ASX Announcement
ASX: SUP
28 August 2019
superiorlake.com.au

Superior Lake Declares Maiden Ore Reserve

Highlights

- **Superior Lake Ore Reserve – 1.96 million tonnes at 13.9 % Zn, 0.6% Cu, 0.2 g/t Au and 26.2g/t Ag**
- **The Bankable Feasibility Study, which supports this Ore Reserve, is based on a production schedule consisting of 93% material classified as Ore Reserve and 7% material classified as an Inferred Mineral Resource**

Superior Lake Resources Limited (ASX: SUP) ("Superior Lake" or the **"Company")** is pleased to announce its maiden Ore Reserve estimate for its Superior Lake Zinc Project ("**Project**") in Ontario, Canada. The Ore Reserve estimate is reported in accordance with JORC Code (2012) and incorporate the results of a Bankable Feasibility Study ("**BFS**" or the "**Study**"), the results of which are being released contemporaneously with the Ore Reserve. With the exception of the mined tonnes and grade, the information included in this announcement, including forecast financial information, is consistent with the data of the BFS.

The Ore Reserves assume that the Project commences at a throughput of 1,000 tonnes per day with a nine-year mine life, based on the mine design generated in the BFS. The mine design utilised extensive underground optimisation work, inclusive of geotechnical inputs, ground conditions, metallurgical testwork, environmental studies and detailed mine scheduling. Mining costs were based on an estimate completed by Perth based mining consultant Orelogy Consulting and referenced against several Schedule of Rates received from selected international and local mining contractors in Canada. Plant and General and Administration costs were completed by Perth based Primero and based on quotes received from multiple suppliers as part of the BFS enquiry process. Ore Reserves are reported above an average NSR cut-off grade of U$98/t (equivalent to 5.2% Zn).

Table 1: Superior Lake Maiden Ore Reserve

Superior Lake Ore Reserve					
Classification	**Tonnage Mt**	**Zn%**	**Cu%**	**Au g/t**	**Ag g/t**
Probable	1.96	13.9	0.6	0.2	26.2
Total	**1.96**	**13.9**	**0.6**	**0.2**	**26.2**

The Ore Reserves exclude a mining loss of 5%, and include all resources above the defined cut-off grade, within the Indicated Mineral Resource category.

The Mineral Resources (see Table 5) underpinning the Ore Reserves have been prepared in accordance with the JORC Code (2012) by independent resource consultant MASSA Geoservices as part of the BFS.

The Ore Reserves have been prepared and reported in accordance with the JORC Code (2012) by Mr Benjamin Wilson of Orelogy (Perth), the BFS mining consultant. Specific mine planning aspects, relating to the application of the modifying factors, taking into account guidance from other BFS consultants were provided by Mr Alex Barry of Primero (Perth) and Mr Chris Dougherty of Nordmin Engineering (Canada). The Competent Person statements and the relevant responsible persons, for the group Ore Reserve sign-off, are compiled below.

SUMMARY OF ORE RESERVE ESTIMATE AND REPORTING CRITERIA

The following is a summary of the relevant information used in the estimation of the Ore Reserves with full details provided in Table 1, Checklist of Assessment and Reporting Criteria for the Superior Lake Project, included as Appendix 1. This announcement has been prepared in compliance with the JORC Code (2012) and the ASX Listing Rules.

Material Assumptions

The material assumptions which support the Ore Reserve Estimate are based on the BFS results which are to be presented in the announcement entitled 'Bankable Feasibility Study confirms Robust Project' dated 28th August 2019. The assumptions specific to the Ore Reserve estimation are summarised below and are further disclosed within Table 1 included as Appendix 1 to this announcement.

Criteria Used for the Classification of Ore Reserve

Ore Reserves were estimated only on the Indicated portion of the Mineral Resource Estimate. The average cut-off grade applied was 5.2% Zn. The Ore Reserve was achieved by creating a mining block model from the resource model and then generating a detailed mine design and mining schedule. The mining schedule includes mining loss, with a calculated average mine dilution of 31% incorporated in the model. The Ore Reserves have been classified as Probable based on guidelines specified in JORC Code (2012).

Mining Method and Assumptions

The mine will consist of an underground operation using conventional longhole stoping with introduced paste fill, adopting 15m sublevel intervals where the ore thickness is less than 3m and 20m sublevels in the wider ore zones. Ore and waste will be hauled to the surface by a fleet of 40 tonne haul trucks. Development will be completed using jumbo drills with the surface ramp profile planned to be 5.0mW x 5.5mH with all other waste development through a 4.5mW x 4.5mH profile heading. Ore development will incorporate a "shanty back" profile with the blasting of the heading incorporating a resue blasting process of the waste being fired first then after a delay the ore blasted to minimise dilution. Stope drill and blast will be done using a longhole drill between the developed sublevels. Mining costs were based on an estimate completed by Perth based mining consultant Orelogy Consulting, and referenced against several Schedule of Rates received from selected international and local mining contractors in Canada.

Processing Method and Assumptions

The Company undertook confirmatory comminution and flotation testwork on sample of core collected from the diamond drill program completed in 2018 into the mid-Pick ore. The results were similar to those seen in the historical production data. Recovery and concentrate values are based on a combination of historical operating data from when Pick was an operating mine, the plant performance when treating the test stope from lower Pick and the current metallurgical testwork.

The flowsheet developed for the process consists of the following stages:

- Single stage crushing of ROM
- Single-stage milling (SAG)

- Copper conditioning and flotation (with regrind of rougher concentrate)
- Zinc conditioning and flotation (with regrind of rougher concentrate)
- Concentrate filtration
- Product loading into seatainers

The process is similar to the plant that was previously installed on the site with the exception of the SAG mill replacing the rod and ball mill previously used. The SAG mill provides some benefits with regard to reduced amount of equipment and lower cost without comprising performance.

The plant has been sized initially for 325,000tpa mill feed, but arranged such that a doubling up in throughput by duplicating the main equipment can be relatively easily undertaken.

Cut-off Grades

Due to the presence of multiple revenue-generating elements in the volcanogenic massive sulphide orebody, a Net Smelter Return (NSR)-style calculation was made. The NSR takes into account all the revenue from all saleable metals (accounting for payability limits for Au and Ag), as well as all sale-related costs and effects (transport loss, freight costs, royalties, etc.). The NSR then gives a revenue net of all selling and transport costs.

NSR was coded into the Mining Block Model as a grade field, and this was used for all cut-off calculations. An NSR Cut-off Grade (COG) was calculated for each mining area to account for changes in filling methods, haulage distances and level intervals. The COG for each mining area was estimated by considering all mining, process, backfill, site services, and G&A costs, as summarized in Table 2 below.

Table 2. Cut-off grade by mining area

Mining Areas	COG – U$/t
Pick Upper	$77
Pick Middle A	$87
Pick Middle B	$97
Pick Lower A	$107
Pick Lower B	$107
Pick Lower C	$112

Inventories for each area were estimated and formed the basis for detailed design and scheduling.

Estimation Methodology

Detailed mine designs were undertaken in the Deswik CAD mining software package, incorporating all available geotechnical and practical considerations.

The mining method selected for Pick Lake was longhole stoping with fill, relying principally upon Cemented Paste Backfill (CPB) after stopes are mined. Where practicable, rockfilling has been utilized to minimize waste haulage to surface. Open stoping is used in some upper mine areas to reduce operating costs, with island pillars designed for stability reducing mining recovery. These methods are considered appropriate, as they provide a good balance of economic recovery of the resource, cost minimisation, and safety.

Stope designs were undertaken based upon Hydraulic Radius estimates derived from historical geotechnical analysis and test stope work, and reviewed by MDEng as part of the BFS.

Other Material Modifying Factors

Metallurgical factors or assumptions

Recovery numbers were based on 11 years of historical operations at Winston Lake and testwork undertaken by the Company at SGS Canada on core samples collected from the 2018 drill program. Based on the reviews of the metallurgical reports and the original system design descriptions, Primero have developed a slightly revised flowsheet, taking advantage of newer equipment available. Metallurgical recoveries used in the BFS are summarised in Table 3 below:

Table 3. Average recoveries

Metal	Average Recovery
Zinc	96%
Copper	77%
Gold (reporting to Cu conc)	32%
Silver (reporting to Cu conc)	36%

Environmental

The Company has commenced the permitting process required in Ontario for the permitting of the development of a mineral project. The permitting of the Superior Lake Project has the benefit of the Winston Lake Mine having permits in place inclusive of an environmental certificate of approval (ECA) and a Closure Plan, both will revert to Superior once the option agreement with First Quantum Minerals Limited ("**FQML**") is exercised.

Superior Lake is progressing the environmental and permitting requirements with completion expected by Q2 2020. To date all environmental permits and approvals are in good standing.

Infrastructure

The Company, Nordmin Engineering and Wood Canada have reviewed the infrastructure on site. The Superior Lake Project has an all-weather road, a live 115kV powerline, a tailings dam facility, freshwater dam, two vertical shafts and underground development adjacent to the resource proposed to be mined.

Capital costs

The capital estimate is considered to have an accuracy of -10/+15%. A ~9.5% contingency has been added to the total of the direct and indirect costs for the estimate summary to account for any potential shortcoming in the data and information that was collected during the execution of this study.

All equipment has been assumed to be purchased new, as OEM systems, rather than used. As such, opportunities may exist to reduce capital by sourcing reconditioned gear. The cost estimates have been developed using past project experience, the engineers project cost database and manufacture/supplier budget pricing for major plant and equipment.

Operating costs

Operating costs include all costs associated with mining, processing, general site administration, and treatment charges and transport of concentrate. These costs were calculated from first principles and where applicable referenced against similar size and types operations as a check. Mining costs were estimated at US$53.3/t, plant and admin labour costs of US$5.5M per annum, processing at US$14.2/t, and G&A costs at US$2.8M per annum. The treatment charge was US$130/t concentrate for zinc and USD$ 95/t concentrate for copper. Concentrate transport was USD$40/t.

Revenue factors

Revenue used consensus long term zinc price of USD$2,690/t, USD$6,600/t for copper, USD$1400/oz gold and USD$18/oz silver. Payables for the zinc were 90%, copper 96%, gold 94%, and silver 90%.

Schedule and Project timing

The next stage of the project development commences with the value engineering phase (optimization study) and then subject to the decision to mine moves into the construction phase which is planned to commence in Q2 2020, with first ore occurring in Q3 2021. Full production is estimated to be complete in Q4 2022 following an 18 month ramp up.

Market assessment

The concentrate deficit as a result of mine closures and production cuts in 2015 and 2016 along with the increasingly stringent environmental oversight in China is forecast to be balanced by 2020. This recovery is reliant to the four major projects (Dugald River, New Century, Gamsberg, and Glencore's Australian assets) that are forecast to ramp up over the next 1 to 2 years. The underlying metal prices reflect the supply and demand conditions and the market sentiment. Superior has used consensus price forecasts when estimating revenue generated by the Superior Lake Project.

Funding

To achieve the range of outcomes indicated in the BFS, funding in the order of US$100 million will likely be required for capital works, pre-production capital costs, contingency and working capital. It is anticipated that project finance will be sourced from a combination of equity and debt instruments from existing shareholders, new equity investment and debt providers from Australia and overseas.

The Board believes that there is a reasonable basis to assume that funding will be available to finance the pre-production activities necessary to commence production on the following basis:

- the Board and executive team have a strong financing track record in developing resource projects;
- the Company believes that the BFS demonstrates the Superior Lake Project's strong potential to deliver a favourable economic return;
- the Company has a proven ability to attract new capital. It successfully completed a placement of 142,857,143 new ordinary shares to raise $5 million at $0.035 per share in August 2018 ("**August 2018 Placement**"). The Company has used these funds from the August 2018 Placement to complete the BFS and for general working capital. In July 2019, the Company successfully completed the placement of 216,363,122 fully paid ordinary shares at an issue price of $0.0175 per share to raise A$3.8 million (before costs) ("**July 2019 Placement**").
- pursuant to a financing process being managed by Orimco Resource Investment Advisers ("**Orimco**"), the Company has received multiple non-binding indicative proposals for financing the development of the Project. These proposals relate to senior debt and range between US$50m and US$70m;
- Tribeca Investment Partners acted as a cornerstone investor in the August 2018 Placement and is supportive of the Company's strategy. As at the date of this announcement, Tribeca holds a 6.72% interest in the Company's issued capital;
- the Company is confident its brownfield exploration program will add additional resources beyond the existing Mineral Resource estimate;
- the positive financial metrics of the Superior Lake Project and the underlying demand growth for zinc; and

- other companies at a similar stage in development have been able to raise similar amounts of capital in recent capital raisings.

The Board believes that there is a reasonable basis to assume funding will be available to construct the operation once the decision to mine has been made.

Economic parameters

The BFS has been completed with a -10%/+15% accuracy. A discount rate of 8% has been used for financial modelling. This number was selected as a generic cost of capital and is considered as a prudent and suitable discount rate for project funding and economic forecasts in Canada. The model has been run as a life of mine model and includes all project level operating costs as well as sustaining capital costs. The Study outcome was tested for key financial inputs including: price, operating costs, capital costs and grade. All these inputs were tested for variations of +/- 10% and +/- 20%.

Exchange rate

Estimates in this announcement are presented in USD unless otherwise stated.

Community and Social Responsibility

In Ontario the permitting required for a mineral development project generally occurs in three phases, Development, Operations, and Closure, Reclamation and Monitoring. The permitting of the Project has the benefit of the Winston Lake Mine having permits in place inclusive of an environmental certificate of approval (ECA) and a Closure Plan, both of which will revert to Superior once the option agreement with FQML is exercised.

Any mineral development project must include consultation with Aboriginal communities, the general public and private interests (e.g. tourism, environmental organizations, local taxpayer's organization, etc.). Superior Lake has commenced the consultation process in conjunction with the ministry of Energy, Northern Development and Mines (ENDM).

Other

Other risks to the project relate to metal prices, social license, and other similar risks of resource projects.

Competent Person's Statement

Mineral Resources

The information contained in this announcement that relates to the exploration results and mineral resource estimates is based on, and fairly reflects, information compiled by Dr Marat Abzalov, an independent consultant for MASSA Geoservices. Dr Marat Abzalov is a Fellow of the Australian Institute of Mining and Metallurgy and was engaged as a consultant to Superior Lake Resources to complete the JORC (2012) resource. Dr Abzalov has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code of Reporting of Exploration Results, Mineral Resourced and Ore Reserves'. Dr Abzalov consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Dr Abzalov holds securities in Superior Lake Resources Limited.

Ore Reserves

The information in this report that relates to Ore Reserves is based on, and fairly reflects, information compiled by Mr Benjamin Wilson, a Competent Person, who is an employee of Orelogy Consulting Pty Ltd and a Member of the Australian Institute of Mining and Metallurgy. Mr Wilson has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Wilson consents to the disclosure of information in this report in the form and context in which it appears.

About the Company

Superior Lake Resources Limited

Superior Lake Resources Limited is focused on the redevelopment of the Superior Lake Zinc Project in North Western Ontario, Canada. The Project is a high-grade zinc deposit with a JORC resource of 2.35 Mt at 17.7% Zn, 0.9% Cu, 0.38 g/t Au and 34 g/t Ag[1] and a Probable Ore Reserve of 1.96Mt at 13.9% Zn, 0.6%Cu, 0.2g/t Au and 26.2g/t Ag.

