

## ASX Announcement

23<sup>rd</sup> of April 2024

# Pilot plant delivers iron ore concentrate grading 71,3% Fe and 1,1% SiO<sub>2</sub> with high yields

### HIGHLIGHTS

- **500 kg of source sediment** grading 29.1% total Fe processed in a small-scale pilot plant
- Production of a Direct Reduction concentrate grading **71.3% Fe** (from 70.6% Fe<sup>1</sup>) and **1.1% SiO<sub>2</sub>** (from 1.2% SiO<sub>2</sub>) with a total **magnetic Fe yield of 85.1%<sup>2</sup>** (from 80%<sup>1</sup>)
- Direct Reduction concentrate is critical to enable **large scale green steel production** based on Direct Reduction technologies
- Production of a Blast Furnace concentrate grading **69.8% Fe** (from 68.7%<sup>3</sup>) and 3.4% SiO<sub>2</sub> with a total **magnetic Fe yield of 97.6%** (from 97.0%<sup>3</sup>)
- Production of an additional recovery **RF** (Reverse Flotation) **concentrate** grading 68.3% Fe and 4% SiO<sub>2</sub> to increase overall recovery<sup>2</sup>
- **Extremely low deleterious elements** in all concentrate products, including Al<sub>2</sub>O<sub>3</sub>, MnO, P<sub>2</sub>O<sub>5</sub>, CaO, etc...
- **68 kg of Direct Reduction concentrate** ready to be provided to potential clients for tests work and potential off take agreements
- Phase 2 pilot test work started with **7,000 kg of source sediment** to produce larger samples for pelletising test work and further metallurgical test work

Cyclone Metals Limited (ASX: CLE) (**Cyclone** or **the Company**) is pleased to announce the results of Phase 1 of the pilot plant test work for its flagship magnetite Iron Bear project.

Paul Berend, CEO of Cyclone Metals, commented:

*"The first phase of the pilot test work confirms the exceptional metallurgical properties of the Iron Bear deposit. We were able to produce one of the highest quality magnetite concentrates in the world with very high yields in an industrial setting. We are now in a position to supply ultra-high quality iron ore product samples to steel mills and trading houses, and then start offtake / JV discussions. These are exciting times."*

1: Based on ASX release dated 14<sup>th</sup> of December 2023

2: The Fe magnetite recovery includes the magnetite Fe recovered in the RF concentrate which is part of reverse flotation circuit

3: Based on ASX release dated 28<sup>th</sup> of November 2023

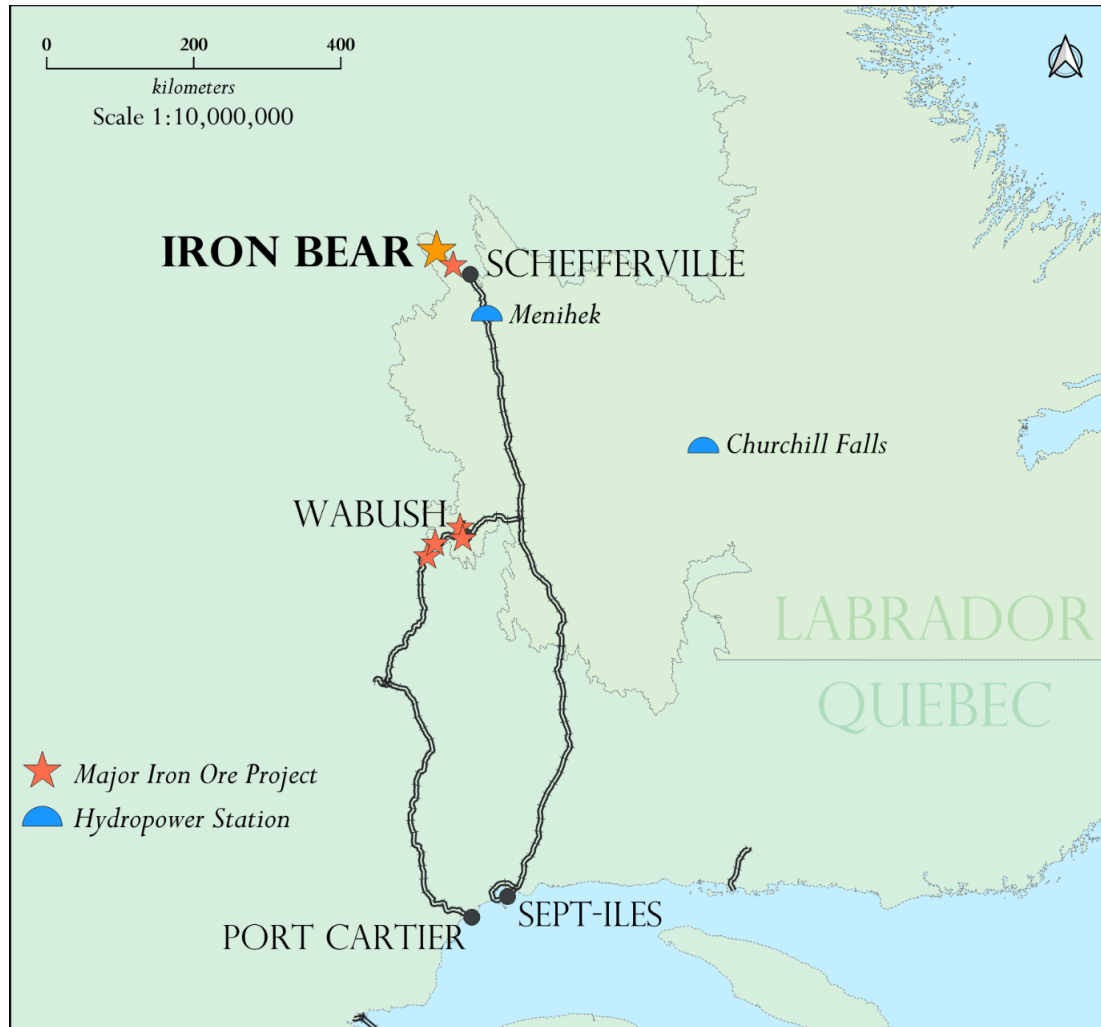
4: Direct Reduction which essentially replaces coal with either natural gas or green hydrogen potentially leading 0 carbon emissions steel production. Direct Reduction is a proven technology but requires DR grade pellets which

## About The Iron Bear Project

### Location and Infrastructure

The Iron Bear Project consists of ten licenses totalling 7,275 ha on 291 graticular Mineral Claims under the applicable Labrador and Newfoundland mining regulation, located near the Provincial border of Newfoundland and Labrador and Quebec, approximately 30 km northwest of the town of Schefferville and 1,200 km northeast of Montréal.

Figure 1: Iron Bear - Regional Access and Infrastructure



The Iron Bear properties are located within 25 km of an open access heavy haul railway which is directly connected to the Sept Isles and Pointe Noire iron ore export ports. In addition, the Iron Bear has potential access to cheap renewable energy from the Menihek hydro-plant located 75km away. These two factors substantially improve the prospects for eventual economic extraction of the Iron Bear mineral resource.

Notably, large scale iron ore export operations currently operate in the Labrador Trough; including IOC (Rio Tinto), Champion Iron and Tata Steel; all sharing the same rail and port infrastructure.

### Mineral Resource

Previous explorers conducted extensive mapping, geophysical surveys, and diamond drilling. In 2011, a first drilling campaign delivered 43 drill holes and 5,662m of drill core; and in 2012 a second drilling campaign returned an additional 72 drill holes and 22,359m of drill core.

In April 2024, Burnt Shirt Pty Ltd (Burnt Shirt), an independent geological consultancy firm, updated the Mineral Resource Estimate for the Iron Bear Project, leveraging all available data.

