# ASSESSMENT REPORT

HIGHBANK LAKE PROPERTY

**BMA 523861, 523862, 524861 and 524862**
**Northern Ontario, Canada**

**Northern Shield Resources Ltd.**
Suite 1600, 150 Metcalfe Street
Ottawa, Ontario, Canada
K2P 1P1

August 15th, 2008

Prepared By: Christine Vaillancourt and Ian Bliss

## TABLE OF CONTENTS



## LIST OF FIGURES



## LIST OF TABLES

## LIST OF APPENDICES

## 1.0 INTRODUCTION

This report describes the diamond-drilling program carried by Northern Shield Resources during the summer of 2007 on its Highbank Lake property located in the James Bay Lowlands of Ontario. It is specific to the South Bloc of the Property where Hole 07HB-04 was drilled. The other 6 holes that were drilled during this program are on the North Bloc of the property and will be described in details in a future report.

The mining claims that comprise the Highbank Lake Property are located 350 kilometres northwest of the town of Hearst, Ontario, in the Highbank Lake/Attawapiskat River area, and within the National Topographic System (NTS) map area 43D/08 (Figure 1). The mining claims lie within numbered townships BMA 523861, 523862, 524861 and 524862 of the Porcupine Mining Division, District of Cochrane, Ontario.

The Property is accessible only by floatplane and boat, with the Attawapiskat River providing the main waterway. A tent camp previously used by de Beers and now operated by Harry Baxter of Ogoki, Ontario, is located on a peninsula on the west shore of Highbank Lake. The drill sites are only accessible by helicopter in the summer and snow mobile in the winter.

The Highbank Lake Property consists of two non-contiguous claim groups, for which staking originally started in 2001. The Property comprises 145 unpatented mining claim blocs, totalling 2,134 mining claims or units (16 hectares per unit) that cover 36,144 hectares (Appendix 1, Figure 1.1). The mining claims are held 100% by Northern Shield and have not been legally surveyed. All claims are currently in good standing.

The Property is located within the Archaean Sachigo Superterrane of the Superior Structural Province of the Canadian Shield. According to recent subdivisions of the Sachigo Superterrane (see Figure 2.1), the Fishtrap Intrusive Complex underlying the Property is located at or near the boundary between the 2.87 to 2.72 Ga and possibly younger Oxford-Stull Domain to the north and the Island Lake Domaine (part of the 3.0 Ga North Caribou Terrane) to the south (Stott and Rayner 2004, Stott et al. 2007 and Stott, 2007a-b). However, the subdivisions are based mostly on work carried out on the western portion of the Sachigo Superterrane and since there is very little data available in the area of the Property, this boundary remains highly speculative in the west.

The association between mafic rocks observed in the field and a well-layered stratigraphy delineated by airborne magnetic fabrics suggests that the Fishtrap Intrusive Complex has potential for "reef-style" platinum-group element ("PGE") mineralization similar to the mineralization found in the

Bushveld Igneous Complex of South Africa or the Stillwater Complex in Montana, USA. The Bushveld Igneous Complex in South Africa hosts the world's largest deposits of platinum, and comprises a well-layered suite of mafic and ultramafic rocks with PGE typically associated with thin chromite-rich "reefs". Discovery of significant quantities of detrital chromite and chromitite fragments within the Highbank Lake Property supports an exploration model based on Bushveld-style mineralization.

A wide variety of exploration work has been completed at the Highbank Lake Property since 2003 and includes different types of overburden geochemistry, heavy mineral count and chemistry, lithogeochemistry, diamond drilling, airborne and ground geophysical surveying and petrographic study of core and boulder samples, including mineral chemistry by scanning electron microscope (SEM).

Very encouraging results were obtained from a large coverage of MMI® (Mobile Metal Ions) geochemistry on 23 profiles for a total of 75 line kilometres. Significant anomalies in one or many of the elements Pd, Pt, Ni, Cu, Co and Cr were identified and some are consistent along layers defined by the airborne magnetic surveys. Three lines of deep looking IP survey were carried out approximately over MMI® lines in the northwestern portion of the Property, where PGE and other metal anomalies were well defined. A number of chargeability and conductivity anomalies were identified with the survey and were used, in combination with the MMI® results, to define drill targets for the summer 2006 first diamond drilling program. No mineralized horizon that could explain the MMI® anomalies was intersected during this program. A fall diamond-drilling program was also carried in 2006 to follow up on results obtained during the summer program and also to investigate 9i targets on the south bloc of the property.

This report describes Hole 07HB-04 that is part of the third diamond-drill program, which was carried during the summer 2007. Drill targets were selected on the better understanding of the geometry of the intrusion acquired during the two previous drill programs from core study, petrography, lithogeochemistry and structural analysis. Seven holes for a total of 3395 metres were drilled between June and August 2007. The work reported in this assessment was supervised by Christine Vaillancourt, P.Geo. The location of the holes with details are reported on Figure 1.2 (drill plans). The logs for the hole are detailed in Appendix 2 and the assay results are reported in Appendix 3. Whole rock geochemistry was also carried on a selection of samples and the results are reported in Appendix 4. The sections for the hole is in Appendix 5.

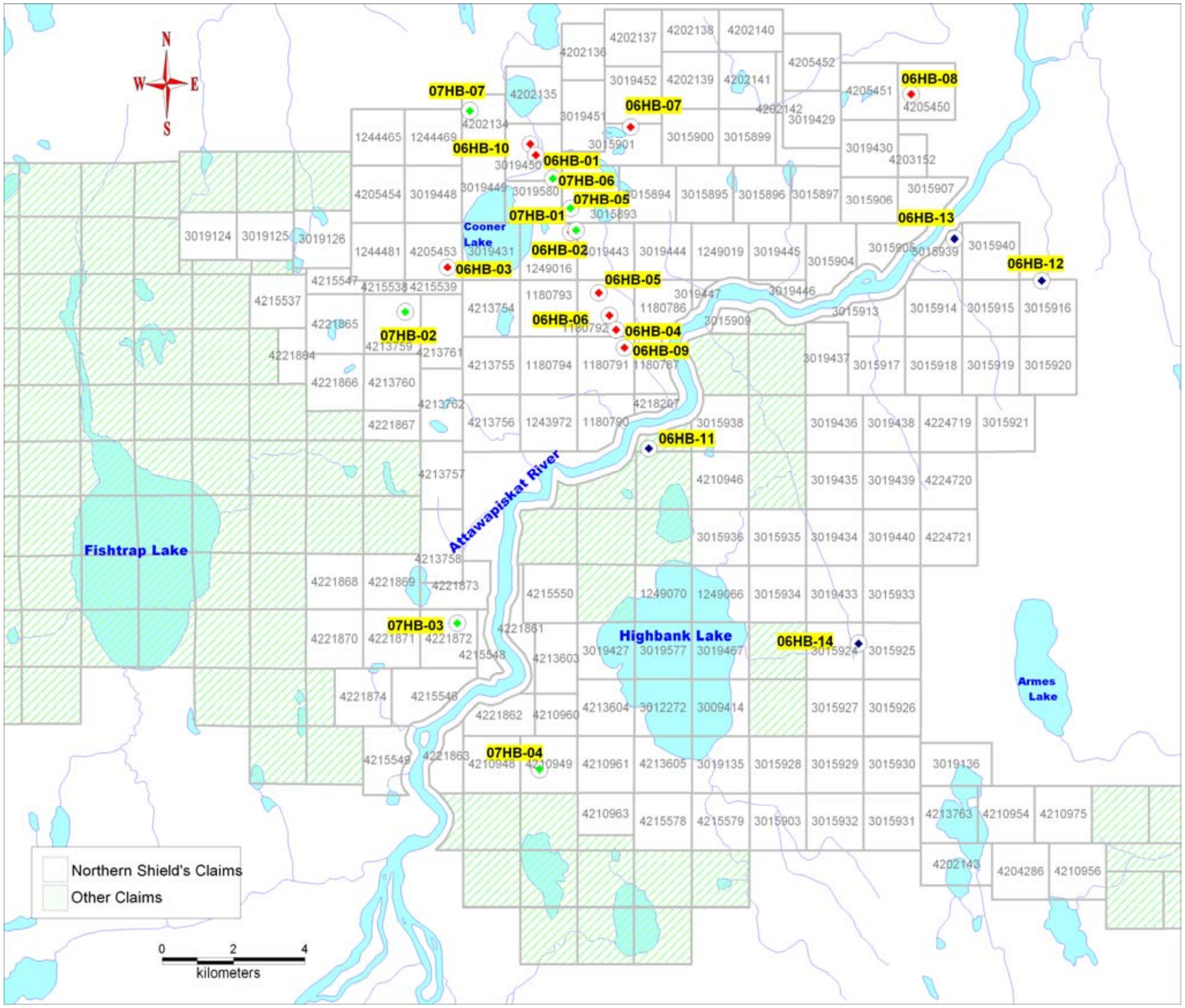



Figure 1.1. Highbank Lake Property location map.

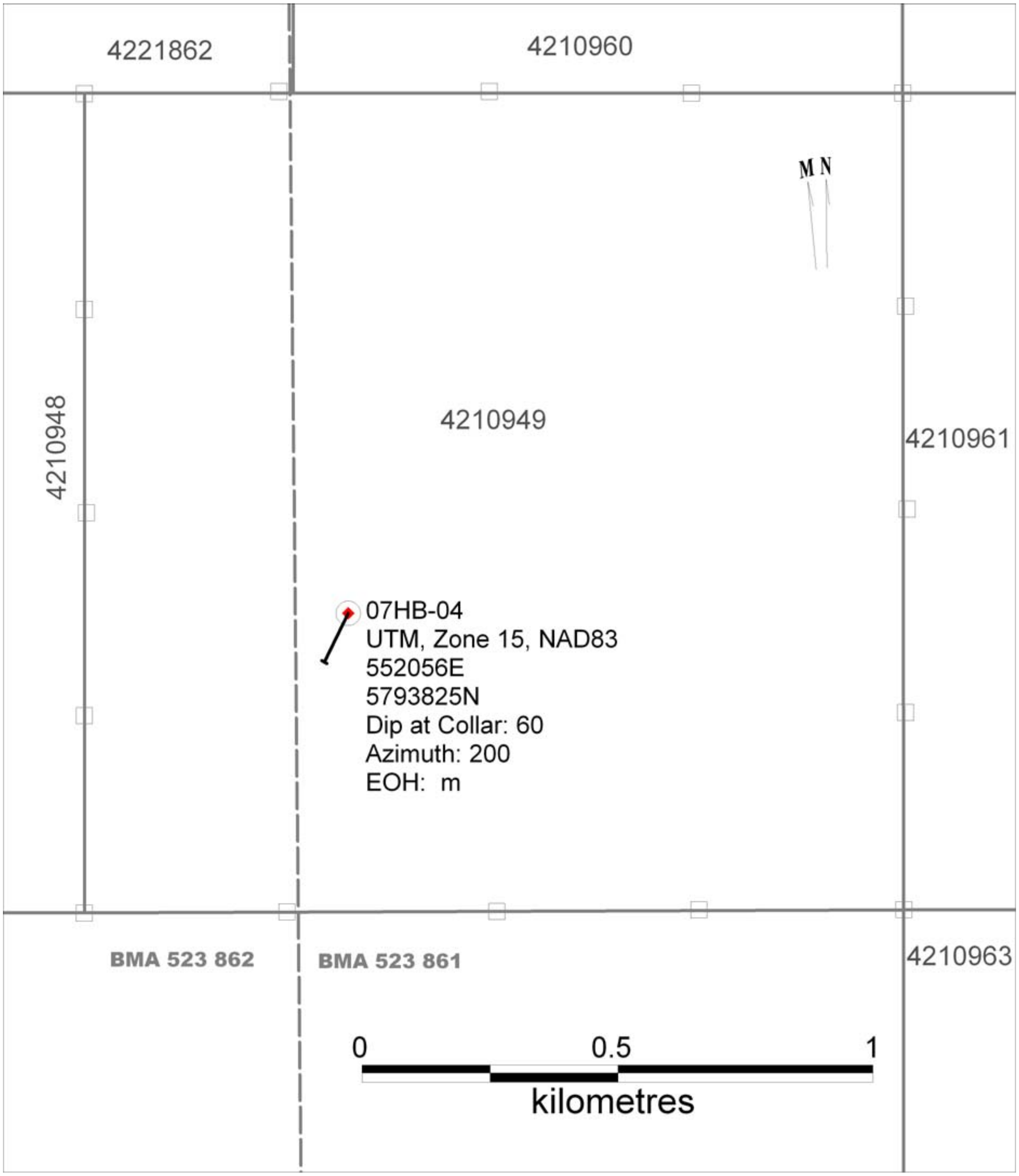



Figure 1.2. Drill plan and location for hole 07HB-04.

No significant mineralization was intersected in hole 07HB-04.

# 2.0 GEOLOGICAL SETTING

## 2.1 Regional Geology

The Highbank Lake Property lies within the Sachigo Superterrane of the Northwestern Superior Province in Northern Ontario. The Superior Province covers an area of 1,572,000 $km^2$, which represents 23% of the earth's exposed Archaean crust (Thurston, 1991). The Superior Province is divided into numerous Superterranes, Terranes and Domaines (Figure 2.1), each bounded by linear faults and characterized by differing lithologies, structural/tectonic conditions, ages and metamorphic conditions. The Domaines are typically of one of three dominance: 1) Volcano-plutonic, consisting of low-grade metamorphic greenstone belts, typically intruded by granitic magmas, and products of multiple deformation events; 2) Metasedimentary, dominated by clastic metasedimentary rocks and displaying different grades of metamorphism; 3) Gneissic/plutonic, comprised of tonalitic gneiss containing early plutonic and volcanic mafic enclaves, and larger volumes of granitoid plutons; and, 4) High-grade gneissic, characterized by amphibolite to granulite facies igneous and metasedimentary gneisses intruded by tonalitic, granodioritic and syenitic magmas (Card and Ciesieliski, 1986).

The Sachigo Superterrane is bounded to the north by the Northern Superior Superterrane while the southern limit is in contact with the sedimentary English River bassins. Recent work integrating mapping, geochronology and isotopic studies has outlined important subdivisions of what was previously defined as the Sachigo Subprovince (e.g., Skulski et al., 2000; Corkery et al., 2001; Stone, 2005; Stott and Rayner, 2004, and Rayner and Stott, 2005), which were defined as the following tectonic terranes: 1) the 3.0 Ga North Caribou Terrane to the south; 2) a juvenile 2.73 to 2.72 Ga Oxford-Stull Terrane in the centre; and, 3) the reworked 3.6 Ga crust of the Northern Superior Superterrane to the north. Most recent work redefines the subprovinces in a more complex division or Superterranes, Terranes and Domaines (Figure 2.1) in light of the better understanding of the tectonic assembly through a progression of orogenies acquired through field work, new geochronology and Sm-Nd isotopic studies (Stott et al. 2007, Stott, 2007a and b). There is general agreement on these subdivisions although there is still a lot of uncertainty in regards to the exact location of the boundaries, especially on the eastern side where little to no data is available. The Fishtrap Intrusive Complex, which underlies the Property, is located at or near the boundary between the Oxford-Stull Domain to the north and the Island Lake Domain of the North Caribou Terrane to the south.

***Felsic to Intermediate Intrusive Rocks***

Granitic rocks represent the dominant lithology in the Sachigo Superterrane and include, from oldest to youngest: gneissic tonalites; foliated tonalites; a muscovite granodiorite–granite series; and, a diorite-monzonite-granodiorite suite (Thurston et al., 1991).

Gneissic Tonalites

These intrusive rocks are amongst the oldest examples of plutonic rocks (Thurston et al., 1991), and can be divided into melanocratic (>20% amphibole) and leucocratic (<20% amphibole) series, although dominated by the latter. These rocks are heterogeneous, typically cut by several generations of granitic dikes, and may contain mafic inclusions up to kilometre-scale in diameter (Thurston et al., 1991). The origin of these inclusions can be traced back to supracrustal xenoliths and tectonized mafic dikes. Tonalitic rocks display a general west to northwest strike in their layering. This layering shows divergence around younger intrusive complexes and in the vicinity of shear zones. Contact relationships with greenstone belts are almost invariably tectonic, while more gradational with other felsic intrusions (Thurston et al., 1991).

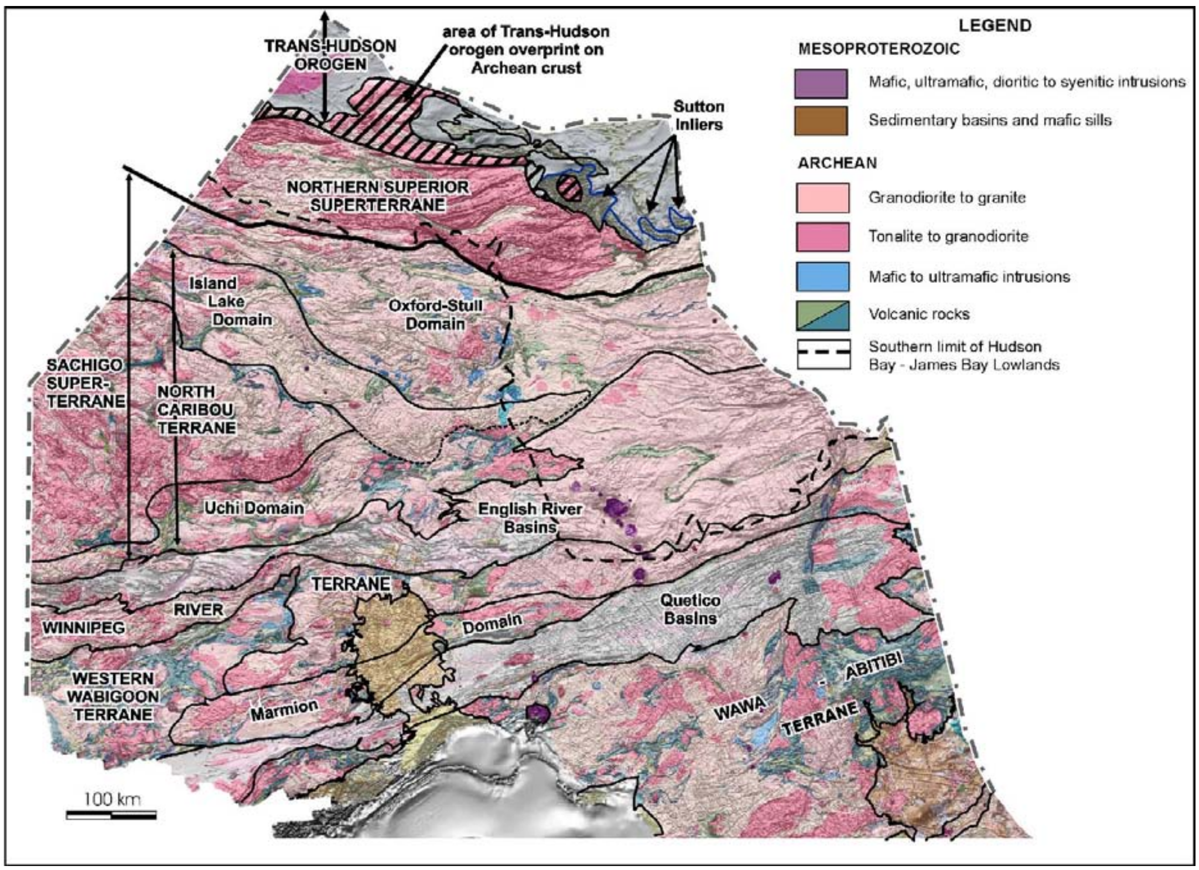



Figure 2.1. Regional tectonic subdivisions of northern Ontario (*after* Stott et al., 2007).

