CHAMPION IRON

Enhancing DR Pellet Quality in Iron Ore Pelletizing using HPGR for Compact Hematite Ore

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September 25th 2023

DISCLAIMER

CHAMPION IRON

TSX: CIA | ASX: CIA | OTCQX: CIAFF

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SPECIFIC FORWARD-LOOKING STATEMENTS

All statements in this Presentation, other than statements of historical facts, that address future events, developments or performance that Champion expects to occur are forward-looking statements. These statements may include, but are not limited to, management's expectations regarding: the Company's Phase II expansion project, its expected transitional operating costs, commercial production, economic benefits, impact on and operation at nameplate capacity and milestones; expected locomotives delivery; the project to upgrade the Bloom Lake iron ore concentrate to a higher grade with lower contaminants, expected project layout, production metrics, efficiencies, permitting and approvals, capex, timeline, financing, benefits and economics; the feasibility study evaluating the re-commissioning of the Pointe-Noire Iron Ore Pelletizing Facility to produce Direct Reduction ("DR") grade pellets and its anticipated completion timeline; the Kami Project's feasibility study, its purpose and anticipated completion timeline; the feasibility study to update Blom Lake's reserve and resource estimates and its anticipated completion timeline; Champion's positioning to service the industry's transition to Electric Arc Furnaces ("EAFs") and focus on DR quality products; the shift in steel industry production methods and expected rising demand for higher-grade iron ore products and related market deficit and higher premiums, including using reduction technologies and the Company's related potential and transition of its product offering; green steel, greenhouse gas and CO_2 emission reduction and other Environmental, Social and Governance ("ESG") related initiatives, objectives, targets and expectations; Champion's financial outlook; and the Company's growth and opportunities generally.

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 in forward-looking statements include, without limitation: the results of feasibility studies; changes in the assumptions used to prepare feasibility studies; project delays; continued availability of capital and financing and general economic, market or business conditions; fluctuations in foreign currency exchange rates; general economic, competitive, political and social uncertainties; market disruptions, including pandemics or significant health hazards, severe weather conditions, natural disasters, terrorist activities, financial crises, political crises, wars and other military conflicts (including the ongoing military conflict between Russia and Ukraine), or other major events, or the prospect of these events; future prices of iron ore; increased public concern about the environmental impact of the Company's products or their perceived safety; decreased social acceptance and increased social action to reduce the use of fossil fuels, which may negatively impact consumer perception; cyber events or attacks (including ransomware, state sponsored and other cyberattacks); 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; the impact of COVID-19 on the global economy, the iron ore market and Champion's operations, including the effectiveness of Champion's efforts to respond to the COVID-19 pandemic, the pace of economic recovery when the COVID-19 pandemic subsides and the heightened impact it has on many of the risks described herein and in other reports Champion files with the Canadian Securities Administrators (the "CSA") and the Australian Securities and Investments Commission (the "ASIC"); as well as those factors discussed in the section entitled "Risk Factors" of the Company's 2023 Annual Information Form, the risks and uncertainties discussed in the Company's management's discussion and analysis for the financial year ended March 31, 2023 and the risks discussed in other reports Champion files with the CSA and the ASIC, all of which are available on SEDAR at www.sedar.com, the ASX at www.asx.com.au and the Company's website at 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 statements. Accordingly, readers should not place undue reliance on forward-looking statements.

ADDITIONAL UPDATES

The forward-looking statements in this Presentation are based on assumptions management believes to be reasonable and speak only as of the date of this Presentation or as of the date or dates specified in such statements. Champion undertakes no obligation to update publicly or otherwise revise any forward-looking statements contained herein, whether as a result of new information or future events or otherwise, except as may be 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. Investors and others should carefully consider the above factors as well as the uncertainties they represent and the risks they entail.

NON-IFRS AND OTHER FINANCIAL MEASURES

Certain financial measures used by the Company to analyze and evaluate its results are non-IFRS financial measures or ratios and supplementary financial measures. Each of these indicators is not a standardized financial measure under the IFRS and might not be comparable to similar financial measures used by other issuers. These indicators are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. The non-IFRS and other financial measures included in this Presentation are total cash cost, all-in sustaining cost ("AISC"), earnings before interest, tax, depreciation and amortization ("EBITDA"), adjusted net income, adjusted EPS, cash operating margin, cash profit margin, net average realized selling price per dmt sold and gross average realized selling price per dmt sold.. When applicable, a quantitative reconciliation to the most directly comparable IFRS measures is provided in section 22 - Non-IFRS and Other Financial Measures of the Company's management's discussion and analysis for the financial year ended March 31, 2023 available on SEDAR at www.sedar.com, the ASX at www.asx.com.au and the Company's website at www.championiron.com.

On June 20, 2019, Champion released the results of the Feasibility Study for the Bloom Lake Phase II expansion project reported in the National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("National Instrument 43-101") technical report entitled "Bloom Lake Mine – Feasibility Study Phase 2" by BBA Inc., Soutex and WSP Canada Inc., having an effective date of June 20, 2019 and filed on August 2, 2019 (the "Phase II Feasibility Study"). Champion is not aware of any new information or data that materially affects the information included in the Phase II Feasibility Study and confirms that all material assumptions and technical parameters underpinning the estimates in the Phase II Feasibility Study continue to apply and have not materially changed. The Phase II Feasibility Study is available on SEDAR at www.sedar.com, the ASX at www.asx.com.au and Champion's website at www.championiron.com.

Mr. Vincent Blanchet (P.Eng.), Geological engineer at Quebec Iron Ore Inc., a wholly-owned subsidiary of the Company, is a "qualified person" as defined by National Instrument 43-101 and has reviewed and approved the disclosure of the scientific and technical information contained in this Presentation. 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 Phase II Feasibility Study. Mr. Blanchet is a member of the *Ordre des Ingénieurs du Québec*.

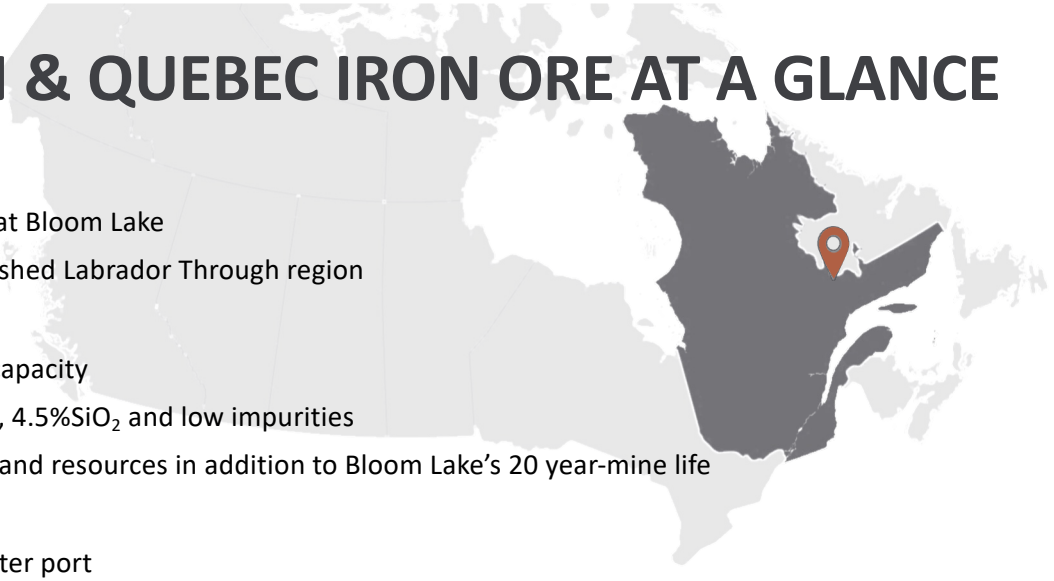
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Reference to P62: Platts TSI IODEX 62% Fe CFR China; P65: Platts IO Fines 65% Fe CFR China.

