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2018 – 2019 DIAMOND DRILLING REPORT

on the

PICK – WINSTON LAKE Zn-Cu PROPERTY

SUPERIOR LAKE RESOURCES LIMITED
(Ophiolite Holdings Pty Ltd.)

Pays Plat Lake Area
Rope Lake Area
Thunder Bay Mining Division
NORTHWEST ONTARIO, CANADA
NTS 42D14, 42E03

- by -

Dave Thomson, RPF

Gerry White, BSc., P.Geo.

September 30, 2019

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LIST OF ABBREVIATIONS

AAS	Atomic Absorption Spectroscopy
Ag	Silver
Au	Gold
BCMC	Boundary Cell Mining Claim
CNR	Canadian National Railway
CPR	Canadian Pacific Railway
cm	Centimeter
Cu	Copper
DDH	Diamond Drill Hole
EM	Electromagnetic
GB	Greenstone Belts
GIS	Geographic Information System
GPS	Global Positioning System
GSC	Geological Survey of Canada
g/t	Grams per tonne (Metric ton, 1,000 kg)
ha	Hectare
HQ	Drill Core Diameter / 61.1 mm (2.406 in)
IP	Induced Polarization
JORC	Joint Ore Reserves Committee (Australasian Reporting Code, equivalent to NI 43-101)
Kg	Kilogram
Km	Kilometre
LIO	Land Information Ontario
m	Metre
mm	Millimetre
MDI	Mineral Deposit Inventory
MENDM	Ministry of Energy, Northern Development and Mines
Mlbs	Million pounds
MNDM	Ministry of Northern Development and Mines
MCMC	Multi-cell Mining Claim
NAD83	North American Datum 1983
NI	National Instrument
Ni	Nickel
NTS	National Topographic System
OGS	Ontario Geological Survey
Ounce	Troy ounce (used for precious metals) = 31.103 grams
PGE	Platinum Group Elements
PWLP	Pick-Winston Lake Property
ppb	Parts Per Billion
ppm	Parts Per Million
QAQC	Quality Assurance Quality Control
SCMC	Single Cell Mining Claim
SP	Subprovince
TDEM	Time-Domain Electromagnetic (airborne geophysical survey)
UTM	Universal Transverse Mercator (map projection)
VLF	Very Low Frequency
VMS	Volcanogenic Massive Sulphide
VTEM	Versatile Time Domain Electromagnetic (airborne geophysical survey)
WLGB	Winston Lake Greenstone Belt
WSP	Wawa Subprovince
Zn	Zinc

INTRODUCTION

This report documents the results of a diamond drilling program conducted by Superior Lake Resources Limited on the Pick – Winston Lake Zn-Cu Property (Figure 1) between November 2, 2018 and February 26, 2019. The program recovered a total of 2,288 m of HQ core from parent hole PL-18-01 (NAD 83, UTM Zone 16, 471530.525 East, 5424063.761 North, Elevation 421.9m) and 7 wedged holes (PL-18-01-W1, PL-18-01-W2, PL-18-01-W3, PL-18-01-W3B, PL-18-01-W3D, PL-18-01-W4 and PL-18-01-W5) drilled from the parent hole (Courtney 2019). Parent diamond drill hole PL-18-01 is located on cell claim 162598. The drilling was contracted to Chibougamau Diamond Drilling Ltd. from Chibougamau, Quebec and supervised by geologist Daniel Courtney of Clark Exploration Consulting Inc. (Thunder Bay, Ontario) on behalf of Superior Lake Resources.

Expenditures related to the 2018-2019 Diamond Drilling Program totalled $990,207.60 (see Appendix 4 for a breakdown of these expenses). This work was conducted under Exploration Permits No. PR-13-10412R (which covers legacy claims 3001232, 4244161, 4244162, 4244163 and 4244751) and PR-18-000268.

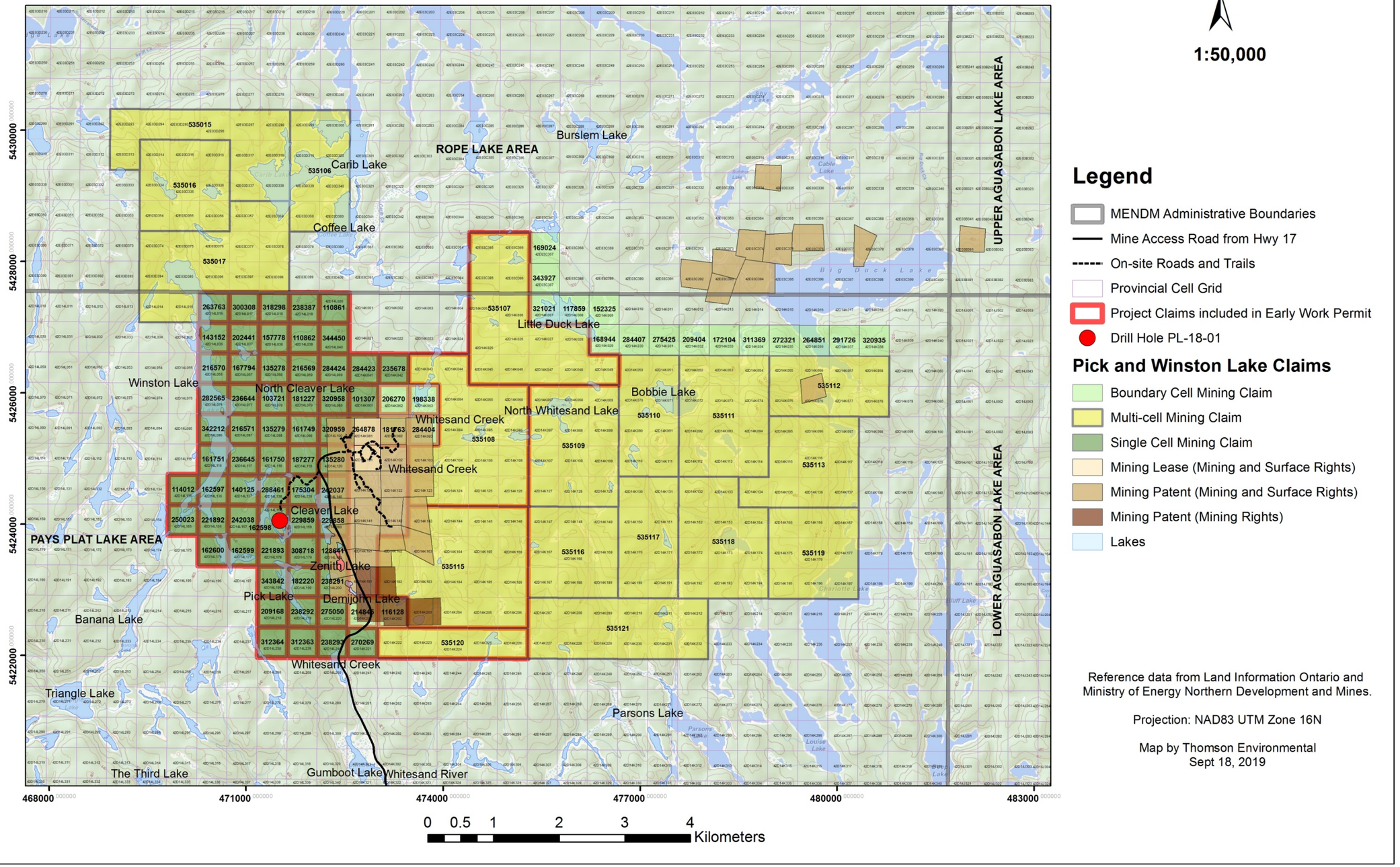
Figure 1. Pick – Winston Lake Property Location Map

PROPERTY, LOCATION AND ACCESS

The Pick – Winston Lake Property (PWLP) is located in Northwestern Ontario approximately 150 km northeast of the City of Thunder Bay and 20 km north northwest of the town of Schreiber along the north shore of Lake Superior. The contiguous claim group lies primarily within the northern portion of the Pays Plat Lake Area (NTS 42D14L and 14K) and partially within the southern portion of the Rope Lake Area (NTS 42E03C and 03D) (Figure 2). Access to the property is via the Trans-Canada Highway 17, 196 km east from Thunder Bay to the Winston Lake Mine access road (also referred to as the Whitefeather Road). The property can be reached by travelling north for 21 km to the mine gate along the all-weather gravel road. Numerous trails and mine access roads traverse the southern and west central portions of the property.

The PWLP is represented by 100 claims consisting of 61 Cell, 18 Multi-Cell (a total of 195 single cells) and 21 Boundary claims occupying close to 5398 ha. As a result, for assessment purposes, the property consists of 256 Cell claims and 21 Boundary claims. A complete list of all claims is provided in Appendix 2.

Pick and Winston Lake Claims and Permit Areas



Legend

- MENDM Administrative Boundaries
- Mine Access Road from Hwy 17
- On-site Roads and Trails
- Provincial Cell Grid
- Project Claims included in Early Work Permit
- Drill Hole PL-18-01

Pick and Winston Lake Claims

- Boundary Cell Mining Claim
- Multi-cell Mining Claim
- Single Cell Mining Claim
- Mining Lease (Mining and Surface Rights)
- Mining Patent (Mining and Surface Rights)
- Mining Patent (Mining Rights)
- Lakes

Reference data from Land Information Ontario and Ministry of Energy Northern Development and Mines.

Projection: NAD83 UTM Zone 16N

Map by Thomson Environmental
Sept 18, 2019

Figure 2. Pick – Winston Lake Property Map

EXPLORATION HISTORY

The exploration and production history of the Pick – Winston Lake Zn-Cu Property, which stretches back over 100 years, is summarized below (Figure 3):

- 1879: Prospectors discovered high grade zinc in the Zenith Lake area, located approximately 1 km east of the Winston Lake Mine.
- 1891 to 1901: The Zenith deposit was developed and close to 3416 t of massive coarse-grained sphalerite was hand-mined (45% Zn) (Puumala et al. 2019). During this same period the Ciglen occurrence, located 2 km northwest of the Winston Lake Mine and east of Winston Lake, was discovered and exposed by 3 trenches along a 35 m strike. Sampling of the No. 1 trench from work conducted at the Ciglen occurrence in 1952 returned 5.09% Zn and 0.08% Cu over 0.9 m (Pye 1964).
- 1952 to 1953: The Anderson copper occurrence was discovered and tested by diamond drilling (129 m in 5 holes). A 6 m section of drill core was estimated to contain 0.5% Cu (Pye 1964). The Anderson occurrence is located about 400 m west of the Pick Lake deposit near the southeast end of Winston Lake.
- 1965: Zenmac Metal Mines Limited investigated both the Ciglen and Anderson occurrences. No assay results were published.
- 1966 to 1970: Zenmac Metal Mines Limited mined the Zenith deposit and produced 164,200 t at 16.5% Zn (Puumala et al. 2019).
- 1978 to 1982: Corporation Falconbridge Copper (CFC) acquired a group of claims adjacent to and west of Zenmac's Zenith deposit. The company conducted detailed mapping, lithogeochemical sampling and various geophysical surveys. This exploration work led to the discovery of the Winston Lake VMS deposit.
- 1981: The Trail occurrence, located approximately 300 m west of the Winston Lake Mine, was discovered during CFC's mapping program and was identified as hosting VMS mineralization.
- 1983: CFC initiated the development of a 3-compartment shaft for underground delineation drilling. Over an 18-month period CFC completed the shaft and underground drilling, which resulted in an initial historical resource of 2.95 MT@ 17.8% Zn, 0.94% Cu, 0.7 oz/ton Ag and 0.025 oz/ton Au (Superior Lake Resources website, 2018 News Release).
- 1984: CFC announced the discovery of the Pick Lake deposit. Exploration diamond drilling from surface following the down-dip extension of a base metal occurrence at the Anderson showing (mentioned previously) resulted in the discovery of the deposit. The discovery of the Winston Lake and Pick Lake VMS deposits were the first in this part of Northwestern Ontario since the discovery in 1954 of the Noranda Geco deposit in the Manitouwadge area, 110 km to the east. (The Geco Mine operated from 1957 to

1995 and produced 49.4 Mt at 1.85% Cu, 3.78% Zn and 56.2 g/t Ag (Puumala et al. 2019)).

- 1987: CFC changed its name to Minnova Inc.
- 1988 to 1999: In 1988 Minnova reported the completion of a 741 m shaft with a designed production capacity of 1000 metric tonnes per day. The development and operation of the Winston Lake Mine occurred over an 11- year period and resulted in the production of 3,269,698 t at 1.04% Cu (~53 Mlbs), 14.56% Zn (~900 Mlbs), 32.32 g/t Ag and 1.4 g/t Au (> 50,000 oz) (Puumala et al. 2019).
- 1993: Minnova Inc. was acquired by Metall Mining Corporation. Underground access to the Pick Lake deposit was gained via a 2,200 m drift west from the Winston Lake deposit. This was followed by the development of a 602 m internal shaft or winze (Turcotte and Verschelden 2013).
- 1995: Metall Mining Corporation changed its name to Inmet Mining Corporation. Production from the Pick Lake deposit, which consists of an Upper and Lower zone, was added to the Winston Lake ore feed from 1995 until operations were suspended in December 1998.
- 1999: The Winston Lake Mine operation was closed in February due to very low zinc prices at the time (US$0.42/lb). During the post cessation of mining, Inmet dismantled the processing plant, sold it and began reclamation at the site. As of January 1, 1999, Inmet Mining reported a non-compliant NI 43-101 Proven and Probable ore reserve for the Lower Pick Lake zone, estimated to be 598,000 tonnes at a grade of 1.0% Cu and 21.2% Zn, including a dilution of 33% (Turcotte and Verschelden 2013).
- 2008 to 2010: Orebot Inc. acquired the Pick Lake Claims and completed several exploration programs.
- 2011: The Pick Lake property was optioned to Silvore Fox Minerals Corporation and the company initiated an airborne Versatile Time Domain Electromagnetic (VTEM) survey. Silvore Fox also complete an NI 43-101 Technical Report for the Pick Lake Project, which was released on June 19, 2013 (Turcotte and Verschelden 2013).
- 2013: Inmet Mining Corporation was acquired by First Quantum Minerals Ltd.
- 2017 to 2018: Superior Lake Resources Limited acquired the Pick Lake Licences, optioned the Winston Lake Project and acquired all mining data from First Quantum Minerals (Superior Lake Resources website).
- 2018 to 2019: Superior Lake Resources completed geological mapping and lithogeochemical sampling, a Ground TDEM geophysical survey adjacent to the Pick and Winston Lake deposits, a 2,288 m diamond drilling program (cell claim 162598) and Borehole Electromagnetic (BHEM) geophysical surveys.
- 2019: On August 28, Superior Lake Resources released a Bankable Feasibility Study for the Pick – Winston Lake Project, which included new JORC (2012) Mineral Resource and Ore Reserve Estimates (compliant with NI 43-101). (Note: Mineral Resources are inclusive of Ore Reserves). The current Mineral Resource is stated as 2.35 Mt at 17.7% Zn, 0.9% Cu, 0.38 g/t Au and 34 g/t Ag with a Probable Ore Reserve of 1.96 Mt at 13.9%

Zn, 0.6% Cu, 0.2g/t Au and 26.2g/t Ag (Superior Lake Resources Limited, News Release, August 28, 2019).

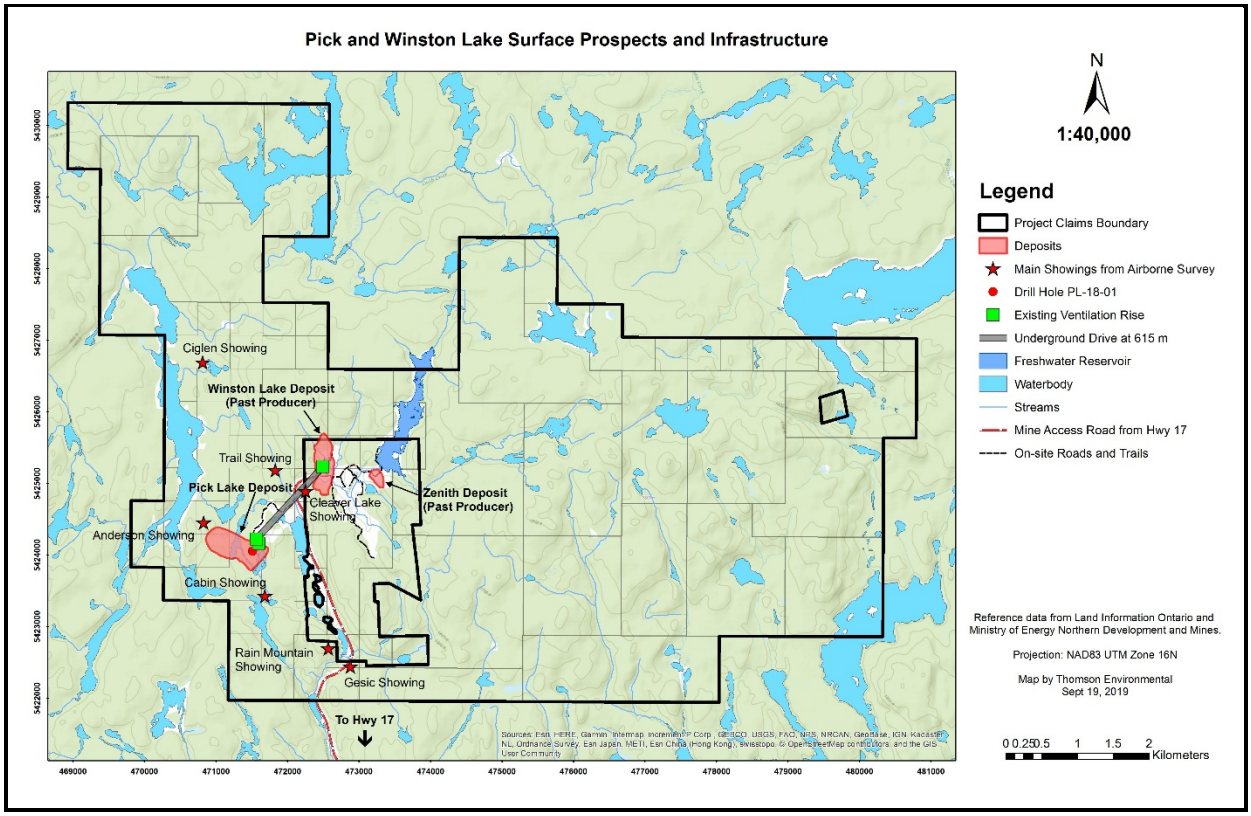


Figure 3. Pick – Winston Lake Property Mineral Occurrences and Prospects

GEOLOGICAL SETTING

The Pick – Winston Lake Property is located in the Wawa-Abitibi terrane along the northern margin of the Wawa Subprovince and south of the Quetico metasedimentary basin or subprovince (Figure 4). The subprovinces are part of the much larger Archean-age (3.4 to 2.5 Ga) Superior Province which essentially defines the Canadian Precambrian Shield and forms the core of the North American continent (Figure 5). These continental core rocks represent the oldest and most tectonically stable group of rocks in North America.

The Wawa Subprovince (WSP) is a typical Archean greenstone-granite terrane consisting of primitive ultramafic to felsic volcanic rocks and associated metasedimentary rocks, intruded and enclosed by granitoid rocks. The WSP contains a series of greenstone belts of similar age (ca. 2.95 to 2.68 Ga) hosting

gold, nickel and zinc deposits. The Winston Lake Greenstone Belt (WLGB), which hosts the Pick Lake and past producing Winston Lake Zn-Cu deposits, is tectonically and stratigraphically equivalent to similar aged greenstone belts (ca 2720 Ma) along the northern margin of the Wawa Subprovince. These include the Vermillion, Shebandowan and Manitouwadge greenstone belts, the latter of which hosts the past producing Geco VMS deposit (Figure 6). Regional metamorphic grade in the WLGB is lower amphibolite facies (Lodge et al. 2019).

