Diamond Drilling and Prospecting Report

On

Platinum Group Metals’

Bark Lake Property

Thunder Bay Mining Division
Boot Bay and Crayfish Lake Areas
NTD Sheets 52B/15 and 52B/10

May 4, 2012                            Steven Siemieniuk, H.B.Sc.
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1.0 Summary

Between May and September, 2011, Platinum Group Metals conducted a prospecting program and 8 hole diamond drillhole program on the Bark Lake Project. Targets were magnetic anomalies associated with down-ice discoveries of mineralized boulders.

Two minor intersections (one of a gabbro and the other of a leucogabbro) were encountered but the extent of the intrusion encountered at Bark Lake was not found. No further work is warranted at this time.
2.0 Introduction

Between May and September, 2011, Platinum Group Metals conducted a prospecting program and 8 hole diamond drillhole program on the Bark Lake Project. Targets were magnetic and IP anomalies associated with down-ice discoveries of mineralized boulders.

Two minor intersections (one of a gabbro and the other of a leucogabbro) were encountered but the extent of the intrusion encountered at Bark Lake was not found. No further work is warranted at this time.
3.0 Property Description

The Bark Lake Property consists of nineteen contiguous mining claims and 1 non-contiguous mining claim for a total of twenty mining claims. These twenty mining claims contain 263 units and cover a total of 4,208 hectares (Table 1) in the Boot Bay and Crayfish Lake Areas, Thunder Bay Mining Division (Figures 1 and 2). All mining claims have been optioned by Platinum Group Metals LTD. from Benton Resources Corp. who own the mining claims in question.

Figure 1: Property location Map.
Figure 2: Bark Lake Property Claim Map.
3.1 Location and Access

The Bark Lake Property is situated in the Thunder Bay Mining Division of Ontario, with the claims being located in the Boot Bay and Crayfish Lake Areas on NTS Sheet(s) 52B/10 and 52B/15. The property is located approximately 110 kilometers west-northwest of the city of Thunder Bay, Ontario and approximately 75 kilometers east of the town of Atikokan, Ontario. The city of Thunder Bay has a population of 110,000 and provides support services, equipment, and skilled labour for both the mineral exploration and mining industry. Rail, national highway, port, and international airport services are also available out of Thunder Bay.

From Thunder Bay, The property can be reached by travelling west on highway 11/17 and then on highway 11 for approximately 110 kilometers. A road leading north to the property is accessed at 680603 East and 5391205 North (NAD 83, UTM Zone 16).
3.2 Topography, Climate, and Vegetation

Topography in the area of the Bark Lake Property is typical of northwestern Ontario and that underlying Archean Rocks in that relief is low and there are several east-west trending ridges that are separated by low swampy areas. Common tree species in the area include; balsam, spruce, jackpine, and poplar with white pine dispersed throughout. Climate is also typical of northwestern Ontario with extreme temperature ranges. A typical temperature range for the winter months would be -8°C to -24°C with extreme lows of -40°C and beyond. While in the summer months, a typical temperature range would be 10°C to 25°C with extreme highs of 35°C. Average annual precipitation for the area is approximately 580 milimetres and average annual snowfall is approximately 160 centimeters.
4.0 Regional Geology

The Bark Lake Property is underlain by ca. 2.690 – 2.698 Ga Archean Greenstone and Granitic rocks of the Quetico Subprovince and the Quetico Fault bounding the Wabigoon Subprovince to the north Quetico Subprovince to the South (Percival and Easton, 2007). The Quetico Subprovince consists predominantly of meta-sedimentary rocks, derived migmatite and granite with a suite of Alaskan type mafic-ultramafic intrusions. These intrusions, called Quetico Intrusions, are commonly associated with the narrow meta-sedimentary belt that is wedged between the Quetico Batholith to the south and the Quetico Fault Zone to the north (MacTavish, 1999).