This Presentation has been authorized for release to the market by the CEO of Champion, David Cataford.

All amounts are in Canadian dollars unless otherwise stated.

CHAMPION IRON & QUEBEC IRON ORE AT A GLANCE



- 744Mt reserves P&P at Bloom Lake
- Located in the established Labrador Through region

- 15Mtpa nameplate capacity
- High-grade 66.2% Fe, 4.5%SiO_2 and low impurities
- Substantial reserves and resources in addition to Bloom Lake's 20 year-mine life
- Access to railway
- Newly built deep-water port

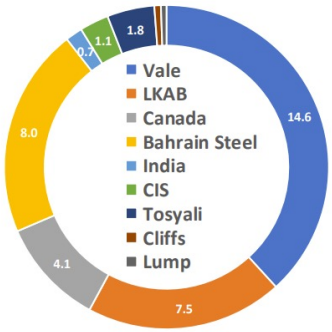
- Access to skilled labour
- Proven management team
- 10.1% management ownership[1]

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Commissioning of the Bloom Lake Mine by Consolidated Thompson	Acquisition of Consolidated Thompson by Cliffs			Cliffs seeks creditor protection		Acquisition of Bloom Lake	Champion files Feasibility Study to recommission Bloom Lake	February 2018 Phase I Restart	Phase I Declares Commercial Production	Start of Phase II Preliminary Work / Filing of Phase II Feasibility Study	Acquisition of the Kami Project	Completes first rail shipment of the Phase II Project	

Note: 1. Management ownership including board of directors as of April 29, 2023
Source: Champion Iron Limited

WILL THERE BE SUFFICIENT PELLETS AVAILABLE?

Seaborne ore to DR Plants (2020) was 38.2 mt

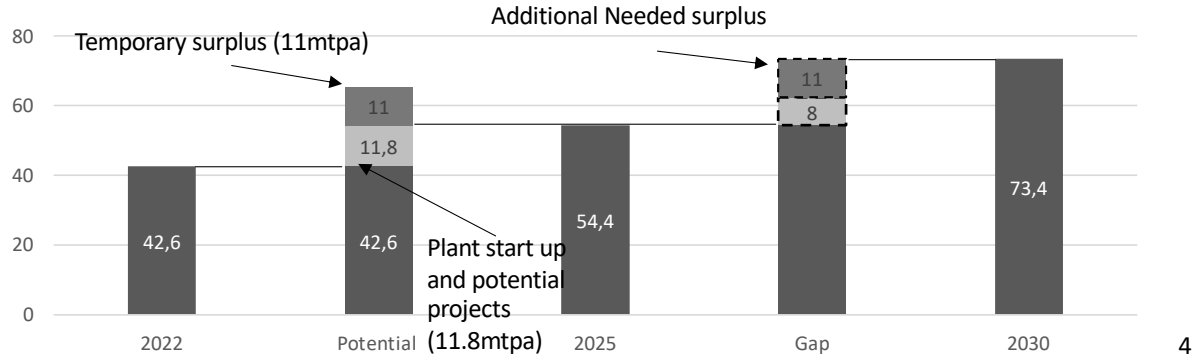


- ✓ In a realistic scenario much more capacity is already needed.
- ✓ In a blue-sky scenario, the pellets and agglomerated products are deeply scarce and new possibilities will need to arise to permit the transformation of the industry.

Merchant DR Pellet Demand* (Mtpa) – Based on DR Plants (1.5t/tDRI)



Potential Incremental DR Pellet Supply/Demand 2019 to 2030 (mt)

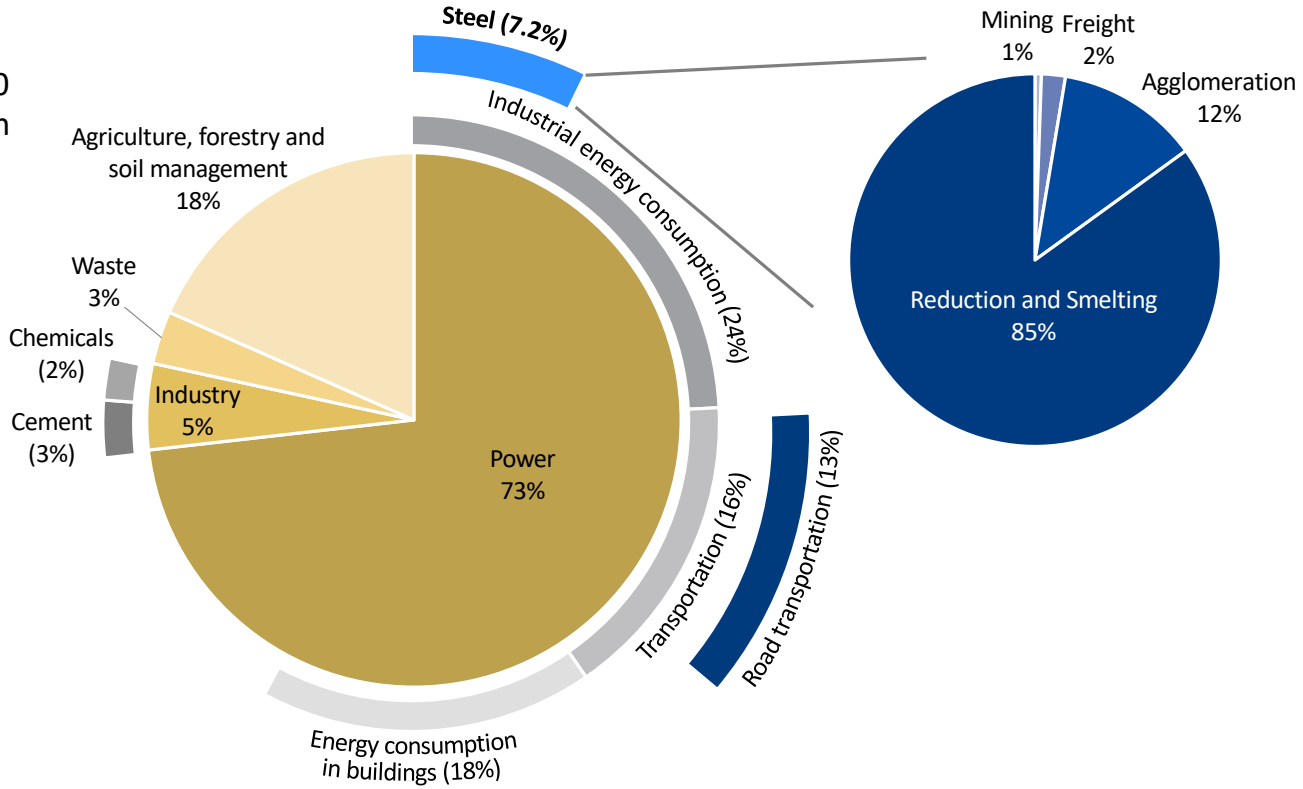


Note: The Global HBI/DRI Market: outlook for seaborne DR Grade pellet supply 2021
Woodmac database
https://www.midrex.com/tech-article/dr-grade-iron-ore-pellets-a-supply-overview/
Mckinsey, The DRI dilemma: Could raw material shortages hinder the steel industry's green transition?

