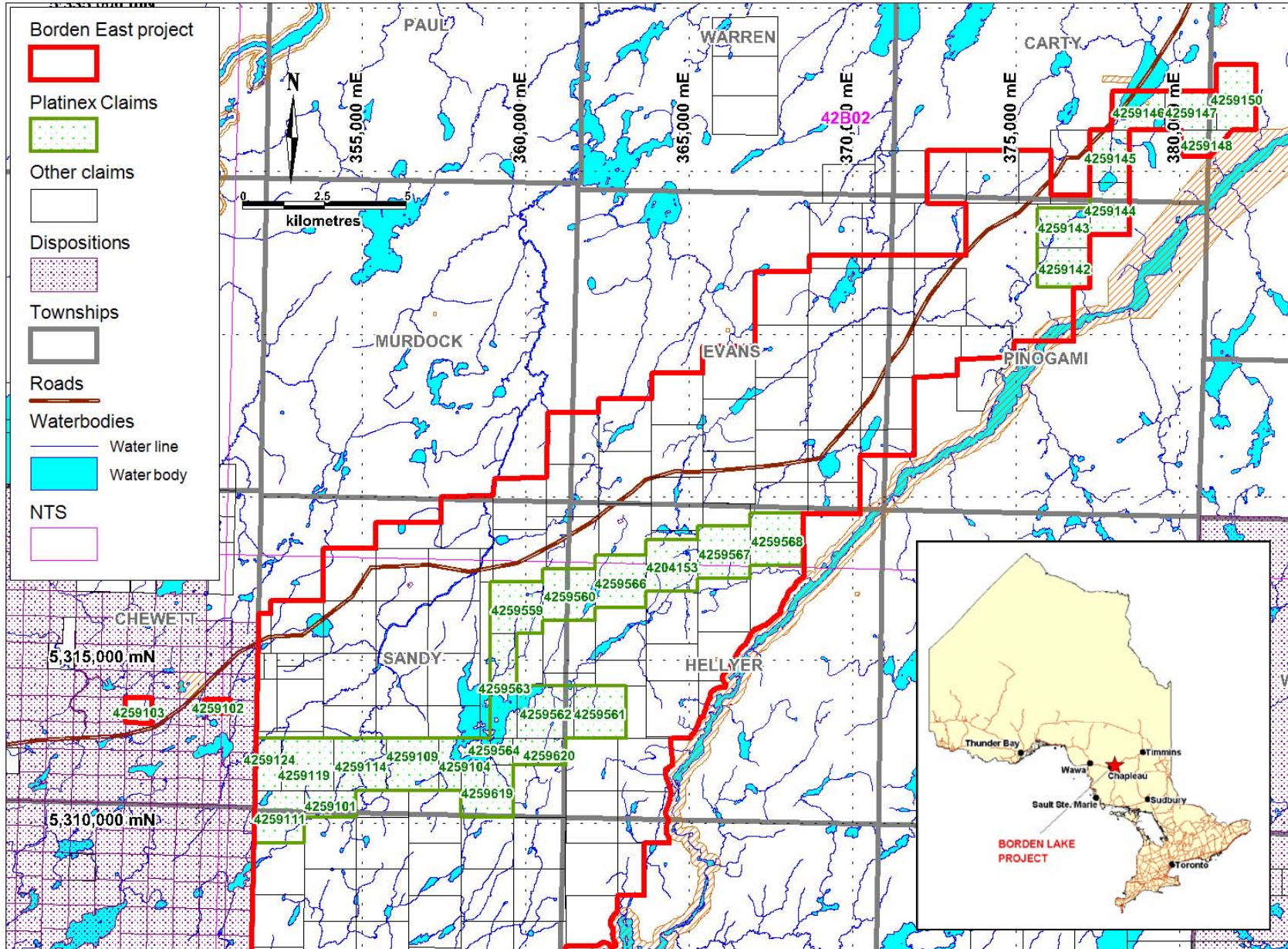


Figure 1- Location of the Borden East Project – Platinox claims highlighted

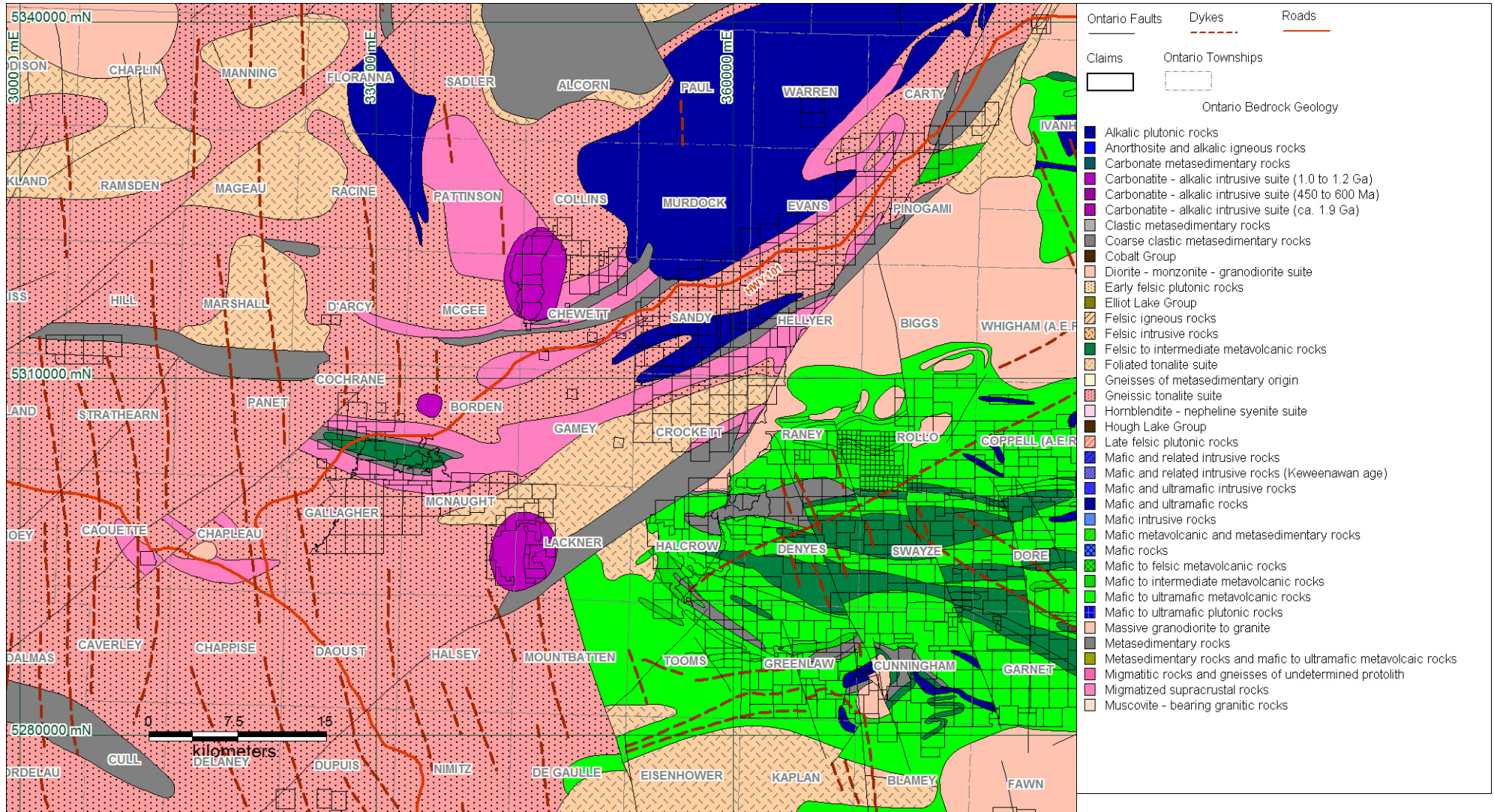


Figure 2 – General Geology of the Borden Lake and Borden East Area

## DIAMOND DRILLING

Between December 7<sup>th</sup> and December 17<sup>th</sup> 2012, Probe Mines Limited completed a diamond drilling program on the Borden East Project. Diamond drill hole WO12-03 was completed between December 11<sup>th</sup> and December 13<sup>th</sup> 2012. Total meterage was 201m. Major Drilling (Bradley Brothers) was the drilling contractor. The program was overseen by David Palmer, with onsite management and logging by Craig Yuill and section creation and report writing by Sharon Allan.

