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Barrick Gold Inc.
Work Assessment Report
Bomby Township, Thunder Bay Mining District

Thunder Bay District
March 6, 2015

Aimee Langlais, Project Coordinator
Rodney Barber, Chief Geologist

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Appendices

1.0 INTRODUCTION

In August, 2015, the Open Pit Adit Exploration Diamond Drilling Program was started at William's Mine. 11 holes were drilled from August to September. Holes W1530, W1531, W1533 and W1534 are contained within this report. All drilling for this program was done north of the current open pit high wall, and was intended to test the northwestern extents of mineralization in the area. While relatively close to existing infrastructure, drill testing in this area had been minimal. The diamond drill holes being submitted for assessment fell outside of the current resource model and therefore meets the requirements to be classified as exploration drilling .

Drilling was performed on Barrick Gold Corporation's Lease Claim 274, with assessment credits being distributed to other contiguous claim groups. No physical work was conducted off of the William's Mine footprint.

2.0 PROPERTY LOCATION

Barrick Gold Corporation's Hemlo Mines are located in northwestern Ontario, approximately 300 km east of Thunder Bay (Figure 1). The group of claims sits to the north and south of the Trans-Canada Highway (Hwy 17) just west of the junction with Hwy 614 (Figure 2). The claims are located approximately 40 km east of Marathon, Ontario.

Most claims are accessible directly by road (Hwy 17, Hwy 614, Philips Creek Road, Williams and David Bell Mines' Tailings access roads). Claims that do not have direct road access are within 1-2 km of a roadway and can be accessed by foot.

Through an agreement with Newmont Canada Limited in March, 2015, claim CLM 274 is now contiguous with Barrick's staked claims in the Wabikoba Lake Area.

Lease Claim 274 and TB32054, on which drilling for this report was completed, are part of the Williams Mine property. Williams is one of three mines comprising the Hemlo Camp. The former Golden Giant and David Bell Mines are just east of Williams, spread approximately 5 km along the highway.

3.0 GEOLOGY

Exploration History

Mineralization was discovered in the 1940's by the Moses family. Later in 1945, Harry Ollmann and Dr. J. K. Williams staked 11 claims (the Ollmann-Williams property). Adjoining claims were staked in 1946 and optioned to Lake Superior Mining Corporation. These were optioned to Teck-Hughes Gold Mining in 1951, who drilled six holes, and then dropped and returned the claims to Lake Superior Mining.

Lake Superior Mining Corporation Ltd. optioned their ground to Cusco Mines Ltd. in 1958 and more diamond drilling was carried out. The claims eventually lapsed.

In 1973, the former Lake Superior property was staked by Ardel Explorations Ltd., and three diamond drill holes were completed. It was subsequently picked up by Cypress Resources Ltd., who dropped the claims.

R.G. Newman staked claims that adjoined the western boundary of the Williams patented claim group in 1976.

In December 1979, prospectors Donald McKinnon and John Larche staked a large block of claims surrounding the 11 patented claims comprising the Williams claim block. Corona Resources Ltd. (later named International Corona Resources Limited) optioned a portion of these claims. Drilling resulted in a resource estimate of 340,000 tonnes at 6 g/t.

In May 1981, while Corona was negotiating with Lola Williams for the Williams property, representatives of Corona and Long Lac Minerals (Lac Minerals) exchanged information with the intent of formulating a joint-venture agreement. Lac Minerals went on to get an agreement directly with Mrs. Williams.
In October 1981, Corona alleged that Lac Minerals was in breach of fiduciary agreement and launched a lawsuit over the ownership of the Williams claims. The ensuing three year court battle would become one of the best known legal disputes in Canadian mining history. Corona, needing financial support for their legal dispute with Lac Minerals and for the development of a newly discovered zone (the East Zone), entered into a joint venture agreement with Teck Corporation in November 1981.
The remainder of Larche and McKinnon's claims were optioned to Goliath Gold Mines Ltd (Goliath) in 1981. Claims located west of the Williams block were placed into the holdings of Golden Sceptre Resources Ltd. (Golden Sceptre). Drilling on the Golden Sceptre property began in August 1982.
In 1982, Goliath Gold Mines and Golden Sceptre Resources signed an agreement with Noranda Exploration Company Ltd for development of their Goliath and Golden Sceptre properties. This gave Noranda a controlling interest in what would become the second largest mine in the Hemlo camp.

In March, 1986, the Supreme Court of Ontario decided in favor of Corona over Lac Minerals. Lac Minerals lost an appeal to the Ontario Court of Appeal in October 1987, and subsequently to the Supreme Court of Canada. The property was turned over to Corona, and the name of the mine was shortened to the Williams Mine.

Homestake Mining Corporation purchased the assets of International Corona Resources in 1991 and Homestake was later purchased by Barrick Gold Inc. in 1999.

In January, 1987 Golden Sceptre Resources Ltd., Goliath Gold Mines Ltd., and Noranda Minerals Inc. amalgamated their holdings and formed Hemlo Gold Mines Inc. (Hemlo Gold). As a result of corporate restructuring in 1992, Noranda Minerals Inc. transferred all of its gold assets to Hemlo Gold.
Ownership of Golden Giant changed to Battle Mountain Canada Ltd. in 1996 and then to Newmont Canada Ltd. in 2001.

In 1998, Williams acquired the surface and mineral rights of the Sceptre claims from Battle Mountain Canada to the 9450 elevation of the Williams Mine grid. In 1999, Williams also acquired the surface and mining rights on the Horizon claims from Battle Mountain Canada to the 10150 elevation of the Williams Mine grid. These acquisitions would permit pit expansion to the west, and allow evaluation of underground mining of the down dip extension of the C-Zone pit. In addition to these two exchanges and as part of the same 1998 agreement, the David Bell Mine agreed to transfer the upper quarter claim and the M3 and M4 blocks of the C zone to Battle Mountain Canada. Battle Mountain Canada also agreed to transfer Block 5 east and the Upper Block 5 to David Bell. Both of these latter exchanges were completed to facilitate mining for the parties involved.

In 2002, Williams acquired the surface and mineral rights from surface to the 10150 level on lease 273 and the remainder of lease 274 from Newmont Canada Ltd., providing an area for barren waste stockpiles from the expanded pit.

In 2006, Williams acquired the surface and mineral rights on lease 106623 from Newmont Canada Ltd. This acquisition allowed Williams to mine C Zone mineralization above the 9450 level as well as the down dip extension of the C Zone mineralization on the Interlake property. In August, 2008 Newmont and Williams entered into an agreement to allow WOC to extend its underground mining operations on the WOC property through a 60 m restricted area (Boundary Pillar).
The Williams Mine is currently 100% owned by Barrick Gold after it purchased Teck's 50% interest in April of 2009. The mining claims at the Williams Mine are subject to three net smelter royalties totaling a net effective rate of 2.18% based on expansion mine plans.

The Williams Mine ore body has been systematically drilled over the years to maintain good quality information for ore definition purposes. By the end of 2013, just over 7000 diamond drill holes had been completed at Williams Mine.
Production from the Williams Mine began in mid-1985 from the A Zone open pit located at the east end of the property. This was augmented by underground ore from the same area to sustain an initial 3000 tonnes/day mining rate. The completion of the main shaft, the B-Zone infrastructure and a mill expansion program in 1988 facilitated an increase to 6300 tonnes/day. The closing of the David Bell mill in 1999, (treating David Bell ore through the Williams mill), and increased production from the C Zone pit brought mill throughput to 10,000 tonnes/day to the end of 2006. Since then and until the end of the life of mine, throughput is budgeted at between 8,000 to 9,000 tonnes/day.

Regional

The Williams Mine and surrounding claims lay on the east-west trending Schreiber-Hemlo greenstone belt of the Wawa subprovince of the Archean Superior province (Lin, 2001; Muir, 2002).

The Schreiber-Hemlo greenstone belt consists of a sequence of sedimentary and felsic, intermediate, and mafic volcanic rocks ranging from ≥2720 Ma to approximately 2688 Ma (Lin, 2001; Muir, 2002). The belt is bounded by metamorphic batholiths and is intruded by several granitoid plutons (Lin, 2001; Muir, 2002).

Regional metamorphic grade increases from upper greenschist in the west to middle-amphibolite in the east (Lin, 2001 Muir, 2002). The greenstone belt has undergone several phases of deformation resulting in large-scale shearing and folding (Diagram 1)(Lin, 2001; Muir, 2002).

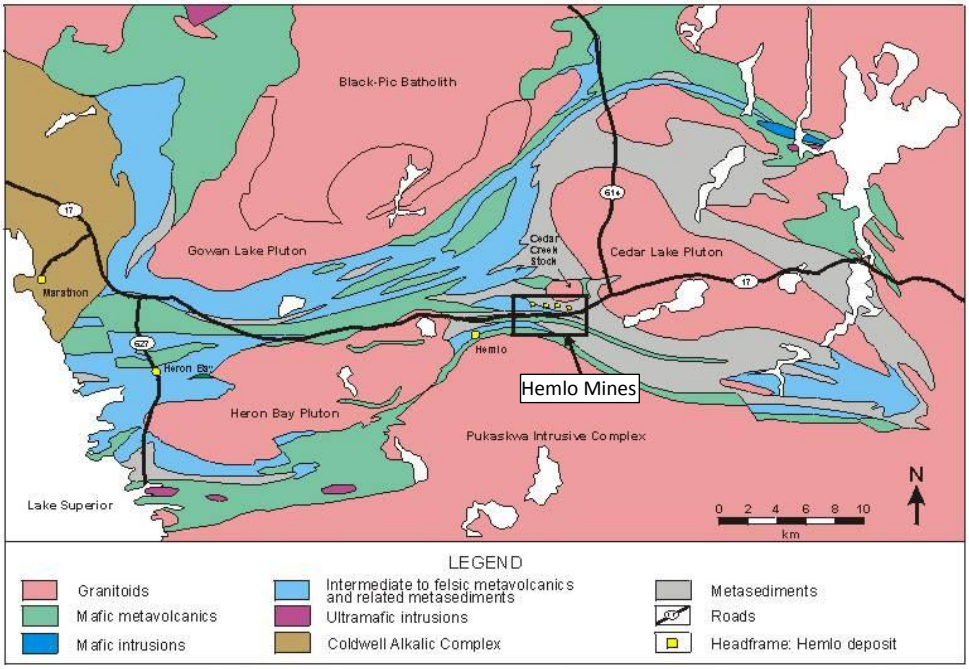


Diagram 1: Regional geology of the Heron Bay - Hemlo greenstone belt, showing the geological setting of the Hemlo gold deposit (modified from Muir, OGS report 289, 1997).

Deposit

The ore zones at the Williams open pit strike roughly east-west and dip steeply to the north. Ore reserves at the Williams Mine are grouped into two main areas: the B and C Zones. The B Zone is further divided into the main zone and footwall zone. The A Zone has been mined out. The A and B Zones are geologically the same continuous zone, with the B Zone being the down-plunge westerly extension of the A Zone, which subcropped at surface.

The C Zone represents multiple sub-parallel lenses of irregular, generally narrow, gold mineralization. C Zone ore is stratigraphically different from the main zone and occurs in two broad geological domains, the porphyritic felsic metavolcanics and the intermediate to felsic volcaniclastic sediment unit. The open pit is located within the C Zone.

C Zone

The general stratigraphy from south to north is Lower Metasedimentary rocks, Porphyritic Felsic Metavolcanics (Moose Lake Porphyry), Quartz Eye Muscovite Schist, Intermediate to Felsic Volcaniclastic Sediments (fragmental unit) and the Upper Metasedimentary rock sequence. Lower and upper denote the relative structural positions of the metasedimentary rock units as the younging directions are unclear. All of the major rock units are highly deformed with multiple events of deformation. Structural geology is complex. Rocks in the deposit area exhibit high strain. At the deposit scale, rocks in the area are tightly isoclinally folded. Most of the ore bodies occur on one or more limbs of these folds. Local drag folding can be seen in the ore. Occasional transverse faults offset ore and wall rock units up to a few meters, and there is some shearing along major contacts. Regional metamorphism is up to amphibolite grade. The deposit has also been cut by a number of north-south trending diabase and lamprophyre dikes which post-date mineralization.

Lower Metasedimentary Sequence

The lower metasedimentary sequence is roughly 100 m thick. It can be divided into three units with gradational contacts.

The lower unit is laminated and well foliated. Its feldspathic nature is reflected in its light grey color, hardness, and low ferromagnesian mineral content. It is typified by small quartz eyes and light colored streaks and bands, which contain coarse amphibole crystals.

The middle unit of the sequence is well banded, foliated, medium grain, and purplish grey in color. They are typified by 5% to 10% dark calc-silicate bands, 5 cm to 10 cm thick. Staurolite, minor garnet and kyanite occur in this unit.

The upper unit of this metasedimentary sequence is characterized by its elevated muscovite content. It is light greenish-grey in color. Thin shears, rich in muscovite, are common in the planes of foliation and small quartz eyes are often visible. Banding is generally poorly defined, possibly due to deformation, and approximately 5% of the unit is made up of dark green calc-silicate bands. The muscovite content of this unit generally increases towards the contact with the felsic unit.

Porphyritic Felsic Metavolcanics (Moose Lake Porphyry)

Felsic rocks structurally overlie the lower metasediments. Current workers favor an intrusive origin for this unit. Overall the unit can best be described as a variably sheared, quartz-feldspar porphyritic felsic rock defined by quartz eyes and/or feldspar phenocrysts and/or fragments. Highly variable alteration and deformation result in a highly variable appearance. In general, the unit consists of between 30 and 60% white feldspar phenocrysts and 10% quartz phenocrysts set in a matrix composed of variable amounts of biotite, sericite and fine grained feldspar/silica alteration. Carbonate is absent or else present in small amounts (<5%).

Planes of weakness are narrow (0.5-2 m) sericitic shears parallel to foliation and 1-10 cm wide chloritic shears/cataclasite zones parallel to sub-parallel to foliation. These chloritic shears have been the cause of hanging wall failures in the long hole stopes. The 300 series (320, 332, and 333 lenses) of mineralized lenses are located in this unit. The ore extends from the pit and economic intervals pinch out below 9800 elevation. The grade in the 300 lenses is more consistent than in the 100 lenses.

Quartz Eye Muscovite Schist

This unit is muscovite rich and contains approximately 5% quartz eyes 1 to 3 mm long. It is interpreted to be the altered, sheared equivalent of the Moose Lake Porphyry. Tourmaline is common as randomly oriented crystals, concentrated in thin bands along foliation planes, and in minor quartz veins. Green vanadium mica is common in the schist.

The marker quartz eye muscovite schist between the Moose Lake Porphyry and the fragmental unit is best developed at surface and thins with depth. The hanging wall contact with the fragmental unit is distinct while the footwall contact is gradational with alternating bands of porphyry and schist.

Intermediate to Felsic Volcaniclastic Sediments (Fragmental Unit)

A 100 to 180 m thick intermediate to felsic fragmental unit occurs along the contact between the Moose Lake Porphyry and overlying metasedimentary unit in C Zone. There are at least two distinctive units with gradations between them.

The intermediate tuff / volcaniclastic sediments consist of a series of relatively thickly bedded (2-10 m thick) units interpreted as volcaniclastic sediments or reworked tuffs. The unit is composed of (40-60%) biotite with generally fewer and smaller fragments than the felsic lapilli-tuff. Elongated, fine grained felsic clasts (10-50%) and elongate mafic clasts (0-15%) are set in a fine grained matrix. The matrix varies from dark brown (biotitic) to light grey (sericitic). Fine, pervasive calcite is also present, typically between 10 and 40%. Clasts (which are not always present) are often concentrated within 1-3 m wide zones. Laminated sections, often with calc-silicate banding are also present locally, but are not nearly as prevalent as in the hanging wall sediments. Tight, isoclinal folding is prominent within parts of this unit in field exposures.

These rocks tend to part along bedding/foliation. An important, less competent, subunit is characterized by hematite staining and closely spaced joints, both parallel to and cutting foliation, which are filled by calcite/anhydrite. Another important incompetent subunit is characterized by moderate to strong sericitization parallel/subparallel to bedding. These sericitic zones tend to be schistose.
The Felsic Lapilli-Tuff unit consists of primarily coarse buff or light grey stretched feldspathic fragments (up to football sized) within a usually feldspathized matrix. The matrix can also be biotitic or sericitic. There are more and larger fragments than in the Intermediate Tuff. Fine (<1 mm) quartz eyes are often visible within the fragments. Fragments of biotitic and calcareous material and of feldspar porphyry are also present, but are usually smaller (1-5cm) and less than 5% of the fragment population. These rocks should be competent except for the planes of weakness along narrow (0.3-1 m) sericitic shears and boudinaged calcite veins (1-10 cm wide). The veins are usually parallel to foliation but locally bifurcate in both plan and section creating wedge-shaped blocks of ground. The 100 series (130, 131, 140 and 150 lenses) of mineralized lenses occur in this rock unit. These lenses have some very high grade intersections, which are less consistent on plan and in section than in the 300 lenses. The 140 and 150 lenses are currently interpreted to extend onto the Interlake property.

Upper Metasedimentary Sequence

The hanging wall metasedimentary sequence is primarily composed of fine to medium grained, banded, laminated pelitic metasediments, with some minor tuffaceous layers. The metasedimentary rocks are fine to medium grained and purplish grey in color with the bands typically being 1 cm to 1 m wide. The unit is typified by the presence of 5% to 10% dark green calc-silicate bands up to 10 cm thick. Kyanite, staurolite and garnet are locally present in the metasediments within 100 m of the hanging wall. Tuffaceous lenses are represented by more muscovite-rich units that lack amphibole carbonate banding and have many small quartz eyes. While well banded and laminated in drill core, in outcrop individual bands are usually discontinuous.

Intrusive Rock

The major intrusive rocks, in decreasing order of age, are intermediate to felsic dikes and felsic

porphyry dikes, altered, biotite-rich dikes, diabase, and lamprophyre. The dikes (except for Diabase) are typically less than 1 meter thick.

Felsic Dike

These are light grey intrusive dikes with/without feldspar phenocrysts. Most of the felsic dikes are parallel to subparallel to foliation, but can dip steeply to moderately to the South. Most have little effect on the structural integrity of the surrounding rocks because their contacts are not foliated. They tend to fail along steeply dipping, chlorite lined fractures roughly perpendicular to contacts.

Intermediate Dike

These are medium to dark grey intrusives with a biotite matrix. The dikes are typically less than 1 meter thick. The intermediate dikes usually cut foliation at a low angle, which has little effect on the structural integrity of the surrounding rocks. The dikes can cut at a higher angle and dip moderately to the southeast.

Mafic Dike

These dikes are black to green intrusives rich in amphiboles. The dikes are typically less than 1 meter thick. Most of the mafic dikes are parallel to subparallel to foliation, but locally dip steeply to moderately to the South (e.g. northwest corner of the pit). Mafic dikes can be a plane of weakness with their sheared chloritic contacts and some dip south cutting foliation.

Diabase

Diabase dikes are late intrusives composed of amphiboles and feldspars. They occur as major structures 3 to 12 meters wide cross cutting foliation at approximately 90 degrees. This greatly reduces the structural integrity of the surrounding rocks. The margins of the dikes are cut by numerous joints producing blocky incompetent rock. They are subvertical or generally dip steeply to the east.

Lamprophyre

Lamprophyre dikes are also late intrusives consisting of carbonate, felted biotite, magnetite and pyroxene. They appear to fill late fault zones. Lamprophyres are rare in CZone underground. The one lamprophyre observed in the pit is less than one meter thick and cuts across foliation. The contacts are major planes of weakness.

Mineralization

The most significant mineralizing event (Au-Mo-K event) introduced Au, S, Mo, Zn, As, Sb, Hg, Tl, and W and the alteration elements K, Si, Fe and V during the early stages of the major regional deformation event (G2) and prior to peak metamorphism. Pervasive potassium-dominated alteration resulted in a core of feldspathization (microcline-quartz) coincident with the ore zone and an outer halo of muscovitization (muscovite-quartz). Significant pyritization, with biotitization and silicification are associated with alteration. Subsequent to the Au-Mo-K event, remobilization of Au-Sb-Si resulted in quartz veins with gold and stibnite, an Au-Ca event resulted in redistribution of gold with calc-silicate alteration assemblages, and an Au-As-Hg event precipitated low temperature sulphide minerals, such as realgar, orpiment and cinnabar from retrograde fluids. Molybdenite and green vanadiferous mica are the best visual mineralogical indicators of gold content in the Hemlo deposit.

Enrichment of Au, Mo and lithophile elements suggests that magmatic fluids transported the metals; however, the source of the fluids has not been identified. The fluids were channeled along the feldspar

quartz porphyry-metasediment interface and mafic fragmental in the restraining bend of a regional sinistral, ductile shear zone. The barite horizon contributed to competency contrast and may have triggered gold precipitation.

