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Pre-Feasibility Study finds Robe Mesa iron ore project is technically robust with potential to generate strong financial returns

Payback period of 19 months based on C1 cash cost of A$64.78/dmt and benchmark iron ore price of US$90/t (~US$145/t as at 4th December)[2]

- **Pre-Feasibility Study (PFS) on CZR's 85%-owned Robe Mesa iron ore deposit in WA's Pilbara shows the project has potential to generate strong financial returns based on the PFS production target of 2Mtpa of Direct Shipping Ore (DSO) over +5 years (64 months)**
- **89% of the Life of Mine (LOM) production schedule is based on Probable Ore Reserves**
- **11% of the Life of Mine production schedule is based on inferred resources which are a comparatively lower level of geological confidence and there is no certainty that further exploration work will result in the converting these tonnes to Indicated Mineral Resources and ultimately reserves[1] which then contribute to the production target.**
- **The PFS underpins a maiden Probable Ore Reserve at Robe Mesa of 8.2Mt at 56% Fe**
- **Key findings of the PFS are:**
  - **Pre-production capital estimate of A$51.1M**
  - **Life of Mine (LOM) average C1 cash operating cost of A$64.78/t (dry)**
  - **PFS LOM project cashflow of A$96.4M, based on a 62% Fe Index Price of US$90 per dry metric tonne (dmt) and a US$:A$ exchange rate of US70c**
  - **LOM Project cashflow of A$622M, using US$145 / dmt[2] as the 62% Fe Index Price and all other revenue drivers as per the PFS**
  - **Production of all-fines DSO product, using simple, proven crushing and screening**
  - **Export via the Utah Bulk Handling Facility (Utah Point) in Port Hedland**
- **Upside opportunities include:**
  - **Potential to reduce haulage costs by using a closer port between Onslow and Dampier**
  - **At the PFS production rate of 2Mtpa (dry) [1], the processing plant and mining fleet will not be fully utilised; the PFS shows that increasing the production target to 3Mtpa (dry) would not require any additional processing capacity or additional load and haul fleet on site, and therefore the unit cost of mine operations would be reduced**
  - **Potential to reduce capital costs through more detailed investigation regarding access road and intersection works, and the infrastructure requirements for water supply**
  - **There are additional prospects on the exploration licences which are available to be drill-tested**

[1] This production target must be read in conjunction with the production target cautionary statement on page 3. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realized.
[2] Reported Platts 62% Fe Index price as at 4th December 2020

CZR Resources Limited (ASX:CZR) is pleased to advise that a Pre-Feasibility Study (PFS) on its 85 percent-owned Robe Mesa iron ore project in the Pilbara shows it is set to be technically robust and is likely to generate strong financial returns.

The findings are based on a PFS annual production rate of two million tonnes of DSO and a maiden JORC Probable Ore Reserve for Robe Mesa of 8.2Mt at 56 % Fe.

The PFS estimates an average C1 operating cost of A$64.78 per dry metric tonne over the +5 year life of the project.

This underpins a payback period of just 19 months using an assumed benchmark iron price of US$90/dmt and an assumed Australian dollar exchange rate of US70c.

In light of these strong findings, CZR will now undertake a Definitive Feasibility Study on Robe Mesa. This will be carried out in parallel with further drilling aimed at upgrading the Inferred Resource.

CZR Managing Director Rob Ramsay said: "The PFS shows Robe Mesa is well on track to becoming a significant Pilbara iron ore producer with strong financial returns based on low costs and its close proximity to existing infrastructure.

"With an estimated capital cost of only A$51m and a payback period of 19 months, the project has excellent potential to create substantial value for CZR shareholders.

"The study was based on conservative parameters and an assumed price which is significantly lower than the current market price. There is also scope for a reduction in the unit costs given that the processing and mining load and haul capacity exceeds the initial planned production rate of 2Mtpa.

"We will now move quickly to begin a DFS while looking for opportunities to further improve the financial returns".

Forward Looking Statements

This announcement contains "forward-looking information" that is based on CZR's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the pre-feasibility study, CZR's business strategy, plan, development, objectives, performance, outlook, growth, cashflow, projections, targets and expectations, mineral resources, ore reserves, results of exploration and related expenses. Generally, this forward looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions, and that CZR's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause CZR's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.

Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current exploration activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices and demand of iron and other metals; possible variations of ore grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the mining industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction

activities. This list and the further risk factors detailed in the remainder of this announcement are not exhaustive of the factors that may affect or impact forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information. CZR disclaims any intent or obligations to revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

Statements regarding plans with respect to CZR's mineral properties may contain forward-looking statements in relation to future matters that can only be made where CZR has a reasonable basis for making those statements. Competent Person Statements regarding plans with respect to CZR's mineral properties are forward looking statements. There can be no assurance that CZR's plans for development of its mineral properties will proceed as expected. There can be no assurance that CZR will be able to confirm the presence of mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of CZR's mineral properties.

Production Targets Cautionary Statement

CZR has concluded that it has a reasonable basis for providing the forward looking statements and forecast financial information included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement and all material risk factors, sensitivities and assumptions, including the JORC modifying factors, upon which the forecast financial information is based are disclosed in this announcement. This announcement has been prepared in accordance with JORC Code 2012 and the ASX Listing Rules.

The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain modifying factors were applied in drawing a conclusion or making a forecast or projection as reflected in the forward looking and cautionary statements.

The production target and forecast financial information derived from the production target referred to in this announcement is based on 89% Probable Ore Reserves and 11% Inferred Mineral Resources. The modifying factors used in the estimation of the Ore Reserve were also applied to the Inferred Mineral Resource.

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target reported itself will be realised.

CZR confirms that the use of Inferred Mineral Resources is not a determining factor of the Robe Mesa project's viability. In addition, the Inferred Mineral Resource does not feature as a significant proportion early in the mine plan, as described overleaf in 'JORC Mineral Resource and Ore Reserve'. The production target for years 1 to 3 inclusive of the mine schedule is comprised of greater than 93% Ore Reserves, with the majority of the Inferred Mineral Resource within the mining schedule weighted to the back end of the schedule. CZR notes that the Robe Mesa project forecasts a positive financial performance when incorporating Ore Reserve tonnes only and is therefore satisfied that the use of Inferred Mineral Resources in the production target reporting and forecast financial information is not the determining factor in overall Robe Mesa project viability and that it is reasonable to report the PFS including the Inferred Mineral Resources.

The Ore Reserve and Mineral Resource estimates underpinning the production target and PFS were prepared by a Competent Person in accordance with the JORC Code 2012 and all relevant details are set out in this announcement.

CZR believes there is a reasonable basis to assume the necessary funding for the Project will be obtained. CZR has been able to raise funding for its exploration and development over the past 10 years in order to progress its projects. The positive outcomes delivered by the PFS provide confidence to the Board in the ability of CZR to fund the next stage of development through conventional equity financing. Notwithstanding this, the normal risks for the raising of capital will apply to CZR, such as the state of equity capital and debt markets, the status of approvals required to advance the Project and the price of iron ore.

PFS has highlighted strong foundations for the project:

- A saleable product specification with existing product reference points that are well established in the market (Rio Tinto Robe Fines, FMG SSF). This style of product comprises approximately 10% of the present Australian export volume for iron ore.
- Robe Mesa is close to existing infrastructure and major regional hubs, and therefore well supported for access and the logistics of running an operation (Figure 1)
- Whilst the PFS utilises Utah Point in Port Hedland for exports, closer port options (within 100km of Robe Mesa, refer Figure 1) along the coast between Onslow and Dampier may present significant opportunity to reduce the haulage distance to port.
- The terrain is favourable making access to the Mesa for mining and the construction of infrastructure relatively straightforward.
- A simple, low strip ratio mining operation, with the PFS making use of a single excavator and four dump trucks for the primary mining fleet, operating day shift only.
- All mining is above water table

Table 1 - Mine Production Metrics Estimate

PFS Production rate (dry tonnes)	Mtpa	2.0
Life of Mine Strip Ratio (including pre-production)	waste:ore	0.57
Total Pit Inventory (dry ore tonnes)	Mtpa	9.2[1]
Mine Life	Months	66
C1 Cash Cost (nominal – before inflation)	$/dmt	64.78

[1]Total pit inventory comprised of Probable Ore Reserve (8.2Mt) and Inferred Mineral Resource (1.0Mt)