*Argentina Trinidad USA Germany South Africa Algeria Libya Egypt Saudi Arabia Qatar Bahrain UAE Oman Malaysia

THE STEEL INDUSTRY WILL NEED TO ADAPT TO LIMIT EMISSIONS

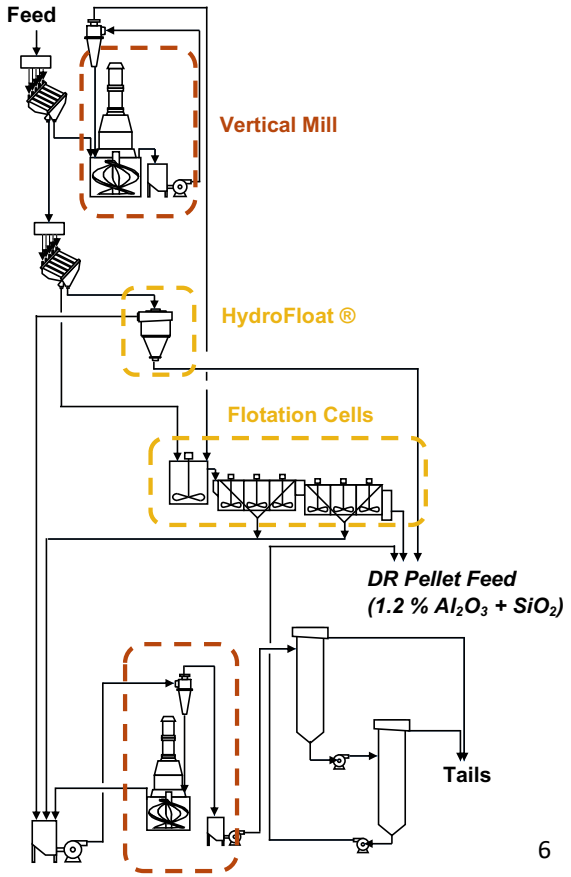
- The steel industry significantly increased its share of global emissions in the last 20 years and currently represents more than 7.2% of global CO_2 emissions[1]
- 85% of the emissions from steelmaking are generated by the reduction and smelting of ore[2]
- Improving raw material input, including higher Fe content of ore, contributes to reducing emissions in the steel making process
- Different steelmaking methods requiring alternative raw materials, including higher purity iron ore products, can significantly reduce emissions



Source: 1. Left pie chart: Our World In Data (2020), numbers may not add up due to rounding | 2. Right pie chart: Data from IEA and Wood Mackenzie

