



## **BLACK IRON'S NEW PRELIMINARY ECONOMIC ASSESSMENT SHOWS HIGHLY FAVOURABLE RETURNS INCLUDING 36.1% IRR POST TAX**

### **For Immediate Release**

- **PRELIMINARY ECONOMIC ASSESSMENT BASED ON A PHASED, LOWER COST BUILDOUT OF THE MINE STARTING WITH 4MTPA PRODUCTION AND FUTURE EXPANSION TO 8MTPA**
- **FAVOURABLE ECONOMICS INCLUDING POST TAX 36.1% IRR AND US\$1.66 BILLION NPV AT A 10% DISCOUNT RATE DRIVEN BY CLOSE PROXIMITY TO RAILWAY, POWERLINES AND SKILLED LOW-COST LABOUR COUPLED WITH PRODUCTION OF ULTRA HIGH GRADE 68% IRON CONTENT PRODUCT**
- **MANAGEMENT CONTINUES TO EXECUTE ON ITS NEW GO FORWARD PLAN TO ADVANCE THE SHYMANIVSKE PROJECT TOWARDS PRODUCTION**

**TORONTO, CANADA, November 21<sup>st</sup>, 2017** – Black Iron Inc. (“Black Iron” or the “Company”) (TSX: BKI; FRANKFURT: BIN) has received the results from BBA Inc. (“BBA”) for a new Preliminary Economic Assessment (“PEA”) that incorporates, among other things, a two-phased build out of the mine and production plant along with updated iron ore selling prices and Ukraine’s favourable currency exchange rates for its Shymanivske iron ore project in Kryviy Rih, Ukraine (the “Project”). The updated PEA outlines a first phase operation producing 4Mtpa of ultra high-grade, low impurity, 68% Fe concentrate expanding to 8Mtpa starting in the fifth year of production. By phasing the build, it significantly reduces the up-front construction costs while still being highly economic given all high cost major infrastructure including railway, powerline and deep-sea port are located in very close proximity to the deposit. Using this phased build strategy coupled with Ukraine’s highly favourable exchange rate of 28 Hryvnia to US\$1, results in a projected pre-tax, post royalty, internal rate of return (“IRR”) of 42.6%, a payback period of 2.6 years and a US\$2.12 billion net present value (“NPV”) at a 10% discount rate. The post tax unlevered economics show a compelling 36.1% IRR, 2.9 year payback period and US\$1.66 billion NPV at a 10% discount rate.

Matt Simpson, Black Iron’s CEO, commented: “The operation outlined in the re-scoped PEA for the Shymanivske Project continues to clearly demonstrate the potential for a high-value, low net cost iron ore development project. Use of ultra high-grade 68% iron content product in the production of steel is a value-added product to customers as it increases blast furnace productivity and reduces specific greenhouse gas emissions. By building the Project in phases, it also allows for a portion of the costs for the second phase expansion to 8Mtpa to be funded using internal cash that is expected to be generated from operations during the first phase which is expected to reduce dilution, maximize shareholder returns and reduce project financing risks. As a result of these improvements, the Project’s access to significant existing infrastructure (railway, power lines and port), and the availability of a relatively low-cost, skilled labour pool, the re-scoped PEA continues to project extremely attractive and robust economics.”

The primary reason for releasing a new PEA to replace the 2014 feasibility study (“BFS”), is to be able to communicate to investors, in a cost effective and timely manner, that the Project’s economics remain very strong, even with the benchmark 62% iron content product selling for US\$62/t (CFR Port in China) as compared to the spot plus broker outlook of US\$95/t back in 2014. Iron content premiums and penalties relative to the 62% iron content benchmark, have significantly increased over the past year due to greater global concerns on reducing pollution and are currently ranging between US\$7 to \$8 for each 1% iron unit above or below 62%. At the reference date of November 10<sup>th</sup> 2017, Black Iron’s ultra high-grade 68% product is indicated to receive a total premium of approximately \$46.85/dmt over the 62% iron content benchmark price. This premium includes the iron grade premium as well as the net premium for other deleterious elements. The table below summarizes the key highlights of the re-scoped PEA.