Table 5. Superior Lake Mineral Resource

Superior Lake Mineral Resource at 3% Zn cut-off grade					
Classification	**Tonnage Mt**	**Zn%**	**Cu%**	**Au g/t**	**Ag g/t**
Indicated	2.07	18.0	0.9	0.38	34
Inferred	0.28	16.2	1.0	0.31	37
Total	**2.35**	**17.7**	**0.9**	**0.38**	**34**

Table 6. Superior Lake Ore Reserve

Superior Lake Ore Reserve					
Classification	**Tonnage Mt**	**Zn%**	**Cu%**	**Au g/t**	**Ag g/t**
Probable	1.96	13.9	0.6	0.2	26.2
Total	**1.96**	**13.9**	**0.6**	**0.2**	**26.2**

To learn more about the Company, please visit www.superiorlake.com.au, or contact:

David Woodall	Chief Executive Officer	+61 8 6117 0479

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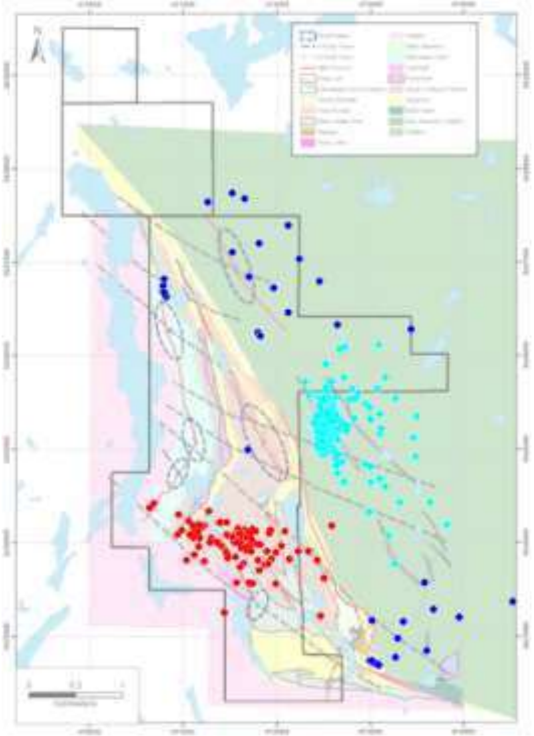
[1] ASX announcement 7 March 2019 “Increase in Superior Lake Mineral Resource”. Superior Lake confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 7 March 2019 and that all material assumptions and technical parameters underpinning the Mineral Resource estimate in the announcement of 7 March 2019 continue to apply and have not materially changed.

Appendix 1 – JORC (2012) Table1

Portions of the JORC Code (2012) Table 1 have been previously filed for the Mineral Resource Estimate and are included here for completeness.

Section 1 Sampling Techniques and Data

Criteria	Explanation	Commentary
Sampling Techniques	*Nature and quality*	• Sampling of the Pick Lake and Winston Lake deposits has been carried out using diamond drilling that was carried out during the period of mining operations from 1988 to January 1999. Verification of the sampled intervals was made by Superior Lake Resources in 2018. In 2019 additional 3 diamond core drillholes were drilled. • There is a total of 1,810 surface and underground drillholes in the database compiled by the Superior Lake Resources, including 247 drillholes drilled at Pick Lake, 1,508 drillholes drilled at Winston Lake and 55 exploration drillholes (Fig. A1.1). • Historic sampling was typically carried out using half cut core. • Historic core for two holes was accessed at the Ontario Ministry of Northern Development and Mines (NMDM) in Thunder Bay. This core  *Fig.A1.1: Map of the project area showing distribution of the drill holes. Red – Pick Lake deposit data, light blue – Winston Lake deposit data, dark blue – exploration drill holes*

Criteria	Explanation	Commentary
		comprised half core samples over continuous lengths of typical Winston Lake mineralisation. This core was resampled using quarter core sampling for QAQC analyses in order to compare historic assays with modern assays. • Sampling of the core is considered to be to industry standards for this type of deposit.
	Aspects of the determination of mineralisation that are Material to the Public Report.	• The determination of mineralisation has been by a combination of geological observations (logging and mapping) in conjunction with assay results from the surface and underground database. • Information from mine level plans and cross-sections along with reports and studies was used to compile a 3D geological model (wireframes) of the VMS system at Pick and Winston. This was used as the framework for the mineralisation models.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or*	• All drilling completed at both Pick Lake and Winston Lake was diamond drilling which has been drilled from both surface or underground. The resource is defined by a total of 215,397.7m of drilling in 1,755 holes. • Pick Lake: No. and total metres surface holes 45 holes for 32,531m • Pick Lake: No. and total metres underground holes 202 holes for 28,990m • Winston: No. and total metres surface holes 57 holes for 9,307.7m • Winston: No. and total metres underground holes 1,451 holes for 144,768.6m • Core size recorded as either BQ, TT46, LTK46, AW34, or AQTK.
	Aspects of the determination of mineralisation that are Material to the Public Report.	• The determination of mineralisation has been by a combination of geological observations (logging and mapping) in conjunction with assay results from the surface and underground database. • Information from mine level plans and cross-sections along with reports and studies was used to compile a 3D geological model (wireframes) of the VMS system at Pick and Winston. This was used as the framework for the mineralisation models.
Drilling	*Drill type (e.g. core, reverse*	• All drilling completed at both Pick Lake and Winston Lake was diamond drilling which has been drilled from both

<table>
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<tr><td><i>techniques</i></td><td><i>circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so by what method, etc.).</i></td><td>surface or underground. The resource is defined by a total of 215,397.7m of drilling in 1,755 holes.
• Pick Lake: No. and total metres surface holes 45 holes for 32,531m
• Pick Lake: No. and total metres underground holes 202 holes for 28,990m
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<table>
<tr><th>Core Size</th><th>Diameter (mm)</th></tr>
<tr><td>BQ</td><td>36.5</td></tr>
<tr><td>TT46</td><td>35.3</td></tr>
<tr><td>LTK46</td><td>35.6</td></tr>
<tr><td>AW34</td><td>33.5</td></tr>
<tr><td>AQTK</td><td>30.5</td></tr>
</table></td></tr>
<tr><td><i>Drill Sample Recovery</i></td><td><i>Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></td><td>• Inspection of core at the Ministry of Northern Development and Mines (MNDM) in Thunder Bay and at the core shack on site showed high core recoveries estimated at >98%.
• No selective core losses have been reported in the drill logs and not observed when drill core was examined at the MNDM core storage facilities.</td></tr>
<tr><td><i>Logging</i></td><td><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></td><td>• Detailed drill logs were recovered from archives in Schreiber, Ontario. Data from these logs were entered into an Excel spreadsheet, subjected to QAQC and manual error correction and then uploaded into an Access database. Subsequent loading errors in 3D mining software were then corrected. The dataset is considered to be acceptable for use in Mineral Resource estimation by the Competent Person.</td></tr>
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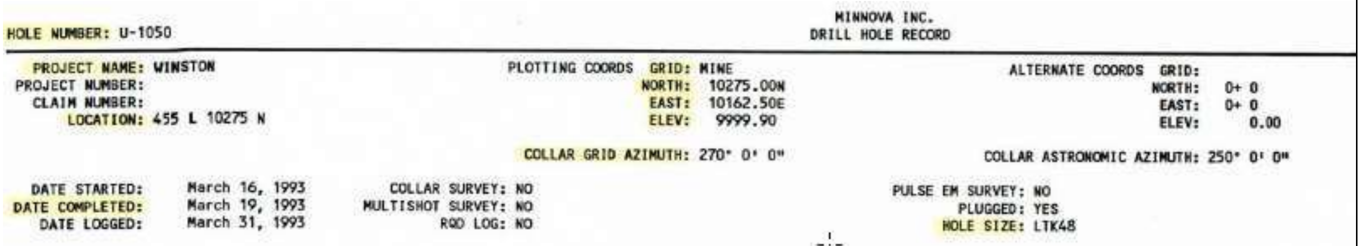
Example of Historic Data Header Sheet:



MINNOVA INC.
DRILL HOLE RECORD
HOLE NUMBER: U-1050

PROJECT NAME: WINSTON
PROJECT NUMBER:
CLAIM NUMBER:
LOCATION: 455 L 10275 N

PLOTTING COORDS GRID: MINE
NORTH: 10275.00N
EAST: 10162.50E
ELEV: 9999.90
COLLAR GRID AZIMUTH: 270° 0' 0"

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00
COLLAR ASTRONOMIC AZIMUTH: 250° 0' 0"

DATE STARTED: March 16, 1993
DATE COMPLETED: March 19, 1993
DATE LOGGED: March 31, 1993

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: YES
HOLE SIZE: LTK48

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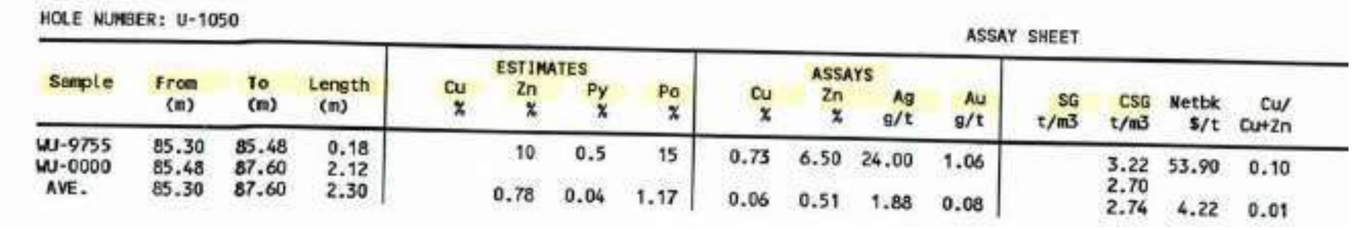
<tr><td></td><td></td><td>

Example of Historic Data Assay Sheet:



HOLE NUMBER: U-1050
ASSAY SHEET

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<tr><th>Sample</th><th>From (m)</th><th>To (m)</th><th>Length (m)</th><th>Cu %</th><th>Zn %</th><th>Py %</th><th>Po %</th><th>Cu %</th><th>Zn %</th><th>Ag g/t</th><th>Au g/t</th><th>SG t/m3</th><th>CSG t/m3</th><th>Netbk $/t</th><th>Cu/ Cu+Zn</th></tr>
<tr><td>WU-9755</td><td>85.30</td><td>85.48</td><td>0.18</td><td></td><td>10</td><td>0.5</td><td>15</td><td>0.73</td><td>6.50</td><td>24.00</td><td>1.06</td><td></td><td>3.22</td><td>53.90</td><td>0.10</td></tr>
<tr><td>WU-0000</td><td>85.48</td><td>87.60</td><td>2.12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.70</td><td></td><td></td></tr>
<tr><td>AVE.</td><td>85.30</td><td>87.60</td><td>2.30</td><td></td><td>0.78</td><td>0.04</td><td>1.17</td><td>0.06</td><td>0.51</td><td>1.88</td><td>0.08</td><td></td><td>2.74</td><td>4.22</td><td>0.01</td></tr>
</table>

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- Detailed drill logs were recovered from archives in Schreiber, Ontario. Data from these logs were entered into an Excel spreadsheet, subjected to QAQC and manual error correction and then uploaded into an Access database.
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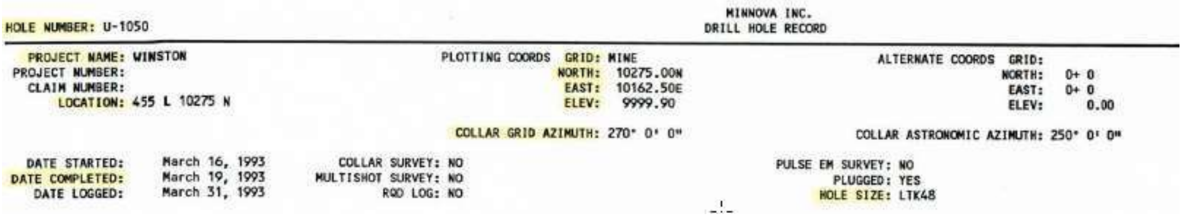

MINNOVA INC.
DRILL HOLE RECORD
HOLE NUMBER: U-1050

PROJECT NAME: WINSTON
PROJECT NUMBER:
CLAIM NUMBER:
LOCATION: 455 L 10275 N

PLOTTING COORDS GRID: MINE
NORTH: 10275.00N
EAST: 10162.50E
ELEV: 9999.90
COLLAR GRID AZIMUTH: 270° 0' 0"

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00
COLLAR ASTRONOMIC AZIMUTH: 250° 0' 0"

DATE STARTED: March 16, 1993
DATE COMPLETED: March 19, 1993
DATE LOGGED: March 31, 1993

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

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PLUGGED: YES
HOLE SIZE: LTK48

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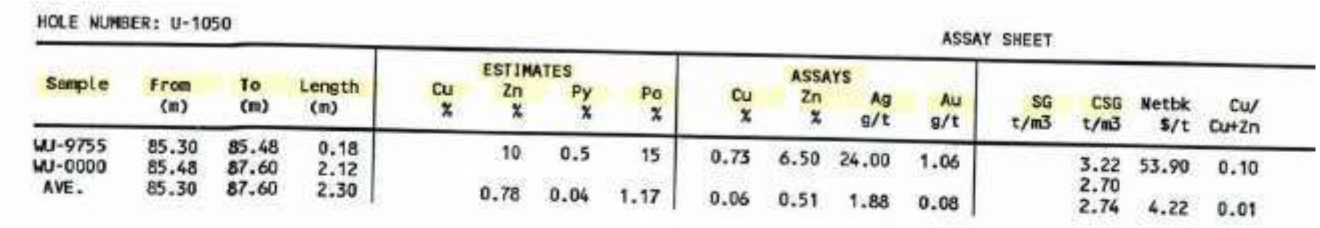
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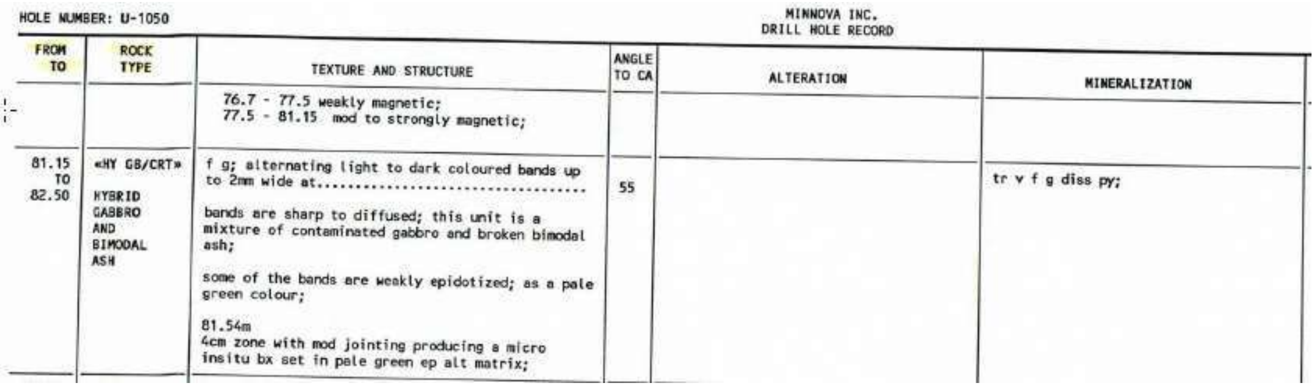
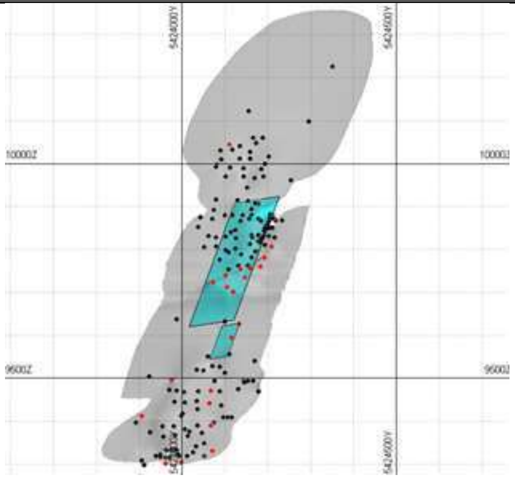
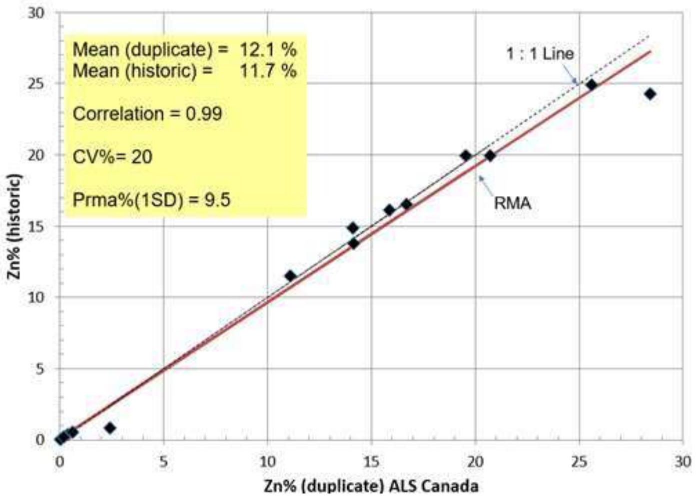
<table>
<tr><th>Sample</th><th>From (m)</th><th>To (m)</th><th>Length (m)</th><th colspan="4">ESTIMATES</th><th colspan="4">ASSAYS</th><th>SG t/m3</th><th>CSG t/m3</th><th>Netbk $/t</th><th>Cu/ Cu+Zn</th></tr>
<tr><th></th><th></th><th></th><th></th><th>Cu %</th><th>Zn %</th><th>Py %</th><th>Po %</th><th>Cu %</th><th>Zn %</th><th>Ag g/t</th><th>Au g/t</th><th></th><th></th><th></th><th></th></tr>
<tr><td>WU-9755</td><td>85.30</td><td>85.48</td><td>0.18</td><td></td><td>10</td><td>0.5</td><td>15</td><td>0.73</td><td>6.50</td><td>24.00</td><td>1.06</td><td></td><td>3.22</td><td>53.90</td><td>0.10</td></tr>
<tr><td>WU-0000</td><td>85.48</td><td>87.60</td><td>2.12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.70</td><td></td><td></td></tr>
<tr><td>AVE.</td><td>85.30</td><td>87.60</td><td>2.30</td><td></td><td>0.78</td><td>0.04</td><td>1.17</td><td>0.06</td><td>0.51</td><td>1.88</td><td>0.08</td><td></td><td>2.74</td><td>4.22</td><td>0.01</td></tr>
</table>
</td></tr>
<tr><td></td><td><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i></td><td>
Drill core has been geologically logged to a high standard and includes lithology descriptions, texture, structure, alteration, sulphide percentages, colour, and grainsize.
<i>Example of Historic Data Geological Log Sheet:</i>