K, Si, Fe, V enrichment and Ca, Mg, Na depletion produces distinct alteration haloes, both across and along strike from the deposit. The K enrichment produces a strong radiometric anomaly. Associated pyritization results in subtle but distinct VLF-EM and IP anomalies detected in both airborne and ground surveys. As, Sb, and Hg haloes are locally present as a result of metal redistribution during late alteration events.

The Hemlo deposit has several distinct mineralogical characteristics. High Hg content is a distinguishing feature of Hemlo native gold. Microcline related to alteration and mineralization has high Ba and muscovite has high Ba and V. Rutile in the ore zone is enriched in V, W and Sb.
The C Zone mineralization is approximately 400 to 600 meters west of the B Zone and distinctly different from the B-Zone. Several zones or lenses typify it; most of which are thin, low to medium grade mineralization. These extend eastward roughly 700 meters from the western boundary of the Williams property and vertically from surface to a depth of at least 1300 meters. The Interlake resource is the down dip extension of the C Zone mineralization.

The C Zone mineralization generally strikes at approximately 100 degrees, dips 68 degrees to the North and rakes at 45 to 60 degrees to the west. The higher-grade cores of the lenses are mined by underground methods where ore body widths are generally less than 10 m. Ore bodies in the C Zone generally occur along contacts between the fragmental units or as lenses that parallel the foliation. Individual lenses display `pinch and swell' features and large variances in grade can occur within each lens. Pre-existing geologic structures appear to have exerted the strongest controls on mineralization. The influence of later deformational events is not well understood. All of the major rock units are highly deformed with multiple events of deformation. Regional metamorphism is up to amphibolite grade. There is a key marker muscovite schist, which pinches out at depth, between the porphyry and the fragmental unit.

The 300 series of lenses are contained in the porphyritic felsic metavolcanics (Moose Lake Porphyry). The lens numbers increase to the south with the 320, 332, and 333 being the economic lenses underground. The C332/333 zone displays the greatest continuity of all of the zones and has been traced 500 meters along strike and over 400 meters down-dip. The 100 series are contained in the intermediate to felsic volcaniclastic sediments (fragmental) unit. The 130, 131, 140 and 150 lenses make ore grade in different areas underground. The Interlake ore is the down dip extension of the 140 and 150 lenses.

4.0 DRILL PROGRAM

Eleven diamond drill holes, collared at ten different locations, were planned for the 2015 Open Pit Adit Exploration Diamond Drilling Program at Williams. This report contains information from drillholes W1530, W1531, W1533 and W1534 (Figures 3, 4 and 5a-d).

Boreal Drilling was contracted to perform all diamond drilling for the 2015 program.

Drilling began in August, 2015, and was completed in September, 2015. Appendix J contains invoices for this period. Drillings costs for DDH W1530, W1531, W1533 and W1534 totaled $74,898.

The drilling schedule was two weeks on, one week off, with two 10-hour shifts per day. Each two-man crew consists of a Runner and a Helper.

All holes were sampled and sent for Au assay (not submitted for assessment credit). Detailed drill logs are provided in Appendices B – E. Drill hole sections are provided in Figures 5a-d.

Hole ID	Easting (mE)	Northing (mN)	Elevation (mASL)	Azimuth (degrees)	Dip (degrees)	Length (m)
W1530	578203	5394715	358	180	-48	276
W1531	578233	5394710	356	180	-48	234
W1533	578260	5394698	356	181	-59	300
W1534	578261	5394698	362	180	-69	351

Table 1. Diamond drillhole collar and orientation details.

General Lithology

All four drillholes were collared in intermediate volcaniclastic rocks in the hanging wall. All drillholes pass through an intermediate fragmental unit near the top of the hole. This unit appears to be of volcaniclastic origin with subrounded light cm-scale clasts in a fine grained biotite rich matrix, and ranges from seven to twelve meters wide (core length). Drilling intersected roughly 150 meters of hanging wall sediments, including a conglomeratic unit with cm-scale, rounded, heterolithic fragments in a fine grained matrix. This fragmental unit can be traced along all drilling from this program with variable thickness. Drillholes W1530 and W1531 intersect a narrow biotite rich volcaniclastic layer towards the end of the metasedimentary unit that is not seen in W1533 and W1534. All drillholes intersect a second intermediate volcaniclastic unit at approximately 200 meters depth +/- 30 meters. This volcaniclastic unit is generally biotite rich with intermittent calc-silicate banding, and contains a fragmental horizon that is strongly feldspathically altered and contains, or is adjacent to, moderate molybdenite mineralization. Disseminated pyrite can be found throughout most units.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 2015 diamond drilling program intersected a series of metamorphosed, highly strained sedimentary and intermediate volcaniclastic rocks. Local hetrolithic conglomerate may be useful as a marker horizon. The presence of amphibole and garnet suggest metamorphic grade is up to the lower amphibolite facies. Retro-grade metamorphic minerals around mineralized zones include muscovite, biotite, chlorite, calcite and feldspar.

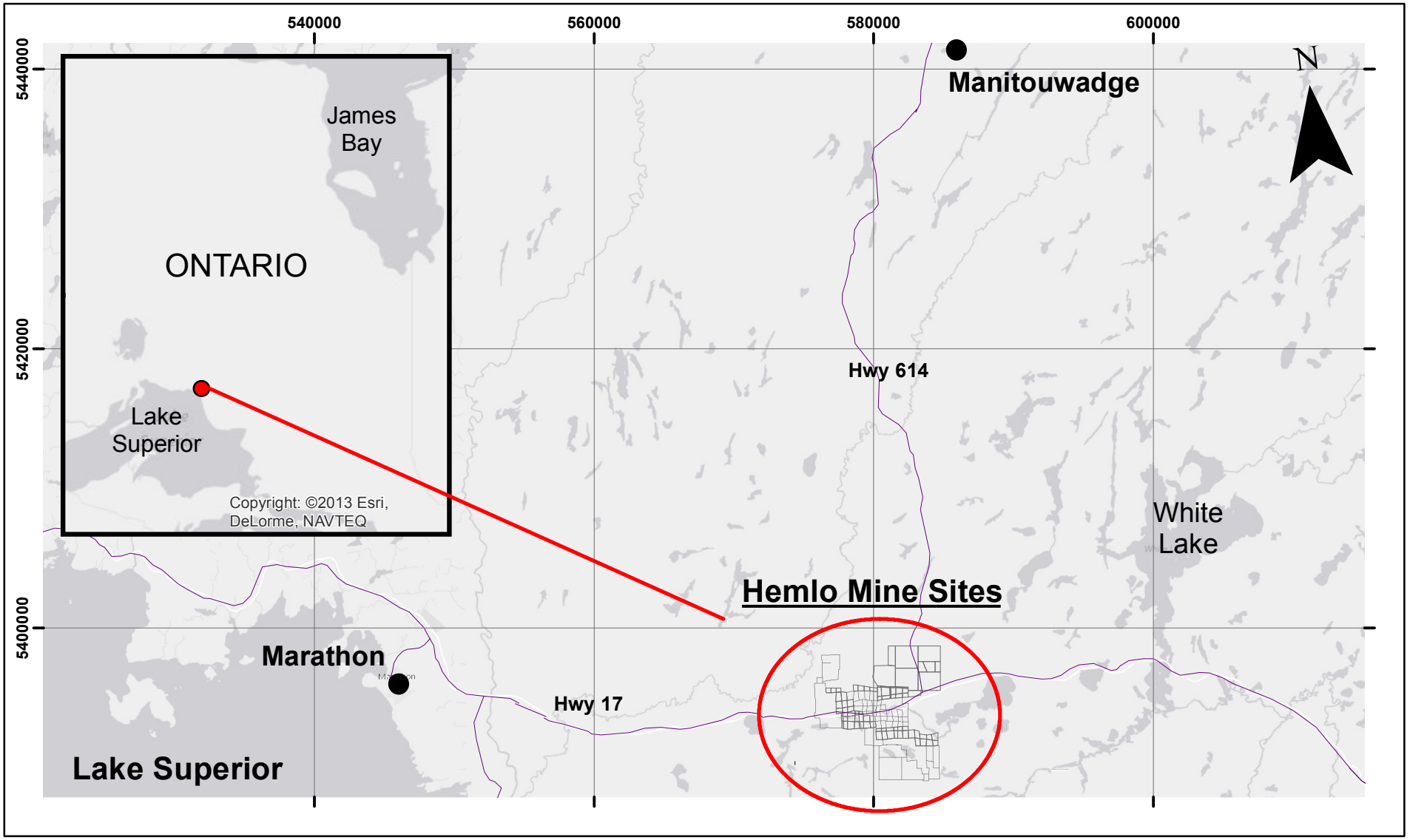
Mineralized zones present in the open pit appear to continue along strike to the west and at depth. Further drilling is warranted to further explore this mineralization.

6.0 REFERENCES

Muir, T.L. 1985. Geology of the Hemlo – Heron Bay area. In Gold and copper–zinc metallogeny, Hemlo – Manitouwadge – WinstonLake, Ontario, Canada. Edited by R.H. MacMillan and D.J.Robinson. Mineral Deposits Division, Geological Association of Canada, and Geology Division, Canadian Institute of Mining and Metallurgy, pp. 30–38.

Muir, T.L. 1997. Precambrian geology, Hemlo gold deposit area. Ontario Geological Survey report, ISSN 0704-2582; 289.

Patterson, GC, 1985. Exploration history and field stop descriptions of the Hemlo area. In Gold and copper–zinc metallogeny, Hemlo – Manitouwadge – WinstonLake, Ontario, Canada. Edited by R.H. MacMillan and D.J.Robinson. Mineral Deposits Division, Geological Association of Canada, and Geology Division, Canadian Institute of Mining and Metallurgy.



0 5 10 20 30 Kilometers

Legend

Barrick Detailed Claims

Magnetic Declination: 6 deg 30 min W

Barrick Gold Inc., Hemlo Project

Bomby Township, Ontario, Canada

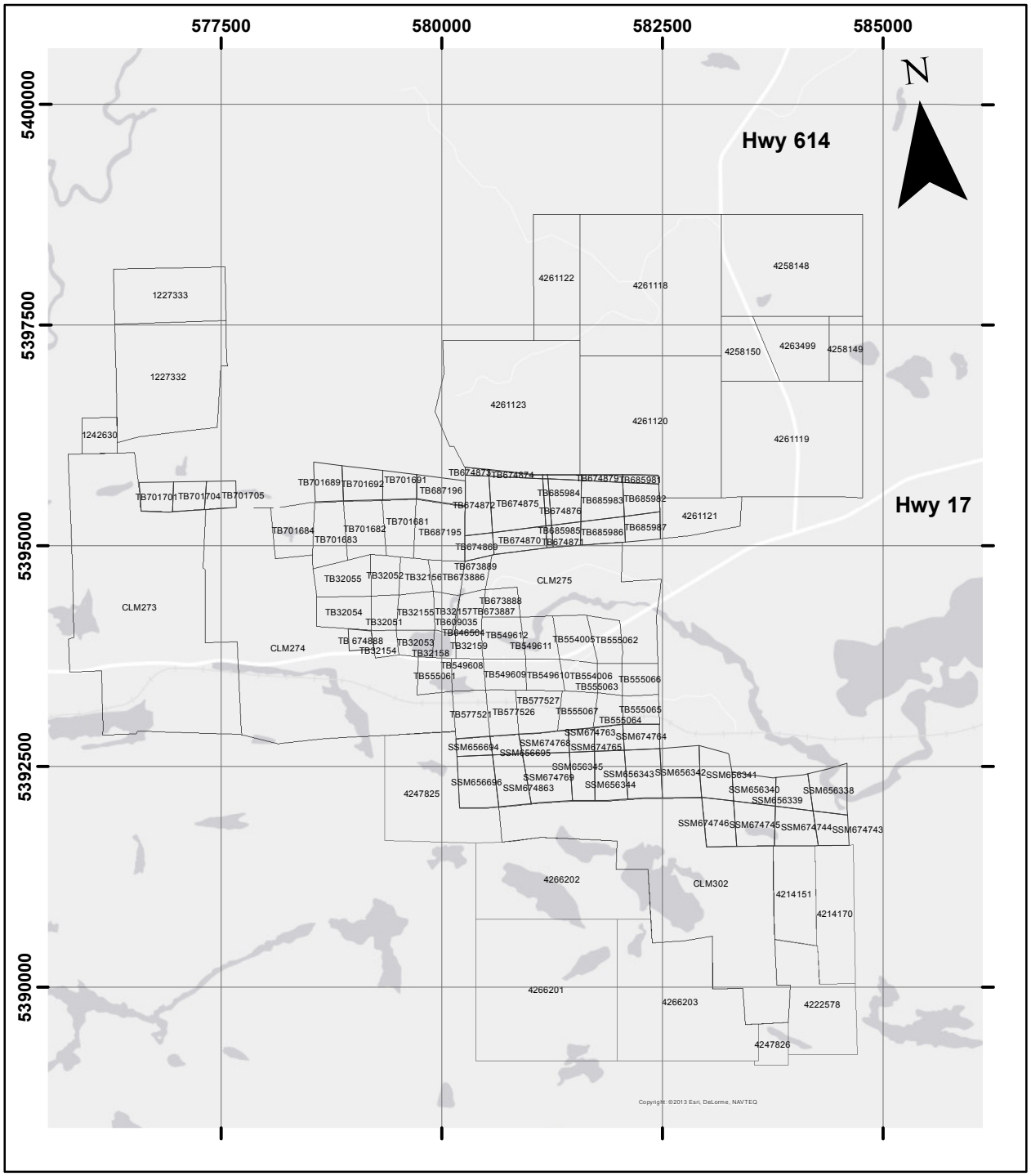
Thunder Bay Mining District

Figure 1 **Regional Property Location Map**	UTM Nad 1983 Zone 16N Created by: Aimee Langlais Date: November 10, 2015

Barrick Gold Inc.
Hemlo Project
Bomby Township, Ontario, Canada
Thunder Bay Mining District

UTM Nad 1983 Zone 16N
Created by: Aimee Langlais
Date: November 10, 2015

Figure 2
Local Property Location Map



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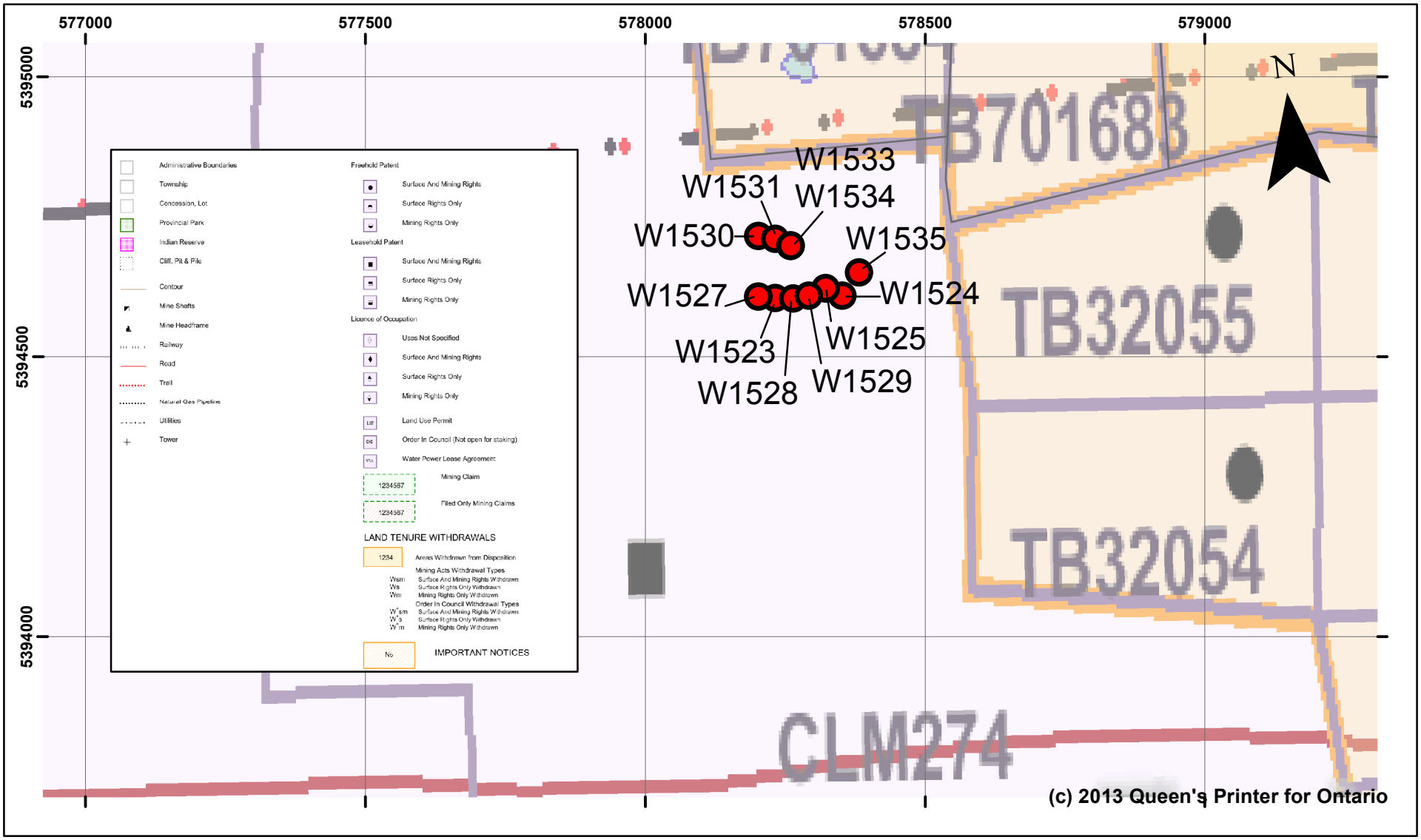
Barrick Detailed Claims

Magnetic Declination:
6 deg 30 min W



Legend

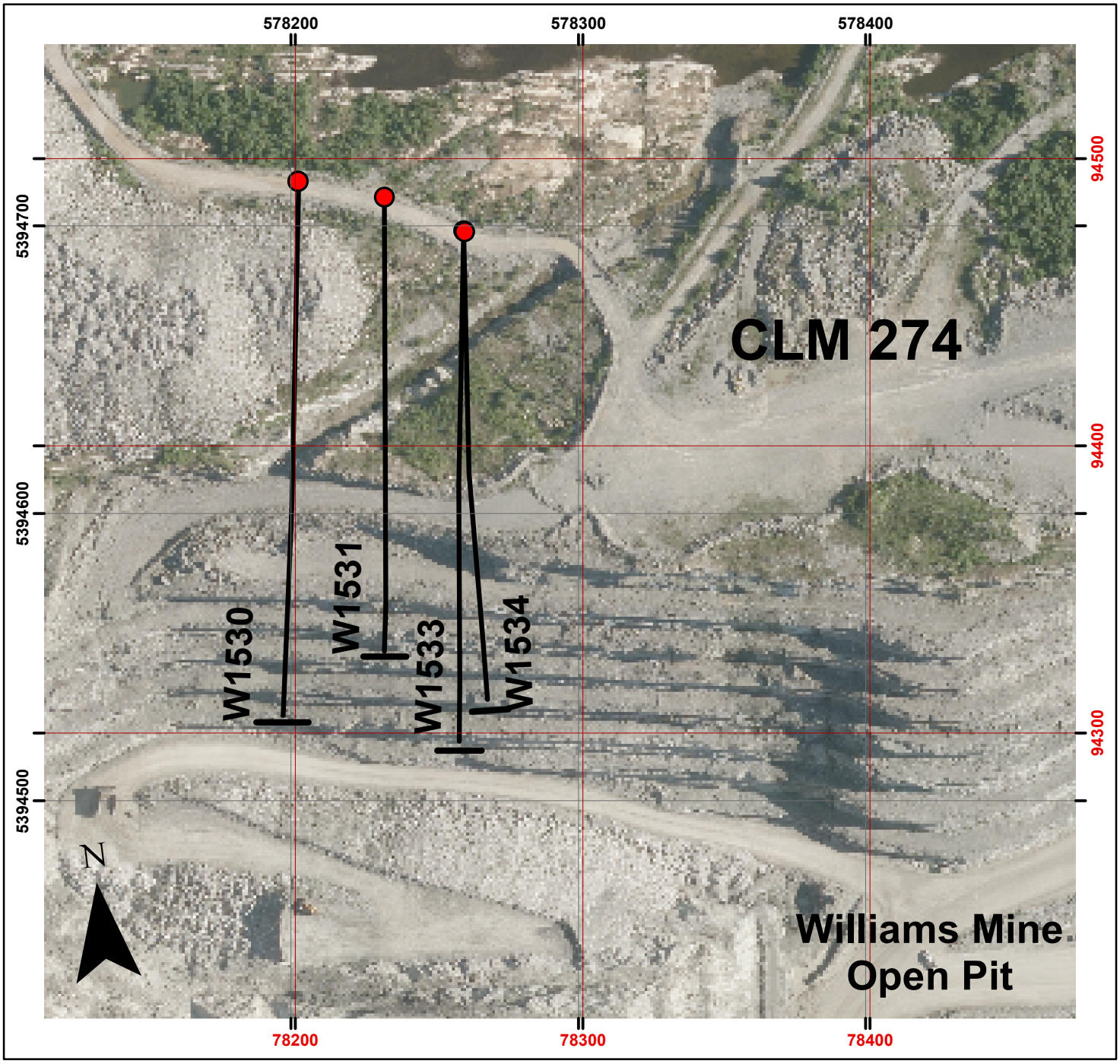
- 2015 Drillhole Collars

Magnetic Declination:
6 deg 30 min W

Barrick Gold Inc., Hemlo Project
Bomby Township, Ontario, Canada
Thunder Bay Mining District

