

# Champion Iron Updates Mineral Resources And Reserves For Its Bloom Lake Operations

23.08.2023 | [CNW](#)

Drilling Confirms Continuity and Expansion Potential of Bloom Lake Beyond Life-of-Mine Plan

Measured and Indicated Resources Increase by 40%

Inferred Resources Increase by 360%

MONTREAL, Aug. 22, 2023 /CNW/ - (SYDNEY, August 23, 2023) - [Champion Iron Ltd.](#) (TSX: CIA) (ASX: CIA) (OTCQX: CHIRF) ("Champion" or the "Company") announces updated mineral resource and reserve estimates (the "Mineral Resource and Reserve Estimate"), along with accompanying life-of-mine ("LoM") plan, prepared pursuant to National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101") for the Bloom Lake Mining Complex ("Bloom Lake"), located near the town of Fermont, in north-eastern Québec. The technical report with respect to the Mineral Resource and Reserve Estimate and the LoM plan for Bloom Lake (the "2023 Technical Report") will be filed under the Company's profile on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca) within 45 days of the date of this press release.

## Highlights

- Optimized mine plan, confirming the 18 years' LoM based on the mineral reserves
- Expanded opportunity beyond the LoM plan, including an increase to the measured and indicated ("M&I") resources by 40% and an increase to the inferred resources by 360%
- LoM average iron metallurgical recovery of 82.0% and plant feed grade of 28.6% Fe
- Average LoM yearly production of 15.2 million wet metric tonnes of high purity iron ore concentrate at 66.2% Fe

Champion CEO, Mr. David Cataford, commented, "The combination of our expanded mineral resources, skilled workforce, and supportive local stakeholders positions our Company to continue to positively impact the region for generations. The La Grande Trough, including Bloom Lake, contains one of the largest and purest iron ore resources globally and offers a unique opportunity for local stakeholders to participate in reducing steel industry emissions, which represents nearly 10% of global emissions. In tandem with our vision to be a global leader in the green steel supply chain, we continuously strive to minimize our impact on the environment in keeping with our corporate values and respect for the land where we operate."

## Mineral Resource and Reserve Estimate Summary

Since the previously issued NI 43-101 Technical Report entitled "Bloom Lake Mine Feasibility Study Phase 2, Fermont, Canada" with an effective date of June 20, 2019 (the "2019 Technical Report"), additional work programs were completed by the Company, including diamond drilling and advanced modelling to optimize mining and processing of the deposit. Additionally, a revised assessment of iron ore prices resulted in higher prices assumption compared to the 2019 Technical Report, which, together with the additional work programs, resulted in an increase of 40% in the estimated M&I mineral resources for Bloom Lake. While the LoM plan and the pit designs have been optimized, the change in mineral reserves is not material.

## Mineral Resources

SRK Consulting (U.S), Inc. ("SRK") was retained to audit the mineral resources model for Bloom Lake completed by the Company. Since the 2019 Technical Report, the Company drilled an additional 106 core boreholes (18,465 metres), representing an increase of 13% in core boreholes drilled metres. The infill drilling completed at Bloom Lake resulted in the successful conversion of inferred resources to indicated resources. Furthermore, the infill drilling demonstrated continuity of iron mineralization, enabling continuity to be established and estimated. This, combined with the revised IODEX 65% Fe CFR China Index ("P65") price assumption, resulted in a significantly larger estimated resource pit shell compared to the 2019 Technical Report model. This increase in mineral resources includes the depletion of resources based on topographic differences between January 2019 and the forecasted April 1, 2023, accounting for a reduction of the mineral resources by 67 million tonnes.