HOLE NUMBER: U-1050
MINNOVA INC.
DRILL HOLE RECORD
<table>
<tr><th>FROM TO</th><th>ROCK TYPE</th><th>TEXTURE AND STRUCTURE</th><th>ANGLE TO CA</th><th>ALTERATION</th><th>MINERALIZATION</th></tr>
<tr><td></td><td></td><td>76.7 - 77.5 weakly magnetic;
77.5 - 81.15 mod to strongly magnetic;</td><td></td><td></td><td></td></tr>
<tr><td>81.15 TO 82.50</td><td>«HY GB/CRT»
HYBRID GABBRO AND BIMODAL ASH</td><td>f g; alternating light to dark coloured bands up to 2mm wide at.................................
bands are sharp to diffused; this unit is a mixture of contaminated gabbro and broken bimodal ash;
some of the bands are weakly epidotized; as a pale green colour;
81.54m
4cm zone with mod jointing producing a micro insitu bx set in pale green ep alt matrix;</td><td>55</td><td></td><td>tr v f g diss py;</td></tr>
</table>
</td></tr>
<tr><td></td><td><i>The total length and percentage of the relevant intersections logged.</i></td><td>100% of the core has been geologically logged.</td></tr>
<tr><td><i>Sub-sampling techniques and sample preparation</i></td><td><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></td><td>Sub-sampling protocols of the historic data are not available.
Recent analysis of the duplicate samples has confirmed a good repeatability of the historic assays, confirming that historic data are lacking of biases (Fig.A1.3)</td></tr>
</table>

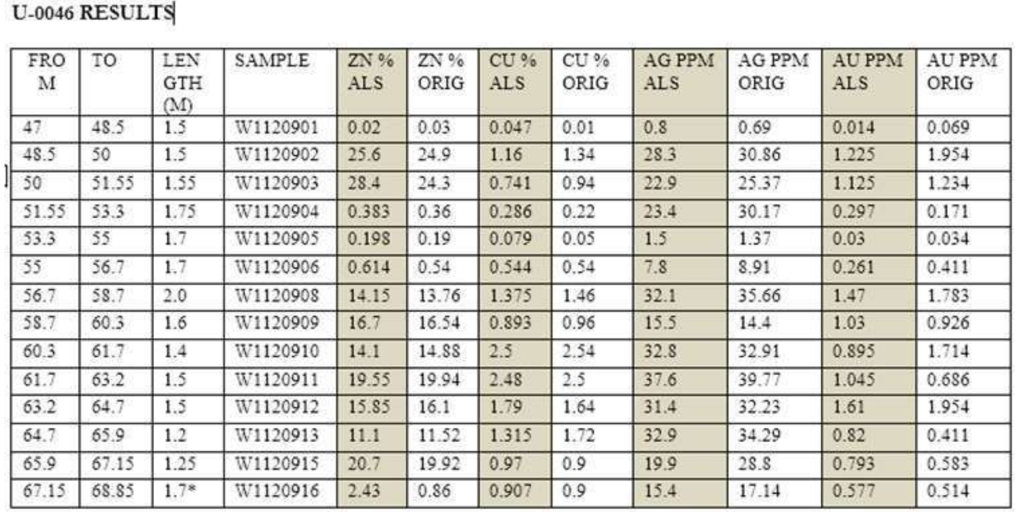
Criteria	Explanation	Commentary
		- Good repeatability of the historic data expressed as insignificant scatter of the data points around the first bisect (1:1 line) on the diagram (Fig.A1.3) confirms that sub-sampling protocols were appropriate for this style of mineralisation.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether	- All sampling was carried with diamond core
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	- All sample preparation, related to the historic data, was made in the two external laboratories: Swastika Laboratories (Swastika, Ontario) and Metric Lab (Thunder Bay, Ontario) that have followed standard procedures of the Canadian mining industry standards developed for the base metal mineralisation.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	- The archive data does not contain QAQC information, however, the good consistency of the assay data of historic sampling suggests that standard QAQC procedures were adopted in the past assuring quality of the samples. - Standard quality control procedures used by the Canadian analytical laboratories includes assessment of quality of the comminution. This is made by test screening of the selected samples and estimating the percentage of material passed through the screen assuring that this is matching to the established protocol. These procedures were used during the recent drilling by Superior Lake and it is assumed that similar procedures were used through the course of the Project. Good repeatability of the historic data expressed as insignificant scatter of the data points around the first bisect (1:1 line) on the diagram (Fig.A1.3) confirms that sub-sampling protocols were appropriate for this style of mineralisation.
	Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling	- The use of diamond core drillholes is considered to provide representative samples of the in-situ mineralisation, particularly the true thickness (sampling was done to geological boundaries). - Significant part of the samples was collected using underground drilling that provides optimal intersections with mineralisation, commonly close to 90°
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Two external laboratories used historically: Swastika Laboratories (Swastika, Ontario) and Metric Lab (Thunder Bay, Ontario). - It is assumed that the quality of assays is compliant with the standards of Canadian industry at the time when Pick Lake and Winston Lake deposits were explored and mined. Appropriateness of the assaying and laboratory procedures that was historically used can be inferred from the fact of successful mining of these deposits and no reconciliation issues were identified in the archive documentation. Good repeatability of the historic data expressed as insignificant scatter of the data points around the first bisect (1:1 line) on the diagram (Fig.A1.3) confirms that sub-sampling protocols were appropriate for this style of mineralisation. A total of 64 samples were used which is

Criteria	Explanation	Commentary
		representative.

	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	• Down-hole EM (DHEM) survey has been undertaken by Superior Lake in 2019 that has confirmed continuity of the Zn-Cu mineralisation between Upper and Lower Pick domains (Fig. A1.2).
		• The survey details are as follows:
		    • Digital receiver: DigiAtlantis, s/n 130 Tx synchronization: GPS
		    • Integration time: 4 cycles of 128 stacks
		    • Start of integration: 90 µs from end of turn off
		    • Number of gates: 36, geometrically spaced
		    • Additional delay: 0 µs
		    • Power line filter: 60 Hz
		• Transmitter: TerraScope, PRO5U, s/n 8NF
		• Power supply: Voltmaster 13000 long run generator
		• Maximal output: 18 kW or 38 A or 400 V Transmitted signal: bipolar wave, 50% duty cycle Repetition rate: 1 Hz (T/4 = 250 ms)
		• The DigiAtlantis probe was synchronized with the TerraScope transmitter using a EMIT Transmitter Controller with GPS timing.
		• The transmitter energized a loop measuring roughly 1200m x 1500m. Readings taken at 10m intervals down-hole from 30m to EOH.
		• Data were modelled using the program Maxwell distributed by Electromagnetic Imaging Technology which implements a variant of the current ribbon approximation for the EM response of a plate-like conductor devised by Lamontagne et al (1998).
		• Lamontagne, Y., Macnae, J., Polzer, B., 1998. Multiple conductor modelling using program Multiloop. 58th Ann. Mtg. of Soc. Exploration Geophysics, Expanded Abstracts.

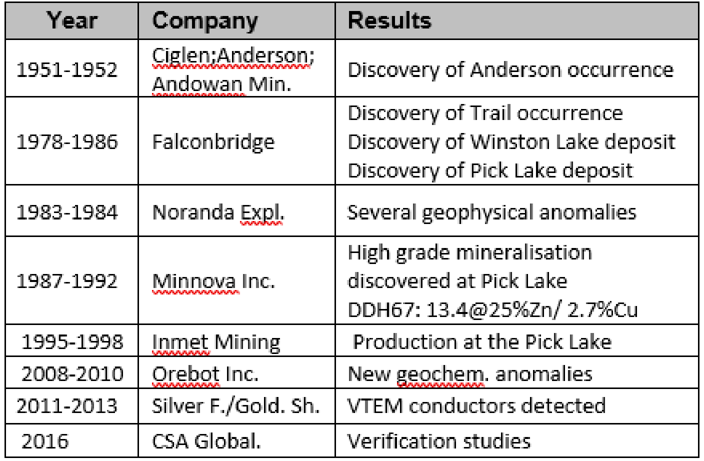
Criteria	Explanation	Commentary
		 *Fig. A1.2: The conductive plates (blue polygons) which have been identified by the DHEM survey undertaken by Superior Lake Resources with an aim to confirm continuity of VMS mineralisation between Upper Pick and Lower Pick domains*
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established	• The archive data does not contain QAQC information, however, the good consistency of the assay data of historic sampling suggests that standard QAQC procedures were adopted in the past assuring quality of the samples. • Recent analysis of the duplicate samples has confirmed a good repeatability of the historic assays, confirming that historic data are lacking of biases (Fig.A1.3) • Good repeatability of the historic data expressed as insignificant scatter of the data points around the first bisect (1:1 line) on the diagram (Fig.A1.3) confirms that sub-sampling protocols were appropriate for this style of mineralisation.

Criteria	Explanation	Commentary
		 Fig.A1.3: *Duplicate samples analysis confirming the validity of the historic data*
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	• Superior Lake submitted 64 drill core samples from historic drilling to ALS Canada Ltd Laboratories (preparation done at Thunder Bay, analysis done in Vancouver) as an independent check in June 2018. Samples were quarter core, crushed to 70% passing 2mm, and pulverised to 85% passing <75um. Analysis for Zn and Cu were carried out using Inductively Coupled Plasma- Atomic Emission Spectroscopy (ICP-AES), Au by 30gram Fire Assay with an Atomic Absorption Spectroscopy finish, Ag was by Aqua Regia with an AAS finish.

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>

U-0046 RESULTS
<table>
<tr><th>FROM</th><th>TO</th><th>LENGTH (M)</th><th>SAMPLE</th><th>ZN % ALS</th><th>ZN % ORIG</th><th>CU % ALS</th><th>CU % ORIG</th><th>AG PPM ALS</th><th>AG PPM ORIG</th><th>AU PPM ALS</th><th>AU PPM ORIG</th></tr>
<tr><td>47</td><td>48.5</td><td>1.5</td><td>W1120901</td><td>0.02</td><td>0.03</td><td>0.047</td><td>0.01</td><td>0.8</td><td>0.69</td><td>0.014</td><td>0.069</td></tr>
<tr><td>48.5</td><td>50</td><td>1.5</td><td>W1120902</td><td>25.6</td><td>24.9</td><td>1.16</td><td>1.34</td><td>28.3</td><td>30.86</td><td>1.225</td><td>1.954</td></tr>
<tr><td>50</td><td>51.55</td><td>1.55</td><td>W1120903</td><td>28.4</td><td>24.3</td><td>0.741</td><td>0.94</td><td>22.9</td><td>25.37</td><td>1.125</td><td>1.234</td></tr>
<tr><td>51.55</td><td>53.3</td><td>1.75</td><td>W1120904</td><td>0.383</td><td>0.36</td><td>0.286</td><td>0.22</td><td>23.4</td><td>30.17</td><td>0.297</td><td>0.171</td></tr>
<tr><td>53.3</td><td>55</td><td>1.7</td><td>W1120905</td><td>0.198</td><td>0.19</td><td>0.079</td><td>0.05</td><td>1.5</td><td>1.37</td><td>0.03</td><td>0.034</td></tr>
<tr><td>55</td><td>56.7</td><td>1.7</td><td>W1120906</td><td>0.614</td><td>0.54</td><td>0.544</td><td>0.54</td><td>7.8</td><td>8.91</td><td>0.261</td><td>0.411</td></tr>
<tr><td>56.7</td><td>58.7</td><td>2.0</td><td>W1120908</td><td>14.15</td><td>13.76</td><td>1.375</td><td>1.46</td><td>32.1</td><td>35.66</td><td>1.47</td><td>1.783</td></tr>
<tr><td>58.7</td><td>60.3</td><td>1.6</td><td>W1120909</td><td>16.7</td><td>16.54</td><td>0.893</td><td>0.96</td><td>15.5</td><td>14.4</td><td>1.03</td><td>0.926</td></tr>
<tr><td>60.3</td><td>61.7</td><td>1.4</td><td>W1120910</td><td>14.1</td><td>14.88</td><td>2.5</td><td>2.54</td><td>32.8</td><td>32.91</td><td>0.895</td><td>1.714</td></tr>
<tr><td>61.7</td><td>63.2</td><td>1.5</td><td>W1120911</td><td>19.55</td><td>19.94</td><td>2.48</td><td>2.5</td><td>37.6</td><td>39.77</td><td>1.045</td><td>0.686</td></tr>
<tr><td>63.2</td><td>64.7</td><td>1.5</td><td>W1120912</td><td>15.85</td><td>16.1</td><td>1.79</td><td>1.64</td><td>31.4</td><td>32.23</td><td>1.61</td><td>1.954</td></tr>
<tr><td>64.7</td><td>65.9</td><td>1.2</td><td>W1120913</td><td>11.1</td><td>11.52</td><td>1.315</td><td>1.72</td><td>32.9</td><td>34.29</td><td>0.82</td><td>0.411</td></tr>
<tr><td>65.9</td><td>67.15</td><td>1.25</td><td>W1120915</td><td>20.7</td><td>19.92</td><td>0.97</td><td>0.9</td><td>19.9</td><td>28.8</td><td>0.793</td><td>0.583</td></tr>
<tr><td>67.15</td><td>68.85</td><td>1.7*</td><td>W1120916</td><td>2.43</td><td>0.86</td><td>0.907</td><td>0.9</td><td>15.4</td><td>17.14</td><td>0.577</td><td>0.514</td></tr>
</table>
● During data verification, no indication was found of anything in the exploration work, or analytical data that could have negatively affected the reliability of the assay results reported.</td></tr>
<tr><td></td><td><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></td><td>● During the past exploration campaigns, the drillholes has been logged into the paper forms which have been obtained by Superior Lake Resources and digitised in to the database. Initially data from these logs were entered into an Excel spreadsheet, subjected to QAQC and manual error correction and then uploaded into an Access database. Subsequent loading errors in 3D mining software were then corrected. The dataset is considered to be acceptable for use in Mineral Resource estimation by the Competent Person.</td></tr>
<tr><td></td><td><i>Discuss any adjustment to assay data.</i></td><td>● No adjustment to assay data has been made.</td></tr>
<tr><td><i>Location of data points</i></td><td><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></td><td>● The method for surveying historical surface drillhole collars is not known but it is assumed that the Mine Surveyors were responsible for the underground drilling. The downhole survey methods used are Eastman single shot and multishot, Tropari, acid etch and gyro survey at nominal 30m intervals. Superior Lake is in the process of compiling all hard copy drillhole data.
● Drillhole locations have been validated against mine workings and plans.</td></tr>
<tr><td></td><td><i>Specification of the grid system used</i></td><td>● Historical mining and exploration activities were carried out in local mine grids. The Winston local mine grid is oriented approximately -20 degrees to UTM grid north and the Pick local mine is oriented at -60 degrees to UTM grid</td></tr>
</table>

Criteria	Explanation	Commentary
		north. - The information had been transformed from local grid co-ordinates into UTM NAD83 Zone 16 grid via a two- point transformation.
	Quality and adequacy of topographic control	- A topographic surface was generated from SRTM data and has had the surface drill collar location points added in to provide local control.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	- Pick Lake has been drilled from surface approximately at 100 - 200m centres. - Underground drilling at both Pick Lake and Winston Lake has been drilled on a much tighter grid, approximately at 40m centres at the Pick Lake and 20m at the Winston Lake, and down to less than 10m in places.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	- Drillholes spacing, which are distributed approximately as a random stratified grids of 40x40m at the Pick Lake and 20x20m at the Winston Lake allow to accurately establish continuity of mineralisation and estimate the grade distribution. These grids are appropriate for Mineral Resource estimation. - The production history and information available from the mining operations forms part of the confidence criteria used to classify the Mineral Resource.
	Whether sample compositing has been applied.	- Samples have been taken based on geological intervals, with a nominal maximum length of 1 metre. - Physical compositing of the samples not used
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	- Based on 3D model reviewed the intersection angles in general are close to perpendicular and appropriate for Resource estimation. Some of the drillhole have low intersection angles due to the location of the drill sites, but these are still considered to be representative. - The new drillholes, drilled by Superior Lake Resources in 2019 have been completed using wedging equipment allowing to orientate drillholes in order to obtain an optimal intersection with the drill target. Location of the drilled hole was surveyed every day after, approximately 50 m of advancing and this has allowed to closely monitor deviations of the drillholes and correct it using the wedges. - Downhole surveying was made using Gyro camera, which is optimal for surveying in the rocks, containing ferro-magnetic minerals
	If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias,	- As drillholes were generally drilled perpendicular to the strike of mineralisation, there has not been any sampling bias introduced based on the current understanding of the structural orientations and the dip and strike of mineralisation.