Foliated Tonalite

In the Sachigo, foliated tonalites include mafic and felsic members, which characteristically form irregular batholiths and stocks at the interface between greenstone belts and massive tonalite (Stone, 19

89; Thurston et al., 1991). Mafic tonalite typically contains less than 20% mafic minerals, which is usually hornblende but more felsic versions are dominated by biotite in their mafic assemblage. Rocks are generally medium- to coarse-grained, and relatively homogeneous, although megacrystic and clotty amphibole are common in hornblende tonalites and granodiorites (Thurston et al., 1991). The intrusions are well foliated, with foliation defined by oriented lenticles of quartz, plagioclase, biotite and hornblende (Thurston et al., 1991).

Massive Granodiorite-Granite

Within the granodiorite to granite suite, feldspar-megacrystic granodiorite and biotite granodiorite form the two most voluminous lithologies (Thurston et al., 1991). Megacrystic varieties are grey to pink, and contain feldspar megacrysts up to 2 cm in length and generally less than 15% mafic constituents, including possible relict clinopyroxene (Thurston et al., 1991). Magnetite is common in this series and accounts for its high magnetic signature in regional aeromagnetic surveys. Massive biotite-granodiorites are weakly foliated, pale pink in colour, and contain irregular pods of pegmatitic material (Thurston et al., 1991). Mafic minerals, dominated by biotite, typically make up less than 10% of the rock.

Muscovite-Bearing Granite

Members of this suite range from granodiorite to granite, are coarse-grained to pegmatitic, and often contain metasedimentary xenoliths. They include two-mica granites and leucogranites, which are commonly associated with major shear zones in the Sachigo Subprovince. Their young ages (2653 Ma) compared to two-mica granites in the southern Superior Province, smaller sizes and tectonic association suggest that these granites may have formed from melting of metasedimentary units during late block-to-block movement (Thurston et al., 1991).

Diorite-Monzonite-Granodiorite

The diorite-monzonite-granodiorite suite of rocks represents the youngest felsic to intermediate intrusion event in the Sachigo Superterrane. They range between quartz-diorite and quartz-monzonite. Mafic minerals can be abundant (up to 30%) and are typically dominated by hornblende over biotite, with occasional pyroxene (Thurston et al., 1991). Rocks of this suite show a spatial association with mafic intrusive rocks, and usually display a gradational transition to gabbroic compositions. Their mafic mineralogy and inclusion-rich nature suggest that they are mantle derived, similarly to monzodiorite plutons in the southern Superior (Stern et al., 1989).

***Mafic Intrusive Rocks***

Pre-tectonic mafic intrusive rocks are considered to be synvolcanic by Thurston et al. (1991), and comprise predominantly mafic to ultramafic sills. Post-tectonic magmatism in the northwestern Superior Province includes three diabase dike swarms, including the 2170 Ma Marathon swarm (Fahrig and West, 1986), 1883 Ma Molson Swarm (Heaman et al., 1986) and the 1267 Ma MacKenzie Swarm (LeCheminant and Heaman, 1989).

Big Trout Lake Intrusive Complex

The Big Trout Lake Intrusive Complex is the largest exposed mafic-ultramafic intrusion of the Sachigo superterrane, and consists of a folded 5,000 m thick sill containing a 500 m thick lower ultramafic sequence of dunite, chromite and chromite-rich layers overlain by homogeneous peridotite. Two batches of tholeiitic magma are indicated in the formation of the sill (Borthwick and Naldrett, 1984).

Landsdowne House Igneous Complex

The Lansdowne House Igneous Complex is well described in two technical reports for Aurora Platinum Corp. (Winter, 2003; Mazur and Osmani, 2002). It occurs in the Oxford-Stull Domaine, near the faulted contact with the Island Lake Domaine of the North Caribou Terrane. The complex can be separated into three zones: 1) Ultramafic Basal zone composed of layered peridotite and pyroxenite; 2) Middle zone, composed of cumulate gabbro and minor ultramafic units; and, 3) Upper zone, composed of a sequence of diorite, leucogabbro, anorthosite and magnetite-gabbro. Both sulphide-poor horizons rich in PGE and Cu-Ni disseminated to massive sulphides were encountered in the Middle zone, whereas V-Ti rich zones are described in magnetite-gabbro of the Upper zone.

Fishtrap Intrusive Complex

The Fishtrap Intrusive Complex is situated in the extreme southeast corner of the exposed Sachigo Superterrane, and is partly overlain by Paleozoic sedimentary rocks of the Hudson Platform (Thurston et al., 1991). Prior to the drill programs carried by Northern Shield, very little work had been undertaken on the complex, and its definition was based on very limited bedrock exposure. Outcrops consist of gabbroic lithologies in the western section of the complex and well layered anorthosite, gabbro and pyroxenite in the east. The Fishtrap Lake Intrusive Complex underlies the property and is described in details in the following sections of this report.

## 2.2 Property Geology

The Highbank Lake Property was staked to cover an area interpreted from geophysical data to be the eastern continuation of the Fishtrap Intrusive Complex. This intrusive complex was first mapped on provincial geology maps as a 20 km x 10 km ultramafic-mafic intrusion centered on Fishtrap Lake (Figure 2.2). Early mapping of the complex located only two outcrops on the northeast shores of Fishtrap Lake, where the lithology was described as a very coarse-grained (up to 5 x 1 inch crystal sizes) hornblende-gabbro (Thurston and Carter, 1970). A third outcrop, located downstream in the Attawapiskat River just north of Highbank Lake, was described as a dioritic rock consisting of 15-20%

quartz, 30% hornblende and dark grey plagioclase feldspar. This body was for a long time mapped on provincial geology maps as a 10 km diameter diorite intrusion, separate from the Fishtrap Intrusive Complex. In 2000, and prior to any field visit, Northern Shield reinterpreted the magnetic data as a partially over-turned layered intrusion with the "dioritic" rocks in the vicinity of Highbank Lake potentially representing the end stages of fractionation of the ultramafic-mafic magma as seen at Fishtrap Lake. This reinterpretation was largely based on the provincial magnetic maps that showed crude concentric layering of the rocks at Highbank Lake. As is described in more detail below, the outcrop previously reported as "dioritic" has later been identified by Northern Shield as magmatic layers of anorthosite and gabbro.

The extensive tonalitic gneisses, which dominate the area, are hosts to the complex along with minor metasedimentary and metavolcanic rocks. To the north, the Fishtrap Intrusive Complex is in contact with a thin (5 km wide) lens of Archean metasedimentary rocks, while a small section of mafic metavolcanic rocks is partially enclosed by rocks of the Fishtrap Intrusive Complex at its western limits (Figure 2.2). Younger Palaeozoic carbonate rocks occur to the east, and partially cover the eastern section of the Fishtrap Intrusive Complex at Highbank Lake.

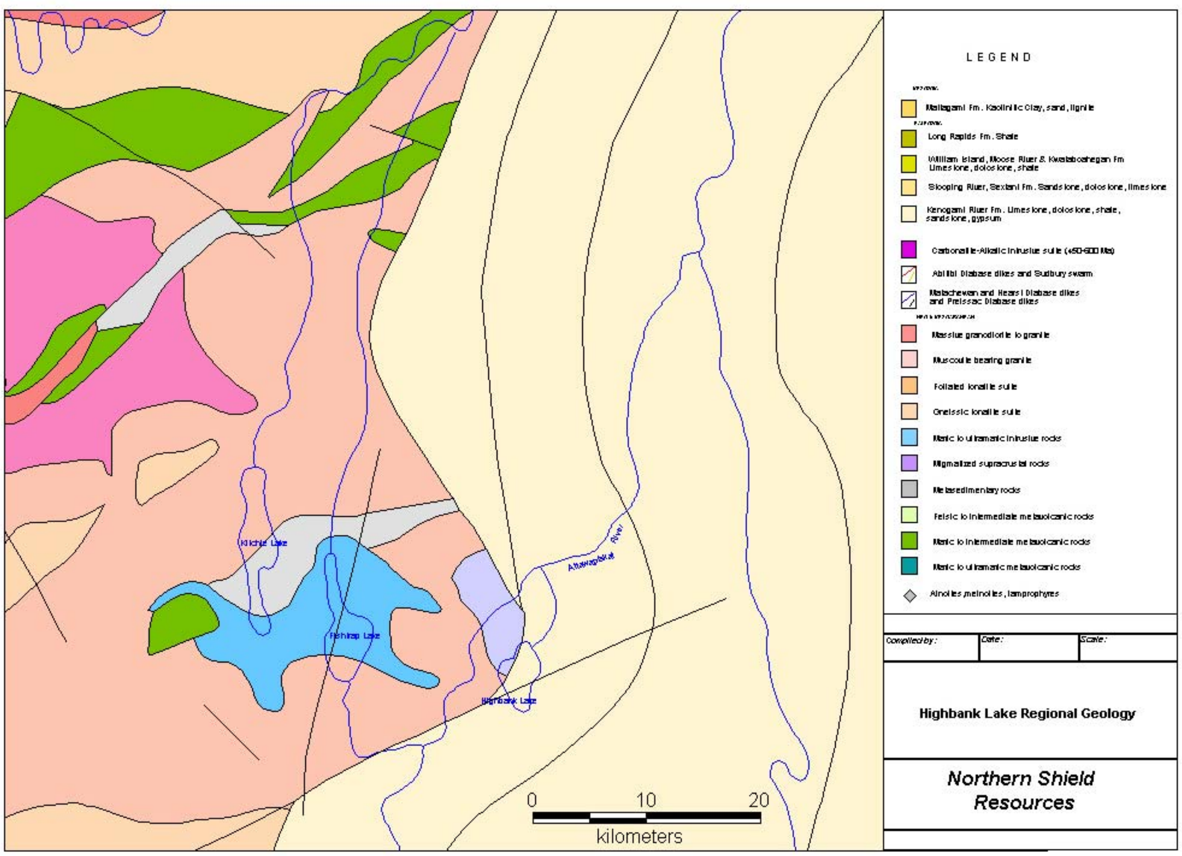



Figure 2.2. Geology of the Highbank Lake Area. Modified from Ontario Geological Survey (1992).

The high resolution airborne magnetic survey completed by Northern Shield in 2003 shows a remarkably well-banded and concentric signature of the alternating lithologies of the layered intrusion (Figure 2.3).

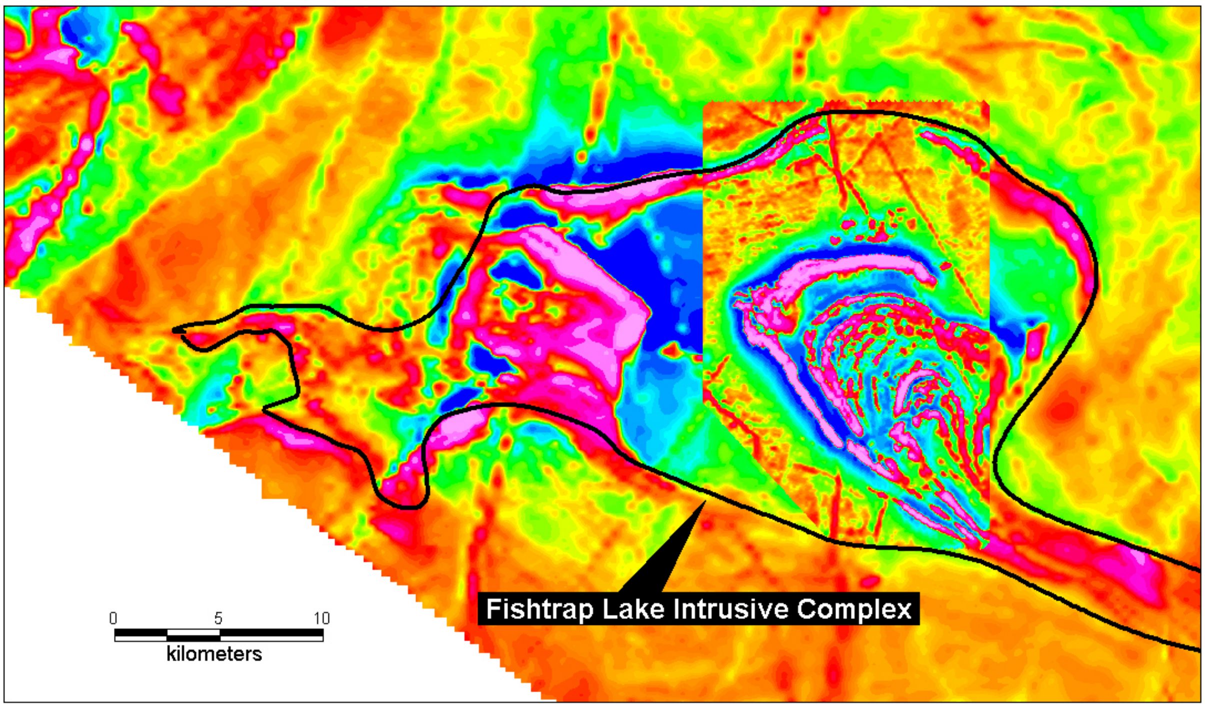



Figure 2.3. Revised outline of the Fishtrap Intrusive Complex as expanded and interpreted from geophysical Survey. Background survey is from Ontario Geological Survey (2003) and high resolution area (centered on the Layered Sequence) is from high resolution airborne magnetic survey by Northern Shield Resources.

The only outcrop within the Highbank Lake Property occurs as an irregular-shaped island on the shore of the Attawapiskat River (Figures 2.4a and b). The outcrop, located at UTM 554080 E and 5802520 N (NAD 83, Zone 16), is approximately 200 m x 75 m in size and although the outcrop has not been mapped in great detail, it is composed dominantly of alternating layers of metamorphosed anorthosite and gabbro with volumetrically sub-ordinate ultramafic (amphibolite) layers (Figures 2.4a and b). At this location, layers generally strike north-south and dip 55° east. This is consistent with the dip modelled from ground magnetic survey. A number of narrow, east-west trending shear zones were also observed on the outcrop. These shear zones are generally only a few centimetres in width and the surrounding anorthosites and gabbros are massive, displaying no obvious penetrative foliation. Similar shear zones are common in core and may or may not be accompanied by more penetrative deformation in surrounding area.

Figure 2.4a. Magmatically layered gabbros and anorthosites on the outcrop in the Attawapiskat River, north of Highbank Lake. This outcrop was previously mapped as "diorite" by Thurston and Carter (1970).

Figure 2.4b. Rhythmic layering on the same outcrop as in Figure 2.4a.

On the outcrop, the anorthosites consist of 90-95% plagioclase up to 1 centimetre in length. Other minerals in the rock include epidote, chlorite and amphibole. The gabbro is composed of plagioclase and amphibole, with accessory magnetite. Local pyrrhotite was also observed. No visual evidence of penetrative fabric was detected on the outcrop.

Rhythmically layered horizons between one and two metres thick were also observed on the outcrop. These horizons are composed of alternating one to two centimetre thick layers of dark, green-black amphibole-rich and light, anorthositic units. The “gneissic banding” reported by Palmer (2003) is reinterpreted to be rhythmic layering resulting from magmatic processes.

Diamond drilling confirmed that the Fishtrap Intrusive Complex is composed generally of layered sequences of gabbro, anorthosite and pyroxenite. The units are described in more details in Vaillancourt and Bliss, 2007 (NI43-101 compliant Technical Report) for the holes that were drilled in 2006 and in this report’s Section 3-Diamond-Drilling Results. To date, it is interpreted that the drilling was mostly carried in the shallower portion of the intrusion. Locating the deeper, more ultramafic section will be the focus of the next drill program.

Although there is no direct evidence to date of folding such as clear repetition of reversed stratigraphic sequences, a number of features support a model that involves large-scale folding for the interpretation of the geometry of the intrusion. One of the most obvious feature is the repetition of a vanadium-rich magnetite-gabbro layer intersected in two different locations, which is interpreted to represent the uppermost (most evolved) section of the intrusion. This sequence was intersected in the central part of the intrusion and also on the northern rim. This repetition is interpreted to be the result of a large-scale anticline. Lithogeochemistry is consistent with this interpretation and has also been very useful to refine the understanding of the general stratigraphy and structural history of the intrusion. More details of the geochemical interpretations and important features are detailed in sections 5-Discussion and 6-Recommendations for Future Drilling of this report.

There is no known outcrop exposure of diabase dikes in the Fishtrap intrusion but many were found in core. Before drilling started, at least two sets of diabase dikes were presumed to occur based on the orientations of linear magnetic features, and the description of known dikes in the surrounding area. These include at least two large dikes of the Mackenzie Swarm (1267 Ma; LeCheminant and Heaman, 1989), which trend ~330° and cut through the entire length of the Fishtrap Intrusive Complex. Five other large dikes with variable orientation occur in the middle of the Property.

The diabase that was most frequently intersected in core occurred in small dikes, typically less than one metre wide. It is logged as pyrite-speckled dike or simply diabase dike. It consists of an aphanitic to fine-grained diabase, it is weakly to not magnetic, and varies in color from dark grey to buff brown where it has a more altered appearance. These dikes generally contain disseminated cubic pyrite in variable proportion that can be up to 20%. Not much description of the different diabase swarms in this part of the province is available for comparison and no description found in government literature mentions high abundance of pyrite. It is therefore unsure which swarm these small dikes are related to.

Hole 06HB-13 was drilled at the eastern margin of the intrusion and intersected a different and larger (30 metres intersection) diabase dike. This diabase is very fine to fine-grained, dark grey to black in color, moderately to strongly magnetic, and contains large saussuritized plagioclase glomerocrysts, which is a common feature in dikes of the Matachewan swarm to which it may be associated.