The drill hole data for the 1 drill hole is summarized in Table 2. Figure 3 illustrates the collar location and hole trace. Appendix I illustrates the collar location and hole trace at a scale of 1:4500.

**Table 2 – Diamond drill hole data (NAD 83, Zone 17)**

HoleID	Date Started	Date Completed	Azimuth	Depth (m)	Collar Dip	Easting	Northing	Elevation (m)
WO12-03	11/12/2012	13/12/2012	180	201	-50	365330	5317845	423

## RESULTS

The Drill log is presented in Appendix II and the drill hole cross section in Appendix III. The section is illustrated at scale of 1:1,000.

The drill program intersected mineralogically similar rock units to those present in the main Borden Lake Project area including Amphibolite, Felsic Gneiss and Amphibole gneiss. However there are differences in that the Amphibolite contains more garnet than is typically observed at Borden Lake and the Amphibole gneiss contains more biotite than typically observed at Borden Lake. Additionally, more developed gneissic banding is observed.

## RECOMMENDATIONS

Drilling results indicate that the Borden East area area has similar rock units to those present to at the main Borden Lake Project that hosts the Borden Lake Deposit. Further work is recommended to correlate these units with those in the main Borden Lake project area and could comprise soil sampling, ground geophysics, geological modelling and whole rock/trace element geochemistry.