An early penetrative D1 fabric is prominent throughout the belt and predates emplacement of the Quetico Intrusions and calc-alkaline plutons (Percival and Easton, 2007). Subsequent deformation events were followed by low-pressure, high-temperature metamorphism that reached upper amphibolite to granulite facies at the center of the belt, and greenschist facies on the periphery (Percival and Easton, 2007). The belt was then intruded by late, crust derived granitic plutons and pegmatite dykes (Percival and Easton, 2007).
5.0 Property Geology

During the Phase I drill Program, three primary lithologies were encountered. Greenschist facies metamorphism is the predominant grade with a moderate penetrative fabric host in the meta-sediments and a weak fabric in the ultramafic rocks. Minor sulphide mineralization was encountered in drilling, however high grade mafic-ultramafic boulders hosting massive magmatic sulphide were observed during surface mapping. Property Geology is as follows:

**Greywacke/Meta-Sediments**

This unit is light to medium grey-brown in colour, fine grain and exhibits a moderate to strong foliation. Foliation measurements taken during property mapping consistently gave an east-west strike, with dips ranging from nearly horizontal to vertical.
Bark Lake Property

Mafic-Ultramafic Rocks (Quetico Intrusion)

Ultramafic rocks were typically coarse grained pyroxenites with the occasional presence of biotite. Pyrrhotite was the most dominant sulphide mineral seen within the ultramafics with often lesser amounts of chalcopyrite and pyrite. This unit usually exhibited random grain orientation.

Orthogneiss

An orthogneissic unit was observed both in field and in drill core. This unit ranged from fine grained up to pegmatitic. Composition consisted primarily of plagioclase with quartz, biotite and minor potassic feldspar. Sulphide mineralization was not seen in this unit. No mineral alignment was observed in most cases, although a weak foliation was occasionally observed.

Pegmatite Dykes

Pegmatite dykes were observed cutting the meta-sediment unit within drill core and mapping. This unit is composed of large euhedral to subhedral crystals (1-10cm) of hornblende, biotite, and potassic feldspar with minor amounts of magnetite, quartz and carbonate.
6.0 Exploration History

1971 (AFRI # 52B16NE0010)

Rosenblat Syndicate completed a work program consisting of an airborne electromagnetic survey, magnetometer survey, electromagnetic VLF survey, and geological mapping. The results of this work are not known due to the lack of availability of the full assessment report.

This property covers a large portion of the southern half of Lac des Mille Lacs and overlaps with Platinum Group Metals Bark Lake Property in the northeast corner.

1971 (AFRI # 52B16SW0028)

Duval International Corporation conducted an airborne geophysical survey over their Lac des Mille Lacs area property. A total of 424.2 miles were flown and line spacing was at 1/8 of a mile.

This property covers a large portion of the southern half of Lac des Mille Lacs and overlaps with Platinum Group Metals Bark Lake Property in the northeast corner.

1982 (AFRI # 52B15SW0405)

The Sulphide Syndicate carried out geophysical surveys on their Boot Bay Area property. The results indicate that two very weak anomalies were located. The eastern anomaly corresponds to a high magnetic reading and the western anomaly corresponds to a low magnetic reading.

This property is located to the east of Baril Bay in Boot Bay Area and overlaps with a small portion of Platinum Group Metals Bark Lake Property, more specifically the northern, non-contiguous claim.

1990 (AFRI # 52F04NE9650)

Mingold Resources Inc. carried out a reconnaissance till sampling program with a total of 823 samples being collected. The results of the bulk till sampling program outlined 37 first order anomalies and many lesser anomalies have also been outlined.

This sampling program covers a large area, stretching from Bedivere Lake Area and Brule Lake Area in the northwest to Paipoonge and Gilles Townships in the South east. The sampling area covers portions of Platinum Group Metals Bark Lake Property.

1997 (AFRI # 52B16SW2001)

Green Ice Corporation completed a Phase I exploration program on their Bolton Bay Property. The program consisted of detailed geological mapping, rock sampling, and limited ground geophysical surveys. The program was successful in outlining new areas of mineralization and provided a strong
Bark Lake Property

geological framework for the property. Anomalous gold was discovered in several areas. The geophysical surveys outlined areas of high magnetic and 4 zones of chargeability.

