

ASX: CIA TSX: CIA

# Joint Ore Reserves Committee (JORC) Resource and Reserve Statement

Sydney, 27 October 2014: The board of Champion Iron Limited (ASX: CIA, TSX: CIA)("Champion" or the "Company") is pleased to announce the initial Australasian Joint Ore Reserves Committee (JORC) Resource and Reserve Statement for its wholly owned subsidiary Champion Iron Mines Limited's flagship Consolidated Fire Lake North Project in the Labrador Trough, Québec, Canada (see Diagram 1 below).

A JORC compliant resource of over 1.2 billion tonnes (Bt), including 755 million tonnes (Mt) of Measured and Indicated metallurgically coarse grained hematite mineralisation for Consolidated Fire Lake North has been estimated. The successful spring 2014 drilling campaign data has been combined with data from the previous resource estimate reported under the Canadian National Instrument 43-101 ("NI 43-101") to produce this JORC estimate.

Table 1: O	Table 1: October 2014 Fire Lake North Deposit Resource Estimate at Cut-off 15% Fe					
Category	Tonnage (Mt)	Fe (%)	SiO₂ (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)
Measured	40.3	34.19	48.31	1.28	0.015	0.21
Indicated	715.0	31.42	51.38	1.56	0.020	0.31
M+I Total	755.3	31.57	51.22	1.55	0.019	0.30
Inferred	461.0	31.83	49.64	2.22	0.032	0.37
Total	1,216.3	31.71	50.35	1.92	0.026	0.34

Further to the Resource Statement, Champion is also announcing the first Reserve Statement for the Consolidated Fire Lake North Project to comply with JORC. The JORC Reserve estimate totals approximately 464Mt of reserves with an estimated 23Mt, in the Proved category.

# Table 2: 2013 Fire Lake North Deposit Reserve Estimate at Cut-off 15% Fe

(The current Ore Reserves as reported herein were estimated from the Mineral Resources as reported in the January 25, 2013 PFS. New ore Reserves will be estimated for the Feasibility Study, based on the current, updated Mineral Resource Estimate as reported herein)

Category	Tonnage (Mt)	Fe (%)	Weight Recovery (%)
Proved	23.7	35.96	45.00
Probable	440.9	32.17	39.58
Total	464.6	32.37	39.86

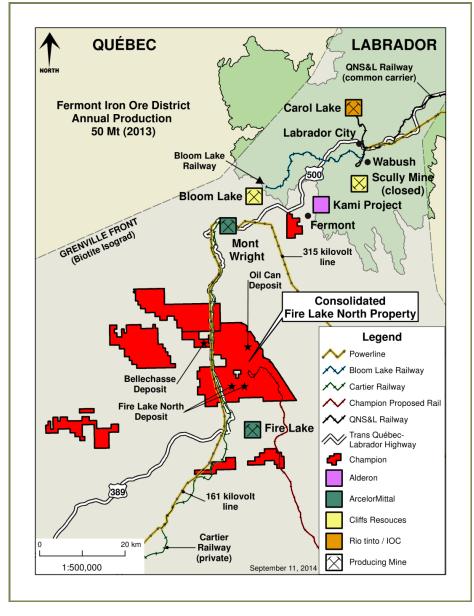


DIAGRAM 1: CONSOLIDATED FIRE LAKE NORTH PROJECT IN QUEBEC, CANADA

The board is pleased to advise that this JORC Reserve estimate is the same as the estimate found in the Prefeasibility Study reported under the Canadian National Instrument 43-101, with full details of both estimates included within Table1, Sections 1 to 4 attached to this announcement.

Champion's Chairman and CEO, Mr Michael O'Keeffe said the completion of work required for Champion to publish an inaugural JORC compliant resource of over 1.2Bt for Consolidated Fire Lake North, and the consistency of this information with the previously published NI 43-101 for the project, is an important development for the Company.

"At a time when we are attracting the interest of industrial and strategic investor groups, it is reassuring to have confirmation of the quality of our major asset and increased confidence in its potential," Mr O'Keeffe said.

# Feasibility Study underway at Consolidated Fire Lake North

A new Reserve estimate will be calculated using the resource data found in today's announcement and will be used to underpin the Feasibility Study currently underway at Consolidated Fire Lake North.

The current reserve is expected to provide approximately 20 years feed to a beneficiation plant where between 9Mt and 10Mt of high grade metallurgically coarse hematite concentrate product aimed at the sinter market will be produced.

The new Resource estimate coincides with the recent province of Québec government announcement stating their ongoing commitment to reviewing options for the potential construction of a multi-user integrated rail system. In June, the Québec government advised it would set aside up to C\$20 million from its Plan Nord Fund for a Feasibility Study to determine the optimum rail option of a new rail link for iron ore miners in the Labrador Trough.

Champion is well advanced on all other aspects of the Consolidated Fire Lake North Feasibility Study and anticipates releasing the comprehensive report shortly after the above rail data are made publicly available by the government, allowing for the incorporation by Champion of the rail operating costs and related data.



### **IMAGE 1: PREMIUM HEMATITE PRODUCT**

The Champion coarse grained concentrate product aimed at the sinter fines market is expected to command a premium in global markets.

The focus of the board and management remains on completing a full Feasibility Study for the development of a long-life, low-cost operation at Consolidated Fire Lake North yielding 9.3Mtpa of concentrate at 66% Fe which is expected to command a premium in global markets.

# Summary of Fire Lake North Project Mineral Resource Reporting as 27 October 2014

# **Geology and Geological Interpretation**

The Fire Lake North Deposit occurs in the 1600 km long north-south trending Labrador Trough, a Paleoproterozoic-aged fold and thrust belt of sedimentary and volcanic rocks that transects the western Labrador and eastern Quebec provincial boundary in eastern Canada. The Labrador Trough is divided into three geological domains; of which, the Southern Domain hosts the Fermont Iron Ore District (FIOD). The FIOD is host to three producing iron ore mines plus the Fire Lake North Deposit.

The iron ore deposits of the Labrador Trough are ~1.8Ga Lake Superior-type iron formations, developed typically as taconite. These taconites are classified as chemical sedimentary rock containing >15% iron in centimetre scale iron-rich beds that are interlayered, with chert, quartz and/or carbonate. The iron is mainly composed of magnetite

and/or hematite, and is commonly associated with mature sedimentary rocks. Extensive Lake Superior-type iron formations occur on all continents in areas of relatively stable sedimentary-tectonic systems. Lesser, non-economic amounts of iron are with Fe-carbonate and Fe-silicate mineralization.

The south region of the Labrador Trough extends into the younger tectonostratigraphic Grenville Province where the Southern Domain iron formations were metamorphosed during the ~1.0Ga Grenville Orogeny. This event produced metataconite iron ore deposits consisting of recrystallized, coarser-grained specular hematite, granular magnetite and quartz. The iron grade of the metataconite deposits is generally higher than the unmetamorphosed northern deposits and is easily beneficiated into iron concentrates of approximately 65% Fe.

The basement rocks of the FIOD are Archean-aged granitic and granodiorite gneiss and migmatite of the Ashuanipi Metamorphic Complex, which are unconformably overlain by metamorphosed equivalents of the Lower Proterozoic Knob Lake Group that include the iron formation units of the FIOD. The Knob Lake Group is a continental margin metasedimentary sequence, consisting of pelitic schist, iron formation, quartzite, dolomitic marble, semi-pelitic gneiss and local mafic volcanic rocks.

In the Southern Domain, the Knob Lake Group comprises six formations: the Attikamagen, Denault, Mackay River, Wishart, Sokoman and Menihek Formations that occur in a northeast trending belt.

-		FERMONT IRON ORE DISTRICT
		GEOLOGY LEGEND
		Champion Iron Limited version
Formation	Code	Rock Type
		(Non stratagraphical within Member)
	FEL	Felsic Dyke
	PEG	Pegmatite
	QMZ	Quartz-Monzonite
Shabogamo Intrusive Suite	MAF	Mafic Dyke
Shabogamo Intrusive Suite	GAB	Gabbro
Menihek Fm ?	AMP	Amphibolite
Meninek Fm ?	HBG	Hornblende-Quartz Gneiss
Menihek Fm	QMS1	Quartz-Feldspar-Mica-Garnet-Gneiss
Mennek Fin	QMS2	Schist
	IF1	Quartz-Specularite Iron Formation
	IF2	Quartz-Magnetite Iron Formation
	IF3	Quartz-Specularite-Magnetite Iron Formation
	IF4	Quartz-Magnetite-Specularite Iron Formation
	IF5	Quartz-Magnetite-Silicate Iron Formation
Sokoman Fm	IF6	Quartz-Magnetite-Carbonate Iron Formation
	IF7	Quartz-Magnetite-Silicate-Carbonate Iron Formation
	IF8	Quartz-Carbonate Iron Formation
	IF9	Quartz-Silicate Iron Formation
	IF10	Silicate- Carbonate Iron Formation
	IF11	Lean-Quartz Iron Formation
Wishart Fm	QTZ1	Quartzite
WISHAIL FIII	QTZ2	Quartz Muscovite Schist
Danis de Fas	DUL1	Calcite Marble
Denault Fm	DUL2	Dolomite Marble
Attikamagen Fm	KAT1	Quartz-Feldspar-Biotite Gneiss
Attikalliayeli Fili	KAT2	Quartz-Biotite +/- Muscovite Schist
Ashuanipi Metamorphic	ASH1	Granodiorite Gneiss
Complex	ASH2	Granite

The Sokoman Formation is the iron ore-bearing unit in the Knob Lake Group and is subdivided into Lower Iron Formation (LIF), Middle Iron Formation (MIF) and Upper Iron Formation (UIF) Members. The Knob Lake Group in the Southern Domain was deformed and subjected to metamorphism during the Grenville Orogeny. As a result of folding and transposition, reversals, truncations and repeats that thicken the iron formation are common.