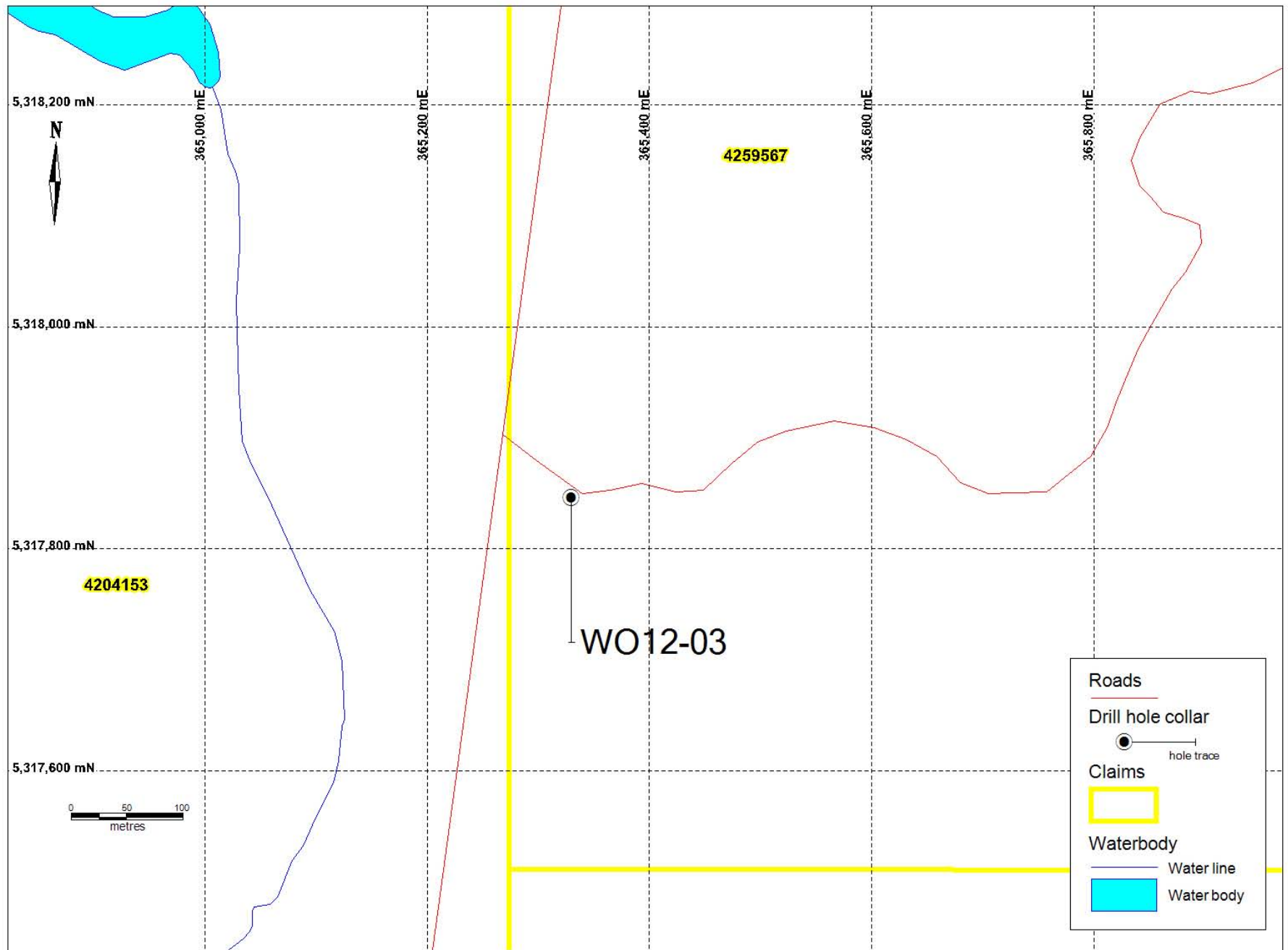


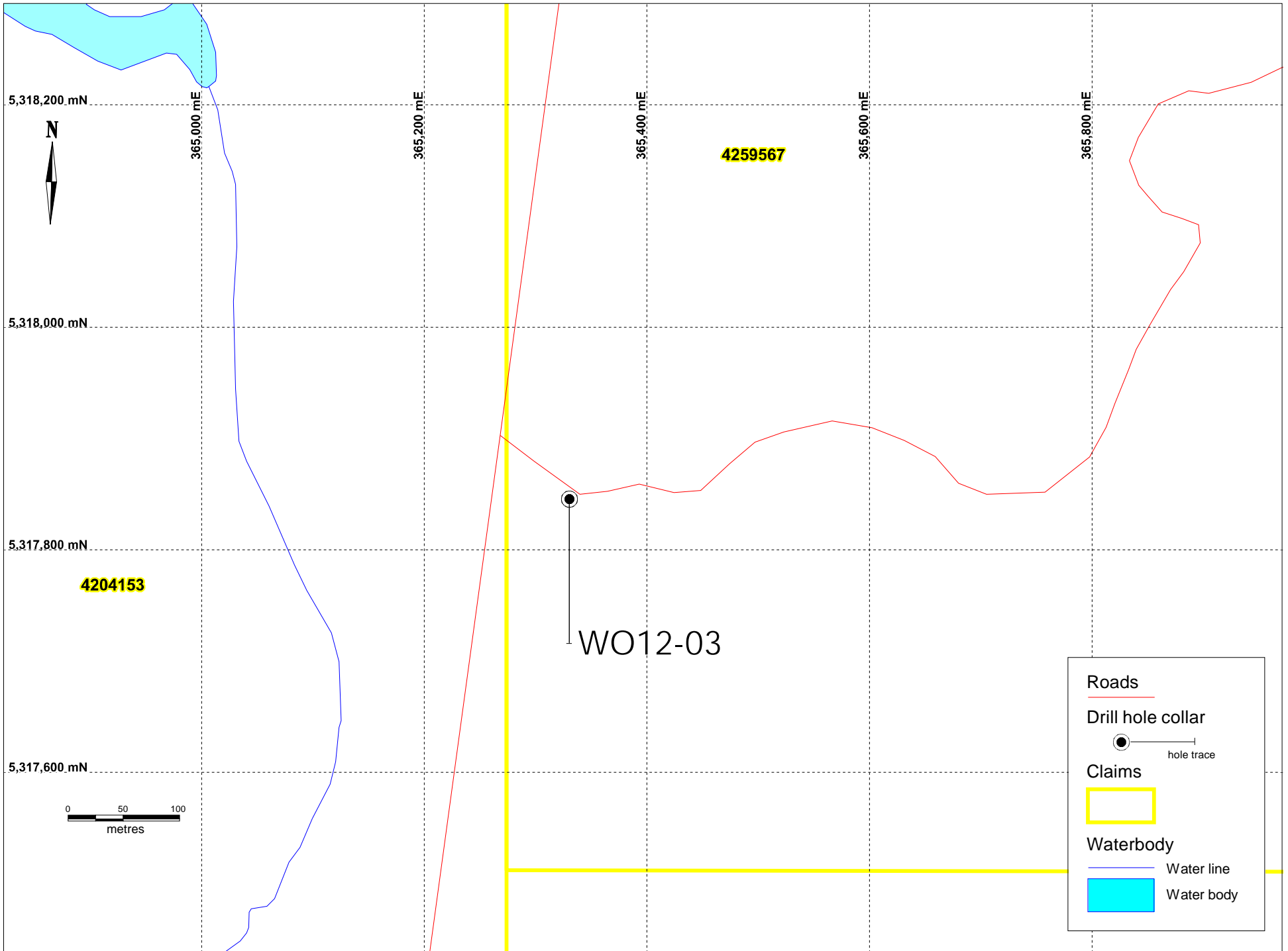
Figure 3 - Diamond Drill Hole Location and Hole trace