This property is located along and to the west of Bolton Bay and only slightly overlaps Platinum Group Metals Bark Lake Property over the northern non-contiguous claim.

2008 (Benton Summary)

A summary of work performed by Benton is outlined in Appendix A.
8 holes were drilled for a total of 1385 meters with no significant results. Drilling summary is as follows. Drill sections can be found in Appendix B. Figure 5 shows the drill collar locations and a detailed map can be found in Appendix C. Table 2 summarizes the locations of the drill collars.

**BL-11-01 – 674153 E / 5402824 N (actual coordinates) - Infilling at boulder site**

**Drilling Complete (200 m)**

- Drilling encountered bands of granitic and metasedimentary rock. Granitic rocks were either quartzor k-feldspar rich and were medium-grained to pegmatitic. Below 118m rocks were
Bark Lake Property

moderately magnetic due to magnetite in the core. Disseminated pyrite (trace to 1%) was observed in the metasediments metasediments and minor fracture controlled pyrite observed in granitic rocks was observed and provides a possible explanation to the east-west conductor in the region. Minor deformation is displayed by quartz wisps within the metasediments. Rocks also contain minor chlorite, hematite and sericite alteration.

**Pre-Drilling Information**

- Initially Labeled BLP 3 by Rob Van Egmond
- Initial location was to be 674150E/ 5402825N

**BL-11-02 – 674453 E / 5402749 N (actual coordinates) - Southern Mag High**

Drilling Complete (147 m)

- Drilling intersected magnetic granite (magnetite) along with bands of metasediments (similar to BL-11-01?). Trace amounts of pyrite was encountered in the hole (as disseminations and fracture controlled similar to BL-11-01?). The magnetite encountered would explain the magnetic anomaly at the location.

**Pre-Drilling Information**

- Initially Labeled BLP 4 by Rob Van Egmond
- Initial location was to be 674450E/ 5402750N
- Ground magnetics identify a magnetic high.

**BL-11-03 – 673950 E / 5403050 N (actual coordinates) - Low Reversal**

Drilling Complete (200 m)

- Drilling encountered magnetic granitic rocks with bands of metasediments (similar to BL-11-01?). Magnetic spots are due to magnetite as described above in hole BL-11-02. Composition of granitic rocks is either quartzor k-feldspar rich and ranges from medium grain to pegmatitic. Sericite, hematite, and chlorite alteration observed along with mm to cm scale epidote veinlets in a few sections. Rock exposure to the north of the hole shows magnetic granites with the drill setup situated in a topographic low.

**Pre-Drilling Information**

- Initially Labeled BLP 1A by Rob Van Egmond
- Initial location was to be 673950E/ 5403050N
- Second drillhole will be located at same site (BL-11-04) but will be drilled vertical to ensure coverage of stratigraphy below the drill.
BL-11-04 – 674153 E / 5402824 N (actual coordinates) - Vertical Hole

**Drilling Complete (194 m)**

- Drilling encountered dominantly granitic rocks ranging from medium grain to pegmatitic similar to all other previously drilled holes in the 2011 drill campaign to date. Some metasedimentary bands which appear near the bottom of the hole contain disseminated pyrite locally up to 1%. The majority of the rock was magnetic due to magnetite observed in core except for a short interval of metasediments. At 175.5m there is a 8 cm section that is likely a small mafic dyke or possibly a highly altered metasediment.

**Pre-Drilling Information**

- Initially Labeled BLP 1 by Rob Van Egmond
- Initial location was to be 673950E/ 5403050N
- Grab sample had elevated Pt
- Mag high in area

BL-11-05 – 674198 E / 5403502 N (Actual coordinates)- Mag high Ni-Cu high

**Drilling Complete (153 m)**

- Drilling encountered dominantly granitic rocks, ranging from medium grain to pegmatitic (similar to previous holes). Some metasedimentary bands which appear near the bottom of the hole contain disseminated pyrite locally up to 1% (similar to BL-11-04). A 1m band of highly chlorite altered schist occurs at 95m. Alteration consist of epidote veinlets with the odd local cm scale patch of magnetite.