The iron in the UIF, MIF and LIF occurs for the most part as an oxide, mainly as specular hematite and specularite in its coarse-grained form and to a lesser extent, as magnetite, with some of the iron contained in iron silicates. The main gangue mineral in the iron deposits is quartz, which constitutes approximately 50% of the ore. The most significant structural factor, economically, is the common thickening of rock units with thickened, near-surface, synformal hinges being the most favourable feature for open pit mining. The MIF member is the primary ore-producing horizon mined in the Labrador Trough.

The Fire Lake North Deposit comprises the East Deposit and West Deposit, two separate deposits that occur within the Consolidated Fire Lake North Project, located 45km south-southwest of the town of Fermont, Quebec. These two deposit areas are defined by topographic 'high' areas due to the erosion-resistive nature of the harder iron ore.

# **East Deposit**

The deposit's Sokoman Formation iron mineralization is defined in a 4.8 km long northwest striking, sub-vertical to gently southwest-dipping, tight synform. The mineralization typically occurs as a 30 meter to 130 meter wide bed in the two defined limbs of the synform and also occurs as a third, narrower bed interpreted as a thrust-repeated limb. For the purpose of this summary the term "iron formation bed" will be used to describe the amalgamated iron formation horizon which consists of multiple fold repetitions of a single iron formation bed. The folding and subsequent re-folding of primary iron formation beds, thereby creating a thickened "bed", is apparent at the bedrock trench located at the extreme southeast end of the East Deposit's "Spectacularite" Outcrop. Where thickening has occurred at the synform's hinge area, the iron formation width in several drill holes is 150 to 200 meters.



The East Deposit's higher-grade Middle Iron Formation (MIF) iron mineralization consists predominately of 15-60% geologically fine- to medium-grained specular hematite and minor (5-15%) typically localized fine-grained disseminated magnetite. Locally, over several meters core width, the hematite occurs as a coarse-grained, intermittently massive, specularite variety. The Lower Iron Formation (LIF) and Upper Iron Formation (UIF) iron members are characterized by lower percentages of iron mineralization and equal or higher quartz +/-carbonate +/- iron-silicate percentages. The deposit's iron mineralization typically occurs in 1-5 millimeter wide metamorphic bands, locally up to 10-15 millimeters wide, alternating with bands of gangue minerals. The principle gangue is quartz composing on average 40-60% of the mineralized interval.

The occurrence of faults and shear zones in the East Deposit area are not abundant. There are less than a dozen occurrences where a fault's extension is defined in adjacent drill holes. Typically, these faults are interpreted occurring conformable to bedding.

The East Deposit iron formation is defined by two sub-parallel, northwest-tending, weak magnetic high responses interpreted to represent the southwest iron formation bed and the two northeast iron formation beds.

# **West Deposit**

The deposit's Sokoman Formation iron mineralization is hosted in a 3.6 km long north-striking, tight to isoclinal syncline. The iron formation occurs as a 20 meter to >170 meter wide bed occurring in the variably orientated syncline. Thickening of the iron at the syncline's hinge, has produced a 200 meter wide hematite bed. At the south end of the West Deposit, the syncline is gently inclined, closing to the east. Northward, the syncline gradually rotates clockwise into a sub-vertical, then to a vertical orientation mid-way along the deposit's strike length. At this mid-way location the sub-vertical syncline is folded into an open, recumbent fold along a sub-horizontal axial plane. Northward, the recumbent fold is not defined by drill holes or it is not developed and the two syncline limbs dip moderately to gently toward the west. Further northward, the two syncline limbs rotate counter-clockwise, back to a steeply west-dipping, to sub-vertical orientation.

The West Deposit's high-grade MIF iron mineralization consists predominately of 25-80% geologically fine- to medium-grained specular hematite and minor (<5%) fine-grained, disseminated magnetite. The iron mineralization here is generally coarser-grained than the East Deposit. Mineralization typically occurs in 1-5 millimeter wide metamorphic bands, locally up to 10-15 millimeters wide, alternating with bands of gangue minerals. Locally, the specular hematite occurs over many meters width, as a coarse-grained to massive specularite variety consisting of 60-80% hematite and locally can approach 90-95% hematite content.

Metamorphic alteration of the rocks underlying the West Deposit is a significant occurrence. The underlying Attikamagen Formation quartz-feldspar-biotite gneiss displays clay-type (sericite/illite?) alteration proximal to the overlying iron formation or marble contact. The feldspar crystals exhibit an increasing degree of alteration, progressing from moderate to intense closer to the faulted lithologic contact. These zones of alteration stratigraphically underlie both of the syncline's iron formation limbs and are from 10 to 100 meters wide and locally up to 190 meters core wide. The alteration zone occurs for ~1600 meters mid-way along the western side of the West Deposit's west limb. The strength of the clay-type alteration and the width of the zone varies considerably along strike.

A consistent and well develop fault occurs at both the upper and lower iron formation-wall rock contact and is a significant feature of the West Deposit geology. The ductile clay-filled fault zone can be up to 20 meters wide, occurring as single or multiple narrow clay/sand/rubble zones. Loose sand material is also a very common occurrence in these fault zones. The well-developed fault zones are interpreted to be contemporaneous with the adjacent zones of alteration and are conformable with lithologic contacts. These faults are interpreted to be a product of an early phase of deformation and likely re-activated during subsequent deformation events. Round

clasts of brecciated rock are hosted in the clay-filled fault gouge which indicates at least two fault events have occurred.

The iron formation occurring at the West Deposit area is defined by a north-tending magnetic low response representing the hematite-rich iron formation beds. Approximately 400 meters south of Lac Hippocampe the magnetic response displays a 'dog leg" and the north-trending anomaly bends distinctly to the right (east) by 35°. This bend occurs where the underlying Attikamagen Formation quartz-feldspar-biotite gneiss displays the most significant alteration strength. The West Deposit's magnetic response extends >5.0 km north of its drill-defined northern limit, to the Don Lake iron deposit.

# **Drilling and Sampling Techniques and Sample Analysis Method**

Diamond core drilling was undertaken at the Fire Lake North East and West Deposits utilizing PQ, HQ, NQ and rarely BQ-sized drill rods. The rod size used was dependent on the depth of the planned drill hole, the hole's expected rock quality and the stability of the hole when going through West Deposit's fault zones.

Between April 2009 and May 2014 a total of 205 inclined diamond drill holes were collared on the two deposits to define the variably-dipping iron bodies' size, grade, continuity and overall dimensions/shape. Twenty-seven of these holes were drilled for geomechanical testing of the rock to evaluate the pit wall stability for the pit wall design. When they intersected iron ore these holes also provided data for the mineral resource estimate. Drill holes are collared on 100 meter-spaced cross-sections with iron intercepts typically spaced 100-200meters from each other. Drill holes were shifted on alternating lines "forward" or "backward" so to stagger the pattern and maximize the area of influence of each hole.

A Reflex Maxibor II non-magnetic downhole orientation tool was used to record the hole's lateral or vertical drift that occurred during drilling.

Following completion of the drill hole a Trimble proXH differential GPS unit was used to record the drill collar's lateral and vertical location, with an accuracy of +/-40 cm. A wood post, with metal identification tags, was left as a permanent marker of the drill hole.

Four meter long core sample intervals were collected of all iron mineralization with an additional one or two "buffer" samples collected into the adjacent waste rock. Narrower intervals of waste rock, that occurred internal to the iron formation unit, were sampled to maintain consistency with the drill hole's entire sample interval. The core sample length sometimes varied depending on the location of the sampled lithology's geologic contact. A sample was not carried across a lithologic contact, consistent with industry practice.

The drill contractor controls the core handling at the drill site with all drill core extracted from the 3 meter long drill core tube and placed into wooden core trays, where depth markers were placed after each 3 meter interval of core. Prior to logging, the core was aligned and measured by tape, comparing to down hole core measurement blocks, consistent with industry practice.

Staff geologists logged the total length of all diamond drill holes for lithology, alteration, mineralisation, structure, colour and geotechnical information using a detailed logging protocol to ensure a consistency from hole to hole. Logging is both qualitative and quantitative to an appropriate standard.

Rock Quality Designation (RQD) measurements were collected by trained technicians of all iron ore and waste rock core. Plus all core was photographed and its magnetic susceptibility recorded. The geologist selected and marked the core for analysis. Core was split in half along the vertical axis with one half collected for geochemical analysis

and the remaining half left in the core tray for reference purposes, consistent with industry practice.