Table 2 - Project Economics Estimates

Life of Mine Revenue[1]	$M	956.4
Project Cashflow (at 62% Fe Index Price of $90/dmt) [1,2]	$M	96.4
C1 Cash Cost (nominal - no inflation)	$/dmt	64.78
Payback Period (post construction)[2]	Months	19
Pre-production Capital costs (includes contingency & capitalised pre-production opex)	$M	51.1
Capital Contingency & Pre-commissioning/ramp up capitalised mining and crush & screen opex	$M	16.0
Life of Mine Capital costs (Pre-production capital + sustaining capital + mine closure capital)	$M	60.1

[1]PFS cashflow modelling has used a flat 62% Fe Index Price of US$90/dmt (in addition to other revenue modifying factors assumed for the product) and a constant exchange rate of 0.70 for converting A$ to US$.

[2]Cashflow modelling and Project Payback period uses operating cost estimates inflated 1.25% annually over the life of the project

Project Management

The PFS for the Project has been project managed by an external consultant to CZR and includes studies conducted by internal staff together with external consultants and with proposals and or quotations provided by experienced industry participants.

Project Ownership

The Robe Mesa project is located on part of the Yarraloola tenement package which is a joint-venture in which an 85% beneficial ownership is held by Zanthus Resources Pty Ltd for CZR Resources Ltd and 15% is held independently by ZanF Pty Ltd.

Unless stated otherwise all project metrics are stated on a 100% basis.

Project Location

The Robe Mesa project is located in the West Pilbara within the Shire of Ashburton, 200 kilometres by road south-west of the city of Karratha, 175 kilometres by road from the town of Onslow and 400 kilometres by road from Port Hedland (Figure 1). Robe Mesa is not an isolated deposit but part of a regional province. Robe Mesa is located between the Mesa A and Mesa J-K CID mines operated by RioTinto Ltd. Iron ore has been mined and exported from the Robe Valley since 1972.