Figure 3
2015 Drillhole Collars
MNDM CLAIMaps Base

UTM Nad 1983 Zone 16N
Created by: Aimee Langlais
Date: November 10, 2015



0 50 100 200 Meters

Legend

- 2015 Drillhole Collars
- 2015 Drillhole Traces

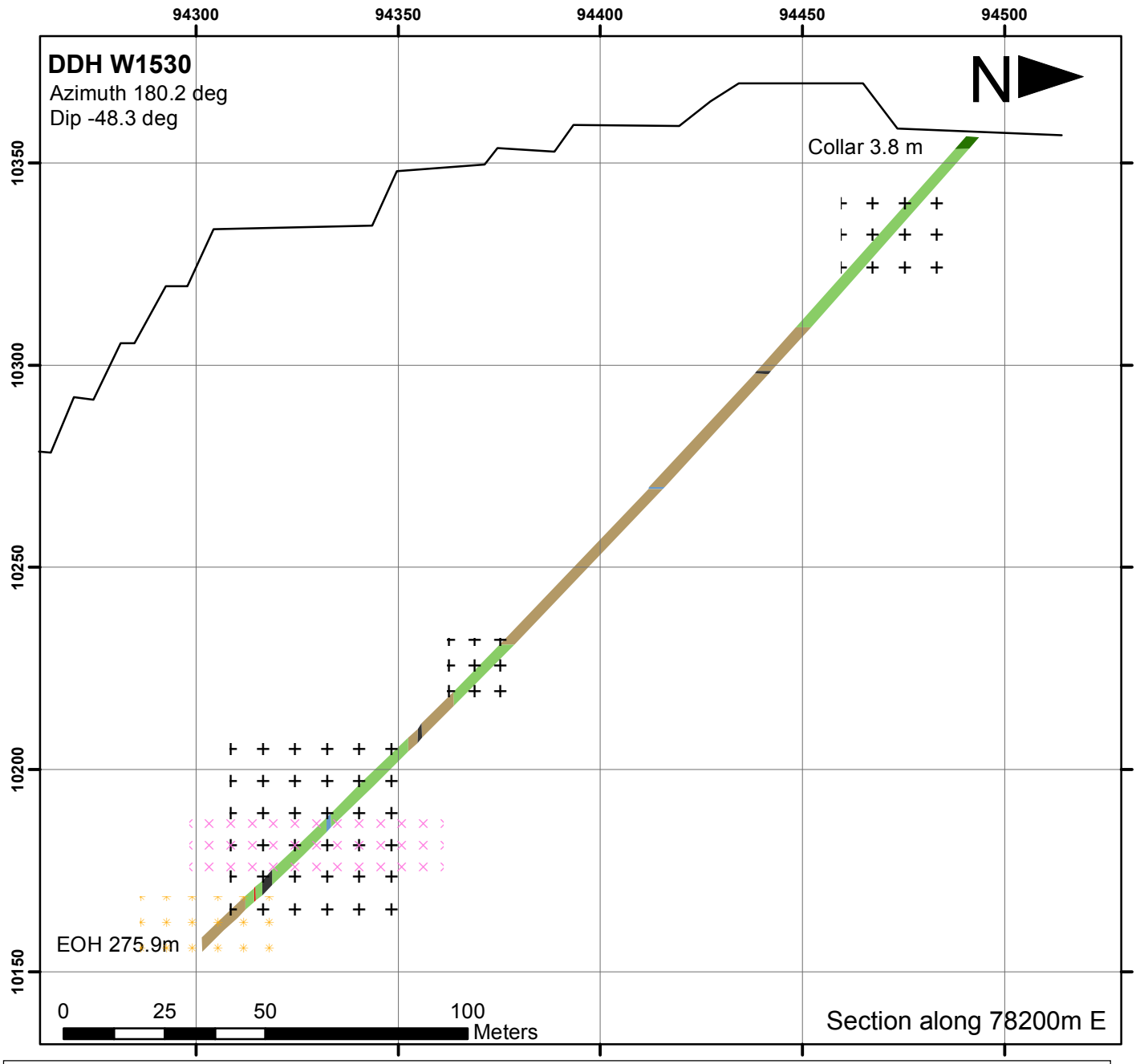
Barrick Gold Inc., Hemlo Project
Bomby Township, Ontario, Canada
Thunder Bay Mining District

Figure 4
2015 Drillhole Traces Plan View

UTM Nad 1983 Zone 16N
Created by: Aimee Langlais
Date: November 13, 2015

Red Grid is Local C Zone Grid

Magnetic Declination: 6 deg 30 min W



Rock Type Legend

<all other values>	4 Metasedimentary rocks	9 Felsic porphyritic intrusive rocks	14 Lamprophyre dykes
ROCKCODE	5 Baritic rocks (>25% barite)	10 Felsic intrusive rocks	15 Breccia pipe
1 Mafic metavolcanic rocks	6 Massive to foliated feldspathis rock	11 Intermediate intrusive rocks	16 Quartz vein
2 Intermediate metavolcaniclastic rocks	7 Biotitic rocks - includes schists and fragments	12 Mafic intrusive rocks	
3 Felsic metavolcanic/volcaniclastic rocks	8 Muscovite schist	13 Diabase dykes	

Alteration Legend

- Feldspathitization
- Muscovitization
- Biotitization

NOTE: Plotted grid is local "C" Zone Grid

Barrick Gold Inc., Hemlo Project

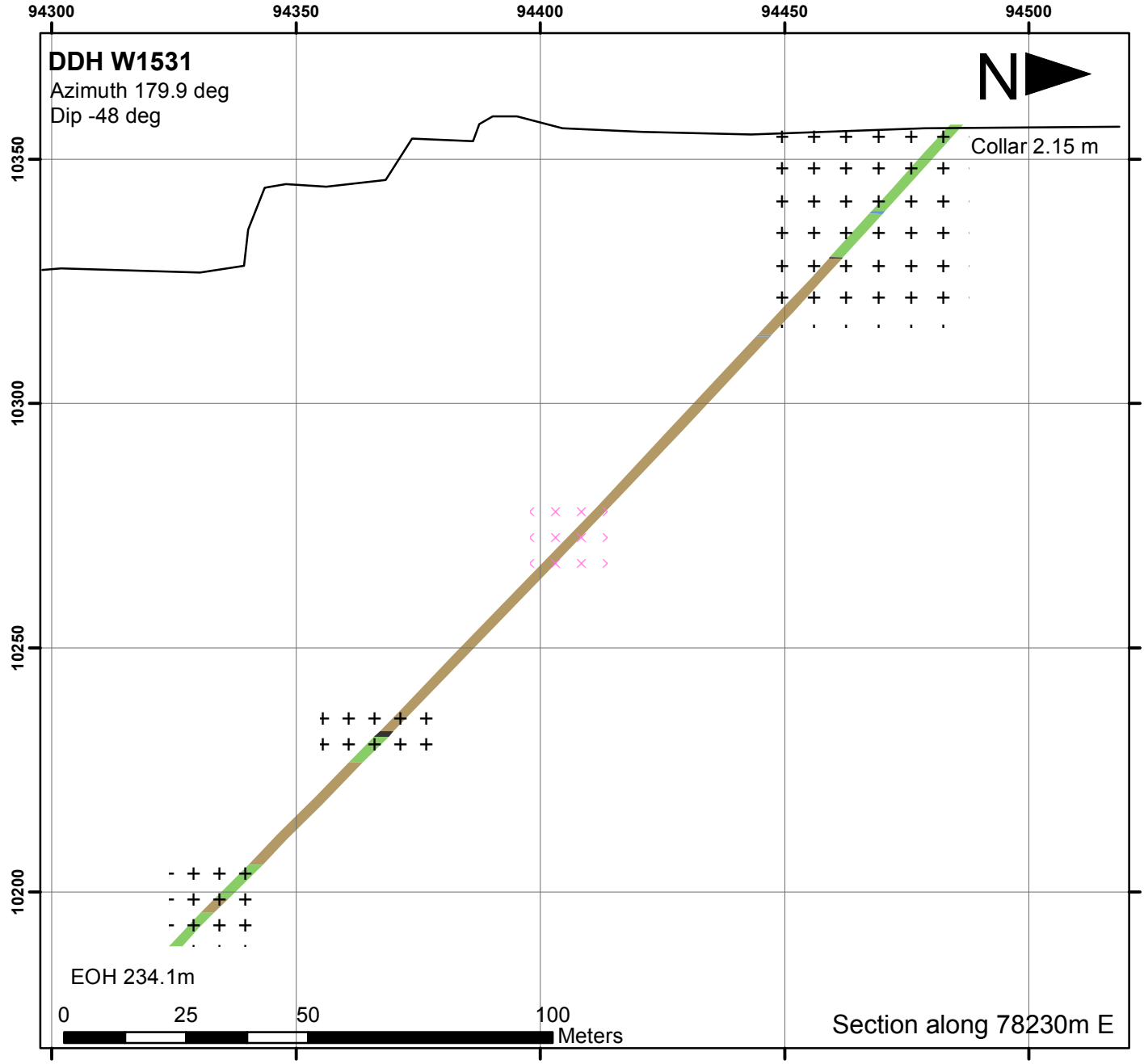
Lease Claim 274, Bomby Township, Ontario, Canada

Thunder Bay Mining District

Figure 5a

DDH W1530 Cross Section
Major Lithology and Alteration

UTM Nad 1983 Zone 16N
Created by: Aimee Langlais
Date: November 10, 2015



Rock Type Legend

<all other values>	4 Metasedimentary rocks	9 Felsic porphyritic intrusive rocks	14 Lamprophyre dykes
ROCKCODE	5 Baritic rocks (>25% barite)	10 Felsic intrusive rocks	15 Breccia pipe
1 Mafic metavolcanic rocks	6 Massive to foliated feldspathis rock	11 Intermediate intrusive rocks	16 Quartz vein
2 Intermediate metavolcaniclastic rocks	7 Biotitic rocks - includes schists and fragments	12 Mafic intrusive rocks	
3 Felsic metavolcanic/volcaniclastic rocks	8 Muscovite schist	13 Diabase dykes	

Alteration Legend

- Feldspathitization
- Muscovitization
- Biotitization

NOTE: Plotted grid is local "C" Zone Grid

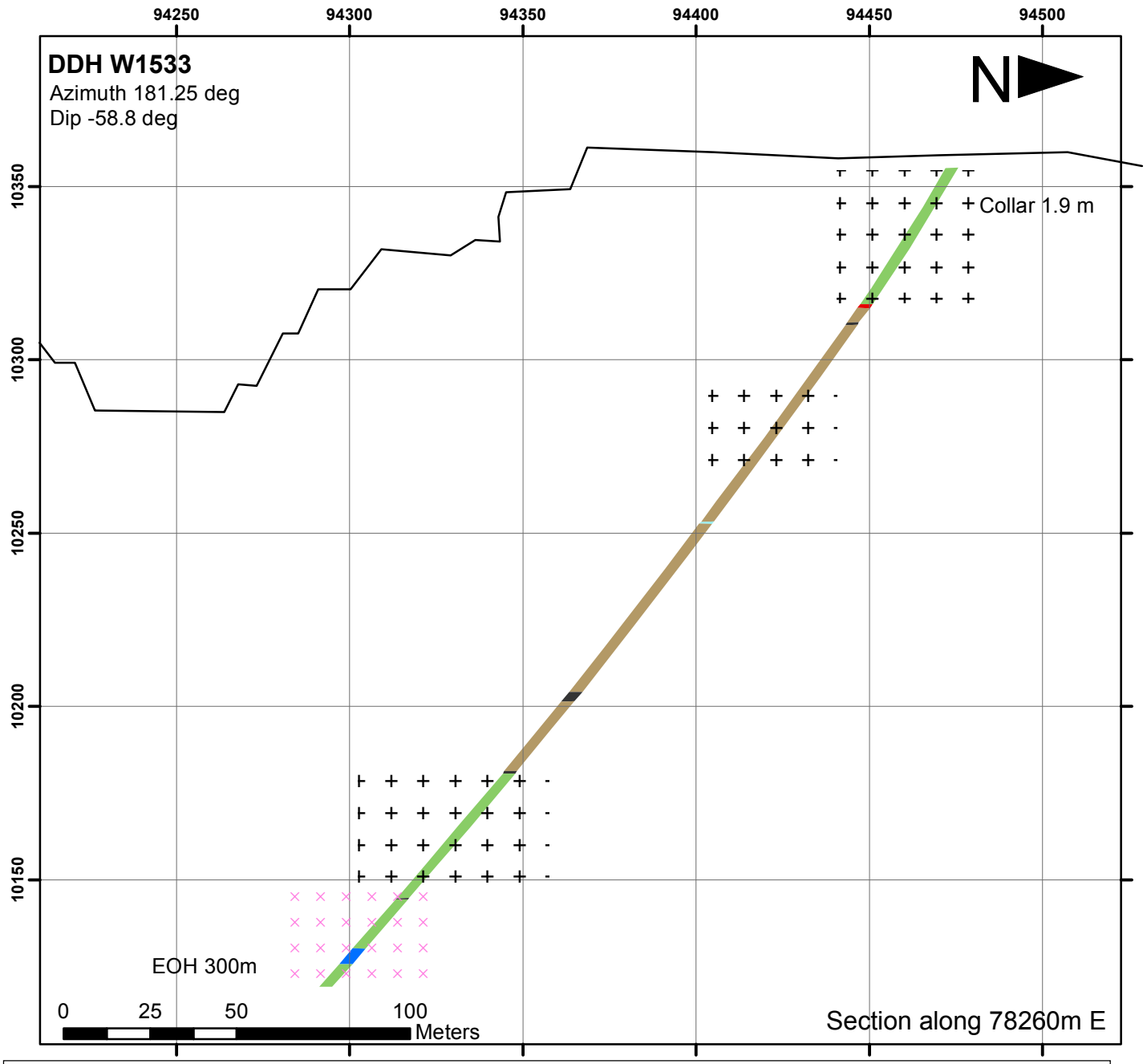
Barrick Gold Inc., Hemlo Project

Lease Claim 274, Bomby Township, Ontario, Canada

Thunder Bay Mining District

Figure 5b
DDH W1531 Cross Section
Major Lithology and Alteration

UTM Nad 1983 Zone 16N
Created by: Aimee Langlais
Date: November 10, 2015



Rock Type Legend

<all other values>	4 Metasedimentary rocks	9 Felsic porphyritic intrusive rocks	14 Lamprophyre dykes
ROCKCODE	5 Baritic rocks (>25% barite)	10 Felsic intrusive rocks	15 Breccia pipe
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3 Felsic metavolcanic/volcaniclastic rocks	8 Muscovite schist	13 Diabase dykes	

Alteration Legend

- Feldspathitization
- Muscovitization
- Biotitization

NOTE: Plotted grid is local "C" Zone Grid

Barrick Gold Inc., Hemlo Project

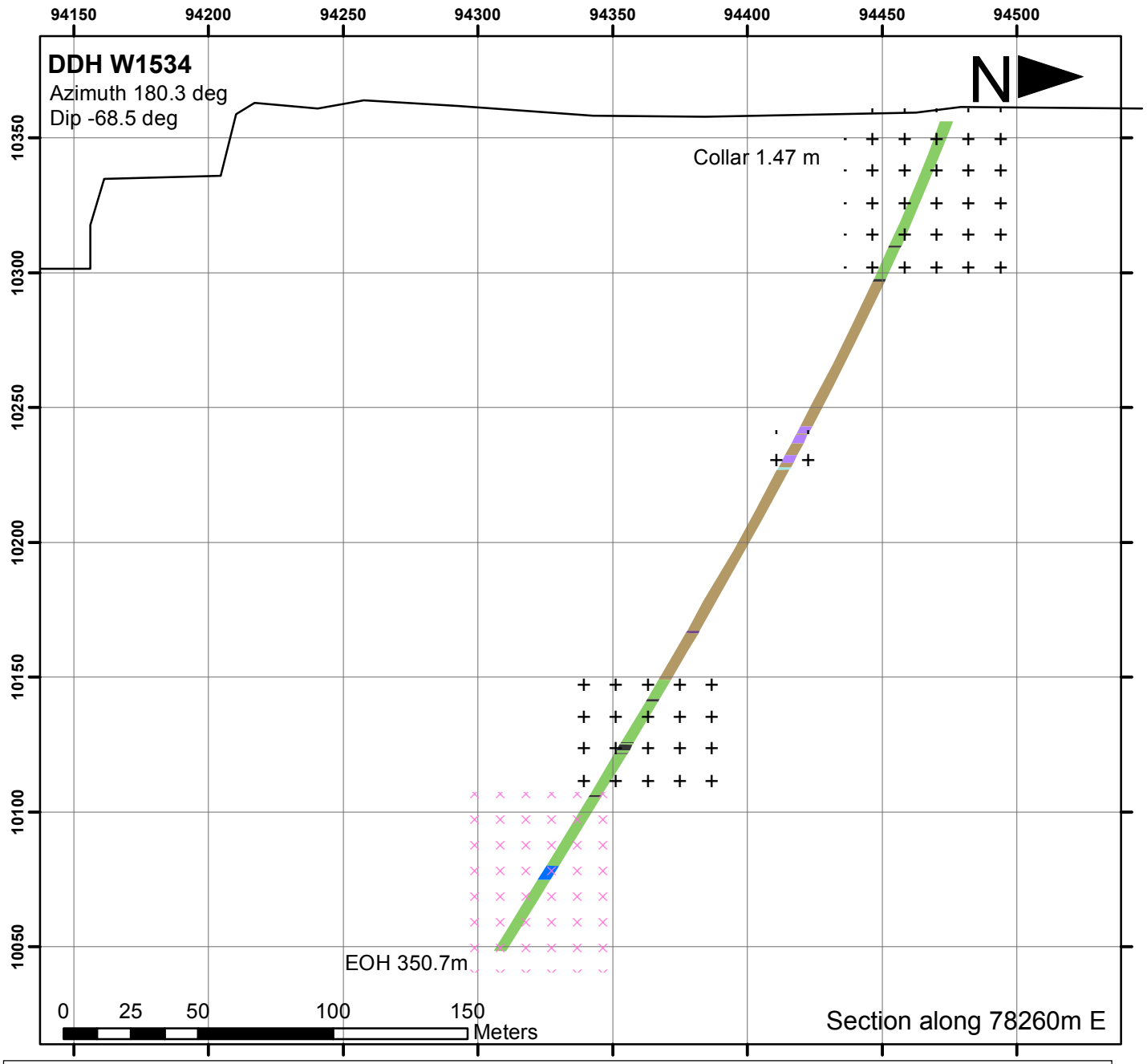
Lease Claim 274, Bomby Township, Ontario, Canada

Thunder Bay Mining District

Figure 5c

DDH W1533 Cross Section
Major Lithology and Alteration

UTM Nad 1983 Zone 16N
Created by: Aimee Langlais
Date: November 10, 2015



Rock Type Legend

<all other values>	4 Metasedimentary rocks	9 Felsic porphyritic intrusive rocks	14 Lamprophyre dykes
ROCKCODE	5 Baritic rocks (>25% barite)	10 Felsic intrusive rocks	15 Breccia pipe
1 Mafic metavolcanic rocks	6 Massive to foliated feldspathis rock	11 Intermediate intrusive rocks	16 Quartz vein
2 Intermediate metavolcaniclastic rocks	7 Biotitic rocks - includes schists and fragments	12 Mafic intrusive rocks	
3 Felsic metavolcanic/volcaniclastic rocks	8 Muscovite schist	13 Diabase dykes	

Alteration Legend

- Feldspathitization
- Muscovitization
- Biotitization

NOTE: Plotted grid is local "C" Zone Grid

Barrick Gold Inc., Hemlo Project

Lease Claim 274, Bomby Township, Ontario, Canada

Thunder Bay Mining District

Figure 5d

DDH W1534 Cross Section Major Lithology and Alteration

UTM Nad 1983 Zone 16N

Created by: Aimee Langlais

Date: November 10, 2015

Appendix A

Hemlo Geology Logging Legend

2012

Hemlo Geology Legend

Williams Operating Cororation

David Bell Mine

Updated: 7/12/2012

GEOLOGY LEGEND

FROM – TO Defines the interval over which a particular rock type or characteristic occurs.