Criteria	Explanation	Commentary
	this should be assessed and reported if material.	
Sample Security	*The measures taken to ensure sample security.*	• As was standard practice on the mining projects and the operating mines, it is assumed that Inmet Mining organised delivery of samples directly to assay laboratories and other previous explorers followed industry guidelines current at the time.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• 2013. Rémi Verschelden validated the analytical data of the grab samples using the values in the ALS Chemex and SGS Canada certificates of analysis. The validation consisted of verifying all grab sample results for Au, Cu, and Zn as reported by Silvore Fox in 2012 from the property. No errors were noted during the validation. • 2019. Superior Lake has reviewed and validated historic data, that included re-assaying of mineralised intervals. In total, 64 samples have been collected and assayed that confirm validity of the historic data • During data verification, no indication was found of anything in the exploration work, or analytical data that could have negatively affected the reliability of the assay results reported.
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	• The Pick Lake Project comprises 297 claim units (each claim unit is 400mx400m or 16Ha in area) totaling 47.5km2. The claims are made up of a number of claims acquired in August 2016 and claims recently staked and registered in October 2017. The total of all claim areas is >17,000Ha. • Superior is the legal and beneficial owner of 70% of the issue capital of Ophiolite Holdings Pty Ltd (ACN 617 182 966) (Ophiolite). Ophiolite is a proprietary exploration company and is the legal and beneficial owner of the zinc and copper prospective “Pick Lake Project”, located in Ontario. Please see ASX announcement dated 6 December 2017. • Superior Lake currently has an option over the Winston Lake project claims. These claims are owned by FQM. For further details please refer to ASX announcement dated 21st February 2018.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	• The claims are in good standing.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• The Pick Lake deposit was discovered in 1983 and the Winston Lake deposit was discovered in 1982. The Pick Lake and Winston Lake project areas have been the subject of a variety of exploration campaigns, main exploration and development stages are listed in the table:

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>

<table>
<tr><th>Year</th><th>Company</th><th>Results</th></tr>
<tr><td>1951-1952</td><td>Ciglen;Anderson;
Andowan Min.</td><td>Discovery of Anderson occurrence</td></tr>
<tr><td>1978-1986</td><td>Falconbridge</td><td>Discovery of Trail occurrence
Discovery of Winston Lake deposit
Discovery of Pick Lake deposit</td></tr>
<tr><td>1983-1984</td><td>Noranda Expl.</td><td>Several geophysical anomalies</td></tr>
<tr><td>1987-1992</td><td>Minnova Inc.</td><td>High grade mineralisation discovered at Pick Lake
DDH67: 13.4@25%Zn/ 2.7%Cu</td></tr>
<tr><td>1995-1998</td><td>Inmet Mining</td><td>Production at the Pick Lake</td></tr>
<tr><td>2008-2010</td><td>Orebot Inc.</td><td>New geochem. anomalies</td></tr>
<tr><td>2011-2013</td><td>Silver F./Gold. Sh.</td><td>VTEM conductors detected</td></tr>
<tr><td>2016</td><td>CSA Global.</td><td>Verification studies</td></tr>
</table>

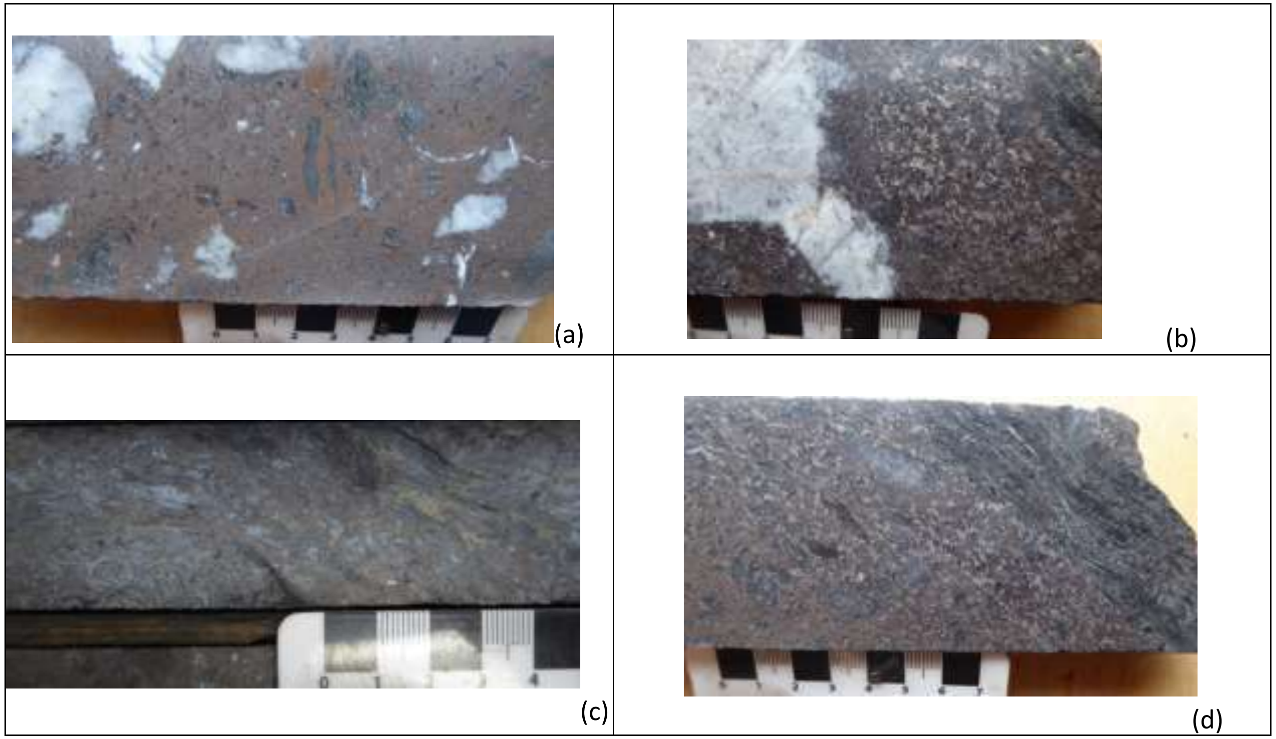
Details of the past exploration can be found in report filed on SEDAR:
Independent Technical Report on the Pick Lake Property, Pays Plat Lake and Rope Lake Area, Ontario, Canada, dated June 19, 2013 prepared by Bruno Turcotte, MSc, P. Geo and Remi Verschelden, BSc, P. Geo (filed June 21, 2013 on SEDAR). This report can be accessed via the url: http://www.sedar.com under the company name “Silvore Fox”.

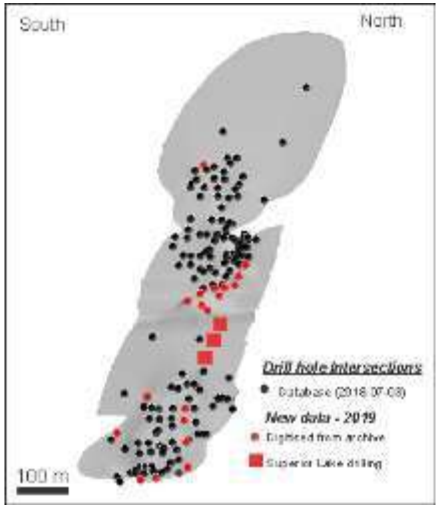
</td></tr>
<tr><td><i>Geology</i></td><td><i>Deposit type, geological setting and style of mineralisation</i></td><td>
Pick Lake

The Pick Lake deposit and all nearby prospects are examples of metamorphosed volcanogenic massive sulphide (VMS) deposits, that form in collisional oceanic tectonic environments in areas of localized rifting. The Pick Lake deposit belongs to the bimodal mafic volcanic sub-type, also known as Canadian-shield or Noranda-type VMS deposits. The deposits of this sub-type are characterised by dominating of the mafic volcanics with the felsic volcanic rocks constituting less than 25% of the sequence. A significant characteristic of this deposit type is the tendency of the deposits to occur in clusters or “camps” either along a single stratigraphic horizon or stacked within the volcanic sequence. The deposits tend to form stratiform massive sulphide lenses with or without discordant feeder pipes cutting across the underlying stratigraphy. The massive sulphide lens may be displaced from the feeder pipe, which represents the hydrothermal vent onto the ancient sea floor.
The Pick Lake deposit occurs at the extreme western edge of the Winston-Big Duck Lake sequence of volcanic rocks, approximately 35m above a granitic contact. Aeromagnetics within the Project area depicts a distinctive V shaped sequence of magnetic and non-magnetic units converging to a northern “V” apex and appears remarkably similar to the aeromagnetic character of the older Archean Warriedar Fold Belt in Western Australia which hosts the Golden

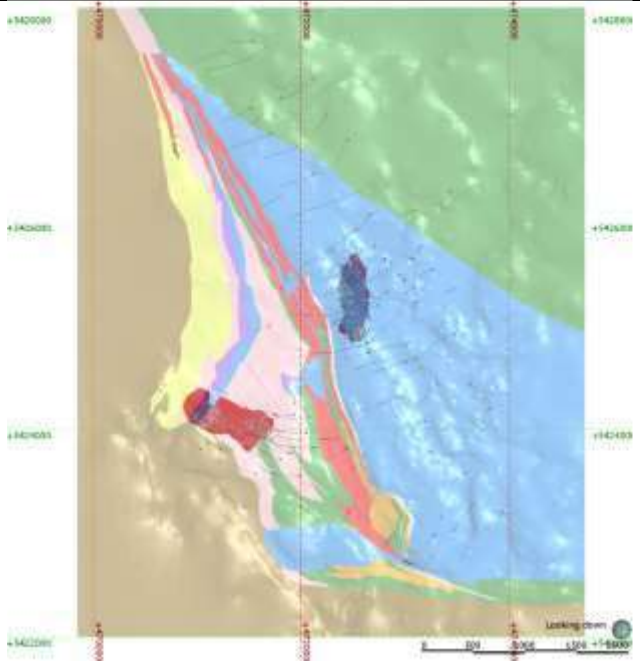
</td></tr>
</table>

Criteria	Explanation	Commentary
		Grove VMS deposits. ● The Pick Lake deposit occurs as a large sheet like zone of massive sulphides within a series of bedded pyroclastic rocks. Hydrothermal alteration exists in both footwall and hangingwall rocks resulting in varying assemblages of quartz, cordierite, biotite, anthophyllite, garnet, chlorite and sericite with minor disseminated sulphides. The hydrothermal alteration zone appears to be spatially related to the Winston Lake deposit; recent structural mapping provides evidence that Pick Lake and Winston Lake can be hosted within the same stratigraphic horizon. ● The Anderson showing, located near the southeast shore of Winston Lake, appears to be the surface expression of the Pick Lake deposit. This is a rusty pyritic weakly altered series of bimodal volcanics. Massive sulphides of the Pick Lake deposit occur from approximately 300m to 1200m vertically and over a strike length averaging 250m. The lower portion of the deposit appears to increase in strike length to approximately 500 metres. The deposit strikes at 20 degrees and dips to the east at 50 degrees. The thickness of the deposit is generally between 2 and 4m, however, locally it is up to 14 metres. ● Sulphide mineralisation is generally very consistent, composed of a fine-grained mixture of sphalerite (50- 80%) and pyrrhotite (5-35%) with minor chalcopyrite (0-5%) and pyrite (0-3%). Commonly contained within the sulphides is 5-10% of quartz inclusions, that are represented by the rounded grains up to 3cm in size ● (Fig. A2.1a) and, less commonly, by veins, cutting the massive sulphide mineralisation (Fig.A2.1b). ● Mineralisation also contains inclusions of the host volcanic rocks (1-3%) which are commonly intensely foliated and altered to chlorite-biotite schists (Fig. A2.1a). Random orientation of the foliated inclusions indicates that deformation and displacement of the sulphide mass has continued after main peak of metamorphism. Intensity of foliation fabrics increases toward the contact of the massive sulphides (Fig. A2.1c), which are typically sharp (Fig.A2.1d).

Criteria	Explanation	Commentary
		 *Fig. A2.1: Sulphide mineralisation of the Pick Lake deposit* **Winston Lake** • The Winston Lake deposit lies at the top of the Winston Lake sequence within cherty exhalite and altered felsic-to-intermediate laminated ash tuff. In places, gabbro forms the hanging wall for the deposit. The footwall consists of altered mafic flow rocks and felsic-to-intermediate volcaniclastic rocks which are underlain by altered quartz and feldspar porphyritic rhyolite and feldspar pyritic basalt with intercalated sulphide-rich, bedded, tuffaceous rocks which, in turn, are underlain by the "Main" quartz fledspar porphyry which is intruded by gabbro and pyroxenite. • Hydrothermal alteration, confined to the Winston Lake sequence, and later metamorphism of altered rock have

Criteria	Explanation	Commentary
		resulted in assemblages of cordierite, anthophyllite, biotite, garnet, sillimanite, staurolite, muscovite and quartz coincident with an increase in iron, magnesium, and potassium and a decrease in sodium and calcium. Zinc content is directly proportional to the intensity of alteration. • High copper values occur at the flanks and top of the alteration "pipe" with the core of the pipe containing relatively depleted copper values. The most common forms of ore are finely banded sphalerite and pyrrhotite and massive-to-coarsely banded sphalerite and pyrrhotite with minor pyrite and chalcopyrite and up to 45% of sub-angular mafic and felsic fragments averaging 3cm in diameter. • The north-striking and 50 degrees eastwardly dipping deposit has a strike length of 750m and width of 350m. It has an average true thickness of 6m and is open to depth.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* *easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length.*	Resource definition database contains 1,810 surface and underground drillholes. • These includes 23 new drillholes that were added to the database after maiden resources were estimated and announced in 2018 (ASX 2018_07_03_SUP). The new data includes 3 drill holes drilled in 2019 by Superior Lake Resources (ASX announcement 7 March 2019) and 20 historic holes that were digitised from the archives (Fig. A2.2)  *Fig. A2.2: Longsection of the Pick Lake deposit showing distribution of the drillholes* Details of the new drillholes added to the database in 2019 are presented in the Appendix 1. Other holes have been

Criteria	Explanation	Commentary
		presented to ASX in 2018 when maiden resources were reported (ASX 2018_07_03_SUP).
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated*	• Intercept grades are length weighted. • No cut-off grades have been used.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Historical mining at Pick Lake and Winston Lake report mineralisation widths at Pick Lake to average of 2 to 4m and at Winston Lake to average 7m, which is consistent with the 3DResource model of the deposits.
Diagrams		• Refer to body of announcement dated 7 March 2019 for figures. Generalised geological map of the project area is shown below.