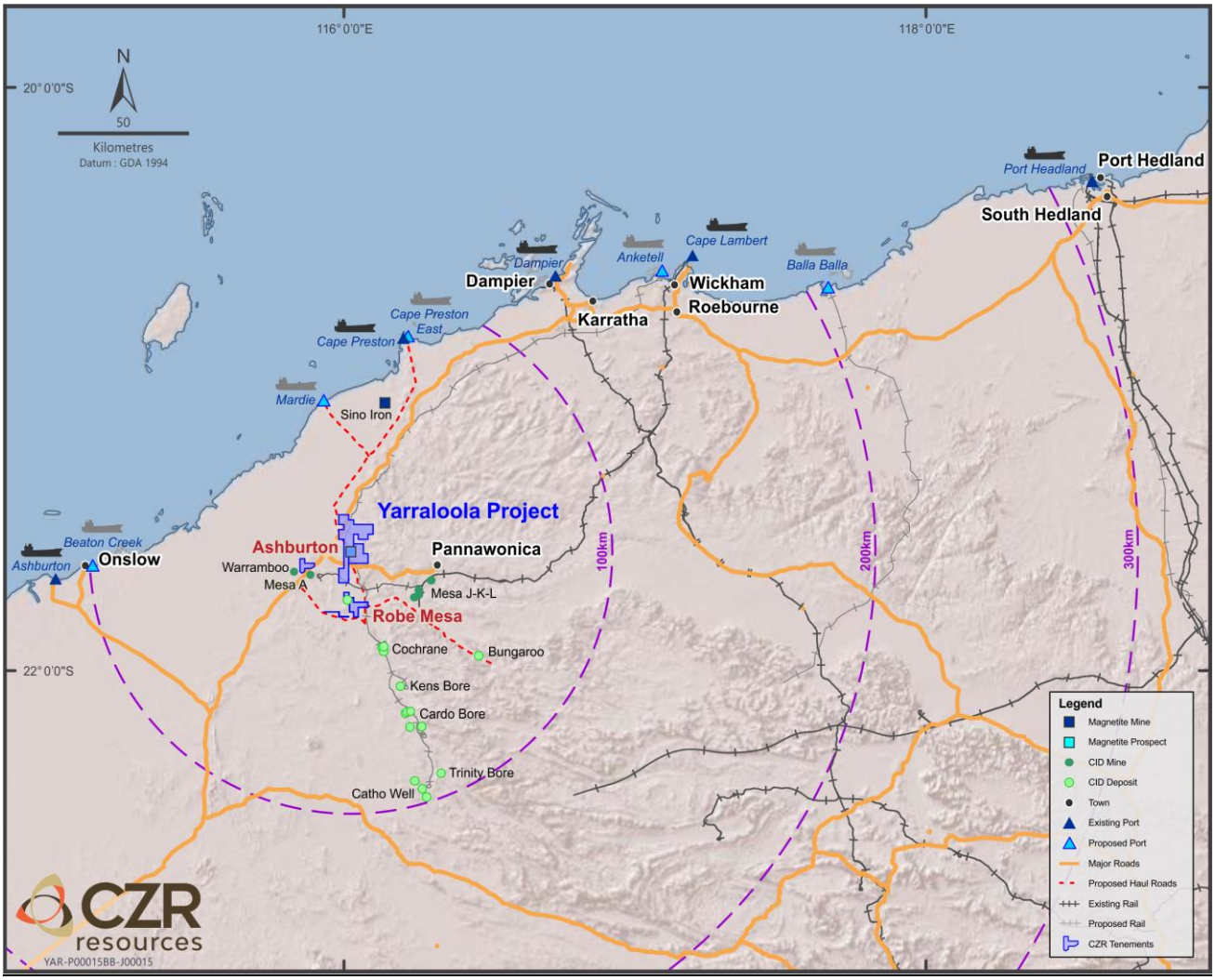

Figure 1 - Location of the Robe Mesa in the West Pilbara

JORC Mineral Resource and Ore Reserve

The PFS is based on an independent JORC 2012 Mineral Resource for the Robe Mesa portion of the combined Robe Mesa and Robe East resource of 89.1Mt at 53.7% Fe, reported above a Fe (iron) cut-off grade of 50% Fe from two sub-horizontal zones of mineralisation (8 February 2016, 26 April 2017 ASX Announcement):

Table 3 – Total Robe Mesa and Robe East JORC 2012 Mineral Resource reported at a 50% Fe cut-off grade (26 April 2017 ASX Announcement)

Category	Tonnes	Fe	SiO_2	Al_2O_3	TiO_2	LOI	P	S	Fe_{ca}
	Mt	%	%	%	%	%	%	%	%
Indicated	65.7	53.8	8.3	3.43	0.14	10.63	0.04	0.02	60.2
Inferred	23.4	53.4	8.5	3.49	0.15	10.75	0.06	0.02	59.9
Total	**89.1**	**53.7**	**8.3**	**3.45**	**0.14**	**10.66**	**0.05**	**0.02**	**60.1**

Fe_{ca} is the calcined iron-content calculated as (Fe%/(100-LOI%))*100 *and represents the amount iron after the volatiles (mainly held as weakly bound water in the structure of the hydrous iron-rich minerals) is excluded from the analysis.*

At a 55% Fe cut-off, a JORC 2012 Mineral Resource of 24.7Mt @ 56% Fe (calcining to 62.7%Fe) is reported in the upper parts of the upper zone of mineralisation and it is this material that was the focus of the PFS:

Table 4 - Robe Mesa JORC 2012 Mineral Resource reported above a 55% Fe cut-off grade, contained within the Resource reported above in Table 3 (8 February 2016 ASX Announcement)

Category	Tonnes	Fe	SiO_2	Al_2O_3	TiO_2	LOI	P	S	Fe_{ca}
	Mt	%	%	%	%	%	%	%	%
Indicated	19.5	56.0	5.95	2.72	0.10	10.71	0.043	0.017	62.7
Inferred	5.2	56.0	5.79	2.76	0.10	10.71	0.047	0.016	62.7
Total	**24.7**	**56.0**	**5.92**	**2.73**	**0.10**	**10.71**	**0.044**	**0.016**	**62.7**

Fe_{ca} is the calcined iron-content calculated as (Fe%/(100-LOI%))*100 *and represents the amount iron after the volatiles (mainly held as weakly bound water in the structure of the hydrous iron-rich minerals) is excluded from the analysis.*