Table 1: 2023 Mineral resource Estimate for Bloom Lake at a Cut-Off Grade of 15% Fe (Audited Mineral Resources Statement for Bloom Lake by SRK, March 31, 2023)

Classification	Tonnage	Fe	CaO	Sat	MgO	Al <sub>2</sub> O <sub>3</sub>
	Mt	%	%	%	%	%
Measured	186.7	30.4	1.3	5.5	1.3	0.3
Indicated	1,065.5	28.4	1.3	6.1	1.2	0.5
Total M&I	1,252.2	28.7	1.3	6.0	1.2	0.5
Inferred	246.3	26.6	1.4	6.4	1.2	0.5

Table 1 notes:

1. Mineral resources are not mineral reserves and have not demonstrated economic viability under the assumptions of the 2023 Technical Report. All figures have been rounded to reflect the relative accuracy of the estimates.
2. The resource estimate is reported undiluted at a cut-off grade of 15% iron.
3. The 2023 resource shell is based on a long-term P65 iron price of US\$110.24/dmt, a premium of US\$2.04/dmt for Fe concentrate and an exchange rate of 1.27. It was made using Geovia Whittle (software version 4.7.2).
4. The qualified person ("QP") for the mineral resource estimate, as defined by NI 43-101, is Erik Ronald, P. Geo., and the effective date of the estimate is April 1, 2023.
5. The geological interpretations for the Bloom Lake deposit were based on lithological logging, analyses from drill core control data, geological maps, historical models, and ground magnetic surveys. The geology and controls on the mineralization are considered well understood.
6. The mineralized iron formation units in the lithology model include iron formation, silica iron formation, and limonite formation. The iron formation model further differentiates the iron formation units into operational quality categories of low (under 0.6% CaO + MgO), moderate and elevated (over 16%) CaO + MgO values.
7. All 3D digital geological modelling was performed using Leapfrog Geo&TRADE; software. In the QP's opinion, the model is appropriate for the size, grade distribution, and geometry of the mineralized zones and is suitable for mineral resource estimation of the Bloom Lake project.
8. The mineral resource model is based on 6.0 m composite intervals within the iron formation. Grade capping was deemed unnecessary and was not applied. Ordinary kriging (OK) was used for the estimation of CaO, Fe, MgO, and Al<sub>2</sub>O<sub>3</sub> was estimated into the block model using inverse distance weighting to a power of three (ID3) estimation.
9. Mineral Resources were classified into measured, indicated, and inferred mineral resources categories based on geological understanding of mineralization and structure on the property, the quality of the underlying drilling data, mining production and reconciliation, mineralization and grade continuity, and drillhole spacing.
10. The QP is satisfied that the mineral resources were estimated following CIM Estimation of Mineral Resource and Reserves Best Practices Guidelines (November 2019). The mineral resources may be affected by further infill and drilling that may result in increases or decreases in subsequent mineral resource estimates. The mineral resources may be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic factors, and other factors.

## Mineral Reserves

The mineral reserves for Bloom Lake are estimated at 716 million tonnes at an average grade of 28.6% Fe as summarized in Table 2. The mineral reserve estimate was prepared by the Company and the resource block model was prepared by the Company and audited by SRK. The mineral reserve estimate stated herein is consistent with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards on mineral resources and reserves ("CIM Definition Standards"). As such, the mineral reserves are based on M&I mineral resources and do not include any inferred mineral resources, which are classified as waste within the mine design. While the pits were optimized, their scope and size are very similar to those previously published in the 2019 Technical Report. The pits redesign was based on Pseudoflow shells with an updated cost model and a more conservative iron ore price of US\$99/dmt for P65, compared to the resource shells.

Table 2: 2023 Mineral Reserve Estimate for Bloom Lake at a Cut-Off Grade of 15% Fe.

Classification	Diluted Tonnage	Diluted Fe	CaO	Sat	MgO	Al <sub>2</sub> O <sub>3</sub>
	Mt	%	%	%	%	%
Proven	183.7	30.0	1.3	5.6	1.3	0.3
Probable	532.5	28.1	2.1	9.2	2.0	0.5
Total Proven & Probable	716.2	28.6	1.9	8.3	1.8	0.4
Waste (Includes Inferred Resources)	685.7	-	-	-	-	-

Table 2 notes:

1. The mineral reserves were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards for Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserves (formerly known as the CIM Definition Committee) and adopted by the CIM Council on May 10, 2014.
2. The QP for the mineral reserve estimate, as defined by NI 43-101, is Olivier Hamel, P. Eng., of Quebec Iron Ore Inc., a subsidiary of the Company. The effective date of the estimate is April 1, 2023.
3. In the ultimate pit design, all measured resources and associated dilution/ore loss were converted to proven mineral reserves. All indicated resources and associated dilution/ore loss were converted into probable mineral reserves.
4. Stockpiles are excluded from reserve calculations due to their small size (<1 Mt).
5. Bulk density of ore is variable but averages 3.39 t/m<sup>3</sup> (pre-dilution).
6. Remaining strip ratio is 0.96:1 (including overburden).
7. Mining dilution was calculated using a 2-m contact skin.
8. The average mining dilution is 1.73% at a grade of 0% Fe. Dilution was applied block by block and shows a wide range of local variability.
9. The average ore loss is 1.91% at a grade of 29% Fe. Ore loss was applied block by block and shows a wide range of local variability.
10. Mineral reserves are based on a mining surface projected to April 1, 2023. The last survey was done in Q3 2022.
11. Mineral reserves are estimated at a cut-off grade of 15% Fe (diluted), which has historically been used. Current cost model allows to calculate a break-even cut-off grade and the result of 14.1% Fe supports the current practices.
12. Mineral reserves are estimated using a long-term iron ore reference price (Platt's 65%) of USD99/dmt and an exchange rate of 1.27 CAD/USD. A price adjustment to 66.2% of USD1.83/dmt was added.
13. Reserve open pit optimization was conducted using Geovia Whittle (software version 4.7.2) to determine the optimal economic shape of the open pit to guide the pit design process.
14. SAT stands for SATMAGAN, an industry standard device that measures the magnetic content by weight of a sample. The value is assumed to be the magnetite content by weight.
15. The author is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or market-related issues, or any other relevant issues not reported in the 2023 Technical Report, that could materially affect the mineral reserve estimate.
16. Numbers may not add up due to rounding.

### Direct Reduction Pellet Feed Project

On January 26, 2023, the Company announced the positive results of a study evaluating the processing and infrastructure required to modify the Bloom Lake Phase II plant to improve its product from a 66.2% Fe iron ore concentrate to a Direct Reduction Pellet Feed quality iron ore at 69% Fe (the "DRPF Project"). The DRPF Project was not considered in the 2023 Technical Report as the project is pending final investment decision. As such, the mine plan, cost model and sales described herein are based entirely on Bloom Lake's current infrastructure and iron ore concentrate quality of 66.2% Fe.

The DRPF Project could impact the mineral resources and mineral reserves for Bloom Lake. Pending a final investment decision and the advancement of the DRPF Project, its impact on the profitability of uneconomic ore should be assessed. As a result, the ultimate pit size, cut-off grades and material routing could be modified.

### About Champion Iron Limited

Champion, through its wholly-owned subsidiary Quebec Iron Ore Inc., owns and operates the Bloom Lake Mining Complex, located on the south end of the Labrador Trough, approximately 13 km north of Fermont, Québec. Bloom Lake is an open-pit operation with two concentrators that primarily source energy from renewable hydroelectric power. The two concentrators have a combined nameplate capacity of 15 Mtpa and

produce a low contaminant high-grade 66.2% Fe iron ore concentrate with a proven ability to produce a 67.5% Fe direct reduction quality iron ore concentrate. In January 2023, the Company announced the positive findings of a study evaluating the upgrade of half of the Bloom Lake mine capacity to a direct reduction quality pellet feed iron ore and approved an initial budget to advance the project. Bloom Lake's high-grade and low contaminant iron ore products have attracted a premium to the Platts IODEX 62% Fe iron ore benchmark. The Company ships iron ore concentrate from Bloom Lake by rail, to a ship loading port in Sept-Îles, Québec, and has sold its iron ore concentrate to customers globally, including in China, Japan, the Middle East, Europe, South Korea, India and Canada. In addition to Bloom Lake, Champion owns a portfolio of exploration and development projects in the Labrador Trough, including the Kamistatusset Project, located a few kilometres south-east of Bloom Lake, and the Consolidated Fire Lake North iron ore project, located approximately 40 km south of Bloom Lake.

#### Cautionary Note Regarding Forward-Looking Statements

This press release includes certain information and statements that may constitute "forward-looking information" under applicable securities laws. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "continues", "forecasts", "projects", "predicts", "intends", "anticipates", "aims", "targets" or "believes", or variations of, or the negatives of, such words and phrases, or state that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. Inherent in forward-looking statements are risks, uncertainties and other factors beyond the Company's ability to predict or control.