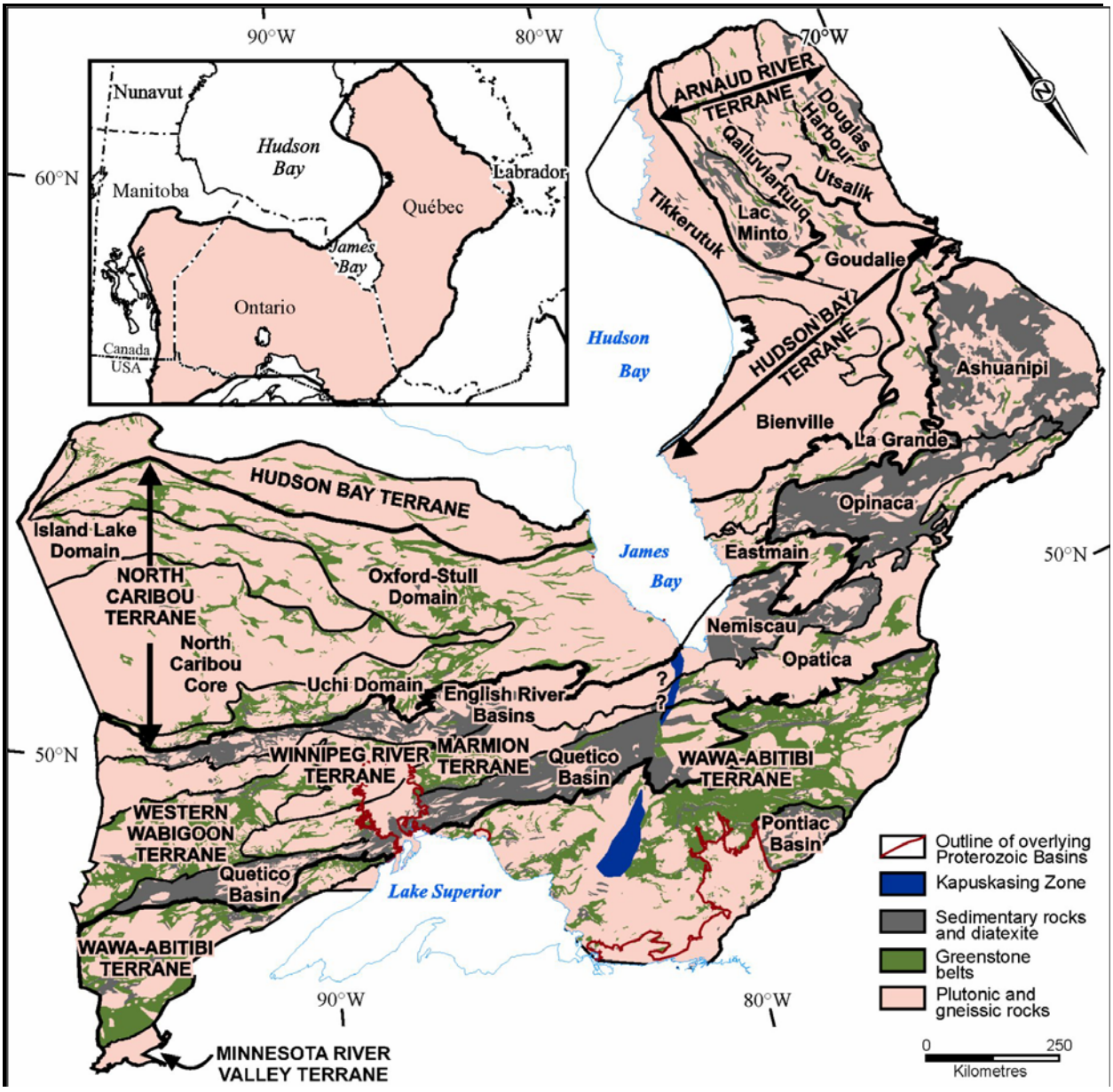


Figure 4. Superior Province within the Canadian Shield showing Subdivisions (Stott 2011)

The Winston Lake Greenstone Belt (Figure 7) is a small belt located directly north of, and almost connected to the Schreiber-Hemlo greenstone belt. The belt is bound to the north by the Quetico Subprovince, to the west by the Winston Lake batholith, and to the south by the Crossman Lake Batholith. Rocks in the western part of the belt that host the past-producing Winston Lake Mine and Pick Lake deposit, were initially interpreted as metasedimentary rocks because of the presence of aluminosilicate minerals (Pye, 1964). They were later interpreted to be hydrothermally altered felsic and mafic volcanic assemblages (Lodge et al. 2019).

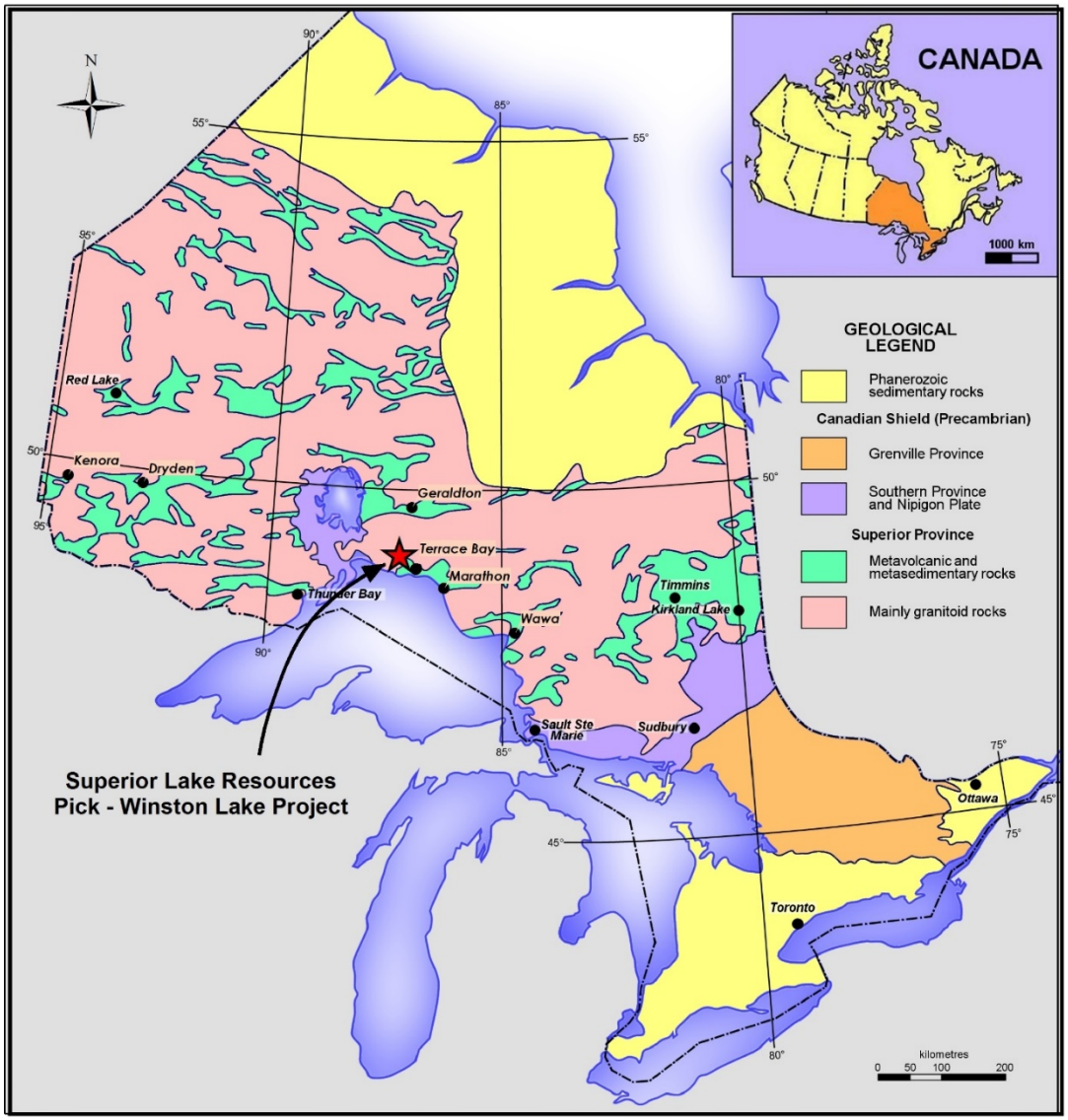


Figure 5. Bedrock Geology Map

The Winston Lake belt has been informally subdivided into two main lithotectonic assemblages: the Winston Lake Assemblage, which occupies the extreme western portion of the belt and the Big Duck Lake Assemblage, a thick mafic unit comprising the eastern and central portions of the belt. The Big Duck Lake Assemblage consists of Mg- to Fe-rich tholeiitic basalts, quartz-feldspar porphyry dykes and sills, and their brecciated equivalents. The Big Duck Lake Assemblage is thought to conformably overly the Winston Lake Assemblage with the contact

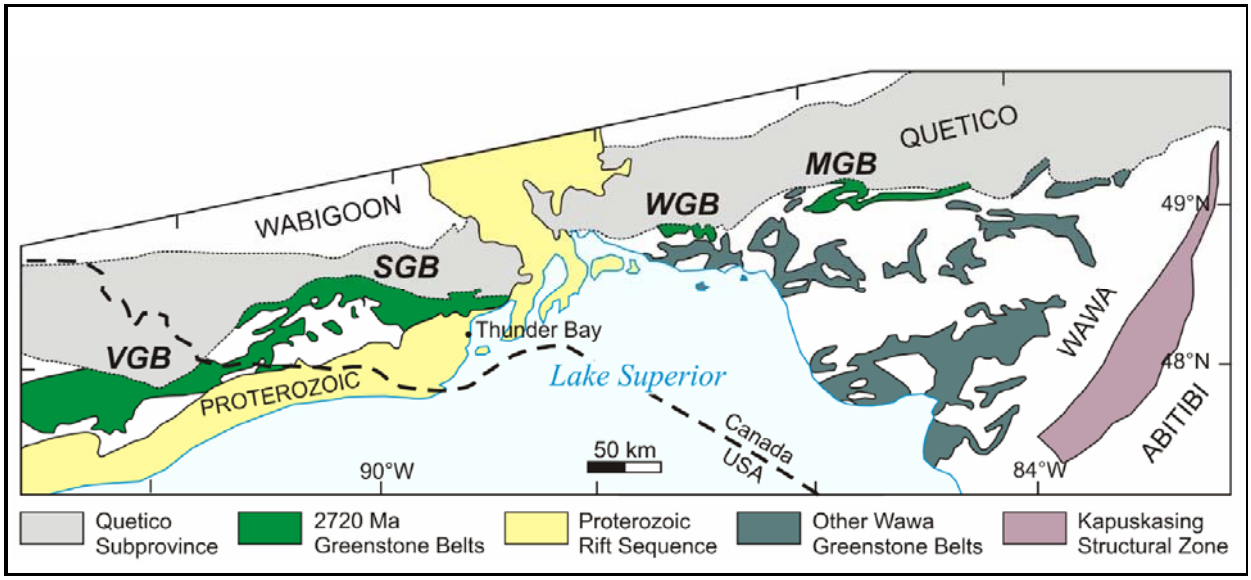


Figure 6. Greenstone Belts in the Northern Wawa Subprovince (Lodge et al. 2019)

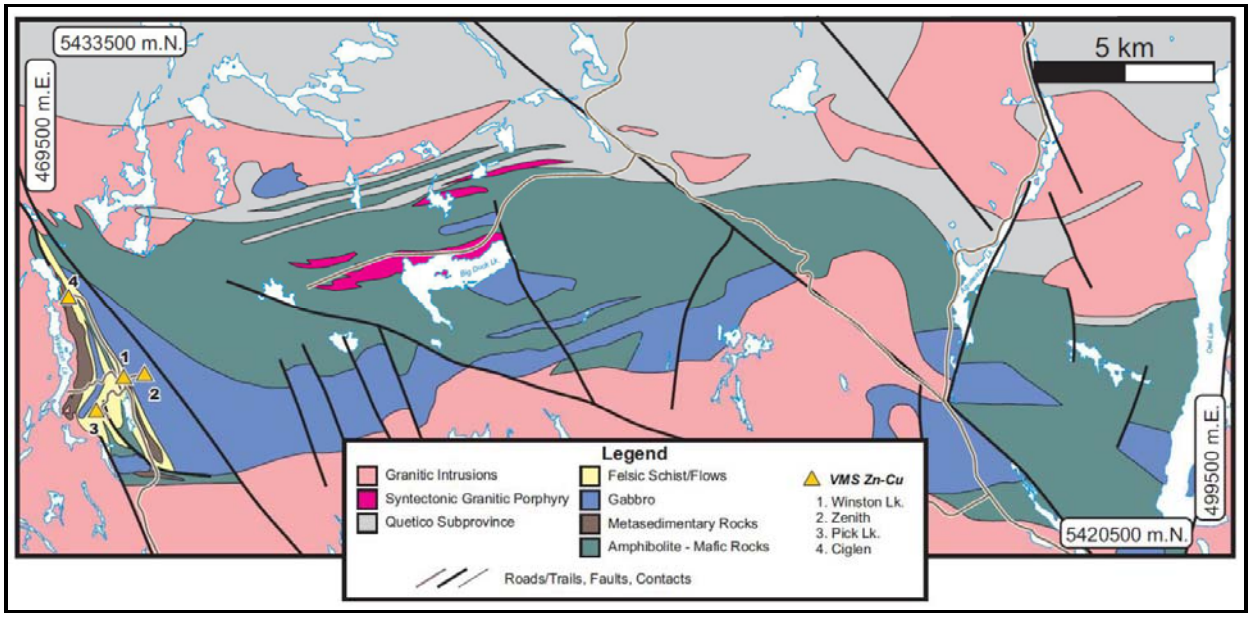


Figure 7. Winston Lake Greenstone Belt (Lodge et al. 2019)

intruded by a thick differentiated gabbro. The VMS-hosting Winston Lake Assemblage is dominated by felsic volcanic and silica-rich sedimentary rocks. Despite the high degree of metamorphism and deformation in the Winston Lake Assemblage, many primary features are preserved in the volcanic rocks. Reliable younging directions obtained from pillowed flows and cross-bedding in volcaniclastic rocks suggest an eastward-younging stratigraphy. The Pick Lake VMS deposit is associated with a quartz-feldspar porphyry flow rocks and the Winston Lake VMS deposit is hosted by altered mafic flow and interlayered felsic volcanic units. The differentiated gabbro at the contact between the 2 assemblages hosts the Zn-rich Zenith orebody (Lodge et al. 2019).

MINERALIZATION and ALTERATION

The Pick Lake deposit varies in thickness from 1.5 m to 14 m (averaging between 2 m and 4 m), is between 100 m and 400 m wide, and has a down-plunge extent of approximately 1 km, beginning from a depth of around 500 m (Doiron et al., 1997; Lodge, 2012). It consists predominantly of massive fine to medium grained sphalerite and pyrrhotite with minor chalcopyrite and pyrite, and occurs in sharp contact with metasedimentary rocks of the “Lower Clastic Succession” (Lodge et al. 2014). Doiron et al. (1997) noted the textural differences between the Winston Lake and Pick Lake deposits, and particularly the presence of durchbewegung textures at Pick Lake, indicative of sheared sulfides incorporating clasts of host or wallrock material. The timing of this deformation post-dated the emplacement of granitic dykes related to the intrusion of the granitoid complexes south and west of the Pick Lake deposit. Copper-rich, high-temperature feeder pipes have not been identified at either the Winston Lake or Pick Lake deposits, consistent with the massive sphalerite lenses having been structurally displaced from their original stratigraphic position (Nielsen 2017).

Six other known mineral occurrences, located in the west and southwestern portion of the Pick – Winston Lake property (see Figure 3), some mentioned in the previous ‘Exploration History’ section and described by Turcotte and Verschelden (2013) in a NI 43-101 technical report, are discussed below (Nielsen 2017).

The Ciglen Zn showing lies within the "Lower Clastic Succession" along the western boundary of the property and east of Winston Lake. Turcotte and Verschelden (2013) indicate:

"It lies in and along the hanging-wall side of a narrow band of intimately interbedded garnet-biotite-quartz-feldspar gneiss and garnet-biotite-quartz schist; like these metasediments, it strikes N100W and dips 35° to 45°E. It is up to 17 feet (5.2 m) thick and has been traced along-strike for 180 feet (54.9 m). The mineralization consists of pyrite and pyrrhotite, with some sphalerite and a little chalcopyrite. These sulphides compose 10% to 15% of the deposit and occur as either disseminations in the host rock or thin lenses and layers oriented parallel to the foliation. Associated with the sulphides is considerable fine-grained to medium grained smoky quartz."

The Anderson Cu-Zn occurrence is also hosted within the "Lower Clastic Succession" and is located approximately 800 m west of the Pick Lake deposit. It is considered by Lodge (2012) to represent the surface expression of the Pick Lake deposit and displays a very strong electromagnetic response. The following description is taken from Turcotte and Verschelden (2013):

"From the drilling results in 1952, it is evident the Anderson occurrence lies within a narrow band of biotite gneiss, which is in part garnetiferous, in the granitic rocks in this locality. It strikes N150-200E and dips southeast. The deposit is a crudely tabular body of gneiss containing some disseminated pyrite and pyrrhotite, a little chalcopyrite, and very small amounts of sphalerite, and exhibiting an occasional stringer of quartz. It is about 40 feet (12.2 m) thick and has been tested by the drill holes over a strike-length of 250 feet (76.2 m). The up-plunge and surface expression of the Pick Lake deposit was identified as the Anderson occurrence."

The Trail occurrence is located approximately 300 m west of the Winston Lake deposit. The following description of the Trail Cu showing is taken from the Ontario Ministry of Energy, Northern Development and Mines online Mineral Deposit Inventory (MDI) data base:

"The Trail occurrence is classed as a VMS deposit. The area is underlain by altered and unaltered mafic metavolcanic rocks as well as minor interflow metasedimentary rocks. Severin and Balint (1984) describe the Trail occurrence as follows: a thin sequence of bedded felsic sediments occurs locally between the base of the Ladder Flow and the underlying quartz feldspar porphyry. In this case, this material is intensely altered to a quartz-cordierite-biotite-anthophyllite-garnet±sillimanite assemblage. The primary bedded nature of the material appears preserved. Anomalous sulphide content is common. The 0.15 m thick chalcopyrite mineralized siliceous horizon carries (up to) 6,230 ppm Cu. The Trail Copper occurrence represents a thin exhalative unit between a mafic metavolcanic flow and the underlying quartz porphyry. The material is siliceous to cherty in nature."

The Creek Cu occurrence is located along Selim Creek approximately 200 m west of the surface expression of the Winston Lake deposit (Smyk and Schnieders, 1995). It consists of a gossan containing pyrite and chalcopyrite hosted by felsic rocks which have been partially altered to biotite-cordierite-anthophyllite.

The Cabin occurrence lies approximately 500 m south of the Pick Lake deposit near the contact between the "Lower Clastic Succession" and mafic flows. Turcotte and Verschelden (2013) describe it as *"…weakly anomalous base metal mineralization at the base of garnet-bearing synvolcanic felsic-derived sediments and/or tuffs and consists of an approximately 1-metre thick highly siliceous pyrrhotite-pyrite rich zone exposed intermittently over approximately 150 metres of strike length."*

The Rain Mountain occurrence is located near the southwest boundary of the Pick – Winston Lake property. Very little information is available regarding this showing, but it is presumably enriched in Zn and other metals as it is interpreted to be an exhalative horizon associated with submarine hydrothermal activity (Turcotte and Verschelden, 2013).

ALTERATION

The regional metamorphic grade within the WLGB, as discussed earlier, is lower amphibolite facies. This higher degree of metamorphism vs greenschist facies (i.e. Beardmore-Geraldton and Shebandowan greenstone belts), can often mask or destroy evidence of hydrothermal alteration associated with VMS mineralization. The recognition of metamorphosed hydrothermal alteration played an important role in the discovery of the Winston Lake VMS deposit and later the Pick Lake VMS deposit (Severin, Balint and Sim, 1991). Metamorphosed mafic volcanic rocks in contact with the Zenith Gabbro were observed to have unusual mineral assemblages, including the presence of garnet, cordierite and anthophyllite. These rocks, through chemical analysis, were also found to be enriched in Zn, K, Mg and Fe, and depleted in Na and Ca, which defined a zone of hydrothermal alteration associated with a downhole pulse EM anomaly. Drilling of this EM anomaly led to the discovery of the Winston Lake deposit (Nielsen 2017).