During 2012, Champion completed an extensive bedrock trenching and channel sampling program over the East Deposit area. A total of 48 trenches, having a cumulative length of 1,635 m, were excavated and the geology mapped by field geologists. From these trenches, a total of 507 four meter long channel samples were cut from the bedrock, collected and assayed.

All channel samples from 2012 and drill core from 2014 were shipped to either the ALS Minerals facility in Sudbury, Ontario or Val-d'Or, Québec for sample preparation. Their sample preparation did not fully follow Champion's instruction. ALS logged the sample into the lab's tracking system, weighed, and dried the sample as is industry practise. But they fine crushed to better than 90-95% passing a 2 mm screen. A primary crush of 70% passing a 6mm screen was requested to enable the coarse reject to be later used for follow-up metallurgical work. The adjustment to the 2mm crush size was made in the laboratory by ALS staff, to improve their production rate. The finer crush size did not affect the accuracy or precision of the assay results and did follow typical industry standard practices. A split of up to 250 g was then taken and pulverized to achieve 85% passing a 75 micron screen. The pulverized pulp samples were sent from Sudbury or Val-d'Or to their analytical laboratory in Vancouver, BC for analysis for a suite of whole rock elements including: SiO<sub>2</sub>, TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, MnO, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, P<sub>2</sub>O<sub>5</sub> plus Fe and loss on ignition (LOI). Analysis was done on lithium metaborate fused, or borate fused, pressed pellets by X-ray Fluorescence (XRF) spectrometry.

The company's Quality Assurance/Quality Control (QA/QC) program had certified reference material (CRMs or standards) and blanks inserted approximately 1 in every 25 samples. Three different Fe grade CRMs were used – a lower-grade, average-grade and a high-grade sample were cycled through as the designate CRM every 25<sup>th</sup> sample. In addition, a field duplicate sample consisting of 1/4 core was collected in the field every 25 samples, plus a coarse reject and a pulp duplicate sample were prepared at the lab from every 25<sup>th</sup> sample for a total of five QA/QC samples every 25 samples. All QA/QC samples were 'blind' samples that were analyzed by the same XRF procedure described above.

# **Classification of Resources**

A drill-spacing of 100 m centres served as the basis for the Project resources and reserves and is considered sufficient to establish the degree of geological and grade continuity necessary.

Approximately 70% of the assaying within the West Deposit area and 60% of constrained samples in the East Deposit area were composited at 4 meter intervals. The compositing process started at the first point of intersection between the drill hole and the domain, and halted upon exit from the domain wireframe. Drill holes are oriented approximately perpendicular to the iron formation units' strike and dip to provide a reasonable true width of mineralization.

To achieve Inferred category of mineralization the drill hole search radius used is 300 meters (specifically, a 300 meter dip range, 300 meter strike range and a 300 meter across dip range with a maximum of 3 holes, minimum of 1 sample and a maximum of 20 samples used).

To achieve Indicated category of mineralization the drill hole search radius used is 150 meters (specifically, a 150 meter dip range, 150 meter strike range and a 150 meter across dip range with a maximum of 3 holes, minimum of 4 samples and a maximum of 20 samples used).

To achieve Measured category of mineralization the drill hole search radius used is 75 meters (specifically, a 75 meter dip range, 75 meter strike range and a 75 meter across dip range with a maximum of 3 holes, minimum of 7 samples and a maximum of 20 samples used).

# **Estimation methodology**

Estimation methodology included the use of variograms that were developed along strike, across strike and down dip. The mineral resource estimates were updated using GEMS software, and the Inverse Distance Squared (1/d²) methodology was utilized for grade interpolation. Block size was 20 m along strike (Y), 10 m across strike (X) and 14m vertical (Z). In order to facilitate more precise grade estimation along the various dips of the deposits, the IF domains were interpolated separately by using sub-domains, where local grade interpolations by the search ellipse could be established to best fit the interpreted geology geometry. The bulk density model was manipulated using regressions of Fe% assay values.

# Cut-off grade, including the basis for the selected cut-off grade

The mineral resource is reported using a 15% Fe cut-off grade, and was based on iron selling price, US:CAD\$ exchange rate, process recovery costs, processing costs (milling) and Rail/Port/G&A/Enviro costs.

# Mining and metallurgical methods and parameters, and other material modifying factors considered to date

A pit shell was created using Whittle 4X software to constrain the resource to what would be considered potentially economic. Sensitivity analyses were completed on the in-pit resources. The assumptions made were ore and waste mining costs, overburden mining costs, processing costs, rail/port/G&A/enviro costs, pit slopes, iron price, and process recovery costs. The material collected from the open pit mines will be crushed, stockpiled, ground and treated by a gravity process in order to liberate and separate iron particles from the gangue material. Deleterious elements are expected to be low, based on the results of metallurgical testing.

# Summary of Fire Lake North Project Mineral Reserve Reporting as 27 October 2014

# **Basis of Reserve Estimate**

The Mineral Resource Estimate in the NI 43-101 Technical Report for the Preliminary Feasibility Study (PFS) of the West and East Deposits of the Fire Lake North Project (January 25, 2013) was used for the conversion of a portion of that Mineral Resource to Ore Reserve status. This study reported an Ore Reserve in accordance with the JORC (2012) guidelines as part the PFS. The block models used for the PFS were prepared by P&E Mining Consultants Inc. (P&E).

# **Mining Block Model**

Mining block models were created based on the in-situ mineral resources block models prepared and provided to BBA Inc. by P&E Mining Consultants Inc. (P&E) using the following factors:

• Both the West and the East deposits have been regularized to a selective mining unit (SMU) of X=20m x Y=10 m x Z=12 m, a generally accepted size for this type and size of project;

- Based on Application of a weight yield factor, representing the weight recovery, to determine the saleable product in each mineralized block inside the mineral resources block model;
- Mining dilution and ore losses are built-in in the mineral resource model for the chosen SMU size;
- The Fire Lake North project, being a green field project currently under engineering stage, no reconciliation nor verification with production data can be done at this stage.

# Mineral Resources to Ore Reserve Conversion Approach.

A portion of the Mineral Resources were converted to Ore Reserves in a 2-step process:

- Step 1: Pit optimization using state-of-the-art algorithm was carried out to determine the pit shell at the end of its economic life. The algorithm used is the Lerchs-Grossman true pit optimizer based on the graph theory in operation research and calculates the net value on a block per block of ore basis , i.e. revenue from sale less operation cost, of each Measured or Indicated block in the resource model, which together formed the basis for the current mine plan. No inferred blocks are used to drive the pit optimizer. Based on sensitivity analysis, the Ore Reserves are reported using a selling price of \$US74.82 per tonne of iron ore concentrate for a revenue factor of 0.65.
- Step 2: Using the Lerchs-Grossman pit shell obtained in Step 1as an guide, an engineered pit design is
  undertaken to produce a detailed and operational mine design complete with pit slope angles and
  benching arrangement as recommended by geotechnical experts Knight Piésold in rock mass and by
  Journeaux Associates for overburden, final haul ramps width and gradient and curves to ensure optimal
  working conditions in winter.

Knight Piésold Consulting provided a more aggressive scenario of slopes in the southeast sector of the West pit in order to optimize the recovery of the resources within Champion's claim limit. Although these slopes are the steepest configuration considered for the West pit's Southeast sector, it is anticipated that there will be no stability concerns and that additional geotechnical drilling and analysis be performed in this area for the next stage of study, in order to ensure that the recommended slopes can be achieved with consideration to an accepted and safe design practice.

The engineered pit design parameters used to develop the engineered pit designs are based on current practices in nearby similar mining operations and are presented in below.

Engineered Pit Design Criteria			
Parameters	Unit	Values	
Bench height	Meters	12	
Bench arrangement	Arrangement	Double-Benching	
Bench face angle	Degrees	60 - 70	
Inter-ramp angle	Degrees	45 - 52	
Double / Single lane ramp width	Meters	34 / 20	
Final Ramp grade	%	10	

The West Area engineered pit design contains a total of 47 benches of 12 m height each. The uppermost elevation is approximately 708 m and the lowermost elevation is 148 m. The length and width dimensions of the pit are approximately 4.6 km and 0.9 km, respectively.

As for the East pit, there is a total of 41 benches of 12 m of height each with the highest elevation located at approximately 742 m and the lowest elevation located at 268 m. The length and width dimensions of the pit are approximately 4.2 km and 0.9 km, respectively.

# **Production Schedule**

The overall objective of the mine scheduling and planning process is to maximize the project net present value (NPV) and the use of the mineral resources while attaining processing plant as well as ROM quality targets.

Due to the existence of two pits within the Fire Lake North project, a series of mining scenarios was completed in order to optimize the timing of the transition between the West pit and the East pits with respect to minimizing excessive fluctuations in mine throughput, truck fleet size and personnel. The West pit was selected to be the first production pit due to more favorable metallurgical qualities, reserve base and waste to ore stripping ration than in the East pit.

The mine plan was developed to provide a constant throughput of 23Mt/year of run-of mine (ROM) to the concentrator when mining in the West pit and 24.8Mt/year when mining in the East Pit. During the transition years between both pits, concentrator feed tonnage has been adjusted to account for the start-up of a second AG mill and is adjusted according to the feed split between the two pits. The mine plan has also been adjusted to account for the construction material requirements of the tailings dam dyke and site infrastructure.