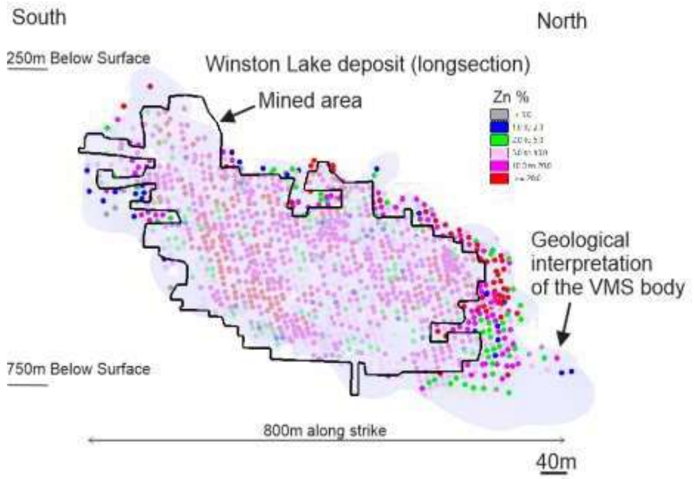
Criteria	Explanation	Commentary
		
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Assay results for significant intercepts sourced from Inmet Mining Corp figures have been tabulated in Appendix 1 of the ASX release dated 7 March 2019.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey*	• Exploration activities carried out by other parties include surface geochemistry, drilling, surface geology mapping, VTEM, structural mapping. • Continuity of mineralisation was studied and confirmed by DHEM survey that were described in the Section 1 of the JORC Table.

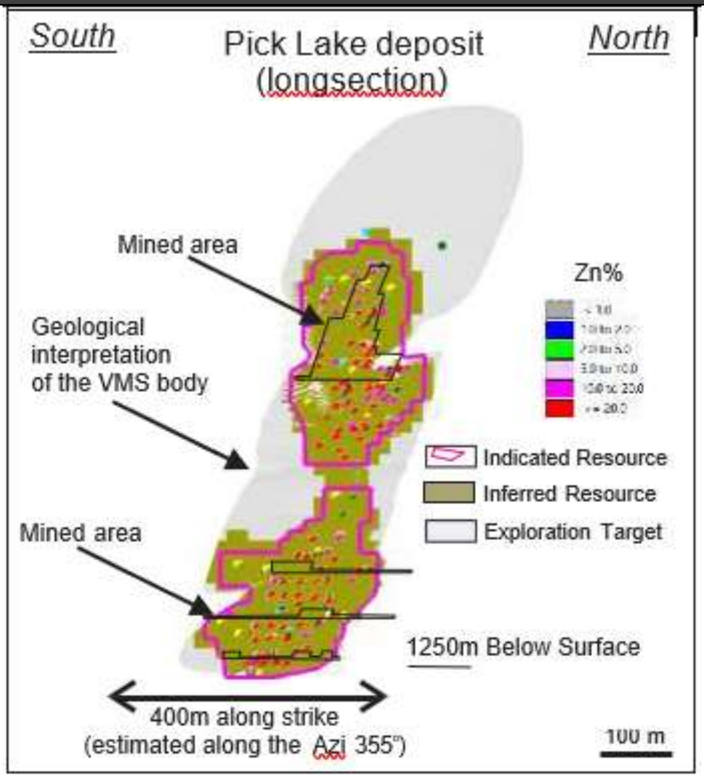
Criteria	Explanation	Commentary
	results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	The following work is planned for the Pick Lake and Winston Lake Projects: • To complete compilation of all drillhole hardcopy data into a drillhole database • To complete scanning and digitising of underground drive geology mapping • DGPS pick-up of all existing surface drillhole collars. • Downhole survey measurements of existing surface drillholes (if possible) • FLEM survey with an objective to identify the massive sulphide targets to the depth of 1000m (currently in progress) • Preparation of the mine plans using the updated resource model • Geochemical exploration in the eastern tenements, that currently are lacking of systematic exploration and known targets was not drilled

Section 3 - Estimation and Reporting of Mineral Resources

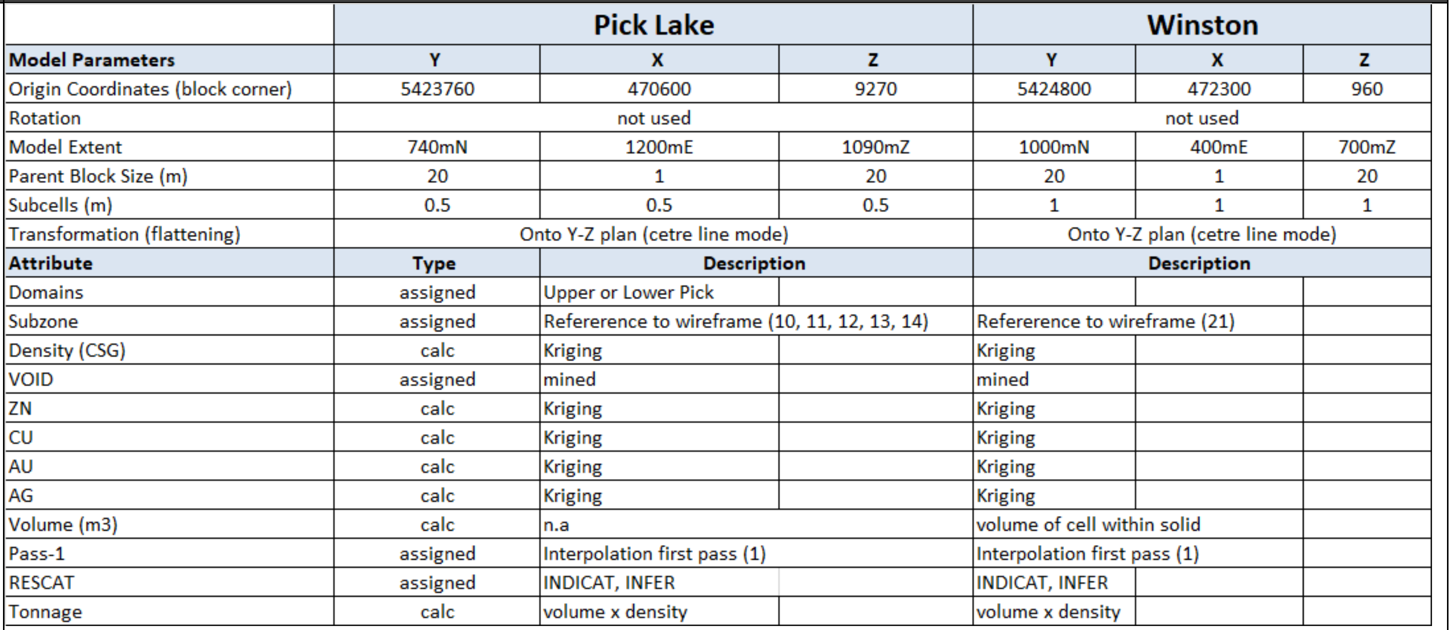
Criteria	Explanation	Commentary
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	• Superior Lake has compiled and validated Access database of drilling information, together with scanned images of interpreted level plans, sections, maps and other production related plans used in the preparation of the Mineral Resource estimate. • Drill holes data were digitised from the mine plans and cross-sections entry from hardcopy logs into Excel. All data in Excel was then checked against the original hardcopy logs including collar information, downhole surveying, geology logging and assays. Any errors detected in the Excel files was corrected. • Intervals not sampled were assigned a zero-grade value. • Drillholes were uploaded to 3D mining software packages for error detection and on and on-screen inspection and validation.
	Data validation procedures used.	• Data were loaded into 3D mining software packages and validation checks for location, downhole surveys, intervals and integrity were made. The data was also checked against plans, cross sections and long sections to detect any errors in data entry for both locations and downhole data.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• Dr. M. Abzalov, the Competent Person (Resources) of the project has reviewed the historic data and the drill core of the holes that were available at the drillcore storage facilities of the Ontario Ministry of Northern Development and Mines in Thunder Bay, Ontario. • In February 2019 Dr. M. Abzalov has visited the project during drilling carried by Superior Lake and has reviewed the field procedures, with emphasis on drill holes logs and documentation quality, and also analysed the obtained drill core. • All field procedures observed were found satisfactory and complaint with the industry standards.
	If no site visits have been undertaken indicate why this is the case.	• Site visit has been undertaken.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• Pick-Winston Lakes camp VMS deposits, are a Noranda-style of the VMS-type deposits which are characterised by presence of the zinc - copper sulphide minerals core composed of sphalerite-chalcopyrite-pyrrhotite-pyrite (+/- gold, +/- galena, +/- tetrahedrite) which can be surrounded by pyrite-pyrrhotite halo with minor sphalerite, tetrahedrite and galena. • The zoned distribution of the sulphide minerals is coupled with alteration patterns developed in the host rocks, with Mg-chlorite distributed at the core of the alteration pipe under the Cu-Zn deposit surrounded by sericite-quartz outer halo. Rocks at the vicinity to mineralisation appear a pervasive Na and to less extent Ca depletion, whereas Mg-rich core is also depleted in SiO2. Mineralisation of the studied deposits is essentially occurring as single massive sulphides seam distributed along the VMS horizon.

Criteria	Explanation	Commentary
		• A VMS type model was used as a basis for constraining the mineralisation using the Leapfrog methodology. The geological characteristics of the VMS type mineralisation are well understood and applied for delineating the mineralised bodies at the project. • This implies that base-metal sulphide precipitates from volcanic exhalates on a sea floor or at a shallow depth close to the floor and forming the beds and lenses of massive and semi-massive sulphide mineralisation. • Confidence in the model is high because the mineralisation of the studied deposits is essentially occurring as single massive sulphides seam distributed along the VMS horizon. The mineralisation and the host rocks stratigraphy can be delineated between the drill holes. • The distances between drillholes intersecting the mineralisation are commonly from 10-30m (at the Winston Lake deposit to 20-40m at the Pick Lake deposit which is sufficient for a confident delineation of the mineralised bodies. The interpretation of the VMS bodies was confirmed by mapping and sampling of the underground developments which are also used for constraining VMS mineralised bodies in 3D. • The different interpretations can be suggested for extension of the mineralised bodies where they are not terminated by the barren drill holes
	Nature of the data used and of any assumptions made.	• Geological interpretation and the resource model are based on the drillholes data (1810 drill holes) and underground developments
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Not applicable. Mineral Resource domains are defined and constrained in 3D by the drillholes and the underground mapping/sampling data which has allowed to generate a robust geological interpretation of the mineralised bodies. • The close distances between the drillholes intersecting the VMS strata and reasonably simple geometry of the mineralised bodies does not leave too much rooms for alternative geological interpretations. • The differences can be related to the distances of extrapolation of the drillhole grades to the peripheral parts of the VMS bodies. In the current estimation this was approximately 75m with a minimum of 4 samples available for averaging the extrapolated • grade.
	The use of geology in guiding and controlling Mineral Resource estimation.	• The Pick mineralisation was defined by intervals logged as massive and semi-massive sulphides within the Pick clotted rhyolite or tuff units. The assay values for zinc were compared to these intervals and found to correlate well. The zinc percent assay values were used to select intersections where no logging information was present. The interpretation of continuity was based on ore drive level plans that showed mapping information for the sulphide horizon. A nominal cut-off grade of 1% Zn was used to define the mineralised intervals which were used to construct a vein model. Edge boundaries were applied from ore drive extents and long-section mine plans that indicated the conductor boundary position from geophysical surveys.
	The factors affecting	• Mineralisation of the studied deposits occur essentially as single massive sulphides seams (Pick Lake and Winston) distributed

Criteria	Explanation	Commentary
	continuity both of grade and geology.	along the VMS horizon which controls the continuity of geology. • This zoning, in particular zoned distribution of the Cu-rich and Zn-rich mineralisation, is observed at the studied deposits. Thickness and grade decreases to the peripheral parts of the VMS seams.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The project includes two deposits, Pick Lake and Winston. Location and dimensions of the mineralisation is shown on the longitudinal sections (Figures A3.1 and A3.2). • The diagrams also contain the drillhole intersections  *Fig.A3.1 Longitudinal section of the Winston Lake deposit*

Criteria	Explanation	Commentary
		 *Fig.A3.2 Longitudinal section of the Pick Lake deposit*
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, Including treatment of extreme grade values, domaining, interpolation parameters and maximum*	- Estimation of the mineralisation grade was made using Ordinary Kriging (OK) technique that was applied to Zn, Cu, Au and Ag.

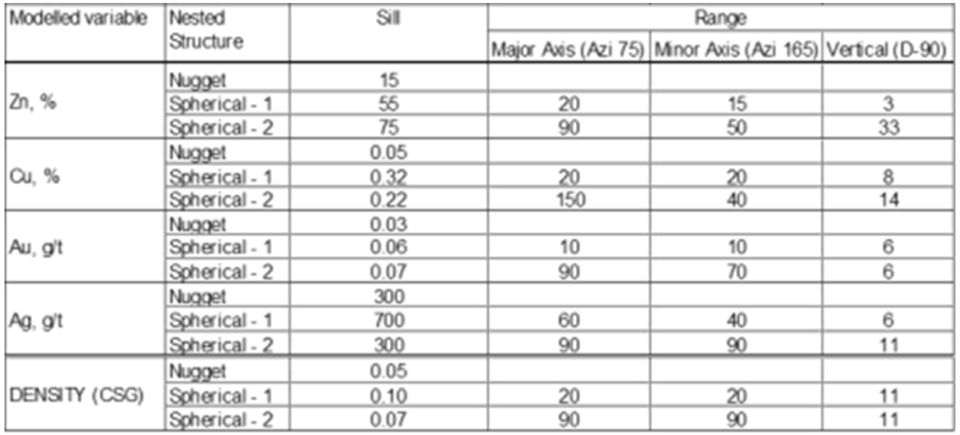
Criteria	Explanation	Commentary
	distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used	



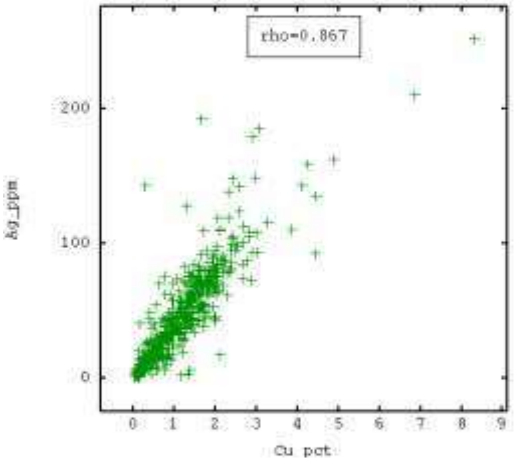
	Pick Lake			Winston		
Model Parameters	**Y**	**X**	**Z**	**Y**	**X**	**Z**
Origin Coordinates (block corner)	5423760	470600	9270	5424800	472300	960
Rotation	not used			not used		
Model Extent	740mN	1200mE	1090mZ	1000mN	400mE	700mZ
Parent Block Size (m)	20	1	20	20	1	20
Subcells (m)	0.5	0.5	0.5	1	1	1
Transformation (flattening)	Onto Y-Z plan (cetre line mode)			Onto Y-Z plan (cetre line mode)		
Attribute	**Type**	**Description**		**Description**		
Domains	assigned	Upper or Lower Pick				
Subzone	assigned	Refererence to wireframe (10, 11, 12, 13, 14)		Refererence to wireframe (21)		
Density (CSG)	calc	Kriging		Kriging		
VOID	assigned	mined		mined		
ZN	calc	Kriging		Kriging		
CU	calc	Kriging		Kriging		
AU	calc	Kriging		Kriging		
AG	calc	Kriging		Kriging		
Volume (m3)	calc	n.a		volume of cell within solid		
Pass-1	assigned	Interpolation first pass (1)		Interpolation first pass (1)		
RESCAT	assigned	INDICAT, INFER		INDICAT, INFER		
Tonnage	calc	volume x density		volume x density		

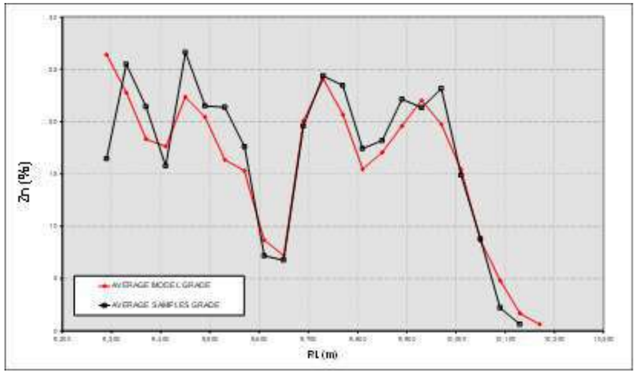
- Estimation procedure included several steps:
    - Mineralisation was interpreted and constrained using 3D wireframes. This was made by external consultants (Optiro group) who used the Leapfrog® program for developing the wireframes of the mineralised bodies.
    - Wireframes were imported into Micromine® where the blank block model was created.
    - In order to assure the good fit of the block model to the wireframes the following sub-cells were used:
        - Pick Lake deposit 0.5x0.5x0.5m (this is sub-cell size)
        - Winston lake deposit: 1 x 1 x 1m (this is sub-cell size)
- Drillholes data have been obtained from the central database stored on the Superior Lake's server. The database was monitored by a database administrator.
- The drillholes samples have been marked by assigning the codes corresponding to the wireframe that includes that sample. Samples located outside of the wireframes have not been coded.
- At the Pick Lake 6 wireframes present, referred as 10 (main body), 11, 12, 13, 14, 33. At the Winston Lake only one wireframe, referred as 21.