## 2.3 Quaternary Geology

The dominant ice direction in the area of the Fishtrap Intrusive Complex, as determined from air-photo and satellite image analysis by Northern Shield is approximately 165°. This differs significantly from the area east and west of Highbank Lake, where the glacial fabric trends 230°-250° (Thurston and Carter, 1970). However, striations trending 250-265° have been noted on the outcrop and proximal to the Property. The boundary between these two zones of differing ice direction is sharp. Although detailed quaternary studies have not been carried out in the area, the till is generally composed of pebble-rich clay and generally varies between 35 to 70 metres in thickness although through down to 125 metres were encountered. An esker is present in the center of the Property directly to the north of Highbank Lake, and locally controls the path of the Attawapiskat River.

## 3.0 DIAMOND DRILLING PROGRAM

### 3.1 Introduction

Northern Shield Resources completed a 2048 metre diamond drill program in June and July 2006, a 1330 metre program in October and November 2006 and a 3395 metre program between June and August 2007 on its Highbank Lake Property in northwestern Ontario. The work reported in this assessment was supervised by Christine Vaillancourt, P.Geo. The programs are funded by Impala Platinum Holdings Limited of South Africa as part of the terms of an earn-in option agreement. The programs were designed to test a number of targets generated through analysis of geophysical surveys and surface geochemistry for the first programs, and with the understanding of the geometry and structure acquired from lithological, structural and geochemical study of the core for the later program. This report describes diamond-drill hole 07HB-04. The location of the hole and the orientation, dip and length are compiled in Table 3.1. The logs for the hole are detailed in Appendix 2 and the assay results are reported in Appendix 3. Whole rock geochemistry was also carried on a selection of samples and the results are reported in Appendix 4. The section for the hole is in Appendix 5.

Table 3.1. Drill hole locations and descriptions.

| Hole Number | Easting | Northing | Azimuth | Dip at Collar | Depth (m) | Overburden (m) | Paleozoic (m) |
|---|---|---|---|---|---|---|---|
| 07HB-04 | 552056 | 5793825 | 206 | 60 | 211.4 | 61.6 | 2.35 |

### 3.2 Summer 2007 Diamond-Drilling Program

The summer drill program was designed to test a series of targets generated from new geological and structural models based on the data obtained from the previous drill programs.

The drill used for this program was the same drill used for the Fall 2006 program, which had been left on the property during winter 2006. Hence Boart Longyear Inc. was contracted to undertake this follow up drill program between June and September 2007. The drill, a Longyear Fly 38 had been mobilized to Highbank Lake starting October 5th, 2006 from Hearst Air Service's Base in Carey Lake, Ontario, for the Fall 2006 drill program. Drill parts and required lumber and other equipments were mobilized in several Turbo Otter flights, and the two largest parts were brought in by helicopter (Aerospatiale A350-B2).

All drill crew and camp personnel for the Summer 2007 drill program were mobilized to Highbank Lake on June 11th and 12th and drilling commenced on June 13th.

| DDH 07HB-04 | | | |
|---|---|---|---|
| **Collar UTMN:** | 5,793,825 | **Core Angle:** | |
| **Collar UTME:** | 549,762 | **Dip of Lithology:** | |
| **Drilling Azimuth:** | 225° | **Main Lithology:** | Diorite, tonalite, granodiorite, granite |
| **Dip at Collar:** | -70° | **Main Mineralization:** | |

Over the break, FNX approached Northern Shield and again asked if it had any interest in purchasing their claims at Fishtrap Lake which cover the western part of the intrusion. Northern Shield expressed a general interest in acquiring the claims and re-iterated its last proposal. In light of these discussions, the order of the planned drill holes was revised and it was decided to test the banded magnetic unit in the south that trends westward onto FNXs claims. Modeling suggests these layers are probably magnetite reefs but they could also represent the ultramafic portion of the intrusion. It was thought that the identification of the lithologies at that location would help determine if it was worth the resources and time to negotiate a deal with FNX.

Bedrock was reached at a depth of 62 metres where 2.4 metres of Paleozoic limestone and 5 metres of green sandstones and clays were intersected before reaching Archean basement. A variety of tonalite, granodiorite and granites relatively similar to those found in hole 07HB-03 were intersected in this hole as well (Figure 3.20). Mafic, more gabbroic sections were also present in this hole and were thought to potentially represent dikes of the Fishtrap Lake intrusion (Figure 3.21). Whole-rock geochemistry performed on one sample revealed however that these units are more likely genetically related to the granitoid basement. The hole had to be stopped at a depth of 211.4 metres due to instability of the unconsolidated material encountered directly below the Paleozoic limestone, which was falling in the hole and complicating drilling significantly.

Figure 3.1. Tonalitic and granitic units from hole 078HB-04, 85.0 m.

Figure 3.2. Mafic dike or fragment, hole 07HB-04, 150.75 m.

## 5.0 Discussion

Amongst the 7 holes drilled during this program, four intersected lithologies belonging to the Fishtrap Lake intrusion and the other three intersected country rock. These three holes allowed refining the definition of the boundaries of the intrusion. Hole 07HB-03 was drilled to investigate the possibility that deeper stratigraphic layers of the intrusion may have been brought closer to surface as a result of the formation of a dome through folding at that location. The hole intersected only granitic rocks that may either be part of the host gneissic tonalite suite or late granitoids which postdate the emplacement of the Fishtrap intrusion. If these units are part of the older tonalite suite, than this may imply that the model was right except that the rocks intersected are from below the intrusion. If the granitic rocks are younger than the Fishtrap intrusion, than the drill was unfortunately setup on a dike or a small stock.

Holes 07HB-01, 05 and 06 were intended to form a continuous fence but no repetition of stratigraphy was clearly identified between the top and bottom of the holes. This may indicate that layers are displaced either by folds or faults between the holes. No clear and unambiguous lithological indicators of stratigraphic-up were encountered in these holes but some features in holes 07HB-01 and 05 may indicate that the stratigraphy is upward, suggesting that these holes are on the upright flank of the anticline that is responsible for the repetition of the vanadium-rich layer at the location of holes 06HB-01 and 10.

As was the case for the other two drill programs, lithogeochemistry was an essential tool to understand the layout of the intrusion. The geochemistry clearly indicates that the most primitive rocks intersected in this program are in holes 07HB-01 and 07HB-05 as shown for example by the significantly higher Cr/V ratios (Figure 5.1) and other elements. The lithologies intersected in hole 07HB-02 appeared in general more mafic (more abundant and longer pyroxenite and/or peridotite sections and overall more melanocratic gabbros) but geochemistry revealed that the rock sequence was more evolved than those intersected in holes 07HB-01 and 05. In general, the geochemical patterns along hole 07HB-01 appear to be more consistent and progressive, except at or near the location of the PGE enrichment, where there is a quick shift in the chemistry. The geochemical trends in hole 07HB-05 are much less consistent than in 07HB-01, which may be the result of stratigraphic discontinuity caused by faults or folds or, a series cyclic units.

Low tenor PGE mineralization was intersected in holes 07HB-01 and 07HB-05. The 07HB-01 intersection assayed 124 ppb Pt and 20 ppb Pd and is hosted in a rather non-descript gabbro unit and is not associated with any sulphides or chromite. The unit is heavily altered which may explain the high Pt:Pd ratio and there are no visually identifiable boundaries confining the mineralization. In drill-hole 07HB-05 the mineralization is associated with minor amounts of visible pyrrhotite, chalcopyrite and pentlandite. The PGE enriched zone is associated with sharp changes in lithology and also chemistry.  Figure 5.2 shows the sharp contact between a leucogabbro and a sulphide-rich melagabbro.  Note that the sample that returned the highest Pt assay overlaps that contact.  The variations of the metals in the area of the Pt enrichment in this hole are reported in Figure 5.3.  This diagram shows that Pt, Ni and Cu behave in the exact same manner along the mineralized section with a slow increase from approximately 324 metres, to the sharp peek at the sample centered on 336.2, and back to lower values.  This is precisely what would be expected from reef-style mineralization.

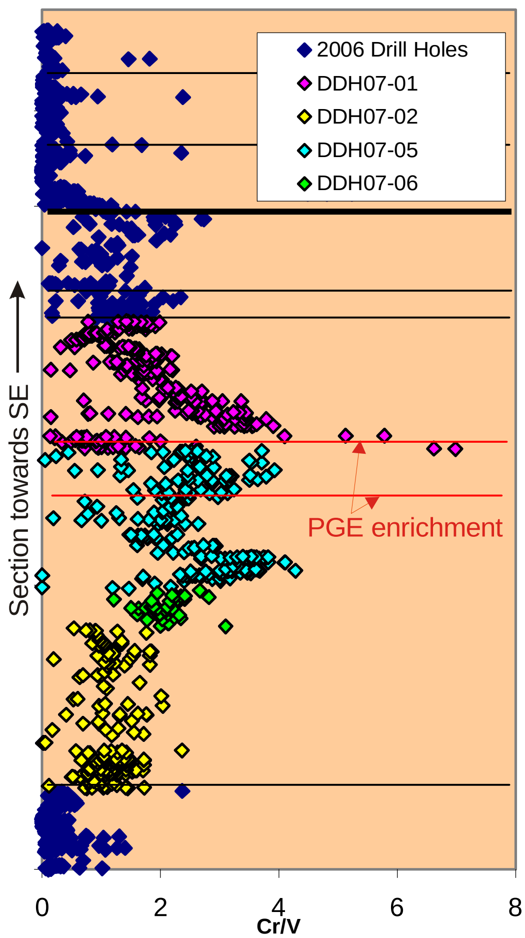



Figure 5.1 Cr/V values along a NW-SE section through the intrusion.

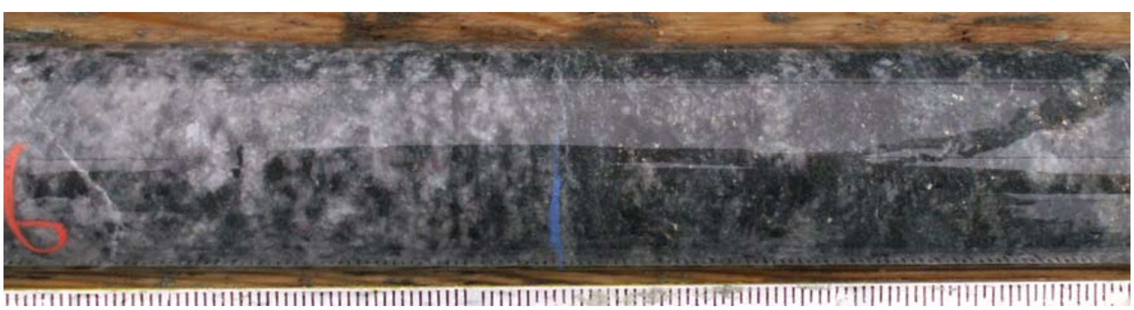


Figure 5.2. Sharp contact between sulphide-poor leucogabbro and sulphide-rich melagabbro.

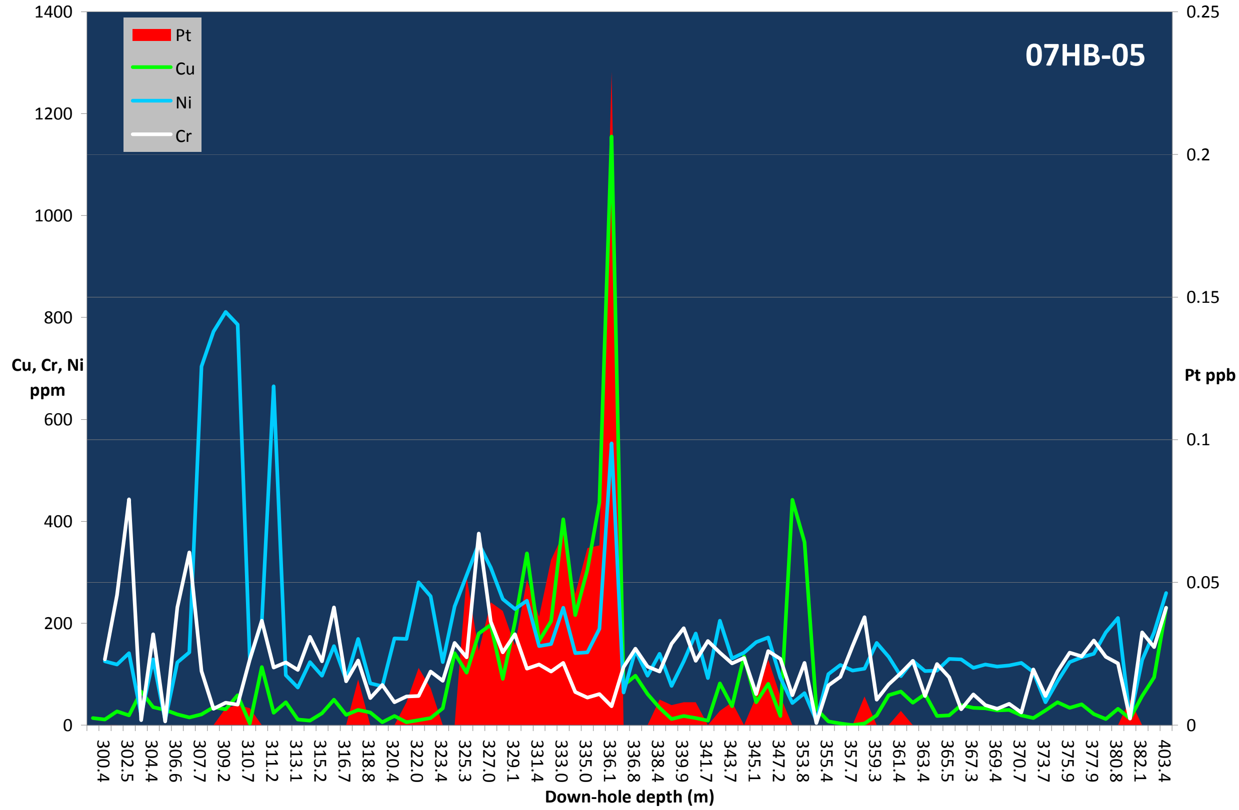



Figure 5.3. Selected metal variation in the area of the PGE-enriched reef in hole 07HB-05.

With the exception of portions of holes 07HB-01, 07HB-05 and 06HB-03, lithologies intersected are PGE depleted with Cu/Pt+Pd ratios higher than the primitive mantle, suggesting that PGE have been extracted from the magma by sulfides segregating in the lower portion of intrusion (Figure 5.4). The bottom of hole 07HB-01 displays the lowest values and a very sudden shift from PGE-depleted magma to PGE enriched, therefore strengthening the interpretation that a PGE mineralized reef may be situated very nearby, in the layers immediately below those intersected at the end of that hole. This observed trend is consistent with data from the Bushveld and other layered intrusions where the transition from depleted to enriched magma occurs proximal to the main PGE-bearing reefs.

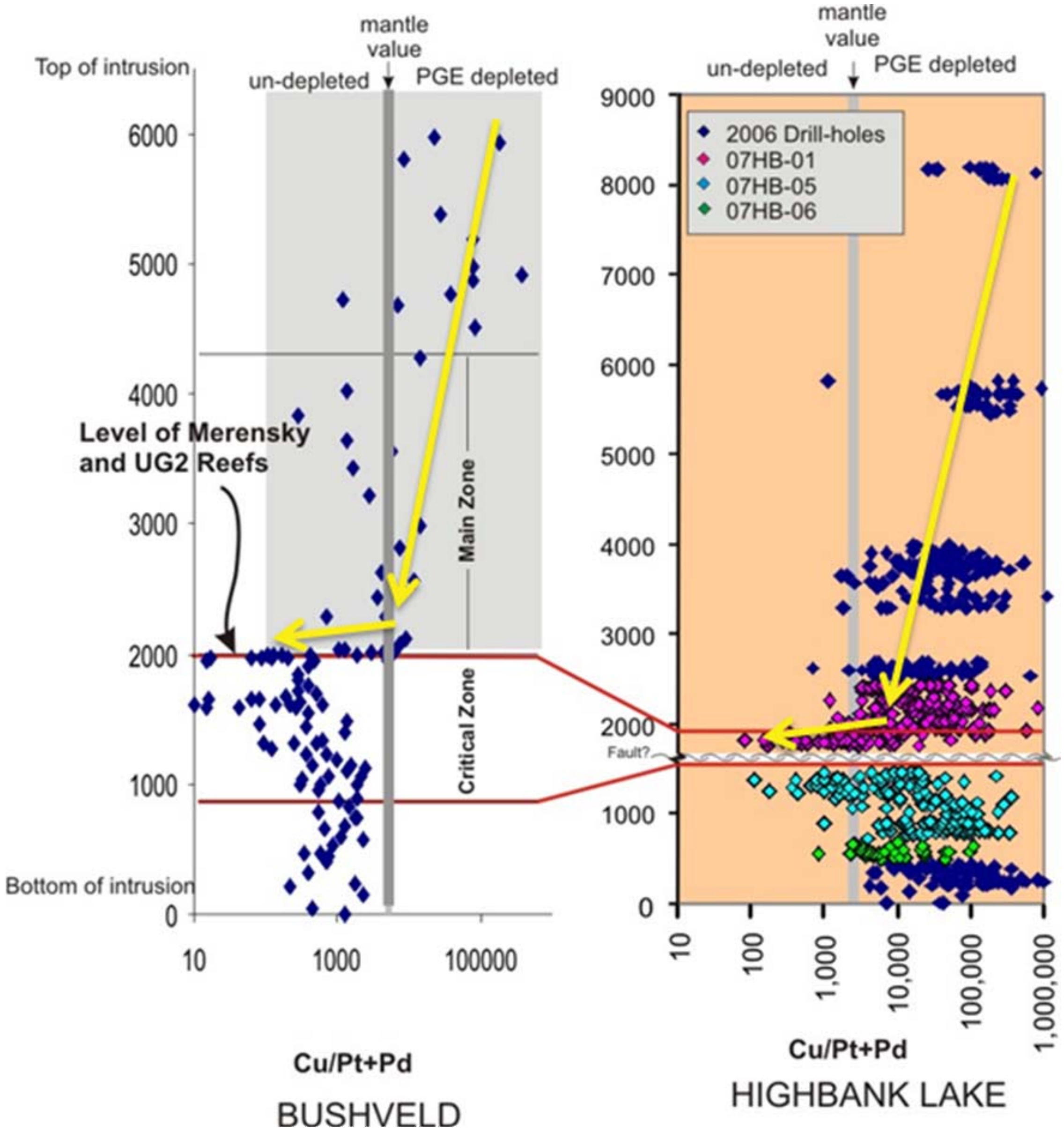



Figure 5.4. Comparative plots of Cu/Pt+Pd for Highbank Lake and the Bushveld Complex.