2018 – 2019 DIAMOND DRILLING PROGRAM

Superior Lake Resources Limited completed a 'Phase 1" surface diamond drilling program on the Pick – Winston Lake Zn-Cu Property over the Pick Lake deposit

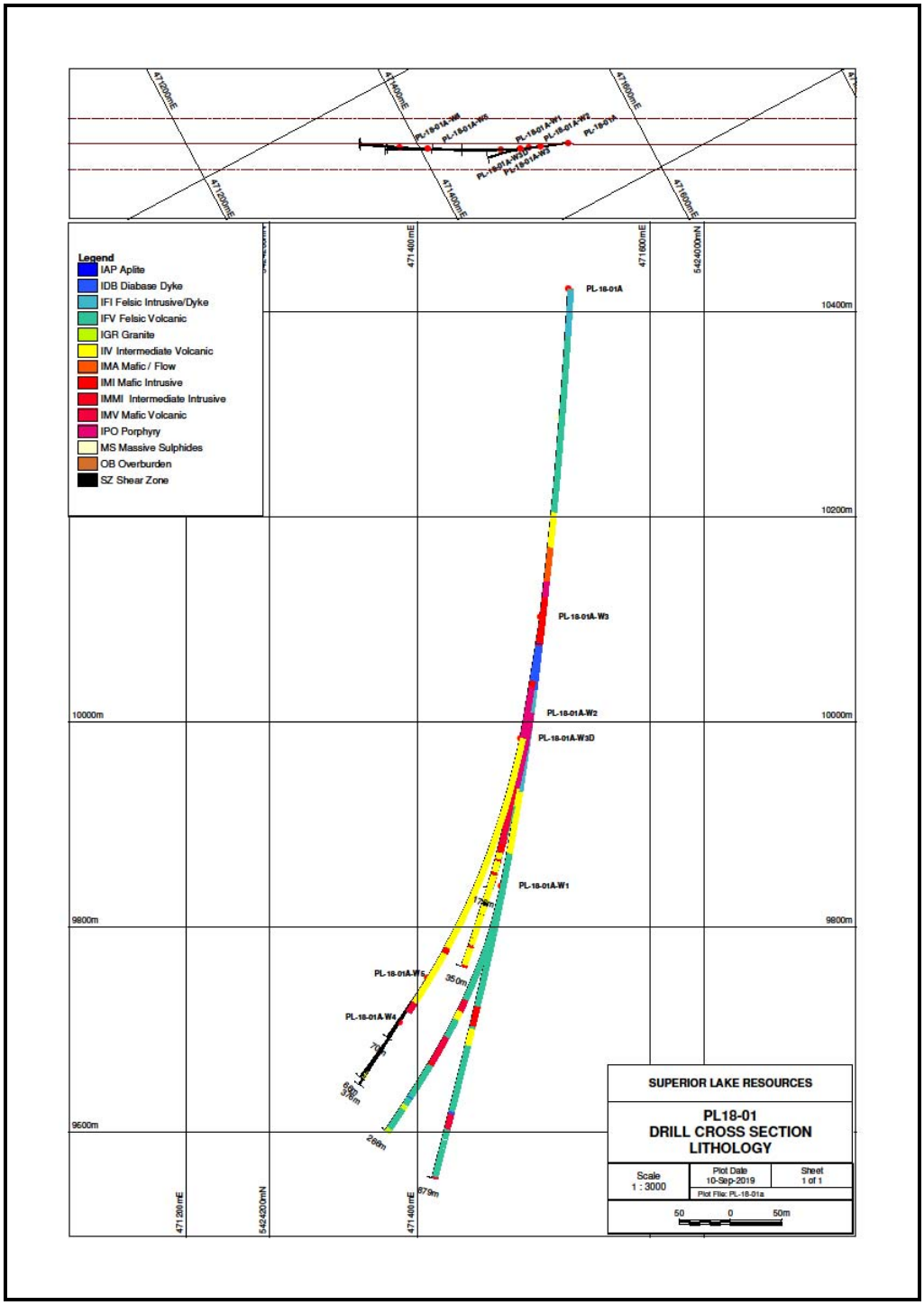


Figure 8. Pick – Winston Lake 2018-2019 Diamond Drilling Cross Section and Plan view

from November 2, 2018 to February 26, 2019. A total of 2,288 m of HQ core were drilled from parent hole PL-18-01 (total depth 879 m) and 7 wedged holes.

The parent hole (Azimuth 290^{o}, Dip -87^{o}) is located on cell claim 162598 at UTM Zone 16, 471530.525E, 5424063.761N, in the southwest portion of the property. Figure 8 shows a cross section and plan view of all drill holes with lithology and mineralized sections. The drilling was performed by Chibougamau Diamond Drilling Ltd. of Quebec and the company's daily activity or operational logs are available but have not been included with this report. Appendix 1 contains the diamond drill logs for all core recovered during the program.

Mineralized and altered sections of the diamond drill core were split on site using a diamond saw. A total of 27, 0.50 m to 1.5 m samples, were collected of the massive and semi-massive sulphide sections, including the immediate host rocks from the footwall and hanging wall horizons. All samples were submitted to ALS Laboratories in Thunder Bay, Ontario for analysis of the base metal content (Cu, Zn, etc.) and multi-element geochemistry (Appendix 3). The remaining sulphide-rich samples were quarter-split, and half sent to SGS laboratories in Lakefield, Ontario for metallurgical test work.

Drill core samples submitted to the ALS Canada Ltd. Laboratories in Thunder Bay were crushed to a nominal 70% passing -2mm, followed by pulverization of a 250g split to a nominal 85% passing 75 microns (PREP-31). Master pulp splits were shipped to ALS in North Vancouver, British Columbia, where the samples were analyzed for Zn and Cu using Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES), Au by 30 g Fire Assay with an Atomic Absorption Spectroscopy (AAS) finish and Ag was by Aqua Regia with an AAS finish. All sample preparation work was undertaken at ALS in Thunder Bay and all analytical work was performed at the ALS laboratory in North Vancouver. Quality of the samples assayed was controlled by inserting certified standards (OREAS 622) and blank samples which were in addition to the routine QAQC procedures used by the ALS-Canada laboratories. The dataset is considered acceptable for use in Mineral Resource estimation by the Competent Person.

RESULTS and CONCLUSION

The objectives of the 2018 – 2019 diamond drilling program on the Pick – Winston Lake Property were to perform due diligence and verification of the Pick Lake Zn-Cu Deposit, to potentially increase or add to the known resource and to provide samples of massive sulphide ore material for metallurgical test work (i.e. comminution and flotation tests). Objectives 1 and 3 were certainly accomplished but as for adding to or increasing the known resource, much further work (i.e. diamond drilling) is required. This is despite the fact that massive sulphide mineralization was encountered in every completed hole except one. A summary of the holes drilled is provided in Table 1.

Numerous technical difficulties were encountered during the drilling process likely related to wedging and the use of large diameter HQ drill rods (Courtney 2019). These factors will be considered during the planning of a Phase 2 diamond drill program targeted for the fall of 2019 by Superior Lake Resources.

Table 1. Drill Hole Summary

Drill Hole Number	Drilling Summary	Massive Sulphides Encountered
PL-18-01	Parent hole completed – 0.80 m to 879.0 m	839.90 m – 841.06 m 848.84 m – 849.19 m
PL-18-01-W1	Wedge hole completed – 586.40 m to 852.0 m, EOH	No sulphides intersected, due to intrusion of large diabase dike at target depth
PL-18-01-W2	Hole abandoned due to jammed drill rods – 415.50 m to 591.0 m	No sulphides intersected, above target depth
PL-18-01-W3	Hole abandoned due to poor trajectory – 316.80 m to 684.0 m	No sulphides intersected, above target depth
PL-18-01-W3B	Hole abandoned due to dislodged and jammed wedge – 436.50 m to 510.0 m	No sulphides intersected, above target depth
PL-18-01-W3D	Wedge Hole completed – 499.20 m to 816.70 m	794.37 m – 795.57 m
PL-18-01-W4	Wedge Hole completed – 739.50 m to 819.0 m	793.74 m – 794.41 m 795.80 m – 796.41 m
PL-18-01-W5	Wedge Hole completed – 688.50 m to 819.0 m	794.30 m – 796.21 m

Key geochemical results for all drill core samples collected during the 2018 – 2019 diamond drilling program are provided in Table 2 (see Appendix 3 for complete results).

Table 2. Geochemical Results, 2018 – 2019 Diamond Drill Program

BHID	SAMPLE	FROM	TO	TYPE	Au PPM	Ag PPM	Cu PPM	Pb PPM	Zn PPM	BATCH
PL-18-01A	1121251	836.3	837.5	Core		5.59	2680	90	29300	TB18327954
PL-18-01A	1121252	837.5	838.5	Core		4.44	1630	196	29200	TB18327954
PL-18-01A	1121253	838.5	839.5	Core		9.86	3150	298	7320	TB18327954
PL-18-01A	1121254	839.5	840	Core	0.018	33	11700		38300	TB18311147
PL-18-01A	1121255	840	841.1	Core	0.054	24	6290		278000	TB18311147
PL-18-01A	1121256	841.1	842	Core		34.6	7890	167	3230	TB18327954
PL-18-01A	1121257	842	843	Core		6.71	2560	131	760	TB18327954
PL-18-01A	1121258	843	844	Core		6.96	1745	163.5	9970	TB18327954
PL-18-01A	1121259	844	845	Core		7.87	1010	72.2	6400	TB18327954
PL-18-01A	1121260			STD		100	4710	21400	101000	TB18327954
PL-18-01A	1121261	845	846	Core		2.71	1255	140	1830	TB18327954
PL-18-01A	1121262	846	847	Core		2.31	1215	98.9	424	TB18327954
PL-18-01A	1121263	847	848	Core		12.5	4330	180	9790	TB18327954
PL-18-01A	1121264	848.8	849.2	Core	0.06	18	1830		250000	TB18311147
PL-18-01A	1121265	848	848.8	Core		3.54	1535	114	2650	TB18327954
PL-18-01A	1121266	849.2	850	Core		0.77	172	10	76	TB18327954
PL-18-01A	1121267	850	851	Core		0.64	202	7	57	TB18327954
PL-18-01A	1121268	851	852	Core		2.09	961	134.5	620	TB18327954
PL-18-01A-W1	1121269	224.6	225.6	Core		3.51	1800	42.1	47800	TB18327954
PL-18-01A-W1	1121270	233.9	234.9	Core		3.76	1640	150	1880	TB18327954
PL-18-01A-W1	1121271			STD		0.11	40		60	TB18327954
PL-18-01A-W1	1121272	234.9	235.2	Core		19	7230	90.1	101500	TB18327954
PL-18-01A-W1	1121273	235.2	236.2	Core		2.22	591	200	602	TB18327954
PL-18-01A-W1	1121274	235.2	236.2	DUPL		1.31	473	141	656	TB18327954
PL-18-01A-W3D	1121275			STD	-0.005	-1	10		20	TB19041470
PL-18-01A-W3D	1121276	351.4	352.4	Core	-0.005	-1	200		630	TB19041470
PL-18-01A-W3D	1121277	352.4	353.4	Core	-0.005	1	320		410	TB19041470
PL-18-01A-W3D	1121278	353.4	354.6	Core	0.027	17	5850		159500	TB19041470
PL-18-01A-W3D	1121279	354.6	355.6	Core	0.005	3	750		21800	TB19041470
PL-18-01A-W3D	1121280			STD	1.85	102	5040		105000	TB19041470
PL-18-01A-W3D	1121281	355.6	356.6	Core	0.005	7	1890		6100	TB19041470
PL-18-01A-W3D	1121282	356.6	357.6	Core	-0.005	3	1260		1840	TB19041470

As mentioned, the company undertook confirmatory comminution and flotation test work on core samples of massive sulphide material collected from the 2018 - 2019 diamond drilling program into the mid-Pick ore deposit. The results were similar to those seen in the historical production data. Recovery and concentrate values are based on a combination of historical data when Pick was an operating

mine, the plant performance when treating the test stope from lower Pick and the current metallurgical test work (see Table 3) (Superior Lake Resources Limited, Bankable Feasibility Study News Release, August 28, 2019).

Table 3. Metallurgical Data

Metal	2019 Met Testwork		Pick Test Stope Ore		Pick Upper Production		Historical Production	
	LCT Recovery	Concentrate Grades	Pick Recovery	Concentrate Grades	Average Recovery	Concentrate Grades	Average Recovery	Concentrate Grades
Zinc	96%	48%	97%	54%	91%	53%	93%	50-52%
Copper	71%	24%	61%	28%	74%	24%	78%	26-28%
Gold[5]	18%	0.04g/t[6]	31%	9g/t	29%	13g/t	38%	11g/t
Silver[7]	46%	276g/t	32%	750g/t	31%	311g/t	37%	310g/t

RECOMMENDATIONS

In conjunction with the 2018 – 2019 drilling program**,** a Ground EM geophysical survey was completed by the company in the area between the Pick Lake and Winston Lake deposits. Results obtained from this survey and from a Borehole Pulse EM survey of diamond drill hole PL-18-01-W1, indicate the presence of several well-defined conductors. These should and in fact will be targeted during the second phase of diamond drilling planned for the fall of 2019. The discovery of new massive sulphide mineralization would have obvious positive economic implications for the re-development of the Pick – Winston Lake Property.

Continued detailed geological mapping and lithogeochemical sampling focused on the area surrounding the Pick and Winston Lake deposits is also suggested. The identification of hydrothermal alteration patterns associated with VMS mineralization coincident with any EM anomalies, will assist in defining additional diamond drilling targets.

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AUTHOR'S CERTIFICATE

I, David J. Thomson do hereby certify as follows:

1. I am a Registered Professional Forester and consultant to the mining industry, and I reside and carry on a business at 114 Pennock Drive, Rosslyn, Ontario P7K0E1, under Thomson Environmental;

2. That I have the degree of Honors Bachelor of Science in Forestry, 1977, from Lakehead University;

3. That I am a member in good standing of the Ontario Professional Forester's Association (Member No. 1223, effective May 28, 1982):

4. That, as part of my profession, I have been trained in and regularly used Geographic Information (GIS) tools since 2001;

5. That I am the co-author of an assessment report entitled "2018-2019 Diamond Drilling Report, Pick – Winston Lake Zn-Cu Property, Pays Plat and Rope Lakes Area, Thunder Bay District, Northwest Ontario, Canada" addressed to Superior Lake Resources Limited, with an effective date of September 30, 2019, and that I am responsible primarily for all maps in the report;

6. That I am Licensed Ontario Prospector (Licence Number 2000085) and regular user of the MLAS system and associated GIS data.

7. That, as at the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Dated at Thunder Bay, Ontario
This 30th day of September 2019

D Thomson

David J. Thomson, R.P.F.

AUTHOR'S CERTIFICATE

I, Gerald Dewar White (Gerry), do hereby certify as follows:

8. I am an independent consulting geologist, and I reside and carry on business at 28 Hill Street South, Thunder Bay, Ontario, P7B 3T5 under Superior Rift Geoconsulting Inc.;

9. That I have the degree of Bachelor of Science in Geology, 1979, from the University of Manitoba;

10. That I am a member in good standing of the Professional Geoscientists of Ontario (Member No. 0184, effective June 22, 2002)

11. That I have been practicing my profession in Canada continuously since 1979;

12. That I am the co-author of an assessment report entitled "2018-2019 Diamond Drilling Report, Pick – Winston Lake Zn-Cu Property, Pays Plat and Rope Lakes Area, Thunder Bay District, Northwest Ontario, Canada" addressed to Superior Lake Resources Limited, with an effective date of September 30, 2019, and that I am responsible for all sections of this Report;

13. That, as at the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Dated at Thunder Bay, Ontario
This 30th day of September 2019

Gerald White, BSc., P.Geo.

APPENDIX 1: Drill Logs

GEOLOGICAL CORE LOG PL-18-01

CLAIM NUMBER: DISTRICT of THUNDER BAY		
PROJECT: Winston/Pic PROSPECT: Pic Lake	SUPERIOR LAKE RESOURCES	DEPTH: 879 meters
DRILL CONTRACTOR: Chibougamu Drillers Ltd	DATE DRILLED: 2/11/2018 to 17/11/18	
Logged by: D G Courtney	GPS COLLAR COORDINATES: UTM NAD 83 Zone 16	AZIM: 290
EASTING: 471530.525	NORTHING: 5424063.761 ELEVATION: 421.9 m	DIP: -87

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
0.00	0.80			OVBN														Overburden, no recovery
0.80	47.05			QP	Foliated Massive	70			biot			pervasive	PY				0.1	QP; Felsic Volcanic (rhyolite -hypabyssal?); dk grey-blue, vfgr siliceous grndms with mgr cloudy –diffuse qtz phenos, flecked with 5-10% shiny biot +local musc. Local trace vfgr pink garnet. Massive, hard competent and wkly fractured. High temp amphibolite metamorphism has recrystallized all rocks. Locally wkly foliated @ 70 deg TCA. trace to 0.2% diss Py. Local cm scale irregular –cloudy gry/white Qz veining
		39.30	40.40	MD	Massive													Mafic dike. Fgr dk grn Gen massive or strongly foliated near lower contact @ 65deg TCA with str biot. Trace Py, mm diffuse qz phenos central to unit.
		40.40	40.60	QP	Foliated Massive								PY				0.1	QP as above diking
		41.60	42.26	MD	Foliated	70			biot			pervasive						Mafic dike; Fgr dk grn, pervasive biot, strongly foliated @ 70deg TCA
		42.26	44.39	QP	Foliated Massive								PY				0.1	QP as above diking
		44.39	44.90	FV	Banded				alb	musc	sil'n	pervasive						75% banded qtz/alb + musc –laminated and contorted fabric
		44.90	47.05	ID	Massive													Intermediate fgr dike; Fgr dk grn/gry with relatively siliceous grndms – hard and competent. Flecked with mm round cloudy qtz phenos. Massive
47.05	113.05			FV	Foliated	60			musc	biot	garnet	pervasive					0.1	Felsic (to intermediate) volcanicc; Material is strongly pervasively altered. Relict qz phenos are diffuse and obscure. In part volcaniclastic? Mica is predominantly Musc –wispy fgr-cgr throughout forming a foliation ranging from 45 to 70degrees (60 deg) being dominant. Also <mm to locally 5-7mm subhedral pinkish garnet –varies from trace to 4%. 76.59-77.05 rock becomes fgr, darker with 1cm anhedral garnet 'blasts'.
		99.00	99.40	MD	Massive	60			biot				PY				TR	Fgr biotitic mafic dike or intercalated flow? Strong biot, generally massive with biot mm lenses forming a weak foliation @ 60 deg