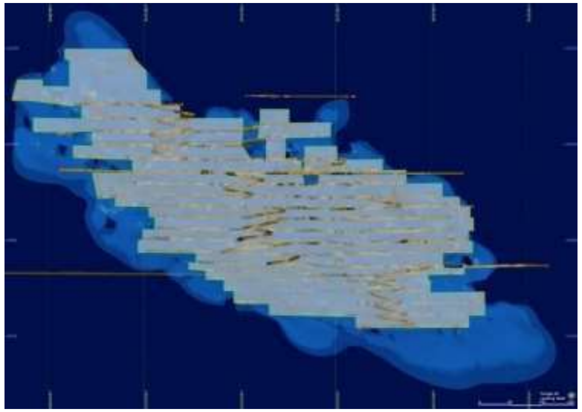
Criteria	Explanation	Commentary
		• The drillhole samples have been coded accordingly to the wireframes: 10, 11, 12, 13, 14, 33 and 21. The code was written in the field denoted as SUBZONE (drill holes assay file). • Because the sample lengths were different the samples have been composited to 1m composites. Compositing was made using optimal compositing algorithm of Datamine ®. • In order to accurately reproduce in the resource model, the internal zoning of the VMS mineralisation the estimation was facilitated applying the unfolding techniques to the block model and drillholes. The central line flattening algorithm of Micromine® was used for this purpose. • After flattening, the data have been transferred to Isatis® where the metal grades have been estimated into the block of 20(X) x 20(Y) x 1(Z)m. Coordinates were in the unfolded space • Two passes of estimation were used: Pick Lake ○ 1st pass: search radii 60x60x2 ▪ Min samples 4 ▪ Max samples 16 (no declustering used) ○ 2nd pass: search radii 60x60x4m ▪ Min samples 1 ▪ Max samples 12 (no declustering used) Winston Lake ○ 1st pass: search radii 30x30x4m ▪ Min samples 8 ▪ Max samples 16 (no declustering used) ○ 2nd pass: search radii 60x60x6m ▪ Min samples 6 ▪ Max samples 16 (no declustering used) • For the Winston Lake deposit second pass estimation was made using Simple Kriging with a local mean. Local mean grades were estimated by averaging all samples located with the 80x80x10m panels. • Variogram models of the studied metals are presented in the Table below. • After completion of the estimation the block model have been transferred back to Micromine and estimated block grades

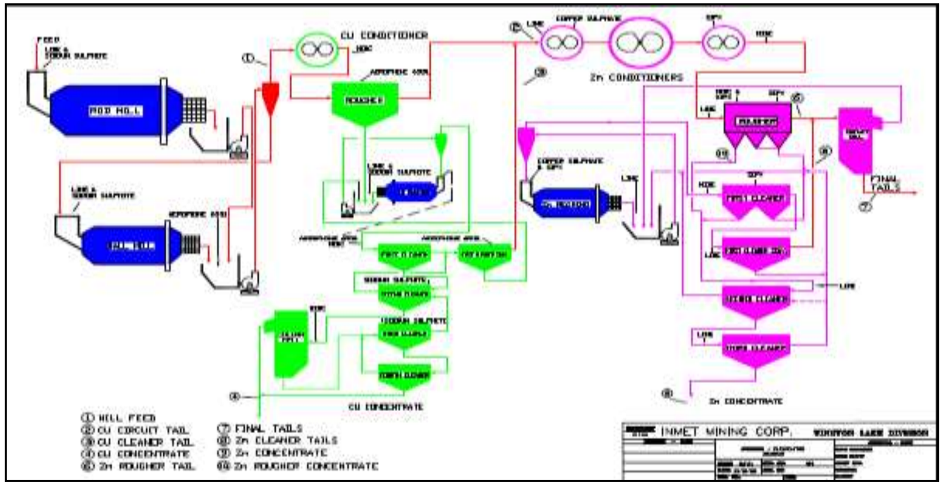
<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>have been copied to corresponding them sub-cells.
<table>
<tr><th>Modelled variable</th><th>Nested Structure</th><th>Sill</th><th colspan="3">Range</th></tr>
<tr><th></th><th></th><th></th><th>Major Axis (Azi 75)</th><th>Minor Axis (Azi 165)</th><th>Vertical (D-90)</th></tr>
<tr><td>Zn, %</td><td>Nugget</td><td>15</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Spherical - 1</td><td>55</td><td>20</td><td>15</td><td>3</td></tr>
<tr><td></td><td>Spherical - 2</td><td>75</td><td>90</td><td>50</td><td>33</td></tr>
<tr><td>Cu, %</td><td>Nugget</td><td>0.05</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Spherical - 1</td><td>0.32</td><td>20</td><td>20</td><td>8</td></tr>
<tr><td></td><td>Spherical - 2</td><td>0.22</td><td>150</td><td>40</td><td>14</td></tr>
<tr><td>Au, g/t</td><td>Nugget</td><td>0.03</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Spherical - 1</td><td>0.06</td><td>10</td><td>10</td><td>6</td></tr>
<tr><td></td><td>Spherical - 2</td><td>0.07</td><td>90</td><td>70</td><td>6</td></tr>
<tr><td>Ag, g/t</td><td>Nugget</td><td>300</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Spherical - 1</td><td>700</td><td>60</td><td>40</td><td>6</td></tr>
<tr><td></td><td>Spherical - 2</td><td>300</td><td>90</td><td>90</td><td>11</td></tr>
<tr><td>DENSITY (CSG)</td><td>Nugget</td><td>0.05</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Spherical - 1</td><td>0.10</td><td>20</td><td>20</td><td>11</td></tr>
<tr><td></td><td>Spherical - 2</td><td>0.07</td><td>90</td><td>90</td><td>11</td></tr>
</table></td></tr>
<tr><td></td><td>*The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*</td><td>• Previous estimate of the Pick resources made in 2018 was 1.84 Mt @ 18.8%Zn
• The 2019 estimate is 2.06 Mt @ 18.3 % Zn
• The increase of the resources is related to additional drillholes that has allowed to extend the resources and as a result of this Lower and Upper Pick domains have joined into a single stratiform massive sulphide body.</td></tr>
<tr><td></td><td>*The assumptions made regarding recovery of by-products.*</td><td>• The main metals are Zn and Cu. Mineralisation also contains Au and Ag which are by-products. All four metals were estimated into the block model. Cu, Au and Ag grades are reported within the Zn resource i.e., the associated minerals are not reported as separate domains.
• It was assumed that silver will have a similar recovery to that of the copper. This assumption is made because of strong correlation between these metals indicating that silver is likely present as a mixture of chalcopyrite which is the main copper mineral at this project.
• Historical Recoveries of by-product during the 11 years of processing in the concentrator at the site were:
○ Copper 78%</td></tr>
</table>

Criteria	Explanation	Commentary
		○ Gold 38% ○ Silver 37%
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	• Deleterious elements were not analysed and were not used in the current estimation. • From production records and environmental monitoring of water discharge the materials were not known to host any significant proportion of deleterious material that impacted the environment, and after 30 years there is no record or indication of heavy metal impacts to the environment from water discharge. • With regard to AMD, the TSF has been constructed to mitigate leakage with the clearing of the dam to bedrock with sealing and a permanent water cover in place to mitigate the oxidation of sulphides (analysis of ore samples indicate sulphide grades ranging from 8 -12 %S, with plant tails assaying between 1 and 2% S)
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The distances between drillholes intersecting the mineralisation are commonly from 10-30m (at the Winston Lake deposit to 20-40m at the Pick Lake deposit which is sufficient for a confident delineation of the mineralised bodies. • The parent blocks were 20x20x1m which is in a good accordance with the drilling grids. • At the peripheral parts of the Pick Lake deposit the drill spacing is broader, however, usually not farther then 60-80m therefore the chosen blocks size (20x20x1) is also complaint with the drill spacings in these areas.
	Any assumptions behind modelling of selective mining units.	• The mining methods used at this project include mechanised AVOCA and Alimak stoping. Neither of these methods are planned to be used, with the adoption of a sublevel longhole stoping method with introduced paste fill being proposed on the resumption of operations. It is assumed that mining selectivity will be approximately in the range of 10x10x1 to 20x20x1m. The used block size for estimation resources was 20x20x1m, which corresponds to assumed size of the SMU blocks

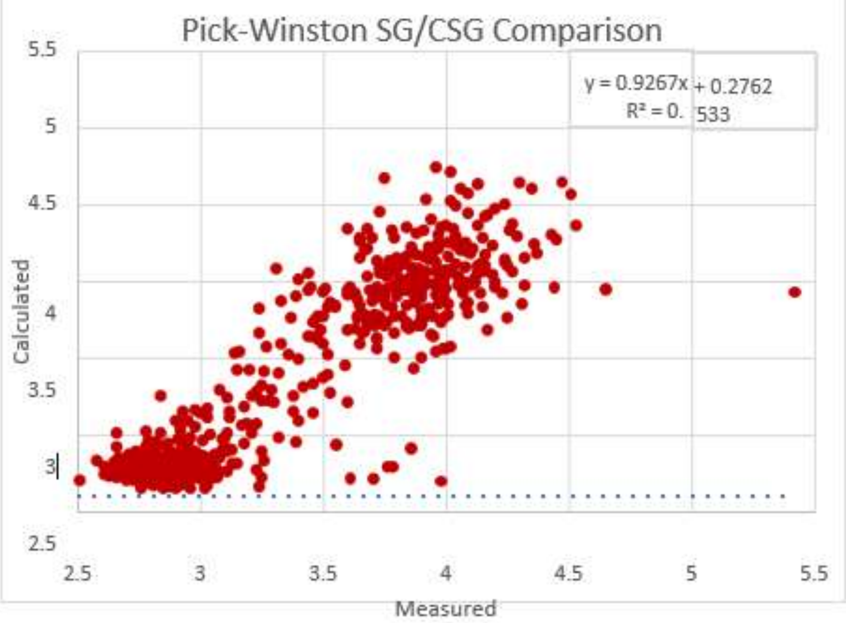
Criteria	Explanation	Commentary
	Any assumptions about correlation between variables.	 *Fig. A3.3: Ag vs Cu diagram, Pick Lake deposit drill hole data* - Cu and Ag appear a strong correlation (Fig.A3.3), with coefficient of correlation (rho) equal to 0.87. Between other metals correlation is insignificant or lacking
	Description of how the geological interpretation was used to control the resource estimates.	- VMS type model was used as a basis for constraining the mineralisation using the LeapFrog methodology. According to this model the base-metal sulphides precipitate from volcanic exhalates on a sea floor and form the planar beds and lenses of massive sulphide mineralisation. - This interpretation was implemented as 3D wireframes of the VMS seams that were created using Leapfrog software
	Discussion of basis for using or not using grade cutting or capping.	- High grade cut-off was applied to all metals. The cut off values, determined at approximately 2% on the probability curve, were as follows: ○ Zn - 38% ○ Cu - 2.4% ○ Au - 0.7 g/t ○ Ag - 95 g/t - These values were applied as a lower cut off if the estimated block was located at the distance of 30m and larger from the data point.

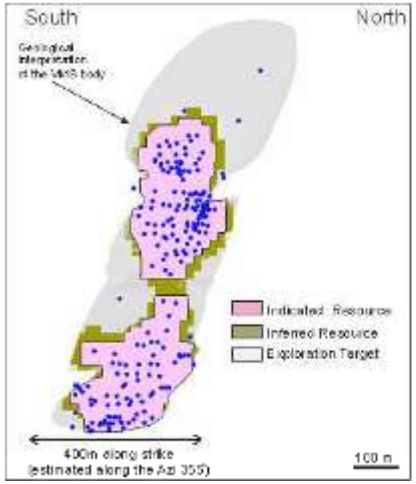
Criteria	Explanation	Commentary
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	- Estimation was validated by plotting the block grades vs corresponding them sample grades. The data have been grouped into 40m panels drawn across the VMS bodies.  *Fig. A3.4. Swath plot comparing block model and sample grades, Pick Lake deposit* - The diagram (Fig. A3.4) show that model properly honours the drillhole data and accurately reproduces the local variability of the grade - The model was also visually expected and compared with the drillholes data. Review of the model by cross-sections has shown that model accurately reproduces layering and zoning of the VMS seam (Fig. A3.5)  *Fig. A3.5 Cross-section through the Pick Lake resource block model. Drill holes are shown for the reference*

Criteria	Explanation	Commentary
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnage is estimated using the dry bulk density (DBD). • Moisture was not determined and was not used
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A nominal grade of 1% Zn was used to interpret continuity for mineralisation domains. There is a sharp boundary contact with unmineralised host rock and there is no halo mineralisation
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made*	• Winston Lake and Pick Lake deposits have been mined using mechanised underground mining with the AVOCA mining method predominately used at Winston (Fig. A3.6) and Alimak initially at the upper Pick area. The use of Alimak was adopted above the 615 m level as no development was in place at the time of stoping and given the low price of zinc a decision was made to reduce ramp access costs. • Historical mining used a minimum mining width of 2m (horizontal thickness) based on the designed development on ore of 4m x 4m. • Superior will evaluate a sublevel longhole stoping with paste fill. Instead of using unconsolidated waste fill, the mining method will use cemented paste fill better controlling the hanging wall radius of the stopes and crucially the time to fill.  *Fig. A3.6: Underground drives at the Winston Lake deposit*
Metallurgical factors or	*The basis for assumptions or predictions regarding*	• Past production was successful and has demonstrated that mineralisation is amenable for processing using conventional flotation technologies and the valuable metals are recovered as the sulphide concentrate.