## 6.0 RECOMMENDATIONS FOR FUTURE DRILLING

The proposed drill holes for a future program are reported in Figure 6.1.

The analysis of geochemical trends and ratios along a section through all holes drilled to date indicates that the deepest stratigraphic layers of the intrusion were intersected in holes 07HB-01 and 05. However, no clear repetition of the bottom of hole 07HB-01 was identified at the top of hole 07HB-05, implying that there may be structural complications between the two holes. Drill-hole

07HB-01 ended in a 10 meter wide zone of complete silicification. This may mark the position of a fault between the two drill-holes. Because the bottom of hole 07HB-01 intersected the layers that appear to resemble the beginning of a Bushveld style “Critical Zone”, it would have been ideal to drill a hole between holes 07HB-01 and 07HB-05 in an attempt to intersect the layers situated directly below the bottom of hole 07HB-01. However, due to the structural complications along this profile it is recommended to move clockwise (eastward) along strike and drill this horizon where it is not influenced by the fault.

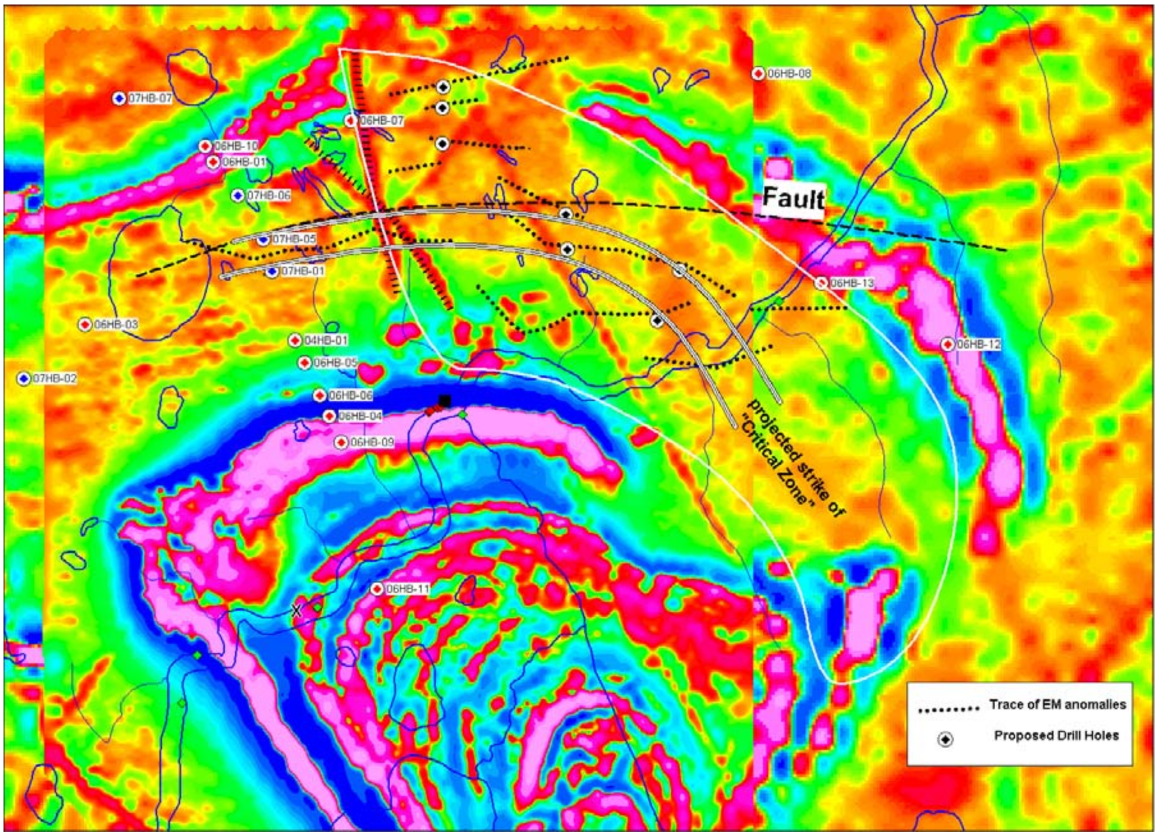



Figure 6.1. Location of proposed drill holes for future drilling.

Hole 07HB-02 and 06HB-03 appear to have intersected deeper layers than the other holes except for holes 07HB-01 and 05. This could indicate that the core of the anticline that brings the deeper layers up along these 4 holes may be plunging towards the west. If this is the case, it means that yet deeper layers will have been brought up along the same anticline axes towards the E and NE. The AeroTEM II survey flown over the Highbank property was recently reviewed by Laurie Reed, who re-interpreted numerous EM anomalies to be sourced in bedrock and not in overburden as originally concluded. Several of these EM anomalies are located in the area to the ENE where the proposed model of the west-plunging anticline suggests that the Critical Zone layers could have been brought up nearer surface.  This reinforces the model and makes the shaded area on Figure 5.4 an important target area for the next drill program.

The re-interpretation of the AeroTEM survey also underlined an alignment of possibly bedrock sourced EM anomalies along the southeastern “tail” of the intrusion (see Figure 5.4).  These anomalies coincide with a magnetic high area and represent a target of interest for Ni-Cu-(PGE) sulphide mineralisation.

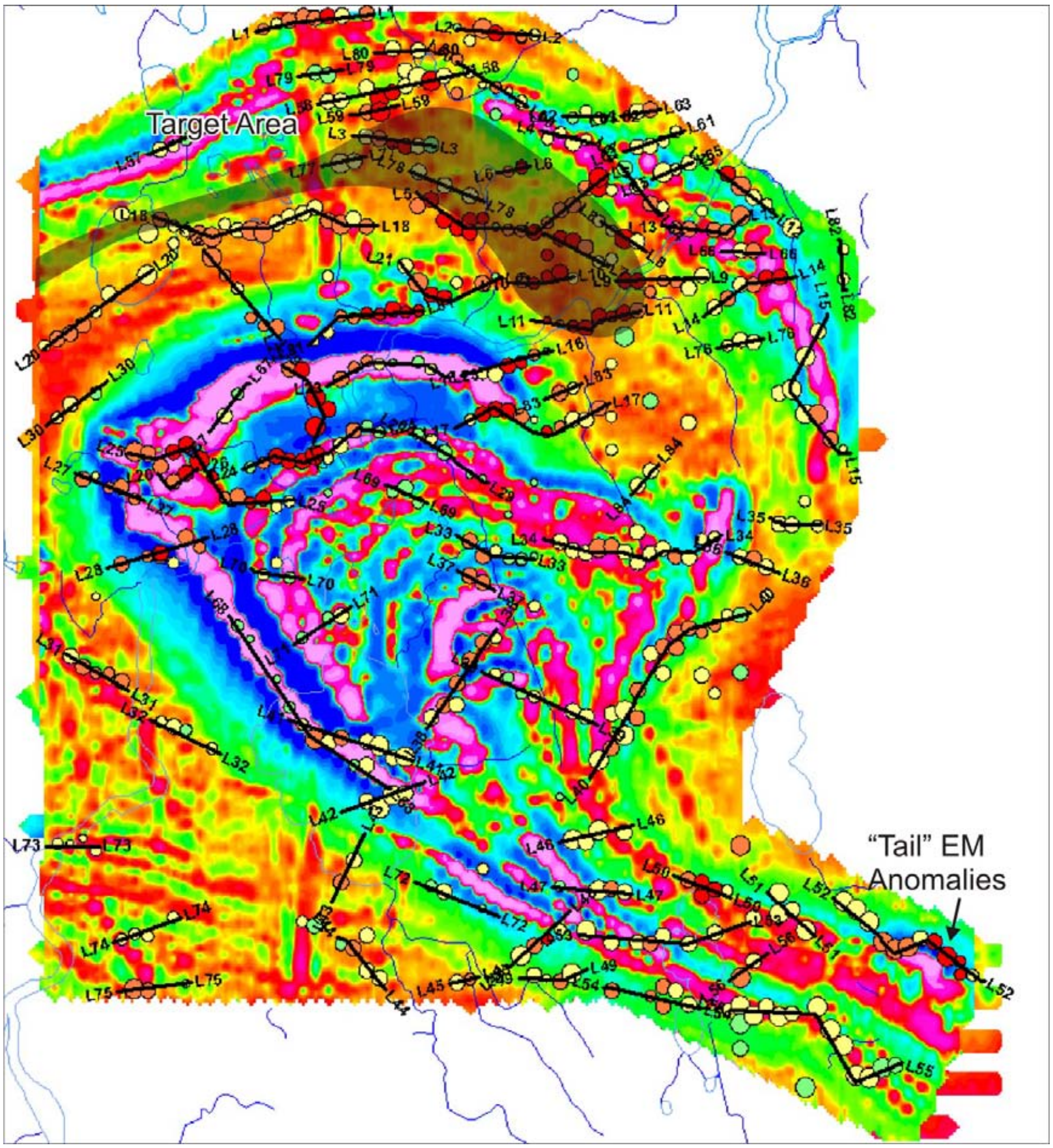



Figure 6.2. Reinterpretation of possible bedrock conductors by Laurie Reed.

## 7.0 REFERENCES


Borthwich, A.A. and Naldrett, A.J., 1984. Platinum group elements in layered intrusions. *In* Geoscience Research Grant Program, Summary of Research, 1983-1984, Ontario Geological Survey, Miscellaneous Paper 121, p.13-35.

Card, K.D. and Ciesieleski, A., 1986. DNAG#1. Subdivisions of the Superior Province of the Canadian Shield, Geoscience Canada, v. 13, p.5-13.

Corkery, M.T., Syme, E.C., Bailes, A.H., Skulski, T., Whalen, J.B., Böhm, C., Lin, S., Stone, D. and Davis, D.W., 2001. Archean crustal development and assembly of the northwest Superior Province circa 2700 Ma in central Manitoba and northwestern Ontario (abstract). In 2001 Western superior Transect Seventh Annual Workshop. Lithoprobe Report 80, Lithoprobe Secretariat, University of British Columbia, p.142.

Fahrig, W.F. and West, T.D. 1986. Diabase dike swarms of the Canadian Shield. Geological Survey of Canada, Map 1627A, scale 1:4 873 900 (approx.).

Heaman, L.M., Machado, N., Krogh, T.E. and Weber, W., 1986. Precise U-Pb zircon ages for the Molson dike swarm and the Fox River sill: constraints for early Proterozoic crustal evolution in northeastern Manitoba, Canada. Contributions to Mineralogy and Petrology, v.94, p.82-89.

LeCheminant, A.N. and Heaman, L.M., 1989. Mackenzie igneous events, Canada: Middle Proterozoic hotspot magmatism associated with ocean opening. Earth and Planetary Science Letters, v.96, p.38-48.

Mazur, R.J. and Osmani, I.A., 2002. Aurora Platinum Corp. Lansdowne House Property, Bartman Lake area, northwestern Ontario. Technical Report, National Instrument 43-101 F1, 45 pages.

Ontario Geological Survey, 1992. Bedrock geology of Ontario. Ontario Geological Survey, ERLIS Dataset 6.

Ontario Geological Survey, 2003. Ontario airborne geophysical surveys, magnetic data, Attawapiskat area. Ontario Geological Survey, Geophysical Data Set 1211.

Palmer, D. 2003. Highbank Lake Property, Work Report 2001-2003. Unpublished report prepared for Northern Shield Resources Inc., 133 pages.

Rayner, N. and Stott, G.M., 2005. Discrimination of Archean domains in the Sachigo Subprovince: A progress report on the geochronology. *In* Summary of Field Work and Other Activities 2005, Ontario Geological Survey, Open File Report 6172, p. 10-1 to 10-21.

Skulski, T., Corkery, M.T., Stone, D., Whalen, J.G. and Stern, R.A., 2000. Geological and geochronological investigations in the Stull Lake-Edmund Lake greenstone belt and granitoid rocks of the northwestern Superior Province. *In* Report of Activities 2000, Manitoba Industry, Trade and Mines, p. 117-128.

Stern, R.A., Hansen, G.N. and Shirey, S.B., 1989. Petrogenesis of mantle-derived LILE-enriched Archean monzodiorites and trachyandesites in the southwestern Superior Province. Canadian Journal of Earth Sciences, v.26, p.1688-1712.

Stone, D., 2005. Geology of the northern Superior area, Ontario. Ontario Geological Survey, Open File Report 6140, 94p.

Stone, D., 1989. Geology of the Berens River Subprovince: Cobham Lake and Nungesser Lake areas. *In* Summary of Field Work and Other Activities 1989, Ontario Geological Survey, Miscellaneous Paper 146, p.22-31.

Stott, G.M., 2007a. Precambrian geology of the Hudson Bay and James Bay lowlands region interpreted from aeromagnetic data – west sheet; Ontario Geological Survey, Preliminary Map P.3597, scale 1:500 000.

Stott, G.M., 2007b. Precambrian geology of the Hudson Bay and James Bay lowlands region interpreted from aeromagnetic data – east sheet; Ontario Geological Survey, Preliminary Map P.3598, scale 1:500 000.

Stott, G.M. and Rayner, N., 2004. Discrimination of Archean domains in the Sachigo Subprovince. *In* Summary of Field Work and Other Activities 2004, Ontario Geological Survey, Open File Report 6145, p. 10-1 to 10-8.

Stott, G.M., Corkery, T., Leclair, A., Boily, M. and Percival, J. 2007. A revised terrane map for the Superior Province as interpreted from aeromagnetic data. *In* Woodruff, L. (ed.), Institute on Lake Superior Geology Proceedings, 53rd Annual Meeting, Lutsen, Minnesota, v.53, part 1, p.74-75.

Thurston, P.C. and Carter, M.W., 1970. Operation Fort Hope. Ontario Department of Mines, Miscellaneous Paper 42, 64 pages.

Thurston, P.C., 1991. Archean geology of Ontario: Introduction. *In* Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p.73-78.

Thurston, P.C., Osmani, I.A. and Stone, D., 1991. Northwestern Superior Province: review and terrane analysis. *In* Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p.81-144.

Vaillancourt, C. and Bliss, I.C., 2007. Report on Diamond Drilling Highbank Lake Property, BMA 523861, 523862, 524861 and 524862, Northern Ontario, Canada. Technical Report, National Instrument 43-101 F1, 65 pages.

Winter, L.D.S., 2003. Aurora Platinum Corp. Lansdowne House Property, Bartman Lake area, northwestern Ontario. Technical Report, National Instrument 43-101 F1, 23 pages.

# APPENDIX 1

Listing of Mining Claims with Expiry Dates
and Work Commitment Requirements

# APPENDIX 2

Drill Logs for Diamond-Drill Hole
07HB-04

# APPENDIX 3

Assay Results for Diamond-Drill Hole
07HB-04

# APPENDIX 4

Whole-Rock Geochemistry Results for Diamond-Drill Hole
07HB-04

# APPENDIX 5

Drill Section for Diamond-Drill Hole
07HB-04

| Township | Claim Number | Recording Date | Claim Due Date | Status | % Option | Work Required | Total Applied | Total Reserve | Claim Bank |
|---|---|---|---|---|---|---|---|---|---|
| North Bloc | | | | | | | | | |
| BMA 524861 | 1180786 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $5,600 | $28,000 | $0 | $0 |
| BMA 524861 | 1180787 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $4,000 | $20,000 | $198 | $0 |
| BMA 524861 | 1180790 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $5,200 | $26,000 | $0 | $0 |
| BMA 524861 | 1180791 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $32,000 | $92,554 | $0 |
| BMA 524861 | 1180792 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $32,000 | $99,744 | $0 |
| BMA 524861 | 1180793 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $32,000 | $0 | $0 |
| BMA 524861 | 1180794 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $32,000 | $0 | $0 |
| BMA 524861 | 1243972 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $32,000 | $0 | $0 |
| BMA 524862 | 1244465 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 1244469 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 1244481 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 1249016 | 8-Oct-2003 | 8-Oct-2008 | Active | 60 | $6,400 | $19,200 | $1,789 | $0 |
| BMA 524861 | 1249019 | 8-Oct-2003 | 8-Oct-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3015893 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015894 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015895 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015896 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015897 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015899 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015900 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015901 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $79,620 | $0 |
| BMA 524861 | 3015904 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $5,600 | $5,600 | $0 | $0 |
| BMA 524861 | 3015905 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $4,800 | $4,800 | $0 | $0 |
| BMA 524861 | 3015906 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $5,600 | $5,600 | $0 | $0 |
| BMA 524861 | 3015907 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $4,800 | $4,800 | $0 | $0 |
| BMA 524862 | 3019124 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 524862 | 3019125 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $12,800 | $1,006 | $0 |
| BMA 524862 | 3019126 | 18-Oct-2001 | 18-Oct-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 524861 | 3019429 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019430 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524862 | 3019431 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019443 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $55 | $0 |
| BMA 524861 | 3019444 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019445 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019446 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $2,400 | $7,200 | $0 | $0 |
| BMA 524861 | 3019447 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $1,200 | $3,600 | $0 | $0 |
| BMA 524861 | 3019448 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524862 | 3019449 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,000 | $18,000 | $0 | $0 |
| BMA 524861 | 3019450 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $94,666 | $0 |
| BMA 524861 | 3019451 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,000 | $18,000 | $0 | $0 |
| BMA 524861 | 3019452 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019580 | 7-Jan-2005 | 7-Jan-2009 | Active | 60 | $4,800 | $9,600 | $0 | $0 |
| BMA 524862 | 4202134 | 17-May-2006 | 17-May-2009 | Active | 60 | $4,800 | $4,800 | $0 | $0 |
| BMA 524861 | 4202135 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 4202136 | 17-May-2006 | 17-May-2009 | Active | 60 | $4,800 | $4,800 | $0 | $0 |
| BMA 524861 | 4202137 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 4202138 | 17-May-2006 | 17-May-2009 | Active | 60 | $4,800 | $4,800 | $0 | $0 |
| BMA 524861 | 4202139 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |

| Township | Claim Number | Recording Date | Claim Due Date | Status | % Option | Work Required | Total Applied | Total Reserve | Claim Bank |
|---|---|---|---|---|---|---|---|---|---|
| BMA 524861 | 4202140 | 17-May-2006 | 17-May-2009 | Active | 60 | $5,600 | $5,600 | $0 | $0 |
| BMA 524861 | 4202141 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 4202142 | 17-May-2006 | 17-May-2009 | Active | 60 | $3,200 | $3,200 | $0 | $0 |
| BMA 524861 | 4203152 | 14-Sep-2005 | 14-Sep-2008 | Active | 60 | $1,006 | $3,794 | $0 | $0 |
| BMA 524861 | 4205450 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 4205451 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 4205452 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4205453 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $56,141 | $0 |
| BMA 524862 | 4205454 | 17-May-2006 | 17-May-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4213754 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4213755 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4213756 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4213757 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,000 | $6,000 | $0 | $0 |
| BMA 523862 | 4213758 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,000 | $6,000 | $0 | $0 |
| BMA 524862 | 4213759 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4213760 | 21-Nov-2006 | 21-Nov-2009 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524862 | 4213761 | 7-Dec-2006 | 7-Dec-2008 | Active | 60 | $6,000 | $0 | $0 | $0 |
| BMA 524862 | 4213762 | 7-Dec-2006 | 7-Dec-2008 | Active | 60 | $6,000 | $0 | $0 | $0 |
| BMA 524862 | 4215537 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 524862 | 4215538 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $1,200 | $0 | $0 | $0 |
| BMA 524862 | 4215539 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $1,600 | $0 | $0 | $0 |
| BMA 523862 | 4215546 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 524862 | 4215547 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $2,800 | $0 | $0 | $0 |
| BMA 523862 | 4215548 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $2,400 | $0 | $0 | $0 |
| BMA 523862 | 4215549 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |

| Township | Claim Number | Recording Date | Claim Due Date | Status | % Option | Work Required | Total Applied | Total Reserve | Claim Bank |
|---|---|---|---|---|---|---|---|---|---|
| South Bloc | | | | | | | | | |
| BMA 523861 | 1249066 | 17-Aug-2004 | 17-Aug-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 1249070 | 17-Aug-2004 | 17-Aug-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 3009414 | 17-Aug-2004 | 17-Aug-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 3012272 | 17-Aug-2004 | 17-Aug-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 3015903 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015909 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $2,000 | $2,000 | $0 | $0 |
| BMA 524861 | 3015913 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $5,200 | $5,200 | $0 | $0 |
| BMA 524861 | 3015914 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015915 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015916 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $5,280 | $0 |
| BMA 524861 | 3015917 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015918 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015919 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015920 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 524861 | 3015921 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015924 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $64,479 | $0 |
| BMA 523861 | 3015925 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015926 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015927 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015928 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015929 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015930 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015931 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3015932 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $8,099 | $0 |
| BMA 523861 | 3015933 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $1,068 | $0 |
| BMA 523861 | 3015934 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $1,068 | $0 |
| BMA 523861 | 3015935 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $1,068 | $0 |
| BMA 523861 | 3015936 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $1,068 | $0 |
| BMA 523861 | 3015937 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $4,548 | $0 |
| BMA 524861 | 3015938 | 14-Jul-2005 | 14-Jul-2008 | Active | 60 | $6,400 | $6,400 | $1,268 | $0 |
| BMA 524861 | 3015939 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $3,200 | $3,200 | $72,899 | $0 |
| BMA 524861 | 3015940 | 22-Jul-2005 | 22-Jul-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3019132 | 7-Jan-2005 | 7-Dec-2008 | Active | 60 | $6,000 | $6,000 | $0 | $0 |
| BMA 523861 | 3019133 | 7-Jan-2005 | 7-Dec-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3019134 | 7-Jan-2005 | 7-Dec-2008 | Active | 60 | $6,400 | $6,400 | $0 | $0 |
| BMA 523861 | 3019135 | 4-Nov-2004 | 4-Nov-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 3019136 | 27-Oct-2005 | 27-Oct-2008 | Active | 60 | $6,000 | $6,000 | $10,230 | $0 |
| BMA 523861 | 3019427 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 3019433 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 3019434 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 3019435 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019436 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 524861 | 3019437 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,000 | $18,000 | $0 | $0 |
| BMA 524861 | 3019438 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 3019439 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 3019440 | 18-Nov-2003 | 18-Nov-2008 | Active | 60 | $6,400 | $19,200 | $0 | $0 |

| Township | Claim Number | Recording Date | Claim Due Date | Status | % Option | Work Required | Total Applied | Total Reserve | Claim Bank |
|---|---|---|---|---|---|---|---|---|---|
| BMA 523861 | 3019467 | 17-Aug-2004 | 17-Aug-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 3019577 | 17-Aug-2004 | 17-Aug-2008 | Active | 60 | $6,400 | $12,800 | $0 | $0 |
| BMA 523861 | 4202143 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,000 | $0 | $0 | $0 |
| BMA 523861 | 4204286 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4210946 | 25-Aug-2006 | 25-Aug-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523862 | 4210948 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4210949 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4210954 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4210956 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4210960 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $3,600 | $0 | $0 | $0 |
| BMA 523861 | 4210961 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4210963 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $4,800 | $0 | $0 | $0 |
| BMA 523861 | 4210975 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4213603 | 9-Jul-2008 | 9-Jul-2010 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 4213604 | 9-Jul-2008 | 9-Jul-2010 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 4213605 | 9-Jul-2008 | 9-Jul-2010 | Active | 60 | $6,400 | $19,200 | $0 | $0 |
| BMA 523861 | 4213763 | 21-Nov-2006 | 21-Nov-2008 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4215550 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4215578 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4215579 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523862 | 4221861 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $4,000 | $0 | $0 | $0 |
| BMA 523862 | 4221862 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $4,800 | $0 | $0 | $0 |
| BMA 523862 | 4221863 | 26-Jun-2007 | 26-Jun-2009 | Active | 60 | $3,600 | $0 | $0 | $0 |
| BMA 524861 | 4224719 | 16-Nov-2007 | 16-Nov-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4224720 | 16-Nov-2007 | 16-Nov-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |
| BMA 523861 | 4224721 | 16-Nov-2007 | 16-Nov-2009 | Active | 60 | $6,400 | $0 | $0 | $0 |

# Drill Log

| | | | |
|---|---|---|---|
| **Company Name:** | Northern Shield Resources | **DDH Number:** | 07HB-04 |
| **Property Name:** | Highbank Lake | **Collar UTMN:** | 5793825 |
| **Location:** | 250 km north of Nakina, ON | **Collar UTME:** | 552056 |
| | 75 km northwest of Ogoki | **Zone, Datum:** | 16, NAD83 |
| **Claim Number:** | 4210949 | **Drilling Azimuth:** | 206$^{o}$ |
| | | **Core Size:** | BQTK (BQ Thin Wall) |
| **Drilling Company:** | Boart Longyear | **Dip at Collar:** | 60° |
| **Date of start:** | 24-Jul-07 | **Hole Length:** | 211.4 m |
| **Date completed:** | 1-Aug-07 | **Logs by:** | C. Vaillancourt |
| | | **Core Storage:** | Warehouse in Hearst |

| From | To | | Rock Type | Description | |
|---|---|---|---|---|---|
| | 61.60 | | Overburden | | |
| 61.60 | 63.95 | | Paleozoic limestone | - fossil-rich | |
| 63.95 | 67.50 | | Sandstone to clay | - pale green, competent, mixed sandstone slowly and gradually grading into a bright green and soft clay | |
| | | | | - sandstone at top is composed of 50% subrounded qz particles and 50% carbonatious green clay matrix | |
| | | | | - cb only near top of intersection, solid clay does not generally react to acid | |
| 67.50 | 67.80 | | Paleozoic limestone | - looks like an altered piece - not sure why it is there, could be a core tube emptying issue… | |
| 67.80 | 68.90 | | Sand | - unconsolidated??, held together by a matrix of greenish clay | |
| 68.90 | 84.60 | | Fine-grained granodiorite | - very homogeneous in general | |
| | | | | - pale orangy-grey to dark grey | |
| | | | | - not really foliated generally but some local moderately foliated sections | |
| | | | | - some fine cb-rich veins with orange alteration halos around | |
| | | | | - ep alteration on pg | |
| | | | | - some small sections turned into "mud" - see top of pic. 77.2 | |
| | | | | 81.3-81.5 - qz-rich granitic pegmatite | |
| 84.60 | 86.95 | | Fine to medium-grained granite? | - looks more qz-rich, coarser grain | |
| | | | | - core is very mixed-up and flipped (helper problem) - no two pieces fit together in that intersection | |
| 86.95 | 97.20 | | Fine-grained granodiorite | - same as 68.9 | |

| From | To | | Rock Type | Description | |
|---|---|---|---|---|---|
| 97.20 | 99.00 | | Fine-grained granite | - somewhat coarser than diorite | |
| 99.00 | 115.50 | | Mixed diorite-granite-pegmatite | - pale grey diorite, darker grey diorite, qz-rich pegmatite, and coarser more granitic rock | |
| | | | | - sections of epidotized dark rock, bt-rich - could be altered piece of mafic intrusion | |
| 115.50 | 116.20 | | Very fine-grained mafic dike | - very slightly magnetic | |
| 116.20 | 118.50 | | Mixed diorite-granite-pegmatite | | |
| 118.50 | 119.80 | | Medium-grained gabbro | - possibly from Fishtrap Intrusion | |
| | | | | - upper contact not too clear but looks like diorite is intruding gabbro - one pg cx from gabbro seems to be cut at contact | |
| | | | | - moderate foliation at 50° to perpendicular | |
| 119.80 | 120.40 | | Diorite | - moderate foliation at 50° to perpendicular | |
| 120.40 | 121.70 | | Intrusion breccia? | - looks like a mafic matrix with pegmatitic fragments??? | |
| 121.70 | 123.30 | | Medium-grained gabbro | - possibly from Fishtrap Intrusion | |
| | | | | - strong epidote alteration on plagioclase, some potassic alteration | |
| 123.30 | 130.10 | | Diorite | - mixture of different color and grain size | |
| | | | | - local strong potassic alteration | |
| 130.10 | 145.90 | | Medium-grained gabbro | - mafic minerals mostly chlorite and biotite | |
| | | | | - silicified and strong epidote alteration of plagioclase | |
| | | | | - multiple qz-rich very coarse-grained to pegmatitic granite and other diorite injections | |
| | | | | - no obvious layering or foliation | |
| 145.90 | 147.60 | | Fine and medium-grained diorite | - multi-phase injections | |
| 147.60 | 148.60 | | Medium-grained gabbro | | |
| 148.60 | 153.70 | | Fine and medium-grained diorite | - multi-phase injections | |
| 153.70 | 155.30 | | Medium-grained gabbro | | |
| 155.30 | 158.10 | | Fine and medium-grained diorite | - multi-phase injections | |
| 158.10 | 158.80 | | Medium-grained gabbro | - typically not magnetic or very weakly | |
| | | | | | |
| 158.80 | 184.00 | | Diorite | - very siliceous | |
| | | | | - multiple orange veins, crumbly sections | |
| | | | | - granitic intersections are smaller and less abundant | |

| From | To | | Rock Type | Description | |
|---|---|---|---|---|---|
| | | | | - sections possibly a bit porphyritic - texture mostly erased by alteration (silicification) | |
| 184.00 | 186.65 | | Medium-grained gabbro to melagabbro | - injected with diorites and coarse-grained granite | |
| | | | | - 1 cm granitic injections near top and bottom of intersection | |
| | | | | - foliation is weak at top and stronger at bottom of intersection with epidote alteration and py cubes - these tend to be a bit more magnetic | |
| 186.65 | 192.60 | | Medium-grained diorite | - relatively homogeneous | |
| | | | | - orange alteration | |
| | | | | - pegmatitic looking sections | |
| | | | | 188.3-188.5 - Piece of gabbro | |
| 192.60 | 192.90 | | Granitic pegmatite | | |
| 192.90 | 196.50 | | Medium-grained gabbro | - injected by diorites and granites | |
| 196.50 | 200.10 | | Diorite | - mixed | |
| | | | | - some granitic dikes | |
| | | | | - some pegmatitic dikes | |
| | | | | - epidote altered mafic sections - these are typically slightly magnetic | |
| | | | | - up hole contact has 20 cm piece of gabbro in diorite | |
| 200.10 | 202.90 | | Medium-grained gabbro | - qz veins | |
| | | | | - granitic veins | |
| | | | | - titanite? or altered oxides | |
| 202.90 | 204.60 | | Diorite | | |
| 204.60 | 207.40 | | Medium-grained gabbro | | |
| 207.40 | 209.00 | | Coarse-grained diorite | - lots of qz veins | |
| | | | | - mixed zone with mafic fragments?? | |
| 209.00 | 211.40 | | Medium-grained gabbro | | |

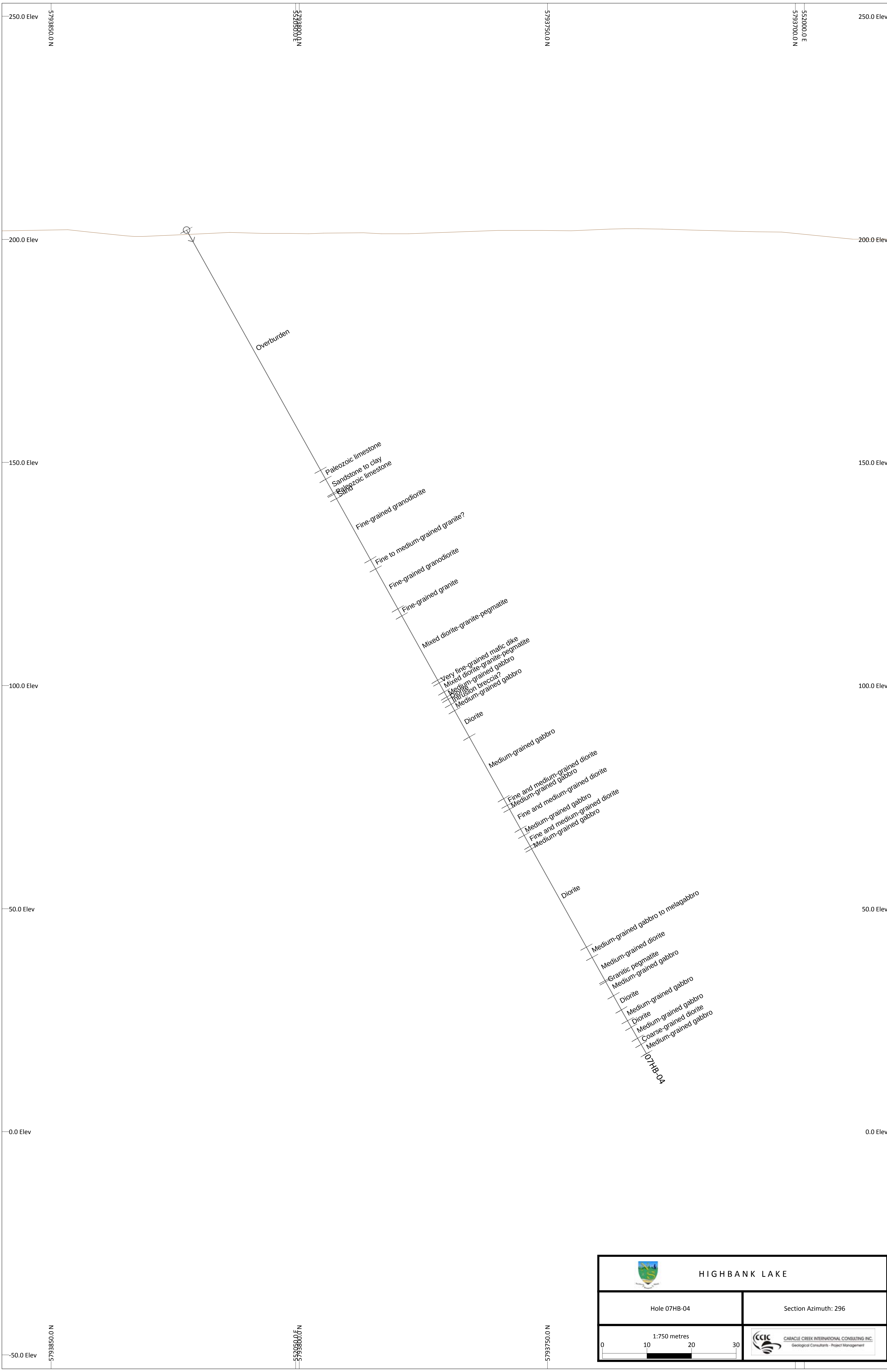
| | | | | | PGM-ICP24 | | | ME-ICP61 | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Au** | **Pt** | **Pd** | **Ag** | **Al** | **As** | **Ba** | **Be** | **Bi** | **Ca** | **Cd** | **Co** | **Cr** | **Cu** | **Fe** | **K** | **Mg** | **Mn** | **Mo** | **Na** | **Ni** | **P** | **Pb** | **S** | **Sb** | **Sr** | **Ti** | **V** | **W** | **Zn** |
| | | | | | *ppm* | *ppm* | *ppm* | *ppm* | *%* | *ppm* | *ppm* | *ppm* | *ppm* | *%* | *ppm* | *ppm* | *ppm* | *ppm* | *%* | *%* | *%* | *ppm* | *ppm* | *%* | *ppm* | *ppm* | *ppm* | *%* | *ppm* | *ppm* | *%* | *ppm* | *ppm* | *ppm* |
| | | | | *LO* | 0.001 | 0.005 | 0.001 | 0.5 | 0.01 | 5 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 | 0.01 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 |
| ***Sample*** | ***Hole*** | ***From*** | ***To*** | *HI* | 10 | 10 | 10 | 100 | 25 | 10000 | 10000 | 1000 | 10000 | 25 | 500 | 10000 | 10000 | 10000 | 25 | 10 | 15 | 10000 | 10000 | 10 | 10000 | 10000 | 10000 | 10 | 10000 | 10000 | 10 | 10000 | 10000 | 10000 |
| 515801 | 07HB-04 | 141.00m | 142.00m | | *ND* | *ND* | *ND* | *ND* | 9.19 | 8 | 160 | 1 | *ND* | 5.80 | *ND* | 35 | 29 | 110 | 6.67 | 1.07 | 3.08 | 993 | *ND* | 2.80 | 73 | 500 | 2 | 0.10 | 5 | 435 | 0.54 | 203 | *ND* | 99 |
| 515803 | 07HB-04 | 179.99m | 180.00m | | *ND* | *ND* | *ND* | *ND* | 9.93 | *ND* | 80 | 0.8 | *ND* | 6.88 | *ND* | 37 | 25 | 132 | 7.46 | 0.72 | 3.23 | 1,050 | *ND* | 2.84 | 77 | 720 | 4 | 0.18 | *ND* | 465 | 0.59 | 235 | *ND* | 99 |
| 515802 | 07HB-04 | 195.50m | 196.46m | | *ND* | *ND* | *ND* | *ND* | 9.08 | *ND* | 100 | 0.8 | *ND* | 5.74 | *ND* | 32 | 22 | 68 | 7.12 | 0.85 | 2.88 | 1,015 | *ND* | 2.93 | 53 | 850 | 2 | 0.12 | *ND* | 450 | 0.58 | 193 | *ND* | 106 |