Cyclone simultaneously commissioned the development of an inversion model which demonstrated a strong correlation between a high-definition aerial magnetic survey over the area and the drilling results. This supported a substantial revision of the Iron Bear Mineral Resource estimate. The updated Mineral Resource estimate stands at 16.6 billion tonnes classified in accordance with the provisions of the Australian Joint Ore Reserves Committee (the "JORC Code", Appendix: Table 1)<sup>1</sup>.

Table 1: Iron Bear Mineral Resource Estimate at 12.5% magnetic Fe cut-off grade

Category	Tonnes (Billion)	Total Fe%	Magnetic Fe%
Indicated	2.15	28.68	18.97
Inferred	14.51	29.44	18.13
<b>Total</b>	<b>16.66</b>	<b>29.34</b>	<b>18.24</b>
<b>Exploration Target</b>			
From	16	24	16
To	21	33	22

The Competent Person for this Mineral Resource estimate is Mr Jeremy Peters BSc BEng FAusIMM CP (Min, Geo), a full-time employee of Burnt Shirt Pty Ltd., consulting to Cyclone. Mr Peters has more than five years' experience in the estimation and reporting of Mineral Resources for iron ore mineralisation in Australia and overseas.

Burnt Shirt has assisted CLE in its development of the Iron Bear Project and neither Burnt Shirt nor Mr Peters hold an interest in the Project or CLE. Mr Peters has assumed Competent Person responsibility due to his familiarity with the Project.

For additional information, please refer to the Competent Persons section in this document and the ASX release dated 11<sup>th</sup> of April 2024.

<sup>1</sup> CLE ASX Release 15 April 2024

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### Pilot Plant and Metallurgical Test Work Program

Cyclone commissioned Corem to build an industrial pilot at its facilities in Quebec City which replicates the process flow sheet and is designed to calibrate the key operational parameters. The pilot plant is based on small scale industrial equipment including screens, ball mills, magnetic separation units, settling tanks, reverse flotation cells, .... etc which closely replicate larger industrial units. This is key as Cyclones strategy is based on demonstrating to potential Clients that Iron Bear can produce large scale ultra -high quality, low carbon magnetite concentrates at a competitive cost. This implies that Cyclone must produce large samples of magnetite product for testing by Clients in a manner which closely aligns to a realistic mining and processing operation. This is why the scale of the pilot is quite substantial and the bulk samples used as feed are carefully selected to represent the full life of mine and are specifically not high graded.