Criteria	Explanation	Commentary
assumptions	*metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made*	• The concentrator process combined crushing, grinding, flotation and dewatering to produce two separate high-grade concentrates, zinc and copper (Fig. A3.7). The ore was hoisted via a vertical shaft into a fine ore bin and processed at a rate of 1,000 tpd. Concentrates were produced at 250 to 350 tpd where the concentrate were trucked to a rail siding in the town of Schrieber and loaded onto rail cars for shipment to smelters. • Historical Recoveries during the 11 years of processing in the concentrator at the site were: ○ Zinc 93 % ○ Copper 77 % ○ Gold 32 % ○ Silver 36 %  *Fig.A3.7: Flow-chart diagram of the processing technologies used at the Winston mine* • Metallurgical Recoveries from the 2019 testwork program using core from the 2018 drill program in Mid Pick were: ○ Zinc 96 % ○ Copper 71 % ○ Gold 18 % ○ Silver 46%
	Assumptions made regarding possible waste and process	• The Winston Lake - Pick Lake project has minor environmental liabilities associated with the historical operation. • The environmental considerations are limited to the site rehabilitation, including

Criteria	Explanation	Commentary
	residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made	○ The stockpile area, sedimentation basins, and building foundations. ○ Restoration works have been completed except for the building foundations. ○ Monitoring of the water quality from the mine started at mine closure and will be required for a period of 10 years • The CP has been advised there are no impediments to recommencement of mining activities.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness*	• 654 samples have measured SG and 714 samples have CSG (calculated SG) where: CSG = (((100-S%)*2.7+R%*5+(R%*(Po%+0.001)/(Py%+0.001))*4.6) +Cu%/0.3*4.1+Zn%/0.6*3.9)/100 S% =Sulphide % calc, R%= re-Py%

Criteria	Explanation	Commentary
	of the samples.	
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	- The Superior Lake Ltd geological team believes that the techniques used for measuring the rock density are compliant with the Canadian mining industry practices. The measured values have been confirmed by the mine production. - Estimated (CSG) densities well correlates with measured densities (SG) (Fig. A3.8) and they are suitable for resource estimation.  *Fig. A3.8: Calculated density (CSG) vs measured density (SG)*
	Discuss assumptions for bulk density estimates used in the evaluation process of the process of the different materials.	- The density values have been estimated into the block model using ordinary kriging. - This has allowed to obtain the more accurate local estimates of the densities, in particular in the high-grade areas
Classification	*The basis for the classification*	- The blocks were classified as Indicated Resource if the block is located at the distance in the unfolded space approximately

Criteria	Explanation	Commentary
	of the Mineral Resources	40(X) x 40(Y)m from the nearest drillhole (Fig. A3.9). - Other blocks, that were estimated by the pass-2 of kriging (Pick Lake: search radii 60x60x4m and minimum 1 samples) - (Winston lake: search radii 60x60x6m and minimum 6 samples) and located outside of the 40x40m area were classified as Inferred.  *Fig. A3.9: Longsection of the Pick Lake deposit showing distribution of the Indicated and Inferred resources*
	Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All relevant data and factors were taken into account for this resource estimation. This includes - A good understanding of geology and the style of mineralisation; - Geophysical data which is in accordance with the geological interpretation confirming continuity of mineralisation - Geostatistically estimated grade and geology - Geostatistically estimated (using conditional simulation) level of grade uncertainty and based on this, using an optimal drill spacings for classification of mineralisation as indicated resources

Criteria	Explanation	Commentary
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	• An alternate resource estimation was completed in 2018 by independent consultant Mr Alfred Gillman, who used an inverse squared distance estimation methodology. The results are consistent with the reported tonnes and grade and support the 2019 Mineral Resource estimate.
	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	• Confidence in this Mineral Resource estimate was assessed using conditional simulation technique (SGS method) applied to the data of the central part of the Lower Pick domain, which was prepared for production by developing the underground drives. The distribution of the drillhole in this area is approximately 35 x 35m grid. • A 2D model was constructed for estimation uncertainty in estimated metal accumulations, GT-Zn m%. (GT denotes the product of Zn grade by horizontal thickness of the intersection). • Two estimation errors were deduced from the SGS model, the global error for entire Lower Pick domain and local estimate. The latter was obtained for 50m panels drawn through the entire strike length of the Lower Pick domain (Fig. 10). These 50m panels correspond to approximately 1 year of the mine production, therefore the estimated error corresponds to uncertainty in the estimated annual production. • Results of the SGS method are as follows: ○ Average GT-Zn of the Lower Pick domain is estimated with an error **+/- 7.7%** (at 0.95 CL) ○ Average GT-Zn of the 50m panels (annual production) are estimated with an average error +/-**14.6%** (range 11.1 – 20.4%). • These results were a basis for choosing a drill grid of approximately 30-40 x 30-40m grid as criteria for classification mineralisation as Indicated resource

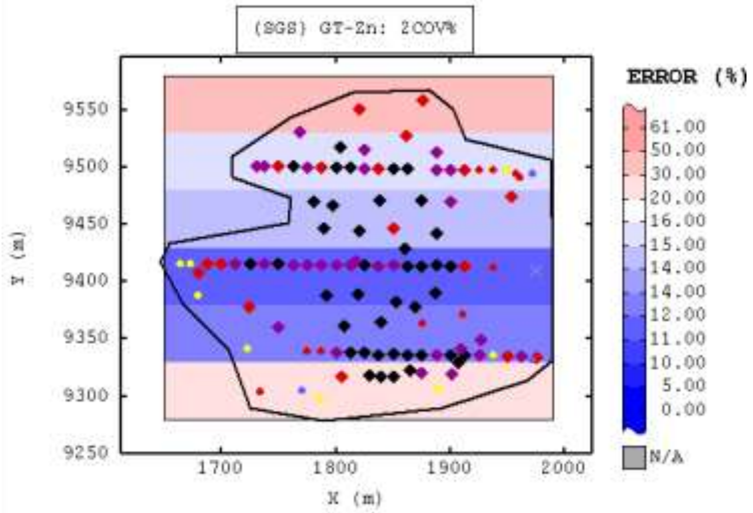
<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</td><td>• The obtained GT-Zn uncertainty relates to global and local estimates. Global estimate includes the central area of the Lower Pick domain that was essentially prepared for production (Fig. A3.10). Local estimates is made by 50m through the Lower Pick domain (Fig.A3.10). The panels represent approximately 1 year of the mine production.


Fig. A3.10: Longsection of the Lower Pick domain area showing errors in estimated GT-Zn m% values. Dots demote the drill hole intersections</td></tr>
<tr><td></td><td>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</td><td>• Not applicable – production data not yet available.</td></tr>
</table>

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The Mineral Resource Estimate used as a basis for the conversion to the Ore Reserve was provided on 7th March 2019 with Mr Marat Abzalov, an employee of MASSA Geosciences as the Competent Person. • The total Mineral Resource of 2.35Mt at 17.7% Zn, 0.9% Cu, 0.38g/t Au and 34g/t Ag includes 2.07Mt of Indicated materials at 18.0% Zn, 0.9% Cu, 0.38g/t Au and 34g/t Ag, and 0.28Mt of Inferred material at 16.2% Zn, 1.0% Cu, 0.31g/t Au and 37g/t Ag. • The Mineral Resources are reported inclusive of the Ore Reserves.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	Mr Benjamin Wilson attended the site in July 2019 and inspected all accessible infrastructure, and noted: • The site shows evidence of prior mining activities in varying states of rehabilitation • An existing all-weather road connects site to the Trans-Canada Highway (Highway 17 in Ontario). • Schreiber is the closest town to site (approximately 20 km South-Southeast of the mine site). Schreiber has rail access and is a major switchyard point for rail. • Shaft collars at Pick & Winston were capped and all surface infrastructure had been removed • A power line connects the site to grid power • An existing tailings storage facility
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that*	A Bankable Feasibility Study (BFS) for the Superior Lake Project was compiled by Primero on behalf of Superior Lake Resources Ltd (SUP) including contributions from specialist consultants: • Massa Geoservices Ltd for the Mineral Resource estimate; • Orelogy Consulting Pty Ltd for mine planning and Ore Reserves; • Mine Design Engineering Inc. for underground geotechnical; • Nordmin Engineering Ltd for mine and general site infrastructure • SGS Canada Inc. for metallurgical test work; • Wood Canada Ltd for tailings and water studies; and • Environmental Applications Group Inc. for environmental and permitting Orelogy undertook the mining component of this FS, and in the course of the study, produced optimisations, designs, schedules and a cost model. Two cases were considered, the base case comprising the inclusion of Inferred Mineral Resources, and an Indicated-only case for the reporting of Ore Reserves. Both cases are considered technically feasible and economically viable under the assumptions of the study.

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td><i>material Modifying Factors have been considered.</i></td><td></td></tr>
<tr><td><i>Cut-off parameters</i></td><td><i>The basis of the cut-off grade(s) or quality parameters applied.</i></td><td>Due to the presence of multiple revenue-generating elements in the volcanogenic massive sulphide orebody, a Net Smelter Return (NSR)-style calculation was made. The NSR takes into account all the revenue from all saleable metals (accounting for payability limits for Au and Ag), as well as all sale-related costs and effects (transport loss, freight costs, royalties, etc.). The NSR then gives a revenue net of all selling and transport costs.
NSR was coded into the Mining Block Model as a grade field, and this was used for all cut-off calculations. A NSR Cut-off Grade (COG) was calculated for each mining area to account for changes in filling methods, haulage distances and level intervals. The COG for each mining area was estimated by considering all mining, process, backfill, site services, and G&A costs, as summarized in Table Error! No text of specified style in document.-2.
Table Error! No text of specified style in document.-2 Cut-off Grade for SSO - NSRpt USD
<table><tr><th>Mining Areas</th><th>Indicated SSO Owner Rate COG</th></tr><tr><td>Pick Upper</td><td>$77</td></tr><tr><td>Pick Middle A</td><td>$87</td></tr><tr><td>Pick Middle B</td><td>$97</td></tr><tr><td>Pick Lower A</td><td>$107</td></tr><tr><td>Pick Lower B</td><td>$107</td></tr><tr><td>Pick Lower C</td><td>$112</td></tr></table></td></tr>
<tr><td><i>Mining factors or assumptions</i></td><td><i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i>
<i>The choice, nature and appropriateness of the selected mining method(s) and other mining</i></td><td>Detailed mine designs were undertaken in the Deswik.CAD mining software package, incorporating all available geotechnical and practical considerations.
The mining method selected for Pick Lake longhole stoping with fill, relying principally upon Cemented Paste Backfill (CPB) after stopes are mined. Where practicable, rockfilling has been utilized to minimize waste haulage to surface. Open stoping is used in some upper mine areas to reduce operating costs, with island pillars designed for stability reducing mining recovery. These methods are considered appropriate, as they provide a good balance of economic recovery of the resource, cost minimisation, and safety.
Stope designs were undertaken based upon Hydraulic Radius estimates derived from historical geotechnical analysis and test stope work, and reviewed by MDEng as part of this FS.</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr>
<td></td>
<td>parameters including associated design issues such as pre-strip, access, etc.
The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.
The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).
The mining dilution factors used.
The mining recovery factors used.
Any minimum mining widths used.
The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.
The infrastructure requirements of the selected mining methods.</td>
<td>The block models used for optimisation and scheduling was
• OBM (2019-02) PICK 0.5 x 0.5 x 0.5 (FINAL).csv
The model was modified by Orelogy to add waste blocks to fill the block model frameworks. A summary is provided below, demonstrating negligible impact on the resource model.
Pick Lake - Resource Block Model to Mining Block Model, 3% Zn COG
<table>
<tr><th>Model</th><th>Class</th><th>Cut-off</th><th>Volume</th><th>Tonnes</th><th>Zn (%)</th><th>Cu (%)</th><th>Au (g/t)</th><th>Ag (g/t)</th></tr>
<tr><td>RBM</td><td>Ind</td><td>3 % Zn</td><td>516,782</td><td>1,777,595</td><td>19.18</td><td>0.86</td><td>0.34</td><td>36.15</td></tr>
<tr><td>RBM</td><td>Inf</td><td>3 % Zn</td><td>76,588</td><td>265,672</td><td>16.45</td><td>0.99</td><td>0.27</td><td>37.99</td></tr>
<tr><td>MBM</td><td>Ind</td><td>3 % Zn</td><td>516,609</td><td>1,776,984</td><td>19.18</td><td>0.86</td><td>0.34</td><td>36.15</td></tr>
<tr><td>MBM</td><td>Inf</td><td>3 % Zn</td><td>76,588</td><td>265,672</td><td>16.45</td><td>0.99</td><td>0.28</td><td>37.99</td></tr>
<tr><td>Variation</td><td>Ind</td><td>3 % Zn</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>1.5%</td><td>0.0%</td></tr>
<tr><td>Variation</td><td>Inf</td><td>3 % Zn</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>0.0%</td><td>2.5%</td><td>0.0%</td></tr>
</table>
Stope designs were based upon a design Hydraulic Radius of 5.5. Stope heights vary by area to reflect what would be achievable by production drilling with an acceptable level of accuracy and to account for pre-existing development. A summary of stope heights by area is given in the table below. Mining recovery has been estimated per mining area of the Pick orebody, as shown below. These estimates comprise three factors:
• Design/Drill – unrecoverable geometry
• Blasting – blast envelope interaction with stope outline
• Operational – limitations of tele-remote loaders in stopes
<table>
<tr><th>Mine Area</th><th>Mine Area Abbreviation</th><th>Level Max mRL</th><th>Level Min mRL</th><th>Level Interval m</th><th>Mining Rec. Factor %</th><th>Drill Productivity t/drm</th></tr>
<tr><td>Pick Upper</td><td>PU</td><td>10,014.</td><td>9,909</td><td>15</td><td>93%</td><td>4.80</td></tr>
<tr><td>Pick Middle</td><td>PMA</td><td>9,841</td><td>9,691</td><td>15</td><td>93%</td><td>4.83</td></tr>
<tr><td>Pick Middle B</td><td>PMB</td><td>9,590</td><td>9,490</td><td>20</td><td>95%</td><td>11.89</td></tr>
<tr><td>Pick Lower A</td><td>PLA</td><td>9,470</td><td>9,470</td><td>20</td><td>95%</td><td>14.96</td></tr>
<tr><td>Pick Lower A</td><td>PLA</td><td>9,454</td><td>9,404</td><td>16.5</td><td>95%</td><td>14.96</td></tr>
<tr><td>Pick Lower B</td><td>PLB</td><td>9,383</td><td>9,383</td><td>20</td><td>95%</td><td>14.91</td></tr>
<tr><td>Pick Lower B</td><td>PLB</td><td>9,364</td><td>9,327</td><td>18.5</td><td>95%</td><td>14.91</td></tr>
<tr><td>Pick Lower C</td><td>PLC</td><td>9,312</td><td>9,297</td><td>15</td><td>95%</td><td>14.77</td></tr>
</table>
</td>
</tr>
</table>

Criteria	Explanation	Commentary
		Mining dilution has been modelled with design dilution, paste falloff dilution (for pastefilled stopes) and development dilution. • Design dilution: During the generation of stope shapes, a dilution skin of 0.5 m was added to the footwall and hangingwall of all stopes. This was applied geometrically • Paste falloff dilution: Mining underneath cemented paste backfill will likely result in some failure of the high-strength sill mat beam, causing some paste to fall into the stope below as it forms a stable arch. This material has been modelled as a triangular wedge with a depth of 1/3 the span from hangingwall to footwall (critical wedge depth). This volume of paste was added to the stope tonnage on a per-stope basis at zero grade (pure dilution). • Development dilution: dilution factors were applied to development, to account for overbreak. Resue firing applies to the modelled ore boundary contained within a development drive, and is therefore accounting for inaccuracies in excavating the visible vein in the face, which may be narrower than the width of the ore drive. Dilution Zone: Ore Development - 120%; Stope Paste 105%; Other Development 105% Indicative ring designs were undertaken for representative stopes from each mine area, and the three factors estimated based on the geometry of the design, overlaid with a blast envelope appropriate to the drillhole diameters used for that stope. Minimum mining width has been derived from drillhole accuracy modelling. 2 m was selected as the minimum mining width in the upper areas of Pick Lake, where the orebody is narrowest, based on the average toe displacement at a 15 m level interval being 1/8th of the width. This is considered sufficiently low to not have a material impact on drill and blast performance. Inferred material was optimised, designed and scheduled. The base case schedule for the DFS consists of the Inferred-included inventory, which adds stopes at the edges of the orebody strike. An Indicated-only optimisation, design, and schedule was also undertaken for the purposes of declaring Ore Reserves, which, although less favourable than the Inferred base case, is still considered economically and technically viable. Infrastructure requirements are reduced for the Pick Lake project, as it is located on an historical mine site with access to site power, an area cleared for the process plant, tailings dam, all-weather access road, and potential waste dump sites