| Sample | From | To | Characterization | | ME-XRF06 SiO2 | Al2O3 | Fe2O3 | CaO | MgO | Na2O | K2O | Cr2O3 | TiO2 | MnO | P2O5 | SrO | BaO | LOI | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| | | | | *HI* | 0.01 | *0.01* | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | |
| | | | | *LO* | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| 07HB-04A | 204.93m | 205.33m | *MG gabbro* | | 50.32 | 18.29 | 10.10 | 9.51 | 5.06 | 3.67 | 0.78 | 0.01 | 0.92 | 0.13 | 0.13 | 0.04 | 0.01 | 0.84 | 99.81 |

| Sample | From | To | Characterization | ME-MS81 Ag | Ba | Ce | Co | Cr | Cs | Cu | Dy | Er | Eu | Ga | Gd | Hf | Ho | La | Lu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| | | | | 1 | 0.5 | 0.5 | 0.5 | 10 | 0.01 | 5 | 0.1 | 0.03 | 0.03 | 0.1 | 0.05 | 0.2 | 0.01 | 0.5 | 0.01 |
| | | | | 1000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 1000 | 1000 | 1000 | 1000 | 1000 | 10000 | 1000 | 10000 | 1000 |
| 07HB-04A | 204.93m | 205.33m | *MG gabbro* | *ND* | 65.10 | 27.10 | 40.40 | 40 | 1.07 | 133 | 1.74 | 0.98 | 0.94 | 20.1 | 2.38 | 1.8 | 0.37 | 11.50 | 0.14 |

| Sample | From | To | Characterization | *ME-MS81* Mo | Nb | Nd | Ni | Pb | Pr | Rb | Sm | Sn | Sr | Ta | Tb | Th | Tl | Tm | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| | | | | 2 | 0.2 | 0.1 | 5 | 5 | 0.03 | 0.2 | 0.03 | 1 | 0.1 | 0.1 | 0.01 | 0.05 | 0.5 | 0.01 | 0.05 |
| | | | | 10000 | 10000 | 10000 | 10000 | 10000 | 1000 | 10000 | 1000 | 10000 | 10000 | 10000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| 07HB-04A | 204.93m | 205.33m | *MG gabbro* | 2 | 4.5 | 13.50 | 80 | *ND* | 3.51 | 12.50 | 2.54 | 1.0 | 423.00 | 0.30 | 0.35 | 0.39 | *ND* | 0.15 | 0.46 |

| Sample | From | To | Characterization | *ME-MS81* V | W | Y | Yb | Zn | Zr | PGM-ICP23 Au | Pt | Pd | S-IR08 S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % |
| | | | | 5 | 1 | 0.5 | 0.03 | 5 | 0.5 | 0.001 | 0.005 | 0.001 | 0.01 |
| | | | | 10000 | 10000 | 10000 | 1000 | 10000 | 10000 | 10 | 10 | 10 | 50 |
| 07HB-04A | 204.93m | 205.33m | *MG gabbro* | 226 | 1 | 9 | 0.88 | 90 | 71 | 0.002 | *ND* | 0.001 | 0.19 |


250.0 Elev
200.0 Elev
150.0 Elev
100.0 Elev
50.0 Elev
0.0 Elev
-50.0 Elev
5793850.0 N
552050.0 E
5793800.0 N
5793750.0 N
552000.0 E
5793700.0 N
Overburden
Paleozoic limestone
Sandstone to clay
Paleozoic limestone
Sand
Fine-grained granodiorite
Fine to medium-grained granite?
Fine-grained granodiorite
Fine-grained granite
Mixed diorite-granite-pegmatite
Very fine-grained mafic dike
Mixed diorite-granite-pegmatite
Medium-grained gabbro
Diorite
Intrusion breccia?
Medium-grained gabbro
Diorite
Medium-grained gabbro
Fine and medium-grained diorite
Medium-grained gabbro
Fine and medium-grained diorite
Medium-grained gabbro
Fine and medium-grained diorite
Medium-grained gabbro
Diorite
Medium-grained gabbro to melagabbro
Medium-grained diorite
Granitic pegmatite
Medium-grained gabbro
Diorite
Medium-grained gabbro
Diorite
Medium-grained gabbro
Coarse-grained diorite
Medium-grained gabbro
07HB-04
HIGHBANK LAKE
Hole 07HB-04
Section Azimuth: 296
1:750 metres
0
10
20
30
CCIC
CARACLE CREEK INTERNATIONAL CONSULTING INC.
Geological Consultants · Project Management

# ALS Chemex

*EXCELLENCE IN ANALYTICAL CHEMISTRY*

ALS Canada Ltd.

212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com


To: **NORTHERN SHIELD RESOURCES INC.**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**


**Finalized Date: 13-SEP-2007**
**Account: NORSHI**

## CERTIFICATE TM07085907

Project:

P.O. No.:

This report is for 74 Drill Core samples submitted to our lab in Timmins, ON, Canada on 10-AUG-2007.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| IAN BLISS | CHRISTINE VAILLANCOURT | |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| LOG-24 | Pulp Login - Rcd w/o Barcode |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME-ICP61 | 33 element four acid ICP-AES | ICP-AES |
| PGM-ICP24 | Pt, Pd, Au 50g FA ICP | ICP-AES |

To: **NORTHERN SHIELD RESOURCES INC.**
**ATTN: IAN BLISS**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

**Signature:**

Lawrence Ng, Laboratory Manager - Vancouver

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: NORTHERN SHIELD RESOURCES INC.
SUITE 1600 - 150 METCALFE STREET
OTTAWA ON K2P 1P1


Finalized Date: 13-SEP-2007
Account: NORSHI

# CERTIFICATE OF ANALYSIS TM07085907

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | PGM-ICP24 Au ppm 0.001 | PGM-ICP24 Pt ppm 0.005 | PGM-ICP24 Pd ppm 0.001 | ME-ICP61 Ag ppm 0.5 | ME-ICP61 Al % 0.01 | ME-ICP61 As ppm 5 | ME-ICP61 Ba ppm 10 | ME-ICP61 Be ppm 0.5 | ME-ICP61 Bi ppm 2 | ME-ICP61 Ca % 0.01 | ME-ICP61 Cd ppm 0.5 | ME-ICP61 Co ppm 1 | ME-ICP61 Cr ppm 1 | ME-ICP61 Cu ppm 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 515801 | | 1.74 | <0.001 | <0.005 | <0.001 | <0.5 | 9.19 | 8 | 160 | 1.0 | <2 | 5.80 | <0.5 | 35 | 29 | 110 |
| 515802 | | 1.73 | <0.001 | <0.005 | <0.001 | <0.5 | 9.08 | <5 | 100 | 0.8 | <2 | 5.74 | <0.5 | 32 | 22 | 68 |
| 515803 | | 1.46 | <0.001 | <0.005 | <0.001 | <0.5 | 9.93 | <5 | 80 | 0.8 | <2 | 6.88 | <0.5 | 37 | 25 | 132 |
| 515805 | | 1.56 | <0.001 | 0.031 | 0.013 | <0.5 | 10.00 | <5 | 70 | <0.5 | <2 | 8.68 | <0.5 | 36 | 286 | 43 |
| 515806 | | 2.35 | 0.001 | 0.010 | 0.010 | <0.5 | 7.18 | <5 | 20 | <0.5 | <2 | 4.63 | <0.5 | 92 | 46 | 86 |
| 515807 | | 1.60 | <0.001 | <0.005 | 0.007 | <0.5 | 10.10 | <5 | 50 | <0.5 | <2 | 8.39 | <0.5 | 38 | 97 | 80 |
| 515808 | | 0.87 | <0.001 | <0.005 | 0.003 | <0.5 | 9.42 | <5 | 60 | <0.5 | <2 | 8.34 | <0.5 | 28 | 86 | 58 |
| 515809 | | 1.69 | 0.001 | <0.005 | 0.005 | <0.5 | 11.05 | 9 | 50 | <0.5 | <2 | 8.89 | <0.5 | 35 | 106 | 78 |
| 515810 | | 1.73 | 0.001 | <0.005 | 0.005 | <0.5 | 8.96 | <5 | 20 | <0.5 | 2 | 5.95 | <0.5 | 68 | 78 | 85 |
| 515811 | | 1.73 | 0.001 | <0.005 | 0.008 | <0.5 | 9.74 | <5 | 30 | <0.5 | 3 | 8.34 | <0.5 | 29 | 56 | 71 |
| 515812 | | 1.78 | 0.002 | 0.005 | 0.007 | <0.5 | 9.43 | <5 | 30 | <0.5 | <2 | 7.33 | <0.5 | 42 | 47 | 84 |
| 515813 | | 2.21 | <0.001 | <0.005 | 0.006 | <0.5 | 9.66 | <5 | 30 | <0.5 | <2 | 7.83 | <0.5 | 40 | 35 | 83 |
| 515814 | | 0.58 | 0.001 | <0.005 | 0.004 | <0.5 | 9.60 | <5 | 30 | <0.5 | <2 | 8.20 | <0.5 | 32 | 4 | 46 |
| 515815 | | 0.88 | 0.001 | 0.005 | 0.001 | <0.5 | 9.75 | <5 | 30 | <0.5 | <2 | 8.58 | <0.5 | 29 | 116 | 39 |
| 515816 | | 1.61 | <0.001 | <0.005 | <0.001 | <0.5 | 10.60 | <5 | 30 | <0.5 | <2 | 9.42 | <0.5 | 20 | 150 | 51 |
| 515817 | | 0.73 | 0.003 | <0.005 | 0.004 | <0.5 | 8.62 | <5 | 20 | <0.5 | <2 | 9.66 | <0.5 | 55 | 62 | 894 |
| 515818 | | 1.15 | <0.001 | 0.006 | 0.001 | 0.8 | 10.60 | <5 | 60 | <0.5 | <2 | 8.64 | <0.5 | 23 | 208 | 58 |
| 515819 | | 1.79 | 0.004 | <0.005 | 0.003 | <0.5 | 9.99 | <5 | 20 | <0.5 | <2 | 9.87 | <0.5 | 18 | 182 | 9 |
| 515820 | | 0.05 | 0.161 | 0.286 | 1.190 | 1.4 | 8.42 | <5 | 330 | 0.6 | <2 | 8.39 | <0.5 | 63 | 148 | 3940 |
| 515821 | | 1.75 | 0.001 | <0.005 | 0.003 | <0.5 | 10.30 | <5 | 40 | <0.5 | <2 | 8.88 | <0.5 | 19 | 164 | 66 |
| 515822 | | 2.18 | 0.001 | 0.005 | <0.001 | <0.5 | 10.35 | <5 | 20 | <0.5 | <2 | 9.73 | <0.5 | 24 | 231 | 83 |
| 515823 | | 1.97 | 0.001 | 0.009 | 0.004 | <0.5 | 11.40 | <5 | 30 | <0.5 | 2 | 9.12 | <0.5 | 35 | 20 | 95 |
| 515824 | | 1.58 | <0.001 | 0.006 | 0.002 | <0.5 | 9.20 | <5 | 20 | <0.5 | <2 | 7.30 | <0.5 | 51 | 70 | 77 |
| 515825 | | 0.90 | 0.002 | 0.008 | 0.002 | <0.5 | 9.79 | <5 | 110 | <0.5 | <2 | 8.72 | <0.5 | 25 | 118 | 28 |
| 515826 | | 0.93 | 0.002 | 0.007 | 0.001 | <0.5 | 9.62 | <5 | 120 | 0.8 | <2 | 8.87 | <0.5 | 32 | 11 | 357 |
| 515827 | | 1.84 | 0.002 | 0.009 | 0.002 | <0.5 | 10.85 | <5 | 20 | <0.5 | <2 | 10.10 | <0.5 | 26 | 175 | 63 |
| 515828 | | 1.50 | 0.001 | 0.014 | 0.003 | <0.5 | 9.83 | <5 | 20 | <0.5 | <2 | 9.32 | <0.5 | 23 | 124 | 85 |
| 515829 | | 1.72 | 0.001 | 0.019 | 0.005 | <0.5 | 10.40 | <5 | 20 | <0.5 | <2 | 8.86 | <0.5 | 26 | 78 | 36 |
| 515830 | | 1.79 | 0.001 | 0.008 | 0.005 | <0.5 | 10.25 | <5 | 10 | <0.5 | <2 | 8.61 | <0.5 | 37 | 12 | 13 |
| 515831 | | 1.79 | <0.001 | 0.010 | 0.005 | <0.5 | 10.40 | <5 | 20 | <0.5 | <2 | 8.35 | <0.5 | 41 | 40 | 6 |
| 515832 | | 1.60 | 0.001 | 0.005 | 0.004 | <0.5 | 9.50 | <5 | 10 | <0.5 | <2 | 7.98 | <0.5 | 37 | 32 | 12 |
| 515833 | | 1.84 | 0.001 | 0.005 | 0.004 | <0.5 | 9.57 | <5 | 20 | <0.5 | <2 | 7.16 | <0.5 | 45 | 33 | 16 |
| 515834 | | 1.74 | 0.001 | 0.006 | 0.003 | <0.5 | 9.21 | <5 | 30 | <0.5 | <2 | 5.41 | <0.5 | 46 | 29 | 7 |
| 515835 | | 0.82 | <0.001 | 0.006 | 0.003 | <0.5 | 9.53 | <5 | 10 | <0.5 | <2 | 7.83 | <0.5 | 45 | 29 | 1 |
| 515836 | | 1.80 | 0.001 | 0.005 | 0.001 | <0.5 | 10.05 | <5 | 10 | <0.5 | <2 | 8.08 | <0.5 | 38 | 55 | 35 |
| 515837 | | 0.97 | <0.001 | <0.005 | 0.001 | <0.5 | 9.73 | <5 | 10 | <0.5 | <2 | 8.71 | <0.5 | 28 | 16 | 78 |
| 515838 | | 0.83 | <0.001 | <0.005 | 0.001 | <0.5 | 10.00 | <5 | 10 | <0.5 | <2 | 8.59 | <0.5 | 26 | 32 | 22 |
| 515839 | | 1.79 | 0.004 | <0.005 | <0.001 | <0.5 | 9.66 | <5 | 20 | <0.5 | <2 | 8.83 | <0.5 | 22 | 16 | 24 |
| 515840 | | 0.05 | 0.004 | <0.005 | <0.001 | <0.5 | 0.33 | <5 | 10 | <0.5 | <2 | 0.03 | <0.5 | <1 | 3 | 3 |
| 515841 | | 1.81 | 0.001 | <0.005 | 0.001 | <0.5 | 9.58 | <5 | 10 | <0.5 | <2 | 9.14 | <0.5 | 20 | 11 | 23 |

**ALS Chemex**
*EXCELLENCE IN ANALYTICAL CHEMISTRY*
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: **NORTHERN SHIELD RESOURCES INC.**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**