Figure 2: Pilot plant in operation at Corem, Quebec City. Source: Corem 2024

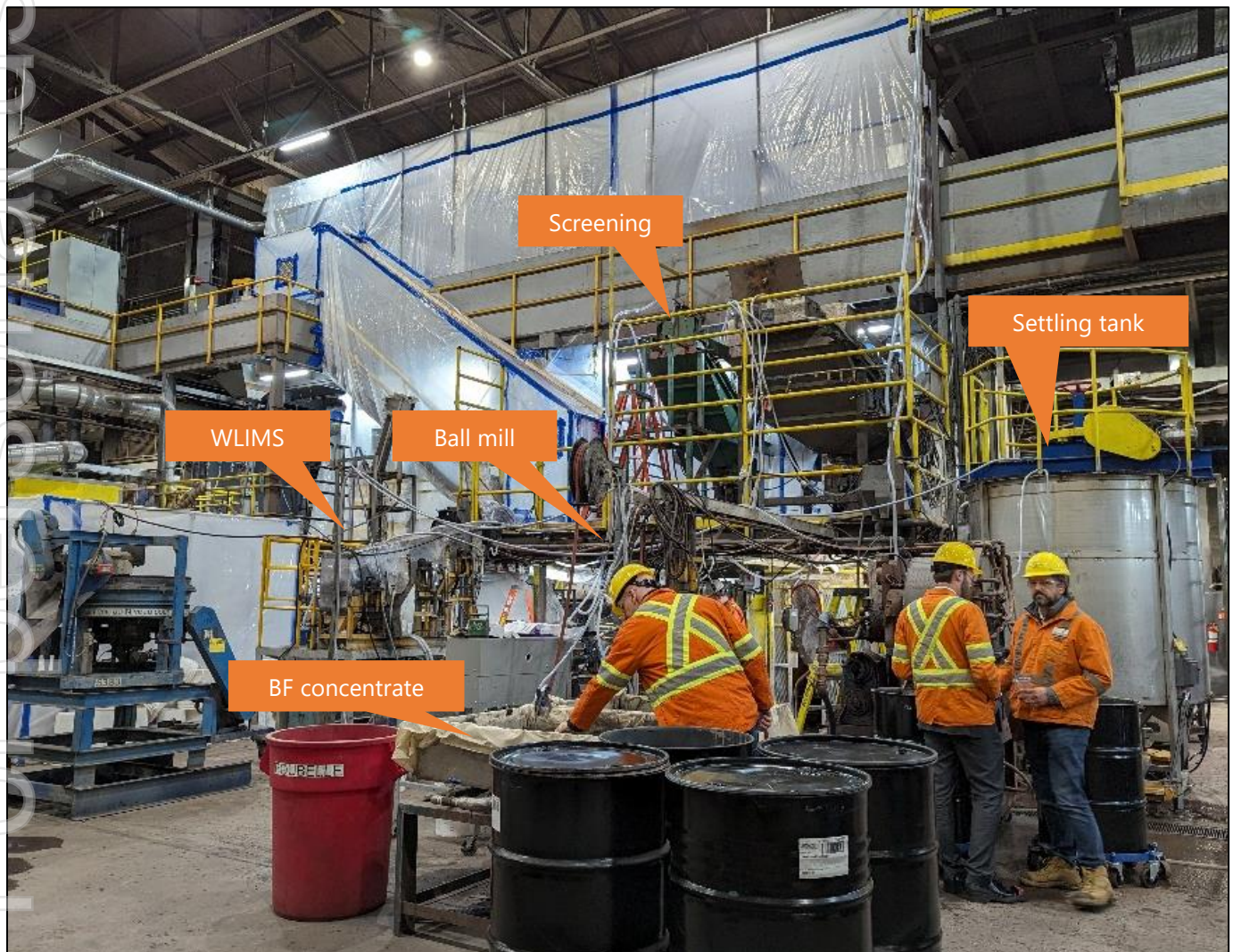




Figure 3: 3-stage WLIMS (Wet Low Intensity Magnetic Separation) industrial unit



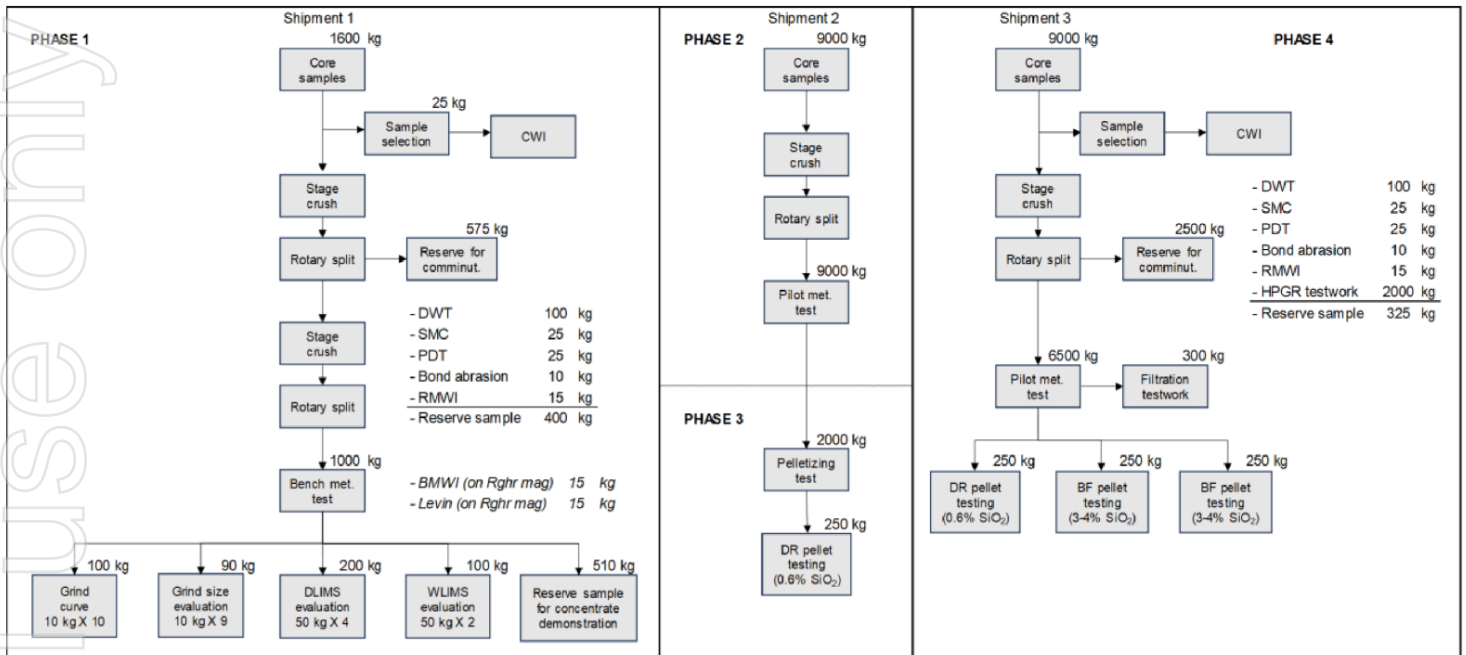
Figure 4: Ball mill used for Phase 1



The metallurgical test work program is broken into four phases summarised below and are on track to be completed by end of August 2024. Phase 1 has just been completed with positive and exciting outcomes.

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Figure 5: Iron Bear metallurgical testwork program overview



Initial sighter test work was completed Q4 2024 and based on the results initial product specifications were formulated and additional test work planned in Phase 1 to improve the product characteristics. A decision was taken not to target the hematite portion of the iron ore resource as the hematite is extremely fine (~ 5 microns) and combined with silica which is amenable to reverse flotation. For this reason, the objective of Phase 1 metallurgical test work was to increase the magnetic Fe yields – which was achieved.

Specifically, Paul Vermeulen, Cyclone’s Technical GM recommended the inclusion of a scavenger stage prior to three WLIMS stages to increase the grade of the BF magnetite concentrate as the magnetic Fe recovery was already very high ~ 97%. Subsequently the BF concentrate Fe content increased from 68,7% Fe<sup>2</sup> to 69,8% Fe. Interestingly there was also a marginal increase in the overall magnetite recovery from 97% to 97,6%.

The second area of improvement is focussed on improved the magnetite Fe recovery for the Iron Bear premium DR concentrate. Two complementary strategies are being developed.

The first strategy is to design a three-stage flotation circuit whereby the waste stream of the third flotation cell could actually be a high value saleable product in its own right - albeit with marginally higher silica content. This concept was tested, successfully, in Phase 1 of the metallurgical test work program and a RF (Reverse Flotation) concentrate was produced, grading 68,3% Fe and 4% SiO<sub>2</sub> with an overall magnetite Fe recovery of ~ 4,5% in mass.

The RF concentrate is still a very premium iron ore product which would sell at a large premium to the benchmark 62% Fe fines (approximately 53 USD/t premium for a benchmark 62% Fe trading at USD106/t CFR). The additional 4,5% magnetite Fe recovery for the RF concentrate improves the overall magnetite recovery for the reverse flotation circuit from 80,7% (for the DR concentrate) to 85,2% which is substantial.

<sup>2</sup> ASX release dated 14<sup>th</sup> of December 2023



Figure 5: Output of reverse flotation circuit (1 run)

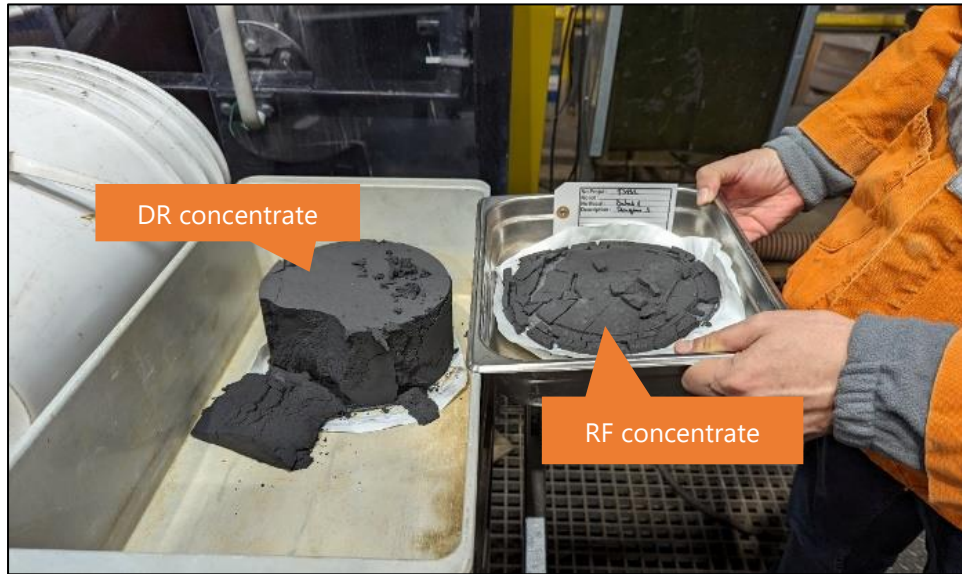


Figure 6: Reverse flotation cell

The second strategy is to improve the performance of the reverse flotation cells by adjusting the selection of flocculants and the operating conditions. This test work will be performed in Phase 2.



Cyclone has provided to Corem an additional seven tonnes of Iron Bear sediment to feed this pilot plant for Phase 2 test work (refer to Field operations in Schefferville, Canada, November 2023). The pilot plant will produce approximately 800 kg bulk samples of blast furnace grade and direct reduction concentrate. These concentrate samples will be used for pelletizing test work planned to start in May 2024 (milestone 8) and to provide bulk samples of Iron Bear concentrates to steel mills for validation and metallurgical test work.