#### Specific Forward-Looking Statements

All statements other than statements of historical facts included in this press release that address future events, developments or performance that Champion expects to occur are forward-looking statements. Forward-looking statements include, among other things, Management's expectations regarding: (i) Bloom Lake's life of mine, recovery rates, production, economic and other benefits; (ii) the project to upgrade the Bloom Lake iron ore concentrate to a higher grade with lower contaminants and to convert approximately half of Bloom Lake's increased nameplate capacity of 15 Mtpa to commercially produce a DR quality pellet feed iron ore, expected project timeline, capital expenditure, budget and financing; (iii) the shift in steel industry production methods towards reducing emissions and green steel production methods and the Company's participation therein, contribution thereto and positioning in connection therewith; (iv) production and recovery rate targets and the Company's performance; and (v) the Company's growth and opportunities generally.

#### Deemed Forward-Looking Statements

Statements relating to "reserves" or "resources" are deemed to be forward-looking statements as they involve the implied assessment, based on certain estimates and assumptions, that the reserves and resources described exist in the quantities predicted or estimated and that the reserves can be profitably mined in the future. Actual reserves and resources may be greater or less than the estimates provided herein.

#### Risks

Although Champion believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such forward-looking statements involve known and unknown risks, uncertainties and other factors, most of which are beyond the control of the Company, which may cause the Company's actual results, performance or achievements to differ materially from those expressed or implied by such forward-looking statements. Factors that could cause the actual results to differ materially from those expressed in forward-looking statements include, without limitation: (i) the results of feasibility studies; (ii) changes in the assumptions used to prepare feasibility studies; (iii) project delays; (iv) timing and uncertainty of industry shift to green steel and EAF; (v) continued availability of capital and financing and general economic, market or business conditions; (vi) general economic, competitive, political and social uncertainties; (vii) future prices of iron ore; (viii) future transportation costs; (ix) failure of plant, equipment or processes to operate as anticipated; \* delays in obtaining governmental approvals, necessary permitting or in the completion of development or construction activities; and (xi) the effects of catastrophes and public health crises, including the impact of COVID-19 on the global economy, the iron ore market and Champion's operations, as well as those factors discussed in the section entitled "Risk Factors" of the Company's 2023

Annual Report, Annual Information Form and MD&A for the financial year ended March 31, 2023, which are available on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca), the ASX at [www.asx.com.au](http://www.asx.com.au) and the Company's website at [www.championiron.com](http://www.championiron.com). 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.

#### Additional Updates

All of Champion's forward-looking information contained in this press release is given as of the date hereof or such other date or dates specified in forward-looking statements 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 the forward-looking information, whether as a result of new information, future events or otherwise, except as required by law. If the Company does update one or more forward-looking statements, no inference should be drawn that it will make additional updates with respect to those or other forward-looking statements. Champion cautions that the foregoing list of risks and uncertainties is not exhaustive. Readers should carefully consider the above factors as well as the uncertainties they represent and the risks they entail.

#### Abbreviations

Unless otherwise specified, all dollar figures stated herein are expressed in millions of United States dollars, except for: (i) tabular amounts which are in thousands of United States dollars; and (ii) per share or per tonne amounts. The following abbreviations and definitions are used throughout this press release: US\$ (United States dollar), Fe (iron ore), dmt (dry metric tonnes), Mtpa (million tonnes per annum), M (million), km (kilometers), LoM (life-of-mine), Management (Champion's management team), Bloom Lake or Bloom Lake Mine (Bloom Lake Mining Complex) and Phase II (Phase II expansion project). The utilization of "Champion" or the "Company" refers to [Champion Iron Ltd.](http://www.championiron.com) and/or one, or more, or all of its subsidiaries, as applicable.

#### Qualified Person and Data Verification

Mr. Vincent Blanchet, P. Eng., Engineer at QIO, the operator of Bloom Lake, is a QP as defined by NI 43-101 and has reviewed and approved, or has prepared, as applicable, the disclosure of the scientific and technical information contained in this press release. Mr. Blanchet's review and approval does not include statements as to the Company's knowledge or awareness of new information or data or any material changes to the material assumptions and technical parameters underpinning the feasibility study contained in the 2019 Technical Report. Mr. Blanchet is a member of the Ordre des ingénieurs du Québec.