A NEW APPROACH TO THE PRODUCTION OF DIRECT REDUCTION GRADE PELLET FEED

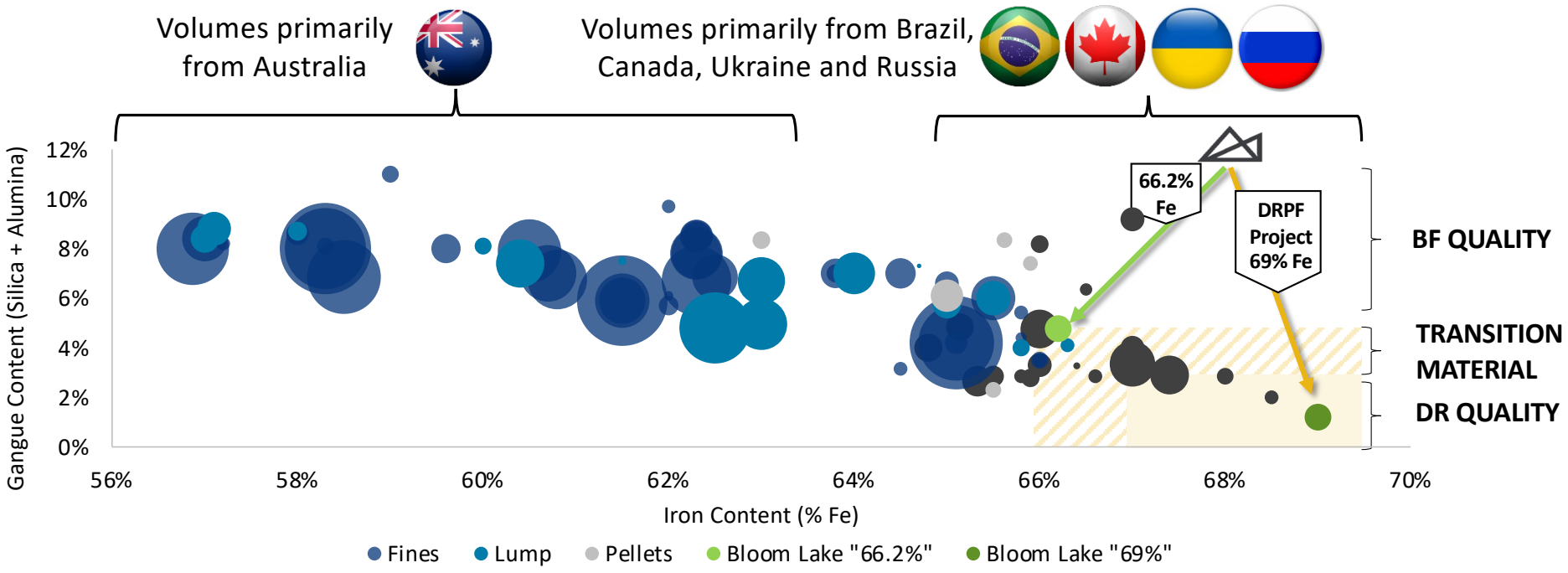




6

PREMIUM PRODUCT PORTFOLIO

SUMMARY OF IRON AND GANGUE CONTENTS

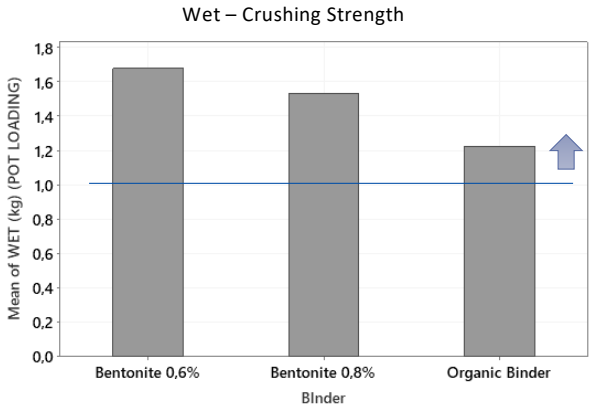


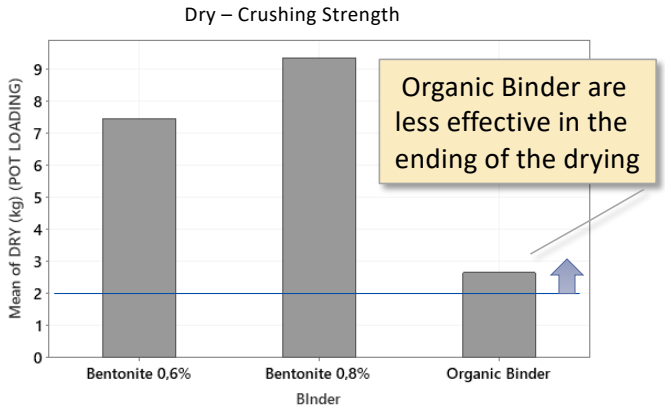
Source: Champion Iron Limited, Wood Mackenzie 2022 data



DR Grade Pellet Quality Pot Grate Testworks

DR PELLET GREEN QUALITY USING ONLY BALL MILL GRINDING





- ✓ Bentonite allow higher green pellet strength,
- ✓ Higher bentonite is not significantly improving green pellet quality (1680 cm^2/g and 325# 82%).
- ✓ Satisfactory pellet quality strength using organic binder was also obtained.

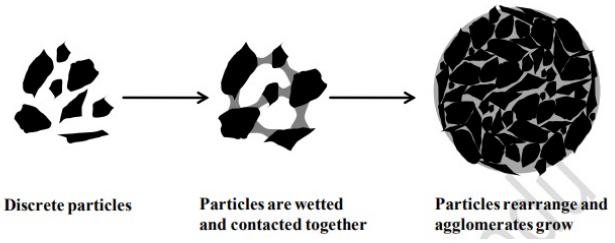


Bentonite Pellets with high good superficial quality and plasticity



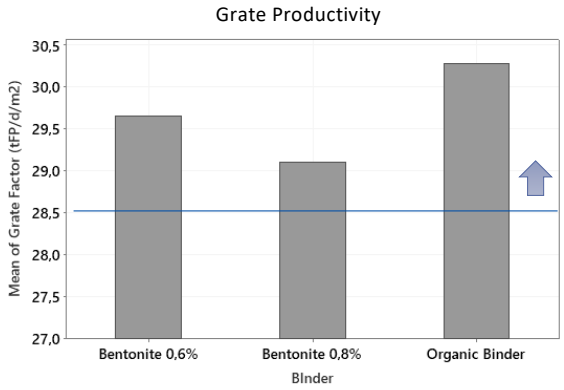
Traditional superficial moist effect of the organic the pellet

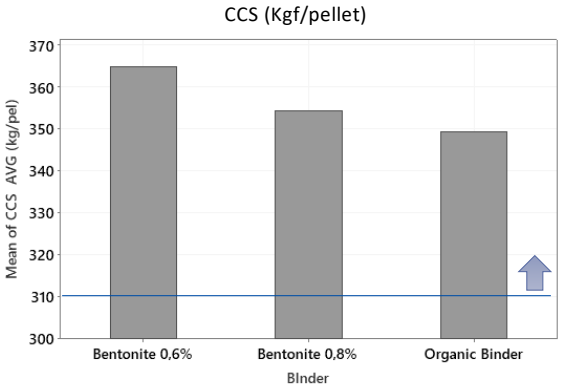
Halt and Kawatra, 2013

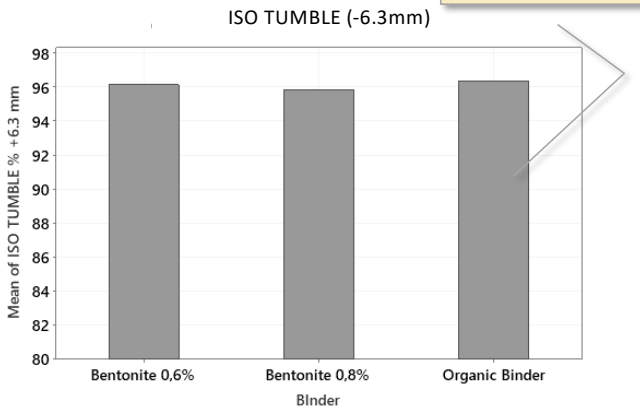


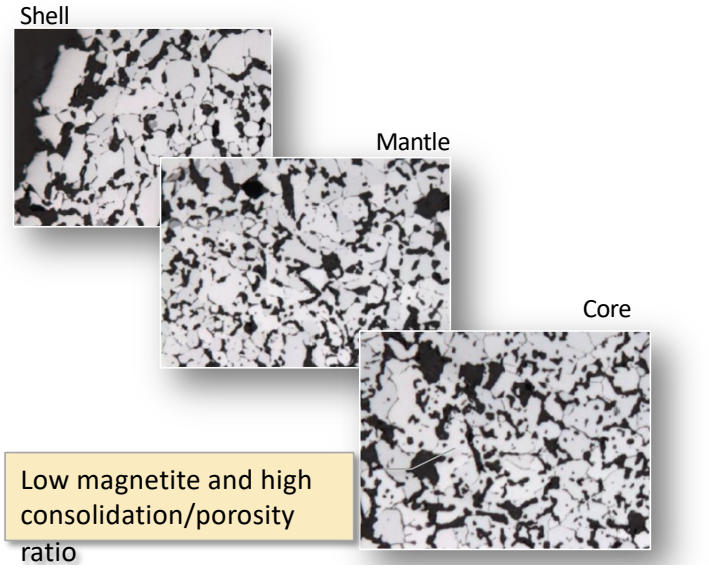
DRPF: HIGH FIRED PELLET QUALITY

Satisfactory combination of high strength and good surface finishing.