### ***Iron Bear Flow Sheet and Mass Balance***

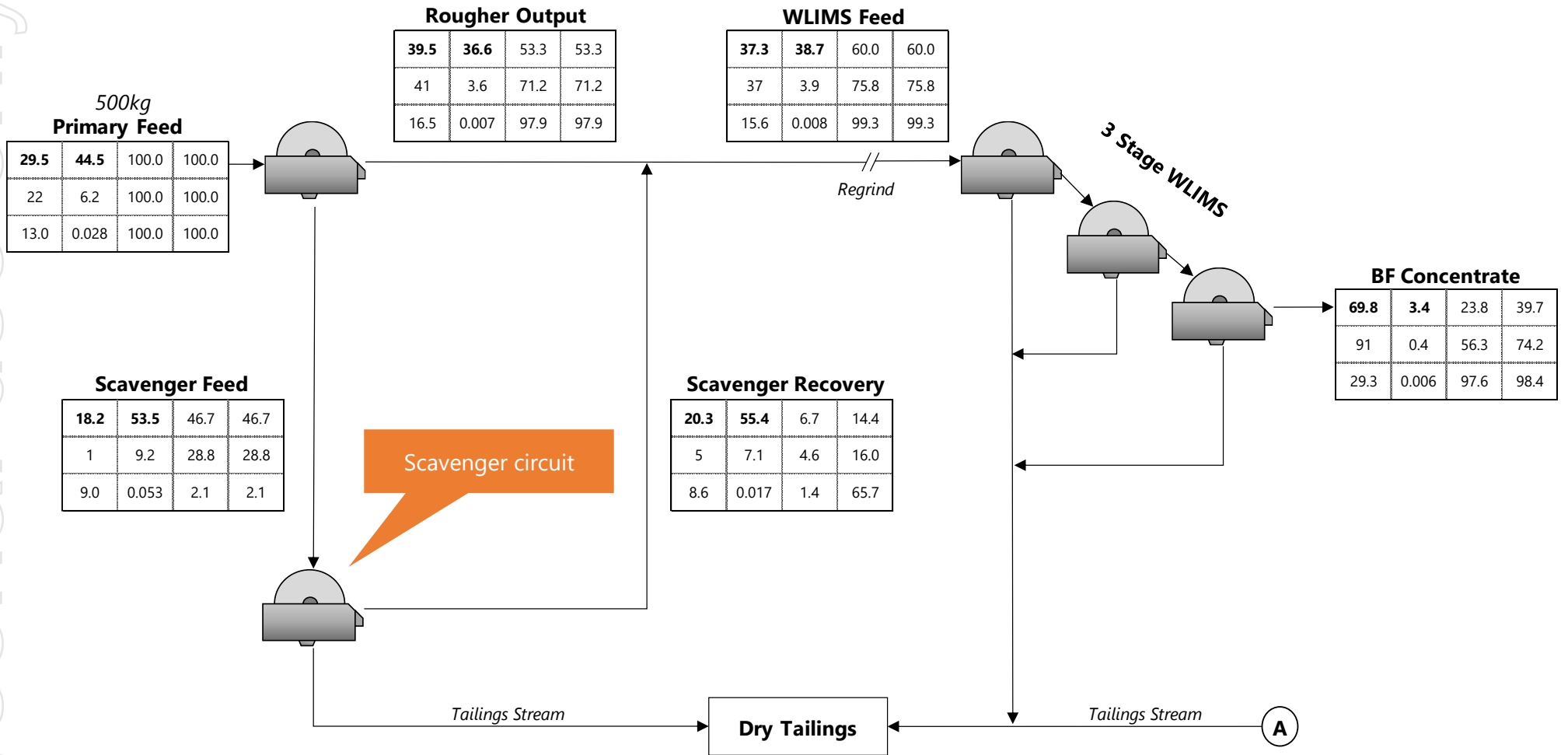
The following charts provide an overview of the flow sheets and the yields by stage and mass recoveries:

# Flow Sheet and Mass Balance

## Concentrator Circuit

**Legend**  
Global Stage

Fe <sub>T</sub>	SiO <sub>2</sub>	Wt. R	Wt. R
Mag	Other I.	Fe <sub>T</sub> R	Fe <sub>T</sub> R
FeO	S <sub>total</sub>	Mag R	Mag R



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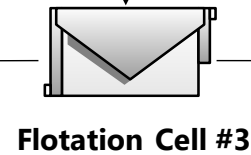
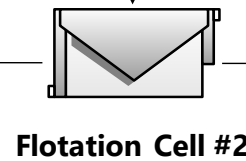
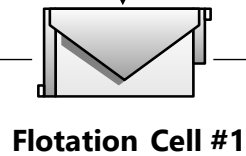


# Flow Sheet and Mass Balance

## Reverse Floatation Circuit

**BF Concentrate**

69.8	3.4	23.8	39.7
91	0.4	56.3	74.2
29.3	0.006	97.6	98.4



**RF Concentrate**

68.3	4.0	1.1	4.6
88	0.7	2.6	4.6
28.5	0.009	4.4	4.5

**DR Concentrate**

71.3	1.1	19.0	80.0
94	0.3	46.2	82.1
30.2	0.005	80.7	82.6

This recovery stream from the third flotation cell circuit produces a saleable RF concentrate.

Combined magnetite Fe recovery is 85,1% = 4,4%+80,7%

### Legend

Global		Stage	
Fe <sub>T</sub>	SiO <sub>2</sub>	Wt. R	Wt. R
Mag	Other I.	Fe <sub>T</sub> R	Fe <sub>T</sub> R
FeO	S <sub>total</sub>	Mag R	Mag R

A

Tailings Stream

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### Iron Bear Concentrate Specifications

The following tables summarise the revised Iron Bear concentrate specifications – subsequent to the completion of Phase 1 of the metallurgical test work.

% by weight	Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	MgO	MnO	P <sub>2</sub> O <sub>5</sub>	S <sub>total</sub>	TiO <sub>2</sub>
<b>DR conc.</b>	<b>71.3</b>	<b>1.1</b>	<b>&lt;0.10</b>	0.07	0.07	0.03	<0.01	0.005	0.01
<b>BF conc.</b>	<b>69.8</b>	<b>3.4</b>	<b>&lt;0.10</b>	0.14	0.18	0.06	<0.01	0.005	0.01
<b>RF conc.</b>	<b>68.3</b>	<b>4.0</b>	<b>0.10</b>	0.24	0.28	0.10	0.01	0.009	0.02

% by weight	K <sub>2</sub> O	Na <sub>2</sub> O	V <sub>2</sub> O <sub>5</sub>	ZrO <sub>2</sub>	ZnO	FeO	LOI	Other	Sum
<b>DR conc.</b>	<0.01	<0.10	<0.01	<0.02	<0.01	29.8	-2.99	0.04	100.6
<b>BF conc.</b>	<0.01	<0.10	<0.01	<0.02	<0.01	29.8	-2.77	0.05	100.4
<b>RF conc.</b>	<0.01	<0.10	<0.01	<0.02	<0.01	28.5	-2.18	0.10	100.5

< = below detection limit.

- The DR concentrate is achieved at P80 @ 32 microns with an 80.7% recovery of magnetic Fe.
- The BF concentrate is achieved at P80 @ 32 microns with an 97.6% recovery of magnetic Fe.
- The RF concentrate is achieved at P80 @ 32 microns with an 4.4% recovery of magnetic Fe.

The overall Fe magnetite recovery of the reverse flotation circuit is the sum of the magnetic recovery of the DR and RF concentrates (85,2%). It should be noted that both of these products are produced together if the reverse flotation is active and would sell for similar prices on the seaborne market (albeit with a silica premium for DR concentrate). However the RF concentrate is not amenable for the production of DR quality pellets which is where the highest value can be achieved for Iron Bear.

***This announcement has been approved by the Company's board of directors.***

## Compliance Statements

### **Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning the Company's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should," "further" and similar expressions are forward-looking statements. Although the Company believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in additional Mineral Resources.

### **Competent Persons**

Metallurgy and processing information has been reviewed and compiled by Paul Vermeulen MAusIMM, MAIST, a Director of Vulcan Technologies Pty Ltd, who has sufficient experience which is relevant to the method of processing under consideration 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 Vermeulen consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

The Competent Person for the 2024 Mineral Resource estimate is Mr Jeremy Peters FAusIMM CP (Geo, Min), a Director of Burnt Shirt Pty Ltd. The Mineral Resource estimate is stated in accordance with the provisions of the JORC Code (2012). Mr Peters has more than five years' experience in the estimation and reporting of Mineral Resources for iron mineralisation in Australia and overseas, to qualify as a Competent Person as defined in the JORC Code. Mr Peters consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Burnt Shirt has assisted CLE in its development of the Iron Bear Project and neither Burnt Shirt nor Mr Peters hold an interest in the Project or CLE. Mr Peters has assumed Competent Person responsibility due to his familiarity with the Project.