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		111.17	111.47	MD	Massive													Fgr near blk mafic dike; Sharp contacts ~60 deg as well as weak fol'n
		111.90	113.05	MD	Massive													Fgr near blk mafic dike; Sharp contacts ~60 deg as well as weak fol'n
113.05	137.70			FV	Massive Foliated	60	FO		musc	garnet	biot	pervasive	PY				TR	Felsic (to intermediate) volcanic; material can vary in composition with local biot >musc and very siliceous or qz rich sections alternating with more micaceous sections. In part pyroclastic protolith likely
		117.00	118.00	IV	Foliated	60	FO		biot	garnet		pervasive	PY				TR	Becomes biot rich. Fgr rel massive, flecked with fine diffuse qz phenos and spotty anhedral Garnet to 1cm
		124.17	124.33	QV														mass wh qz/fsp vein
		126.50	129.10	FV	Foliated													5-8% multi-cm irregular cloudy Qz +musc veining +/- fsp. Veining can have a very 'blotchy' habit. With 0.5-3% disseminated or clotted Py
		130.57	130.72	SH	Banded Sheared	65	BD		biot	garnet	musc	pervasive patchy	PY				5	Banded/laminated chl/qtz/Py with minor garnet. Chl bands are intense and blk. Quasi exhalative zone? 60-70degrees TCA
		132.60	137.65				FR	60	chl			FC						Rock is mod-strongly fractured with slickenslided chl coatings and local mm scale clay gouge. Brittle deformation, Fract'g mostly parallel to foliation @ 60 or 35deg
137.70	174.00			FV	Massive Foliated	60			biot	garnet		patchy	PY				0.1	Felsic to intermediate volcanic; Musc wanes and material becomes more biotitic, garnet also wanes and becomes very localized (less altered?)
		139.37	139.95	MD	Massive	60	BD		biot			pervasive						Mafic dike or intercalated mafic with host. Near blk, biot rich. Foliated @ 55-65deg. Very local banded qtz. Distinct contacts but also mafic (biot'c) 3cm banding at 140.2m
		147.15	147.55	QV														Irregular mass qtz/fsp/musc veining, mottled appearance.
		147.92	148.00	QV														Irregular mass qtz/fsp/musc veining, mottled appearance.
		158.00	158.20	QV														Irregular mass qtz/fsp/musc veining, mottled appearance.
		155.00	161.80		Fractured		FR		chl			FC						mod to str fracturing typically with slickenslided chl
		160.50	160.96	QV														60% irregular wh qtz vein'g. Contorted host
				QV														164.25-164.3, 169.1-169.18 and 169.37-169.47 Cloudy somewhat irregular Qtz/alb/musc veining
174.00	203.00			FV	Massive Foliated	55	FO		biot	garnet	musc	pervasive patchy	PY				0.1	Felsic to intermediate vlcanic; Weak to moderate alteration. Felsic flows + volcaniclastics? material becomes heterogeneous in composition and texture; siliceous with faint diffuse qz phenos vs micaceous rich sections. Biot vs musc can vary and garnet is gen present but variable. Local banding with biot rich bands and varying composition suggest rock is in part volcaniclastic.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		186.40	186.70	QV														barren white irregular qz vein
		186.70	203.00	FV	Foliated Massive	55	FO		biot	garnet		pervasive patchy	PY				TR	Gen Strong foliation dominantly @ 55 degrees TCA. Fabric appears more pronounced when rock is mica rich
203.00	219.00			FV	Foliated	55	FO		biot	garnet		patchy	PY				TR	Felsic volcanic as above but relatively homogenous and only weakly altered?, garnet varies from trace to 3%, wk to mod foliation @ 55deg
219.00	253.10			QP	Foliated Massive	50	FO		biot			pervasive	PY				TR	Intermediate volcanic; Qtz Porphyry. Generally, more melanocratic and relatively biot rich. Garnet has disappeared. Composition varies gen intermediate but with siliceous (qz rich) sections and very local diffuse qz phenos
		237.90	239.25	MD	Massive								PY				TR	Mafic dike? Or intercalated mafic volc?, Fgr near black, biot rich. Fol'd @ 55 deg TCA. 3cm wk shear at lower contact with 5% diss Py
253.10	286.30			GB	Massive					garnet		spotty						Mafic Dike or volcanic?; Flow vs Gabbro?? Massive, fgr-cgr and competent, (possibly the "bird shit flow"?) Fgr + mgr near blk amph rich grndms with 5-10% white subhedral 1-2mm fsp phenos. Phenos vary in percentage. Contains vfgr interstitial pk garnet, <1%. Rock is massive, competent and wkly fractured.
		267.50	267.75	QV		20												25cm barren qz vein @ 20 degrees TCA
		268.15	268.55		Sheared	75	SH			biot	musc	pervasive						SHEAR micaceous (biot/musc) with highly contorted quasi laminated qtz and minor garnet. Shear is rel ductile and contorted dom @ 75 deg TCA
286.30	286.70	286.30	286.70	SH	Sheared	35	SH		chl	alb	clay	pervasive						SHEAR; Strong rel ductile laminated chl/alb/qz + minor clay gouge at 35deg TCA
286.70	302.75			MV	Foliated Massive													Fsp porphyry, similar to above but fgr, fewer or locallized fsp pheno's and local shearing and alteration. Mafic volcanic??
		286.85	287.17	FLT	Fault	35	FLT		chl	clay		pervasive						FAULT; Chl and clay gouge –ground, brittle and late. Contacts @ 35deg TCA
		291.70	291.76	FLT	Fault	50	FLT		chl	clay		pervasive						chl + clay gouge FAULT @ 50deg
		295.25	295.67	ID	Massive													Intermediate dike; Vfgr massive and pale green. Hard but scratchable.
		295.67	297.45	BX	Brecciated	50	BX		chl			pervasive						Deformation and alteration zone; Pervasive chl alt'n + sausseratized beige fsp phenos. Crackle breccias with alb/qz infill, local wk shearing @ 50deg TCA
		296.12	296.25	FLT	Fault	40	FLT			clay		pervasive						Fault gouge @ 40deg
		297.45	302.75	SH	Sheared	55	SH		phlog	chl		patchy						Altered and wkly sheared with chl + phlogopite? + sausseratized fsp. Mafic protolith??. Wispy to pervasive chl. Local fgr (mm) diffuse suasseritized fsp's
		301.20	301.80	SH	Sheared	50	SH											Sheared @ 40-55 deg local banded and boudined Fsp/qz/hem

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
302.75	348.35			GB	Massive			chl	anth	phlog		patchy pervasive						Mafic (to U/M?) intrusive?; Mgr, mostly massive to locally foliated @ 50deg. Possible anthophyllite?, phlogopite?. Local white fsp's are fine and incipiently alt'd. Local sections with remnant blk amph, also pervasive retrograde chlorite. Trace Py. Lower contact with dike @ 50deg
		334.00	334.20	AP	Massive	50			garnet			patchy						Aplite dike; Massive, vfgr white, hard and competent. Flecked with biot and minor fgr garnet. Contacts @ 50 and 55deg
348.35	349.67			AP	Massive	55			garnet			patchy						Aplite dike; Massive, vfgr white/grey, hard and competent. Flecked with biot and minor fgr garnet. Sharp LC @ 55
349.67	393.05			DB	Massive				mt			patchy						Diabase; Fgr, blk/brn massive and strongly magnetic. Homogenous and gen competent with local str chloritic fract'g
		349.67	351.10	SH	Sheared	50	SH		biot			pervasive						Str-intense blk biot, sheared
		365.85	367.45	MD	Massive													Mafic to intermediate dike. Fgr massive, lt gry/grn. Flecked with biot and 1% fine wh fsp phenos. Lower contact marked by sheared chloritic DB @ 65deg
		378.67	380.05	SH	Sheared	55	SH		biot	chl		pervasive						Sheared –gen str with intense wavy biot + FC chl, Sh'g varies from 45-60deg TCA. Non magnetic
		386.35	388.47	SH	Sheared	70	SH		biot	chl		pervasive FC						Mod-str Shear, very str biot + FC chl. Dom @ 70 deg TCA. Non-magnetic.
		390.00	393.05	MD	Massive													Massive Fgr mafic intrusive Diabase vs fgr GB? Non-magnetic. Lower contact sharp @ 55
393.05	493.15			QP	Foliated Massive	50			biot	garnet		patchy	PY				0.2	QP; Felsic to locally intermediate volcanic; Same unit as above mafics. Typically, vfgr to aphanitic and siliceous groundmass with variable fgr biotite and diffuse-faint qz phenos. Massive with local foliation and quasi banding @ 45-55deg. Somewhat heterogeneous in texture and biot composition. Hard and competent, dk gry-blue.
		398.50	399.90	MD	Massive													Mafic dike; Fgr foliated, med gry. Lenses of blk biot with fabric. Unaltered sharp contacts and fol'n is at 55deg.
		413.25	413.30	FLT	Fault	60	FLT		chl	clay		pervasive						FLT chl + clay gouge @ 60deg
		415.70	417.81	GR	Massive													irregular fsp/qz veining or dikelets –orange/brn possibly granite related
		417.95	418.00	GR	Massive													irregular fsp/qz veining or dikelets –orange/brn possibly granite related
		418.00	418.55	MD	Massive				biot	sil		patchy						Fgr Mafic Dike; biotitic homogenous, local fract introduced or/brn sil'n. Near blk
		420.10	420.20	GR	Massive													Fgr granitic dikelets; orange –red comformable and irregular.
		420.30	420.36	GR	Massive													Fgr granitic dikelets; orange –red comformable and irregular.
		422.45	423.30	SH	Sheared	20	SH		biot			pervasive						Weak Shear –strong wavy to contorted foliation dom @ 20deg TCA
		423.30	463.00	FR	Fractured		FR		chl			pervasive						gen mod to str brittle, often ragged fracturing

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		458.90	459.60	MD	Massive	45												Mafic-intermediate dike or intercalated flow? Dk gry/grn homogenous, Mafic looking but rel hard. Sharp contacts @ 45 and 40deg
		461.20	462.15	MD	Massive	50												Mafic dike; Fgr phaneritic –amph rich, dk gry/grn Foliated @ 50deg, Sharp contacts @ 50 and 45deg TCA
		463.20	464.13	MD	Massive	50												Mafic dike; Fgr phaneritic –amph rich, dk gry/grn Foliated @ 50deg, Sharp contacts @ 50 and 45deg TCA
		470.60	470.90	MD	Massive	60												Mafic dike similar to dike above but rel massive with sharp contacts @ 60
		472.20	472.90	MD	Massive	60												Mafic Dike; Fgr phaneritic, massive amph rich and unaltered. Sharp contacts @ 60- and 50-degrees TCA. Includes 10cm -fsp/qz + wk mica dikelet, partially stained orange/brn.
493.15	496.40			IV	Foliated	55			biot			pervasive						Intermediate volcanic; 'Relatively' mafic compared to material above – with mod variable, banded biot. Foliated @ 55deg (pyroclastic protolith?) Locally shattered with brittle chloritic fract'g
496.40	501.00			IV	Massive													Fgr, massive and homogeneous. Qz/amph, intermediate composition
		500.30	500.43	GR	Massive	50												Granitic dikelet; Mass, Fsp/qz/mica @ 50deg
		500.43	501.00	MD	Foliated	50	FO											Mafic dike; Fgr dk gry/grn. Foliated @ 50deg, unaltered
501.00	528.00			IV	Massive				biot	garnet		pervasive						Strong alteration. Local banded texture with biot and blastic with 0.5-8% anhedral garnet up to 3cm
		502.00	502.43	GR		50												Granitic dike; Mass, Fsp/qz/mica @ 50deg
		505.50	510.50	IV	Foliated		FO		biot			pervasive						Rel mafic with mod biot (somewhat variable)
		509.35	512.30	IV	FR		FO		chl									Rock is shattered, badly broken with slickenslided chl fract'g + very local mm clay gouge.
		512.30	521.00	IV	BD		BD		biot	garnet		pervasive	PY				0.1	Pyroclastic texture; 3mm-cm round qz 'blebs' (clasts) as well as cm lenses of biot, local biot rich banding and wk patchy Garnet up to 1cm. Overall intermediate in composition. Tr-0.1% Diss Py.
		518.20	524.60	IV	FR		FO		chl									Rock is shattered, badly broken with strong chloritic fract'g.
		524.60	537.00	IV	FR		FO		chl									strong chloritic fracturing
528.00	554.30			IV	Foliated	50			biot			pervasive	PY		mt		0.5	Material becomes melanocratic or biot rich. Patchy sections with up to 0.5% mm magnetite xtals. Typically mod-str foliation @ 40-60deg (50deg is dominant). Garnet is very localized but anhedral xtals are up to 1cm in size. 0.5% diss or locally clotted Py.
		541.50	554.30	IV	Foliated	50				garnet		pervasive						2-7% mm-1cm garnet pheno's to porphyroblasts
		554.30	560.93	MD	Massive													Fgr phaneritic, mostly massive and homogenous. Intrusive looking (Gb-Di?) amph/fsp. Lower contact with 6cm chl/qz shear @ 60deg TCA

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
554.30	586.00			FV	Massive Foliated	45	FO		biot	garnet		patchy						Felsic volcanic, Flow?? Vfgr, gry-blue Gen hard and siliceous, flecked with fine biot or biot as wisps. Also, patchy Garnet can be rimmed. Competent, mostly massive and wkly fract'd.
		555.10	555.70		Sheared	45	SH		chl			pervasive						SHEAR; wk-mod shearing at 45deg –chloritic
		567.73	569.75	DB	Massive													Vfgr Mafic dike; diabase likely near blk, homogenous and featureless. Non magnetic lower contact in 10cm biotitic shear @60deg
		571.20	571.50	GR	Massive													White granitic dike; Fsp, vfgr qz and flecked with fgr mica. Contacts at 0 and 25deg
		573.00	582.35	FV	Massive					garnet		pervasive						FV; Vfgr gry-blue rel siliceous competent and hard. 5-8% garnet, up to 1.5cm xtals
		576.30	579.50	FV	Foliated Massive	55			biot	garnet		pervasive patchy						Relatively biot rich with variable spotted garnet up to 15%, Biot as flecks/lenses or str pervasive.
		579.50	580.40	FV	Foliated	55	SH		biot	garnet		pervasive						Very str blk biot (~50) and up to 20% garnet –rock is str fol'd to sheared @ 55 deg
		582.35	584.50	MD	Massive													Very Fgr Mafic-Intermediate dike; dk gry/grn spotted with mm fsp pheno's. Mafic looking but rock is hard and competent.
586.00	618.00			FV	Foliated Massive	55			biot	garnet		pervasive	PY		CPY		0.1	Appearance of 1-5cm pseudo clasts. Irregular 'clots' of biot or garnet often rimmed with qz/fsp. 'clots' often with coarse Py or very locally CPy. Massive sections alternate with foliation dominantly @ 55deg. <1% 1cm to 8cm white granitic veining –fsp/qz + mica.
618.00	630.10			FV	Foliated Massive	55			biot	garnet		pervasive	PY				0.1	Intensely altred. Str but variable blk biot –crudely banded. Up to 15% garnet (xtals up to 1cm). Garnet shows affinity with biotite.
630.10	706.86			FV	Foliated Massive	55			biot	garnet		pervasive	PY				0.1	Felsic Volcaniclastic Typical with heterogeneous texture and composition. Fgr, gry-blue and generally hard and siliceous. Quasi clasts of biot (or garnet) rimmed with fsp/qz. 0.5% clotted or diss Py. Local crude biot banding. Texture can be quite graphic and locally "swirled" with contorted banding (with alb/sil alt'n?). Massive to foliated dominantly @ 55deg TCA.
		646.10	646.40	GR	Massive													Granitic dike; Cgr Fsp with qtz and cgr musc.
		670.10	670.90	SH	Sheared	55	SH		sil			BD	PY				2.5	Wkly sheared to contorted texture/fabric with FC sil'n -quasi banded. 2-3% Diss PY
		671.90	673.93	MD	Massive				sil	alb		FC						Very Fgr Mafic-Intermediate dike; dk gry/grn spotted with mm fsp pheno's. Mafic looking but rock is hard and competent. Local sil'n and alb alt'n about select fract'g
706.86	726.80			MV	Massive				biot			patchy						Mafic-intermediate Dike? Possibly homogenous flow? Fsp Porphyry, Fgr very dk gry grndms with blk amph as mafic component which converts locally to biot. 1-4% mm scale white Fsp pheno's. Massive, competent and relatively hard.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
726.80	729.20	726.80	729.20	FV	Foliated Massive		FO		biot	garnet		pervasive	PY				0.1	Intense alt'n with crudely banded biot and up to 30% red garnet (xtals up to 1.5cm)
729.20	746.00	729.20	746.00	IV	Foliated Massive	50	FO		biot	garnet		pervasive	PY				0.1	Intermediate volcanic; Flow? Material is quite consistent with some 40% biot and vfgr qz rich grndms. Typically foliated @ 50 deg, Locally massive and also locally finely banded. 1-2% <mm red euhedral garnet mostly throughout.
746.00	812.36			FV	Foliated Banded	55	FO BD		biot	garnet		pervasive patchy	PY				0.3	Felsic Volcanic (in part volcaniclastic?); More typical; Fgr dk blue-grey. Local "quasi" clasts of alb rimmed garnet and local concentrated bands rich in biot, but generally fgr, wkly foliated or finely banded at 55 degrees TCA. Relatively consistent but pervasively altered –qz/biot +/- garnet + Py
		762.00	767.00	BX	Brecciated		BX											5-6% white calc/qz veining or crackle breccias infill.
		765.50	767.60	SH	Sheared	55	SH		biot			pervasive						Strong blk biot. Foliated or wkly sheared @ 55 degrees TCA
		770.28	770.62	GR	Massive													Granitic dike; Semi-conformable to irregular; Fsp/qz/mica
812.36	814.60			DB	Massive								mt				0.2	Diabase dike; Fgr, near black and very massive. Wkly magnetic, chilled irregular contacts.
814.60	830.10			MV	Massive Banded	50	BD											Mafic Volcanic; Fgr-mgr, dk gry/grn -mostly massive but with local compositionally banding at 50-55 degrees. Amph/qz rel homogenous and unaltered.
		825.20	826.15	DB	Massive								mt				0.5	Diabase dike; Vfgr dk gry to blk. Massive, homogenous and magnetic. Upper contact irregular, lower contact in rubble core
830.10	834.30			FV	Foliated Massive	50	FO		biot	garnet	musc	pervasive	PY				0.5	Altered felsic volc; typical. Qz rich with fgr biot and fine wisps of musc. 0.5% D Py
		830.10	830.60	SH	Sheared Contorted	50	SH		chl			pervasive	PY				1.5	Shear zone –intense chlorite with vfgr qz (+fsp?) and 1-2% Diss Py. Locally kinked and contorted.
		830.83	831.00	GR	Massive								PY				1	Granitic dikelet; Fsp/qz flecked with fine biot and 1% PY, with host fabric
834.30	839.60			FV	Intense Deform'n	55	SH		biot	chl		pervasive	PY	PO	SPH	CPY	7	Gradational increase in deformation and alteration becoming intense. Str-local intense, cgr, blk retrograde very soft chlorite and/or blk biot. Commonly kinked, crenulated or contorted. Arguably hydrothermally brecciated with local 'knots' of deformed qz veins. Str-Intense mgr-cgr, blk mica and deformation with fgr-mgr Qz. Approx 5-8% dissem Py + Po + local CPY and Vfgr Sph. Sulphides are interstitial and mostly coincident with contorted host fabrics. 10-12% irregular, boudined, strained Qtz 'veining'.
		837.65	837.81	GR	Massive													Mgr granitic dikelet conformable to host fabric
839.60	839.70			SMS					biot	sil		pervasive	CPY	SPH	PO	PY	15	Stringery and netted sulphides; approx 8% chalcopyrite, 5% sphalerite, 2% Po with Qtz and fgr biot.
		837.65	837.81	GR	Massive													Mgr granitic dikelet conformable to host fabric

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
839.70	839.90			FV	Intense Deform'n	55	SH		biot	chl		pervasive	PY	PO	SPH	CPY	7	As above in 834.3 to 839.6
839.90	841.06			MS	Massive Sulphides		MY		biot			pervasive	PO	SPH	CPY	PY	60	Massive Sulphides; with approx 40% gangue; blk metallic mgr-cgr biotite and round mm-cm qtz clasts. Sulphides are very fine grained and intimate together, can make mineral percentage estimation more subjective. Material appears mylonitized to some degree with sulphides being strained around rounded qtz. 839.9-840.0. Sulphides are semi-mass here -stringery PO with ~3% CPY. **Approx 30-40% very fine Sph and 2-3% CPy from 840-840.6, ~20% Po +/- Py**
841.06	848.84			FV	Foliated Banded	50	BD		biot	sil		pervasive patchy	PO	PY			1.5	Felsic volcanic; Very fgr qtz + fgr-mgr biot. Mica often finely laminated or concentrated somewhat in bands. 1-3% Very fine Po + Py dusted throughout and also concentrated in fine laminae (beds). Local intercalated 'cherty' or siliceous bands (beds). Possibly re-xtallized exhalatives in part.
		841.80	841.83	SMS	Banded	55							PO	PY	SPH	CPY	25	Band or vein of stringery to semi massive sulphides with qz/carb. "vein" is cross cutting host foliation
		841.06	841.40										PY	PO		SPH	6	5-7% fine diss Py, Po, Tr Sp
		841.83	842.17	QV	massive								CPY	PO			10	White Qtz vein with 5% FF or clotted CPy and 10% Po
		845.06	845.45	GR									PY	PO			1.5	Granitic dike; red/wh/gry. Fsp/qtz flecked with biot and 1-2% diss Py. Patchy hem staining. Irregular contacts.
848.84	849.19			MS	Massive Sulphides		MY						PO	SPH	CPY	PY	70	Massive Sulphides; Approx**; 35-40% Sp, 30% Po, and 0.5% CPy**. Very fine grained with Sp/Po being intimate together. ~ 30% rounded qtz 'clasts' as gangue. Sharp contacts with host at 55- and 35-degrees TCA.
849.19	877.97			FV	Foliated Banded	50	FO		biot	sil		pervasive banded	PO	PY			1.5	Altered felsic to intermediate volcanic; Vfgr-Fgr qtz with fgr-cgr biot or retrograde chl. Texture and composition varies, gen quite siliceous with mica rich sections. Rock is typically mod-strongly foliated with fine and locally coarse laminae of mica as well as diffuse siliceous banding. Possibly recrystallized bedding? 0.5-2% fine diss Py, often as fine bands with host fabric to 870.0m
		855.40	855.56	GR														Qz/fsp/biot veins-dikelets with fabric
		855.76	855.96	GR														Qz/fsp/biot veins-dikelets with fabric
		857.25	857.34	GR														Qz/fsp/biot veins-dikelets with fabric
																		857.61-857.75, 857.9-858.04, 860.9-861.1 and 858.36-858.46 Siliceous banding with finely laminated mica and trace Py. Possibly recrystalized chert or exhalatives in part?
		870.07	870.79	GR														Felsic dike; Very siliceous with round 'clots' of wh Fsp and flecked with biot Irregular contacts.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
877.97	879.00			FP	massive													Fgr intermediate dike; Dk gry grn but rel hard and siliceous. Vfgr, massive and unaltered. 2-3% mm angular white Fsp phenos. Upper contact at 60 deg.
879.0	EOH																	

GEOLOGICAL CORE LOG PL-18-01-W1

CLAIM NUMBER: DISTRICT of THUNDER BAY

PROJECT: Winston/Pic
PROSPECT: Pic Lake

SUPERIOR LAKE RESOURCES

DEPTH: 852

DRILL CONTRACTOR: Chibougamou Drillers

DATE DRILLED: 17/11/2018 to 25/11/2018

GPS COLLAR COORDINATES: UTM NAD 83 Zone 16

AZIMUTH: 290

Logged by: D G Courtney

Hole was wedged off of PL-18-01

DIP: -77

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
586.40																		Hole was wedged off of parent hole PL-18-01
586.40	620.15			FV	foliated banded	60			biot	garnet	alb	Pervasive Patchy	PY				0.2	Felsic to intermediate Volcaniclastic; Fgr sugary, qtz rich with fgr to locally cgr blk biot in varying amounts. Gen well foliated (or locally compositionally banded) @ 60 degrees. Somewhat heterogeneous in texture and composition. Local crude Biot/garnet rich cm-scale banding (Str Alt'n). Local diffuse fine bands or lenses of siliceous material Variable garnet throughout as 'blasts' or clusters or xtals -often rimmed with wh alb?/qtz - graphic texture (altered clasts). Gen competent, relatively hard, grey blue. Trace to 0.5% dissem PY
		591.90	592.70	GR	massive					garnet		pervasive						65% irregular white granitic diking. Fsp/qtz/ biot and ~1% mm red garnet
		612.40	612.46	GR	massive	65				garnet		pervasive						White granitic dike with host fabric. Fsp/qtz/ biot and ~1% mm red garnet
		612.30	613.50	IV	foliated banded	65	FO		biot	garnet		pervasive						Section is relatively biotite rich (more intermediate in composition) and with ~5% garnet (up to 1cm).