**Finalized Date: 13-SEP-2007**
**Account: NORSHI**

# CERTIFICATE OF ANALYSIS TM07085907

| Sample Description | Method / Analyte / Units / LOR | ME-ICP61 Fe % 0.01 | ME-ICP61 K % 0.01 | ME-ICP61 Mg % 0.01 | ME-ICP61 Mn ppm 5 | ME-ICP61 Mo ppm 1 | ME-ICP61 Na % 0.01 | ME-ICP61 Ni ppm 1 | ME-ICP61 P ppm 10 | ME-ICP61 Pb ppm 2 | ME-ICP61 S % 0.01 | ME-ICP61 Sb ppm 5 | ME-ICP61 Sr ppm 1 | ME-ICP61 Ti % 0.01 | ME-ICP61 V ppm 1 | ME-ICP61 W ppm 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 515801 | | 6.67 | 1.07 | 3.08 | 993 | <1 | 2.80 | 73 | 500 | 2 | 0.10 | 5 | 435 | 0.54 | 203 | <10 |
| 515802 | | 7.12 | 0.85 | 2.88 | 1015 | <1 | 2.93 | 53 | 850 | 2 | 0.12 | <5 | 450 | 0.58 | 193 | <10 |
| 515803 | | 7.46 | 0.72 | 3.23 | 1050 | <1 | 2.84 | 77 | 720 | 4 | 0.18 | <5 | 465 | 0.59 | 235 | <10 |
| 515805 | | 4.44 | 0.37 | 4.57 | 815 | <1 | 1.43 | 146 | 60 | <2 | 0.02 | <5 | 248 | 0.11 | 77 | <10 |
| 515806 | | 8.50 | 0.69 | 7.69 | 1080 | <1 | 0.61 | 419 | 60 | <2 | 0.05 | 5 | 90 | 0.04 | 19 | <10 |
| 515807 | | 4.20 | 0.44 | 3.59 | 594 | <1 | 1.46 | 181 | 60 | <2 | 0.04 | <5 | 293 | 0.07 | 37 | <10 |
| 515808 | | 3.20 | 0.40 | 2.70 | 462 | <1 | 1.55 | 128 | 60 | <2 | 0.02 | <5 | 292 | 0.07 | 33 | <10 |
| 515809 | | 3.96 | 0.36 | 3.49 | 579 | <1 | 1.58 | 153 | 60 | <2 | 0.04 | <5 | 269 | 0.08 | 42 | <10 |
| 515810 | | 7.41 | 0.44 | 6.76 | 970 | 1 | 0.90 | 311 | 80 | <2 | 0.08 | <5 | 125 | 0.07 | 33 | <10 |
| 515811 | | 3.31 | 0.16 | 2.59 | 448 | <1 | 1.63 | 139 | 60 | <2 | 0.10 | <5 | 266 | 0.06 | 24 | <10 |
| 515812 | | 4.55 | 0.35 | 3.86 | 561 | <1 | 1.26 | 199 | 70 | <2 | 0.10 | <5 | 213 | 0.06 | 23 | <10 |
| 515813 | | 4.02 | 0.15 | 3.03 | 548 | <1 | 1.63 | 173 | 70 | <2 | 0.10 | <5 | 263 | 0.05 | 19 | <10 |
| 515814 | | 3.18 | 0.14 | 2.42 | 455 | <1 | 1.82 | 151 | 60 | <2 | 0.06 | <5 | 247 | 0.03 | 9 | <10 |
| 515815 | | 3.43 | 0.18 | 2.82 | 559 | <1 | 1.63 | 127 | 60 | <2 | 0.05 | <5 | 261 | 0.08 | 45 | <10 |
| 515816 | | 2.99 | 0.11 | 2.48 | 487 | <1 | 1.72 | 91 | 100 | <2 | 0.04 | <5 | 269 | 0.10 | 61 | <10 |
| 515817 | | 7.69 | 0.16 | 5.93 | 1100 | 1 | 1.05 | 91 | 1180 | <2 | 0.57 | <5 | 413 | 0.63 | 264 | <10 |
| 515818 | | 3.45 | 0.22 | 2.85 | 581 | <1 | 2.11 | 100 | 60 | <2 | 0.01 | <5 | 399 | 0.11 | 75 | <10 |
| 515819 | | 3.18 | 0.10 | 2.43 | 582 | 2 | 1.67 | 97 | 80 | <2 | <0.01 | <5 | 276 | 0.11 | 66 | <10 |
| 515820 | | 9.49 | 0.46 | 4.15 | 1400 | 1 | 1.73 | 281 | 1800 | 3 | 0.85 | <5 | 673 | 0.59 | 322 | <10 |
| 515821 | | 2.92 | 0.20 | 2.52 | 551 | <1 | 1.93 | 97 | 80 | <2 | 0.03 | <5 | 266 | 0.11 | 65 | <10 |
| 515822 | | 3.31 | 0.14 | 3.01 | 579 | <1 | 1.42 | 112 | 70 | <2 | 0.05 | <5 | 247 | 0.12 | 80 | <10 |
| 515823 | | 3.65 | 0.08 | 2.70 | 486 | <1 | 1.82 | 197 | 70 | <2 | 0.14 | <5 | 289 | 0.05 | 15 | <10 |
| 515824 | | 5.37 | 0.15 | 4.45 | 736 | <1 | 1.24 | 281 | 60 | <2 | 0.11 | <5 | 235 | 0.05 | 28 | <10 |
| 515825 | | 3.51 | 0.32 | 2.93 | 587 | <1 | 1.56 | 121 | 340 | <2 | 0.04 | <5 | 712 | 0.08 | 53 | <10 |
| 515826 | | 7.05 | 0.24 | 3.74 | 994 | <1 | 1.80 | 34 | 3200 | <2 | 1.04 | <5 | 1160 | 0.58 | 236 | <10 |
| 515827 | | 3.12 | 0.04 | 2.75 | 517 | <1 | 1.49 | 131 | 70 | 2 | 0.02 | <5 | 260 | 0.08 | 50 | <10 |
| 515828 | | 2.64 | 0.05 | 2.17 | 411 | <1 | 1.59 | 118 | 50 | <2 | 0.05 | <5 | 242 | 0.06 | 35 | <10 |
| 515829 | | 3.20 | 0.06 | 2.62 | 492 | <1 | 1.74 | 159 | 50 | <2 | 0.03 | <5 | 264 | 0.05 | 21 | <10 |
| 515830 | | 3.97 | 0.01 | 3.23 | 503 | <1 | 1.48 | 202 | 70 | <2 | 0.02 | <5 | 251 | 0.04 | 9 | <10 |
| 515831 | | 4.36 | 0.01 | 3.69 | 576 | 1 | 1.46 | 192 | 70 | <2 | 0.01 | <5 | 240 | 0.05 | 15 | 10 |
| 515832 | | 3.83 | 0.01 | 3.09 | 507 | <1 | 1.33 | 177 | 70 | <2 | 0.02 | <5 | 226 | 0.04 | 12 | <10 |
| 515833 | | 4.16 | 0.03 | 3.56 | 548 | <1 | 1.38 | 206 | 90 | 5 | 0.02 | 5 | 229 | 0.05 | 16 | <10 |
| 515834 | | 4.54 | 0.06 | 4.05 | 584 | <1 | 1.86 | 222 | 70 | 5 | 0.01 | <5 | 242 | 0.04 | 10 | <10 |
| 515835 | | 4.68 | 0.01 | 3.64 | 622 | <1 | 1.23 | 265 | 80 | <2 | 0.01 | <5 | 325 | 0.04 | 11 | <10 |
| 515836 | | 4.35 | 0.01 | 3.34 | 584 | <1 | 1.40 | 182 | 60 | 5 | 0.15 | <5 | 217 | 0.04 | 14 | <10 |
| 515837 | | 3.14 | 0.01 | 2.15 | 417 | <1 | 1.69 | 132 | 60 | 4 | 0.28 | <5 | 244 | 0.04 | 17 | <10 |
| 515838 | | 3.14 | 0.01 | 2.24 | 428 | <1 | 1.62 | 125 | 70 | <2 | 0.09 | <5 | 236 | 0.04 | 13 | <10 |
| 515839 | | 2.63 | 0.01 | 1.67 | 357 | 1 | 1.74 | 99 | 60 | 3 | 0.07 | <5 | 260 | 0.04 | 11 | <10 |
| 515840 | | 0.04 | 0.11 | 0.02 | 12 | <1 | 0.01 | <1 | 40 | <2 | 0.01 | <5 | 5 | 0.02 | 1 | <10 |
| 515841 | | 2.33 | <0.01 | 1.38 | 327 | 1 | 1.73 | 87 | 70 | 3 | 0.08 | <5 | 268 | 0.06 | 20 | <10 |

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: NORTHERN SHIELD RESOURCES INC.
SUITE 1600 - 150 METCALFE STREET
OTTAWA ON K2P 1P1


Finalized Date: 13-SEP-2007
Account: NORSHI

# CERTIFICATE OF ANALYSIS TM07085907

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP61<br>Zn<br>ppm<br>2 |
|---|---|---|
| 515801 | | 99 |
| 515802 | | 106 |
| 515803 | | 99 |
| 515805 | | 35 |
| 515806 | | 61 |
| 515807 | | 31 |
| 515808 | | 28 |
| 515809 | | 34 |
| 515810 | | 58 |
| 515811 | | 24 |
| 515812 | | 34 |
| 515813 | | 30 |
| 515814 | | 26 |
| 515815 | | 24 |
| 515816 | | 24 |
| 515817 | | 60 |
| 515818 | | 29 |
| 515819 | | 30 |
| 515820 | | 92 |
| 515821 | | 30 |
| 515822 | | 26 |
| 515823 | | 32 |
| 515824 | | 46 |
| 515825 | | 36 |
| 515826 | | 50 |
| 515827 | | 23 |
| 515828 | | 24 |
| 515829 | | 23 |
| 515830 | | 29 |
| 515831 | | 33 |
| 515832 | | 28 |
| 515833 | | 38 |
| 515834 | | 41 |
| 515835 | | 38 |
| 515836 | | 38 |
| 515837 | | 25 |
| 515838 | | 28 |
| 515839 | | 22 |
| 515840 | | <2 |
| 515841 | | 19 |

# ALS Chemex

*EXCELLENCE IN ANALYTICAL CHEMISTRY*
ALS Canada Ltd.

212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: **NORTHERN SHIELD RESOURCES INC.**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**


**Finalized Date: 13-SEP-2007**
**Account: NORSHI**

## CERTIFICATE OF ANALYSIS TM07085907

| Sample Description / Method | WEI-21 | PGM-ICP24 | PGM-ICP24 | PGM-ICP24 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Recvd Wt. | Au | Pt | Pd | Ag | Al | As | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu |
| Units | kg | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm |
| LOR | 0.02 | 0.001 | 0.005 | 0.001 | 0.5 | 0.01 | 5 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 |
| 515842 | 1.92 | 0.001 | 0.006 | 0.004 | <0.5 | 9.86 | 10 | 150 | <0.5 | <2 | 7.82 | <0.5 | 84 | 164 | 8 |
| 515843 | 1.31 | <0.001 | <0.005 | 0.003 | <0.5 | 7.55 | <5 | 50 | <0.5 | 5 | 5.19 | <0.5 | 118 | 76 | 2 |
| 515844 | 1.67 | 0.001 | 0.006 | 0.002 | <0.5 | 6.50 | <5 | 20 | <0.5 | 3 | 3.47 | <0.5 | 147 | 70 | 36 |
| 515845 | 1.69 | <0.001 | 0.005 | 0.006 | <0.5 | 5.67 | <5 | 10 | <0.5 | 2 | 2.84 | <0.5 | 167 | 52 | 14 |
| 515846 | 1.52 | <0.001 | <0.005 | 0.008 | <0.5 | 3.68 | <5 | 10 | <0.5 | <2 | 3.81 | <0.5 | 152 | 50 | 82 |
| 515847 | 0.85 | <0.001 | 0.019 | 0.012 | <0.5 | 7.22 | 7 | 10 | <0.5 | 6 | 3.16 | <0.5 | 149 | 66 | 11 |
| 515848 | 1.34 | 0.001 | <0.005 | 0.002 | <0.5 | 11.40 | <5 | 40 | <0.5 | 5 | 8.51 | <0.5 | 49 | 62 | 28 |
| 515849 | 1.83 | <0.001 | 0.008 | 0.002 | <0.5 | 11.60 | <5 | 20 | <0.5 | <2 | 8.98 | <0.5 | 49 | 111 | 22 |
| 515850 | 1.74 | <0.001 | <0.005 | 0.004 | <0.5 | 12.40 | <5 | 30 | <0.5 | 6 | 9.29 | <0.5 | 46 | 83 | 72 |
| 515851 | 1.49 | 0.002 | 0.022 | 0.016 | <0.5 | 10.15 | <5 | 30 | <0.5 | 5 | 6.83 | <0.5 | 88 | 89 | 59 |
| 515852 | 2.04 | 0.001 | 0.010 | 0.009 | <0.5 | 9.62 | <5 | 20 | <0.5 | 2 | 6.57 | <0.5 | 91 | 46 | 64 |
| 515853 | 1.86 | <0.001 | 0.005 | 0.004 | <0.5 | 9.55 | <5 | 20 | <0.5 | <2 | 6.58 | <0.5 | 84 | 48 | 55 |
| 515854 | 1.25 | <0.001 | <0.005 | 0.003 | <0.5 | 7.97 | <5 | 10 | <0.5 | 3 | 7.09 | <0.5 | 94 | 117 | 3 |
| 515855 | 0.96 | <0.001 | <0.005 | 0.004 | <0.5 | 6.22 | <5 | <10 | <0.5 | 5 | 5.40 | <0.5 | 111 | 67 | 4 |
| 515856 | 1.73 | <0.001 | 0.007 | 0.004 | <0.5 | 6.49 | <5 | <10 | <0.5 | 3 | 4.59 | <0.5 | 141 | 51 | 2 |
| 515857 | 1.73 | <0.001 | 0.005 | 0.002 | <0.5 | 10.45 | <5 | 50 | <0.5 | 4 | 8.80 | <0.5 | 27 | 60 | 13 |
| 515858 | 1.66 | <0.001 | <0.005 | 0.002 | <0.5 | 9.71 | <5 | 30 | <0.5 | 3 | 7.66 | <0.5 | 48 | 38 | 45 |
| 515859 | 1.33 | 0.001 | <0.005 | 0.002 | <0.5 | 11.10 | <5 | 20 | <0.5 | 2 | 8.76 | <0.5 | 36 | 339 | 15 |
| 515860 | 0.04 | 0.112 | 0.338 | 1.145 | 2.3 | 8.62 | <5 | 340 | 0.7 | <2 | 8.18 | <0.5 | 68 | 158 | 4050 |
| 515861 | 1.75 | 0.001 | <0.005 | 0.003 | <0.5 | 5.76 | <5 | <10 | <0.5 | <2 | 4.03 | <0.5 | 133 | 106 | 21 |
| 515862 | 0.83 | 0.001 | <0.005 | 0.006 | <0.5 | 4.26 | <5 | <10 | <0.5 | 3 | 2.36 | <0.5 | 160 | 32 | 35 |
| 515863 | 1.58 | 0.001 | 0.006 | 0.006 | <0.5 | 3.33 | <5 | <10 | <0.5 | 4 | 1.87 | <0.5 | 159 | 44 | 31 |
| 515864 | 0.65 | <0.001 | 0.007 | 0.002 | <0.5 | 1.88 | <5 | <10 | <0.5 | <2 | 4.34 | <0.5 | 148 | 40 | 59 |
| 515865 | 0.89 | <0.001 | 0.006 | 0.001 | <0.5 | 10.30 | <5 | 20 | <0.5 | 2 | 7.92 | <0.5 | 35 | 129 | 3 |
| 515866 | 0.58 | <0.001 | <0.005 | 0.003 | <0.5 | 6.82 | <5 | <10 | <0.5 | <2 | 2.74 | <0.5 | 136 | 113 | 24 |
| 515867 | 0.63 | 0.006 | 0.007 | 0.007 | <0.5 | 9.21 | <5 | 10 | <0.5 | 2 | 7.55 | <0.5 | 49 | 257 | 478 |
| 515868 | 1.44 | <0.001 | <0.005 | 0.007 | <0.5 | 10.25 | <5 | 20 | <0.5 | 5 | 8.79 | <0.5 | 33 | 37 | 74 |
| 515869 | 1.50 | 0.001 | <0.005 | 0.002 | <0.5 | 9.54 | <5 | 10 | <0.5 | 2 | 8.91 | <0.5 | 24 | 178 | 12 |
| 515870 | 1.07 | 0.002 | <0.005 | <0.001 | <0.5 | 9.35 | <5 | 20 | <0.5 | 3 | 9.19 | <0.5 | 7 | 59 | 11 |
| 515871 | 1.17 | <0.001 | <0.005 | <0.001 | <0.5 | 10.50 | <5 | 10 | <0.5 | 2 | 9.43 | <0.5 | 17 | 212 | 7 |
| 515872 | 1.32 | 0.001 | <0.005 | 0.002 | <0.5 | 10.30 | <5 | 10 | <0.5 | <2 | 9.93 | <0.5 | 24 | 219 | 21 |
| 515873 | 1.50 | <0.001 | <0.005 | 0.001 | <0.5 | 10.05 | <5 | 10 | <0.5 | 2 | 9.67 | <0.5 | 27 | 218 | 20 |
| 515874 | 1.69 | <0.001 | <0.005 | 0.001 | <0.5 | 10.55 | <5 | 10 | <0.5 | 3 | 10.20 | <0.5 | 27 | 447 | 14 |
| 515875 | 0.94 | 0.003 | 0.038 | 0.064 | <0.5 | 10.60 | <5 | 20 | <0.5 | <2 | 8.64 | <0.5 | 25 | 119 | 165 |

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: NORTHERN SHIELD RESOURCES INC.
SUITE 1600 - 150 METCALFE STREET
OTTAWA ON K2P 1P1


Finalized Date: 13-SEP-2007
Account: NORSHI

# CERTIFICATE OF ANALYSIS TM07085907

| Sample Description | Analyte | Fe | K | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sr | Ti | V | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Method | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 | ME-ICP61 |
| | Units | % | % | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | % | ppm | ppm |
| | LOR | 0.01 | 0.01 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 5 | 1 | 0.01 | 1 | 10 |
| 515842 | | 8.01 | 0.09 | 7.71 | 1345 | <1 | 0.67 | 401 | 60 | <2 | <0.01 | <5 | 195 | 0.07 | 45 | <10 |
| 515843 | | 11.40 | 0.04 | 10.35 | 1650 | <1 | 0.22 | 565 | 60 | <2 | <0.01 | <5 | 14 | 0.04 | 24 | <10 |
| 515844 | | 12.70 | 0.01 | 12.45 | 1380 | <1 | 0.02 | 711 | 70 | <2 | <0.01 | <5 | 3 | 0.04 | 20 | <10 |
| 515845 | | 14.65 | <0.01 | 13.60 | 1625 | <1 | 0.01 | 776 | 80 | <2 | 0.01 | <5 | 3 | 0.04 | 21 | <10 |
| 515846 | | 14.40 | <0.01 | 13.65 | 1820 | <1 | 0.01 | 822 | 70 | <2 | 0.13 | <5 | 2 | 0.03 | 19 | <10 |
| 515847 | | 13.25 | 0.01 | 12.15 | 1630 | <1 | 0.03 | 642 | 70 | <2 | <0.01 | <5 | 4 | 0.04 | 23 | <10 |
| 515848 | | 5.02 | 0.02 | 4.14 | 765 | <1 | 1.36 | 236 | 60 | <2 | <0.01 | <5 | 350 | 0.06 | 27 | <10 |
| 515849 | | 5.04 | 0.01 | 4.19 | 719 | <1 | 1.56 | 225 | 60 | <2 | <0.01 | <5 | 277 | 0.07 | 36 | <10 |
| 515850 | | 4.67 | 0.01 | 3.73 | 628 | <1 | 1.55 | 234 | 70 | 9 | 0.04 | <5 | 259 | 0.07 | 29 | <10 |
| 515851 | | 8.41 | 0.17 | 7.28 | 1070 | <1 | 1.37 | 406 | 90 | <2 | 0.05 | <5 | 231 | 0.06 | 31 | <10 |
| 515852 | | 8.24 | 0.11 | 7.06 | 1050 | <1 | 1.13 | 406 | 110 | <2 | 0.05 | <5 | 191 | 0.05 | 25 | <10 |
| 515853 | | 8.09 | 0.13 | 6.77 | 1030 | <1 | 1.04 | 390 | 80 | 3 | 0.09 | <5 | 168 | 0.05 | 23 | <10 |
| 515854 | | 8.19 | 0.10 | 8.15 | 1230 | <1 | 0.68 | 444 | 60 | <2 | <0.01 | <5 | 266 | 0.05 | 36 | <10 |
| 515855 | | 9.57 | 0.08 | 9.19 | 1490 | <1 | 0.44 | 528 | 60 | 2 | <0.01 | <5 | 44 | 0.04 | 25 | <10 |
| 515856 | | 11.15 | 0.02 | 11.65 | 1500 | <1 | 0.13 | 685 | 70 | 2 | <0.01 | <5 | 7 | 0.04 | 21 | <10 |
| 515857 | | 3.43 | 0.08 | 2.50 | 619 | <1 | 2.14 | 122 | 90 | 2 | <0.01 | <5 | 565 | 0.07 | 39 | <10 |
| 515858 | | 4.72 | 0.05 | 3.51 | 670 | <1 | 1.74 | 232 | 50 | <2 | 0.03 | <5 | 312 | 0.05 | 20 | <10 |
| 515859 | | 5.09 | 0.10 | 4.94 | 961 | <1 | 1.33 | 143 | 50 | 2 | <0.01 | <5 | 269 | 0.14 | 112 | <10 |
| 515860 | | 9.34 | 0.46 | 4.26 | 1360 | <1 | 1.92 | 301 | 1810 | 11 | 0.82 | <5 | 689 | 0.56 | 316 | <10 |
| 515861 | | 11.85 | 0.01 | 12.00 | 1400 | <1 | 0.06 | 704 | 980 | 3 | 0.07 | <5 | 5 | 0.11 | 44 | <10 |
| 515862 | | 12.90 | <0.01 | 12.90 | 1950 | <1 | 0.01 | 772 | 70 | 2 | 0.16 | <5 | <1 | 0.03 | 15 | <10 |
| 515863 | | 13.60 | <0.01 | 13.15 | 1430 | <1 | 0.01 | 811 | 80 | 3 | 0.16 | <5 | <1 | 0.03 | 14 | <10 |
| 515864 | | 12.55 | <0.01 | 12.75 | 1860 | <1 | 0.02 | 786 | 50 | 7 | 0.31 | <5 | 1 | 0.03 | 16 | <10 |
| 515865 | | 4.87 | 0.05 | 4.12 | 876 | <1 | 1.50 | 129 | 60 | <2 | <0.01 | 5 | 312 | 0.09 | 64 | <10 |
| 515866 | | 11.50 | 0.01 | 11.45 | 1350 | <1 | 0.05 | 665 | 270 | <2 | 0.08 | <5 | 7 | 0.07 | 40 | <10 |
| 515867 | | 5.50 | 0.05 | 5.90 | 990 | <1 | 1.23 | 248 | 50 | <2 | 0.11 | <5 | 154 | 0.11 | 73 | <10 |
| 515868 | | 3.40 | 0.05 | 2.25 | 456 | <1 | 1.57 | 176 | 70 | <2 | 0.18 | <5 | 259 | 0.06 | 28 | <10 |
| 515869 | | 3.35 | 0.04 | 2.52 | 560 | <1 | 1.55 | 115 | 60 | <2 | 0.02 | <5 | 228 | 0.10 | 64 | <10 |
| 515870 | | 1.39 | 0.03 | 0.73 | 239 | <1 | 2.20 | 32 | 60 | <2 | 0.02 | <5 | 279 | 0.05 | 24 | <10 |
| 515871 | | 2.92 | 0.02 | 2.34 | 527 | <1 | 1.77 | 91 | 60 | <2 | 0.01 | 5 | 242 | 0.10 | 68 | <10 |
| 515872 | | 3.29 | 0.02 | 2.81 | 567 | <1 | 1.57 | 116 | 40 | <2 | 0.03 | <5 | 227 | 0.10 | 69 | <10 |
| 515873 | | 3.31 | 0.02 | 2.88 | 586 | <1 | 1.57 | 120 | 50 | <2 | 0.02 | <5 | 231 | 0.10 | 68 | <10 |
| 515874 | | 4.20 | 0.03 | 4.17 | 820 | <1 | 1.34 | 105 | 50 | <2 | 0.01 | <5 | 200 | 0.15 | 118 | <10 |
| 515875 | | 3.19 | 0.05 | 2.39 | 494 | <1 | 1.87 | 155 | 70 | <2 | 0.07 | <5 | 247 | 0.07 | 40 | <10 |