The Competent Person for this Exploration Target postulation is Mr Jeremy Peters BSc BEng FAusIMM CP (Min, Geo). Mr Peters cautions that the potential quantity and grade of the Exploration Target is conceptual in nature and that there has been insufficient exploration to result in the estimation of a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource. Cyclone is planning a drilling program for approval by the Newfoundland and Labrador Geological Survey. This program is designed to test the Exploration Target by reverse circulation drilling of magnetic lithology defined by the ResPot inversion model. Samples will be taken to verify grade and metallurgical characteristics.



## APPENDIX TABLE 1 - CONCENTRATE SIZE CHARACTERISATION RESULTS

### Final concentrate characterization results

(Reconciled)

Project : T3432

Sample : Flotation concentrate

Test : Production  
(Overall)

Conditions : Reverse flotation production (10 kg batches)


Size fraction		Weight (%)		Grades (%)										
( $\mu\text{m}$ )	(mesh)	Retained	Passing	Fe <sub>T</sub> *	FeO	Mag**	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MgO	CaO	MnO	S <sub>total</sub>	Sum
+45 $\mu\text{m}$	+325 mesh	1.1	98.9	68.6	28.7	79	3.0	0.1	98.1	0.5	0.2	0.0	0.008	102.0
-45 +38 $\mu\text{m}$	-325 +400 mesh	8.7	90.2	70.6	29.8	91	1.5	0.1	101.0	0.1	0.1	0.0	0.006	102.9
-38 +32 $\mu\text{m}$	-400 +450 mesh	7.1	83.1	70.6	29.9	92	1.3	0.1	101.0	0.1	0.1	0.0	0.006	102.7
-32 +25 $\mu\text{m}$	-450 +500 mesh	22.2	60.9	71.4	29.9	96	1.2	0.1	102.0	0.1	0.1	0.0	0.005	103.5
-25 +20 $\mu\text{m}$	-500 +635 mesh	8.4	52.4	71.3	29.9	94	1.2	0.1	102.0	0.1	0.1	0.0	0.004	103.4
-20 $\mu\text{m}$	-635 mesh	52.4		71.4	29.5	93	1.0	0.1	102.1	0.0	0.0	0.0	0.005	103.3
<b>Calculated feed</b>		<b>100.0</b>	<b>--</b>	<b>71.2</b>	<b>29.7</b>	<b>93</b>	<b>1.1</b>	<b>0.1</b>	<b>101.9</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.005</b>	<b>103.3</b>

\*Fe<sub>T</sub> : Fe<sub>2</sub>O<sub>3</sub> x 0.699

\*\*Satmagan measurement

Size fraction		Weight (%)		Distributions (%)										
( $\mu\text{m}$ )	(mesh)	Retained	Passing	Fe <sub>T</sub> *	FeO	Mag**	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MgO	CaO	MnO	S <sub>total</sub>	Sum
+45 $\mu\text{m}$	+325 mesh	1.1	98.9	1.1	1.1	1	2.9	1.5	1.1	8.5	2.6	1.8	1.812	--
-45 +38 $\mu\text{m}$	-325 +400 mesh	8.7	90.2	8.7	8.8	9	11.3	8.7	8.7	13.5	14.0	10.6	10.625	--
-38 +32 $\mu\text{m}$	-400 +450 mesh	7.1	83.1	7.0	7.1	7	8.3	7.1	7.0	9.0	9.7	8.6	8.635	--
-32 +25 $\mu\text{m}$	-450 +500 mesh	22.2	60.9	22.3	22.4	23	23.2	22.2	22.3	25.0	27.3	22.8	22.165	--
-25 +20 $\mu\text{m}$	-500 +635 mesh	8.4	52.4	8.4	8.5	8	8.7	8.5	8.4	7.1	8.5	7.1	6.885	--
-20 $\mu\text{m}$	-635 mesh	52.4	0.0	52.6	52.1	52	45.6	52.0	52.6	36.8	38.1	49.0	49.878	--
<b>Calculated feed</b>		<b>100.0</b>	<b>--</b>	<b>100.0</b>	<b>100.0</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>--</b>

## APPENDIX TABLE 2 – 500KG SEDIMENT FEED CHARACTERISATION

 <p>Corem Innovation in mineral processing</p>	Project : T3432		Feed sample characterization	
			Sample : Feed sample	

Products	Grades (%)																			
	Fe <sub>T</sub> *	FeO	Mag**	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	MnO	P <sub>2</sub> O <sub>5</sub>	Cr <sub>2</sub> O <sub>3</sub>	V <sub>2</sub> O <sub>5</sub>	ZrO <sub>2</sub>	ZnO	S <sub>total</sub>	LOI	Sum
Analyzed feed	29.1	13.6	23	45.3	0.3	41.6	2.21	2.85	<i>0.10</i>	<i>0.07</i>	<i>0.03</i>	<i>0.72</i>	<i>0.02</i>	<i>0.01</i>	<i>0.01</i>	<i>0.02</i>	<i>0.01</i>	0.021	6.07	99.3

\*Fe<sub>T</sub> : Fe<sub>2</sub>O<sub>3</sub> x 0.699

\*\*Satmagan measurement

*italic : under detection limit*

Fraction		Weight (%)	Cumulative retained (%)	Cumulative passing (%)
µm	mesh or inch			
+12500	3/8 "	0.04	0.04	99.96
+11200	1/4 "	0.56	0.60	99.40
+9500	4	10.76	11.36	88.64
+8000	6	12.48	23.84	76.16
+6700	8	12.65	36.49	63.51
+6300	10	0.83	37.32	62.68
+4750	14	14.76	52.08	47.92
+3350	20	10.57	62.64	37.36
+2360	28	9.05	71.69	28.31
+1700	35	5.63	77.32	22.68
-1700		22.68	100.00	-0.00
Total		100.00		

**APPENDIX TABLE 3 – LIST OF DRILL CORES USED FOR PHASE 1 METALLURGICAL TEST WORK**

Density 3

Mass per bag 11,5

Total 1281.8

Database HoleID	From	To	Length	Mass (kg)
DDH103-003	15.6	20.9	5.3	11.01
DDH103-003	20.9	26.7	5.8	12.05
DDH103-003	26.7	32.7	6	12.47
DDH103-003	32.7	38.5	5.8	12.05
DDH103-003	38.5	44.5	6	12.47
DDH103-003	44.5	50.5	6	12.47
DDH103-003	50.5	56.4	5.9	12.26
DDH103-003	69	74.9	5.9	12.26
DDH103-003	74.9	80.2	5.3	11.01
DDH103-003	80.2	85	4.8	9.98
DDH103-003	85	92.3	7.3	15.17
DDH103-003	92.3	98	5.7	11.85
DDH103-003	98	103.4	5.4	11.22
DDH103-003	103.4	108	4.6	9.56
DDH103-003	108	115.6	7.6	15.79
DDH103-003	115.6	121.5	5.9	12.26
DDH103-003	121.5	127.3	5.8	12.05
DDH103-040	17.3	21.6	4.3	8.94
DDH103-040	21.6	25.8	4.2	8.73
DDH103-042	44.3	49.8	5.5	11.43
DDH103-042	55.8	61.5	5.7	11.85
DDH103-042	55.8	61.5	5.7	11.85
DDH103-042	61.5	67.9	6.4	13.30
DDH103-042	67.9	72.9	5	10.39
DDH103-044	76.6	82.2	5.6	11.64
DDH103-044	82.2	87.9	5.7	11.85
DDH103-044	87.9	93.6	5.7	11.85
DDH103-044	93.6	99.5	5.9	12.26
DDH103-044	99.5	105.3	5.8	12.05
DDH103-044	105.3	110.8	5.5	11.43
DDH103-044	110.8	117.3	6.5	13.51
DDH103-066	55.5	61.4	5.9	12.26