**Pre-Drilling Information**

- Initially Labeled BLP 5 by Rob Van Egmond
- Located near possible flexure of structure? or magnetic trend?
- North of a magnetic low within a mag high

BL-11-06 – 674355 E / 5403195 N (actual coordinates) - 5 Pt high Mag high

**Drilling Complete (200 m)**
Bark Lake Property

- Drilling encountered granitic rocks and metasediments. A 7m section of possible leuco-gabbro (from 97m to 105m) was also encountered which was non-magnetic and contained no visible sulfides. Fracture controlled hematite alteration throughout.

**Pre-Drilling Information**
- Initially Labeled BLP 2 by Rob Van Egmond
- Within a mag high

**BL-11-07 – 680046 E / 5405215 N (actual coordinates) - On Skidder Trail**

**Drilling Complete (200 m)**

- Drilling encountered granitic and metasedimentary rocks similar to other holes. 51 m to 65m contained strong chlorite alteration within metasediments. 56 m – 59 m is a coarse grained leuco-gabbro which was magnetic and contained trace sulphides. 112.5 m – 115.5 m is a very fine grained black coloured mafi- dyke which was magnetic and contained ≤1% pyrite. Fracture controlled hematite alteration throughout as well as some epidote veinlets. Overall lack of magnetite making it non-magnetic.

**Pre-Drilling Information**
- Initially Labeled BLP 6 by Rob Van Egmond
- Mafic outcrop at 680037E-5405277N w sulph.

**BL-11-08 – 676592 E / 5404753 N (actual coordinates) – VTEM Conductor**

**Drilling Complete (152m)**

- Drilling encountered dominantly granitic rocks, ranging from medium grain to pegmatitic (similar to previous holes). Some metasedimentary bands which appear near the bottom of the hole. At 149m – 151m there is a band of strong hematite alteration. Alteration throughout consists of; epidote veinlets, the odd local cm scale patches of magnetite, and trace pyrite.

**Pre –Drilling Information**
- Conductor identified
- Mag highs in area

Table 2: Drill hole Information.
### Bark Lake Property

<table>
<thead>
<tr>
<th>Hole Number</th>
<th>Easting</th>
<th>Northing</th>
<th>Length (m)</th>
<th>Elevation (m)</th>
<th>Dip</th>
<th>Azimuth</th>
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<td>BL-11-02</td>
<td>674453</td>
<td>5402749</td>
<td>134</td>
<td>518</td>
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<td>BL-11-03</td>
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<td>95</td>
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<td>497</td>
<td>-90</td>
<td>95</td>
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<td>BL-11-05</td>
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<td>5403502</td>
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<td>499</td>
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</table>

### 7.2 Prospecting

The 2011 prospecting program did not return any favourable results. Maps of traverses and samples can be found in Appendix C. Daily logs can be found in Appendix D.
8.0 Discussion

Both the diamond drilling and the prospecting returned nothing of interest.
9.0 Conclusion and Recommendations

No further work is recommended at this time.
10.0 References


Appendices
Appendix A

Benton Summary
Summary

The Bark Lake property consists of 17 Claims in the Boot Bay Area, Northwestern Ontario. 10 Claims are held 100% by Benton Resources while 7 others were obtained via option agreement from Hackl Prospecting. The total area of the property is 3874 hectares. The property is located in Map G-2709, in NTS map sheets 52B/10 and 52B/15. The claims are listed below.

<table>
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<tr>
<th>Claim Number</th>
<th>Township</th>
<th>Units</th>
<th>Recording Date</th>
<th>Due Date</th>
<th>Percent</th>
<th>Option</th>
<th>Work Required</th>
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<td>4204413</td>
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<td>2006-Aug-09</td>
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<td>$3,200.00</td>
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<td>4222059</td>
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<td>4218935</td>
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<td>100.00%</td>
<td>$4,800.00</td>
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</table>