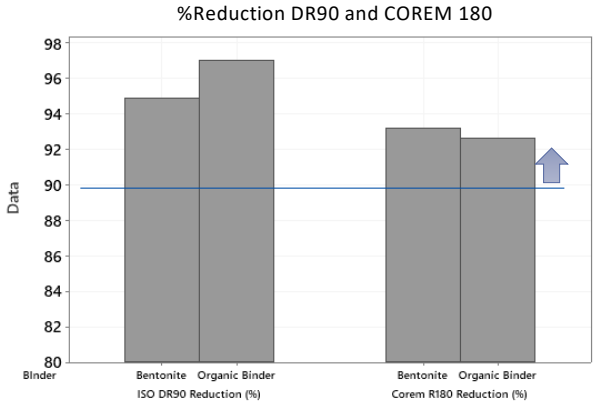


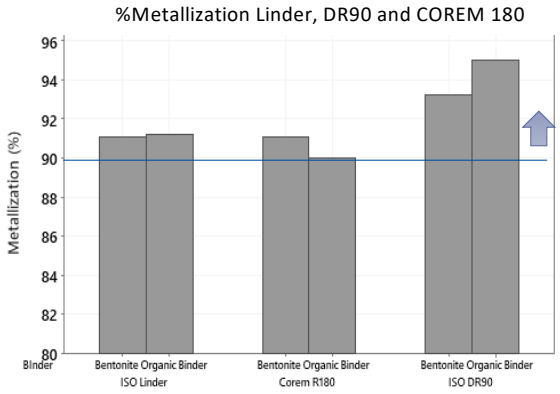
Low magnetite and high consolidation/porosity ratio

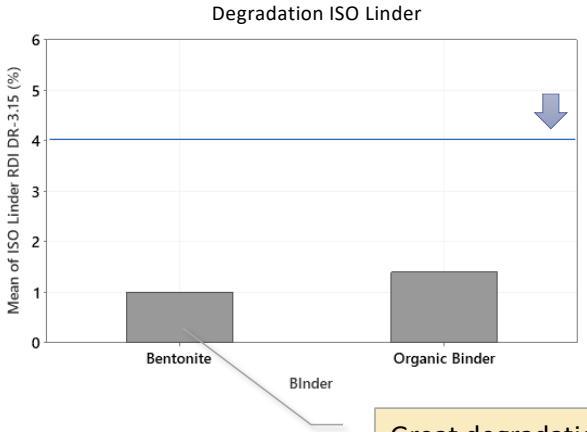


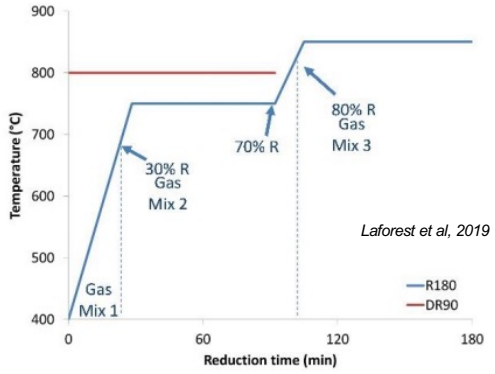
- ✓ Equivalent grate factor can be achieved with both binder type
- ✓ Organic Binder was also able to deliver outstanding pellet strength
- ✓ The type of binder does not impact the tumble index

DR PELLET FEED: REDUCIBILITY RESULTS AND LOW DEGRADATION



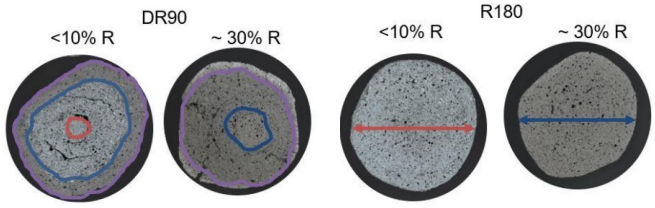




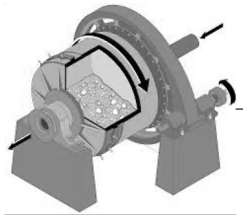


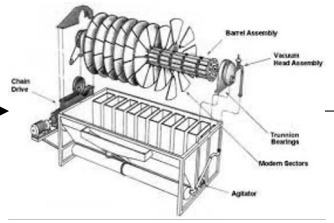
Great degradation properties at low temperature behavior

- ✓ ISO DR90, ISO Linder and COREM DR180 gives combined a better understanding of industrial
- ✓ %Reduction rate over 94%, in exothermic test.
- ✓ High Metallization way over 94% with organic binder
- ✓ Regardless of the binder, it was observed a low degradation during reduction.

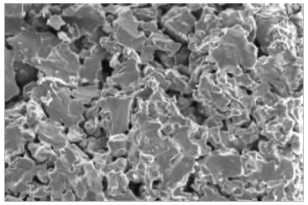


TRADITIONAL PELLETIZING TRADE-OFF: BLAINE AND MOISTURE









***Lower* Blaine Surface**

Reduce recirculation load
Increase green ball quality

Energy Consumption

***Lower* Blaine Surface**

Higher productivity
Lower Cloth Changes

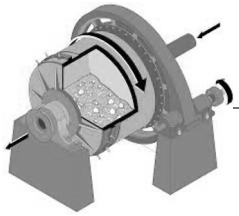
Lower Moisture

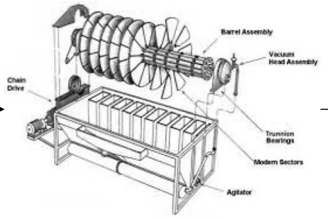
***Higher* Blaine Surface *X Lower* Moisture**

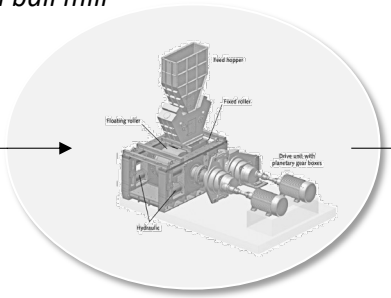
Reduce recirculation load
Increase green ball quality

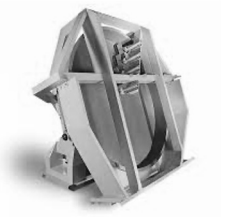
Pellet Quality

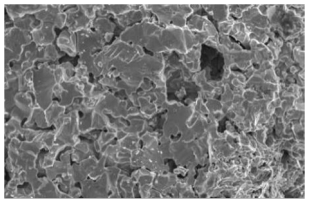
Grinding at higher energy efficiency than ball mill