This Mineral Resource was used to complete pit optimisations, pit designs, site layout and a mine schedule that targeted a product specification. Outputs of the mine plan were combined with results of the comminution test-work to form the basis of a Request for Quote (RFQ) from an experienced contractor for crushing and screening, mining, and selected civil packages. Received proposals were then used as a basis for defining other remaining requirements of the project such as manning levels, village accommodation requirements, and other project details that could be used to ascertain estimates for capital. Qube Bulk and the Pilbara Ports Authority provided pricing and guidance on commercial terms for the purpose of modelling port operating costs at Utah. An experienced haulage contractor provided pricing and a methodology for product transport from site to port using quad combination road trains. The information provided was consolidated and used as a basis for developing capital and operating cost estimates and a project cashflow.

The Ore Reserve has been stated by Intermine Engineering based on the PFS modelled production rate of 2Mtpa (dry) of 100% Fines product with an average life of mine waste to ore strip ratio of 0.57:1.

Table 5 - Ore Reserve reported above a cut-off grade of 55% Fe

Category	Mt	Fe %	Al_2O_3%	P%	SiO_2%	S%	LOI%
Probable	8.2	56.0	2.7	0.039	5.9	0.020	10.9
Total	**8.2**	**56.0**	**2.7**	**0.039**	**5.9**	**0.020**	**10.9**

The Indicated Mineral Resource classification has been converted to a Probable Ore Reserve with the Inferred Mineral Resource classification excluded. The production target for years 1 to 3 of the mine schedule is comprised of 94%, 93% and 96% Ore Reserves respectively, with the majority of the Inferred Mineral Resource within the mining schedule weighted to the back end of the schedule.

The Mineral Resource outlined above in Table 3 is inclusive of the Ore Reserve.

SUMMARY OF ORE RESERVE ESTIMATE AND REPORTING CRITERIA

A summary is provided below of the relevant information used in the estimation of the Ore Reserve with full details provided in JORC Table 1 – Checklist of Assessment and Reporting Criteria for the Robe Mesa Project. This announcement has been compiled in compliance with the JORC code (2012) and the ASX Listing Rules, in particular listing rule 5.9.

Material Assumptions

The material assumptions supporting the Ore Reserve are based on the outcomes of the PFS presented in this announcement. The assumptions specific to the PFS and Ore Reserve estimate are summarised below and are further detailed within the JORC Table 1 attached to this announcement.

Criteria used for the Classification of Ore Reserve

A Fe cut-off grade of 55% was applied to Domain 4 within the Mineral Resource. The resource block model was used to create a mining block model which was then used for pit optimisations, pit designs and a mine schedule. The mine schedule does not include an allowance for ore loss and or mining dilution.

Ore Reserves were estimated only on the Indicated Mineral Resource classification. The Ore Reserve has been compiled in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code – 2012 Edition).

Mining Method and Assumptions

The PFS has assumed a contractor model for the purpose of mining, utilising conventional drill and blast, truck and shovel (backhoe excavator) open pit mining practises. A contractor model is well suited to the production rate of 2Mtpa product and a mine life of just over 5 years (64 months). Bench heights adopted in the PFS are 5m, mined via 2 x 2.5m flitches using a single 120 tonne class backhoe excavator loading 90 tonne mine haul trucks. Following a RFQ to an experienced industry contractor, rates were received for mining and crush and screen, and lump sum pricing for civil works, mobilisation and demobilisation.

Processing Method and Assumptions

The company undertook a preliminary metallurgical test program to determine comminution parameters and initial materials handling parameters. Samples for this test-work originated from the previous sonic core

drilling program conducted in 2016 with drill holes located within current pit shells. Samples are considered suitable for the preliminary metallurgical program undertaken as part of the PFS.

Metallurgical test-work was conducted by Bureau Veritas, Canning Vale and showed the ore to be easy to crush, yielding a product suitable for direct shipping and sintering.

Materials handling test-work conducted by Jenike & Johansen (Perth) showed the ore product to be within acceptable ranges for Dust Management and Transportable Moisture Limits.

The plant will utilize conventional three stage crushing and screening to produce a -9.5mm all Fines product. The plant is designed to meet a production target of 2Mtpa (dry) of Fines product and consists of mobile / semi mobile processing units.