The Bark Lake property is host to numerous newly discovered platinum (Pt), palladium (Pd), gold (Au), copper (Cu) and nickel (Ni) showings contained in mineralized ultramafic rock either in outcrop or dozens of mineralized boulders. The mineralized occurrences are situated along the Quetico Fault, a major crustal-scale east west oriented structure. Grab samples have returned grades up to 4.35 gpt Pd, 2.64 gpt Pt, 0.74 gpt Au, 1.2% Cu, 0.5% Ni by Hackl Prospecting. Samples collected by Benton personnel have confirmed significant precious and base metals across the project area. More recent sampling has returned individual assays grading up to 1.5% Nickel, 1.2% Copper, 2.6 gpt Pt, 1.4 gpt Pd and 0.7 gpt Au. Twelve out of the 16 samples taken from the area returned results higher in Platinum than Palladium.
Also of particular interest was the discovery of several semi-massive, nettextured sulphide boulders, with one measuring around 1 cubic metre in size and assaying 1.5% Ni. The boulders are angular in nature and believed to be located very close to source.

In order to determine the source of the high grade boulders, Benton carried out an extensive exploration program on the property including linecutting, ground magnetics, ground IP, geological mapping and prospecting. The Mag and IP survey helped to define an ultramafic intrusion to the north of the property. Drill targets were defined based on the geophysical interpretation and Benton intersected the ultramafic intrusion in holes BL-08-04 and BL-08-05. Mineralization was present in these intersections but not to the same degree as in the boulders. Intersections were as follows:

<table>
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<tr>
<th>Hole_ID</th>
<th>From_m</th>
<th>To_m</th>
<th>Interval</th>
<th>Au ppb</th>
<th>Pt ppb</th>
<th>Pd ppb</th>
<th>Ag ppm</th>
<th>Co ppm</th>
<th>TPM g/t</th>
<th>Cu %</th>
<th>Ni %</th>
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</table>

Only approximately 20% of the property was covered by the initial geophysical surveys. Benton has decided to step back and fly an Airborne Magnetic survey over the entire property to get a better understanding of the structures, intrusions and geology. The results of this survey will be used in conjunction with the data already collected to plan targets for a Phase II Drill program in 2011.

Regional Geology

The Bark Lake Property is underlain by ca. 2.690 – 2.698 Ga Archean Greenstone and Granitic rocks of the Quetico Subprovince and the Quetico Fault bounding the Wabigoon Subprovince to the north and Quetico Subprovince to the South (Percival and Easton, 2007). The Quetico Subprovince consists predominantly of meta-sedimentary rocks, derived migmatite and granite with a suite of Alaskan type mafic-ultramafic intrusions. These intrusions, called Quetico Intrusions, are commonly associated with the narrow meta-sedimentary belt that is wedged between the Quetico Batholith to the south and the Quetico Fault Zone to the north (MacTavish, 1999).

An early penetrative D1 fabric is prominent throughout the belt and predates emplacement of the Quetico Intrusions and calc-alkaline plutons (Percival and Easton, 2007). Subsequent deformation events were followed by low-pressure, high-temperature metamorphism that reached upper amphibolite to granulite facies at the center of the belt, and greenschist facies on the periphery (Percival and Easton, 2007). The belt was then intruded by late, crust derived granitic plutons and pegmatite dykes (Percival and Easton, 2007).

Property Geology

During the Phase I drill program, three primary lithologies were encountered. Greenschist facies metamorphism is the predominant grade with a moderate penetrative fabric host in the meta-sediments and a weak fabric in the ultramafic rocks. Minor sulphide mineralization was encountered in drilling. However high grade mafic-ultramafic boulders hosting massive magmatic sulphide were observed during surface mapping. Property geology is as follows:
Greywacke/Meta-Sediments
This unit is light to medium grey-brown in colour, fine grain and exhibits a moderate to strong foliation. Foliation measurements taken during property mapping consistently gave an east-west strike, with dips ranging from nearly horizontal to vertical.

Mafic-Ultramafic Rocks
Ultramafic rocks were typically coarse grained pyroxenites with the occasional presence of biotite. Pyrrhotite was the most dominant sulphide mineral seen within the ultramafics with often lesser amounts of chalcopyrite and pyrite. This unit usually exhibited random grain orientation.