**PEA Highlights (all currency is US\$)**

IRR (pre-tax unlevered)	42.6%
IRR (after-tax unlevered)	36.1%
NPV at 10% discount (pre-tax unlevered)	\$2.12 billion
NPV at 10% discount (after-tax unlevered)	\$1.66 billion
Projected Years to Payback (at 10% Discount Rate, pre-tax)	2.6 years
Projected Years to Payback (at 10% Discount Rate, after-tax)	2.9 years
Nominal Annual Production Rate: Phase 1	4 Mt
Phase 2	8 Mt
Capital Cost to build: Phase 1	\$435.8 million
Phase 2	\$312.2 million
Long Term Benchmark Iron Ore Price (62% Fe CFR Port in China)	\$61.88 /dmt
Final Product Iron Grade	68% Fe
Black Iron Projected Sale Price FOB Ukraine Port Yuzhny (Including product quality adjustments and net shipping costs)	\$97.19/dmt
Life of Mine FOB OPEX (Includes mining, beneficiation, rail, ship loading and G&A costs)	\$31.46/t
Estimated Plant Construction Duration: Phase 1	2.3 years
Phase 2	2.3 years
Proposed Initiation of Phase 2 Construction Post Phase 1 Startup	Year 3
Measured and Indicated Resources (at 18.8% Mag Fe, 31.6% Total Fe)	645.8 Mt
Inferred Resources (at 18.4% Mag Fe, 30.1% Total Fe)	188.3 Mt
In-Pit Measured and Indicated Resources (at 19.0% Mag Fe, 31.2% Total Fe)	480.0 Mt
In-Pit Inferred Resources (at 19.6% Mag Fe, 31.2% Total Fe)	27.0 Mt

Strip Ratio (life of mine)	0.6:1.0
Estimated Mine Life (based on in-pit resources)	20 Years
Exchange Rate	28UAH:US\$1

The re-scoped NI 43-101 PEA will replace the 2014 BFS as the current technical report for the Project. Significant portions of the PEA report remain unchanged from the 2014 BFS, including sections relating to geology, exploration, drilling, sampling and data verification, and the mineral resource estimate.

Ukraine has a corporate tax rate of 18% and an effective mining royalty rate of 8% of net selling price as of the effective date of the PEA. Consistent with practice in the industry, the capital cost estimate in this PEA has been prepared with an intended accuracy of +/-35%.

### Details and Assumptions

The PEA assumes a product selling price of US\$108.73/dmt of concentrate, CFR China. This price was calculated using the 36-month trailing average price of US\$61.88/dmt for the Platts IODEX 62% Fe, CFR North China, adding the three-month trailing average iron grade premium of US\$7.21/dmt per 1%Fe above 62% Fe, which equates to \$43.28/dmt for Black Iron's 68% Fe product, and applying a trace element premium (for silica, phosphorus and alumina), net of penalties, of \$3.57/dmt of concentrate. The realized selling price for a ship loaded at Port Yuzhny (FOB) assumed in the financial analysis is US\$97.19/dmt. The final price is determined after applying the current actual shipping cost of US\$11.54/dmt to deliver product to North China.

The total capital expenditure to develop the mine, concentrator, infrastructure and tie-ins is estimated at US\$435.8 million to produce an initial 4 million tonnes per year of ultra high-grade 68% Fe concentrate. Construction of the expansion to 8 million tonnes per year will start in year 3 of operations, and will be completed in year 5 at a cost of US\$312.2 million as detailed in the table below. The capital cost estimate excludes the sustaining capital cost of US\$348.3 million spread over the life of mine and closure costs of US\$27.9 million.