Cut-off Grades

A cut-off grade of 55% Fe has been applied to the Mineral Resource in defining the Ore Reserve. Pit optimisations have been run using Whittle 4X software and ore production costs for mining, crushing and screening, haulage, and port operations and ship loading costs. Indicated and Inferred Mineral Resources have been included in the optimisation.

Estimation Methodology

Pit designs have followed Whittle optimisation shells and assumed an overall wall angle of 55^0 for wall heights of 10 to 20m. A minimum mining width of 25m is applied at the base of pits in the pit design process. The Probable Ore Reserve estimate is based upon the tonnage and grade of the Indicated Mineral Resource reported within the ultimate pit design using a cut-off grade of 55% Fe.

Other Material Modifying Factors

No additional modifying factors such as grade dilution or ore loss factors have been applied. Processing recovery has assumed 100% given the PFS has assumed a Direct Shipping Ore operation with no beneficiation designed in the process.

Environmental

The project is located within the 62,000km^2 Hammersley sub-region of the 178,000km^2 Pilbara bioregion of Western Australia.

Desktop studies for Flora and Fauna were completed by RPS Australia West Pty Ltd (RPS) and Bamford Consulting Ecologists (BCE) respectively. Their reviews show that there are no previous surveys of the flora or fauna for Environmental Impact Assessment within the CZR tenement areas. However, there have been extensive and multiple surveys in similar landscapes nearby and the general flora and vertebrate fauna assemblages are moderately well-documented.

The expectation for Environmental Protection Agency's approval to operate is that it will be critical to obtain good information on the suite of conservation significant flora and fauna species from sites that will be disturbed by the project and in adjacent areas. In particular, survey work for the more mobile fauna will need to include survey parameters that might detect the Northern Quoll, Black-footed Rock-Wallaby, Pilbara Pebble-mound Mouse, Pilbara Leaf-nosed Bat, Ghost Bat, Pilbara Olive Python, *Anilios ganei* (blind snake) and *Notoscincus butleri* (skink lizard). There will also need to be surveys to document any short-range endemic species in the drainage systems and troglofauna and stygofauna which are known to occur on Mesa F which extends more than 5 kilometres to the south and south-west from the Robe Mesa.

As part of progressing approvals, the Environmental Protection Agency requires as a minimum that the flora and fauna field sampling programmes are undertaken within seasonal intervals in the year where the greatest amounts of activity are expected. They may also request additional parameters to the surveys which will be defined prior to the commencement of any fieldwork.

Infrastructure

The project is approximately 200km by road, south-west of the city of Karratha and approximately 180km by road from the township of Onslow. The site is currently accessed via an existing unsealed 35km road that connects with the North West Coastal Highway. The sealed road between the intersection of the site access road with the North West Coastal Highway all the way to the Utah Point Multi-User Facility at Port Hedland is RAV Category 10 rated and therefore suitable for utilising quad configuration road trains in transporting product to port.

The PFS utilises existing and proven port infrastructure at the Utah Point Bulk Handling Facility in Port Hedland. Utah is a public access facility whereby the Pilbara Ports Authority provide access through a formal agreement process at a point in time when the project is in its execution phase. Access is provided subject to capacity and other product specific conditions being met. Provided proponents can maintain their allocated exported rate under agreed operating procedures, users will maintain their allocated capacity. Over time if a proponent is not able to maintain their agreed export rate, their capacity will be reduced accordingly. In addition to Utah, CZR is also investigating other port options for export along the coast between Onslow and Dampier. CZR believes it is reasonable that the PFS export capacity required for the project can be achieved at the point in time it is required.

Infrastructure allowed for in the PFS includes establishment of a Mine Ramp and ROM Pad, Mine Operations Infrastructure (Mine Operations Centre, Plant operations area, Product loadout and Magazine), infrastructure for raw water supply for mining operations and site access road maintenance and dust suppression, Mine Access Road upgrade and construction (all weather), North West Coastal Highway Intersection upgrade, Communications Infrastructure, on-site Accommodation Village (76 room) and water treatment infrastructure.

The workforce will be sourced from Perth and Karratha, with the Perth contingent utilising the airport at Karratha for transferring people to and from site.