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		619.40	620.25	IV	foliated banded	65	FO		biot	garnet		pervasive	PO			CPY	1.2	Intense alteration; Biot + retrograde chl, garnet and with 1% Po + 0.2% Cpy
620.15	646.65																	Rods were backed up and another wedge was set
		622.50	641.10	FV	foliated	60	FO		biot	garnet	sil	pervasive	PO		PY		0.5	Strong to intense alteration; Biot + retrograde chl, up to 15% garnet (mm-cm). Common altered quasi clasts of garnet rimmed with wh fsp/sil (very graphic texture). Trace to 1% dissem or fine lenses of Py/Po. Gen foliated @ 60deg. Qtz rich sugary groundmass.
		641.10	641.60	MD	foliated	60	FO											Fgr Mafic dike; Fgr phaneritic -Amph/fsp. Unaltered, foliated
646.65	660.20			FV	foliated banded	60	FO BD		biot	garnet		patchy banded	PY				0.2	Felsic to intermediate Volcaniclastic; Fgr sugary, qtz rich with fgr to locally cgr blk biot in varying amounts. Gen well foliated (or locally compositionally banded) @ 60 degrees-. Altered clastsic texture wanes away. Common crude Biot/garnet banding, otherwise mafic component is mostly blk amph. Gen wkly or locally altered. Fgr phaneritic, med grey-blue. Gen competent. Very local ptygmatic or contorted Wh Fsp/qz veining. Trace - 0.5% Diss Py
		645.92	646.20	FD	massive					musc		pervasive						Granitic (Pegmatite) dike; Very cgr silvery Musc with wh fsp and gry qtz.
660.20	666.10			FV	foliated massive	65	FO		biot	garnet		pervasive	PY				0.1	Material becomes relatively homogenous and more massive. Fgr sugary phaneritic qtz/biot/garnet -pervasively altered with very local biot(chl)/garnet banding. Trace to 0.3% Py
666.10	703.16			FV	foliated contorted	60	FO		garnet	sil	alb	patchy banded	PY				0.2	Rock has perv biot with weak garnet but also displays patchy (FC in part) sil +alb? Alt'n. Sil'n can appear as quasi banding or as strained lenses. Biotite can be quite variable in percentage. Locally folded and contorted and very graphic looking. Local fine compositional banding (bedding). 0.1-0.5% diss Py.
703.16	715.25			MV	massive				biot	garnet	mt	patchy						Mafic dike vs volcanic?; Fgr, melanocratic and relatively massive. Rock can be very rich in fgr blk amph with local sections rich in fgr sugary qtz (+fsp?). Local diffuse fsp phenos starting at 709.3m, patchy mm garnet. Variably magnetic.
		705.00																Hole was backed up and last wedge was put in
715.25	724.50			FV	foliated contorted	65	FO		biot	garnet	anth	patchy pervasive	PY				0.2	Intermediate to felsic volcanic; Re crystallized and altered. Variable composition as biot (+ retrograde chl) rich sections alternate with sections richer in fgr sugary qtz. Material also appears to contain anthophylite? Patchy garnet throughout can be very strong and crudely banded with biot (chl). Gen foliated @ 60deg and local kinked and contorted. Tr-0.5% dissem Py.
		720.65	721.35	MV	kinked contorted				biot	garnet	chl	pervasive	PY				0.1	Intense deformation and alteration. Mostly biot (or retrograde chl) with strong garnet. Minor wh qtz as fine bands folded or kinked with host abric. Rock is folded/kinked and crenulated.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
724.50	741.00			FV		70			biot	garnet		pervasive	PY				0.1	Felsic volcanic; Material becomes relatively consistent and homogenous. Gen weak alteration with garnet/biot but locally amph remains. Fgr sugary qtz with biot and 2-3% ubiquitous mm red euhedral garnet. Some local compositional banding. Med grey to blue grey. Gen wk-mod foliation at 70 degrees TCA. 1% cm scale
		726.63	726.90	SH	sheared	70			chl			pervasive						SHEAR; Very strong slickenslided chlorite. Shearing @ 70deg TCA.
		738.95	739.35	MV	contorted				biot	garnet		pervasive						Deformation zone; Mafic composition, Biot (+ blk amph) rich with 5-7% cm garnet. Highly contorted -tightly folded and kinked.
741.00	744.00			FV	foliated massive	65	FO		sil	garnet	alb	pervasive	PY				0.1	Felsic volcanic; Moderate? Pervasive alteration with sil/alb rimmed garnet -altered 'clasts'. Also, rock has biotite as mafic component. Massive or foliated as below.
		742.70	743.50	FV	foliated sheared	65	SH		biot	garnet	chl	pervasive	PY				0.1	As above but with strong foliation or weak shearing @ 65 deg TCA. Minor garnet only
744.00	772.38			MV	massive foliated	65	FO		biot	garnet		patchy						Mafic to intermediate volcanic; Vfgr mostly massive and dark grey/green. Composition varies somewhat with amph rich sections vs more qtz rich sections. Patchy rel weak biot and patchy mm pink garnet. Local weak magnetism. Weak alteration and weak local foliation @ 70 deg.
		757.80	760.00	MV	massive					garnet		pervasive						As above but with 5-7% mm scale garnet.
		760.00	760.50	MV	sheared	65			biot			pervasive						SHEAR; Very strong sheared and contorted biot. Includes a 10cm irregular grey Qz vein
		760.50	772.38	MV	massive foliated	60			biot	garnet	sil	patchy pervasive	PY				0.3	Material becomes relatively homogenous and more massive. Fgr sugary qtz with mod to str Fgr biotite. Mostly massive, local very faint 1-2mm siliceous 'bands', local cm-scale sections with weak garnet and rock is mostly weakly magnetic. Local weak -very faint foliation and banding. 0.2-0.5% Diss Py
		764.66	764.82	GR	massive													Granitic dike; wh fsp and gry qtz + minor fgr biot. Contacts at 45 degrees
		768.50	768.80	MV	sheared	75			biot	anth	chl	pervasive						Sheared and altered to biot (+ retrograde chl) and fine lath's or near transluscent anthophylite?? Shearing is contorted but dominantly @ 75 deg TCA
772.38	775.26			MD	massive													Mafic Dike; Vfgr dark grey/green and very massive. Unaltered except local weak biot replacing blk amph. 2-3% mm difuse Fsp pheno's.
		774.00	774.07	MD	massive				sil			pervasive						Rock appears to be silicified or qtz flooded with very weak hem staining
		774.60	774.70	MD	massive				sil			banded	PY				0.2	Section displays a few 1-3mm silicified 'bands' likely fracture intrduced with diss Py
775.26	812.00			FV	foliated banded	70	BD		biot	musc		pervasive patchy	PY				1	Felsic to llocally intermediate volcanic (volcaniclastic?) Recrystalized with fgr phaneritic sugary qtz and fgr biot. Biot is quite variable in quantity and can form biot rich 'bands' and cm-scale sections. This banding can be openly folded and kinked. 1% qtz veining can be boudined or ptygmatitic. 0.5 to locally 8% dissem and quasi bedded Py. Also 1-2% fgr Musc that is somewhat patchy. At 788m rock becomes melanocratic -more mafic but remains rel siliceous and hard. Local 3-4 cm white granitic dikelets mostly with host fabric.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		809.00	809.75	FV	kinked contorted													As above but distinctly banded with banding being kinked and openly folded.
		810.50	812.00	IV	kinked contorted				biot			pervasive	PY				6	Intense deformation and alteration. Rock is folded/kinked and tightly crenulated. Intense mgr blk biotite with lesser sugary qtz and 4-8% dissem Pyrite throughout.
		780.40	780.70	SH	sheared	75	SH		biot			pervasive						Shear; Intense biot with mgr sugary qtz and 15% coarse irregular boudined qtz veinning.
		782.74	782.83	SH	sheared	75	SH		biot			pervasive						Shear; Intense biot with mgr sugary qtz and 18% coarse irregular boudined qtz veinning.
		794.87	794.93	SH	sheared	70	SH		biot			pervasive						Shear; Intense biot with mgr qtz 'lenses'. -strained fine 'blebs' of qtz.
		795.50	795.71	SH	sheared	80	SH		biot			pervasive						Shear; Strong to intense laminated or banded biot, weakly sheared and crenulated.
		809.00	809.75	FV	kinked contorted				biot			pervasive						As above but distinctly banded with banding being kinked and openly folded.
		810.50	812.00	IV	kinked contorted				biot			pervasive	PY	PO			6	Intense deformation and alteration. Rock is folded/kinked and tightly crenulated. Intense mgr blk biotite with lesser sugary qtz and 4-8% dissem Py + lesser Po throughout. Sharp irregular lower contact.
812.00	813.60			DB	massive				mt									Diabase Dike; Vfgr dark grey to black. Massive and homogenous. Moderately magnetic throughout. Sharp but irregular lower contact. Diked out Zone Likely.
813.60	821.28			FV	foliated banded	70	BD		biot	musc		pervasive patchy	PY				1	Felsic to intermediate volcaniclastic; Likely protolith of a bedded ash tuff? Fgr, foliated and compositionally banded (bedded). Perv biot can be often concentrated into bands or cm-scale sections. Foliation and banding at 70 deg TCA. Local siliceous bands as well as sil'n or more likely intercalated or interbedded chert. 1-3% fine dissem Py + Po can appear to be bedded as well. Med grey, Banding fabric is locally folded and or kinked and crenulated.
		813.60	818.20		foliated banded	70	BD		biot			pervasive	PY	PO	SPH		5	As above but numerous sections of very str biotite which is typically highly deformed. Also 3-7 interstitial dissem Py/Po + local sphalerite. 3-5% qtz veining here is strongly boudined and strained.
821.28	821.64			SMS	contorted								PY	PO	CPY	SPH	40	Semi massive sulphides; Extremely fine-grained mixture of sphalerite, pyrhotite, chalcopyrite and minoor pyrite. Approx 60% gangue of mostly qtz 'blebs'. **Estimate of 5-7% zinc and 1-2% copper.** Sulphides 'wrap' around qtz gangue and appear to be mylonitized, perhaps remobilized. Likely corresponds to the lower sulphide horizon in PL-18-01?
821.64	822.25			IV	foliated banded	75	FO		biot			pervasive	PY				5	Intermediate volcanic; Re crystlized to fgr sugary qtz and blk biotite. Foliated with local multi cm biot rich bands. Dustd with ~5% diss and quasi bedded Py
822.25	824.54			GR	massive				biot	musc			PY				0.5	Massive granitic dike; Fgr with local mgr wh Fsp. Grey-white, siliceous flecked with fine to Mgr musc and biot + 0.5% diss Py.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	angle TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
824.54	825.10			IV	foliated banded	75	FO		biot			pervasive	PY				0.5	Intermediate volcanic; Re crystlized to fgr sugary qtz and blk biotite. Foliated with local multi cm biot rich bands vs more siliceous banding'. 0.1-1% diss Py
825.10	826.20			GR	massive				biot	musc			PY				0.5	Massive granitic dike; Fgr with local mgr wh Fsp. Grey-white, siliceous flecked with Mgr musc and fgr biot + 0.5% diss Py.
826.20	848.83			FV	foliated banded	70	BD		biot	sil		pervasive banded	PY		PO		2	Felsic to intermediate volcaniclastic; Likely protolith of a bedded ash tuff? Fgr, foliated and compositionally banded (bedded). Perv biot can be often concentrated into bands or cm-scale sections. Foliation and banding at 70 deg TCA. Local siliceous bands as well as sil'n or more likely intercalated or interbedded chert. 1-3% fine dissem Py + Po can appear to be bedded as well. Med grey, Banding fabric is locally folded and or kinked. Patchy garnet appears after 846.3m. Sharp lower contact @ 70 deg TCA.
		830.31	830.30	GR	massive													White, massive granitic dikelet (vein). Fsp/qtz flecked with fine biot.
		830.84	830.93	GR	foliated banded	75	BD											Granitic dikelet; White grey laminated qtz/fsp + minor biot
		834.73	834.87	EXH	banded bedded	73	BD		musc	sil		pervasive banded						Banded or bedded chert. Re crystallized chert? With finely laminated wispy 'bedded' muscovite.
		836.50	836.60	QV	banded	65	BD		biot	sil		banded						Finely banded gry qtz. Contorted fabric, crudely laminated with biot. Re crystalized chert??
		842.75	843.16	IV	sheared foliated	65	SH		biot			pervasive banded	PY				0.1	Altered intermediate volcanic; 40% of interval displays intense biot or retrograde chl. Likely sheared at dominantly 65 deg but fabric is wavy and variable.
848.83	852.00			GR	foliated	70	FO		biot	musc		pervasive	PY				0.1	Granitic, Qtz Fsp Porphyry; Grey beige, fgr-mgr recrystallized sugary qtz and fsp yeilding a porphyritic texture with diffuse qtz/fsp phenos. Interstitial biot and weak musc, weak foliation @ 70.
852.00	EOH																	

GEOLOGICAL CORE LOG PL-18-01-W2

CLAIM NUMBER: DISTRICT of THUNDER BAY		
PROJECT: Winston/Pic PROSPECT: Pic Lake	SUPERIOR LAKE RESOURCES	DEPTH: 591
DRILL CONTRACTOR: Chibougamou Drillers	DATE DRILLED: 2-12/12/2018	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 290
Logged by: D G Courtney	Hole was wedged off of PL-18-01	DIP: -80

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
415.50																	Wedged off of parent hole PL-18-01
415.40	490.70			QP	massive foliated			biot			pervasive weak			PY		0.1	Quartz Porphyry (rhyolite?); Felsic volcanic flow or hypabyssal. Fgr to very fine grained very siliceous -qtz rich. Generally massive and unaltered with local foliation and pervasive weak fgr biot. Commonly displays diffuse grey qtz pheno's and locally beige diffuse sp pheno's?? Competent and hard, Trace to 0.2% diss Py.
		421.80	427.35	QP	contorted foliated	45	FO	biot	chl	sil	pervasive patchy			PY		0.1	as above but material is strongly foliated or contorted and deformed. Increase in biot component (or retrograde chlorite). 8% highly deformed, boudined and contorted qtz + Fsp veining
		437.00															second wedge installed
		473.20	455.73	QP	foliated	45	FO	chl	sil		banded patchy			PY		0.1	Rock is foliated to possibly weakly sheared. Quite siliceous generally silicified? With banded retrograde chl.
		455.73	456.90	MD	massive												Mafic Dike; Fgr massive, unaltered and dark grey/green. Sharp contacts at approx 45 degrees TCA.
		459.53	459.71	GR	massive												Granitic dikelet; Qtz/Fsp with minor fgr biot and mostly stained orange with hem? Sharp contacts @ 53 degrees
		458.85	459.20	MD	massive												Mafic Dike; Fgr massive, unaltered and dark grey/green. Sharp contacts at approx 45- and 40-degrees TCA.
		471.67	471.86	GR	massive												Granitic dikelet; Qtz/Fsp with minor fgr biot. Sharp contacts @ 50 and 45 degrees
		482.65	483.00	QV	massive												Barren white bull qtz vein @ 55 degrees TCA
490.70	508.10			IV	foliated banded	45		chl	biot	garnet	pervasive patchy			PY		0.3	Intermediate volcanic (in part volcaniclastic?). Med to dark grey/green, fgr and typically moderatey to strongly foliated dominantly @ 55 degrees TCA. Mod to strong retrograde chlorite +/- biot. Mica can be cocentrated in cm-scale sections or bands (beds). Appearance of banded (bedded) or clusters (blasts) of pk garnet at 495.4m. Trace to locally 1.5% diss Py. Gradational lower contact with waning of biotite.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		501.00															emplacement of third wedge
		490.70	495.58	MV	massive			chl	biot		pervasive			PY		0.3	As above but very melanocratic -mafic looking. Rock remains quite hard however.
		495.58	496.10	GR	massive												Granitic dike; Fsp/Qtz, red/or and white with patchy hem
		499.00	499.70	IV	foliated sheared	30	SH	chl			patchy strong			PY		0.1	As above but rock displays late brittle deformation with crackle brecciation and chloritic +/- local minor clay gouge in 1-3cm shears. Gen strong chlorite and mod to str fracturing.
		499.70	502.60	MV	massive			chl	biot		pervasive						As above but very melanocratic -mafic looking. Rock remains quite hard however.
508.10	539.65			FV	massive foliated	65	FO	biot	garnet	musc	pervasive			PY		0.2	Felsic to intermediate volccanic; Fgr med grey-blue. Generally massive with weak foliation and local faint banding @ 65 degrees TCA. Typically blastic with cm size aggregates of pk garnet. 2-3% fgr musc mostly throughout and ubiquitous biot in sightly varying concentrations. Trace to locally 1% diss and very locally banded Py/Po.
		529.95	531.00	FV	foliated	58	FO	biot	anth		pervasive			PY		0.1	Material here is somewhat more mafic with the development of amph (possibly anthophylite?) Foliated dominantly @ 58 deg TCA
		531.50															Wedge was emplaced
		534.25	534.37	SH	sheared	50	SH	chl			intense						Late Shear; Intense chloritew ith deformed white qtz
539.65	555.40			MD	foliated	55								PY	PO	0.3	Mafic Dike; Fgr-mgr, dark -near blk, rich in blk amph. Mostly foliated at 50-55 deg with central portion becoming massive. Unaltered, Competent and gen weakly fractured. 0.2-locally 1% Diss or FF Po/Py. Lower contact @ 53 deg.
		546.92	547.28	SH	sheared	50	SH	chl			intense						Late Shear; Intense chlorite, Complex motion -contorted.
555.40	562.45			FV	foliated	70	FO	biot	garnet	musc	pervasive patchy		CPY	PY	PO	3	Felsic volccanic; Fgr med grey-blue, gr sugary qtz rich groundmass. Weak to moderate foliation @ 70 degrees TCA. Ubiquitous pk garnet -mm to 1cm. 2-3% fgr patchy or localized musc, and ubiquitous fgr biot (approx 5%). Loaded with 2 to locally 7 or 8% Diss and FF Po, Py, CPy and possible Sph. Sharp lower contact @ 63 deg TCA. Weakly to strongly Magnetic
562.45	564.50			MD	massive												Mafic Dike; Fgr to near mgr, dark grey. Rich in blk amph (hble). Unaltered, competent and weakly fractured. Lower contact marked with 10cm shear.
		564.40	564.50	SH	sheared	60		biot			intense						Shear; Intense biot with lesser deformed qtz 'frags'.
564.50	579.23			FV	foliated	70	FO	biot	garnet	musc	pervasive patchy		CPY	PY	PO	2.5	Felsic volccanic; Fgr med grey-blue, gr sugary qtz rich groundmass. Weak to moderate foliation @ 70 degrees TCA. Ubiquitous pk garnet -mm to 1cm. 2-3% fgr patchy or localized musc, and ubiquitous fgr biot (approx 8% -can occur as fine lenses with foliation). Loaded with 2 to locally 5 or 6% Diss and FF Po, Py, CPy and possible Sph. Weakly to strongly magnetic. 576.7 sees the appearance of multi-cm 'blotches' of Alb/qtz/biot/sulphides. Altered -rextallized volcanic 'bombs'? Sharp lower contact at 50 deg TCA
579.23	584.95			MD	massive												Mafic Dike; Fgr to near mgr, dark grey. Rich in blk amph (hble). Unaltered, competent and weakly fractured. Lower contact @ 57 deg.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
584.95	591.00			FV	foliated	65	FO	biot	garnet		pervasive patchy		CPY	PY	PO	1	Felsic to intermediate volccanic (volcaniclastic); Fgr med grey, gr sugary qtz rich groundmass. Weak to moderate foliation @ 65 degrees TCA -locally contorted fabric. Ubiquitous pk garnet -mm to 1cm. Ubiquitous fgr biot (approx 12% -can occur as banding or remnant bedding?). multi-cm 'blotches' of Alb/qtz/biot/sulphides. Altered -rextallized volcanic 'bombs'? 0.5 to locally 4% Diss and FF Po, Py, CPy and possible Sph??. Weakly magnetic
591.00	EOH																Hole abandoned due to stuck wedge