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## APPENDIX I

Large Scale Collar Location and Drill hole Trace Map (1:4,500)



**APPENDIX I - Drill hole collar location and plan trace**  
**Scale 1:4500**

## APPENDIX II

Drill logs

Drilling Company Bradley Brothers	Core Size NQ	Collar Elevation (m) 423	Bearing of Hole from true North 180	Total Depth (m) 201	Dip of Hole At Collar 50	Location where core stored Chapleau Ont	Location of DDH (TWP, Lot, Con, LatLong)
Date Hole Started 11/12/2012	Date Completed 13/12/2012	Date Logged Dec.11-14 2012	Logged By Craig Yuill	(m) degrees	(m) degrees	Property Name Borden East	Easting 365330 Northing 5317845 Datum NAD 83 Zone 17
Exploration Co., Owner or Optionee Probe Mines Limited					(m) degrees		
					(m) degrees		

From	To	RockType	Colour	Grain Size	Texture	Description	Bio %	Gt %	Py %	Po %
0.0	8.8	Casing								
8.8	11.4	Felsic Gneiss	Light Grey	Fine Grained	Moderately Well Foliated	Unit is a fine grained silicified, and seritically altered felsic gneiss which is altered by an intruding diabase dike.	5	0	Tr	Tr
11.4	35.5	Diabase Dike	Black and white	Medium Grained	Massive	Fine grained needles of euhedral plagioclase in a fine-medium grained amphibole matrix.	1	0	0	0
35.5	85.8	Biotite Amphibole Gneiss	Grey, white, and pink	Medium-coarse grained	Banded	Unit is comprised of biotite and amphibole in a fine grained felsic matrix. Unit has well developed gneissic banded localized migmatitic textures. 48.9m, 52.5, and 53m- Coarse grained blebby and net-textured pyrrhotite and localized coarse grained pyrite blebs. Localized chlorite alteration and sections of granitic pegmatite. 57.9-58.1, 61.9-62.3m- UMLAMP Dike.	10	1	Tr to <1	1
85.8	87.4	Garnet Amphibolite	Dark\Light green and	Fine-medium	Moderately Well Foliated	Unit is comprised of medium grained garnet porphyroblasts in a fine-medium grained amphibolite matrix. Localized quartz spider veinlets.	2	10	Tr	Tr
87.4	201.0	Biotite Amphibole Gneiss	Grey, green, and pink	Medium Grained	Banded	Unit is comprised of bands of medium grained biotite and amphibole with a fine-medium grained felsic matrix. Pyrite is patchy and is at the margins of biotite and amphibole crystals. Localized cm-scale granitic pegmatite sections. Localized coarse grained section with coarse grained amphibole crystals with intersitial feldspars. Localized cm-scale amphibolite sections.	5 to 10	3	<1	Tr

APPENDIX III

Drill Hole Cross Sections (1:1,000)

5,317,650mN

5,317,700mN

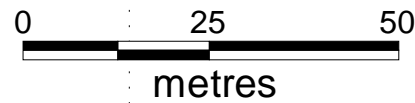
5,317,750mN

5,317,800mN

5,317,850mN

5,317,900mN

5,317,950mN



450mRL

400mRL

350mRL

300mRL

250mRL

O

365330E, 5317845N

100

200

Az:180; Dip --50  
WO12-03  
201 m

**Legend**  
**BordenEast lithology**

- Casing
- Felsic Gneiss
- Diabase Dike
- Biotite Amphibole Gneiss
- Garnet Amphibolite

DDH: WO12-03  
Claim: 4259567