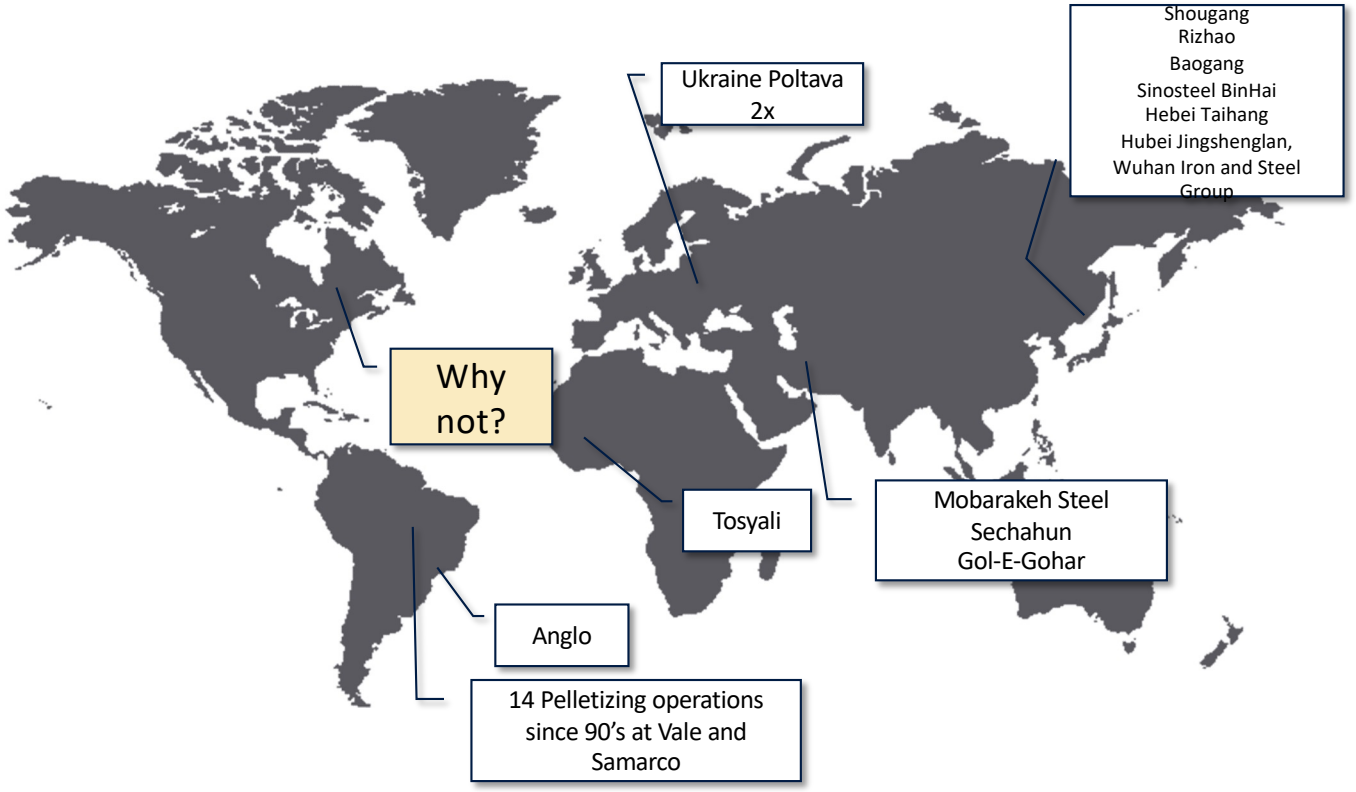




Better Control of Blaine Surface to Pelletizing

IMPROVING BALLABILITY IN GRINDING…

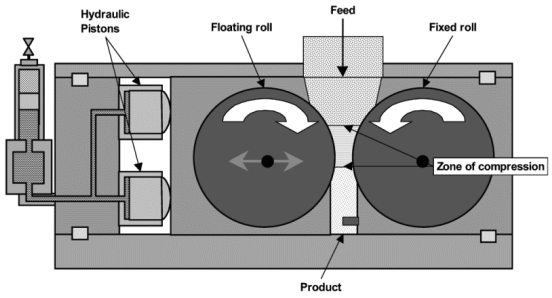
- ✓ HPGR grinding previous to the balling demonstrate its multiple advantages all around the word
- ✓ Technology integrated to iron ore since the 90's,
- ✓ Many new pelletizing projects have been considering HPGR in the grinding circuit,
- ✓ No Iron Ore operation in Canada are using HPGR for their grinding circuit,
- ✓ Champion Iron may consider HPGR in its Pointe-Noire Pellet Plant feasibility project,

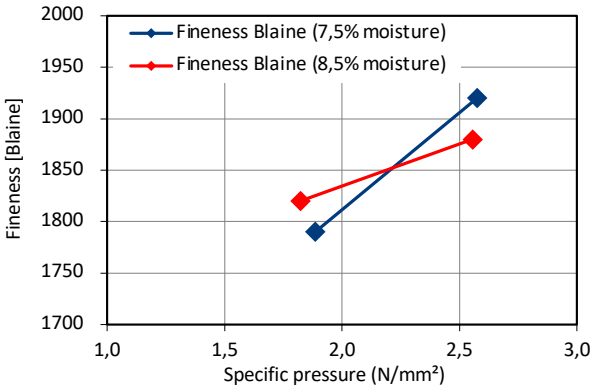


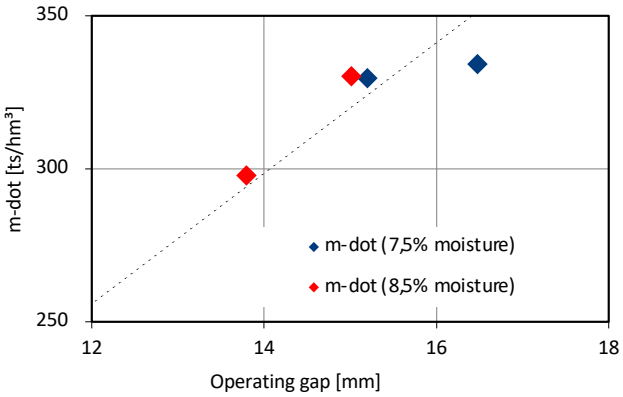
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https://www.flsmidth.com/en-gb/products/milling-and-grinding/high-pressure-grinding-roll

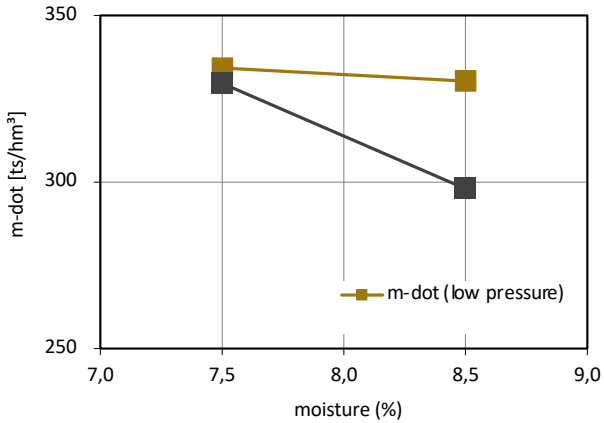
DR PELLET FEED HPGR SENSITIVENESS EVALUATION

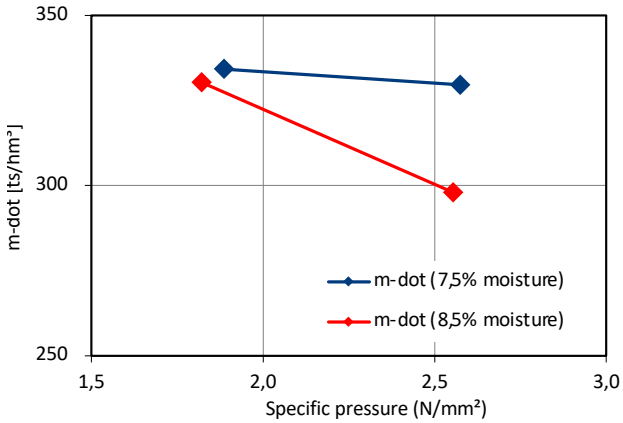
- ✓ Champion Iron Ore respond well to HPGR grinding
- ✓ Final Blaine higher than 1800 cm^2/g is achievable (from 1400 cm^2/g)
- ✓ M-dot (specific throughput) higher than 300 ton/mm^3 were obtained
- ✓ Moisture lower than 9% is preferable to minimize material slipping in the roll.