Dilution Zone	Value
Ore Development -	120%
Stope Paste	105%
Other Development	105%

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>from historical land disturbance. Forgoing shaft refurbishment means that the majority of mine infrastructure is in the decline, and the raisebore ventilation shaft proposed at Pick Lake.
Areas will be provided on surface for contractors, lay-down and a workshop. All surface structures are required to be enclosed due to the climatic conditions.</td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.
Whether the metallurgical process is well-tested technology or novel in nature.
The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.
Any assumptions or allowances made for deleterious elements.
The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.
For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</td><td>The Company SUP undertook confirmatory comminution and flotation testwork on sample of core collected from the diamond drill program completed in 2018 into the mid-Pick ore. The results were similar to those seen in the historical production data. Recovery and concentrate values are based on a combination of historical operating data from when Pick was an operating mine, the plant performance when treating the test stope from lower Pick and the current metallurgical testwork (see below).
Metallurgical Data Summary
<table>
<tr><th rowspan="2">Metal</th><th colspan="2">2019 Met Testwork</th><th colspan="2">Pick Test Stope Ore</th><th colspan="2">Pick Upper Production</th><th colspan="2">Historical Production</th></tr>
<tr><th>LCT Recovery</th><th>Concentrate Grades</th><th>Pick Recovery</th><th>Concentrate Grades</th><th>Average Recovery</th><th>Concentrate Grades</th><th>Average Recovery</th><th>Concentrate Grades</th></tr>
<tr><td>Zinc</td><td>96%</td><td>48%</td><td>97%</td><td>54%</td><td>91%</td><td>53%</td><td>93%</td><td>50-52%</td></tr>
<tr><td>Copper</td><td>71%</td><td>24%</td><td>61%</td><td>28%</td><td>74%</td><td>24%</td><td>78%</td><td>26-28%</td></tr>
<tr><td>Gold</td><td>18%</td><td>0.04g/t</td><td>31%</td><td>9g/t</td><td>29%</td><td>13g/t</td><td>38%</td><td>11g/t</td></tr>
<tr><td>Silver</td><td>46%</td><td>276g/t</td><td>32%</td><td>750g/t</td><td>31%</td><td>311g/t</td><td>37%</td><td>310g/t</td></tr>
</table>
The flow sheet developed for the process consists of the following stages:
• Single stage crushing of ROM
• Single-stage milling (SAG)
• Copper conditioning and flotation (with regrind of rougher concentrate)
• Zinc conditioning and flotation (with regrind of rougher concentrate)
• Concentrate filtration
• Product loading into seatainers</td></tr>
</table>

Criteria	Explanation	Commentary
		The process is similar to the plant that was previously installed on the site with the exception of the SAG mill replacing the rod and ball mill previously used. The SAG mill provides some benefits with regard to reduced amount of equipment and lower cost without comprising performance. The plant has been sized initially for 325,000tpa mill feed, but arranged such that a doubling up in throughput by duplicating the main equipment can be relatively easily undertaken.
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	The Company has commenced the permitting process required in Ontario the permitting for the development of a mineral project. The permitting of the Superior Lake Project has the benefit of the Winston Lake Mine having permits in place inclusive of an environmental certificate of approval (ECA) and a Closure Plan, both will revert to Superior once the option agreement with FQML is exercised. Superior Lake is progressing the environmental and permitting requirements with completion expected by Q2 2020. To date all environmental permits and approvals are in good standing.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The Project has excellent existing infrastructure including: • Access road • 115kV transmission line to site • Tailings Storage Facility (TSF) • Freshwater dam • Water treatment plant • Mine shaft at Winston • Approximately16km of underground workings • Cleared site where the plant and associated infrastructure can be located The region is a well-developed historical mining area with multiple operating mines located within the area. Thunder Bay is a significant town, less than 200km away, with excellent facilities including engineering workshops, various service providers, Lakehead University and medical facilities.

Criteria	Explanation	Commentary
		From the TransCanada Highway, the Project is accessed via a well-maintained 20 km unpaved road. Concentrate will be transported via this road to the rail-siding in Schreiber. From the rail siding concentrates are easily transported to customers in North America or ports in Quebec or Vancouver for export to Europe or Asia. Infrastructure to be constructed for the project: • A 180-person accommodation camp is proposed and will be located on the site of an existing motel complex adjacent the turn-off from the Trans Canadian highway to the Project site. • 325ktpa plant • Upgrades to power supply and site distribution • Upgrades to existing water treatment facilities
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *Allowances made for the content of deleterious elements.* *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*	The construction capital required for mine development, inclusive of the decline to access the Pick ore, a 325,000tpa plant and associated infrastructure is estimated to be US$86M (excluding owners' costs and pre-production). This includes a 9.5% overall contingency and is based on the following: • Owner Operator mining for the mine development • Primary crusher with SAG milling • Two-stage flotation (copper and zinc) • Concentrate filtration and loading into seatainers • Use of existing transmission line to site (115kV) • Use of existing site access road • Use of existing tailing storage facility (TSF) • Upgrades to surface water infrastructure and water treatment plant The capital cost is based upon an estimate date of Q2 2019 with an accuracy of -10% +15%. The breakdown of the capital cost estimate is shown below:

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Commentary</th></tr>
<tr><td></td><td><i>The allowances made for royalties payable, both Government and private.</i></td><td>
<table>
<tr><th>Cost Centre</th><th>US$M</th></tr>
<tr><td>Site General</td><td>0.8</td></tr>
<tr><td>Process Plant</td><td>43.5</td></tr>
<tr><td>Infrastructure</td><td>7.5</td></tr>
<tr><td>Mine Development</td><td>13.2</td></tr>
<tr><td>sub-total Direct Capital Costs</td><td>65.1</td></tr>
<tr><td>EPCM / Management</td><td>5.4</td></tr>
<tr><td>Construction Indirects</td><td>7.7</td></tr>
<tr><td>sub-total Indirect Capital Costs</td><td>13.1</td></tr>
<tr><td>Contingency</td><td>8.6</td></tr>
<tr><td>Total</td><td>86.7</td></tr>
</table>
<p>Owners and Pre-production costs are described below</p>
<table>
<tr><th>Cost Centre</th><th>(US$M)</th></tr>
<tr><td>Owner’s Costs</td><td>1.8</td></tr>
<tr><td>Mining Pre-production</td><td>5.0</td></tr>
<tr><td>Plant Pre-production</td><td>3.6</td></tr>
<tr><td>Total</td><td>10.5</td></tr>
</table>
<p>A LOM sustaining capital amount of US$43M (average US$5.1M per annum) has also been included in the discounted cash flow model. Closure costs for the operation on completion of the operation are estimated at US$14.6M (CAD20M). This figure will be finalized as part of the Project Closure Plan which will be completed in Q1 2020.</p>
<table>
<tr><th>Cost Centre</th><th>US$M / year</th><th>US$/t ore</th><th>US$/lb Zn</th></tr>
<tr><td>Mining</td><td>17.5</td><td>53.28</td><td>0.16</td></tr>
<tr><td>Labour (excl. mine personal)</td><td>5.5</td><td>16.92</td><td>0.05</td></tr>
<tr><td>Operating consumables</td><td>4.0</td><td>12.34</td><td>0.04</td></tr>
<tr><td>Power</td><td>1.8</td><td>5.37</td><td>0.02</td></tr>
<tr><td>Maintenance material</td><td>1.0</td><td>3.18</td><td>0.01</td></tr>
<tr><td>General and Administration</td><td>2.8</td><td>8.58</td><td>0.03</td></tr>
<tr><td>Total</td><td>32.6</td><td>99.66</td><td>0.30</td></tr>
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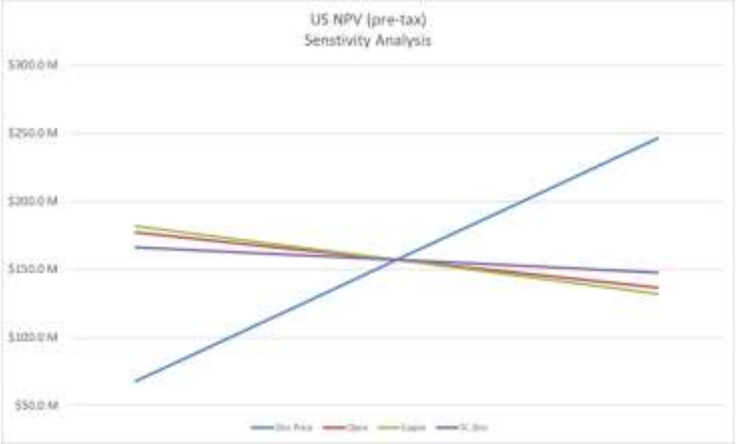
Criteria	Explanation	Commentary
		The operating cost is presented below assuming a mine delivery of 1,000tpd ore and an average of 750tpd waste material and a 325,000tpa processing plant with grid power producing individual copper and zinc concentrates. The operating cost is based upon an estimate date of Q2 2019 with an accuracy of -10% +15%, no contingency allowance has been assumed. The capital estimate is considered to have an accuracy of -10/+15%. A ~9.5% contingency has been added to the total of the direct and indirect costs for the estimate summary to account for any potential shortcoming in the data and information that was collected during the execution of this study. All equipment has been assumed to be purchased new, as OEM systems, rather than used. As such, opportunities may exist to reduce capital by sourcing reconditioned gear. The cost estimates have been developed using past project experience, the engineers project cost database and manufacture/supplier budget pricing for major plant and equipment. Operating costs include all costs associated with mining, processing, general site administration, and treatment charges and transport of concentrate. These costs were calculated from first principles and where applicable referenced against similar size and types operations as a check. Mining costs were estimated at US$53.3/t, plant and admin labour costs of US$5.5M per annum, processing at US$14.2/t, and G&A costs at US$2.8M per annum. The treatment charge was US$130/t concentrate for zinc and USD$95/t concentrate for copper. Concentrate transport was USD$40/t assuming trucking to Schreiber (30km from site) and rail to the Valleyfield Smelter in east Ontario (1300km) The historical concentrate specifications and the assaying done on the concentrates produced from the 2019 metallurgical testwork program show very low levels of deleterious elements present making the product a highly marketable clean concentrate Commodity prices and exchange rates have been taken from the average long-term forecast provided by multiple international banks assuming a first production date of late 2021.

Criteria	Explanation	Commentary
		Concentrate treatment and refining charges (zinc and copper) have been based on historical data collected from the last 10 years as reported in the literature.
Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Revenue used the consensus long term zinc price of USD$2,690/t, USD$6,600 for copper, USD$1,400/oz gold and USD$18/oz silver. Payables for the zinc were 90%, copper 96%, gold 94%, and silver 90%.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	The concentrate deficit as a result of mine closures and production cuts in 2015 and 2016 along with the increasingly stringent environmental oversight in China is forecast to be balanced by 2020. This recovery is reliant to the four major projects (Dugald River, New Century, Gamsberg, and Glencore's Australian assets) that are forecast to ramp up over the next 1 to 2 years. The underlying metal prices reflect the supply and demand conditions and the market sentiment. Superior has used consensus price forecasts when estimating revenue generated by the Superior Lake Project. While the Company is yet to enter into any agreement with potential offtake counterparties, the Company has received strong interest from global metal traders regarding the zinc and copper concentrates expected to be produced at the Project. This interest has resulted in two indicative proposals being received by the Company to date. Receiving such indicative proposals from leading international metal traders highlights the quality of the concentrate to be produced at the Project, with favourable grades and minimal deleterious elements. These proposals are the first step towards securing binding offtake agreements. The intention is to enter into offtake agreements with between one and three parties.
Economic	*The inputs to the economic analysis to produce the net present value*	The Study has been completed with a -10%/+15% accuracy. A discount rate of 8% has been used for financial modelling. This number was selected as a generic cost of capital and is considered as a prudent and suitable discount rate for project

Criteria	Explanation	Commentary
	(NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	funding and economic forecasts in Canada. The model has been run as a life of mine model and includes sustaining capital costs and closure costs. The Study outcome was tested for key financial inputs including: price, operating costs, capital costs and grade. All these inputs were tested for variations of +/- 10% and +/- 20%, with the outcomes shown below: 
Social	*The status of agreements with key stakeholders and matters leading to social license to operate.*	In Ontario the permitting required for a mineral development project generally occurs in three phases, Development, Operations, and Closure, Reclamation and Monitoring. The permitting of the Project has the benefit of the Winston Lake Mine having permits in place inclusive of an environmental certificate of approval (ECA) and a Closure Plan, both of which will revert to Superior once the option agreement with FQML is exercised. Any mineral development project must include consultation with Aboriginal communities, the general public and private interests (e.g. tourism, environmental organizations, local taxpayer’s organization, etc.). Superior Lake has commenced the consultation process in conjunction with the ministry of Energy, Northern Development and Mines (ENDM). In Ontario, the Ministry of Energy Northern Development and Mines (MENDM) co-ordinates the permitting requirements of mineral development projects from mineral exploration through to mine development, operation, and eventually to plant closure, ensuring adequate time for engagement and meaningful involvement of all the potential stakeholder interests. The Company has been advised by MENDM that the commencement of operations will require permit and licensing approvals that will include:

Criteria	Explanation	Commentary
		• Consultation and Agreements with Indigenous Groups – this is a continuous process and the Company is taking a collaborative and consultative approach. These discussions will increase post the release of the BFS; • Permits related to re-establishing the historic surface water taking and mine dewatering – a hydrology study to support the surface water taking application and a hydrogeology study to support the mine dewatering application has been completed; • Environmental Compliance Approval (ECA) for any discharges to air or water, with the latter including potentially separate approvals and treatment processes for industrial wastewater and domestic sewage generated from the mine operations. The supporting emission summary and air dispersion model to confirm compliance with regulated air quality criteria is in progress. • Land Use Permit (LUP) for project features that are off of patented or leased surface rights. A LUP is currently in place for the existing power line and this will be transferred to the Company post transfer of Project ownership. The required pipeline corridor is currently being designed as part of the BFS and this application will be submitted post the transfer of Project ownership; and • The issuance of operational licenses by the MENDM, Ministry of the Environment, Conservation and Parks, and the Ministry of Natural Resources and Forestry. Work is ongoing with field work that is part of the BFS to support the application of operational licenses. Work includes the sampling the water in the tails management facility and the underground workings for treatability testing, biological assessments for significant wildlife habitat, inspecting the mine openings including capturing video footage, dam inspections, geochemical characterization of the rock to be mined, supplemental geotechnical investigations and ground water monitoring well installation, supplemental surface water sampling and ground water sampling. The Company continues to progress the Project approval process to meet all regulatory requirements and importantly to meet the guidelines of the Equator Principles. The key areas of environmental and social assessment, stakeholder engagement, and applicable environmental and social standards have been guiding principles in the BFS and work completed at the Project. Superior Lake's operational readiness and Project execution strategies will incorporate environmental and social management systems, grievance mechanisms, independent reviews, independent monitoring and reporting, and transparency.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally*	Other risks to the project relate to metal prices, social license, and other similar risks of resource projects.

Criteria	Explanation	Commentary
	occurring risks. *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	As the Mineral Resource for Pick Lake consisted of only Indicated and Inferred Resources, the Ore Reserve comprises only Indicated material. This is a reasonable approach for a deposit of this nature with historic reported production The entire Ore Reserve comprises Probable Reserves.

Criteria	Explanation	Commentary
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	The studies were internally reviewed by Superior with no material issues identified. In addition, the Ore Reserve estimate has been reviewed internally by Orelogy.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of*	The Ore Reserve estimate is an outcome of the August 2019 Feasibility Study with geological, geotechnical, mining, metallurgical, processing, engineering, marketing and financial considerations with an NPV estimate to allow for the cost of finance and tax considerations. This NPV demonstrates that the project is economical and robust. Sensitivity analysis undertaken during the FS shows that the project is most sensitive to a movement in the zinc price (which is denominated in US dollars). The NPV is not as sensitive to changes in capital or operating costs. The robustness of the project and the low sensitivity to cost changes provide confidence in the ore reserve estimate. However, there is no guarantee that the Zinc price assumption, while reasonable, will be achieved. The resource, and hence the associated reserve, relate to global estimates.

Criteria	Explanation	Commentary
	uncertainty at the current study stage. *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	