The mine planning process has involved the creation of a series of pit optimization shells within the selected master optimization pit shell using the revenue factor methodology to create intermediate pit phase shells. From these pit shells, multiple starter and transition pit phases were designed to be used as a guide during the detailed mine planning process.

# **Financial Evaluation**

The financial evaluation for the Champion Fire Lake North Iron Ore Project was performed using a discounted cash flow model both pre- and post-tax using a discount rate of 8% for the base case. The project financing assumed 100% equity for all project components while the railway component was assumed to be built, owned and operated by Champion using an equity to debt ratio of 15% and 85%. The base price for iron concentrate FOB Port of Sept-Îles is \$115/tonne for the first five (5) years and \$110/t in the subsequent years. This price was derived from a medium and long-term Platts Index price forecast and included a premium for the Fire Lake North concentrate grade of 66.0% Fe.

The sensitivity analysis was carried out and generally indicated that both the Internal Rate of Return (IRR) and the Net Present Value (NPV) are firstly sensitive to selling price, secondly the initial investment cost and thirdly the operating costs. As an example, a reduction of 20% in the selling price or an increase 20% in the initial capital cost and operating cost will result in a reduction of 12%, 7.7% and 3.3% in the IRR.

# **Reserve Statement**

The Mineral Reserve is based on the engineered pit design using a mill cut-off grade of 15% Fe, with no additional mining dilution nor ore loss factors based on the selected SMU in the geological block model. The total reserve for the combined West and East pits s pit amount to 464.59 million tonnes, at an average grade of 32.37% Fe, and 39.86% WREC (Weight Recovery).

Fire Lake North Combined Reserve  Cut-Off Grade: 15% Fe			
Reserve Category Tonnage Grade W.R.			W.R.
	Million tonnes	Fe%	Wrec%
Proven Reserve	23.73	35.96	45.00
Probable reserves	440.86	32.17	39.58
Total Reserves	464.59	32.37	39.86

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# **Competent Person Statement**

The information in this report that relates to Sampling Techniques and Data, and Reporting of Exploration Results is based on, and fairly represents, information that has been compiled by Ms Tracy Armstrong who is a Member of the Order of Geologists of Québec and the Association of Professional Geoscientists of Ontario, and an independent consultant contracted by P&E Mining Consultants Inc. Ms Armstrong has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ms Armstrong consents to the inclusion in this report of the matters based on her information in the form and context in which they appear.

The information in this report that relates to Estimation and Reporting of Mineral Resources is based on, and fairly represents, information that has been compiled by Mr. Antoine Yassa who is a Member of the Order of Geologists

of Québec and the Association of Professional Geoscientists of Ontario, and an independent consultant contracted by P&E Mining Consultants Inc. Mr. Yassa has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Yassa consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

The information in this report that relates to Ore Reserve statement is based on, and fairly represents, information and work that have been compiled by and or under the supervision of Mr Patrice Live of BBA Inc as the competent person for the purposes of compiling with the JORC Code. Mr Patrice Live is a member of the Order of Engineers of Quebec (OIQ) and the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL). Mr Patrice Live has sufficient experience that is relevant to the style of mineralization and type of deposit and mine design under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Patrice Live consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

### ABOUT CHAMPION IRON LIMITED

Champion is an iron exploration and development company with offices in Montreal, Toronto and Australia, and is focused on developing its significant iron resources in the Labrador Trough in the province of Québec. Champion holds a 100% interest in the Fermont Iron Holdings, including its flagship Consolidated Fire Lake North Project, that is located in Canada's major iron ore producing district, in close proximity to producing iron mines, existing transportation and power infrastructure.

Consolidated Fire Lake North is located immediately north of Arcelor Mittal's operating Fire Lake Mine and 60 km south of Cliffs Natural Resources Inc.'s Bloom Lake Mine in northeastern Québec. Champion's management and advisory board includes mining and exploration professionals with the mine development and operations experience to build, commission and operate the future Consolidated Fire Lake North mine.

For additional information on Champion Iron Limited, please visit our website at www.championiron.com.

This news release includes certain information that may constitute "forward-looking information" under applicable Canadian securities legislation. Forward-looking information includes, but is not limited to, statements about planned operations at the Company's projects, including its joint venture projects. Forward-looking information is necessarily based upon a number of estimates and assumptions that, while considered reasonable, are subject to known and unknown risks, uncertainties, and other factors which may cause the actual results and future events to differ materially from those expressed or implied by such forward-looking information, including the risks identified in Champion's annual information forms, management discussion and analysis and other securities regulatory filings by Champion on SEDAR (including under the heading "Risk Factors" therein). There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking information. Accordingly, readers should not place undue reliance on forward-looking information. All of Champion's forward-looking information contained in this press release is given as of the date hereof and is based upon the opinions and estimates of Champion's management and information available to management as at the date hereof. Champion disclaims any intention or obligation to update or revise any of its forward-looking information, whether as a result of new information, future events or otherwise, except as required by law.

This press release has been prepared by Champion Iron Limited and no regulatory authority has approved or disapproved the information contained herein.

# **JORC Code, 2012 Edition – Table 1 report template**

Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling Techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<ul> <li>Champion Iron Mines Limited (Champion) undertook diamond drilling at the East and West Pit deposits of the Fire Lake North (FLN) Project, typically obtaining 4 m samples, although sample-size did vary, depending on geology. All core with visual Fe was sampled.</li> <li>The drill contractor controlled the core handling at the drill site and all drill core was extracted from the 3 m long drill core tube and placed into wooden core trays, where depth markers were placed after each 3 m interval of core. Prior to logging, the core was aligned and measured by tape, comparing to down hole core blocks consistent with industry practice.</li> <li>Core was split in half along the vertical axis. One half was sampled for geochemical analysis and the remaining half was left in the core box for reference purposes.</li> </ul>
	• Aspects of the determination of mineralisation that are Material to the Public Report.	• In 2012, Champion also completed an extensive surface trenching and channel sampling program over the East Pit area. A total of 48 trenches, having a cumulative length of 1,635 m, were excavated and the geology mapped by field geologists. From these trenches, a total of 507 channel
	• In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	<ul> <li>samples were collected and assayed.</li> <li>All drill core and channel samples from 2012 to 2014 were shipped to either the ALS Minerals facility in Sudbury, Ontario or Val-d'Or, Québec for sample preparation. The ALS pulverized pulp samples were then sent from Sudbury or Val-d'Or to their analytical laboratory in Vancouver, BC for analysis.</li> </ul>
Drilling Techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is	• Diamond drilling undertaken at both the East and West Pit deposits of FLN utilized HQ, NQ and BQ bit/core sizes during the various phases of drilling.
	oriented and if so, by what method, etc).	A Reflex Maxibor II non-magnetic downhole orientation tool was used to record the hole's lateral or vertical drift that occurred during drilling
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Company geologists, using Gemslogger software, logged core directly into a computer database. When a hole was complete, the Gemslogger "Local" Access file is emailed to MRB & Associates who act as Champions database managers and they incorporated it into the Gems database. RQD

Criteria	JORC Code explanation	Commentary
		measurements were taken on all drill core and also entered into Gemslogger. Core recovery was largely very good, with poor recovery only encountered in the occasional fault zone, or as ground core when the drill bit needed changing. Comments about the recovery are made in the database for intervals with recovery lower than 80%.
	<ul> <li>Measures taken to maximize sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Staff project geologists logged the total length of all diamond drill holes for lithology, alteration, mineralisation, structure, colour and geotechnical information following a detailed protocol that resulted in reliable consistency from hole to hole.</li> <li>Logging is both qualitative and quantitative to an appropriate standard.</li> </ul>
Sub- sampling Techniques And Sample Preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<ul> <li>Core was split in half along the vertical axis. One half was sampled for geochemical analysis and was individually bagged, tagged, sealed and packed in large nylon bags which were securely closed and transported in 45 gallon drums to the laboratory.</li> <li>Split core samples were analysed for a suite of whole rock elements including: SiO<sub>2</sub>, TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, MnO, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, P<sub>2</sub>O<sub>5</sub> plus Fe and loss on ignition (LOI). Analysis was done on lithium metaborate fused, or borate fused, pressed pellets by X-ray Fluorescence (XRF) spectrometry following sample crushing and pulverization.</li> <li>The sample preparation followed standard industry practice, and involved logging the sample into the lab's tracking system, weighing, drying and finely crushing to better than 70% passing a 2 mm screen. A split of up to 250 g was then taken and pulverized to achieve 85% passing a 75 micron screen.</li> <li>The minimum sample-size for lithium metaborate or borate fusion and XRF is 2 g.</li> </ul>
	Measures taken to ensure that the sampling is representative of the in situ	The Quality Assurance/Quality Control (QA/QC) program evolved from the 2009 program, where certified reference materials (CRM or standards) and blanks were inserted approximately 1 in every 40 samples, to an insertion