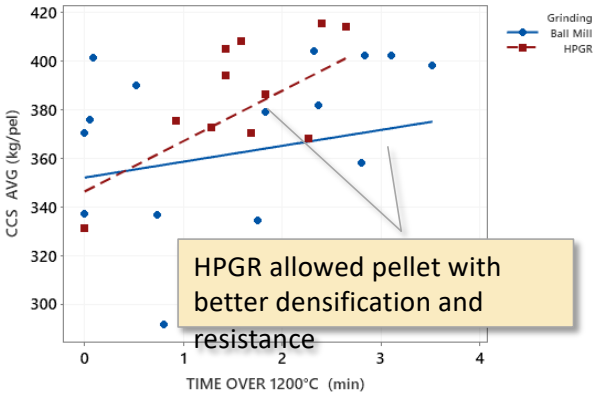






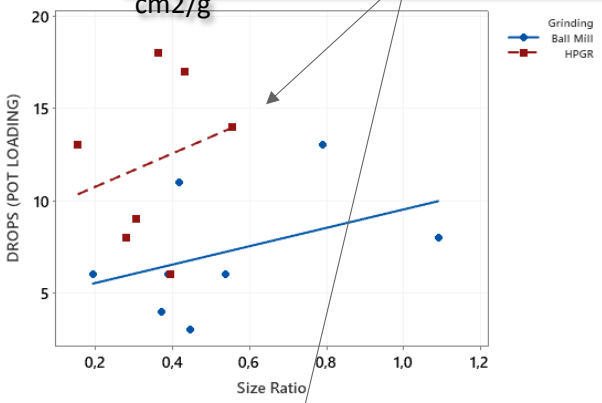
IMPROVING BALLABILITY IN GRINDING WITH HPGR…

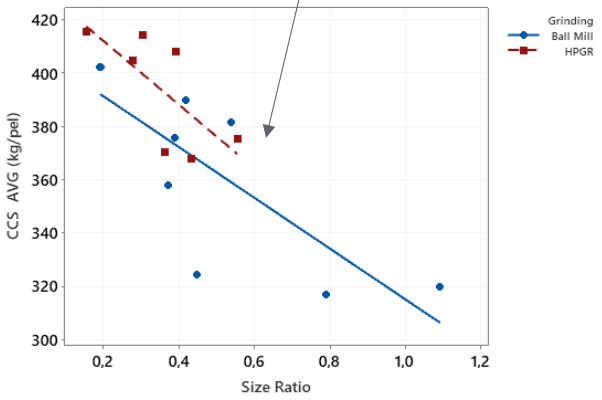
- ✓ HPGR grinding allow for higher average CCS at coarser grind
- ✓ HPGR grinding significatively increase the green pellet drop number



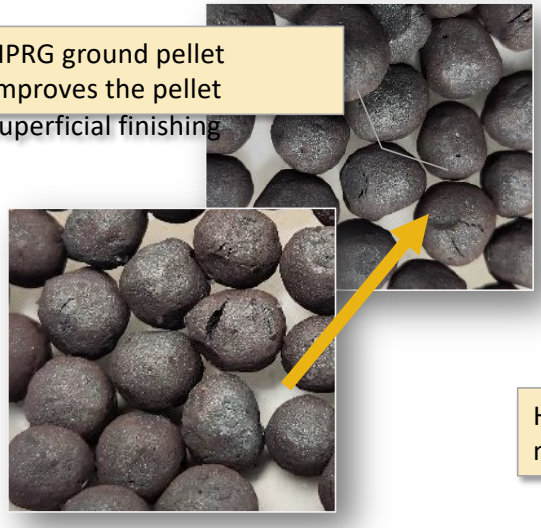
HPGR allowed pellet with better densification and resistance

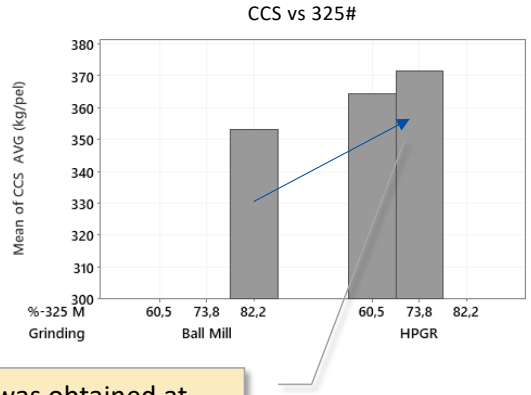
The pellet size have not implied in changes in the HPGR grinded @1550 cm2/g





HPRG ground pellet improves the pellet superficial finishing

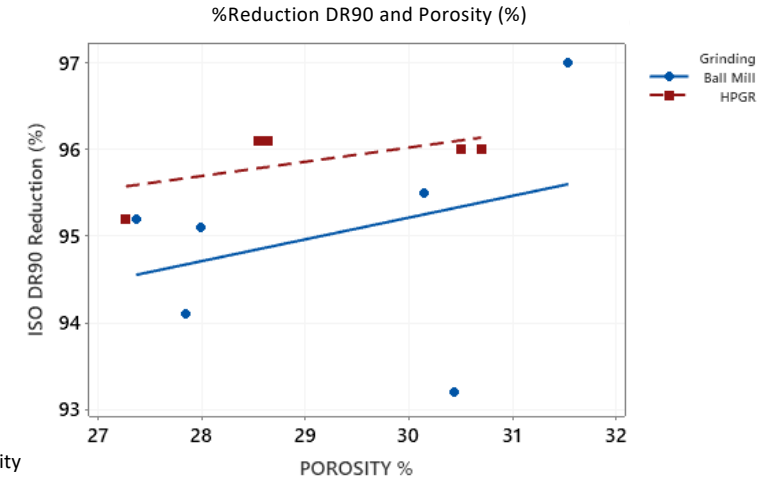


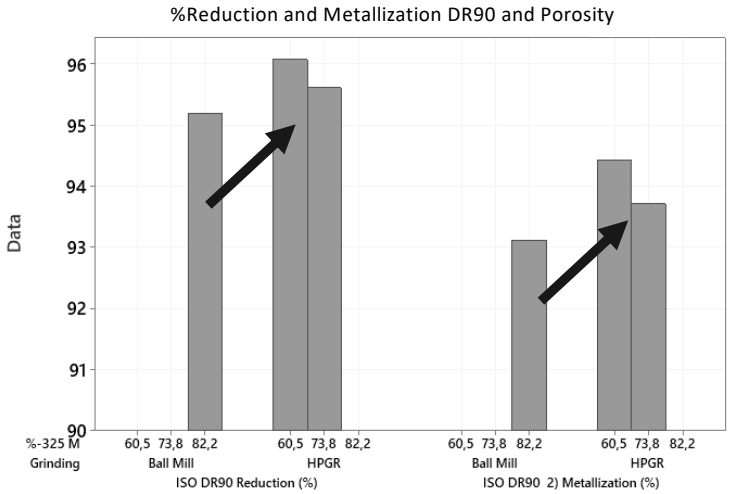


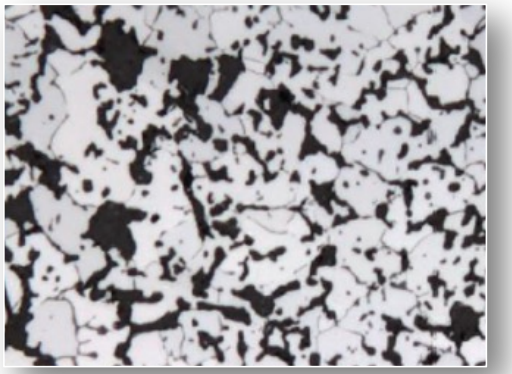
Higher CSS was obtained at much lower %325#