ROCK TYPE Includes geological and structural units. May also include textural designations and/or minerals.

A: GEOLOGICAL UNITS AND SUBUNITS

REFER TO APPENDIX I

0) No Core
00) Casing
1) Mafic metavolcanic rocks
2) Intermediate metavolcaniclastic rocks
3) Felsic metavolcanic/volcaniclastic rocks
4) Metasedimentary rocks
5) Baritic rocks (> 25% Barite)
6) Massive to Foliated Feldspathic Rock
7) Biotitic rocks – includes schists and fragmentals
8) Muscovite schist
9) Felsic porphyritic intrusive rocks
10) Felsic intrusive rocks
11) Intermediate intrusive rocks
12) Mafic intrusive rocks
13) Diabase dykes
14) Lamprophyre dykes
15) Breccia pipe
16) Quartz Vein

B: DESCRIPTORS

REFER TO APPENDIX I AND II

a) coating or envelopes
b) blebs
c) fragmental
d) disseminated
e) quartz eyes
f) feldspar phenocrysts
g) interstitial
h) schistose
i) lenses/augen
j) foliated
n) shear
o) brecciated
p) pervasive
q) massive
r) red colouration
s) feldspathic
t) calc-silicate bands
u) quilts or patches
v) vein
w) books

k) banded
l) laminated
m) nodules or spots
x) sheeting
y) magnetic
z) tarnish and stain

LC – lost core
PC – popcorn – like phenocrysts

C: ROCK FORMING MINERALS OF UNITS AND SUBUNITS

Ac- Actinolite
Ak – Ankerite
Am – Amphibole
Ah – Anhydrite
Ap – Apatite
As – Arsenopyrite
Ba – Barite
Bi – Biotite
Bo – Bornite
Ca – Calcite
Cb – Carbonate
Cd – Chloritoid
Cl – Chlorite
Cp – Chalcopyrite
Hg – Cinnibar
Dr – Dravite
Ep – Epidote
Fl – Fluorite
Fx – Feldspar
Gr – Graphite
Gt – Garnet
Pb – Galena
Vg – Visible Gold
Hm – Hematite
Kf – Potassic Feldspar
Ky – Kyanite
Mg – Magnetite
Mo – Molybdenite
Mu – Muscovite
Or – Orpiment
Ph – Phlogopite
Py – Pyrite
Po – Pyrrhotite
Pn – Pyroxene
Qz – Quartz
Rc – Rhodochrosite
Re – Realgar
Ro – Roscoelite
Ru – Rutile
Sl – Sillimanite
St – Staurolite
Sb – Stibnite
Sp – Sphalerite
Te – Tellurides
Ti – Sphene
To – Tourmaline
Tr – Tremolite
Ze – Zeolite

ALTERATION

Describe the type and intensity of the three most important alteration types.

Alteration	Type
Cx	Carbonatization
Cz	Chloritization
Ax	Amphibolitic Alteration
Ex	Epidotization
Rd	Reddish (Potassic/Hematitic)
Fx	Feldspathitization
Mx	Muscovite
Sx	Silicification
Ox	Oxidation

ALTERATION INTENSITY

W	weak	SI	strong to intense
WM	weak to moderate	I	intense
M	moderate		
MS	moderate to strong		
S	strong		

Shade and Colour Index for Mineral Description

dk	dark	*	(eg. 12 dykes)
med	medium	*	
lt	light	*	(eg. 8's)

gy	grey
blu	blue
grn	green
vio	purple
pnk	pink
brn	brown
rd	red
yel	yellow
blk	black
wht	white

GRAIN SIZE: Grain size description of rocks and/or minerals.

Abbreviations

Vfg = Very Fine Grained – indistinguishable
fg = Fine Grained = ≤ 0.5 mm
mg = Medium Grained = 0.5 – 1.9 mm
cg = Coarse Grained = ≥ 2 mm

FC: Fracture count; defined as the average number of fractures in 1m of core for any particular unit.

RQD: An estimate of RQD for the rock unit being described. This must be an integer from 0-100, with 100 being the most competent rock. Replaces competence scale in previous Legend.

SF: Description and dip angle of STRUCTURAL FEATURE (S) in a unit.
Dip is measured from a plane perpendicular to the core axis (core normal angle).

FD – folded
FT – fault/slip
GO – gouge

CT – contact
CL – cleavage
BD – bedding
QV – quartz vein
LN – lineation
FR – fracture or joint
SK – slickensides

FROM – TO Range or location (metres) of a structural feature.

MINERALOGY

Observed minerals described by mode of occurrence/texture and percentage of the total rock. Use the same guide as Part B: Rock Names (refer to Appendix I and II)

ZONE Used for highlighting information

MZ1	S	FW	FZ-1	N	FW
MZ2			FZ-2		
MZ3	N	HW	FZ-3	S	FWS

APPENDIX I

ROCK NAMES

Listed below are standard rock names which are to be used for all mapping and core logging. Local variations can be noted as comments in the log and can also be shown in the alteration and mineralogy tables. It must be recognized that all of the supra-crustal rocks at Hemlo are foliated and metamorphosed to some degree. This legend attempts to emphasize the most important features associated with the gold mineralization ie structure, sericite, k-spar and silica alteration, the presence of molybdenite and pyrite.

Equally important, faults should be logged/mapped as separate lithological units wherever they are recognized. The format is "rock"FT. This could be any lithological subtype, but faulted in some way. The intent here is to clearly identify potential ground control problems at an early stage. This includes gouge, closely spaced fracture zones and slips along which displacement has occurred. Lamprophyres always form planes of weakness and should always be logged as a major unit if greater than 10 cm wide in core.

Notes: The term "fragmental" is not meant to have any specific genetic connotation. It is used here as a field term to describe a rock consisting of pieces of rock within a fine grained matrix.

The term "breccia" refers rocks which are obviously the product of some sort of brittle deformation and/or intrusion or phreatic process.

(1) Mafic Metavolcanic Rocks (Playter Harbour Sequence)
- composed of amphibole (actinolite, hornblende, tremolite)
- fine grained, dark greenish black (darker than intermediate rocks)
- strongly magnetic except in chloritic sections
- moderately to strongly foliated
- includes pillowed flows and volcaniclastic sections, often difficult to distinguish in core.

1Am: Typical Mafic Volcanics

1Cln: Sheared, chloritic, mafic volcanics.

1FT: Fault Zone
Usually contains significant sections of gouge material.

(2) Intermediate Volcaniclastic Sediments
- generally thickly bedded, equigranular/massive with local banded/laminated sections and local tuff/lapilli-tuff sections. Strongly foliated.
- has greater % of disseminated carbonate than the metasediments, often dark brownish in colour.
- likely originally a series of reworked volcaniclastic debris flows/lahars.
- occasional thin beds of calc-silicate banded sediments.
- composed mostly of feldspar, biotite and quartz with minor garnet

2Bi: Biotitic Volcaniclastics
Fine grained, weakly to strongly foliated, thickly bedded brownish volcaniclastic sediments. Moderate to strong calcite alteration throughout. Often has weak to moderate sericite alteration.

2Mu: Sericitic Volcaniclastics
Fine grained, weakly to strongly foliated, thickly bedded tan coloured volcaniclastic sediments with moderate to strong sericite (muscovite) alteration. Moderate to strong calcite alteration throughout. Often has weak to moderate biotite alteration

2kt: Calc-silicate Banded Volcaniclastics
Interbedded fine grained volcaniclastic material and calc-silicate banded sediments.

2c: Fragmental Intermediate Volcaniclastics
Fine to medium grained, variably biotitic and sericitic matrix with > 5% fragments 5-50mm long. Heterolithic, but fragments are most often bone white and feldspathic.

2s: Feldspathized Intermediate Volcaniclastics
Fine grained, moderately to strongly feldspathic, biotitic and calcitic unit. Can be medium to dark grey to brownish. May be intermixed with 2Bi.

2cs: Feldspathized Fragmental Intermediate Volcaniclastic
Fine grained, moderately to strongly felspathic, biotitic, sericitic and calcitic matrix. With >5% fragments 5-50mm long. Heterolithic, but fragments are most often bone white and feldspathic.

2FT: Fault Zone

(3) <u>Felsic Metavolcanic/Volcaniclastic Rocks</u>

- light coloured felsic rock with a porphyritic texture
- defined by quartz eyes and/or feldspar phenocrysts and/or fragments
- composed of feldspar (30-60%), quartz (10-15%) within a fine grained matrix consisting of variable amounts of sericite, biotite and quartzo-feldspathic minerals.

- weakly to strongly foliated, variable intensities of sericite, biotite and feldspathic alteration.
- carbonate is absent or else present in small amounts (<5%).

3e: Felsic Tuffite
Very fine grained, light grey to grey green finely laminated siliceous rock (may in part be chemical sediments/cherts) containing narrow biotite schist interbeds. 3-5% quartz eyes 1-3 mm long are common. Finely disseminated pyrite (1-3%) along bedding planes.

3er: Hematized Feldspathic Schist
Fine grained to aphanitic pink to quite red, hematized and / or potassium feldspar rich schist which is typically low grade ore to barren. Chlorite occurs as fine clots and on fracture planes. Pyrite content is generally less than 2%.

3f: Moose Lake Porphyry

3fMu: Sericitic (Muscovite-Altered) MLP.

3fs: Feldspathized/Silicified MLP
Fine to medium grained, light grey, with moderate to strong feldspathization and silicification. Feldspar phenocrysts are still visible, but quartz phenocrysts are generally obliterated. Often weakly to moderately sericitic. Often contains 1-5% pyrite and minor molybdenite. May constitute ore.

3sr: Feldspathized/Hematized MLP.
Fine to medium grained, hard, feldspathic with a distinctive pinkish-red colour due to moderate to strong Kf-Hm alteration. Overlaps with, but generally overprints sericite and biotite alteration. Most common in the FW of B Zone, where it is almost always waste. Also present near chloritic shears and felsic dykes (9f) in the C Zone, where it may constitute part of the ore.

3sPy: Pyritic Feldspathization
Fine grained, light grey feldspathization with fracture filling and disseminated pyrite. Mo may also be present, but Py dominates. VG or gold-telluride common along fractures.

3sMo: Molybdenitic Feldspathization

Fine grained, light to dark bluish grey feldspathization/silicification. Generally has a hard, pearly lustre. Py may also be present, but Mo dominates.

3c: Fragmental Felsic Volcanics.

Strongly foliated, light grey rock, consisting of fine grained, sericitic or biotitic matrix with up to 50% heterolithic fragments from 5 to >50mm long. Fragments commonly have feldspar and quartz phenocrysts, similar in appearance to the MLP. 5% dark green, mafic fragments may also be present.

3cs: Feldspathized Fragmental Felsic rocks.
As above, but with moderate to strong feldspathization and variable sericite, biotite and carbonate. Generally has a hard, pearly lustre. Molybdenite and 2-10% pyrite are common. Often constitutes ore.

3cRo: Quartz Pod and Green Mica Zone
Medium to coarse grained light grey sericite and/or muscovite rich schist containing abundant green mica and quartz veins. Up to 15% pyrite and trace MoS_s. Rare stibnite, barite and realgar. Typical high grade ore with visible gold.

3sMu
Fine grained, strongly feldspathic, moderately to strongly sericitic, light grey rock. Variable pyrite and molybdenite.

3FT: Fault Zone

(4) Metasedimentary Rocks
- generally a banded/or laminated politic rock primarily composed of quartz, biotite and feldspar usually containing calc-silicate (green) bands. Usually fine to medium grained.
- in H.W. sediments above the main zone the primary metamorphic minerals include kyanite, garnets, staurolite and minor arsenopyrite.

4k: Metapelite
Fine to medium grained, dark grey to black biotite sericite schists and minor gneisses containing abundant staurolite and garnet with less frequent chloritoid and sillimanite.

4kt: Calc-silicate Banded Sediments
Very fine grained to fine grained, banded brown, green or purplish, laminated sediments and dark green calc-silicate bands. Generally biotitic, with varying amounts of garnet, staurolite, kyanite or silimanite.

4q
Fine grained, thickly bedded, dark grey to brownish grey sediment. Lacks pervasive carbonate. May contain garnet, kyanite, staurolite or sillimanite. Locally contains fine grained feldspathic fragments. Locally contains calc-silicate bands.

4Mu: Sericitic Sediments
Moderate to strong sericite alteration. Parts readily along the lamination/foliation.

4MuMo: Mineralized Metasiltstone
Fine to medium grained, dark grey to brown quartz biotite sericite schists and gneisses. Typically thickly bedded sediments with scattered MoS_2 traces.

4s: Feldspathic Sediments
Moderate to strong feldspathization/silicification. Laminated sediments are altered to a bone white colour.

4Am: Amphibolitic Sediments
Present as part of the FW sediment package. Laminated and well foliated. Quartzo-feldspathic and light grey in colour, hard. It is typified by small quartz eyes and light coloured streaks and bands which contain coarse amphibole crystals.

4jAm: Mafic Wacke
Medium to coarse grained, olive to dark green hornblende schists within the HW metasedimentary sequence.

4FT: Fault Zone

(5) Baritic Rocks

- > 25% barite. White to light grey barite occurring as laminate, stringers and veins both parallel to and cutting foliation.
- usually associated with 6 unit in the B Zone.
- usually has varying amounts of pyrite, molybdenite.

5FT: Fault Zone

(6) Feldspathic Rocks

- the “6” unit should be reserved for the most intensely feldspathized rocks
- massive or brecciated; fine grained; light-medium grey coloured unit (microcline rich rock)
- composed mainly of feldspars, silica
- commonly contains barite, pyrite, molybdenite and vanadium rich mica
- molybdenite is the best indicator to determine grade
- pyrite is the most common sulphide mineralization followed by molybdenite, stibnite and realgar, orpiment, arsenopyrite and cinnabar.

6Py: 6 unit with pyrite as the main sulphide mineral, little to no Mo. Includes semi-massive to massive pyritic bands within the 6 unit.

6PyMo: Typical B Zone ore material. May contain up to 5% barite.

6BaPyMo: Typical B Zone ore with 5-25% barite.

6Mo: 6 unit with molybdenite as the main sulphide mineral.

6n: Chloritic, biotitic or sericitic shear within 6 unit. May show Mo, Py or other ore-associated minerals along the shear planes (to be noted separately in the Mineralogy Table).

6v: Quartz veined or silica-flooded zone (>25% quartz veins).

6Mu: Sericitic 6 unit
Strongly feldspathic material with moderate to strong sericite (muscovite) alteration. Mo and Py content variable.

6o: Brecciated 6 unit.
Feldspathic rock that has intense barite and/or anhydrite in anastomising veinlets/stringers

6FT: Fault Zone

(7) Biotite – Rich Breccia

- similar to (2) unit mineralogically, but confined in areal extent in B Zone.
- biotitic matrix supporting sub-angular, heterolithic fragments which includes ore
- ambiguous relationship with B Zone ore, as the unit appears to include ore fragments, but is also locally mineralized in the matrix
- often used for thin highly altered or deformed intermediate units; often schistose of indeterminate origin
- also used for biotite intermediate fragmental unit @ east end of A Zone

7FT: Fault Zone

(8) Muscovite Schist

- Schistose, fine grained, light grey to light yellowish coloured rock.
- Usually has fine quartz eyes, < 1mm in diameter.
- Often pyritic and may also have weak feldspathization, local roscoelite.
- Tourmaline is common as randomly oriented crystals, concentrated along foliation planes.

8e: Quartz-eye Muscovite Schist
Schistose, fine to medium grained, light grey to light yellowish coloured matrix with quartz augen 4-6mm long. May show ghosts of highly altered feldspar phenocrysts and lithones of less deformed material. Generally interpreted as sericitized and deformed MLP.

8s: Feldspathized/Silicified Muscovite schist
Strongly foliated to schistose, fine to medium grained quartzo-feldspathic rock with distinct feldspathization and/or silicification. Roscoelite common. Often pyritic and may also have significant Mo.

8FT: Fault Zone
Any 8 unit showing prominent faulting, fracture zones or discrete gouge seams. Common near the HW sediment contact and 8e (MLP) contacts.

(9) Felsic Porphyry

- relatively late felsic intrusive rock with feldspar phenocrysts
- light to medium grey.
- occurs as sill-like units parallel to foliation and as cross-cutting dykes.

9f: Granodioritic porphyry
White subhedral to euhedral medium grained feldspar within a groundmass of black biotite and quartz. May be massive or weakly to moderately foliated. Usually light to medium grey in colour.

9PC: Popcorn Porphyry
Medium to coarse grained porphyritic and glomeroporphyritic white feldspar within a fine grained dark groundmass.

9Mu: Sericitized 9f
Moderately sericitized, often foliated, almost white to creamy coloured porphyritic intrusive. Often contains milky white to glassy quartz veins.

9FT: Fault Zone

(10) Felsic Intrusive
- other felsic intrusive rocks. Comments should include a good description of the unit being considered.
- includes: Granite, Granodiorite and Granitic gneiss
- also applies to a late, steeply south dipping, crowded feldspar porphyry dyke occurring in the C Zone Pit.

10FT: Fault Zone

10Kf : Pegmatite

10q : Aplitic sills
Pale grey to white, fine grained, massive felsic sills and dykes with abundant fine grey porphyroblasts.

(11) Intermediate Intrusive
- could be porphyritic
- medium to dark grey, fine grained matrix
- biotite rich matrix
- typically occurs as sills and dykes

(12) Mafic Intrusive
- dark grey to black to green
- amphibole or chlorite rich
- dykes are typically less than 1 metre thick.
- generally parallel or sub parallel to foliation but locally dip steeply to moderately to the South and are locally folded.

12FT: Fault Zone
Can be used for narrow (5-10 cm) chloritic, sill-like structures found in C-Zone.

(13) Diabase
- medium to fine grained dyke composed of amphiboles and feldspar.
- generally massive and equigranular

(14) Lamprophyre
- composed of carbonates, felted biotite, magnetite and pyroxenes
- cross cutting to foliation
- should be logged as a major unit if greater than 10 cm wide in core.

(15) Breccia
- rock made up of highly angular, coarse fragments lying in a fine to medium grained mafic matrix. Unit is confined to C Zone and is kept in the legend for historical purposes.

(16) Quartz Vein

APPENDIX II

STRUCTURAL/TEXTURAL DEFINITIONS

(a) coating or envelopes - (i.e. biotite)

(b) blebs - non circular occurrences

(c) fragmental - describe the size (mm), composition, contacts of the fragments; compare fragment composition to the matrix composition
- % - how often they occur
- broken material moved from place of origin

(d) disseminated - mineral grains scattered throughout the matrix in a non uniform manner, compared to pervasive which is evenly dispersed throughout the unit

(e) quartz eyes - note size (mm) and %

(f) feldspar phenocrysts - note size (mm) and %

(g) interstitial - occurs between grains

(h) schistose - parts readily along foliation (ie. (8) unit)

(i) lenses/augen/eyes - note size (mm) and %

(j) foliated - minerals are random in one plane, but does not necessarily part that way
- most obvious for mica minerals

(k) banded - > 1 cm thick bands
- alternating layers of different composition

(l) laminated - < 1 cm thick bands

(m) nodules/spots - circular or near circular occurrences

(n) shear - incremental displacement (step like displacement)
- ductile movement

- usually mud/or clay
- movement taken up by parallel planes as in displacement of a deck of cards

(o) brecciated - fragments usually are sharp, angular and coarse
- fragments/matrix are of 2 different compositions or textures
- fragments are in a matrix which is a later intrusive or has been disrupted by later mineralization or tectonic activity

(p) pervasive - uniformly disseminated throughout the unit
- not necessarily referring to a mineral could be pervasive alteration/weathering etc.

(q) massive - homogeneous unit that lacks any linear features (ie. dykes may be massive)
- usually equigranular

(r) red colouration - red in colour (visually) (ie. 3er)
- red colouration due to hematite dusting in feldspar crystals

(s) feldspathic - containing feldspar as the principal group of minerals (orthoclase, microcline, plagioclase, albite, anorthite)
- refers to abnormally hard, often lighter coloured sections of a unit, where the alteration is due to feldspathitization and/or silification. It is generally not possible to visually distinguish between these two alterations.

(t) calc-silicate bands - high % of carbonates
- commonly found in metasediments
- fine to medium grain, green in colour

(u) quilts/or patches - similar to a bleb but with transitional contacts

(v) vein - a tabular or sheet-like body of minerals which has been intruded into a joint or fissure, or system of joints and fissures, in rocks, often irregular and discontinuing.