GEOLOGICAL CORE LOG PL-18-01-W3

CLAIM NUMBER: DISTRICT of THUNDER BAY

PROJECT: Winston/Pic
PROSPECT: Pic Lake

SUPERIOR LAKE RESOURCES

DEPTH: 684

DRILL CONTRACTOR: Chibougamou Drillers

DATE DRILLED: 15/12/2018 to 15/1/2019

GPS COLLAR COORDINATES: UTM NAD 83 Zone 16

AZIMUTH: 290

Logged By: D G Courtney

Wedged off of PL-18-01-W1

DIP: -77

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
316.80																	Wedged off of parent hole PL-18-01
316.80	347.38			GB	massive			chl	anth	phlog	patchy pervasive						Mafic (to U/M?) intrusive?; Mgr, mostly massive to locally foliated @ 50deg. Possible anthophyllite?, phlogopite as pale greenish wispy mica throughout?. Local white fsp's are fine and incipiently alt'd. Local sections with remnant blk amph, also pervasive retrograde chlorite. Trace Py. Lower contact with dike @ 52deg
		333.12	333.32	AP	massive					biot	patchy						Aplite dike; Massive, vfgr white, hard and competent. Flecked with biot and minor fgr garnet. Lower contact @ 54 deg TCA

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		345.92	346.17	MD	massive												Mafic Dike; Fgr, massive and dark grey/grn. Unaltered, homogenous, contacts @ 54 and 50 deg TCA
347.38	348.45			AP	massive				garnet	biot	patchy						Aplite dike; Massive, vfgr white, hard and competent. Flecked with biot and minor fgr garnet. Contacts @ 50- and 53-degrees TCA.
348.45	349.70			MD	massive			biot	anth	phlog	patchy pervasive						Same material as above the aplite dike but with mod-str biot.
349.70	384.35			DB	massive			mt			pervasive	PY				0.1	Diabase; Fgr-cgr, blk/brn massive and strongly magnetic. Homogenous and gen competent with local str chloritic fract'g. Biot/chl -Sheared lower contact @ 53 deg
		369.60	370.20	SH	sheared			chl	biot		pervasive	PY				0.1	Strong Shear zone; Intense cgr biot/chl. Material is highly contorted, fissile cleavage/shearing ranges from 25 to 70 deg TCA.
		375.70	376.00	MD	massive												Unaltered late mafic dike; Fsp phyric with 5% white subhedral Fsp's. Massive, irregular contacts.
		376.00	377.90	SH	sheared			chl	biot		pervasive	PY				0.1	Strong Shear zone; Intense cgr biot/chl. Material is highly contorted, fissile cleavage/shearing is strongly deformed. Non-magnetic
384.35	390.70			MD	massive			biot			pervasive						Mafic Dike; GB? Rich in Mgr blk amph (hble) with lesser but pervasive mgr biot. Mod to str foliation @ mostly 50 deg. Non-magnetic, rel unaltered. Sharp lower contact @ 50 deg
390.70	489.42			QP	Foliated Massive	50		biot	garnet	sil	patchy F.C.	PY	SPH			0.2	QP; Felsic to locally intermediate volcanic; Typically, vfgr to aphanitic and siliceous groundmass with variable fgr biotite and diffuse-faint qz +/-fsp phenos. Local fgr red garnet. Massive with local foliation and quasi banding @ 45-55deg. Somewhat heterogeneous in texture and biot composition. Hard and competent. Trace to 0.5% very very fgr sulphides, Py + Sph. 1% cm scale qtz veining with host fabric.
		396.40	397.73	MD	massive												Mafic dike; Fgr foliated, med to dk gry. Lenses of blk biot with fabric. Unaltered sharp contacts and fol'n is at 50deg.
		407.85	409.63	MD	massive												Mafic dike; Vfgr, massive dark grey to black. Non magnetic, pristine. 3cm sheared contacts @ 53- and 45-degrees TCA
		410.60	411.00	GR	massive				hem		patchy						Granitic dikelet; Very siliceous with white fsp and spotty -patchy red hem staining.
		414.45	415.15	MD	foliated	50		biot									Mafic dike; Vfgr -fgr, dark grey to black. Non magnetic, pristine. Weak to mod foliaion @ 50 deg
		443.50	448.00	IV	foliated	45		biot	garnet		pervasive patchy	PY	CPY			0.2	Material becomes more mafic here with nore interstitial fgr biot, with small qtz 'clasts' and fine red garnet -re-crystalized volcanic ash likely. Typically foliated @ 45 deg. Trace to 0.5% Py + Cpy? + Sph? Very very fine grained.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		449.70	449.82	SH	sheared	35		chl			intense						Strong to intnse shearing, Intense chl with one QP frag. Fabric is mostly highlyb contorted.
		450.70	452.80	MD	massive												Mafic to intermediate dike; Fgr massive, pristine
		457.50	458.50	MD	massive			mt			weak						Mafic to intermediate dike; Fgr massive, pristine, amph rich and weakly magnetic
		467.10	467.80	DB	massive												Diabase; Fgr, blk, massive. Homogenous and gen competent. Contacts @ 55 deg
		480.37	480.75	QV	massive												Quartz ven; barren, cloudy gry/wh
489.42	493.10			MD	foliated	55		chl			patchy	PY	CPY			0.3	Mafic dike; Fgr nd mgr, dk gry to ner blk. Rich in blk mph where not chloritized by lte deformation. Foliation @ 55 deg TCA. Tr - 0.5% diss Py +/- Cpy
493.10				IV	Foliated Massive	55		biot	garnet	musc	pervasive patchy	PY	SPH	CPY	PO	1	Felsic to intermediate volcanic; Siliceous -qtz rich groundmass. Flecked with fgr blk biot +/- musc? Biot composition varies and is locally strong and banded. Foliation and banding @ 55 deg. Typically blastic with pk-red garnet up to one cm. 0.5 to locally 2 or 3% sulphides; Py/Po + Cpy Sph. Biot can retrograde to chlorite with late deformation.
		493.90	494.94	GR	massive												Granitic dike; Fsp/Qtz, massive vcgr and mostly stained pk-red
		498.75	500.60	BX	faulted	25											Faulted and brecciated, Vuggy siliceous Bx matric, chl, badly broken, strong gouge.
		505.30	510.10	MD	Foliated Massive	55		biot			patchy						Mafic Dike; fgr dk gry -grn/gry. Typically, weakly foliated with cm-scale sections of strong foliation to weak shearing +/- crenulation. Biot becomes strong with deformation 'shearing'
		518.65	524.47	MD	Foliated Massive	55											Mafic dike; Rich in blk amph, fgr to mgr. Massive or foliated @ 55 deg TCA. Unaltered
493.10	547.90			IV	massive			biot	garnet	chl	patchy	PY				0.2	Intermediate to mafic volcanic; Fgr dk gry/grn. Gen rich in blk amph (hble) with local biot or chl development. Also patchy garnet alteration. Gen weakly altered. Trace to 0.5% diss Py
544.40																	Hole was backed up and a wedge emplaced.
544.40				IV	foliated massive	55		biot	garnet	chl	patchy						As above in 493.1-547.9
		550.90	551.45	SH	sheared	55		biot	garnet	chl	intense						Strong shear; crenulated intense biot with chl and garnet dominantly at 55 degrees TCA
		552.95	553.32	SH	sheared	68		biot	garnet	chl	intense						Strong shear; crenulated intense biot with chl and garnet dominantly at 68 degrees TCA
		563.65	563.80	SH	sheared	63		biot	garnet	chl	intense						Strong shear; crenulated intense biot with chl and garnet, kinked and cond contorted but dominantly at 63 degrees TCA

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		563.80	579.00	IV	foliated massive			biot	garnet	chl	pervasive patchy						As above in 493.1-547.9, weak foliation defined by biot flecks or fine lenses forming fabric @ 55deg. 5-8% garnet throughout fgr to 1cm. Variable biot can locally banded.
529.50																	Hole was backed up and wedged. Take off point is 534m.
529.50	546.20			IV	massive			biot	garnet	chl	patchy	PY				0.2	Intermediate to mafic volcanic; Fgr dk gry/grn. Gen rich in blk amph (hble) with local biot or chl development. Also patchy garnet alteration. Gen weakly altered. Trace to 0.5% diss Py
546.20	554.65			MD	massive foliated												Mafic Dike; Fgr-mgr, dk gry to blk rich in blk amph. Unaltered, weakly foliated at 50 deg TCA
		550.75	551.00	SH	sheared	50		chl			intense						Shear Zone; Intense chlorite with fine strained qtz lenses. Kinked, crenulated and contorted. Chl likely retrograde after biotite. Dominantly @ 50deg TCA.
554.65				IV	massive foliated	50		biot	garnet		pervasive	PO	PY			1	Intermediate to felsic volcanic; Dk gry, Vfgr siliceous grndms. Flecked with fgr biot and loaded with up to 15% 1-6mm garnet. Mostly massive, competent and hard. Weak local foliation @ 50 degrees TCA. 563-571 garnets wane, from 0 - 2%. At 573m garnet clusters and blasts can be rimmed with wh/gry alb/qtz.
		554.65	554.90	SH	sheared	45		chl			intense						Shear Zone; Strong Intense chlorite with fine strained qtz lenses. weakly cren. Chl likely retrograde after biotite. Dominantly @ 45deg TCA.
		561.35	563.20	MD	foliated	53							PY			0.1	Mafic Dike; Fgr-mgr, dk gry to blk rich in blk amph. Unaltered, weakly foliated at 53 deg TCA
		563.20	563.32	SH	sheared	58		biot	chl		intense						Sheared; Intense biot + chl plus fine qtz. Shearing dominantly at58 degrees but is crenulated.
		574.35	577.65	MD	massive												Mafic Dike; Fgr, dk gry to blk rich in blk amph. Unaltered, local mm wh fsp pheno's. Irregular upper contact. Lower contact seemingly gradational
		589.30	589.85	IV	foliated	48		biot	garnet		pervasive strong						Strong biot here; foliated to possibly weakly sheared @ 48 degrees TCA.
		593.66	594.44	IV	foliated	55		biot	garnet		pervasive strong						Strong biot here; foliated to possibly weakly sheared @ 55 degrees TCA.
		589.30	589.80	IV	foliated	48		biot	garnet		pervasive strong						Strong biot here; foliated to possibly weakly sheared @ 48 degrees TCA.
		593.65	594.60	IV	foliated	55		biot	garnet		pervasive strong						Strong biot here; foliated to possibly weakly sheared @ 55 degrees TCA.
		606.00	607.80	SH	sheared	48		biot	chl		strong intense						Sheared; Intense biot + chl plus fine qtz. Shearing dominantly at 48 degrees but is crenulated and kinked or contorted.

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
		608.58	608.90	AP	massive			garnet	biot		pervasive						Aplite dike; Fgr, massive and white. Qtz/Fsp with weak fgr garnet and flecked with fgr biot.
		612.00			foliated	55		garnet	biot		pervasive	PO	PY			0.2	Material becomes rel melanocratic -dk gry with consistent moderate biot. Whilst still containing local qtz/fsp rimmed garnet. Mottled, banded texture -sil/fsp vs biot garnet. Pervasive moderate? Alteration. Very local and very weak magnetism -after Po likely. Fabric can be contorted
		617.65	617.85	SH	sheared	55		chl	biot		strong intense						Shear zone; Strong to Intense chlorite laminated and contorted with qtz. Dominantly sheared @ 55 deg TCA.
		641.20	641.40	GR	massive	60											Felsic dike, granitic, cgr white. Qtz/Fsp/Musc. Contacts at 60 degrees TCA.
		641.80	642.10	MD	massive												Mafic dike; Fgr, massive and unaltered. Conformable contacts @ 60 deg TCA
		648.40	648.80	SH	sheared	55		chl	biot		strong intense						Shear zone; Intense chl with ~60% glassy qtz 'blebs'. Highly contorted, crenulated Shearing crudely @ 55 degrees TCA?
		648.95	649.20	QV													Barren white quartz vein.
		649.80	652.00	IV	massive							PY				0.1	Material is rel mafic here and quite consistent, fgr-mgr med gry and amph rich. Possible dike with diffuse contacts?. Rel unaltered.
		669.65	676.00	MD	massive												Mafic Dike; Fgr dk gry near blk. Rich in blk amph (hble). Fgr massive and unaltered
		676.00	684.00	IV	massive							PY				0.1	Inteermediate volcanic as above thee mafic dike
684.00	EOH																

GEOLOGICAL CORE LOG PL-18-01-W3B

CLAIM NUMBER: DISTRICT of THUNDER BAY		
PROJECT: Winston/Pic PROSPECT: Pic Lake	SUPERIOR LAKE RESOURCES	DEPTH: 510
DRILL CONTRACTOR: Chibougamou Drillers	DATE DRILLED: 19-22/1/2019	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 290
Logged by: DG Courtney	Hole was wedged off of PL-18-01-W3	DIP: -

			Nested To (m)	Lithology	Depth From (m)	Depth To (m)	Nested From (m)	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
436.50																	Wedged off of hole PL-18-01-W3
436.50	497.60			QP	Foliated Massive	45		biot	garnet	sil	patchy F.C.	PY	SPH			0.2	QP; Felsic to locally intermediate volcanic; Typically, vfgr to aphanitic and siliceous groundmass with variable fgr biotite and diffuse-faint qz +/-fsp phenos. Local fgr red garnet. Massive with local foliation and quasi banding @ ~45deg. Somewhat heterogeneous in texture and biot composition. Hard and competent. Trace to 0.5% very very fgr sulphides, Py + Sph. 1% cm scale qtz veining with host fabric.
		466.30	467.03	DB	massive												Mafic dike; Likely Diabase. Vfgr, massive and featureless. Near black, strongly magnetic.
		479.10	479.46	QV	massive												Barren white massive quartz vein, contacts at 65 deg TCA.
		492.80	493.60	GR	BX												Pink/orange granitic dike; Majority of dike is brecciated with angular volcanic clasts and granitic matrix.
		493.90	497.60	IV	FR			chl			F.C.						Rock here is fractured and broken to rubble, mod-str chlorite with fract'd and local mm clay gouge.
497.60	510.00			IV	Foliated Massive	50		biot	garnet		pervasive	PY	PO			0.7	Intermediate to felsic volcanic; More mafic than the QP above, can be rich in biotite. Biot is commonly banded or finely laminated with sil/vfgr qtz. Variable garnet throughout -Fgr to 5mm. Strong foliation or local shearing dominantly @ 50 deg TCA. 0.2 to locally 2% Py/Po +/- Sph?
	510.00	EOH															Hole abandoned stuck rods on wedge

GEOLOGICAL CORE LOG PL-18-01-W3D

CLAIM NUMBER: DISTRICT of THUNDER BAY

PROJECT: Winston/Pic
PROSPECT: Pic Lake

SUPERIOR LAKE RESOURCES

DEPTH: 816.7

DRILL CONTRACTOR: Chibougamou Drillers

DATE DRILLED: 7-18/2/2019

GPS COLLAR COORDINATES: UTM NAD 83 Zone 16

AZIMUTH: 290

Logged by: D G Courtney

Hole was wedged off of PL-18-01-W3

DIP: -

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
499.20																	Wedged off of hole PL-18-01-W3
499.20	565.50			IV	Foliated Massive	50		biot	garnet		pervasive	PY	PO			0.2	Intermediate volcanic; Likely volclaniclastic protolith. Siliceous/qtz rich grndms with variable biotite. Biot is mostly finely laminated (bedded) or banded. 1-3% clusters and blasts of pk garnet. Rock is gen strongly altered. Strong foliation generally from 35 to 55 deg TCA. 50 deg appears dominant. Trace to 0.5% Diss Py/Po
		531.00	534.30	IV	Foliated Massive	55		biot	garnet		pervasive	PY	PO			0.2	As above but relatively mafic with mod to strong biot. Also, local clotte4d Py/Po
		544.70	544.95	GR	sheared	55		chl			strong	PY				0.1	Granitic dykelet in Chloritic shear. Fabric and contacts are highly contorted but dominantly @ 55 TCA
		548.70	548.90	SH	sheared	60		biot	chl		intense						Intense Biotite/chlorite Shear; Shear fabric is crenulated and somewhat contorted with 'knotted' quartz. Gen At 60 deg TCA
		556.60	557.30	SH	sheared	65		biot	chl		intense						Intense Biotite/chlorite Shear; Shear fabric is crenulated and somewhat contorted or wavy, with 'knotted' quartz. Gen At 65deg TCA
		558.00	559.60	IV	massive			biot	garnet	alb	pervasive	PY				0.1	As above but garnet xtals are rimmed with white alb/qtz, also Fracture introduced sil/alb alt'n. mm scale.
		559.60	571.40	IV	massive			biot	garnet		pervasive	PY				0.1	Material is quite consistent here, flecked throughout with mod biot as fine lenses.
		571.40	592.50	IV	Foliated Massive	60		biot	garnet		pervasive	PY	PO			0.3	Intermediate volcanic; Likely volclaniclastic protolith. Siliceous/qtz rich grndms with variable biotite. Biot is rel rich and flecked throughout, but also locally banded (bedded). 1-3% clusters and blasts of pk garnet. Rock is gen strongly altered. Variable foliation generally @ 55 to 60n deg TCA. Locally massive. 0.1-2% disseminated and clotted Py/Po
565.50																	Hole was backed up and wedged