Database HoleID	From	To	Length	Mass (kg)
DDH103-066	84	89	5	10.39
DDH103-066	118.9	124.5	5.6	11.64
DDH103-066	157	162.6	5.6	11.64
DDH103-066	162.6	168.5	5.9	12.26
DDH103-066	168.5	173.4	4.9	10.18
DDH103-066	173.4	179.3	5.9	12.26
DDH103-066	179.3	185	5.7	11.85
DDH103-066	185	190.8	5.8	12.05
DDH103-066	190.8	196.6	5.8	12.05
DDH103-066	196.6	202.4	5.8	12.05
DDH103-066	202.4	208.3	5.9	12.26
DDH103-066	208.3	214.2	5.9	12.26
DDH103-066	214.2	220	5.8	12.05
DDH103-066	220	225.6	5.6	11.64
DDH103-066	225.6	231.6	6	12.47
DDH103-083	160.2	165.9	5.7	11.85
DDH103-083	165.9	171.8	5.9	12.26
DDH103-083	171.8	177	5.2	10.81
DDH103-084	8.2	14.9	6.7	13.92
DDH103-084	14.9	20.7	5.8	12.05
DDH103-084	20.7	26.3	5.6	11.64
DDH103-084	26.3	31.8	5.5	11.43
DDH103-084	31.8	37.7	5.9	12.26
DDH103-084	37.7	43.4	5.7	11.85
DDH103-084	43.4	48.7	5.3	11.01
DDH103-084	48.7	54.6	5.9	12.26
DDH103-084	61	64.7	3.7	7.69
DDH103-084	64.7	72	7.3	15.17
DDH103-084	72	77.8	5.8	12.05
DDH103-084	77.8	83.5	5.7	11.85
DDH103-084	83.5	89	5.5	11.43
DDH103-084	89	94.7	5.7	11.85
DDH103-084	94.7	100.4	5.7	11.85
DDH103-084	100.4	106.4	6	12.47
DDH103-084	106.4	112.1	5.7	11.85
DDH103-084	112.1	118.1	6	12.47
DDH103-084	118.1	123.8	5.7	11.85
DDH103-084	123.8	129.7	5.9	12.26
DDH103-084	129.7	135.6	5.9	12.26
DDH103-084	131.8	137.5	5.7	11.85
DDH103-084	135.6	141.2	5.6	11.64

Database HoleID	From	To	Length	Mass (kg)
DDH103-084	141.2	147.2	6	12.47
DDH103-084	147.2	153.2	6	12.47
DDH103-084	153.1	159.6	6.5	13.51
DDH103-084	159.6	164.3	4.7	9.77
DDH103-084	164.3	170.3	6	12.47
DDH103-084	170.3	176	5.7	11.85
DDH103-084	176	181.8	5.8	12.05
DDH103-144	49.7	54.1	4.4	9.14
DDH103-144	54.1	58.6	4.5	9.35
DDH103-144	58.6	62.9	4.3	8.94
DDH103-144	62.9	67.2	4.3	8.94
DDH103-144	67.2	71.6	4.4	9.14
DDH103-144	71.6	76	4.4	9.14
DDH103-144	76	80.5	4.5	9.35
DDH103-144	80.5	85	4.5	9.35
DDH103-144	85	89.2	4.2	8.73
DDH103-144	89.2	93.7	4.5	9.35
DDH103-144	93.7	98.1	4.4	9.14
DDH103-144	98.1	103.3	5.2	10.81
DDH103-144	103.3	107.7	4.4	9.14
DDH103-144	107.7	112	4.3	8.94
DDH103-144	112	116.4	4.4	9.14
DDH103-144	116.4	120.8	4.4	9.14
DDH103-144	120.8	125.4	4.6	9.56
DDH103-144	125.4	129.7	4.3	8.94
DDH103-144	129.7	134.1	4.4	9.14
DDH103-144	134.1	138.6	4.5	9.35
DDH103-144	138.6	143	4.4	9.14
DDH103-144	143	147	4	8.31
DDH103-144	147	151.7	4.7	9.77
DDH103-144	151.7	156.3	4.6	9.56
DDH103-145	107.5	111.8	4.3	8.94
DDH103-145	138.3	142.8	4.5	9.35
DDH103-145	142.8	147.2	4.4	9.14
DDH103-145	173	177.7	4.7	9.77
DDH103-145	177.7	182	4.3	8.94
DDH103-145	207.6	212	4.4	9.14
DDH103-145	212	216.4	4.4	9.14
DDH103-145	216.4	220.8	4.4	9.14

Database HoleID	From	To	Length	Mass (kg)
DDH103-63	274.8	280.6	5.8	12.05
DDH103-63	280.6	286.3	5.7	11.85
DDH103-63	286.3	292.1	5.8	12.05

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**APPENDIX TABLE 4 – LOCATION OF DRILL CORES USED FOR PHASE 1 METALLURGICAL TEST WORK**

Hole Id	Easting	Northing	Elv	Collar Azimuth	Collar Dip	Total Depth (m)	Start Date	End Date
DDH103-003	614303.3	6094687.2	647.42	230	-60	209.4	5-Jul-11	12-Jul-11
DDH103-040	615954.3	6092051.4	680.83	50	-50	188.3	17-Aug-11	18-Aug-11
DDH103-042	615558.3	6092394.3	686.2	50	-50	75.3	16-Jul-12	
DDH103-044	611461.2	6093515.5	579.95	50	-60	267.31		
DDH103-063	611270	6091791.4	523.91	50	-70	353	25-Jul-12	
DDH103-066	612700.3	6091413.7	613.1	50	-45	288.3	9-Aug-12	14-Nov-12
DDH103-083	611802.7	6093011.9	576.24	230	-70	203.8	15-Aug-12	22-Aug-12
DDH103-084	611343.4	6092616.7	542.08	50	-55	313.03	1-Oct-12	9-Oct-12
DDH103-144	612828.2	6093915.3	616.49	230	-67	487	27-Sep-12	