Criteria	JORC Code explanation	Commentary
	material collected, including for instance results for field duplicate/second-half sampling.	rate of 1 in 25 samples in 2010 and onward. In addition, field duplicates consisting of 1/4 core were collected every 25 samples, and coarse reject and pulp duplicates were prepared at the lab from every 25 <sup>th</sup> sample.  • All sample preparation and sub-sampling techniques are considered to be industry standard and acceptable practices.
Quality Of	<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> <li>The nature, quality and appropriateness of the assaying and laboratory</li> </ul>	Analytical procedure by XRF method involves fusing a prepared sample
Assay Data And Laboratory Tests	procedures used and whether the technique is considered partial or total.	with a 12:22 lithium tetraborate – lithium metaborate flux, which also includes an oxidizing agent (Lithium Nitrate), and then pouring into a platinum mold. The resultant disk is in turn analysed by XRF spectrometry. The XRF analysis is determined in conjunction with a loss-on-ignition at 1000°C. The resulting data from both determinations are combined to produce a "total".  • Two different types of XRF instruments were used for analysis, the Philips PW1404 or Sartorius CP323 S, and neither of these instruments are handheld XRF devices.
	<ul> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>All analysis undertaken on FLN drill core samples is considered to be appropriate.</li> <li>The standards are considered to demonstrate reasonable accuracy, however they do seem to indicate that the lab may be under-reporting the iron very slightly. There is no impact to any of the resource estimates.</li> <li>The blank material for all drill programs was obtained from barren marble drilled in the Fire Lake North area and subjected to a "round robin lab analysis. A blank sample was inserted into the sample stream, where practical, initially from every fortieth sample in 2009 to every twenty-fifth sample in 2010 onwards. Assessment of the blanks analysed during the various drill programs demonstrates that contamination is not an issue.</li> <li>All three duplicate types (field, coarse reject and pulp) were found to have excellent precision at all levels. There was essentially no difference between</li> </ul>

Criteria	JORC Code explanation	Commentary
		the precision at the field level and the precision at the pulp level. The data are considered to be of good quality, and satisfactory for use in a resource estimate.
Verification Of Sampling And Assaying	The verification of significant intersections by either independent or alternative company personnel.  The use of twinned holes.	<ul> <li>Independent sample verification for the FLN deposit was undertaken by P&amp;E in 2009, 2011, 2012 and again in 2014. A total of 36 samples from 16 drill holes were collected by Mr. Antoine Yassa, P.Geo., of P&amp;E Mining Consultants Inc. ("P&amp;E"), an independent Competent Person (CP), and sent for analysis to AGAT Laboratories of Mississauga, Ontario and SGS Mineral Services in Lakefield, Ontario. The samples were analysed for Total iron using sodium peroxide fusion-ICP-OES or lithium metaborate fusion-XRF. The independent sample verification results demonstrate that the results obtained and reported by Champion are reproducible.</li> <li>The FLN Project drill hole databases were validated by Champion using the GEMS system database validation routines and checked for the most common and critical data errors. Champion reconciled all identified errors with MRB and the original data source and Champion corrected all reported errors accordingly.</li> <li>P&amp;E additionally independently validated all Fe% assay results from the independently acquired, original assay laboratory digital files and believes that the supplied databases are suitable for mineral resource estimation.</li> </ul>
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	
Location of Data Points	<ul> <li>Discuss any dajustment to assay data.</li> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> </ul>	All hole locations were collared using a hand held GPS unit (Garmin Rino530HCx) having an accuracy of +/- 5 m. Azimuths for the holes were determined an Azimuth Pointing System tool, due to the strongly magnetic rocks in the area. A ACTIII tool was used on the drill rig for down hole orientation surveys. A Reflex Maxibor II non-magnetic downhole orientation tool was used to record the hole's lateral or vertical drift that occurred during

Criteria	JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	<ul> <li>drilling.</li> <li>Following completion of the drill hole, a Trimble proXH was utilized to record the drill hole collar coordinates, plus elevation, to +/- 0.4 meters.</li> <li>The drill hole collar co-ordinates and elevations in the database were combined, by Champion, with area topography taken from the 1:50,000 National Topographic Database, and used to generate a digital topographic surface of the Fire Lake North Property.</li> <li>The coordinate system used is UTM NAD83 Zone 19.</li> <li>Topographic control is considered adequate for the FLN geological model.</li> </ul>
Data Spacing And Distribution	Data spacing for reporting of Exploration Results.      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.  Whether sample composition has been applied.	<ul> <li>A drill-spacing of 100 m centres served as the basis for the FLN Project resources and reserves and is considered sufficient to establish the degree of geological and grade continuity necessary.</li> <li>Approximately 70% of the assaying within the West area and 60% of constrained samples in the East area were composited at 4 m intervals. The compositing process started at the first point of intersection between the drill hole and the domain, and halted upon exit from the domain wireframe. Any composites that were less than 0.40 m in length were discarded, so as not to introduce any short sample bias in the grade interpolation process.</li> </ul>
Orientation of Data In Relation To Geological Structure	<ul> <li>Whether sample compositing has been applied.</li> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	Drill holes at FLN are oriented to intersect the IF structures perpendicular to the strike and dip of mineralisation. Samples therefore approximate the true thickness of mineralisation and no sampling bias is considered to have been introduced.
Sample Security	The measures taken to ensure sample security.	A secure chain of custody was maintained for the FLN samples, commencing at the drill site, with core handling controlled by the drill contractor. The core was then brought to the base camp, where logging and sample selection were undertaken by Champion's geologists. Core was then split by sampling technicians using a hydraulic rock splitter. Samples were tagged with a unique tag number, securely bagged and placed into large nylon bags, ready for transportation to the laboratory. Samples were picked-up at base camp by the transport company then securely shipped to the ALS Minerals facility in

Criteria	JORC Code explanation	Commentary
		Sudbury, Ontario or Val-d'Or, Québec for sample preparation. The prepped pulp samples were then sent from Sudbury or Val-d'Or to the analytical laboratory in Vancouver, BC for analysis.  • Sample security is considered adequate for the FLN Project.
Audits or Reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews (except for those otherwise mentioned herein) have been carried out on FLN sampling techniques and data.

Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral Tenement and Land Tenure Status	<ul> <li>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.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Consolidated Fire Lake North ("CFLN") Property, on which the Fire Lake North ("FLN") East and West Pit deposits sit, is comprised of 544 claims covering an area of 274.6 km². The Property lies approximately 35 km SSW of the town of Fermont, QC, at 52°26'57"N Latitude and 67°19'22"W Longitude (UTM NAD83 Zone 19, 613750E and 5811250N) on the (Canadian) National Topographic System map sheet 3-B/06.</li> <li>Champion owns 100% of all the claims on the Property, subject to a royalty with Fancamp Exploration Ltd. On March 31, 2014, Mamba Minerals Limited (renamed Champion Iron Limited) completed a business combination whereby Canadian-based Champion Iron Mines Limited is now a wholly-owned subsidiary of Champion Iron Limited. The ordinary shares of Champion Iron Limited trade on the Australian Securities Exchange ("ASX") under the ASX Code "CIA" and on the Toronto Stock Exchange under the symbol "CIA".</li> </ul>
		All claims were in good standing as at the date of this report.
		<ul> <li>All appropriate permits for pre-construction activities have been obtained in order to build a 800 worker construction camp, the 161/34.5 kV substation and a 34.5 kV power line which will feed the construction camp and eventually the construction site. These facilities could be operational for construction workers at the time the CFLN Certificate of Authorization approval is received from the Québec Government.</li> </ul>
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	• Iron formation was discovered on the Property in 1955 by Quebec Cartier Mines. Field work in the early 1960's included detailed mapping and ground geophysics combined with 17 diamond-drill holes totaling 1,300 m. In 2000, EM and magnetic surveys were flown over the property. Several historical non-compliant mineral resource estimates were completed. None of the previous exploration work was used in the Mineral Resource Estimate contained in this report.
Geology	Deposit type, geological setting and style of mineralization.	<ul> <li>Champion began work on the Property in 2008.</li> <li>The Project is situated in the Fermont Iron Ore District (FIOD). The FIOD lies within the Paleo-Proterozoic fold and thrust belt known as the Labrador Trough, which hosts extensive iron formations. The Sokoman Formation, also known as the Wabush Iron Formation, is the mineralized unit in the Knob Lake Group and is subdivided into Lower Iron Formation (LIF),</li> </ul>

Criteria	JORC Code Explanation	Commentary
		Middle Iron Formation (MIF) and Upper Iron Formation (UIF) members. The iron in the UIF, MIF and LIF is, for the most part, in its oxide form, mainly as specular hematite and specularite in its coarse-grained form and, to a lesser extent, as magnetite. The main gangue mineral in the iron deposits is quartz, which constitutes approximately 50% of the iron mineralization. The most significant structural factor, economically, is the common thickening of rock units; with the thickened, near-surface, synclinal hinges being the most favorable feature for open pit mining.
		• The deposits underlying the Project are Lake Superior-type iron formations. Iron formations are classified as chemical sedimentary rock containing greater than 15% iron, consisting of iron-rich beds usually interlayered on a centimetre scale with chert, quartz or carbonate. Ore is mainly composed of magnetite and hematite and commonly associated with mature sedimentary rocks. Extensive Lake Superior-type iron formations occur on all continents in areas of relatively stable sedimentary-tectonic systems.
		• The Knob Lake Group underlying the northern half of Fire Lake North (Don Lake area) consists of a moderately northeast-dipping, overturned, curvilinear synform trending northwest-southeast for approximately six (6) km. The synform is cored by LIF and MIF members of the Sokoman Formation. Airborne magnetic surveys show that the Sokoman Formation continues to the southeast. In the southern part of the Fire Lake North property, this structure gradually changes orientation toward the south-southeast. The southern half of Fire Lake North has distinct iron formation-hosting structures in the western, centre and eastern parts. Geophysical magnetic-response anomalies indicate that the western structure is continuous with the synclinal structure in the Don Lake area.
Drill Hole Information	<ul> <li>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:</li> <li>Easting and northing of the drill hole collar</li> </ul>	• For the currently estimated Mineral Resource, 69 diamond drill holes for a total of 21,765 m were from the East area, and 136 holes, for a total of 43,411 m were from the West area.
	<ul> <li>Elevation or rl (reduced level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	Dip and azimuth of the hole	
	Down hole length and interception depth	