(w) books - layering of a mineral (stack) (ie. biotite; muscovite)

(x) sheeting - a mineral that occurs along slip surfaces (ie. molybdenite or mica)

(y) tarnish or stain - very thin coating or discolouration on a surface

Appendix B

DDH W1530 Drill Logs

DDH W1530 Major Lithology Log

Hole ID: W1530 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 3.77m Hole Depth: 275.9m
Collar Coordinates: 578203mE 5394715mN (UTM NAD83)
Azimuth: 180 degrees Dip: -48 degrees
Core Size: NQ
Drilling Start Date: 08-Sep-2015
Drilling End Date: 10-Sep-2015
Drilled by: Boreal Drilling

	Interval (m)										
LoggedDate	From	To	Major Rock Name	Rock Colour	Grain Size	Texture 1	Intensity	Texture 2	Intensity	Mineralization	Comments
19-Oct-15	0	3.77	0								
19-Oct-15	3.77	14.75	2kt	dkgy	v-fg						kt banded and light banded metaseds/int volcaniclastics
19-Oct-15	14.75	29.34	2Bi	dkgy	v-fg						mostly vfg bi rich volcaniclastics; mod foliation otherwise massive; minor pink calcite/carbonate veins/ otherwise homogeneous; possibly 4q - v weak to weak cx alt
19-Oct-15	29.34	36.48	2c	dkgy	v-fg	c	MS				true fragmental v light grey porph fragments; vfg dark matrix
19-Oct-15	36.48	42.7	2kt	dkgy	v-fg						kt and light banded metaseds; minor overprinting alteration from healed fractures; could be classified as 2Bi in places or 4q; kt banding relatively weak
19-Oct-15	42.7	52.58	2c	dkgy	v-fg	c	WM				mostly vfg bi rich interval w light banding and weak to mod fragmental texture (appear to be true fragments); more strongly fragmental intervals also appear slightly porphyritic
19-Oct-15	52.58	53.26	2FT	pnk	vfg						pink altered faulted interval (along foliation) within 2 or 4 - probably trransition between two
19-Oct-15	53.26	60.51	2kt	dkgy	v-fg						2 or 4kt; variable cx alteration; overprinting washed out grey-green alt from healed fractures;
19-Oct-15	60.51	62.93	2c	medgy	v-fg	c	M	f	MS		small interval w small light fragments and porph texture; could be 4 or 2
19-Oct-15	62.93	68.77	4kt	medgy-dkgy	v-fg						transitional 2/4kt; mod to strong banding some light some kt;
19-Oct-15	68.77	77.28	4k	dkgy	v-mg						logged as 4k in other holes; could be combination of 4kt 4k and various 2 codes; appears somewhat porph or volcaniclastic v weak rare fragments; pink altered carbonate vns throughout (v narrow)
19-Oct-15	77.28	78.24	12	dkgy	fg						massive 12 w faulted lower contact
19-Oct-15	78.24	89	4kt	medgy	v-fg						strongly banded metaseds w kt and light banding; sig pnk alt and overprinting grey-green alt; slight porph (?) texture in small intervals
19-Oct-15	89	92.64	4k	dkgy	v-mg						similar to previous 4k unit with eihter porph or volcaniclastic texture throughout; lacks fragments
19-Oct-15	92.64	97.99	4kt	dkgy	vfg						v dark banded metaseds w strong banding and weak to mod overprinting alt from healed fractures
19-Oct-15	97.99	116.81	2c	dkgy	v-mg	c	M				*4c*; predominantly pseudofragmental w small intervals that appear to have true fragments; fragments mostly cm scale w some smaller; kt banding throughout; fragments stretched; overprinting grey green alteration from healed fractures; bi rich matrix w weak to mod fx alt throughout
19-Oct-15	116.81	117.31	11	ltgy	v-fg						strongly altered dyke; original composition impossible to tell; best guess is 11 based on texture and contacts
19-Oct-15	117.31	121.56	2c	dkgy	v-mg	c	MS				*4c* both true fragments and pseudofragments mostly cm scale and stretched, some smaller; true fragments porphyritic; mod to strong bx and chl alt; some intervals contain very few fragments but have stronger banding
19-Oct-15	121.56	128.92	4k	dkgy	v-fg	k	W				highly variable metased interval w minor kt banding; minor light banding; minor volcanicalstic texture and some vfg massive intervals; overprinting alt from healed fractures
19-Oct-15	128.92	129.23	4FT	dkgy							2 cm gouge w pink alt
19-Oct-15	129.23	143.9	2c	dkgy	v-mg	c	M				*4c* large variably pseudofragmental interval; (weak to mod-strong); both stretched kt banding and overprinting kt banding; some fragments mod fx altered; fragments mostly small cm scale; some small intervals contain mostly mm scale (more volcaniclastic appearance or porph)
19-Oct-15	143.9	154.9	4kt	dkgy	v-fg						kt banded metaseds; light banding and alteration picking up (mx/fx); minor po and py; no fragments at all
20-Oct-15	154.9	159.2	4kt	medgy-dkgy	v-mg						kt banded metaseds w weak to mod pseudofragmental/volcaniclastic texture in most places
20-Oct-15	159.2	165.38	4kt	dkgy	v-fg						strong kt banding; mod to strong alt (fx and overprinting from healed fractures);
20-Oct-15	165.38	171.85	2c	dkgy	v-mg	c	W				pseudofragmental/volcaniclastic texture throughout; stretched fragments; smaller cm scale fragments and mm scale; fragments slightly more fx altered w more bx rich matrix; mod cx; minor retrograde gt
20-Oct-15	171.85	183.12	2Bi	dkgy	fg						Bi rich 2/4; weak to mod cx content; v weak retro gt (?); possibly 4q or very weakly banded 4kt; more coarse grained and less bi rich than previous 2Bi intervals; minor gt at lower contact
20-Oct-15	183.12	183.91	2Bi	medgy-dkgy	fg					Gt	mx/bx banded metaseds/int volcaniclastics w small gt; possibly 2mu; hard to tell if light material is mu or fx
20-Oct-15	183.91	184.38	2FT								faulted 2 at 7cm epidote vein
20-Oct-15	184.38	186.86	2Bi	medgy-dkgy	fg						cont of previous 2Bi w py seams
20-Oct-15	186.86	187.12	2FT								10 cm gouge
20-Oct-15	187.12	188.41	2Bi	dkgy	fg						cont of previous 2Bi
20-Oct-15	188.41	188.64	2FT								2 cm gouge

20-Oct-15	188.64	199.73	4q	dkgy	v-fg						2/4; very difficult ot identify; mostly massive or light coloured banding; vfg to fg; v little cx alteration and what exists is in retrograde blebs; v v minor py
20-Oct-15	199.73	201.46	12	blk							massive
20-Oct-15	201.46	204.69	4q	dkgy	vfg						cont of prev 4q
20-Oct-15	204.69	227.55	2Bi	medgy	v-fg	c	W				strong bx and cx alt (overprinting) w minor overprinting chl; minor mm scale fragmental texture in small intervals; alteration causes slightly blue-grey colour
20-Oct-15	227.55	231.36	2c	brn	v-fg	c	SI				fragment size increases w depth - mostly cm scale w minor mm scale clasts; large cm scale right at lower contact; bi rich matrix w v light strongly altered fragments (occasionally buff coloured); mod cx in matrix
20-Oct-15	231.36	233.06	11	dkgy	v-fg						massive; possibly a vfg 12
20-Oct-15	233.06	237	2Bi	dkgy	v-fg	c	W				v strong bi and cx alteration w possible minor chl; v weakly fragmental (stretched mm scale)
20-Oct-15	237	240.16	2cs	medgy-dkgy	vfg	c	MS				v tightly spaced mm scale fragments (fx altered); strong bi and cx alt in matrix; narrow translucent qz veins throughout; strong fx alt and min in last 1/2 metre
20-Oct-15	240.16	247.35	2c	dkgy	v-fg	c	WM				v strong bi and cx alt; minor py; v small fragments throughout most of interval; areas with less fragments have stronger cx alt maybe just overprinted?; several translucent qz vns
20-Oct-15	247.35	249.14	2s	dkgy	vfg						strongly altered 2; bx rich; strong fx alt; strong cx alt; appears slightly mo mineralized; cx seams appear almost like matrix around fragments; but no fragments visible
20-Oct-15	249.14	249.37	14	blk							massive and competent
20-Oct-15	249.37	252.13	2Bi	dkgy	v-fg						fg v bi rich almost massive interval; mod cx alt
20-Oct-15	252.13	255.35	12	blk							relatively coarse grained and massive w v narrow ca vns
21-Oct-15	255.35	257.67	2Bi	dkgy	v-fg						2Bi/2s; v strong bx and cx alt w boud qz; strong fx alt; highly strained
21-Oct-15	257.67	258.32	16	wht	vfg						qz vn/12 dyke/possibly fault zone w v narrow pink calcite at upper contact
21-Oct-15	258.32	261.21	2Bi	dkgy	fg						less altered and strained than prev 2Bi interval; still strong bi and perv cx; probably sed origin w coarse grains or volcaniclastic texture
21-Oct-15	261.21	273.1	4Mu	medgy-dkgy	fg						bedding visible; mod mx alt; bi and cx alt; poss chl alt; minor overprinting grey-green alt from healed fractures
21-Oct-15	273.1	275.9	4kt	dkgy	v-fg	c	W	k	W		possibly fragmental banded metaseds; possibly pseudofragmental; strong alt and deformation makes ID difficult
21-Oct-15	275.9	276	0								

DDH W1530

Minor Lithology Log

Hole ID: W1530 Project Code: WOC_Pit

Mining Land Number: Lease Claim 274

Planned by: bleduc Logged By: alanglais

Collar Depth: 3.77m Hole Depth: 275.9m

Collar Coordinates: 578203mE 5394715mN (UTM NAD83)

Azimuth: 180 degrees Dip: -48 degrees

Core Size: NQ

Drilling Start Date: 08-Sep-2015

Drilling End Date: 10-Sep-2015

Drilled by: Boreal Drilling

Interval (m)					
From	To	Minor Rock Name	Rock Colour	Grain Size	Major Surrounding Rock Type
250.36	250.46	11	blk	fg	2Bi

DDH W1530 Geotechnical Log

Hole ID: W1530 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 3.77m Hole Depth: 275.9m
Collar Coordinates: 578203mE 5394715mN (UTM NAD83)
Azimuth: 180 degrees Dip: -48 degrees
Core Size: NQ
Drilling Start Date: 08-Sep-2015
Drilling End Date: 10-Sep-2015
Drilled by: Boreal Drilling

Interval (m)							Discontinuity Set 1						Discontinuity Set 2						Discontinuity Set 3					
From	To	Total Recovery (m)	RQD Measurement (m)	Rock Strength	Weathering	Number of Discontinuity Sets	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type
0	6	2.23	2	R4	W1	J2	59	3	N	3	Rough	FO	56	2	N	3	Rough	J						
6	9	2.96	2.52	R4	W1	J2	62	8	N	3	S_rough	FO	43	6	N	3	Rough	J						
9	12	3.01	2.91	R4	W1	J2	52	3	N	3	S_rough	FO	51	3	N	3	Rough	J						
12	15	3.04	2.83	R4	W1	J2.5	65	8	N	3	Smooth	FO	41	1	N	3	Rough	J	22	1	N	3	S_rough	J
15	18	2.99	2.92	R4	W1	J2.5	59	7	N	3	Rough	FO	52	1	N	3	Rough	J	30	2	N	3	Rough	J
18	21	3.28	3.13	R4	W1	J2.5	68	3	N	3	Rough	FO	57	3	H3	3	Rough	J	23	1	H3	3	Rough	J
21	24	2.97	2.45	R4	W1	J2.5	55	8	N	3	Smooth	FO	36	5	N	3	Rough	J	31	1	N	3	Rough	J
24	27	2.98	2.98	R4	W1	J3	62	9	N	3	Smooth	FO	33	1	H3	3	Rough	J	16	1	N	3	V_rough	J
27	30	2.93	2.76	R4	W1	J2.5	60	6	N	3	S_rough	FO	49	3	N	3	Rough	J	4	1	H3	3	Rough	J
30	33	3.12	2.99	R4	W1	J4	58	4	S3	3	S_rough	FO	62	2	N	3	S_rough	J	37	1	N	3	Rough	J
33	36	2.81	2.54	R4	W1	J1	53	11	N	3	Smooth	FO												
36	39	2.98	2.83	R4	W1	J2	63	10	S3	3	Smooth	FO	55	5	N	3	Rough	J						
39	42	3.01	2.78	R4	W1	J1	59	7	N	3	S_rough	FO												
42	45	2.99	2.99	R4	W1	J1.5	55	4	N	3	Smooth	FO	30	1	N	3	Rough	V						
45	48	3.02	2.98	R4	W1	J2	48	1	N	3	Rough	J	49	5	N	3	Rough	J						
48	51	3.02	3.02	R4	W1	J1.5	40	1	N	3	S_rough	J	44	2	N	3	Rough	J						
51	54	2.98	2.3	R4	W1	J2.5	58	10	S3	3	S_rough	FO	30	2	N	3	S_rough	J	58	2	S2	3	S_rough	F
54	57	2.88	2.72	R4	W1	J2	62	9	N	3	Rough	FO	36	2	N	3	Rough	J						
57	60	3.09	2.89	R4	W1	J2	62	5	N	3	S_rough	FO	54	3	N	3	S_rough	J						
60	63	3.03	3.03	R4	W1	J1	55	2	N	3	S_rough	J												
63	66	2.83	2.35	R4	W1	J2	66	13	N	3	S_rough	FO	53	2	N	3	Rough	J						
66	69	3.12	2.73	R4	W1	J2.5	65	15	N	3	Rough	FO	55	2	N	3	Rough	J	25	1	H3	3	S_rough	J
69	72	3.03	2.9	R4	W1	J2.5	67	3	N	3	Rough	FO	42	4	N	3	Rough	J	41	1	H3	3	Rough	J
72	75	2.94	2.89	R4	W1	J2.5	65	3	N	3	Rough	FO	26	2	N	3	Rough	J	38	1	H2	3	S_rough	J
75	78	3.07	2.85	R4	W1	J2.5	60	3	N	3	Rough	FO	25	2	H3	3	S_rough	J	47	1	H3	3	Rough	CO
78	81	2.91	2.66	R4	W1	J2.5	68	13	S3	3	Smooth	FO	55	2	N	3	Rough	J	28	1	H3	3	V_rough	J
81	84	3.07	2.8	R4	W1	J2	64	11	S3	3	S_rough	FO	26	2	S3	3	V_rough	J						
84	87	3.02	3.02	R4	W1	J1	65	1	N	3	Rough	FO												
87	90	3.02	2.89	R4	W1	J2	65	2	N	3	S_rough	FO	45	2	H3	3	Rough	J						
90	93	2.96	2.96	R4	W1	J2	65	6	S3	3	Rough	FO	60	2	N	3	Rough	J						
93	96	2.99	2.99	R4	W1	J2	61	9	N	3	S_rough	FO	30	2	N	3	V_rough	J						
96	99	2.97	2.91	R4	W1	J1	65	5	N	3	S_rough	FO												
99	102	3.09	3.01	R4	W1	J2	65	5	N	3	Rough	FO	35	4	N	3	Rough	J						
102	105	2.92	2.78	R4	W1	J2	61	10	N	3	S_rough	FO	30	1	N	3	V_rough	J						
105	108	3.04	2.9	R4	W1	J2.5	70	8	N	3	Rough	FO	47	4	N	3	Rough	J	33	1	H3	3	Rough	J
108	111	3.1	3.03	R4	W1	J2	61	7	N	3	Rough	FO	29	1	H3	3	Rough	J						
111	114	2.85	2.85	R4	W1	J1	66	5	N	3	S_rough	FO												
114	117	3.07	2.96	R4	W1	J2.5	64	3	N	3	Rough	FO	21	2	H3	3	Rough	J	13	1	H3	3	Rough	J
117	120	2.9	2.9	R4	W1	J1	59	2	N	3	S_rough	FO												
120	123	3.14	2.83	R4	W1	J2.5	47	4	N	3	Rough	FO	50	2	N	3	Rough	J	14	2	H3	3	V_rough	J
123	126	3	2.92	R4	W1	J2	60	5	S3	3	S_rough	FO	42	1	N	3	Rough	J						
126	129	2.9	2.47	R4	W1	J2.5	60	14	N	3	S_rough	FO	40	2	N	3	Rough	J	36	1	H3	3	V_rough	J
129	132	2.88	2.78	R4	W1	J2	60	12	N	3	S_rough	FO	38	3	N	3	Rough	J						
132	135	3.03	2.92	R4	W1	J2	57	9	N	3	S_rough	FO	33	1	N	3	Rough	J						
135	138	2.91	2.91	R4	W1	J2	64	6	N	3	S_rough	FO	40	1	N	3	S_rough	J						
138	141	3.04	3.04	R4	W1	J1	57	10	N	3	Smooth	FO												
141	144	2.85	2.59	R4	W1	J2	61	11	N	3	S_rough	FO	35	2	N	3	V_rough	J						
144	147	3.03	3.03	R4	W1	J2	60	4	N	3	Smooth	FO	34	2	N	3	Rough	J						
147	150	3.07	3.01	R4	W1	J2	53	10	N	3	S_rough	FO	42	1	N	3	Rough	J						
150	153	2.97	2.9	R4	W1	J1	58	8	N	3	S_rough	FO												

153	156	2.95	2.86	R4	W1	J2	54	4	N	3	Rough	FO	24	1	H3	3	Rough	J						
156	159	3.01	3.01	R4	W1	J2	62	1	N	3	S_rough	FO	68	1	N	3	S_rough	J						
159	162	2.99	2.82	R4	W1	J2	69	6	N	3	S_rough	FO	35	4	N	3	V_rough	J						
162	165	3.02	3.02	R4	W1	J2	71	7	N	3	S_rough	FO	27	1	N	3	S_rough	J						
165	168	3	3	R4	W1	J1	62	5	N	3	S_rough	FO												
168	171	3	3	R4	W1	J2	69	2	N	3	S_rough	FO	44	1	N	3	S_rough	J						

Appendix C

DDH W1531 Drill Logs

DDH W1531 Major Lithology Log

Hole ID: W1531 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.79m Hole Depth: 234.1m
Collar Coordinates: 578233mE 5394710mN (UTM NAD83)
Azimuth: 180 degrees Dip: -48 degrees
Core Size: NQ
Drilling Start Date: 11-Sep-2015
Drilling End Date: 13-Sep-2015
Drilled by: Boreal Drilling

	Interval (m)									
LoggedDate	From	To	Major Rock Name	Rock Colour	Grain Size	Texture 1	Intensity	Texture 2	Intensity	Comments
28-Sep-15	0	1.79	0							
28-Sep-15	1.79	2.15	0							
28-Sep-15	2.15	10.46	2kt	dkgy	v-fg					appearance of kt banded metased but with higher than typical bi and cx content
28-Sep-15	10.46	25.75	2Bi	dkgy	v-fg	k	W			weakly banded; mostly massive interval; cx content indicates 2 but could be classified as 4q in some logging; v strong bx and mod to strong cx
28-Sep-15	25.75	26.34	11	dkgy	f-mg					massive 11 w slight rd alt
28-Sep-15	26.34	27.4	2Bi	dkgy	v-fg					as above
28-Sep-15	27.4	34.31	2c	dkgy	v-fg	c	M			vfg dark grey to black bx rich matrix w widepsread porphyritic light grey to white fragments; less overprinting visible cx alt than 2c units seen in previous holes; fragments range from 1cm - ~10cm
28-Sep-15	34.31	38.53	2Bi	dkgy	v-fg	k	W			weakly banded bx and cx rich interval
28-Sep-15	38.53	39.05	12	dkgy	v-fg					massive
28-Sep-15	39.05	60.1	4kt	medgy	v-fg					majority of interval altered to green-grey colour by overprinting alteration from healed fractures
28-Sep-15	60.1	60.51	11	blk	fg					massive
28-Sep-15	60.51	63.1	4kt	medgy	v-fg					bt rich w light banding
28-Sep-15	63.1	70.48	4q	medgy-dkgy	v-mg					slight porphyritic appearance (coarse sed grains?); v little banding; weak to mod foliation mostly massive;
28-Sep-15	70.48	75.77	4q	ltgy-medgy	v-mg					like above
29-Sep-15	75.77	93.44	4kt	medgy-dkgy	v-fg					minor kt banding
29-Sep-15	93.44	95.99	4kt	dkgy	v-fg	PS	M			pseudofragmental banded metaseds
29-Sep-15	95.99	101.47	4kt	ltgy-dkgy	v-fg					minor kt banding and mod to strong light banding
29-Sep-15	101.47	105.3	4kt	grngry	v-fg	PS	M			green-grey altered pseudofragmental banded metaseds w white altered fragments
29-Sep-15	105.3	117.4	2c	dkgy	v-fg	c	WM	PS	M	*4c* weak to mod altered fragments; some true
29-Sep-15	117.4	118.15	2FT							faulted 2c (faulted 4c)
29-Sep-15	118.15	130.78	4kt	dkgy	v-fg					weakly pseudofragmental 4kt w some rd alt from healed fracture zones
29-Sep-15	130.78	145.71	2c	dkgy	v-fg	t	M			*4c* like previous 2c interval; consists of true fragments AND pseudofragments; mod kt banding
29-Sep-15	145.71	153.68	4kt	dkgy	v-fg					mod kt bands and light bands; several large massive beds; significant overprinting grey-green alt from healed fractures
29-Sep-15	153.68	154.62	4FT	ltgy-medgy	vfg					strong alterationl well banded and high frequency of breaks along foiation with one gouged fault plane ~1cm wide @ 153.9
29-Sep-15	154.62	172.5	4kt	medgy-dkgy	v-fg					bi rich 4kt
29-Sep-15	172.5	174.1	12	blk	fg					massive
29-Sep-15	174.1	181.2	2Bi	dkgy	v-fg	c	W			weakly fragmental v bi rich unit w weak to mod cx alt; could be logged as 4q; fragments stretched
30-Sep-15	181.2	210.77	4kt	medgy-dkgy	v-fg	PS	W			relatively massive
30-Sep-15	210.77	220.46	2Bi	dkgy	v-fg					pervasive cx alt picks up
30-Sep-15	220.46	224.18	4kt	medgy-dkgy	v-fg					possibly fragmental interval
30-Sep-15	224.18	232.25	2Bi	dkgy	v-fg					2/4; mod to storng cx alt w weak overprinting chl alt; v strong bi alt; possible weak fragments?
30-Sep-15	232.25	234.1	2Bi	dkgy	v-fg					slightly less bx alt and slightly more fx alt than previous interval w v minor fragments