Orthogneiss
An orthogneissic unit was observed both in the field and in drill core. This unit ranged from fine grained up to pegmatitic. Composition consisted primarily of plagioclase with quartz, biotite and minor potassic feldspar. Sulphide mineralization was not seen in this unit. No mineral alignment was observed in most cases, although a weak foliation was occasionally observed.

Pegmatite Dykes
Pegmatite dykes were observed cutting the meta-sediment unit within drill core and in mapping. This unit is composed of large euhedral to subhedral crystals (1-10 cm) of hornblende, biotite, potassic feldspar with minor amounts of magnetite, quartz and carbonate.

Interpretation of Ultramafic Intrusion at Bark Lake
Appendix B

Drill Sections
BL-11-07
Bark Lake
Platinum Group Metals

SCALE
-5
0
5
10
15
20
25
(m)

AZIMUTH = 170°
TOLERANCE  +/- 7.5 m
SECTION TOP, BOT 522.9 m 275.8 m
EXTENTS 257.3 m 247.1 m
REF. PT. E, N 680041 m 5405250 m

SECTION SPECS:
Code R ------- All

POSTED TEXT L/R TEXT ITEMS
300 RL 300 RL
350 RL 350 RL
400 RL 400 RL
450 RL 450 RL
500 RL 500 RL

5405150 N 5405150 N
5405200 N 5405200 N
5405250 N 5405250 N
5405300 N 5405300 N
5405350 N 5405350 N

GRANODIORITE
METASEDIMENT
GRANODIORITE
GABBROMETASEDIMENT
GRANODIORITE
METASEDIMENT
GABBRO
METASEDIMENT

50 m
100
150

Platinum Group Metals
Bark Lake
BL-11-07
Appendix C

Maps
Appendix E

Daily Logs
Day 1-Bark Lake-Saturday June 18th, 2011

Today was spent going out to the property and looking for access to the target areas.

Day 2- Bark Lake-Tuesday June 21st, 2011

An overcast day in which we focused around the region where the mineralised boulders were previously found by Benton resources. We circled out and mapped out the other boulders found in the area both mineralised and without sulphides. New mineralised boulders were found and sampled. The trend of mineralised boulders seems to follow an east west trend, perhaps following the conductor in the area.

Day 3- Bark Lake- Friday June 24th, 2011

Small magnetic high investigated at 674287 N 5401498 E. All outcrop was granite. Mag high seemed to occur on lee side of a mound where there was a deposit of till material including ultramafic and diabase material. After this we walked around the road loop. Mafic boulders were observed with next to nil sulphides. Outcrop observed was granitic.

Day 4- Bark Lake-Saturday June 25th, 2011

Investigated the mag highs on the east side of the lakes as well as confirming the validity of Benton’s outcrop and boulder map. It was found that the outcrop map was inaccurate. Ultramafic outcrops were found with no sulphides present. One mag high to the east of the lower lake appears to be due to a magnetic granite.

Day 5-Bark Lake-Sunday June 26th, 2011

Dyke like structure to the south of fingerling lake was investigated. Till cover of sand was found over the full area with only granite outcrop observed to the southern end of the dyke. Further investigation could include drilling the as it appears in the water during the winter. Canoe was found for future days.

Day 6-Bark Lake-Sunday July 10th, 2011

Today was spent sighting in drill holes BLP 1, 1A, 3, and 4.

Day 7-Bark Lake-Monday July 11th, 2011

Today was spent sighting in drill hole BLP 2.

Day 8- Bark Lake-Tuesday July 12th, 2011

Today was spent sighting in drill hole BLP 5.

Day 9- Bark Lake-Wednesday July 13th, 2011

Today was spent sighting in drill hole BLP 6.

Day 10-Bark Lake-Thursday July 14th, 2011
Bark Lake Property

Investigated the BL-03 conductor and the dyke like structure as it appears at the north end of fingerling lake. We used the found canoe to traverse around the lake. We first investigated the dyke like structure first and could not find any evidence of it at surface. Moved onto conductor BL-03 and we found only metasediments and slightly magnetic granite. No other outcrop was seen as it is all sand covered.