Criteria	JORC Code Explanation	Commentary
	<ul> <li>Hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>Since 2008, Champion has regularly publicly released diamond drilling, exploration, MRE, PEA and PFS results, specifically in the press releases dated 4/5/2010, 18/5/2010, 4/8/2010, 18/8/2010, 24/8/2010, 18/10/2010, 3/11/2010, 9/3/2011, 28/3/2011, 14/4/2011, 9/6/2011, 3/8/2011, 11/8/2011, 27/9/2011, 3/10/2011, 7/11/2011, 21/11/2011, 6/1/2012, 17/4/2012, 21/6/2012, 1/8/2012, 9/1/2013, 7/2/2013, 20/2/2013, 6/2/2014.</li> <li>All of the NI 43-101 Mineral Resource Estimate reports, PEA, and PFS can be consulted in their entirety at <a href="http://www.sedar.com">http://www.sedar.com</a>.</li> </ul>
Data Aggregation Methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	Not applicable – no exploration results or drill hole intercepts are discussed in this Ore Reserve and Mineral Resource estimate.
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship Between Mineralizatio n Widths and Intercept Lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Not applicable – no exploration results or drill hole intercepts are discussed in this Ore Reserve and Mineral Resource estimate.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	No exploration results or drill hole intercepts are discussed in this Ore Reserve and Mineral Resource estimate. Relevant plans, cross-sections and long-sections have been publicly released in previous announcements of exploration updates on the above dates (See Section 2 "Drill Hole Information")
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.	Not applicable – no exploration results or drill hole intercepts are discussed in this Ore Reserve and Mineral Resource estimate.
Other	• Other exploration data, if meaningful and material, should be reported	Not applicable – no exploration results or drill hole intercepts are discussed

Criteria	JORC Code Explanation	Commentary
Substantive Exploration Data	including (but not limited to): geological observations; geophysical survey results; geochemical survey 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	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this</li> </ul>	in this Ore Reserve and Mineral Resource estimate.
	information is not commercially sensitive.	

Section 3 Estimation and Reporting of Mineral Resources (Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database Integrity	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Prior to commencing any work on the Fire Lake North Property, the GEMS project drill hole database was validated by Champion, using the GEMS system database validation routines to check for the most common and critical data errors.</li> <li>P&amp;E imported and independently re-validated all collar, survey, geology and sampling data into an Access format GEMS database.</li> <li>P&amp;E additionally and independently validated all Fe% assay results from original assay laboratory digital files.</li> <li>P&amp;E believes that the supplied databases are suitable for mineral resource estimation.</li> </ul>
Site Visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>North Property four times, most recently from April 08 to 10, 2014.</li> <li>All logging procedures were verified and in the field DDH random drilling sites locations were confirmed using Hand-held GPS.</li> <li>Eight (8) samples were collected in 2014 by Mr. Yassa and analyzed at AGAT Labs in Mississauga, ON for Fe using sodium peroxide fusion-ICP-</li> </ul>
Geological Interpretatio n	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> </ul>	<ul> <li>OES. Results were very similar to original ALS Labs results.</li> <li>The geological interpretation used geophysical magnetic data, (which outlined the IF), as a guide, and was predominantly based on diamond drill cross sections spaced at 100 m centres for both East and West Pit areas. For the East pit area, trench/channel samples based at 100 m centres were also used.</li> <li>The magnetic contour results were found to correlate reasonably well with the IF surface expression, particularly along strike. The thickness of the IF indicated by the zero magnetic contour, however, often exceeds the actual thickness indicated by the projected drill hole intersections.</li> <li>The geological interpretation of mineralized boundaries is considered robust and any alternative interpretations do not have the potential to impact significantly on the Mineral Resource.</li> </ul>
	<ul> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> </ul>	<ul> <li>Interpreted geology served as the basis for guiding and controlling the wireframes, and hence the resulting block model in the Mineral Resource estimation.</li> <li>The coefficients of variation of the distributions of Fe composites contained within the resource wireframes are low, indicating grade continuity with no outliers, and no grade capping was necessary. The IF is a very continuous unit, albeit sinuous and often folded.</li> </ul>

Criteria	JORC Code explanation	Commentary
	The factors affecting continuity both of grade and geology.	
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.	<ul> <li>The West area is interpreted to be a complexly folded (canoe-shaped) iron formation. The resource area is approximately 3.6 km long trending NS, 60-400 m wide, to a depth of 1,000 m.</li> <li>The East area is a complexly folded iron formation, comprised of two parallel NW trending iron formations that extend for approximately 4.8 km, 30-430 m wide to a depth of 770 m.</li> </ul>
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 distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	<ul> <li>Approximately 70% of the assaying within the West area wireframe and 60% of constrained samples in East area were composited at four (4) m intervals. Any composites that were less than 0.40 m in length were discarded, so as not to introduce any short sample bias in the grade interpolation process. Grade capping statistics indicated the absence of outliers.</li> <li>Variograms were developed along strike, across strike and down dip.</li> </ul>
	<ul> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic</li> </ul>	<ul> <li>Mineral resource estimates were updated using Geovia Gems and the Inverse Distance Squared (1/d²) methodology was utilized for grade interpolation.</li> <li>Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P and LOI were also estimated.</li> </ul>
	<ul> <li>Estimation of detererious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterization).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	<ul> <li>Block size was 20 m along strike (Y), 10 m across strike(X) and 14m vertical(Z).</li> <li>Due to the IF being folded with variable dip directions and angles, an ellipsoidal search was incorporated to code the Fe% grade blocks. In order to facilitate more precise grade estimation along the various dips of the deposits, the IF domains were interpolated separately by using sub-domains, where local grade interpolations by the search ellipse could be established to best fit the interpreted geology geometry.</li> <li>Three passes were executed for grade interpolation; the search ellipse range was selected as 75 m for pass 1, 150 m for pass 2 and 300 m for pass 3.</li> <li>The bulk density model was manipulated using regressions of Fe% assay values.</li> </ul>
	Any assumptions about correlation between variables.	The block model was validated using a number of industry standard methods including visual and statistical methods, including:

Criteria	JORC Code explanation	Commentary
	<ul> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Visual examination of composite and block grades on plans and sections on-screen;</li> <li>Review of estimation parameters;</li> <li>Number of composites used for estimation;</li> <li>Number of holes used for estimation;</li> <li>Mean Distance to the nearest composite;</li> <li>Number of interpolation passes used to estimate grade;</li> <li>Mean value of the composites used;</li> <li>Comparison of mean grades of capped composites and model blocks;</li> <li>A volumetric comparison with the block model volume versus the geometric calculated volume of the domain solids;</li> <li>Comparison of grade models interpolated with 1/d² and Nearest Neighbor (NN) on a global mineralized block basis.</li> <li>As a test of the reasonableness of the resource estimate, the average interpolated grades for the block models were compared to the assays and composites within the constrained solids. The average grades of all the Fe blocks are somewhat lower than the composites in the constraining domains, which is probably due to the localized clustering of some higher grade assays, which were smoothed by the compositing block modeling grade interpolation process. In this case, P&amp;E believes the block model grade will be more spatially representative.</li> <li>There are no payable by-products.</li> <li>Deleterious elements were identified through metallurgical testing as SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P and LOI (Ca). They are not expected to create any processing concerns.</li> <li>No assumptions were made regarding selective mining units.</li> <li>Bulk density was shown through regression analysis to be directly related to Fe %.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off Parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The mineral resource is reported using a 15% Fe cut-off grade. The assumptions used for the cut-off calculation are:</li> <li>Iron selling price: US\$1.77/dmtu Fe</li> </ul>

Criteria	JORC Code explanation	Commentary
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.	<ul> <li>All Currency is in US\$</li> <li>Process recovery: 82% for West Area and 76.5% for East Area</li> <li>Process cost: US\$1.68/tonne milled for West Pit Area and US\$1.77/tonne milled for East Pit Area</li> <li>Rail/Port/G&amp;A/Enviro cost: US\$4.73/ore tonne West pit, US\$3.97/ore tonne East pit.</li> <li>In order for the constrained open pit mineralization in the Fire Lake North resource model to be considered potentially economic by open pit methods, a first pass Whittle 4X pit optimization was carried out to create a pit shell for in-pit resource reporting purposes, and sensitivity analyses were completed on the in-pit resources.</li> </ul>
		<ul> <li>The assumptions made were:</li> <li>Ore and Waste mining cost: US\$2.06/ rock tonne;</li> <li>Overburden mining cost: US\$1.40/ovb tonne;</li> <li>Processing cost: US\$1.68/ore tonne West Pit, US\$1.77/ore tonne East Pit;</li> <li>Rail/Port/G&amp;A/Enviro cost: US\$4.73/ore tonne West pit, US\$3.97/ore tonne East pit;</li> <li>Pit slopes: 49° for rock, 30° for ovb;</li> <li>Fe price: \$US 1.77 per % Fe in ore;</li> <li>Process recovery: 82% West pit, 76.5% East pit.</li> </ul>
Metallurgical Factors or Assumptions	• The basis for assumptions or predictions regarding 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 material collected from the open pit mines will be crushed, stockpiled, ground and treated by a gravity process in order to liberate and separate iron particles from the gangue material. Deleterious elements are expected to be low, based on the results of metallurgical testing.
Environmen- tal Factors or	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the	The tailings will be pumped to a tailings management facility located near the concentrator, while the final hematite concentrate will be filtered and loaded into rail cars for delivery to the Port of Sept-Îles.