DDH W1531 Minor Lithology Log

Hole ID: W1531 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.79m Hole Depth: 234.1m
Collar Coordinates: 578233mE 5394710mN (UTM NAD83)
Azimuth: 180 degrees Dip: -48 degrees
Core Size: NQ
Drilling Start Date: 11-Sep-2015
Drilling End Date: 13-Sep-2015
Drilled by: Boreal Drilling

Interval (m)									
From	To	Minor Rock Name	Rock Colour	Grain Size	Texture 1	Intensity	Texture 2	Intensity	Major Surrounding Rock Type
196.05	196.1	14	blk	fg					4kt

DDH W1531 Alteration Log

Hole ID: W1531 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.79m Hole Depth: 234.1m
Collar Coordinates: 578233mE 5394710mN (UTM NAD83)
Azimuth: 180 degrees Dip: -48 degrees
Core Size: NQ
Drilling Start Date: 11-Sep-2015
Drilling End Date: 13-Sep-2015
Drilled by: Boreal Drilling

Interval (m)										
From	To	Major Rock Name	Alteration 1	Intensity	Alteration 2	Intensity	Mode	Alteration 3	Intensity	Mode
2.15	10.46	2kt	Bx	SI	Cz	M	g			
10.46	25.75	2Bi	Bx	SI	Cz	W	g			
27.4	34.31	2c	Bx	SI	Cz	MS	g			
34.31	38.53	2Bi	Bx	SI	Ex	WM	v			

DDH W1531 Geotechnical Log

Hole ID: W1531 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.79m Hole Depth: 234.1m
Collar Coordinates: 578233mE 5394710mN (UTM NAD83)
Azimuth: 180 degrees Dip: -48 degrees
Core Size: NQ
Drilling Start Date: 11-Sep-2015
Drilling End Date: 13-Sep-2015
Drilled by: Boreal Drilling

Interval (m)							Discontinuity Set 1						Discontinuity Set 2						Discontinuity Set 3					
From	To	Total Recovery (m)	RQD Measurement (m)	Rock Strength	Weathering	Number of Discontinuity Sets	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type
0	6	4.21	2.93	R4	W1	J3	57	20	N	3	S_rough	FO	45	1	N	3	S_rough	J	14	1	H3	3	S_rough	J
6	9	2.94	2.39	R4	W1	J1.5	63	14	N	3	S_rough	FO	45	2	N	3	S_rough	J						
9	12	2.93	2.58	R4	W1	J2.5	57	15	N	3	Smooth	FO	40	1	N	3	V_rough	J	40	1	H3	3	S_rough	J
12	15	3.02	2.81	R4	W1	J3	62	6	N	3	Smooth	FO	60	1	N	3	V_rough	J	35	3	N	3	Rough	J
15	18	2.93	2.93	R4	W1	J1	57	2	N	3	Rough	FO												
18	21	3.07	3.07	R4	W1	J1.5	60	4	N	3	S_rough	FO	8	2	H3	3	Rough	J	13	1	H3	3	Rough	J
21	24	3.39	2.97	R4	W1	J2.5	58	15	H3	3	S_rough	FO	25	1	H3	3	Rough	J	19	1	N	3	V_rough	J
24	27	3.01	2.49	R4	W1	J3.5	61	4	N	3	Rough	FO	15	3	N	3	Rough	J	22	1	N	3	Rough	J
27	30	2.8	2.43	R4	W1	J1.5	48	1	N	3	Rough	J	13	1	N	3	V_rough	J						
30	33	3.05	2.99	R4	W1	J2	59	1	N	3	Smooth	FO	46	3	N	3	S_rough	J						
33	36	2.95	2.76	R4	W1	J2	60	9	N	3	S_rough	FO	18	1	N	3	Rough	J						
36	39	3.02	2.49	R4	W1	J2.5	50	5	N	3	S_rough	FO	45	1	N	3	Rough	J	15	2	H3	3	V_rough	J
39	42	2.89	2.31	R4	W1	J2.5	64	9	N	3	Rough	FO	45	1	N	3	S_rough	J	30	3	H3	3	Rough	J
42	45	2.97	2.91	R4	W1	J3.5	60	3	N	3	S_rough	FO	57	1	H3	3	Rough	J	35	1	N	3	S_rough	J
45	48	3.03	2.97	R4	W1	J1	40	4	N	3	V_rough	J												
48	51	3	2.72	R4	W1	J2	60	8	N	3	Rough	FO	60	3	N	3	Rough	J						
51	54	2.85	2.59	R4	W1	J2	64	8	N	3	Rough	FO	5	3	H3	3	Rough	J						
54	57	2.98	2.98	R4	W1	J2	52	4	S3	3	Slicken	FO	35	2	N	3	Rough	J						
57	60	2.87	1.96	R4	W1	J1.5	61	20	N	3	Smooth	FO	10	2	H3	3	V_rough	J						
60	63	3.22	2.96	R4	W1	J2	59	10	N	3	Smooth	FO	30	2	N	3	V_rough	J						
63	66	2.99	2.99	R4	W1	J1	35	1	N	3	Rough	J												
66	69	2.97	2.97	R4	W1	J2	65	2	N	3	Smooth	FO	22	2	H3	3	Rough	J						
69	72	2.98	2.98	R4	W1	J0																		
72	75	2.96	2.92	R4	W1	J2.5	61	5	N	3	S_rough	FO	47	2	N	3	Rough	J	32	3	N	3	Rough	J
75	78	2.94	2.53	R4	W1	J2	55	7	N	3	S_rough	FO	45	2	N	3	Rough	J						
78	81	3.05	3.05	R4	W1	J1.5	66	6	N	3	Rough	FO	19	1	N	3	S_rough	J						
81	84	2.96	2.96	R4	W1	J1.5	64	6	N	3	S_rough	FO	19	1	N	3	Rough	J						
84	87	3.07	2.98	R4	W1	J2.5	58	3	H3	3	S_rough	FO	40	1	H3	3	Rough	J	36	1	H3	3	S_rough	J
87	90	2.96	2.44	R4	W1	J1.5	55	10	N	3	Smooth	FO	48	1	N	3	S_rough	J	29	1	H3	3	Rough	J
90	93	2.93	2.93	R4	W1	J1	40	4	N	3	V_rough	J												
93	96	3.03	2.95	R4	W1	J1	57	3	N	3	S_rough	J												
96	99	2.92	2.77	R4	W1	J2	60	8	N	3	Smooth	FO	38	1	N	3	Rough	J						
99	102	3.01	2.67	R4	W1	J1	65	25	S3	3	Smooth	FO												
102	105	3.01	2.41	R4	W1	J2.5	59	9	N	3	Rough	FO	44	2	N	3	Rough	J	10	3	N	3	V_rough	J
105	108	2.92	2.83	R4	W1	J2	60	5	N	3	S_rough	FO	29	1	N	3	Rough	J						
108	111	3.09	3.09	R4	W1	J1.5	66	4	H3	3	Rough	FO	30	1	N	3	V_rough	J						
111	114	3.02	3.02	R4	W1	J2	68	3	N	3	Smooth	FO	20	1	N	3	Rough	J						
114	117	2.95	2.95	R4	W1	J1	62	4	N	3	Smooth	FO												
117	120	3.1	2.86	R4	W1	J2.5	63	3	N	3	S_rough	FO	39	1	N	3	Rough	J	50	1	S2	3	Smooth	J
120	123	2.92	2.77	R4	W1	J2	57	10	N	3	Smooth	FO	21	2	N	3	V_rough	J						
123	126	3.05	2.98	R4	W1	J2	60	3	N	3	Smooth	FO	35	2	N	3	V_rough	J						
126	129	2.98	2.78	R4	W1	J2.5	62	7	N	3	Smooth	FO	23	1	H3	3	Rough	J	32	1	N	3	V_rough	J
129	132	2.96	2.96	R4	W1	J1	67	5	N	3	Smooth	FO												
132	135	2.82	2.8	R4	W1	J1	64	3	N	3	S_rough	FO												
135	138	3.07	3.03	R4	W1	J2	52	5	N	3	Smooth	FO	25	3	H3	3	S_rough	J						
138	141	2.9	2.87	R4	W1	J2	62	6	N	3	Smooth	FO	32	2	N	3	V_rough	J						
141	144	3.03	3.01	R4	W1	J1	60	5	N	3	Smooth	FO	47	1	S3	3	Slicken	J						
144	147	2.92	2.92	R4	W1	J2	55	2	N	3	S_rough	FO	50	1	N	3	S_rough	J						
147	150	3.09	3.09	R4	W1	J2	55	4	N	3	Rough	FO	33	1	N	3	Rough	J						
150	153	3.02	2.81	R4	W1	J2.5	50	7	N	3	Rough	FO	30	1	H3	3	S_rough	J	41	1	H3	3	S_rough	J

153	156	2.92	2.42	R4	W1	J3	62	15	N	3	Smooth	FO	32	2	N	3	V_rough	J	19	2	H3	3	Rough	J
156	159	3.06	3.06	R4	W1	J1.5	53	5	S3	3	S_rough	FO	25	1	H3	3	V_rough	J						
159	162	3.03	3	R4	W1	J1	64	2	N	3	Smooth	FO												
162	165	3.04	2.99	R4	W1	J3	60	4	N	3	Smooth	FO	45	2	N	3	Rough	J	38	1	N	3	S_rough	J
165	168	3.04	2.99	R4	W1	J2.5	61	3	N	3	S_rough	FO	42	2	N	3	V_rough	J	40	4	N	3	S_rough	J
168	171	2.88	2.88	R4	W1	J1	65	2	N	3	Rough	FO												

Appendix D

DDH W1533 Drill Logs

DDH W1533 Major Lithology Log

Hole ID: W1533 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.9m Hole Depth: 300m
Collar Coordinates: 578260mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -59 degrees
Core Size: NQ
Drilling Start Date: 21-Sep-2015
Drilling End Date: 23-Sep-2015
Drilled by: Boreal Drilling

	Interval (m)									
LoggedDate	From	To	Major Rock Name	Rock Colour	Grain Size	Texture 1	Intensity	Texture 2	Intensity	Comments
2-Oct-15	0	1.9	0							
2-Oct-15	1.9	15.9	2Bi	blk	vfg					weakly foliated; mostly massive; very bi rich and cx rich interval; minor rd alteration in carbonate vns and along fractures; last 1/2 metre rd banded w minor ep alt
2-Oct-15	15.9	21.13	2c	blk	vfg	c	M			true 2c; vfg bi rich matrix w porphyritic light grey stretched fragments (cm scale)
2-Oct-15	21.13	25.51	2Bi	dkgy	v-fg	c	W			v weak fragments; mostly bi rich 2 w overprinting green alt originating from healed fractures; mod banding
2-Oct-15	25.51	27.28	2c	dkgy	vfg	c	M			like previous 2c
2-Oct-15	27.28	48.8	2kt	dkgy	v-fg	t	WM			weak to mod kt banding; some intervals appear more like 2bi; but sig less cx alt; could be classified as 4kt; appears slightly more volcaniclastic than metased
5-Oct-15	48.8	49.15	16	wht	vfg					almost opaque
5-Oct-15	49.15	55.13	4kt	medgy-dkgy	v-fg					strongly banded metaseds/banded volcaniclastics; appears more metasedimentary but likely a mix of 2 and 4; slightly green-grey alteration w v light bands and kt bands
5-Oct-15	55.13	55.74	12	dkgy	f-mg					massive 12 (relatively intermediate)
5-Oct-15	55.74	59.32	4kt	medgy-dkgy	v-fg					strongly banded metaseds; possibly still transitioning from 2 to 4; mostly light banding w some kt banding
5-Oct-15	59.32	63.2	4k	dkgy	m-cg					relatively massive interval; possibly large bed within metaseds w bi qz fsp; fine grained bi w coarse fsp and variable qz; distinct bedding contacts at either end; very few bands; minor v narrow alteration bands (light grey-green); appears darker w depth but likely result of polished core as opposed to mineral content
5-Oct-15	63.2	65.27	4kt	grngry	v-fg					more fine grained than previous interval w more abundant banding; more coarse than previous 4k intervals
5-Oct-15	65.27	70.96	4kt	dkgy	m-cg					identical to previous 4k interval
5-Oct-15	70.96	82.38	4kt	medgy-dkgy	v-fg					strongly banded w sig pink alteration and minor ep bands in first half of interval; overprinting grey-green alt throughout appears to originate from healed fractures
5-Oct-15	82.38	91.81	4kt	dkgy	v-fg					bi rich banded metaseds/volcaniclastics - possibly still intermixing 2 and 4; carbonate present in narrow bands; overprinting grey-green alt but much less than previous interval
5-Oct-15	91.81	92.03	4FT							moderately healed fault zone w soft white infilling (2cm)
5-Oct-15	92.03	95.6	4kt	dkgy	v-fg					bi rich w mostly light banding vs kt banding; volcaniclastic texture picks up towards lower contact (gradational contact)
5-Oct-15	95.6	105.25	2c	dkgy	v-mg	c	MS	t	M	*4c* mostly mm scale fragments; volcaniclastic texture or pseudofragments?; minor overprinting grey-green alt; kt banding present; several ~1/2m intervals lack fragments and have strong kt banding w slightly stronger fx alt than surrounding rock; occasional true fragments towards lower contact (cm scale very few)
5-Oct-15	105.25	107.53	4kt	dkgy	v-fg					very weakly fragmental (more volcaniclastic appearance than true fragmental)
5-Oct-15	107.53	107.73	4FT							narrow gouged fault plane w foliation
5-Oct-15	107.73	126.1	2c	medgy-dkgy	v-mg	c	MS			some intervals appear more like 2c but overall should probably be considered 4c; some intervals w true fragments predominantly pseudoclasts w mm scale volcaniclastic fragmental texture; true fragments are stretched; appear subrounded; occasionally porphyritic
5-Oct-15	126.1	126.81	9f	dkgy	v-fg					v small and widespread phenos
5-Oct-15	126.81	132.26	2c	dkgy	v-mg	c	MS			*4c* mostly pseudoclasts w occasional true clasts; cm scale and mm scale volcaniclastic clasts; mod overprinting grey-green alteration
5-Oct-15	132.26	138.33	4kt	dkgy	v-fg					mod banded w strong overprinting washed out grey-green alt; some more massive beds appear almost like masdive dykes but contain slight banding and lack sharp contacts; visible healed fractures cause of green alt
5-Oct-15	138.33	155.68	2c	dkgy	v-mg	c	M	t	M	*4c* pseudofragmental; mm to cm scale w very few fragments that appear "true"; majority appears to have v small "fragmental" volcaniclastic texture; lower contact less fragmental; alternating 4kt and 4c into following 4kt interval
6-Oct-15	155.68	162.31	4kt	medgy	v-fg					strongly kt banded metaseds w mod fx alt and overprinting "washed out" alteration throughout most of interval; some light banding as well as kt;
6-Oct-15	162.31	162.63	4FT							highly fractured along foliation plane w minor gouge
6-Oct-15	162.63	169.88	4kt	medgy	v-fg					continuation of previous 4kt
6-Oct-15	169.88	177.37	4kt	dkgy	m-cg	c	W			weakly kt banded metaseds; med to coarse grained; v weakly fragmental (1/2-2cm subrounded)
6-Oct-15	177.37	183.92	4kt	dkgy	v-fg					grain size decrease from prev interval and increase in kt bands; increase in fractures along foliation plane; overprinting green-grey alt; light banding increases to strong at lower contact
6-Oct-15	183.92	184.49	4FT							
6-Oct-15	184.49	188.35	4kt	medgy-dkgy	v-fg					continuation of 4kt from before fault
6-Oct-15	188.35	191.84	12							large massive mafic dyke
6-Oct-15	191.84	200.49	4q	dkgy	f-mg					relatively massive (strong foliation but no banding etc); abundant retro gt; mod cx content esp in retrograde gt
6-Oct-15	200.49	207.05	4kt	medgy-dkgy	v-fg					strongly banded w both act. kt bands and light banding;
6-Oct-15	207.05	214.91	4q	dkgy	f-mg					identical to prev 4q
6-Oct-15	214.91	218.41	4kt	dkgy	vfg					major fluid intrusions throughout interval; predom carbonate and actinolite; strong fx alteration to host rock probably from proximal 12 dyke and strong bx
7-Oct-15	218.41	219.05	12							massive 12
7-Oct-15	219.05	232.44	2Bi	dkgy	fg					v strong bx alt w mod to strong overprinting cx alt; well foliated but otherwise relatively massive/uniform; minro intervals of more banded fx altered material and mx alt;
7-Oct-15	232.44	235.8	2kt	brngy	v-fg					mod to streong fx alt w sig less bx alt than surrounding intervals; well banded - potentially stretched fragments can't tell for sure; bands slightly buff coloured; some overprinting bx and cx alt
7-Oct-15	235.8	255.62	2Bi	dkgy	v-mg					very distinct overprinting cx alt and intense bx; possibly fragmental but strong overprinting alteration masks it (has fragmental "feel" but difficult to identify actual clasts); cx decreases slightly at lower contact and chl alt slightly picks up
7-Oct-15	255.62	266.07	2Bi	medgy-dkgy	v-fg	c	W			moderately bx altered volcaniclastics w variable mod fx alt; variable mod chl alt and mod cx alt; possibly weakly fragmental (mm scale); bx cx and chl alt overprinting; minor mo min at lower contact
7-Oct-15	266.07	266.37	12	blk	vfg					strained w abundant carbonate
7-Oct-15	266.37	267.7	2cs	dkgy	v-fg	c	WM			strongly fx altered mo min interval; mod bx and strong cx; possibly fragmental (mm to cm scale)
7-Oct-15	267.7	271.71	2cs	medgy	v-fg					strongly fx altered mm to cm scale fragments w overprinting and matrix alt of mod to strong chl and mod bx and strong cx
7-Oct-15	271.71	277.84	2cs	medgy-dkgy	v-fg	c	W			possibly fragmental ; alteration masks texture; storng fx alt w mod bx chl cx alt; good mo min throughout w v minor py
7-Oct-15	277.84	285.28	2cs	ltgy-medgy	vfg	c	M			intensely fx altered weak to mod fragmental 2; fragments light grey to buff; some mo min throughout; overprinting chl and cx alt;
7-Oct-15	285.28	291.44	3cs	brn	vfg	c	S			strongly fragmental fx altered interval; buff coloured fragments; possibly still 2cs w stronger fx alt; subrounded to rounded cm scale fragments; some fragments weakly porphyritic
7-Oct-15	291.44	300	2cs	medgy	v-fg	c	W			strong fx alt w overprinting mod bx chl and cx alt; mm scale fragments

DDH W1533 Minor Lithology Log

Hole ID: W1533 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.9m Hole Depth: 300m
Collar Coordinates: 578260mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -59 degrees
Core Size: NQ
Drilling Start Date: 21-Sep-2015
Drilling End Date: 23-Sep-2015
Drilled by: Boreal Drilling

Interval (m)									
From	To	Minor Rock Name	Rock Colour	Grain Size	Texture 1	Intensity	Texture 2	Intensity	Major Surrounding Rock Type
76.26	76.47	16	wht	vfg					4kt
142.99	143.16	12	blk	fg					2c
180.8	180.87	14	blk	vfg					4kt
237.65	237.8	12	blk	fg					2Bi
239.16	239.44	12	blk	fg					2Bi
241.45	241.65	12	blk	fg					2Bi
272	272.7	2s	dkgy	vfg					2cs
283.9	285.28	2s	dkgy	vfg					2cs

DDH W1533 Alteration Log

Hole ID: W1533 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.9m Hole Depth: 300m
Collar Coordinates: 578260mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -59 degrees
Core Size: NQ
Drilling Start Date: 21-Sep-2015
Drilling End Date: 23-Sep-2015
Drilled by: Boreal Drilling