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
565.50				IV	Foliated Massive	55		biot	garnet		pervasive	PY	PO			0.2	Intermediate volcanic; Likely volclaniclastic protolith. Siliceous/qtz rich grndms with variable biotite. Biot is rel rich and flecked throughout, but also locally banded (bedded). 1-3% clusters and blasts of pk garnet. Rock is gen strongly altered. Variable foliation generally @ 55 to 60n deg TCA. Locally massive. 0.1-2% disseminated and clotted Py/Po
		570.60	574.15	MD	massive												Mafic Dike; Massive, Fgr and unaltered. Mm white fsp pheno's. Rel diffuse contacts.
		592.65	592.82	AP	massive				garnet		pervasive						Aplite dike; white, massive and very felsic.mm garnet. Irregular contacts
		603.43	604.65	AP	massive				garnet		pervasive						Aplite dike; white, massive and very felsic. Mm garnet Irregular contacts
		604.20	604.74	SH	sheared	60		biot	chl		intense						Intense Biotite/chlorite Shear; Shear fabric is crenulated and somewhat contorted with 'knotted' quartz. Gen at 60 deg TCA
607.50																	Hole was backed up and wedged
607.50	658.62			IV	Foliated Massive	50		biot	garnet		pervasive	PY	PO			0.2	Intermediate volcanic; Same unit as above as hole was backed up and wedged. Likely volclaniclastic protolith. Siliceous/qtz rich grndms with variable biotite. Biot is mostly finely laminated (bedded) or banded. 1-3% clusters and blasts (up to 2cm with affinity for biotite. of pk garnet. Rock is gen strongly altered. Strong foliation generally from 35 to 55 deg TCA. 50 deg appears dominant. Trace to 0.5% Diss Py/Po
		620.65	621.25	SH	sheared	55		biot	chl	garnet	intense						Intense Biotite/garnet/chlorite Shear; Shear fabric is crenulated and somewhat contorted with strained qtz blebs. Gen at 55 deg TCA
		624.00						biot	garnet	alb		PY	PO			0.5	Appearance of alb/qtz rimmed garnet, graphic texture. Also, up to 2% Py/Po as diss and locally as clots.
		635.75	636.00	GR	massive												Granitic dykelet; Massive pk/gry with Vcgr Fsp/Musc and qtz. Contacts @ 53 deg TCA.
		626.38	627.07	MD	massive												Mafic Dike; Massive, Fgr and unaltered. Contacts @ 75 deg TCA
		629.70	630.15	MD	massive												Mafic Dike; Massive, Fgr and unaltered. Amph rich chilled contacts @ 80 deg TCA
		643.00	644.14	MD	massive												Mafic Dike; Massive, Fgr and unaltered. Contacts @ 75 deg TCA
		650.43	640.63	SH	sheared	75		biot	chl	garnet	intense						Intense Biotite/garnet/chlorite Shear; Shear fabric is rel consistent @ 75 deg but kinked and crenulated on a v ery small scale.
658.62				MD	massive			biot	mt		patchy	PY	PO			0.3	Mafic Dike; Possibly a homogenous flow. Fgr to mgr massivee, homogenous and rel pristine although biot varies with hble amph.
675.00																	Hole was backed up and wedged

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
664.50	675.00			IV	massive banded	75	bd	biot	garnet		pervasive	PY	PO	CPY		0.3	Intermediate volcanic; Likely volclaniclastic protolith -at least in part. Siliceous/qtz rich grndms with variable biotite. Biot is mostly finely laminated (bedded) or banded. Biot can vary or alternate with amph. No garnet and rock are relatively unaltered. Biotite rich banding is very localized and at ~70-75 deg TCA. Trace to 1% Py + Po + local CPy.
675.00	683.60			IV	foliated massive	65		biot		sil	pervasive patchy	PY	PO			0.2	Rock becomes variable in composition and texture; Banding (bedding) is common and typically at 65 deg. Possible silliminite?? With local minor translucent, fine needles. Rock is locally mottled with patches of silicification.
683.60	720.86			IV	foliated massive	65		biot	garnet	alb	pervasive patchy	PY	PO			0.2	Intermediate Volcanic; Likely same volcaniclastic unit to above but with increased alteration. Local sections of intense cgr biot/qtz with mm to cm pk garnet. Fabric can be kinked and crenulated. Can be dusted with intrafolial Py/Po +/- CPY up to 0.5%. Becomes reel homogenous and massive after 701m as biot banding wanes. At 713 to 715m material displays alb/qtz rimmed garnet alteration (dalmationite).
		720.00	720.80	QV	massive							PY	PO	SPh		0.5	Quartz vein, massive bull white qtz with 0.5% diss Py/Po +/- Sph. Contacts slightly irregular but at ~80deg TCA
		720.80	720.86	SH	sheared	65		chl	biot		intense	PY				0.5	Shear Zone, intense chl/biot -kinked composite fabric with round quartz clasts and 0.5% Py
720.86				MV	massive foliated	75			biot	garnet	pervasive		PY			0.2	Mafic (to intermediate?) volcanic; fgr to mgr dk grn/gry. Biotitic mafic component. Massiv or weakly foliated at 75-80deg TCA. Relatively pristine -unaltered. Recrystallized sugary qtz/fsp grndms. 0.3% Diss Py. Very local minor pk mm garnet.
		725.65	725.75	SH	sheared	75		chl	biot		intense	PY				0.5	Shear Zone, intense chl/biot with banded qtz. Sheared and slightly contorted fabric, and 0.5% Py
		731.25	731.60	SH	sheared	75		chl	biot		intense	PY				0.5	Shear Zone, intense chl/biot, minor qtz. Structure is kinked, folded and contorted. Dominant fabric is approx 75 to 80 deg TCA.
		789.00	794.37	IV	banded sheared	75			biot		pervasive	PY	PO			2.5	As above, biotite can be brownish (phlogopite?) Strong banding and foliation @ 75 TCA. 2-3% diss Po/Py throughout.
794.37	795.57			MS	Massive Brecciated							PY	PO	SPh	CPY	70	Massive Sulphides; Very fine-grained Po/Py/Sph and Cpy mostly mixed together. Appears to be very similar in texture, composition and grade to PL-18-01, except last 35cm of zone displays banded as oppssed to massive sulphides. 20-25% Qtz gangue. Typically, as mm scale rounded 'blebs'. Approximately 1% CPy and 30% Sphalerite overall (i.e.: approx. 0.5% Cu, 12-15% Zn)

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral %	Comments
795.57	816.70			FV	bedded foliated	75		biot	sil		pervasive patchy	PO	PY	SPh	CPY	7	Intermediate to Felsic volcanic; Very fgr qtz + fgr-mgr biot. Mica often finely laminated or concentrated somewhat in bands. 3 to locally 9% Very fine Po + Py + Sph +/-CPy dusted throughout and also concentrated in fine laminae (beds). Local intercalated 'cherty' or siliceous bands (beds). Re-xtallized exhalatives in part.
		801.70	807.95	GR	massive												Granitic dike; Fgr to mgr, white. Wh fsp and quartz rich.
		802.30	802.83	GR	massive												Granitic dike; Fgr to mgr, white. Wh fsp and quartz rich. Sharp irreugular contacts
		802.83	804.53	DB	massive							mt					Diabase dike; Vfgr to fgr, massive and homogenous. Magnetic with chilled margins
		805.24	806.00	IV				sil	alb	biot	pervasive	PY	PO				As above but with Fracture introduced near pervasive Sil/Alb alteration
		804.53	816.7	IV	foliated banded	78			biot	garnet	Pervasive patchy	PO	PY			3	Material is moderately to strongly altered with veryb fine patchy garnet and mod to strong biotite and possiblee silicification. Strong foliation, banding and proto bedding at 75 to 80 deg TCA. Rock is is strongly with 3-6% Po/Py mineralized. Disseminated and quasi bedded.
816.70	EOH																

GEOLOGICAL CORE LOG PL-18-01-W4

CLAIM NUMBER: DISTRICT of THUNDER BAY		
PROJECT: Winston/Pic PROSPECT: Pic Lake	SUPERIOR LAKE RESOURCES	DEPTH: 819
DRILL CONTRACTOR: Chibougamou Drillers	DATE DRILLED: 17/2/2019 to 20/2/2019	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 290
Logged by D G Courtney	Hole was wedged off of PL-18-01-W3	DIP: -56

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3		Mineral %	Comments
739.50																	Hole was wedged off parent hole PL-18-01-W3
739.50	743.40			MD	massive												Mafic dike; Fgr, massive and relatively pristine. Spotted with mm qtz + Fsp phenos
743.40	754.20			FV								PY	PO			0.3	Felsic volcanic, Flow? Vfgr, gry-blue Gen hard and siliceous, flecked with fine biot or biot or concentrated in bands (original beedding?) patchy Garnet garnet mm scale and pink. Rock displays local faint -diffuse slightly strained possible quartz eyes. Biot can be concentrated in 1-5cm bands possible reflecting original bedding. 0.1-0.5% fgr diss Py/Po
		748.65		SH	sheared contorted			biot			intense						Strong to intense shear zone; Mostly intense blk biotite that is sheared, kinked, folded and contorted with lesser strained quartz. Gen sense of shear is @ ~80 deg TCA. Section contains 25cm of un-sheared host rock and a 14cm white quartz vein.
754.20	772.50			MV	massive banded	75		biot	mt		pervasive patchy	PY	PO			0.1	Mafic to Intermediate volcanic; Melanocractic but rel qtz rich. Pervasive biotite throughout. Locally the biot can concentrate in bands and likely reflects original bedding. Otherwise rock is rel consistent and not strongly altered. Magnetic locally with up to 1% mMt up to 1 or mm. 2-3% planar Fsp/qtz and granitic veins -dikelts 2-5cm wide. Local faint foliation and biotite banding from 65 to 80 deg TCA.
		764.70	765.10	SH	sheared contorted	78		biot			intense						Strong to intense shear zone; Mostly intense blk biotite that is sheared and kinked on a very small scale, with 35% strained quartz lenses. Shear is @ ~78 deg TCA
772.50	793.74			IV	bedded foliated	85		biot			pervasive	PY	PO	CPY	SPH	3	Intermediate volcanic; Melanocractic but rel qtz rich. Moderate biotite throughout, however the biot can concentrat in bands and likely reflects original bedding. Material is also dusted throughout with 3-4% Dissem Py + Po but also local minor CPy and possible fgr Sph. Sulphides are disemm and in part bedded with host fabric. Bedding/banding fabric is at 85 deg TCA

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3		Mineral %	Comments
		777.80	778.25	IV	contorted			biot			pervasive	PY	PO			4	Section is folded and contorted with 35% coarse highly straind white quartz. Contains 3-5% diss and clotted Py/Po
		784.25	784.52	GR	massive							PY	PO		SPH	2	Granitic dikelet; mgr fsp/qtz with 1% fgr blk metallic sph? + 1% diss PO. Massive white orange. Sharp contacts @ 65 and 40 deg TCA.
		785.50	785.95	GR	massive							PY	PO			1	Granitic dikelet; mgr fsp/qtz with 1% diss PO/PY. Massive white orange. Sharp contacts @ 65 and 40 deg TCA.
		793.28	793.74	IV	foliated contorted			biot			pervasive	PY	PO	CPY	SPH	3	As above but section contains an 18cm irregular white quartz vein. Also, the fabric displays strong deformation and is highly contorted.
793.74	794.41			MS	massive brecciated			biot			weak	PY	PO	CPY	SPH	70	Massive Sulphides; Veryb fine grained Po/Py/Sph and Cpy mostly mixed together. Appears to be very similar in texture, composition and grade to PL-18-01. 20-25% Qtz gangue. Typically, as mm scale rounded 'blebs' and minor blk biotApproximately 0.5-1% CPy and some 45% Sphalerite. 793.74 to 793.94 is predominantly white irruglar qtz locally clotted with Py Po and CPy
794.41	795.80			FV	foliated contorted	70		biot			pervasive	PY	PO	CPY	SPH	3	Similar to the volcanics above the massive sulphides only material is very siliceous (felsic) and the biotite is weak. Also, the rock is strongly deformed -kinked, crenulated, contorted and folded. Lower contact is irregular but dominantly at ~70 deg
795.80	796.41			MS	massive brecciated			biot			weak	PY	PO	CPY	SPH	75	Massive Sulphides; Very fine-grained Po/Py/Sph and Cpy mostly mixed together. Appears to be very similar in texture, composition and grade to PL-18-01. 20-25% Qtz gangue. Typically, as mm scale rounded 'blebs'. Approximately 1% CPy and 50% Sphalerite. Sharp distinct lower contact @ 75 deg TCA.
796.41	803.60			IV	banded bedded	75		biot			pervasive	PY	PO	CPY	SPH	1	Intermediate volcanic; Fgr to Mgr compositionally banded (bedded) at 75 deg. Recrystallized, Fgr-Mgr Qtz/biot/alb + Phlogopite? Mica varies in concentration commonly forming biot cm-scale bands reflecting original bedding. Local 'cherty or possibly exhalative' bands -beds. Dusted with fine diss and bedded Py/Po. 3cm semi massive sulphide band of mostly SPh/Po at 796.55m
803.60	805.10			DB	massive												Diabase Dike; Fgr, massive and near black. Rock is weakly magnetic, homogenous and pristine. Contacts in broken rubble.
805.10	819.00			IV	bedded foliated	75		biot			pervasive	PY	PO			1	Intermediate volcanic; Fgr to Mgr compositionally banded (bedded) at 75 deg. Recrystallized, Fgr-Mgr Qtz/biot/alb + Phlogopite? Mica varies in concentration commonly forming biot cm-scale bands reflecting original bedding. Local 'cherty' bands -beds as well 'exhalative'. Dusted with fine diss and bedded Py/Po.
819.00	EOH																

GEOLOGICAL CORE LOG PL-18-01-W5

CLAIM NUMBER: DISTRICT of THUNDER BAY		
PROJECT: Winston/Pic PROSPECT: Pic Lake	SUPERIOR LAKE RESOURCES	DEPTH: 819
DRILL CONTRACTOR: Chibougamou Drillers	DATE DRILLED: 22/2/2019 to 26/2/2019	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 290
Logged by: D G Courtney	Hole was wedged off parent hole PL-18-01-W3	DIP: -57

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3		Mineral %	Comments
688.50																	Hole was wedged off parent hole PL-18-01-W3
688.50	731.20			FV	massive foliated	80		biot	garnet	alb	pervasive patchy	PY	PO			1.5	Felsic volcanic, Flow? Fgr, gry-blue Gen hard and siliceous, flecked with fine biot concentrated in bands (original bedding). Local siliceous band'g/bed'g as well. Massive or locally foliated/banded at 80 dge. Local alb rimmed garnet (dalmationite). patchy Garnet -mm scale and pink. Rock displays local faint -diffuse slightly strained possible quartz eyes. Biot can be concentrated in 1-5cm bands possible reflecting original bedding. 0.5 to 2% fgr diss Py/Po
		698.85	699.06	SH	sheared	80		chl			intense						Wavy Shear; intense chl with 12cm qtz vein.
		720.84	721.41	QV	massive												Massive, white quartz vein with 5% knotted chlorite.
		728.30	728.50	SH	sheared	75		chl			strong						Wavy Shear; strong to intense variable chlorite.
731.20	731.61			SH	sheared	80		chl			intense						Wavy Shear; Strong to intense chl with sugary qtz. Fabric is slighlty contorted
731.61	739.90			MV	massive foliated	80			biot		weak						Mafic volcanic or possibly intrusive (GB). Mgr-cgr, typically massive but also locally foliated @ 70-85 deg. Blk amph (hble)/sugary qtz grndms with local diffuse cloudy fsp phenos. Pristine except local minor biot replacing the amph. 0.2 - 0.5% Py/Po
739.90	781.60			FV	massive foliated	75		biot	garnet	sill	pervasive patchy	PY	PO			1	Felsic volcanic; Fgr, gry-blue Gen hard and siliceous, flecked with fine biot or concentrated in bands (original bedding). Local siliceous band'g/bed'g as well. Massive or locally foliated/banded at 70- 80 deg. Patchy mm red Garnet. Also, local blades of silliminite (anthophyllitee)? 0.5 to 2% fgr diss Py/Po. At 762m bed'g/band'g becomes well defined and locally displays graded bedding
781.60	786.90			IV	sheared contorted	75		biot			pervasive	PO	PY			0.5	Altered and deformed Intermediate volcanic; Pervasive mgr-cgr biot in very variable concentrations. Sugary recrystallized qtz groundmass. Composition is variable biot rich vs siliceous. Section has been sheared, crenulated, kinked and contorted. 3-4% highly strained 'knotted' qtz. Typically, 0.5% Po + Py,

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Lithology	Lithology texture	Foliation TCA	Structure	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3		Mineral %	Comments
		782.35	782.80	IV	foliated	75		biot			weak	PO	PY			5	As above but with 5-6% dissemminated and quasi bedded Po + lesser Py.
		785.10	786.55	DB	massive												Diabase dike; Fgr, black. Massive and pristine. Manetic, chilled irregular contacts
786.90	794.30			IV	massive banded	80		biot	alb	sill	pervasive patchy	PY	PO			1.5	Intermediate volcanic (volcaniclastic); Fgr, gry-blue Gen hard and siliceous, moderate biotite throughout. Massive or locally banded/bedded at 70- 80 deg. patchy mm red Garnet. 1 to 2% fgr diss Po + lesser Py. Melanocratic but siliceous and hard. Banding/bedding is faint with material mostly being massive. 1-2cm sulphide netted bands conformable to fabric at 791.32 and 791.41 -very fgr mixture of Sph/Po/Py. 1-3% 2-6cm granitic dikelets. Local very sil/alb rich banding and minor F.C. sil'n.
		790.93	791.09	SH	sheared contorted	60		biot			strong	PY	PO	SPH	CPY	8	Shear; 60% of section is Crenulated, kinked and contorted. Gen sense of motion is at 60deg, intercalated with rel massive weakly altered material. Very strong coarse biot with fine sugary qtz and 'knotted' strained qtz veining. Section contains a 2-3cm band of very fine-grained semi massive sulphides. Sph/Po + lesser Cpy. Remobilized likely
794.30	796.21			MS	massive							PY	PO	SPH	CPY	75	Massive Sulphides; Generally, a very fine-grained mixture of Sphalerite, Po, Cpy, Py. Approximately 40-45% Sphalerite, 0.5 to locally 1% Cpy. First 30cm contains mgr-cgr 'blackjack' Sphalerite (primary). Approx 25% Qtz 'gangue' with minor fgr biot. Upper contact is sharp, lower contact is banded over 10cm.
		796.90	797.25	QV	massive												Massive white quartz vein.
791.09	819.00			IV	Banded bedded	75		biot	alb	sill	pervasive patchy	PY	PO			1.5	Intermediate volcanic (volcaniclastic); Fgr -mgr, gry-blue-blk, moderate to strong biotite overall -commonly concentrated in bands or beds that can display deformation, banding can display strong to intense biot. 1 to locally 4% fgr diss or locally clotted/bedded Po + lesser Py. Local sil/alb rich 'exhalative' bedding/banding. Alb/sil can form alteration haloes around sulphide 'clots'. 1-3% Granitic dikelets.
819.00	EOH																

Appendix 2: Table of Mining Claims

Claim	Type	Status	Issue Date	Anniversary Date	Holder
117859	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
116128	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
152325	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
168944	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
169024	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
172104	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
181763	BCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
198338	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
206270	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
209404	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
214845	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
264851	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
272321	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
275425	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
284404	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
284407	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
291726	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
311369	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
321021	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
320935	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
343927	BCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535117	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535108	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535016	MCMC	Active	2018-11-15	2019-09-16	(100) OPHIOLITE HOLDINGS PTY LTD.
535116	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535119	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535120	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535121	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535106	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535109	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535110	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535111	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535118	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535113	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535115	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535107	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535112	MCMC	Active	2018-11-16	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
535017	MCMC	Active	2018-11-15	2019-09-16	(100) OPHIOLITE HOLDINGS PTY LTD.
535015	MCMC	Active	2018-11-15	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
101307	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
103721	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
110861	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.

Claim	Type	Status	Issue Date	Anniversary Date	Holder
110862	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
114012	SCMC	Active	2018-04-10	2019-09-26	(100) OPHIOLITE HOLDINGS PTY LTD.
128641	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
135278	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
135279	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
135280	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
140125	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
143152	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
157778	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
161749	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
161750	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
161751	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
162597	SCMC	Active	2018-04-10	2019-09-26	(100) OPHIOLITE HOLDINGS PTY LTD.
162598	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
162599	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
162600	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
167794	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
175304	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
182220	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
181227	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
187277	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
202441	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
209168	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
216569	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
216570	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
216571	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
221892	SCMC	Active	2018-04-10	2019-09-26	(100) OPHIOLITE HOLDINGS PTY LTD.
221893	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
229858	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
229859	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
235678	SCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
236644	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
236645	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
238387	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
242037	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
242038	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
238291	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
238292	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
238293	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
250023	SCMC	Active	2018-04-10	2019-09-26	(100) OPHIOLITE HOLDINGS PTY LTD.
263763	SCMC	Active	2018-04-10	2019-09-16	(100) OPHIOLITE HOLDINGS PTY LTD.
264878	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
270269	SCMC	Active	2018-04-10	2019-10-10	(100) OPHIOLITE HOLDINGS PTY LTD.
275050	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
282565	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
284423	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.