Criteria	J	ORC Code explanation	C	Commentary
Assumptions		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.		
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 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 bulk density was the subject of a bulk density (as measured as part of the data collection process) vs Fe% regression analysis based on 502 samples. The bulk density for the IF was interpolated for each mineralized block, based on the regression analysis.
	•	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.		
Classification	•	The basis for the classification of the Mineral Resources into varying confidence categories.	•	The mineral resources were classified as Measured, Indicated and Inferred based on the geological interpretation, semi-variogram performance and drill hole spacing. The Measured resources were defined for the blocks interpolated using a 75 m search range, and at least 5 composites from a minimum of three holes; Indicated resources were justified for the blocks interpolated using a 150 m search range and at least three composites from a minimum of two drill holes; and Inferred resources were categorized for blocks interpolated using a 300 m search range and at least one composite from one drillhole. The classifications of some blocks have been adjusted to represent the resource classification more reasonably.
	•	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).  Whether the result appropriately reflects the Competent Person's view of the deposit.		
Audits or Reviews	•	The results of any audits or reviews of Mineral Resource estimates.		The wireframes were created by Champion; P&E reviewed, edited and accepted the geological model.  No audits of the current updated mineral resource estimates have been conducted outside P&E.

Criteria	JORC Code explanation	Commentary
Discussion of Relative Accuracy/ Confidence	• 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.	The mineral resource estimates are considered robust and appropriate, utilizing standard geostatistical estimation methods.
	<ul> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>No production data are yet available for comparison; however, relative accuracy and confidence have been assessed by model validation using a number of industry standard practice methods, (see above under Estimation and Modeling Techniques).</li> </ul>

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	JORC Code explanation	Commentary
Mineral Resource Estimate for Conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <li>The Mineral Resource Estimate in the NI 43-101 Technical Report for the Preliminary Feasibility Study (PFS) of the West and East Deposits of the Fire Lake North Project (January 25, 2013) was used for the conversion of a portion of that Mineral Resource to Ore Reserve status.</li> <li>The Mineral Resource Estimate reported is inclusive of the Ore Reserves.</li> </ul>
Site Visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Competent Person, Patrice Live, P. Eng., for this Ore Reserve Statement is an Independent consultant who has been involved with the Project since 2009 and has visited the project site on September 20, 2010.</li> <li>Having previously worked for a number of years for mining companies in the area, the Competent Person for the current Ore Reserve statement is very familiar with the environment and the geographical setting of the Fire Lake North Project.</li> </ul>
Study Status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore</li> <li>Reserves.</li> </ul>	<ul> <li>A PFS was completed in 2013. This study reported an Ore Reserve in accordance with the JORC (2012) guidelines.</li> <li>A full Feasibility Study is underway, with an expected completion date of Q-3, 2015. The current Ore Reserves as reported herein were estimated from the Mineral Resources as reported in the January 25, 2013 PFS. New Ore Reserves will be estimated for the Feasibility Study, based on the current, updated Mineral Resource Estimate as reported herein.</li> </ul>
	• 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 material Modifying Factors have been considered.	
Cut-off Parameters	The basis of the cut-off grade(s) or quality parameters applied.	• Cut-off grades and quality parameters were derived and applied after consideration of concentrate selling price (FOB), mining cost, processing cost and other costs, including G/A, rail and port. A 15% Fe cut-off grade

Criteria	JORC Code explanation	Commentary
		(COG), in line with similar iron ore projects in the region and their historical data were used, in order to compile the Ore Reserve estimate.
Mining Factors or Assumptions	• 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).	<ul> <li>A portion of the Mineral Resources were converted to Ore Reserves based on economic pit shell optimization using the true pit optimizer Lerchs-Grossman 3-D (LG 3D) algorithm in MineSight. The LG 3-D algorithm is based on the graph theory and calculates the net value of each Measured or Indicated block in the model, which together formed the basis for the current mine plan. No Inferred Resources were included in the pit optimization process and in the Ore Reserves estimate. Mining dilution and ore losses are built-in in the Resource model having an SMU of 10 m x 20 m x 12 m.</li> <li>Based on sensitivity analysis, the Ore Reserves are reported using a selling price of \$US74.82 per tonne of iron ore concentrate for a revenue factor of 0.65.</li> </ul>
	<ul> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as prestrip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> </ul>	<ul> <li>Mining will follow a conventional open pit truck-shovel operation based on a 24-hour per day, 7 days per week and 360 days per year production schedule. The life of mine (LOM) is approximately 20 years and is based on the plant production capacity of 23 Mtpy for the West Pit, and 24.8 Mtpy for the East Pit. The East Pit production tonnage is contingent on the construction of a second AG mill. The mining method selected for the Project is based on conventional drill, blast, load and haul. Annual mining equipment fleet requirements were developed based on equipment performance parameters and average hauling distances and vertical lifts. LOM average waste to ore stripping ratio is 2.74 tonnes of waste per tonne of ore.</li> <li>A pit slope study was performed by Knight-Piésold and was used to develop the engineered pit design, in order to incorporate operational and design parameters such as final access ramp, surface constraints, benching arrangement and other operational details.</li> </ul>
	<ul> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> </ul>	<ul> <li>Grade control will be carried out using blast holes on a drilling pattern of 7.5 m x 7.5 m, initially by sampling blast hole cuttings, and adjustments to the pattern will be made if necessary.</li> <li>Bench height in the PFS is 12 m, and was revised to 14 m in the current updated resource estimate, and each blast in ore will be drilled on a 7.5 m x 7.5 m pattern.</li> <li>The minimum mining width and the pushback size are planned 100 m and 80 m, respectively.</li> <li>The Fire Lake North project is located in the Labrador Trough where mining has been carried out for more than 50 years with existing access roads and rail, power line and other facilities such as towns, airport, manpower etc.</li> </ul>

Criteria	JORC Code explanation	Commentary
	The infrastructure requirements of the selected mining methods.	
Metallurgical Factors or Assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The material collected from the open pit mines will be crushed, stockpiled, ground and treated by a gravimetric process in order to liberate and separate iron particles from the gangue material. The tailings will be pumped to a tailings management facility located near the concentrator, while the final hematite concentrate will be filtered and loaded into rail cars for delivery to the Port of Sept-Îles.
		This process is consistent with other iron ore mines in the area.
	• Whether the metallurgical process is well-tested technology or novel in nature.	Metallurgical testing for the PFS was initiated in early 2012. The tests were
	• The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	<ul> <li>designed to better characterize the grindability and liberation characteristics of the mineralization in the West Pit and East Pit zones following test work completed for the PEA update.</li> <li>Several testing activities were performed, including the following:</li> <li>Bench scale grindability characterization;</li> <li>Pilot plant;</li> </ul>
	Any assumptions or allowances made for deleterious elements.	<ul> <li>Liberation size determination;</li> <li>Settling and rheology;</li> <li>Environmental characterization;</li> <li>Fine hematite recovery.</li> <li>The mill size and grinding energy required was calculated using three (3) different methods. All of these gave results within 20% of the mean; these results were also confirmed by the Pilot Plant tests done with the East Pit bulk sample. The mills were designed to provide the nominal throughput of 2854 tph at the 65<sup>th</sup> percentile of ore hardness, using 85% of installed power.</li> </ul>
		• Using conventional gravity separation, concentrate grades of greater than 65% Fe were obtained. The combined Al <sub>2</sub> O <sub>3</sub> + SiO <sub>2</sub> level was less than 7.0%, with a SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> ratio of approximately 10:1. The concentrate had low levels of other impurities.
	• 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.	<ul> <li>The tailings were found to have good thickening and settling properties, and following test results, were classified as non-acid generating.</li> <li>Tests done at a second testing laboratory confirmed the gravity recovery results obtained at SGS.</li> </ul>
		The metallurgical process design and test work is considered applicable standard industry practice considering the nature and quality of the