Interval (m)								
From	To	Major Rock Name	Alteration 1	Intensity	Alteration 2	Intensity	Alteration 3	Intensity
1.9	15.9	2Bi	Bx	I	Cx	M		
15.9	21.3	2c	Bx	SI				
21.3	25.51	2Bi	Bx	S				
25.51	27.28	2c	Bx	S				
27.28	40	2kt	Bx	M	Fx	W	Cz	WM
219.05	232.44	2Bi	Bx	SI	Cx	M	Cz	W
232.44	235.8	2kt	Fx	MS	Bx	WM	Cx	WM
235.8	251	2Bi	Bx	I	Cx	S		
251	255.62	2Bi	Bx	SI	Cx	M	Cz	WM
255.62	266.07	2Bi	Fx	M	Bx	M	Cz	M
266.07	267.7	2cs	Fx	SI	Bx	M	Cx	MS
267.7	271.71	2cs	Fx	MS	Bx	M	Cz	M
271.71	277.84	2cs	Fx	S	Bx	M	Cz	M
277.84	285.28	2cs	Fx	SI	Cz	WM	Cx	WM
285.28	291.44	3cs	Fx	I	Cx	M		
291.44	300	2cs	Fx	S	Bx	M	Cz	WM

DDH W1533 Mineralization Log

Hole ID: W1533 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.9m Hole Depth: 300m
Collar Coordinates: 578260mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -59 degrees
Core Size: NQ
Drilling Start Date: 21-Sep-2015
Drilling End Date: 23-Sep-2015
Drilled by: Boreal Drilling

Interval (m)						
From	To	Ore Mineral 1	Mineralization Percentage	Ore Mineral 2	Mineralization Percentage	Major Surrounding Rock Type
266.37	267.7	Mo	0.25			2cs
271.71	277.84	Mo	0.2	Py	0.05	2cs
277.84	285.28	Mo	0.05			2cs

DDH W1533 Geotechnical Log

Hole ID: W1533 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.9m Hole Depth: 300m
Collar Coordinates: 578260mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -59 degrees
Core Size: NQ
Drilling Start Date: 21-Sep-2015
Drilling End Date: 23-Sep-2015
Drilled by: Boreal Drilling

Interval (m)							Discontinuity Set 1						Discontinuity Set 2						Discontinuity Set 3					
From	To	Total Recovery (m)	RQD Measurement (m)	Rock Strength	Weathering	Number of Discontinuity Sets	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type
0	6	4.21	3.01	R4	W1	J2	58	15	N	3	Smooth	FO	32	5	H2	3	V_rough	J						
6	9	2.93	2.26	R4	W1	J2	60	16	N	3	Rough	FO	21	1	H3	3	Rough	J						
9	12	3.02	2.88	R4	W1	J3	60	5	N	3	S_rough	FO	39	1	N	3	V_rough	J	24	1	H3	3	Rough	J
12	15	3	3	R4	W1	J3	55	4	N	3	Smooth	FO	35	1	H3	3	Smooth	J	25	1	H3	3	Rough	J
15	18	3.06	2.87	R4	W1	J2	55	10	N	3	Rough	FO	30	1	H3	3	S_rough	J						
18	21	2.96	2.56	R4	W1	J3	45	6	S3	3	S_rough	FO	25	1	S3	3	S_rough	J	10	1	H3	3	S_rough	J
21	24	2.98	2.96	R4	W1	J2	61	7	N	3	Rough	FO	37	1	N	3	Rough	J						
24	27	3.34	3.28	R4	W1	J1	45	3	H3	3	V_rough	FO												
27	30	3.01	2.62	R4	W1	J2	55	13	N	3	Rough	FO	45	1	N	3	S_rough	J						
30	33	2.85	2.58	R4	W1	J2	50	8	H3	3	Smooth	FO	40	2	N	3	S_rough	J						
33	36	2.89	2.68	R4	W1	J2.5	49	2	H3	3	Rough	FO	55	1	N	3	V_rough	J	24	1	H3	3	Rough	J
36	39	2.98	2.57	R4	W1	J3	48	5	N	3	S_rough	FO	48	2	N	3	V_rough	J	33	1	N	3	S_rough	J
39	42	2.97	2.82	R4	W1	J1	59	6	H3	3	Rough	FO												
42	45	2.99	2.99	R4	W1	J2	51	6	N	3	S_rough	FO	42	5	N	3	Rough	J						
45	48	3.07	3.07	R4	W1	J1	55	3	N	3	Rough	FO												
48	51	2.93	2.72	R4	W1	J2	56	4	N	3	Rough	FO	47	6	N	3	Rough	J						
51	54	3.04	2.38	R4	W1	J2.5	54	12	H3	3	Rough	FO	45	6	H3	3	Rough	J	29	1	N	3	V_rough	J
54	57	2.93	2.52	R4	W1	J2	56	15	S3	3	S_rough	FO	41	2	H3	3	S_rough	J						
57	60	3	2.88	R4	W1	J2	52	8	N	3	S_rough	FO	54	3	N	3	S_rough	J						
60	63	3.05	3.05	R4	W1	J1	31	1	H3	3	S_rough	J												
63	66	3.02	2.7	R4	W1	J3	60	3	N	3	S_rough	FO	52	3	N	3	V_rough	J	23	2	H3	3	S_rough	J
66	69	3.05	2.91	R4	W1	J1	20	2	N	3	Rough	J												
69	72	3.05	2.45	R4	W1	J2	54	15	N	3	Smooth	FO	56	1	N	3	Rough	J						
72	75	2.96	2.55	R4	W1	J3	48	8	N	3	Rough	FO	34	1	N	3	Rough	J	32	1	H3	3	Rough	J
75	78	2.62	2.03	R4	W1	J3	61	3	N	3	Rough	FO	60	1	S1	3	S_rough	F	23	2	N	3	Rough	J
78	81	3.27	2.75	R4	W1	J3.5	52	12	S3	3	Smooth	FO	57	3	N	3	S_rough	J	24	1	N	3	Rough	J
81	84	2.81	2.77	R4	W1	J3	56	6	N	3	Rough	FO	45	2	N	3	Rough	J	15	2	H3	3	Rough	J
84	87	2.99	2.85	R4	W1	J2	52	4	N	3	Rough	FO	19	1	N	3	V_rough	J						
87	90	3.03	2.93	R4	W1	J3	55	4	N	3	Smooth	FO	49	2	N	3	Rough	J	38	2	H3	3	S_rough	J
90	93	3.03	2.63	R4	W1	J2.5	55	6	S3	3	Smooth	FO	39	2	N	3	V_rough	J	50	1	S1	3	Smooth	V
93	96	2.95	2.91	R4	W1	J2	60	4	S3	3	Smooth	FO	40	2	N	3	Rough	J						
96	99	3.02	3.02	R4	W1	J2	55	6	N	3	S_rough	FO	23	1	H3	3	V_rough	J						
99	102	3.03	2.98	R4	W1	J3	46	8	S3	3	Rough	FO	50	2	N	3	Rough	J	30	1	N	3	S_rough	J
102	105	2.89	2.89	R4	W1	J1	57	2	S3	3	Smooth	FO												
105	108	3	2.94	R4	W1	J1.5	52	3	S3	3	Smooth	FO	45	1	S1	3	Smooth	F						
108	111	3.01	2.47	R4	W1	J2	60	2	N	3	Rough	FO	50	2	N	3	Rough	J						
111	114	2.99	2.99	R4	W1	J1	17	1	H3	3	Rough	J												
114	117	3.06	3.06	R4	W1	J2	32	1	N	3	Rough	J	33	2	N	3	V_rough	J						
117	120	3	3	R4	W1	J3	57	3	N	3	Rough	FO	41	1	N	3	Rough	J	34	1	N	3	V_rough	J
120	123	2.96	2.96	R4	W1	J0																		
123	126	3.02	2.96	R4	W1	J2	58	6	N	3	S_rough	FO	40	1	N	3	V_rough	J						
126	129	3	2.97	R4	W1	J2	56	5	N	3	Rough	FO	37	2	N	3	V_rough	J						
129	132	2.95	2.95	R4	W1	J2	50	7	N	3	S_rough	FO	29	2	H3	3	V_rough	J						
132	135	3.03	2.94	R4	W1	J2.5	50	5	N	3	Smooth	FO	41	2	H3	3	Rough	J	36	1	N	3	Smooth	J
135	138	3.04	2.88	R4	W1	J2	40	8	S3	3	Smooth	FO	40	1	N	3	V_rough	J						
138	141	2.88	2.85	R4	W1	J2	54	3	N	3	Rough	FO	21	2	H3	3	Rough	J						
141	144	3.02	3.02	R4	W1	J1.5	58	3	N	3	Smooth	FO	20	1	N	3	V_rough	J						
144	147	3.05	3.05	R4	W1	J2	64	2	N	3	Rough	FO	41	1	N	3	Rough	J						
147	150	3.03	3.03	R4	W1	J1	66	1	N	3	S_rough	FO												
150	153	2.9	2.9	R4	W1	J2	50	4	H3	3	Smooth	FO	52	1	N	3	Rough	J						

153	156	2.96	2.96	R4	W1	J2	48	3	S3	3	Smooth	FO	41	1	N	3	V_rough	J						
156	159	3.09	3.09	R4	W1	J2	50	3	N	3	Smooth	FO	29	1	N	3	V_rough	J						
159	162	3	2.84	R4	W1	J1	55	10	N	3	Rough	FO												
162	165	2.95	2.52	R4	W1	J1.5	53	14	S3	3	Smooth	FO	53	1	S2	3	Smooth	F						
165	168	3.05	3.05	R4	W1	J2	54	3	N	3	S_rough	FO	50	1	N	3	S_rough	J						
168	171	3.03	3.03	R4	W1	J2	50	2	N	3	S_rough	FO	46	1	N	3	Rough	J						

Appendix E

DDH W1534 Drill Logs

DDH W1534 Major Lithology Log

Hole ID: W1534 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.47 m Hole Depth: 350.7 m
Collar Coordinates: 578261mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -69 degrees
Core Size: NQ
Drilling Start Date: 24-Sep-2015
Drilling End Date: 26-Sep-2015
Drilled by: Boreal Drilling

	Interval (m)									
LoggedDate	From	To	Major Rock Name	Rock Colour	Grain Size	Texture 1	Intensity	Texture 2	Intensity	Comments
8-Oct-15	0	1.47	0							
8-Oct-15	1.47	17.68	2Bi	blk	vfg					weakly foliated w overprinting cx along foliation planes; mostly massive otherwise; very bi rich; minor rd alteration along ca filled joints;
8-Oct-15	17.68	31.65	2c	blk	v-fg	c	M			true 2c w vfg bi-rich matrix and light porphyritic fragments (cm scale); fragmental texture weakens around 24m; but strengthens back to original strength ~28m (fragments slightly smaller at end of interval)
8-Oct-15	31.65	50.73	2kt	dkgy	v-fg	t	WM			weakly to mod banded 2Bi; predom vfg and bi-rich w dg kt bands; slight pink alt in first m of interval; retro gt in first 8 m
8-Oct-15	50.73	51.9	12							massive 12
8-Oct-15	51.9	64.51	2kt	dkgy	v-fg					slightly coarser grained than prev interval; bi-rich; mod overprinting grey-green alt from healed fractures; weak kt banding and mod light banding;
8-Oct-15	64.51	65.3	12							massive 12
8-Oct-15	65.3	68.95	4kt	medgy	v-fg	k	S	t	M	kt banded and fx/mx banded metaseds/int volcanicl.; strongly banded
8-Oct-15	68.95	82.89	4k	dkgy	v-mg					bi-rich; relatively massive (no banding); possibly porph. or volcaniclastic (coarse grained seds??); overprinting grey-green alt and some pink alt in fractures;
13-Oct-15	82.89	91.65	4kt	pnk	v-fg					rd altered banded metaseds; less pink alt w depth
13-Oct-15	91.65	92	4FT							gouged faulted 4kt
13-Oct-15	92	121.45	4kt	dkgy	v-fg	c	W			banded metaseds - borderline 2/4; some large intervals have porphyritic/volcaniclastic texture (4k previously); some kt banding; some overprinting grey-green alt; bi-rich around 99 m; small intervals have inc fx alt; minor pseudofragments in lower 5 m
13-Oct-15	121.45	121.68	4FT							narrow (3-4cm) gouge along foliation
13-Oct-15	121.68	125.47	2c	dkgy	vfg	c	M			*4c* fragmental/pseudofragmental metaseds; mod fx alt; minor kt banding
13-Oct-15	125.47	128.7	13	dkgy	f-mg					massive
13-Oct-15	128.7	129.07	2c	dkgy	v-fg					*4c* slightly pink altered pseudofragmental metaseds
13-Oct-15	129.07	132.7	13	dkgy	f-mg					massive
13-Oct-15	132.7	138.07	2c	medgy-dkgy	v-fg	c	WM			*4c* fragmental/pseudofragmental metaseds; bi rich matrix w med grey fx altered fragments; mm to cm scale fragments stretched; overprinting grey-green alt in lower 2m; red alt right at diabase contacts
13-Oct-15	138.07	141.03	13	dkgy	f-mg					massive
13-Oct-15	141.03	142.96	2c	dkgy	v-fg					*4c* pseudofragmental metaseds w possible volcaniclastic texture in some intervals; overprinting chl alteration
13-Oct-15	142.96	143.55	9f	dkgy	v-fg					v small tightly spaced phenos
13-Oct-15	143.55	147.3	2c	dkgy	v-fg	c	WM			*4c* pseudofragmental 4kt w mod to strong fx alt; mm scale stretched clasts
13-Oct-15	147.3	147.65	12	dkgy	v-fg					weakly magnetic possible dyke; possible v strong overprinting alt?
13-Oct-15	147.65	149.09	2c	dkgy	v-fg					like previous 2c
13-Oct-15	149.09	149.39	12							like previous 12
13-Oct-15	149.39	158.7	2c	dkgy	v-fg	c	W			*4c* mostly 4kt w weak mm scale fragments
13-Oct-15	158.7	158.9	4FT							5 cm gouge along foliation
13-Oct-15	158.9	176.8	2c	dkgy	v-mg	c	M			*4c* bi rich matrix w med grey fragments/pseudofragments; stretched fragments; mm to cm scale; overprinting kt alt
13-Oct-15	176.8	188.77	4kt	dkgy	v-mg	k	MS			washed out kt banded metaseds w v few fragments if any at all
14-Oct-15	188.77	204.03	4kt	dkgy	v-fg	k	W			weakly banded metaseds
14-Oct-15	204.03	212.93	4kt	dkgy	v-fg	k	S			banding picks up again and fcx alteration increases slightly
14-Oct-15	212.93	213.41	14							
14-Oct-15	213.41	219.58	4kt	dkgy	v-fg					fx altered strongly banded metaseds; abundant light banding and overprinting alteration; slight purple tinge to grey rock
14-Oct-15	219.58	233.34	4kt	dkgy	fg	k	M			banding and fx alteration weaken; possible mix between 2 and 4 w minor kt banding and relict gt; bi rich; overprinting grey-green alt and chl alt; possible very weak fragments (rare)
14-Oct-15	233.34	241.85	2Bi	dkgy	fg	k	W			very bi rich w abundant cx alteration and relict gt; mod chl/cx banding overprinting
14-Oct-15	241.85	242.52	12	dkgy	fg					massive
14-Oct-15	242.52	251.8	2Bi	dkgy	fg					like previous 2Bi
14-Oct-15	251.8	252.08	12							highly strained w large qz vns
14-Oct-15	252.08	260.2	2Bi	dkgy	fg					like previous 2Bi intervals; fx alteration picks up around 255m
14-Oct-15	260.2	260.75	12	blk	vfg					strongly foliated
14-Oct-15	260.75	261.42	2Bi	dkgy	fg					like previous 2Bi
14-Oct-15	261.42	264.31	12							highly foliated
14-Oct-15	264.31	264.85	2Bi							like prev 2Bi
14-Oct-15	264.85	265.25	12							highly foliated
14-Oct-15	265.25	283.37	2Bi	dkgy	v-mg	c	S			fragmental texture weaker at start of unit; but strong throughout majority; fragments mostly cm scale; tightly spaced; slightly elongate; bx rich matrix w overprinting cx alt and minor chl; small intervals have inc fx alt and dec cx alt; fragments mostly med grey; occasionally buff
14-Oct-15	283.37	284.41	12	dkgy	vfg					weakly foliated; possibly intermediate
14-Oct-15	284.41	298.04	2c	dkgy	v-mg					like previous 2c interval; variable fx and cx alt; minor mo min intensifies w depth
14-Oct-15	298.04	303.12	2c	dkgy	v-mg					similar to prev unit; increase in deformation and fluids; increase in fx alt; increase in mo min; increase in cx veins
14-Oct-15	303.12	303.4	2FT							faulted 2c

14-Oct-15	303.4	309.44	2cs	medgy-dkgy	v-fg	c	S			strongly fx altered fragments w bx and cx rich matrix; fragments altered to light brown/buff colour
14-Oct-15	309.44	309.79	2FT							faulted 2cs; abundant gouge and carbonate material
14-Oct-15	309.79	313.89	2cs	ltgy-medgy	vfg					pervasively fx altered; mod cx alt; minor mo seams
14-Oct-15	313.89	316.28	3cs	ltgy	vfg					pervasive strong fx alt; light brown/grey; minor mo seams throughout; possibly 2cs w strong alt; abundant buff coloured fragments
16-Oct-15	316.28	316.49	2FT							gouge w minor breccia
16-Oct-15	316.49	319.95	3cs	ltgy	vfg					like previous 3cs interval; v strong fx altered fragments; very little matrix; but bx rich
16-Oct-15	319.95	320.2	3FT							minor gouge
16-Oct-15	320.2	329	2cs	medgy	vfg	c	MS			strongly fx altered fagments w bi rich matrix; minor mo min; minor overprinting chl alt; cx alt throughout
16-Oct-15	329	350.7	2c	medgy-dkgy	v-mg	c	W			bi and cx rich; mod to weak fx alt; weakly fragmental throughout; some intervals seem to have faint larger (cm scale) fragments; some smaller intervals have much clearer smaller (mm to cm) fragments; weak porphyritic texture in places

DDH W1534 Alteration Log

Hole ID: W1534 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.47 m Hole Depth: 350.7 m
Collar Coordinates: 578261mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -69 degrees
Core Size: NQ
Drilling Start Date: 24-Sep-2015
Drilling End Date: 26-Sep-2015
Drilled by: Boreal Drilling

Interval (m)								
From	To	Major Rock Name	Alteration 1	Intensity	Alteration 2	Intensity	Alteration 3	Intensity
233.34	241.85	2Bi	Bx	SI	Cx	S	Cz	W
252.08	260.2	2Bi	Bx	MS	Fx	M	Cx	MS
265.25	283.37	2Bi	Bx	M	Fx	MS	Cx	MS
284.41	288.48	2c	Bx	M	Fx	S	Cx	M
288.48	298.04	2c	Bx	M	Fx	S	Cx	MS
298.04	303.12	2c	Bx	M	Fx	S	Cx	S
303.4	309.44	2cs	Bx	M	Fx	S	Cx	S
309.79	313.89	2cs	Bx	WM	Fx	SI	Cx	M
313.89	316.28	3cs	Fx	SI	Cx	WM		
316.49	319.95	3cs	Fx	I	Bx	WM		
320.2	332	2cs	Bx	MS	Fx	S	Cx	MS
332	350.7	2c	Bx	MS	Fx	WM	Cx	MS

DDH W1534 Mineralization Log

Hole ID: W1534 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.47 m Hole Depth: 350.7 m
Collar Coordinates: 578261mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -69 degrees
Core Size: NQ
Drilling Start Date: 24-Sep-2015
Drilling End Date: 26-Sep-2015
Drilled by: Boreal Drilling

Interval (m)				
From	To	Ore Mineral 1	Mineralization Percentage	Major Surrounding Rock Type
284.41	288.48	Mo	0.025	2c
288.48	298.04	Mo	0.01	2c
298.04	299.37	Mo	0.01	2c
299.37	301	Mo	0.03	2c
301	303.12	Mo	0.015	2c
303.4	309.44	Mo	0.02	2cs
309.44	309.79	Mo	0.05	2FT
309.79	313.89	Mo	0.025	2cs
320.2	329	Mo	0.025	2cs

Hole ID: W1534 Project Code: WOC_Pit
Mining Land Number: Lease Claim 274
Planned by: bleduc Logged By: alanglais
Collar Depth: 1.47 m Hole Depth: 350.7 m
Collar Coordinates: 578261mE 5394698mN (UTM NAD83)
Azimuth: 180 degrees Dip: -69 degrees
Core Size: NQ
Drilling Start Date: 24-Sep-2015
Drilling End Date: 26-Sep-2015
Drilled by: Boreal Drilling