The following QPs have participated in the preparation of the 2023 Technical Report:

Qualified Person / Firm	General Overview of Responsibilities
<a href="#">Champion Iron Ltd.:</a>	
Vincent Blanchet	<ul style="list-style-type: none"> <li>● History, geological settings and mineralization, deposit type, adjacent properties and other</li> <li>● Mineral titles, exploration and drilling.</li> <li>● Sample preparation, analyses, and security.</li> </ul>
Olivier Hamel	<ul style="list-style-type: none"> <li>● Mineral reserve estimate.</li> <li>● Mining methods, capital and operating costs.</li> </ul>
<a href="#">BBA Inc.:</a>	
André Allaire	<ul style="list-style-type: none"> <li>● Technical report integration.</li> <li>● Market studies.</li> <li>● Property and infrastructure description.</li> </ul>
Benoît Ouellet	<ul style="list-style-type: none"> <li>● Environmental studies, permitting and social or community impact.</li> </ul>
<a href="#">Soutex:</a>	
Jérôme Martin	<ul style="list-style-type: none"> <li>● Mineral processing and metallurgical testing.</li> <li>● Recovery methods.</li> </ul>
<a href="#">SRK:</a>	
Erik Ronald	<ul style="list-style-type: none"> <li>● Mineral resource estimate.</li> <li>● Data verification.</li> </ul>

- It is the QP's opinion that data verification procedures have yielded confidence in resource data and site procedures for drilling, logging, and sampling. The QP undertook an audit on the reconciliation practices that yielded confidence in the control procedures with minor areas for operational improvement.
- The QP is of the opinion that the database is appropriate for the purposes of mineral resource estimation and that the density allows for a reliable estimate of the size, tonnage and grade of the mineralization in accordance with the level of confidence established by the mineral resource classification categories as per CIM Definition Standards.
- It is the QP's opinion that the classification at Bloom Lake is a reasonable reflection of the overall mineral resource based on the associated with geologic understanding and confidence, data support, and grade continuity associated with the various of resource categories assigned.

#### National Instrument 43-101 compliance

Unless otherwise indicated, Champion has prepared the technical information in this news release ("Technical Information") based on information contained in the technical reports, news releases and MD&A's (collectively the "Disclosure Documents") that are or will be available under Champion's company profile on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca). Each Disclosure Document was prepared by, or under the supervision of, a qualified person as defined in National Instrument 43-101 Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators ("NI 43-101"). Readers are encouraged to review the full text of the Disclosure Documents which qualifies the Technical Information. Readers are advised that mineral resources that are not mineral reserves do not have demonstrated economic viability. The Disclosure Documents are each intended to be read as a whole, and sections should not be read or relied upon out of context. The Technical Information is subject to the assumptions and qualifications contained in the Disclosure Documents.

## CIM and JORC Comparison

Mineral resources and mineral reserves contained in this press release are classified using the CIM Definition Standards. The confidence categories assigned under the CIM Definition Standards were reconciled to the confidence categories in the JORC Code (2012 Edition) (the "JORC Code"). As the confidence category definitions are the same, no modifications to the confidence categories were required.

There are differences in terminology in the JORC Code and the CIM Definition Standards. Terminology differences are as follows: the term "Ore Reserves" in the JORC Code is equivalent to "Mineral Reserves" using the CIM Definition Standards, and the term "Proved Ore Reserves" in the JORC Code is equivalent to "Proven Mineral Reserves" using the CIM Definition Standards. There are no other material differences between the JORC Code and the CIM Definition Standards.

Measured and indicated mineral resources have been reported separately from inferred mineral resources.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Due to lower certainty, the inclusion of mineral resources should not be regarded as a representation by Champion that such amounts can necessarily be totally economically exploited, and investors are cautioned not to place undue reliance upon such figures. Therefore, no assurances can be given that the estimates of mineral resources presented in this statement will be recovered at the tonnages and grades presented, or at all.

For additional information on [Champion Iron Ltd.](http://www.championiron.com), please visit our website at: [www.championiron.com](http://www.championiron.com).

This press release has been authorized for release to the market by the CEO of [Champion Iron Ltd.](http://www.championiron.com), David Cataford.

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