Capital Costs

The estimate for capital is considered to have an accuracy of -25%/+25%. A contingency of 15% ($5.3M) has been applied to direct and indirect capital costs (not the pre-commissioning and ramp up capitalised operating costs) to account for any inaccuracies in the estimate that result from gaps in the basis of design linked to the early stage development of the project. The majority of costs have been derived from Requests for Quotations (RFQ). The capital estimate has allowed for mobilization and establishment, construction, demobilisation, mine closure and environmental monitoring post closure.

Operating Costs

The operating cost estimate includes the cost of mining, crushing and screening, site general and administration (including a corporate allocation linked to operations), road train loading and transport of product to port and port operations and ship loading. Operating costs for major operating activities have been derived from Requests for Quotations, with more minor cost elements based on first principle estimates and provisional sums provided by external consultants.

Revenue Factors

The PFS assumes an iron ore price based upon a flat Platts 62% Fe Index Price of US$90/dmt CFR China over the life of the mine. A Value in Use discount of 12.5% of the base product price is also applied to adjust for product impurities. A flat foreign exchange rate of 0.70 has been used for converting A$ to US$. A Western Australia government royalty of 7.5% is applicable to iron ore and has been applied within the revenue calculation. An additional third-party royalty of 1% has also been assumed and used in the calculation of revenue.

Project Development Steps

The PFS has successfully outlined mining and processing plans, a target production rate, estimates for capital and operating costs and infrastructure requirements to support the Robe Mesa project. It has determined that the Project has strong financial and economic merit.

The next steps for the development of Robe Mesa will include the following:

1. Application for the conversion of portions of exploration licences E08/1060 and E08/1686 to mining leases and this will require engagement with the Native Title holders for the granting of the tenure.
2. Hydrogeological studies to locate sufficient quantities of ground-water sources to support the camp, mining and processing operations, dust suppression and maintenance of the site access-road, and determine the impacts of the operation on the ephemeral surface water systems. This will also support an increase in the confidence level in the cost of raw water infrastructure for the project.
3. Baseline and more focussed surveys of the flora and fauna with a strong focus on determining the potential interactions and impacts on any of the suite of conservation significant species.
4. Additional drilling to infill the resource to seek to increase the confidence in the resource model. Infill metallurgical core drilling or bulk sample extraction will be designed to further refine the metallurgical parameters for process design. In particular, crushing and screening performance for refinement of the process mass balance and equipment selection. Samples will also be used to produce a composite representing early years of production for sinter testwork and ironmaking performance evaluation.
5. More detailed engineering studies of the proposed site access road linking with the North West Coastal Highway to provide a more detailed understanding of the construction process and increase the accuracy of the capital costs estimate.
6. Continue to investigate additional port options for the project along the coast between Onslow and Dampier.
7. Community and stakeholder engagement.

Market Assessment

The PFS performed a market assessment more generally with respect to the global steel and iron ore industries. The iron ore price improved in 2019 and has strengthened further in 2020 as a result of stimulus in China and supply disruption from Brazil.

There is a transparent, quoted and strongly traded market for the sale of iron ore. The market for Western Australian iron ore is well established and liquid.

The assessment focused also on the nature of the Robe Mesa product with reference to similar products currently selling in the market. The Ore Reserve and mine production schedule support a saleable product specification comparable with existing products that are well established in the market (Rio Tinto Robe Fines, FMG SSF). The style of product comprises approximately 10% of the current Australian export volume.

The market assessment was used to guide Revenue Factors used in the PFS for the purpose of cash-flow modelling and estimating Ore Reserves.

Funding

CZR believes there is a reasonable basis to assume the necessary funding for the Project will be obtained. CZR has been able to raise funding for its exploration and development over the past 10 years in order to progress its projects. During this time, CZR has successfully raised approximately $25 Million to fund its various projects. During 2019/2020, CZR raised approximately $8 Million equity capital from professional and sophisticated investors. The positive outcomes delivered by the PFS provide confidence to the Board in the ability of CZR to fund the next stage of development through conventional equity financing. Notwithstanding this, the normal risks for the raising of capital will apply to CZR, such as the state of equity capital and debt markets, the status of approvals required to advance the Project and the price of iron ore.