ALS Chemex
*EXCELLENCE IN ANALYTICAL CHEMISTRY*
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: **NORTHERN SHIELD RESOURCES INC.**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**


**Finalized Date: 13-SEP-2007**
**Account: NORSHI**

# CERTIFICATE OF ANALYSIS TM07085907

| Sample Description | Method / Analyte / Units / LOR | ME-ICP61 Zn ppm 2 |
|---|---|---|
| 515842 | | 76 |
| 515843 | | 113 |
| 515844 | | 92 |
| 515845 | | 88 |
| 515846 | | 74 |
| 515847 | | 103 |
| 515848 | | 49 |
| 515849 | | 42 |
| 515850 | | 49 |
| 515851 | | 66 |
| 515852 | | 68 |
| 515853 | | 67 |
| 515854 | | 70 |
| 515855 | | 89 |
| 515856 | | 103 |
| 515857 | | 36 |
| 515858 | | 44 |
| 515859 | | 45 |
| 515860 | | 100 |
| 515861 | | 118 |
| 515862 | | 132 |
| 515863 | | 83 |
| 515864 | | 92 |
| 515865 | | 50 |
| 515866 | | 122 |
| 515867 | | 49 |
| 515868 | | 32 |
| 515869 | | 29 |
| 515870 | | 10 |
| 515871 | | 23 |
| 515872 | | 25 |
| 515873 | | 26 |
| 515874 | | 32 |
| 515875 | | 28 |

**ALS Chemex**
*EXCELLENCE IN ANALYTICAL CHEMISTRY*
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: **NORTHERN SHIELD RESOURCES INC.**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**


**Finalized Date: 25-SEP-2007**
**Account: NORSHI**

## CERTIFICATE TM07092167

Project: HIGHBANK

P.O. No.:

This report is for 9 Drill Core samples submitted to our lab in Timmins, ON, Canada on 22-AUG-2007.

The following have access to data associated with this certificate:

| IAN BLISS | CHRISTINE VAILLANCOURT | |
|---|---|---|

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME-XRF06 | Whole Rock Package - XRF | XRF |
| OA-GRA06 | LOI for ME-XRF06 | WST-SIM |
| ME-MS81 | 38 element fusion ICP-MS | ICP-MS |
| S-IR08 | Total Sulphur (Leco) | LECO |
| PGM-ICP24 | Pt, Pd, Au 50g FA ICP | ICP-AES |

To: **NORTHERN SHIELD RESOURCES INC.**
**ATTN: IAN BLISS**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

**Signature:**

Lawrence Ng, Laboratory Manager - Vancouver

**ALS Chemex**
*EXCELLENCE IN ANALYTICAL CHEMISTRY*
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: **NORTHERN SHIELD RESOURCES INC.**
**SUITE 1600 - 150 METCALFE STREET**
**OTTAWA ON K2P 1P1**


**Finalized Date: 25-SEP-2007**
**Account: NORSHI**

Project: HIGHBANK

## CERTIFICATE OF ANALYSIS TM07092167

| Sample Description (Method / Analyte / Units / LOR) | WEI-21 Recvd Wt. kg 0.02 | PGM-ICP24 Au ppm 0.001 | PGM-ICP24 Pt ppm 0.005 | PGM-ICP24 Pd ppm 0.001 | ME-XRF06 SiO2 % 0.01 | ME-XRF06 Al2O3 % 0.01 | ME-XRF06 Fe2O3 % 0.01 | ME-XRF06 CaO % 0.01 | ME-XRF06 MgO % 0.01 | ME-XRF06 Na2O % 0.01 | ME-XRF06 K2O % 0.01 | ME-XRF06 Cr2O3 % 0.01 | ME-XRF06 TiO2 % 0.01 | ME-XRF06 MnO % 0.01 | ME-XRF06 P2O5 % 0.001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07HB-04A 204.93-205.33 | 0.66 | 0.002 | <0.005 | 0.001 | 50.32 | 18.29 | 10.10 | 9.51 | 5.06 | 3.67 | 0.78 | 0.01 | 0.92 | 0.13 | 0.127 |
| 07HB-05A 110.93-111.17 | 0.35 | 0.005 | <0.005 | 0.001 | 48.61 | 21.40 | 5.50 | 14.33 | 6.36 | 1.61 | 0.11 | 0.08 | 0.34 | 0.09 | 0.019 |
| 07HB-05B 152.27-152.60 | 0.43 | 0.005 | 0.069 | 0.008 | 47.56 | 26.47 | 4.36 | 12.37 | 4.83 | 2.31 | 0.11 | 0.02 | 0.12 | 0.06 | 0.019 |
| 07HB-05C 237.44-237.69 | 0.36 | 0.002 | <0.005 | 0.003 | 45.51 | 19.50 | 8.99 | 11.58 | 10.18 | 1.34 | 0.07 | 0.05 | 0.13 | 0.12 | 0.017 |
| 07HB-05D 237.42-239.60 | 0.32 | 0.001 | <0.005 | 0.003 | 40.75 | 13.41 | 15.46 | 6.98 | 17.42 | 0.26 | 0.04 | 0.01 | 0.05 | 0.22 | 0.019 |
| 07HB-05E 310.10-310.29 | 0.26 | 0.001 | 0.015 | 0.001 | 46.60 | 3.75 | 18.28 | 4.37 | 22.16 | 0.01 | <0.01 | 0.01 | 0.04 | 0.19 | 0.017 |
| 07HB-05F 482-482.3 | 0.35 | 0.002 | <0.005 | 0.001 | 47.38 | 23.77 | 6.44 | 12.39 | 6.23 | 2.13 | 0.07 | 0.03 | 0.10 | 0.09 | 0.019 |
| 07HB-05G 591.52-591.79 | 0.36 | 0.002 | <0.005 | 0.001 | 47.28 | 17.70 | 9.19 | 11.38 | 10.21 | 1.73 | 0.14 | 0.07 | 0.19 | 0.14 | 0.016 |
| 07HB-06A 131.10-131.45 | 0.56 | 0.001 | <0.005 | 0.001 | 49.28 | 13.19 | 8.47 | 15.89 | 9.48 | 0.40 | 0.18 | 0.05 | 0.44 | 0.16 | 0.017 |

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: NORTHERN SHIELD RESOURCES INC.
SUITE 1600 - 150 METCALFE STREET
OTTAWA ON K2P 1P1


Finalized Date: 25-SEP-2007
Account: NORSHI

Project: HIGHBANK

# CERTIFICATE OF ANALYSIS TM07092167

| Sample Description | Method / Analyte / Units / LOR | ME-XRF06 SrO % 0.01 | ME-XRF06 BaO % 0.01 | ME-XRF06 LOI % 0.01 | ME-XRF06 Total % 0.01 | ME-MS81 Ag ppm 1 | ME-MS81 Ba ppm 0.5 | ME-MS81 Ce ppm 0.5 | ME-MS81 Co ppm 0.5 | ME-MS81 Cr ppm 10 | ME-MS81 Cs ppm 0.01 | ME-MS81 Cu ppm 5 | ME-MS81 Dy ppm 0.05 | ME-MS81 Er ppm 0.03 | ME-MS81 Eu ppm 0.03 | ME-MS81 Ga ppm 0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07HB-04A 204.93-205.33 | | 0.04 | 0.01 | 0.84 | 99.81 | <1 | 65.1 | 27.1 | 40.4 | 40 | 1.07 | 133 | 1.74 | 0.98 | 0.94 | 20.1 |
| 07HB-05A 110.93-111.17 | | 0.02 | <0.01 | 1.37 | 99.85 | <1 | 15.3 | 2.0 | 28.5 | 580 | 0.30 | 106 | 1.02 | 0.66 | 0.45 | 16.6 |
| 07HB-05B 152.27-152.60 | | 0.03 | <0.01 | 1.55 | 99.81 | <1 | 23.6 | 1.6 | 28.1 | 190 | 0.38 | 45 | 0.24 | 0.17 | 0.36 | 22.4 |
| 07HB-05C 237.44-237.69 | | 0.02 | <0.01 | 2.30 | 99.81 | <1 | 8.9 | 1.2 | 64.9 | 330 | 0.20 | 23 | 0.45 | 0.29 | 0.30 | 14.6 |
| 07HB-05D 237.42-239.60 | | <0.01 | <0.01 | 5.34 | 99.97 | <1 | 22.4 | 2.2 | 120.5 | 90 | 0.58 | 18 | 0.34 | 0.26 | 0.36 | 12.4 |
| 07HB-05E 310.10-310.29 | | <0.01 | <0.01 | 4.05 | 99.48 | <1 | <0.5 | <0.5 | 151.5 | 50 | 0.15 | 37 | 0.11 | 0.07 | <0.03 | 3.4 |
| 07HB-05F 482-482.3 | | 0.02 | <0.01 | 1.32 | 100.00 | <1 | 6.8 | 1.1 | 39.9 | 200 | 0.22 | 34 | 0.36 | 0.23 | 0.30 | 18.3 |
| 07HB-05G 591.52-591.79 | | 0.02 | <0.01 | 1.80 | 99.87 | <1 | 8.3 | 1.0 | 60.9 | 490 | 1.04 | 23 | 0.60 | 0.39 | 0.29 | 13.8 |
| 07HB-06A 131.10-131.45 | | 0.01 | <0.01 | 1.77 | 99.34 | <1 | 4.2 | 2.4 | 40.0 | 370 | 0.25 | 20 | 1.55 | 0.97 | 0.48 | 12.6 |

**ALS Chemex**
*EXCELLENCE IN ANALYTICAL CHEMISTRY*
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: **NORTHERN SHIELD RESOURCES INC.
SUITE 1600 - 150 METCALFE STREET
OTTAWA ON K2P 1P1**


**Finalized Date: 25-SEP-2007
Account: NORSHI**

Project: HIGHBANK

## CERTIFICATE OF ANALYSIS TM07092167

| Sample Description | Method | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Gd | Hf | Ho | La | Lu | Mo | Nb | Nd | Ni | Pb | Pr | Rb | Sm | Sn | Sr |
| | Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| | LOR | 0.05 | 0.2 | 0.01 | 0.5 | 0.01 | 2 | 0.2 | 0.1 | 5 | 5 | 0.03 | 0.2 | 0.03 | 1 | 0.1 |
| 07HB-04A 204.93-205.33 | | 2.38 | 1.8 | 0.37 | 11.5 | 0.14 | 2 | 4.5 | 13.5 | 80 | <5 | 3.51 | 12.5 | 2.54 | 1 | 423 |
| 07HB-05A 110.93-111.17 | | 0.87 | 0.3 | 0.25 | <0.5 | 0.09 | <2 | 0.2 | 1.7 | 125 | <5 | 0.34 | 1.4 | 0.62 | <1 | 197.0 |
| 07HB-05B 152.27-152.60 | | 0.22 | 0.2 | 0.06 | 2.2 | 0.04 | <2 | 0.2 | 0.9 | 107 | <5 | 0.22 | 1.4 | 0.21 | <1 | 266 |
| 07HB-05C 237.44-237.69 | | 0.35 | <0.2 | 0.11 | <0.5 | 0.05 | <2 | <0.2 | 0.9 | 279 | <5 | 0.19 | 0.4 | 0.27 | <1 | 221 |
| 07HB-05D 237.42-239.60 | | 0.28 | 4.1 | 0.09 | <0.5 | 0.06 | 2 | 0.3 | 1.0 | 524 | <5 | 0.24 | 6.4 | 0.25 | <1 | 12.6 |
| 07HB-05E 310.10-310.29 | | 0.09 | <0.2 | 0.03 | <0.5 | 0.03 | <2 | <0.2 | 0.3 | 718 | <5 | 0.06 | <0.2 | 0.08 | <1 | 1.5 |
| 07HB-05F 482-482.3 | | 0.31 | 0.2 | 0.08 | 0.6 | 0.04 | <2 | 0.2 | 0.8 | 155 | <5 | 0.17 | 0.5 | 0.20 | <1 | 223 |
| 07HB-05G 591.52-591.79 | | 0.47 | 0.2 | 0.15 | <0.5 | 0.06 | <2 | <0.2 | 0.9 | 234 | <5 | 0.17 | 4.6 | 0.32 | <1 | 174.0 |
| 07HB-06A 131.10-131.45 | | 1.17 | 0.4 | 0.37 | <0.5 | 0.15 | <2 | 0.2 | 2.3 | 125 | <5 | 0.42 | 4.3 | 0.84 | <1 | 120.0 |

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1
Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

To: NORTHERN SHIELD RESOURCES INC.
SUITE 1600 - 150 METCALFE STREET
OTTAWA ON K2P 1P1


Finalized Date: 25-SEP-2007
Account: NORSHI

Project: HIGHBANK

# CERTIFICATE OF ANALYSIS TM07092167

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-MS81<br>Ta<br>ppm<br>0.1 | ME-MS81<br>Tb<br>ppm<br>0.01 | ME-MS81<br>Th<br>ppm<br>0.05 | ME-MS81<br>Tl<br>ppm<br>0.5 | ME-MS81<br>Tm<br>ppm<br>0.01 | ME-MS81<br>U<br>ppm<br>0.05 | ME-MS81<br>V<br>ppm<br>5 | ME-MS81<br>W<br>ppm<br>1 | ME-MS81<br>Y<br>ppm<br>0.5 | ME-MS81<br>Yb<br>ppm<br>0.03 | ME-MS81<br>Zn<br>ppm<br>5 | ME-MS81<br>Zr<br>ppm<br>2 | S-IR08<br>S<br>%<br>0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07HB-04A 204.93-205.33 | | 0.3 | 0.35 | 0.39 | <0.5 | 0.15 | 0.46 | 226 | 1 | 9.0 | 0.88 | 90 | 71 | 0.19 |
| 07HB-05A 110.93-111.17 | | <0.1 | 0.18 | 0.06 | <0.5 | 0.11 | <0.05 | 115 | 1 | 5.6 | 0.64 | 36 | 9 | 0.07 |
| 07HB-05B 152.27-152.60 | | <0.1 | 0.05 | 0.05 | <0.5 | 0.03 | <0.05 | 29 | 1 | 1.3 | 0.17 | 35 | 10 | 0.02 |
| 07HB-05C 237.44-237.69 | | <0.1 | 0.07 | 0.09 | <0.5 | 0.05 | <0.05 | 56 | 1 | 2.6 | 0.26 | 46 | 5 | 0.02 |
| 07HB-05D 237.42-239.60 | | <0.1 | 0.05 | 0.31 | <0.5 | 0.05 | 0.15 | 22 | 1 | 2.1 | 0.29 | 106 | 172 | 0.02 |
| 07HB-05E 310.10-310.29 | | <0.1 | 0.01 | <0.05 | <0.5 | 0.01 | <0.05 | 14 | 5 | 0.6 | 0.10 | 68 | 2 | 0.13 |
| 07HB-05F 482-482.3 | | <0.1 | 0.05 | 0.12 | <0.5 | 0.03 | <0.05 | 46 | 1 | 1.9 | 0.22 | 39 | 6 | 0.09 |
| 07HB-05G 591.52-591.79 | | <0.1 | 0.09 | <0.05 | <0.5 | 0.05 | <0.05 | 84 | 1 | 3.2 | 0.35 | 52 | 5 | 0.15 |
| 07HB-06A 131.10-131.45 | | <0.1 | 0.25 | 0.12 | <0.5 | 0.16 | <0.05 | 215 | 1 | 8.4 | 0.89 | 46 | 12 | 0.06 |