### Capital Cost Breakdown (all currency is US\$)

	Phase 1	Phase 2
Construction Indirects	\$5.1	\$-
Mine Area	\$22.2	\$3.3
Beneficiation Plant	\$192.0	\$196.4
Tailings and Waste	\$11.1	\$-
Project Infrastructure	\$44.1	\$24.0
<b>TOTAL DIRECT COSTS</b>	<b>\$274.5</b>	<b>\$223.7</b>
Owner's costs	\$38.2	\$11.2
Project Indirect Costs	\$41.2	\$33.6
Contingency	\$53.7	\$43.7
<b>TOTAL PROJECT CAPITAL COST</b>	<b>\$407.6</b>	<b>\$312.2</b>
Mine Pre-Stripping (Capitalized from Opex)	\$6.8	\$-
Mining Equipment Leasing Cost (Capitalized)	\$21.4	\$-
<b>TOTAL PRE-PRODUCTION CAPITAL COST</b>	<b>\$435.8</b>	<b>\$312.2</b>

The life of mine strip ratio is estimated at 0.6:1, which is a significant decrease from the 2014 BFS reported value of 1.64:1 due to the inclusion of inferred resources and the lower operating costs resulting

from a more favourable currency exchange rate. The total average Free On Board (FOB) operating costs over the 20 years of operation are estimated at US\$31.46 per tonne of ultra high-grade 68% iron ore concentrate broken out as follows:

<b>Estimated Average LOM Operating Costs</b>	
	<b>US \$/t</b>
Mining	\$10.26
Mineral Processing	\$10.20
Site Infrastructure	\$0.69
General Administration	\$0.64
Environmental and Tailings Management	\$0.37
Rail Transportation and Port Services	\$9.30
<b>TOTAL</b>	<b>\$31.46</b>

### **Re-scoped Preliminary Economic Estimate Study Report**

The re-scoped PEA has been prepared in accordance with the guidelines of National Instrument 43-101 by the independent firms BBA Inc. and Watts, Griffis and McOuat Limited (with the individual authors identified below) and is effective as of November 21<sup>st</sup>, 2017. The re-scoped PEA technical report will be filed on SEDAR and the Company's website within 45 days of this news release. The results of the PEA are based on 100% ownership of the Shymanivske Project by Black Iron.

### **Qualified Persons**

The contents of this press release have been reviewed and approved by the Qualified Persons, as follows:

- Angelo Grandillo, P. Eng. of BBA Inc. QP for overall Study supervision.
- Jeffrey Cassoff, P.Eng. of BBA Inc. QP for In-Pit Resource estimate and mining engineering.
- Michael Kociumbas, P.Geo. and Rick Risto, P.Geo., Watts, Griffis and McOuat Limited, QPs for mineral resources estimate and QA/QC and data verification;

These persons are Qualified Persons as defined by NI 43-101, are independent of Black Iron, and have reviewed and approved the content of this press release.

### **Cautionary Statement**

The PEA is preliminary in nature, and it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the PEA will be realized.

### **For more information, please contact:**

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## **Forward-Looking Information**

*This press release contains forward-looking information. Forward-looking information is based on what management believes to be reasonable assumptions, opinions and estimates of the date such statements are made based on information available to them at that time, including those factors discussed in the section entitled "Risk Factors" in the Company's annual information form for the year ended December 31, 2016 or as may be identified in the Company's public disclosure from time to time, as filed under the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com). Forward-looking information may include, but is not limited to, statements with respect to the Project, the mineralization of the Project, the results of the PEA, the realization of the PEA, the price of iron and iron concentrate, foreign exchange rates, the expectations of future cash flows, the expected economics forecast, the geo-political climate in Ukraine, the quality of the concentrate to be produced at the Project, the Company's ability to obtain the requisite land rights for the Project and other requisite permits or approvals, and future plans for the Company's development. Generally, forward looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to: general business, economic, competitive, geopolitical and social uncertainties; the actual results of current exploration activities; other risks of the mining industry and the risks described in the annual information form of the Company. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. 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 statements. Accordingly, readers should not place undue reliance on forward looking information. The Company does not undertake to update any forward-looking information, except in accordance with applicable securities laws.*