Interval (m)							Discontinuity Set 1						Discontinuity Set 2						Discontinuity Set 3					
From	To	Total Recovery (m)	RQD Measurement (m)	Rock Strength	Weathering	Number of Discontinuity Sets	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type	Alpha Angle	Frequency	Infill	Length	Roughness	Type
0	6	4.47	2.91	R4	W1	J2.5	50	15	N	3	Rough	FO	62	4	N	3	Rough	J	4	1	H3	3	Rough	J
6	9	3.07	2.92	R4	W1	J3	41	10	N	3	Smooth	FO	47	2	N	3	V_rough	J	35	1	H3	3	V_rough	J
9	12	2.99	2.88	R4	W1	J3	45	4	N	3	S_rough	FO	33	2	H3	3	S_rough	J	46	1	N	3	V_rough	J
12	15	2.98	2.9	R4	W1	J2	38	4	N	3	S_rough	FO	64	2	N	3	Rough	J						
15	18	2.97	2.92	R4	W1	J2.5	43	6	N	3	S_rough	FO	35	3	H3	3	S_rough	J	18	1	H3	3	S_rough	J
18	21	3.02	2.76	R4	W1	J2	44	3	N	3	Rough	FO	60	3	N	3	V_rough	J						
21	24	2.82	2.47	R4	W1	J1.5	41	4	H3	3	Rough	FO	17	1	N	3	Rough	J						
24	27	3.2	3.2	R4	W1	J2	50	5	S3	3	S_rough	FO	40	1	N	3	V_rough	J						
27	30	3.02	3.02	R4	W1	J1	30	1	N	3	Rough	J												
30	33	2.96	2.79	R4	W1	J2	40	5	H3	3	V_rough	FO	44	3	N	3	V_rough	J	4	1	S3	3	V_rough	J
33	36	2.99	2.99	R4	W1	J2.5	35	3	N	3	Rough	FO	32	2	N	3	V_rough	J	20	1	N	3	V_rough	J
36	39	2.9	2.84	R4	W1	J2	45	8	H3	3	Rough	FO	35	4	N	3	Rough	J						
39	42	2.99	2.42	R4	W1	J2	51	4	N	3	S_rough	FO	15	2	N	3	Rough	J						
42	45	2.99	2.97	R4	W1	J1	43	2	N	3	Rough	FO												
45	48	3.11	3.03	R4	W1	J2.5	40	7	H3	3	S_rough	FO	56	1	N	3	S_rough	J	29	1	N	3	Rough	J
48	51	2.96	2.68	R4	W1	J2	43	8	N	3	Rough	FO	52	2	S3	3	Rough	J	28	1	N	3	Rough	J
51	54	2.74	2.28	R4	W1	J3.5	50	1	H3	3	Rough	FO	29	1	N	3	V_rough	J	56	1	N	3	Rough	J
54	57	3.05	2.91	R4	W1	J1	23	1	N	3	Rough	J												
57	60	3.16	2.95	R4	W1	J2.5	40	7	N	3	S_rough	FO	35	1	N	3	S_rough	J	28	1	N	3	Rough	V
60	63	2.48	2.01	R4	W1	J2	44	6	N	3	S_rough	FO	57	2	N	3	Rough	J						
63	66	3.13	2.62	R4	W1	J4	46	5	N	3	Smooth	FO	60	1	N	3	V_rough	J	13	1	N	3	S_rough	J
66	69	3	2.88	R4	W1	J2	45	4	N	3	Rough	FO	43	5	N	3	V_rough	J	33	1	H3	3	Rough	J
69	72	2.97	2.97	R4	W1	J2	53	2	N	3	Rough	FO	20	1	N	3	V_rough	J						
72	75	2.99	2.92	R4	W1	J2	45	2	N	3	Rough	FO	39	2	N	3	Rough	J						
75	78	2.92	2.92	R4	W1	J2.5	46	1	H3	3	Rough	FO	58	1	N	3	S_rough	J	33	1	H3	3	Rough	J
78	81	3.03	2.99	R4	W1	J1	50	2	H3	3	V_rough	J												
81	84	2.91	2.51	R4	W1	J3	46	10	S3	3	Smooth	FO	58	5	N	3	S_rough	J	37	1	N	3	V_rough	J
84	87	2.86	2.42	R4	W1	J2	45	9	S3	3	Rough	FO	44	4	N	3	Rough	J						
87	90	3.01	2.49	R4	W1	J2.5	51	10	S3	3	Rough	FO	49	1	S3	3	Rough	J	22	2	H3	3	Rough	J
90	93	2.88	2.42	R4	W1	J2.5	48	11	H3	3	S_rough	FO	49	3	N	3	Rough	J	4	1	H3	3	V_rough	J
93	96	2.89	2.89	R4	W1	J2	50	2	N	3	Rough	FO	19	1	H3	3	Rough	J						
96	99	3.09	2.93	R4	W1	J2	46	6	S3	3	Smooth	FO	50	4	N	3	Rough	J						
99	102	2.91	2.69	R4	W1	J2	38	12	N	3	S_rough	FO	50	3	N	3	Rough	J						
102	105	3	2.98	R4	W1	J2	35	1	N	3	S_rough	FO	9	1	N	3	Rough	J						
105	108	3.02	2.9	R4	W1	J2	45	7	N	3	Smooth	FO	61	5	H3	3	S_rough	J						
108	111	2.85	2.52	R4	W1	J2	50	11	N	3	S_rough	FO	29	1	N	3	Rough	J						
111	114	3	2.66	R4	W1	J2.5	45	16	N	3	S_rough	FO	58	4	N	3	Rough	J	8	1	H3	3	Rough	J
114	117	3	2.93	R4	W1	J1	43	5	S3	3	Rough	FO												
117	120	2.99	2.77	R4	W1	J2	46	10	S3	3	Smooth	FO	40	2	N	3	Rough	J						
120	123	3.04	3.01	R4	W1	J2.5	52	5	N	3	Smooth	FO	35	2	H3	3	Rough	J	54	1	S1	3	S_rough	F
123	126	2.94	2.94	R4	W1	J2	52	4	N	3	Rough	FO	65	2	N	3	S_rough	J						
126	129	3.05	2.99	R4	W1	J2.5	7	1	H3	3	V_rough	J	28	3	H3	3	V_rough	J	19	1	N	3	S_rough	CO
129	132	2.83	2.66	R4	W1	J2	20	2	N	3	Rough	J	5	1	H3	3	V_rough	CO						
132	135	3.03	2.42	R4	W1	J1	5	1	H3	3	V_rough	CO												
135	138	3.01	2.94	R4	W1	J1	48	6	N	3	Rough	FO												
138	141	3.06	2.97	R4	W1	J2.5	22	2	N	3	Rough	J	17	1	N	3	V_rough	J	3	1	H3	3	V_rough	CO
141	144	2.86	2.86	R4	W1	J1.5	52	2	N	3	Smooth	FO	9	1	H3	3	V_rough	CO						
144	147	3.2	3.2	R4	W1	J1	56	3	N	3	Smooth	FO												
147	150	2.89	2.89	R4	W1	J1	57	2	N	3	S_rough	FO												
150	153	3.03	2.99	R4	W1	J2	60	3	N	3	S_rough	FO	57	1	N	3	Rough	J						

153	156	2.93	2.63	R4	W1	J2	45	8	N	3	S_rough	FO	41	3	N	3	V_rough	J						
156	159	2.99	2.77	R4	W1	J2	46	10	N	3	S_rough	FO	64	2	N	3	Rough	J						
159	162	2.95	2.83	R4	W1	J1.5	50	2	N	3	S_rough	FO	50	1	S1	3	Smooth	F						
162	165	3.01	3.01	R4	W1	J2	42	2	N	3	V_rough	FO	20	1	S3	3	Smooth	J						
165	168	3	3	R4	W1	J1	38	2	N	3	Rough	J												
168	171	2.99	2.99	R4	W1	J1	46	3	N	3	Rough	FO												

Appendix F

Boreal Drilling Invoices

Forage BOREAL Drilling
240 rue Gilbert-Bossé, Val-d'Or (Québec) Canada J9P 0H4
Tél.:819-874-4213 - Fax: 819-874-4409
Email : laplantea@borealdrilling.com
Web Site : www.borealdrilling.com

Invoice date : 2015-09-15

Invoice number
13073120150915

Period : *Du :* 2015-09-01
Au : 2015-09-15

Customer information :

William Operating Corporation
P.O. Box 500
Marathon, Ontario - Canada P0T 2E0
Phone : (807) 238-1100 - Fax : (807) 238-1050 - Email : losiecki@hemlomines.com

PO: 130731

ıct Number : B04-005 / Contact Linda Osiecki - Barrick 2015 Surf

Drill Surface 5.

Metreage

Description	Stabilized	Qty	Price	Total
Hole #W1535cas : 0 - 9 m (Casing NW)	☐	9,0	63,40	570,60
Hole #W1535 : 9 - 15 m (NQ)	☐	6,0	55,30	331,80
Hole #W1535 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1535 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1535 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1535 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1535 : 150 - 183 m (NQ)	☐	33,0	57,00	1881,00
Hole #W1527cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20
Hole #W1527 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1527 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1527 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1527 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1527 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1527 : 150 - 180 m (NQ)	☐	30,0	57,00	1710,00
Hole #W1529 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1529 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1529 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1529 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1529 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1529 : 150 - 203 m (NQ)	☐	53,0	57,00	3021,00
Hole #W1528cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20
Hole #W1528 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1528 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1528 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1528 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1528 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1528 : 150 - 171 m (NQ)	☐	21,0	57,00	1197,00
Hole #W1530cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20
Hole #W1530 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1530 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1530 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1530 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1530 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1530 : 150 - 276 m (NQ)	☐	126,0	57,00	7182,00
Hole #W1531cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20
Hole #W1531 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1531 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1531 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1531 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1531 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1531 : 150 - 234 m (NQ)	☐	84,0	57,00	4788,00
Hole #W1529cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20

28608.60

Forage BOREAL Drilling
240 rue Gilbert-Bossé, Val-d'Or (Québec) Canada J9P 0H4
Tél.:819-874-4213 - Fax: 819-874-4409
Email : laplantea@borealdrilling.com
Web Site : www.borealdrilling.com

Invoice date : 2015-09-15

Invoice number
13073120150915

Period : *Du :* 2015-09-01
Au : 2015-09-15

Customer information :

William Operating Corporation
P.O. Box 500
Marathon, Ontario - Canada P0T 2E0
Phone : (807) 238-1100 - Fax : (807) 238-1050 - Email : losiecki@hemlomines.com

PO: 130731

ıct Number : B04-005 / Contact Linda Osiecki - Barrick 2015 Surf

Total metreage	1247,0	69743,40

Stabilized

Hours

Description		Qty	Price	Total	
2015-09-01	Moving	4,0	55,00	220,00	
2015-09-01	Test	4,0	55,00	220,00	
2015-09-01	Stand by	2,0	55,00	110,00	
2015-09-02	Moving	4,0	55,00	220,00	
2015-09-02	Test	3,0	55,00	165,00	
2015-09-02	Grouting/Cimentation	7,0	55,00	385,00	
2015-09-03	Test	5,0	55,00	275,00	
2015-09-04	Moving	12,0	55,00	660,00	
2015-09-04	Test	3,0	55,00	165,00	
2015-09-04	Grouting/Cimentation	8,0	55,00	440,00	
2015-09-05	Test	2,0	55,00	110,00	
2015-09-05	Bad weather/Mauvaise te	3,0	55,00	165,00	
2015-09-06	Test	1,0	55,00	55,00	
2015-09-06	Other/Autre	10,0	55,00	550,00	
2015-09-06	Grouting/Cimentation	8,0	55,00	440,00	
2015-09-07	Test	6,0	55,00	330,00	
2015-09-08	Moving	6,0	55,00	330,00	
2015-09-08	Test	2,0	55,00	110,00	
2015-09-08	Grouting/Cimentation	13,0	55,00	715,00	
2015-09-08	Stand by	3,0	55,00	165,00	
2015-09-09	Test	4,0	55,00	220,00	
2015-09-10	Test	3,0	55,00	165,00	3190.00
2015-09-10	Grouting/Cimentation	12,0	55,00	660,00	
2015-09-11	Moving	8,0	55,00	440,00	
2015-09-11	Test	3,0	55,00	165,00	
2015-09-12	Test	4,0	55,00	220,00	
2015-09-13	Moving	4,0	55,00	220,00	
2015-09-13	Test	1,0	55,00	55,00	
2015-09-13	Other/Autre	6,0	55,00	330,00	
2015-09-13	Water	2,0	55,00	110,00	
Total Hours		**153,0**		**8415,00**	

Others

Unit items

Description		Qty	Price	Total	
2015-09-11	(BARR) Shoe bit NWL	1	139,02	139,02	369.78
2015-09-11	(BARR) Casing 0.6 metre NWL	6	38,46	230,76	
Total Unit items				**369,78**	
Total Others				**369,78**	

Forage BOREAL Drilling
240 rue Gilbert-Bossé, Val-d'Or (Québec) Canada J9P 0H4
Tél.:819-874-4213 - Fax: 819-874-4409
Email : laplantea@borealdrilling.com
Web Site : www.borealdrilling.com

Invoice date : 2015-09-15

Invoice number
13073120150915

Period : *Du :* 2015-09-01
Au : 2015-09-15

Customer information :

William Operating Corporation
P.O. Box 500
Marathon, Ontario - Canada P0T 2E0
Phone : (807) 238-1100 - Fax : (807) 238-1050 - Email : losiecki@hemlomines.com

PO: 130731

ıct Number : B04-005 / Contact Linda Osiecki - Barrick 2015 Surf

Diamond Products

Drill Surface 5. - sn: Surface 5.	Sub Total :	78 528,18 $

PO: 130731	Sub Total :	78 528,18 $
GST number : 821200557 RT0001	H-GST 13% :	10 208,66 $
QST number : 1213558508 TQ0001	QST 0% :	0,00 $
	Total :	**88 736,84 $**

Total = 32168.38

Forage BOREAL Drilling
240 rue Gilbert-Bossé, Val-d'Or (Québec) Canada J9P 0H4
Tél.:819-874-4213 - Fax: 819-874-4409
Email : laplantea@borealdrilling.com
Web Site : www.borealdrilling.com

Invoice date : 2015-09-30

Invoice number
13073120150930

Period : *Du :* 2015-09-16
Au : 2015-09-30

Customer information :

William Operating Corporation
P.O. Box 500
Marathon, Ontario - Canada P0T 2E0
Phone : (807) 238-1100 - Fax : (807) 238-1050 - Email : losiecki@hemlomines.com

PO: 130731

ıct Number : B04-005 / Contact Linda Osiecki - Barrick 2015 Surf

Drill Surface 5.

Metreage

Description	Stabilized	Qty	Price	Total
Hole #W1533cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20
Hole #W1533 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1533 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1533 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1533 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1533 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1533 : 150 - 300 m (NQ)	☐	150,0	57,00	8550,00
Hole #W1534cas : 0 - 3 m (Casing NW)	☐	3,0	63,40	190,20
Hole #W1534 : 3 - 15 m (NQ)	☐	12,0	55,30	663,60
Hole #W1534 : 15 - 30 m (NQ)	☐	15,0	55,30	829,50
Hole #W1534 : 30 - 45 m (NQ)	☐	15,0	55,30	829,50
Hole #W1534 : 45 - 60 m (NQ)	☐	15,0	55,30	829,50
Hole #W1534 : 60 - 150 m (NQ)	☐	90,0	55,30	4977,00
Hole #W1534 : 150 - 300 m (NQ)	☐	150,0	57,00	8550,00
Hole #W1534 : 300 - 351 m (NQ)	☐	51,0	59,60	3039,60
Total metreage		**651,0**		**36778,20**

36778.20

Stabilized

Hours

Description		Qty	Price	Total
2015-09-20	Moving	4,0	55,00	220,00
2015-09-20	Test	1,0	55,00	55,00
2015-09-20	Stand by	5,0	55,00	275,00
2015-09-21	Test	5,0	55,00	275,00
2015-09-21	Bad weather/Mauvaise te	2,0	55,00	110,00
2015-09-22	Test	3,0	55,00	165,00
2015-09-22	Bad weather/Mauvaise te	5,0	55,00	275,00
2015-09-22	Clean-Hole	1,0	55,00	55,00
2015-09-23	Test	1,0	55,00	55,00
2015-09-23	Grouting/Cimentation	8,0	55,00	440,00
2015-09-24	Test	3,0	55,00	165,00
2015-09-25	Test	5,0	55,00	275,00
2015-09-26	Test	4,0	55,00	220,00
2015-09-26	Grouting/Cimentation	3,0	55,00	165,00
2015-09-27	Moving	6,0	55,00	330,00
2015-09-27	Grouting/Cimentation	12,0	55,00	660,00
2015-09-27	Water	2,0	55,00	110,00
2015-09-28	Moving	12,0	55,00	660,00
Total Hours		**82,0**		**4510,00**

3520.00

Forage BOREAL Drilling
240 rue Gilbert-Bossé, Val-d'Or (Québec) Canada J9P 0H4
Tél.:819-874-4213 - Fax: 819-874-4409
Email : laplantea@borealdrilling.com
Web Site : www.borealdrilling.com

Invoice date : 2015-09-30

Invoice number
13073120150930

Period : *Du :* 2015-09-16
Au : 2015-09-30

Customer information :

William Operating Corporation
P.O. Box 500
Marathon, Ontario - Canada P0T 2E0
Phone : (807) 238-1100 - Fax : (807) 238-1050 - Email : losiecki@hemlomines.com

PO: 130731

ıct Number : B04-005 / Contact Linda Osiecki - Barrick 2015 Surf

Others

Unit items

Description		Qty	Price	Total	
2015-09-21	(BARR) Shoe bit NWL	1	139,02	139,02	
2015-09-21	(BARR) Casing 0.6 metre NWL	6	38,46	230,76	
2015-09-27	(BARR) Shoe bit NWL	1	139,02	139,02	
2015-09-28	(Barr) Casing Cap NW	1	68,25	68,25	
2015-09-28	(BARR) Crew transportation Vehicule / month	1	1225,00	1225,00	612.50
2015-09-28	(BARR) Survey inst rental / month	1	2900,00	2900,00	1450.00
Total Unit items				**4702,05**	
Total Others				**4702,05**	2432.28

Diamond Products

Drill Surface 5. - sn: Surface 5. Sub Total : 45 990,25 $

PO: 130731
GST number : 821200557 RT0001
QST number : 1213558508 TQ0001

Sub Total :	45 990,25 $
H-GST 13% :	5 978,73 $
QST 0% :	0,00 $
Total :	**51 968,98 $**

Total = 42730.48

Grand Total = 42730.48+32168.38
= 74898.86

Appendix G

Contact Information

Appendix H

Certificate of Qualifications

Report Author: **Aimee Langlais** (Project Coordinator)
Williams Operating Corp.
PO Bag 500
Marathon, ON
P0T 2E0
(807)238-1100 ext4344

Boreal Supervisor: **Francis Dion** (Diamond Drilling Manager)
Boreal Drilling c/o Williams Operating Corp.
PO Bag 500
Marathon, ON
P0T 2E0
(807)238-1100 ext4615

Program Supervisor: **Beth Leduc** (Senior Open Pit Geological Technologist)
Williams Operating Corp.
PO Bag 500
Marathon, ON
P0T 2E0
(807)238-1100 ext4347

Aimee Langlais Certificate of Qualifications

I, Aimee Langlais, do hereby certify that:

1. I am a graduate from Carleton University, Ottawa, Ontario in 2012 with an Honours Bachelor of Science degree in Earth Science.
2. I have practiced my profession from 2011 to the present.
3. I have previously worked for one year in mineral exploration engaged in exploration for gold, and for the last 3.5 years employed in the Geology department of Williams Operating Corporation.
4. I have verified the contents of this report and believe this to be reasonable accurate and complete.

Aimee Langlais
Project Coordinator
Barrick Hemlo

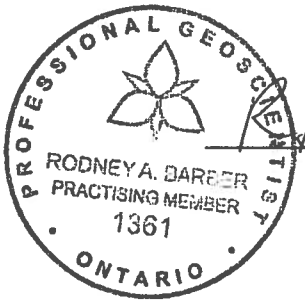
March 6, 2016

Date

Rodney Barber Certificate of Qualified Person

I, Rodney Barber, P.Geo., do hereby that:

1. I am a practicing member of the Association of Professional Geoscientists of Ontario.
2. I am a graduate of Laurentian University, Sudbury, Ontario in 1988 with an Honours Bachelor of Science degree in Geology.
3. I have practiced my profession from 1988 to present.
4. I have previously worked for 13 years as an exploration geologist engaged in exploration for gold, base metals, and industrial minerals and for the last 15 years as a geologist employed by Williams Operating Corporation, including 3.5 years as the Mine Geologist at the David Bell Mine.
5. I have overseen the work contained within this report and that I have verified the contents of this report and believe this to be reasonably accurate and complete.



Rodney Barber, P.Geo.
Geology Superintendent
Barrick Hemlo

Mar 7, 2016

Date