Criteria	JORC Code explanation	Commentary
		<ul> <li>mineralization. Results of the bench scale and pilot plant tests are considered representative of the ore body as a whole.</li> <li>The geo-metallurgy of the deposit is currently being evaluated as part of the FS.</li> </ul>
	• For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	
Environmen- tal	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.	<ul> <li>The overall Project is subject to environmental assessment provisions under the Environment Quality Act and the Canadian Environmental Assessment Act. The Environmental Impact Assessment that is required pursuant to the Acts is in preparation, and a schedule for the environmental assessment of the Project has been developed. Environmental studies have been conducted and reports either have been or are being prepared.</li> <li>A tailings management strategy has been defined and a feasibility level design for the Tailings Management Facility (TMF) has been developed. A siting study was undertaken and an appropriate area has been determined and located on the site plan, taking into account environmental considerations and constraints. Water in the polishing pond will be recycled to the mill, within the constraints of both water availability in the polishing pond, on one hand, and concentrator water demand on the other. Water in excess of mill requirements will be released to the environment, meeting all regulatory requirements.</li> <li>An overburden and waste rock stockpiles feasibility level design has been developed, and locations are defined on the site plan.</li> <li>Discharges from the stockpiles will be routed to a series of sedimentation ponds to ensure adequate treatment and to meet required regulatory requirements prior to release to the environment.</li> <li>A Rehabilitation and Closure Plan is being prepared for the Project. The Plan describes measures planned to restore the Property as close as reasonably possible to its former use or condition, or to an alternate use or condition that is considered appropriate and acceptable by the Department of Natural Resources (MRN). The Plan outlines measures to be taken for progressive rehabilitation, closure rehabilitation and post-closure</li> </ul>
Infrastructur e	• 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.	<ul> <li>Site Infrastructure has been planned according to the PFS, and considered all aspects of mining, processing, hauling, accommodation, waste disposal sites, electrical power, transportation of final product to shipping facilities, and site access. The Project is easily accessible, with the current construction of a 7 km access road to link it to the Trans-Québec Labrador Highway 389.</li> </ul>

Criteria	JORC Code explanation	Commentary
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> </ul>	<ul> <li>The Capital and Operating Cost Estimates related to the mine, concentrator and FLN site infrastructure, as well as that of Pointe Noire, were developed by BBA.</li> <li>The costs related to the construction and operation of a new railway linking the FLN site to Pointe-Noire were calculated by Rail Cantech.</li> <li>The closure plan was developed by Journeaux Associates, who worked with BBA to design the tailings management facilities.</li> </ul>
	<ul> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> </ul>	<ul> <li>The environmental compensation costs were provided by Roche, and BBA consolidated cost information from all sources.</li> <li>Mining equipment budget costs were obtained from vendor quotes and the BBA database.</li> <li>The processing plant costs were developed by a professional estimator using a mechanical equipment list based on the process flow sheet and from the material take off (MTO).</li> <li>Site infrastructure costs were developed by a BBA estimator.</li> </ul>
	<ul> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <li>The port infrastructure was produced by BBA on the basis of an equipment list, the site layout and MTO.</li> <li>The environment costs were prepared by Roche.</li> <li>The tailings management facility concept and MTO were developed by Journeaux and priced by BBA.</li> <li>The railway infrastructure, rolling stock and ancillary buildings costs were developed by Rail Cantech.</li> <li>In metallurgical test work, concentrations of deleterious elements and oxides, such as SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, S, LOI, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, TiO<sub>2</sub>, and</li> </ul>
		<ul> <li>MnO, were found to be low, and of little to no concern.</li> <li>The medium and long-term iron ore price forecast for use in the Project Financial Analysis was based on various public and private market studies by reputable analysts and iron ore producers, opinions of industry experts, as well as other sources.</li> <li>The exchange rates used in the PFS were established in Q4-2012 CAD\$. The US\$ to CAD\$ was taken as 1:1, and the AUD\$ to CAD\$ was taken as 1:1.033.</li> <li>There are 2 components to transportation; rail costs and port costs. Rail costs were estimated based on shipment of concentrate by rail from the FLN site to the Port of Pointe Noire. The LOM average cost for rail transportation was calculated at \$4.14/t. Additional expenses related to rolling stock leasing and maintenance equipment bring the total railway operating cost to a life of mine average of \$4.80/t.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>Port shipping costs of \$2.34 per tonne of concentrate were calculated for the operation of Champion's stockyard at Pointe Noire, including insurance, equipment and site maintenance, labour, electrical power consumption, berthage fees as well as costs associated with pilot launches and tugs. Also included are operating costs paid to the Port of Sept-Iles for maintenance of the ship loading equipment as well as fees per tonne of concentrate shipped, which were previously negotiated between Champion and the Port.</li> <li>The LOM processing costs take into account labour, maintenance and part inventory, additives, electricity and fuel. The prices of the consumables were taken from vendor's quotes, while the replacement frequencies were determined based on information available from similar operations and based on the vendors' operational experience. Maintenance costs were factored at 4% of the total mechanical equipment cost, and include mobile equipment required for material manipulation within the tailings impoundment facility. An electricity cost of \$0.045/kWh (based on Hydro-Québec's tariff-L) was used for the site and power consumption.</li> <li>A price of \$1.00/litre was used for all diesel fuel consumption and the related cost was calculated using an efficiency factor of 80%.</li> <li>Full allowance is made for product quality risk based on metallurgical test work, technical marketing and projected product sales.</li> <li>Full allowance is made for all Government and private royalties.</li> </ul>
Revenue Factors	<ul> <li>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.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul> <li>All revenue factor assumptions are based on inputs from the current production plan, pricing received from spot sales and other third party agreements.</li> <li>Medium and long-term iron ore price and foreign exchange assumptions are based on the analysis of independent forecasts from a range of third party</li> </ul>
Market Assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely</li> </ul>	<ul> <li>Studies to date suggest that, at the time of reporting, extraction could be reasonably justified for the life of the current mining plan.</li> </ul>
	<ul> <li>A customer and competitor analysis along with the identification of tikely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> </ul>	<ul> <li>Considering that commercial production for the Fire Lake North Project is scheduled to begin in 2016, BBA arrived at a medium (first five years) and long-term (beyond 5 years) FOB price Port of Sept Iles of \$115/t and \$110/t respectively, based on the Platts Index benchmark of 62% Fe iron ore concentrate.</li> <li>Major producers such as Rio Tinto, Vale and BHP expressed their views on supply and demand projections in recent presentations posted on their public websites. Crude steel production in China is forecast to continue to grow to over 900 Mtpy by 2020 and peak at about 1000 Mtpy in 2030 (forecast by Rio Tinto). In their price forecasting, BBA has relied on the forecasts of these producers.</li> </ul>

Criteria	JORC Code explanation	Commentary
	For industrial minerals the customer specification, testing and acceptance	
Economic	<ul> <li>requirements prior to a supply contract.</li> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>All cost and sales estimates are in constant Q4-2012 dollars (no escalation or inflation factor has been taken into account);</li> <li>Depreciation and tax were calculated based on relevant accounting standards. After-tax economics were established by Champion Management along with the company's external tax consultants.</li> <li>The base case used a discount rate of 8% to generate the pre-tax NPV, with sensitivity analyses conducted at +/-20% on initial capital costs, commodity selling price, and operating costs. NPV was most sensitive to variations in commodity price.</li> </ul>
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	All permit applications have been submitted to the relevant authorities, and discussions are on-going with all stake holders. Some of the permits have been received, and major studies, which are required for certain permits, are in progress on the way to the full Feasibility stage of the project.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	<ul> <li>The potential risks and opportunities identified that may impact the capital expenditure, project schedule and operation costs relating to the following domains of interest were:  <ul> <li>Aboriginal;</li> <li>Commercial;</li> <li>Environmental;</li> <li>Stakeholders;</li> <li>Governmental and Political;</li> <li>Mining;</li> <li>Strategic;</li> <li>Technical.</li> </ul> </li> <li>All the identified risks will be carried through to the next phase of the Project and shall be updated based on the status of the Feasibility Study.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>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.</li> </ul>	
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The mineral resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.</li> <li>Only the Measured and Indicated Resources have been converted to Proven and Probable Reserves for the purpose of this Study, in accordance with NI 43-101 regulations for a Preliminary Feasibility Study.</li> </ul>
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	
Audits or Reviews	The results of any audits or reviews of Ore Reserve estimates.	The reserve was estimated by BBA, an independent consultant as part of the NI 43-101 process, however this estimate has not been subject to a further independent audit.
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	

Criteria	JORC Code explanation	Commentary
	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	<ul> <li>the current PFS.</li> <li>The ore reserve calculation was carried out on a global basis for a combined minimum 20 years mine life for both the West and the East pits.</li> </ul>
	<ul> <li>assumptions made and the procedures used.</li> <li>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 uncertainty at the current study stage.</li> </ul>	• A sensitivity analysis was carried out using iron concentrate selling prices with revenue factor (RF) ranging from 0.35 – 1.00, 0.35 being the lowest RF to generate an economic pit shell. The selected pit shell is based on a RF of 0.65 to maximize the net present value and to minimize the LOM stripping ratio, providing an additional safety factor to the ore reserve estimate. It is
	• 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.	<ul> <li>believed that the ore reserve estimate bears a level of confidence appropriate to the accuracy of a PFS.</li> <li>The Fire Lake North project is a green field project currently under engineering studies, therefore no reconciliation nor verification with production can be done at this stage.</li> </ul>