DR PELLET FEED: REDUCIBILITY RESULTS AT HPGR GRINDING

- ✓ The HPGR grinding increase the reduction properties of the pellets.
- ✓ The high pellet porosity improved the %reduction of HPGR tests, adding more then 1.0% at the same porosity intensity,
- ✓ HPGR improved ISO DR90 reducibility and metallization at coarser grind.

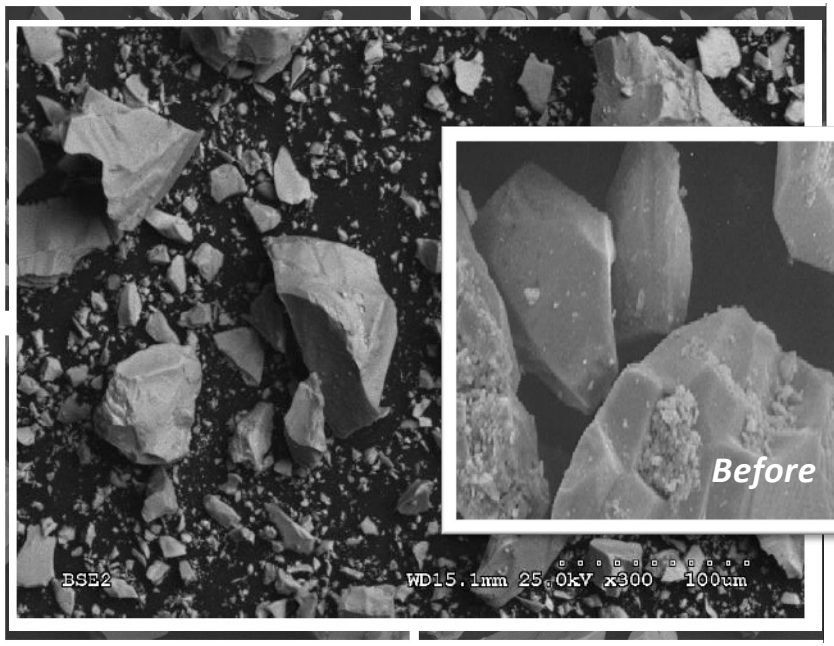




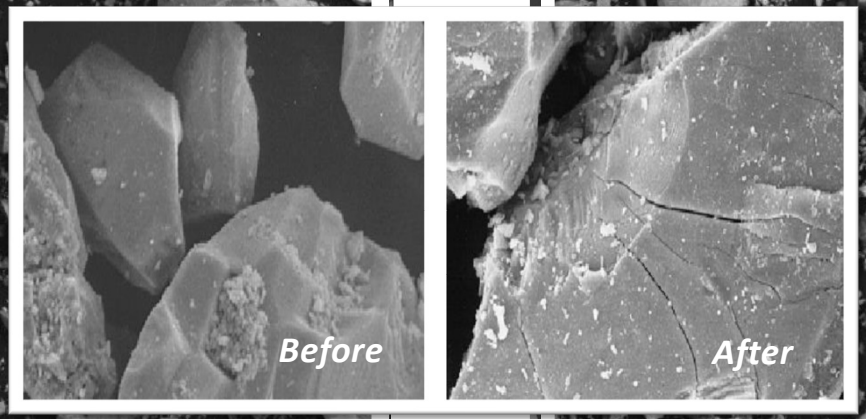


GRINDING EFFECT ON THE PARTICLE SURFACE

(+45 µm)

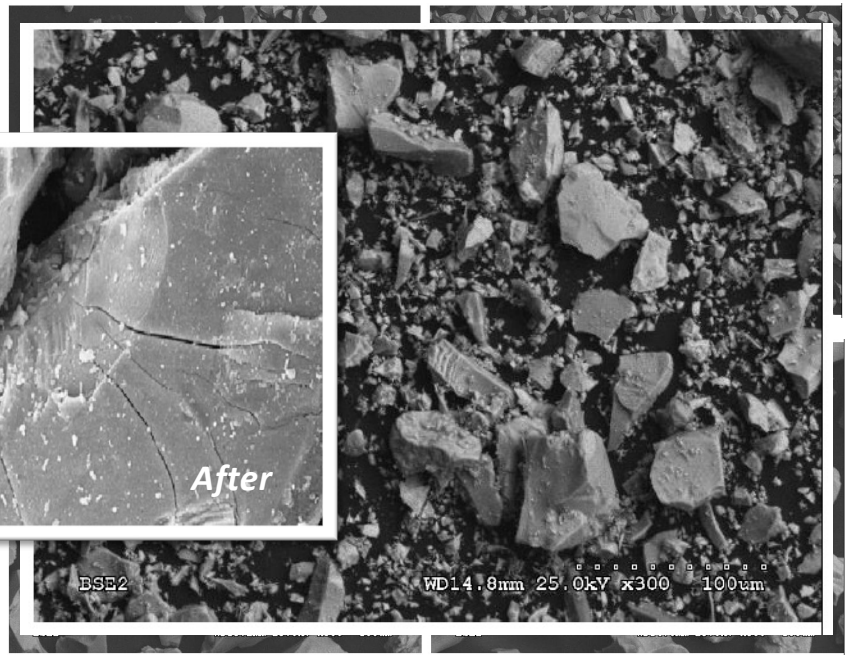


Ball Mill



HPGR Product

(-45+20 µm)



Ball Mill

HPGR Product

- ✓ Particles tended to be angular, with elongated shape due to the inter-particle and compression breakage mechanism in the HPGR.
- ✓ At higher pressures, breakage of the top size fraction reached a maximum, whereas generation of additional fines from breakage of the progeny from the initially broken particles occurred.

MAIN CONCLUSIONS

1. **Champion DR pellet feed** demonstrated to be able to produce **high quality DR pellet** with a high productivity rate. Optimizing CAPEX and OPEX for pelletizing

2. The HPGR assists to obtain better performance than only ball mill grinding at lower pellet feed particle size. Moisture control and better pellet quality.

3. **Champion DR pellet feed** can offer high reducible and resistant pellet can be obtained either by ball mill grinding or improved combined ball mill+HPGR route.

CHAMPION IRON

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