## JORC Code 2012 Appendix Table 1

### Section 1 Sampling techniques and data.

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<p><i>Nature and quality of sampling (e.g. 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.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</i></p>	<p>For the 2011 drilling, sampling was done on a geological basis, with mostly 3 m samples split coaxially using a mechanical core splitter. Neither field standards or blanks were inserted into the sample stream, but core duplicates were collected. Samples were marked in the core trays using aluminium tags etched with the sample numbers and stapled to the core tray at the end of each sample interval. Neither hand-held measurements of core magnetic susceptibility nor core photography were completed.</p> <p>Core for the 2012 programme was taken to a dedicated core yard where it was similarly split, sampled and photographed.</p> <p>Core for the 2023 metallurgical campaign was selected from the core produced by previous drill campaigns. Core is stored at Schefferville in five sea-containers and Cyclone staff removed accessible core from the sea containers, selecting that core which the database indicated assayed &gt; 18% magnetic iron.</p>
<b>Drilling techniques</b>	<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i></p>	<p>The 2011 diamond core drilling programme comprised 42 BTW (42.0 mm Ø) drill holes for 5,662.3 m</p> <p>The 2012 programme consisted of 72 drillholes for 22,359 m at mostly BTW and then NQ (47.6 mm Ø)</p>
<b>Drill sample recovery</b>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<p>Drill sample recovery was recorded for all drillholes, measuring block to block core recovery against stated depth.</p> <p>For the 2023 metallurgical campaign, whole ore was sampled. The Competent Person considers that due to the nature of the drilling and geology, sample bias is unlikely to result from poor recovery.</p>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	<p>All core was logged qualitatively and quantitatively for the 2012 downhole geophysics exercise.</p> <p>For the 2011 drilling, logging recorded drillhole azimuth and dip, rock code, rock description, foliation/banding angle with respect to core axis and estimate of magnetite by unit.</p> <p>The above was undertaken with the 2012 drilling in addition to geotechnical logging, core photography and downhole geophysics.</p> <p>For the 2023 metallurgical sampling, sampled core trays were lithologically described and this was recorded and compared to the original log</p> <p>The Competent Person considers that the logging protocols are sufficient to support estimation of a Mineral Resource and reporting of metallurgical results.</p>
<b>Subsampling techniques and sample preparation</b>	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</i></p> <p><i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<p>For the 2011 programme, core was split in the field with a mechanical splitter. For the 2012 programme, core was sawn in half at a dedicated core yard with a diamond saw. Half core was submitted for assay, with some whole core being submitted for both assay, density determination and metallurgical testing.</p> <p>In all cases, appropriate blanks, standards, and duplicates were taken or added to demonstrate sample representativity and identify any sampling bias.</p> <p>For the 2023 metallurgical sampling, whole core was removed from the core trays and placed into plastic bags. These were weighed and the weight recorded and a lithological description made. The bags were then loaded onto pallets and secured with polythene wrap before being collected for rail shipment to Quebec City.</p> <p>The Competent Person considers to be appropriate the measures taken to demonstrate that sample protocols were appropriate and unbiased.</p>

Criteria	JORC Code explanation	Commentary
<b>Quality of assay data and laboratory tests</b>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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.</i></p> <p><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></p>	<p>Samples were sent to one of three laboratories, with standards, blanks, duplicates, and cross-laboratory checks undertaken to an appropriate standard.</p> <p>Geophysical tools were calibrated at site with the exception of density, where a relative measurement was made.</p> <p>The 2023 metallurgical test work was undertaken in an accredited laboratory with formalised standards and checks and the Competent Person observed these procedures being enacted.</p> <p>The Competent Person considers the measures taken to be appropriate to support estimation of a Mineral Resource and reporting of metallurgical results.</p>
<b>Verification of sampling and assaying</b>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<p>Samples were verified with random duplicate samples taken by an independent Mineral Resource estimation consultant and cross-check laboratory assaying.</p> <p>For the 2023 metallurgical test work internal laboratory assaying involved the use of appropriate duplicate, blank and standard assays.</p> <p>The Competent Person considers the measures taken to be appropriate to support estimation of a Mineral Resource and reporting of metallurgical results.</p>
<b>Location of data points</b>	<p><i>Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>The 2012 drilling campaign was surveyed by handheld GPS, with resurveying of collars being undertaken by professional surveyor in 2012.</p> <p>The licences are defined by NAD27 UTM datum and various working grids are NAD83 or NAD84 datum and the relationship between NAD27 and the later systems is not completely defined for the region.</p> <p>The Competent Person understands that there are no material errors in location.</p>
<b>Orientation of data in relation to geological structure</b>	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></p>	<p>Drilling was oriented in the field to intersect mineralisation perpendicularly, according to field observations of its strike.</p> <p>The Competent Person considers this to be appropriate and does not consider that this approach will introduce material bias.</p>

Criteria	JORC Code explanation	Commentary
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	<p>Samples were transported from the field to a secure yard in Schefferville where they variously processed and stored. All work was undertaken under a Supervising Geologist.</p> <p>For the 2023 metallurgical sampling, palleted samples were transported to Quebec City in a locked seacontainer.</p> <p>The Competent Person does not consider that sample security has been compromised in any meaningful manner.</p>
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	<p>The Cap-Ex drilling, sampling and assaying protocols were independently checked by the Mineral Resource estimation consultant in 2013 and 2024. No material discrepancies or biases were identified.</p>

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## Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<p>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.</p> <p>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.</p>	<p>Iron Bear comprises ten graticular licenses totalling 7,275 ha under applicable Labrador and Newfoundland mining law.</p> <p>Six of the ten licenses were staked by prior owner, Cap-Ex and the other four Licenses were acquired through purchase and sale agreements and remnant royalties remain. Four Aboriginal parties claim Native Title over various parts of Iron Bear.</p>
<b>Exploration done by other parties</b>	<p>Acknowledgment and appraisal of exploration by other parties.</p>	<p>Iron Bear was originally explored by IOCC and the Canadian Government. Most of the exploration was undertaken by Cap-Ex Iron Ore, of Vancouver, the predecessor company to M3 Metals Inc, vendor of the project.</p>
<b>Geology</b>	<p>Deposit type, geological setting, and style of mineralisation.</p>	<p>The deposit is a taconite banded iron formation of the Lake Superior type, partially metamorphosed to greenschist facies and subject to thrust faulting that has resulted in tectonic repetition and thickening of mineralisation.</p>
<b>Drillhole information</b>	<p>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</p> <ul style="list-style-type: none"> <li>• easting and northing of the drillhole collar</li> <li>• elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</li> <li>• dip and azimuth of the hole</li> <li>• down hole length and interception depth</li> <li>• hole length.</li> </ul> <p>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.</p>	<p>Drilling information is not reported in this Release due to its volume and the fact that it has been comprehensively reported elsewhere (refer SEDAR, M3 Metals release 23 March 2013, CLE ASX Release 19 June 2023)</p> <p>Mineralised intersections have not been reported in detail because the Competent Person advises that reporting of magnetite mineralisation at Iron Bear is complicated by the complex structural geology of the deposit and the nature of reporting mineralisation based on both grade and metallurgical recovery.</p> <p>The Competent Person observes consistent broad intersections of recoverable magnetite, associated with haematite and is satisfied that the drilling information supports this interpretation.</p>

Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>Drillholes were sampled according to geology and the resultant information composited into 3m composites for modelling, inclusive of internal waste.</p> <p>Magnetite grades were determined by Davis Tube or proprietary Satmagan analysis and compared to the results of downhole magnetic susceptibility measurements. This results in formation of a regression that estimated magnetite grade from total iron grade. The Mineral Resource estimate was based on assay results.</p> <p>For the 2023 metallurgical sampling, drill core was selected in such a manner that it is considered to be representative of the average properties of the entire orebody.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').</i></p>	<p>The structural geology of Iron Bear is complicated and there is observed to be considerable local variation in the orientation of drilling in relation to individual units. Drilling was undertaken as perpendicular as possible to the strike of the deposit, as measured at the location of each drill collar.</p>
<b>Diagrams</b>	<p><i>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 drillhole collar locations and appropriate sectional views.</i></p>	<p>Diagrams are included at relevant sections in this Report. The Competent Person has taken and has attributed these diagrams from various material prepared by Haren, ResPot, Cyclone, Cap-Ex, WGM and M3 and has no reason to doubt their accuracy or veracity.</p>
<b>Balanced reporting</b>	<p><i>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.</i></p>	<p>Mineralisation has been reported at a variety of cut-off grades and appropriate statistics are reported for the relevant elements</p>
<b>Other substantive exploration data</b>	<p><i>Other exploration data, if meaningful and material, should be reported 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.</i></p>	<p>There have been various photogrammetric and geophysical surveys at Iron Bear at various times that have contributed to understanding of the geology of the deposit.</p> <p>These have been the subject of a recent intensive collation and interpretation campaign that has resulted in material improvements and extensions to the understanding of the continuity of both grade and geology.</p> <p>The Competent Person considers these to have been undertaken in an appropriate manner.</p>