Claim	Type	Status	Issue Date	Anniversary Date	Holder
284424	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
288461	SCMC	Active	2018-04-10	2019-06-09	(100) OPHIOLITE HOLDINGS PTY LTD.
300308	SCMC	Active	2018-04-10	2019-09-16	(100) OPHIOLITE HOLDINGS PTY LTD.
308718	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
312363	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
312364	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.
318298	SCMC	Active	2018-04-10	2019-09-16	(100) OPHIOLITE HOLDINGS PTY LTD.
320958	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
320959	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
344450	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
342212	SCMC	Active	2018-04-10	2019-07-22	(100) OPHIOLITE HOLDINGS PTY LTD.
343842	SCMC	Active	2018-04-10	2019-09-09	(100) OPHIOLITE HOLDINGS PTY LTD.

Appendix 3: Assay Certificates

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 9-JAN-2019
Account: SLRLWTDJ

CERTIFICATE TB18327954

This report is for 21 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 21-DEC-2018.

The following have access to data associated with this certificate:

DAN COURTNEY	DAVID WOODALL	

SAMPLE PREPARATION

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

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
Ag-OG62	Ore Grade Ag - Four Acid	
ME-OG62	Ore Grade Elements - Four Acid	ICP-AES
Pb-OG62	Ore Grade Pb - Four Acid	
Zn-OG62	Ore Grade Zn - Four Acid	
ME-MS61	48 element four acid ICP-MS	

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

***** See Appendix Page for comments regarding this certificate *****

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
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To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Finalized Date: 9-JAN-2019
Account: SLRLWTDJ

CERTIFICATE OF ANALYSIS TB18327954

Sample Description	Method	WEI-21	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Recvd Wt.	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
	Units	kg	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.02	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01
1121251		4.54	5.59	5.21	0.4	240	2.06	2.07	1.19	116.0	23.5	177.0	136	7.08	2680	10.55
1121252		4.41	4.44	6.81	0.8	270	2.05	1.65	1.63	109.0	27.4	167.5	111	6.68	1630	7.53
1121253		4.10	9.86	7.09	0.2	230	2.41	5.21	2.11	26.4	26.9	139.5	122	6.50	3150	9.12
1121256		3.94	34.6	6.02	0.3	150	1.51	2.42	2.53	11.15	26.5	58.7	82	1.20	7890	6.54
1121257		4.06	6.71	7.08	0.3	220	2.77	1.45	3.23	1.19	27.6	56.0	129	3.66	2560	7.72
1121258		4.15	6.96	7.81	0.5	290	2.40	1.79	3.37	37.0	37.7	33.7	156	1.66	1745	7.32
1121259		4.24	7.87	7.80	0.9	150	1.57	1.06	3.36	24.5	42.1	34.9	186	2.14	1010	6.23
1121260		0.07	>100	4.69	123.5	140	1.07	5.25	2.13	443	26.5	38.1	38	1.64	4710	4.13
1121261		4.23	2.71	7.33	0.8	200	1.96	1.43	2.98	2.38	47.6	46.5	147	1.27	1255	7.06
1121262		4.06	2.31	6.90	0.4	130	2.34	0.83	2.01	0.53	56.4	18.7	29	2.24	1215	7.24
1121263		3.60	12.50	7.07	0.3	230	1.57	1.50	2.21	28.5	33.7	50.7	139	1.67	4330	7.86
1121265		3.31	3.54	6.15	<0.2	300	2.14	1.26	0.89	9.31	64.6	28.2	13	5.42	1535	8.00
1121266		4.71	0.77	6.75	0.3	250	2.34	0.37	1.28	0.12	78.4	10.9	10	5.04	172.0	5.96
1121267		4.08	0.64	6.38	<0.2	190	2.17	0.41	1.54	0.07	71.0	16.4	5	3.90	202	6.60
1121268		4.62	2.09	7.38	0.6	170	2.30	0.87	2.40	0.99	35.0	18.0	71	1.19	961	4.56
1121269		4.16	3.51	5.87	<0.2	270	1.87	1.34	1.97	190.0	25.2	117.5	169	7.54	1800	10.25
1121270		3.82	3.76	6.49	0.8	730	1.77	0.98	7.45	5.63	24.9	32.3	90	1.60	1640	5.18
1121271		0.09	0.11	0.31	1.0	20	0.09	0.06	0.04	2.55	4.48	2.6	16	0.29	39.2	0.81
1121272		1.61	19.00	3.59	0.6	110	1.19	4.39	0.82	368	13.40	211	61	1.12	7230	9.01
1121273		1.74	2.22	7.18	0.8	290	3.48	0.82	1.69	1.17	41.3	15.6	30	6.10	591	4.43
1121274		1.90	1.31	6.69	0.6	250	3.44	0.64	1.47	1.48	43.5	13.4	27	5.51	473	4.03

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Finalized Date: 9-JAN- 2019
Account: SLRLWTDJ

CERTIFICATE OF ANALYSIS TB18327954

Sample Description	Method	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61
	Analyte	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb
	Units	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm
	LOD	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5	0.05	0.01	0.1	0.2	10	0.5
1121251		24.3	0.18	1.5	10.05	1.68	9.8	53.8	2.60	599	107.5	1.43	3.7	135.5	490	90.0
1121252		24.6	0.17	2.3	7.93	1.72	11.5	45.9	2.85	607	60.4	2.28	4.1	68.0	440	196.0
1121253		28.3	0.15	2.4	2.01	1.59	11.3	48.1	2.66	943	7.96	2.42	4.3	87.1	530	298
1121256		21.2	0.12	2.0	1.165	0.65	10.9	23.3	1.64	806	15.70	2.12	3.1	49.7	560	167.0
1121257		23.0	0.11	2.2	0.334	0.97	11.6	32.0	2.49	1160	25.9	2.30	5.4	87.3	530	131.0
1121258		30.3	0.17	5.0	2.12	1.19	14.7	30.9	2.64	1460	23.0	2.87	7.7	70.8	780	163.5
1121259		24.7	0.16	3.9	2.67	0.91	18.6	34.3	3.07	1420	3.65	2.66	4.0	111.0	780	72.2
1121260		25.9	0.13	3.4	4.70	1.65	11.3	8.9	0.49	583	18.45	0.72	5.9	28.0	330	>10000
1121261		22.2	0.16	3.8	0.648	0.88	20.3	26.0	2.88	1100	12.40	2.62	3.8	87.8	820	140.0
1121262		28.2	0.18	7.5	0.221	0.74	21.6	33.9	2.53	752	1.96	2.21	13.2	19.4	780	98.9
1121263		27.1	0.15	2.8	2.35	1.02	13.8	29.2	2.89	1470	31.0	2.48	4.9	47.0	760	180.0
1121265		26.3	0.21	5.9	0.608	1.57	24.9	47.5	2.29	296	7.53	1.97	7.0	16.1	640	114.0
1121266		32.0	0.25	9.6	0.029	2.10	30.0	53.3	3.00	216	2.02	2.01	16.0	2.1	790	10.0
1121267		29.0	0.24	9.8	0.020	1.76	27.0	39.3	2.34	168	8.43	1.94	18.5	1.3	730	7.0
1121268		22.4	0.18	4.7	0.447	0.76	14.8	22.6	1.72	768	18.25	3.35	6.0	37.7	610	134.5
1121269		24.4	0.18	2.0	18.20	1.95	9.7	35.2	3.49	1060	16.15	1.65	3.4	129.0	660	42.1
1121270		20.5	0.13	2.0	0.708	1.84	10.1	53.3	1.68	1160	5.23	2.08	3.9	52.8	590	150.0
1121271		1.11	0.07	1.0	0.298	0.08	2.2	6.4	0.08	76	0.30	0.09	0.9	4.7	30	3.5
1121272		21.4	0.15	1.5	21.6	1.42	6.2	22.1	1.02	355	20.4	0.97	10.2	36.5	300	90.1
1121273		29.3	0.22	6.7	0.081	1.69	15.8	35.3	1.80	469	19.10	2.85	8.9	16.3	510	200
1121274		27.5	0.20	6.2	0.085	1.46	17.0	34.9	1.68	397	13.90	2.71	7.3	13.3	450	141.0

***** See Appendix Page for comments regarding this certificate *****

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To: **SUPERIOR LAKE RESOURCES LIMITED**
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SUBIACO WA 6008
AUSTRALIA

Finalized Date: 9-JAN- 2019
Account: SLRLWTDJ

CERTIFICATE OF ANALYSIS TB18327954

Sample Description	Method	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61	ME- MS61
	Analyte	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V
	Units	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	LOD	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1
1121251		74.1	0.072	5.51	0.08	12.0	22	76.8	107.0	0.23	0.63	0.95	0.264	0.98	0.3	83
1121252		69.1	0.044	4.31	0.05	12.1	17	70.7	184.5	0.72	0.40	2.56	0.271	1.03	0.8	93
1121253		76.1	0.007	3.48	0.11	16.3	14	107.5	189.5	0.28	0.55	1.29	0.323	1.15	0.5	92
1121256		32.5	0.009	2.43	0.05	13.9	9	75.8	180.5	0.19	0.52	1.28	0.335	0.37	0.3	100
1121257		55.2	0.009	2.17	0.05	17.2	6	53.0	202	0.44	0.46	1.78	0.347	0.53	0.4	110
1121258		35.2	0.005	2.46	0.05	21.2	8	83.6	218	0.50	0.39	1.88	0.415	0.63	0.6	111
1121259		43.8	<0.002	1.65	<0.05	19.1	4	47.5	225	0.27	0.23	2.08	0.356	0.43	0.5	121
1121260		43.4	0.002	7.84	204	6.3	5	7.6	52.5	0.43	0.07	3.96	0.165	4.03	1.5	40
1121261		40.9	0.006	2.06	0.25	18.0	4	30.6	229	0.33	0.51	2.19	0.354	0.42	0.5	110
1121262		28.6	<0.002	2.00	0.05	19.7	3	17.4	144.5	0.83	0.52	1.83	0.499	0.27	0.4	69
1121263		44.5	0.028	2.79	0.07	20.2	12	92.2	164.5	0.24	0.66	1.36	0.402	0.51	0.4	126
1121265		56.7	<0.002	3.12	<0.05	15.6	15	33.5	67.0	0.51	1.01	2.32	0.318	0.53	1.2	10
1121266		58.6	0.002	1.44	0.05	19.8	4	5.2	108.0	0.91	0.42	2.41	0.432	0.26	0.6	5
1121267		50.4	0.004	1.98	<0.05	18.5	5	4.2	91.2	1.09	0.49	2.21	0.418	0.23	0.5	2
1121268		34.1	0.011	1.21	<0.05	12.7	2	16.1	232	0.59	0.31	5.41	0.344	0.29	9.4	80
1121269		45.0	0.006	5.58	<0.05	15.1	22	96.4	141.0	0.21	0.53	0.87	0.375	1.27	0.3	123
1121270		75.7	0.005	1.11	0.07	14.3	4	58.6	190.0	0.21	0.18	0.97	0.366	0.87	0.3	115
1121271		3.5	<0.002	0.13	0.32	0.6	1	2.6	4.3	0.14	<0.05	0.93	0.024	0.03	0.3	4
1121272		49.9	0.018	9.37	0.07	9.8	38	164.0	47.9	1.18	0.61	1.86	0.159	1.44	1.7	39
1121273		77.6	0.007	0.95	<0.05	15.7	4	47.2	140.0	0.59	0.17	4.57	0.320	0.53	9.8	32
1121274		68.3	0.007	0.85	<0.05	13.5	3	39.7	130.5	0.50	0.14	4.25	0.277	0.48	10.2	25

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Finalized Date: 9-JAN-2019
Account: SLRLWTDJ

CERTIFICATE OF ANALYSIS TB18327954

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	Ag-OG62	Pb-OG62	Zn-OG62
	Analyte	W	Y	Zn	Zr	Ag	Pb	Zn
	Units	ppm	ppm	ppm	ppm	ppm	%	%
	LOD	0.1	0.1	2	0.5	1	0.001	0.001
1121251		0.1	8.6	>10000	62.7			2.93
1121252		0.2	9.2	>10000	79.8			2.92
1121253		0.1	11.7	7320	97.8			
1121256		0.2	13.9	3230	79.7			
1121257		0.1	22.6	760	81.6			
1121258		0.4	33.1	9970	181.0			
1121259		0.4	19.8	6400	142.0			
1121260		2.8	8.4	>10000	133.5	102	2.14	10.10
1121261		0.3	20.1	1830	134.5			
1121262		0.2	31.5	424	270			
1121263		1.0	17.7	9790	106.0			
1121265		0.5	40.0	2650	217			
1121266		0.2	33.9	76	362			
1121267		0.1	23.6	57	359			
1121268		0.3	23.2	620	160.5			
1121269		0.1	11.4	>10000	75.4			4.78
1121270		0.3	20.8	1880	75.4			
1121271		0.1	1.9	623	26.8			
1121272		0.2	23.3	>10000	50.6			10.15
1121273		0.6	54.5	602	224			
1121274		0.5	61.7	656	215			

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Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 9-JAN-2019
Account: SLRLWTDJ

CERTIFICATE OF ANALYSIS TB18327954

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

REE's may not be totally soluble in this method.
Applies to Method: ME-MS61

LABORATORY ADDRESSES

Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada

Applies to Method:	CRU-31	CRU-QC	LOG-22	LOG-24
	PUL-31	PUL-QC	SPL-21	WEI-21

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:	Ag-OG62	ME-MS61	ME-OG62	Pb-OG62
	Zn-OG62			

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To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Finalized Date: 25-FEB-2019
Account: SLRLWTDJ

CERTIFICATE TB19041470

Project: Pick Lake

This report is for 8 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 19-FEB-2019.

The following have access to data associated with this certificate:

DAN COURTNEY	DAVID WOODALL	

SAMPLE PREPARATION

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

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
Cu-OG62	Ore Grade Cu - Four Acid	
ME-OG62	Ore Grade Elements - Four Acid	ICP-AES
Zn-OG62	Ore Grade Zn - Four Acid	
Ag-OG62	Ore Grade Ag - Four Acid	
Au-AA23	Au 30g FA-AA finish	AAS

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

***** See Appendix Page for comments regarding this certificate *****

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
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To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Finalized Date: 25-FEB-2019
Account: SLRLWTDJ

Project: Pick Lake

CERTIFICATE OF ANALYSIS TB19041470

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	Cu-OG62 Cu % 0.001	Zn-OG62 Zn % 0.001	Ag-OG62 Ag ppm 1
1121275		0.10	<0.005	0.001	0.002	<1
1121276		3.92	<0.005	0.020	0.063	<1
1121277		4.13	<0.005	0.032	0.041	1
1121278		2.63	0.027	0.585	15.95	17
1121279		4.71	0.005	0.075	2.18	3
1121280		0.07	1.850	0.504	10.50	102
1121281		4.25	0.005	0.189	0.610	7
1121282		3.69	<0.005	0.126	0.184	3

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To: **SUPERIOR LAKE RESOURCES LIMITED**
SUITE 23, 513 HAY STREET
SUBIACO WA 6008
AUSTRALIA

Finalized Date: 25-FEB-2019
Account: SLRLWTDJ

Project: Pick Lake

CERTIFICATE OF ANALYSIS TB19041470

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada

Applies to Method:				
	CRU-31	CRU-QC	LOG-22	LOG-24
	PUL-31	PUL-QC	SPL-21	WEI-21

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:				
	Ag-OG62	Au-AA23	Cu-OG62	ME-OG62
	Zn-OG62			

APPENDIX 4: Expenses Breakdown

Company	Invoice Number	Date	Amount	Activity	Comments/Details
Exploratory Drilling Report					
Clark Exploration Consulting Inc.	2019-003	9-Jan-19	$50,005.25	Field Supervision, Core Logging	Drill Program Mgt. and Core Logging
Clark Exploration Consulting Inc.	2019-019	15-Feb-19	$22,571.95	Field Supervision, Core Logging	Drill Program Mgt. and Core Logging
Clark Exploration Consulting Inc.	2019-026	8-Apr-19	$31,279.52	Field Supervision, Core Logging	Drill Program Mgt. and Core Logging
CEC Total			**$103,856.72**		
Chibougamau Diamond Drilling LTD	Dep24196	23-Oct-18	$60,000.00	Diamond Drilling	Hole # PL-18-01A
"	24291	15-Nov-18	$25,330.65	Diamond Drilling	"
"	24292	15-Nov-18	$102,921.93	Diamond Drilling	"
"	24293	15-Nov-18	$8,974.46	Diamond Drilling	"
"	24323	30-Nov-18	$21,646.05	Diamond Drilling	"
"	24324	30-Nov-18	$21,853.18	Diamond Drilling	Hole # PL-18-01-W1
"	24325	30-Nov-18	$26,397.20	Diamond Drilling	"
"	24326	30-Nov-18	$28,148.13	Diamond Drilling	"
"	24327	30-Nov-18	$34,483.93	Diamond Drilling	"
"	24328	30-Nov-18	$19,464.96	Diamond Drilling	"
"	24378	19-Dec-18	$26,865.64	Diamond Drilling	"
"	24379	19-Dec-18	$20,493.06	Diamond Drilling	Hole # PL-18-01-W2
"	24380	19-Dec-18	$23,159.41	Diamond Drilling	"
"	24381	19-Dec-18	$27,610.53	Diamond Drilling	"
"	24382	19-Dec-18	$15,798.53	Diamond Drilling	"
"	24383	19-Dec-18	$41,783.73	Diamond Drilling	Hole # PL-18-01-W3
"	24384	19-Dec-18	$16,340.34	Diamond Drilling	"
"	24399	15-Jan-19	$15,565.98	Diamond Drilling	"
"	24400	15-Jan-19	$21,093.57	Diamond Drilling	"
"	24401	15-Jan-19	$34,545.04	Diamond Drilling	"
"	24402	15-Jan-19	$17,392.68	Diamond Drilling	"
"	24419	31-Jan-19	$23,187.52	Diamond Drilling	"
"	24421	31-Jan-19	$18,172.07	Diamond Drilling	"
"	24423	31-Jan-19	$17,756.26	Diamond Drilling	"
"	24420	31-Jan-19	$31,740.01	Diamond Drilling	"
"	24422	31-Jan-19	$29,393.93	Diamond Drilling	"
"	24424	31-Jan-19	$2,216.67	Diamond Drilling	"

Company	Invoice Number	Date	Amount	Activity	Comments/Details
"	24482	15-Feb-19	$23,303.56	Diamond Drilling	"
"	24483	15-Feb-19	$10,466.06	Diamond Drilling	"
"	24484	15-Feb-19	$25,724.68	Diamond Drilling	"
"	24485	15-Feb-19	$33,115.17	Diamond Drilling	"
"	24486	15-Feb-19	$14,052.12	Diamond Drilling	"
"	24487	15-Feb-19	$14,714.01	Diamond Drilling	"
"	24508	28-Feb-19	$23,214.49	Diamond Drilling	"
"	24509	28-Feb-19	$21,436.98	Diamond Drilling	Hole # PL-18-01-W4
"	24510	28-Feb-19	$33,965.68	Diamond Drilling	Hole # PL-18-01-W5
"	24511	28-Feb-19	$16,637.56	Diamond Drilling	"
"	24512	28-Feb-19	$9,873.46	Diamond Drilling	"
"		31-Mar-19	-$59,347.86	Diamond Drilling	"
"		3-Apr-19	-$5,525.00	Diamond Drilling	"
"		3-Apr-19	-$9,945.50	Diamond Drilling	"
Chibougamau Total			**$884,020.87**		
ALS Canada Ltd	4560484	11-Dec-18	$334.67	Assays	
ALS Canada Ltd	4583454	9-Jan-19	$1,030.53	Assays	
ALS Canada Ltd	4616519	28-Jan-19	$90.50	Assays	
ALS Canada Ltd	4642340	25-Feb-19	$874.31	Assays	
ALS Canada Ltd Total			**$2,330.01**		
$990,207.60					