Criteria	JORC Code explanation	Commentary
<b>Further work</b>	<p><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<p>Mineralisation is open along strike in both directions and at depth, albeit truncated by basement at around 480m beneath the surface topography.</p> <p>The Competent Person recommends that the Indicated Mineral Resource be used to underpin an economic Scoping Study (as defined by the JORC Code) of the mineralisation.</p>

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### 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
<b>Database integrity</b>	<p>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.</p> <p>Data validation procedures used.</p>	<p>The drilling database was independently reviewed and audited by the Mineral Resource consultant using appropriate data verification algorithms.</p>
<b>Site visits</b>	<p>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</p> <p>If no site visits have been undertaken indicate why this is the case.</p>	<p>The Competent Person has twice visited the Iron Bear project and has personally collected samples and verified reports and observations on which the Mineral Resource estimate and metallurgical results rely. The Competent Person has separately attended the COREM laboratory in Quebec city and the St Johns offices of the Labrador Geological Survey and verified historic data.</p>
<b>Geological interpretation</b>	<p>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</p> <p>Nature of the data used and of any assumptions made.</p> <p>The effect, if any, of alternative interpretations on Mineral Resource estimation.</p> <p>The use of geology in guiding and controlling Mineral Resource estimation.</p> <p>The factors affecting continuity both of grade and geology.</p>	<p>The Competent Person observes that the geology is locally complicated but the overall taconite geology and distribution is well understood, at the scale of an Inferred and Indicated Mineral Resource applied to bulk mineralisation.</p> <p>The continuity of the mineralisation is considered to be good, based on the drilling, geophysical interpretation, geostatistical analysis and geological mapping.</p> <p>It is likely that further drilling will bring considerable detailed variation to sectional interpretation but is unlikely to change the overall understanding of the mineralisation.</p>
<b>Dimensions</b>	<p>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.</p>	<p>The Mineral Resource estimate for Iron Bear is defined along approximately 10,000 m of strike length and a range of 5,000 to 7,500 m of width for the central portion, to a depth of 400m.</p>

Criteria	JORC Code explanation	Commentary
<b>Estimation and modelling techniques</b>	<p><i>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.</i></p> <p><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></p> <p><i>The assumptions made regarding recovery of by- products.</i></p> <p><i>Estimation of deleterious elements or other non- grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></p> <p><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></p> <p><i>Any assumptions behind modelling of selective mining units.</i></p> <p><i>Any assumptions about correlation between variables.</i></p> <p><i>Description of how the geological interpretation was used to control the resource estimates.</i></p> <p><i>Discussion of basis for using or not using grade cutting or capping.</i></p> <p><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></p>	<p>The Mineral Resource estimate for Iron Bear was prepared based on drillhole data to the end of 2012.</p> <p>The Mineral Resource is reported above 250 m elevation level (about 350 m from surface using block sizes of 20 mx x 100 my x 20mz and is based on results from 81 diamond drillholes totalling 23,735 m.</p> <p>Holes from earlier drilling were excluded if they did not intersect the entire mineralised zone. The drillhole spacing along the strike is approximately 600 m and the hole spacing on the cross sections varied from 60 m to about 250 m and with vertical depths ranging from of 50 m to 400 m.</p> <p>A modelling cut-off grade was applied at 10% magFe and used to create the constraining wireframes. Grade interpolation was based on equal length regular downhole composites of 3 m, generated from raw drillhole intervals. The original assay intervals were different lengths and required normalization to a consistent length.</p> <p>The statistical distribution of the %TFe and %magFe samples demonstrates good normal distributions and no grade capping was used in the Mineral Resource estimation. Bulk density was determined from pulps of 315 samples using a gas comparison pycnometer.</p> <p>Experimental variograms were prepared using the composited assay dataset for magFe and TFe.</p> <p>Variograms were constructed from the average strike (140°) and the general dip (-20°NE) and a search ellipsoid was designed incorporating an axis of anisotropy and applied parameters to interpolate grade.</p> <p>An Ordinary Kriging algorithm was used to interpolate the blocks.</p> <p>Dynamic rotation was applied, based on thrust geometry and geophysical interpretation. Search ellipses were derived from variography at 1,750mX by 300mY by 50mZ. For each interpolation, the number of 3m informing composites was set at:</p> <p>Minimum = 5, Maximum = 20, Maximum per hole = 20</p> <p>The Competent Person considers that this is appropriate at this level of confidence and in this style of mineralisation.</p> <p>The geological interpretation was extended beyond the more densely drilled parts of the deposit in accordance with confidence in the data compilation.</p>



Criteria	JORC Code explanation	Commentary
<b>Moisture</b>	<i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	Tonnages are reported on a dry basis.
<b>Cut-off parameters</b>	<i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	Cut-off grades were applied based on observation of nearby operations in similar geology and the presence of a natural magnetite cut-off in the taconite.
<b>Mining factors or assumptions</b>	<i>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.</i> <i>Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i>	No mining assumptions have been made other than that were it to be mined, Iron Bear would engage conventional cold-weather truck-and-shovel iron ore mining techniques, as practised over an extensive period elsewhere in the region.
<b>Metallurgical factors or assumptions</b>	<i>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.</i> <i>Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i>	Metallurgical assessments indicates that the magnetite at Iron Bear is readily separable using conventional wet magnetic separation techniques resulting in a 95.5% recovery to produce a 68.9% Fe concentrate at 3.4% SiO <sub>2</sub> content. The produced concentrate is amenable to further upgrade using reverse flotation methods to 70.6% Fe and 1.2% SiO <sub>2</sub> at an overall 88.9% magnetite recovery including a secondary 67.0% Fe, 4.6% SiO <sub>2</sub> product. Bond Work Index (BWi) is indicated at around 16.7 kWh/t.
<b>Environmental factors or assumptions</b>	<i>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 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.</i> <i>Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i>	The M3 Metals PEA examined potential tailings disposal options and did not report any impediment to tailings disposal at a preliminary level.

Criteria	JORC Code explanation	Commentary
<b>Bulk density</b>	<p><i>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.</i></p> <p><i>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</i></p> <p><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></p>	<p>Bulk density was estimated into the block model by using a regression based on total iron content. The regression was based on laboratory specific gravity measurements of core and estimated bulk densities determined by downhole geophysics.</p>
<b>Classification</b>	<p><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></p> <p><i>Whether appropriate account has been taken of all relevant factors (i.e. 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).</i></p> <p><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></p>	<p>The Mineral Resource estimate is classified as Inferred and Indicated, based on the density of drill data and support from a comprehensive compilation and analysis of all available drilling, sampling, mapping and geophysical data, which shows continuity of mineralisation with unresolved localised variation.</p> <p>The Competent Person considers this classification to be appropriate in this situation.</p>
<b>Audits or reviews</b>	<p><i>The results of any audits or reviews of Mineral Resource estimates.</i></p>	<p>No audits or reviews have been undertaken of the current Mineral Resource estimate. It will be revised during Cyclone's proposed Scoping Study process.</p>
<b>Discussion of relative accuracy/ confidence</b>	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></p>	<p>The Competent Person considers the Mineral Resource estimate to be an adequate global estimation of the mineralisation, which shows good geological continuity between drill sections.</p> <p>The mineralisation has been projected beyond the more densely drilled sections, based on this geological and geostatistical continuity and the evidence of geophysics and geological mapping.</p> <p>Statistical analysis of the data supports this view .</p> <p>Locally, the deposit shows variability as a result of the mineralisation being stacked by thrust faults. This will require resolution by further drilling but the Competent Person does not consider it to be material for a global estimate in an iron ore deposit. Further drilling and resolution of local geology is required to increase confidence to an Indicated categorisation or better.</p>