Project Economics

The Ore Reserve estimate is supported by a pre-tax cashflow model that has been prepared using revenue inputs, capital and operating cost inputs at a Pre-Feasibility level of accuracy and a production plan modelling the full supply chain from pit to port. The production plan and cashflow model covers the current 5 year (64 month) life of the project. The majority of the major cost inputs have been sourced from contractors and suppliers. All operating costs have been inflated at a rate of 1.25% annually from commencement of production (post commissioning and ramp up).

A discount rate of 8% has been applied. The resulting NPV and Project Cashflow is positive and sensitivity analysis has been completed for the commodity price as contained in the PFS.

Exchange Rate

The currency of all estimates in the announcement are in Australian dollars (A$) unless otherwise stated. A constant exchange rate of 0.70 has been used for converting A$ to US$, across the life of the project within the cashflow model. This exchange rate is also used in the conversion of the Platts US$ 62% Fe Index Price and US$ sea freight costs.

PRE-FEASIBILITY STUDY SUMMARY

Capital Costs and Operating Costs

The mine life for Robe Mesa necessitates adoption of a contract mining model to reduce upfront capital costs. The majority of costs contributing to the estimate have been derived from Requests for Quotations (RFQ) by relevant contractors and suppliers. The capital estimate allows for the life cycle of the project including mobilization and establishment, construction, de-mobilisation and mine closure.

Table 6 - Robe Mesa Capital Costs Estimate

Item	Start-up Capital ($M)	Deferred Capital ($M)	Source
MINE OPERATIONS ESTABLISHMENT			
Mobilisation & Establishment (Mining, Crushing & Screening, and Haulage)	2.2		Quoted
Mining Development Works (Ramp, Clearing, Topsoil Stripping)	1.0		Quoted
Pre-commissioning capitalised Mining and Crushing and Screening	10.7		Quoted

NON-PROCESS INFRASTRUCTURE			
Mine Operations Infrastructure (included in Mine Operations Establishment)			Quoted
Water Supply Infrastructure[1]	4.8		Provisional
Mine Access Road (34km) and North West Coastal Highway Intersection	17.4		Quoted
Accommodation Village, Water Treatment, Communications Infrastructure	8.9		Quoted
OWNERS COSTS & CONTINGENCY			
Owners Costs	0.9		Provisional
Contingency	5.3		Provisional
DEFERRED CAPITAL			
Sustaining Capital		4.4	Provisional
Mine Closure & Demobilisation		4.7	Quoted
TOTAL	**51.1[2]**	**9.1**	

[1]The estimate for raw water supply infrastructure is a provisional sum based on assumed bore flow rates typical of the Pilbara, assumed water demand for the nature of the project, and an assessment of current market pricing for respective water infrastructure. The PFS has assumed the project will need to establish its own water bores. The next stage of study will include a desktop hydrogeological study and field investigation for the project. Previous resource exploration drilling has intersected good flows of low-salinity water below the deposit.

[2]Discrepancy in summation is due to rounding of contributing items.

The operating cost estimate includes the cost of mining, crushing and screening, site general and administration (includes a corporate allocation for corporate services directly related to operations), site access road maintenance, road train loading and transport of product to port and port operations and ship loading. Operating costs for major operating activities have been derived from Requests for Quotations, with more minor cost elements based on published tariffs, first principle estimates and provisional sums provided by external consultants.

Table 7 - Robe Mesa C1 Cost Estimate Breakdown

Item	$/dmt
Mining	$ 8.77
Crushing & Screening	$ 4.22
Site G&A*	$ 4.87
Haulage	$ 35.10
Port	$ 11.83
TOTAL	**$ 64.78**

The haulage cost represents 54% of the C1 Cost estimate.

Mine Production Schedule

The PFS has focused on a low strip ratio, low capex DSO operation, concentrating on the higher grade component of the Mineral Resource to achieve a target product specification, thereby avoiding additional approvals complexity and higher capital and operating costs associated with a beneficiation plant.

Mine scheduling has been completed by Intermine Engineering, targeting a 2Mtpa (dry) production rate. Schedules were run on a monthly basis to ensure the target product specification grade could be achieved

on a periodic basis. Ore is scheduled from different areas of the mine to the ROM pad where material will be segregated into ROM fingers according to grade and or material characteristics. Multiple ore sources available at any one time in the pits, together with a blended plant feed off the ROM, enables the product specification ex-pit to be smoothed, supporting the delivery of satisfactory ship to ship variability.

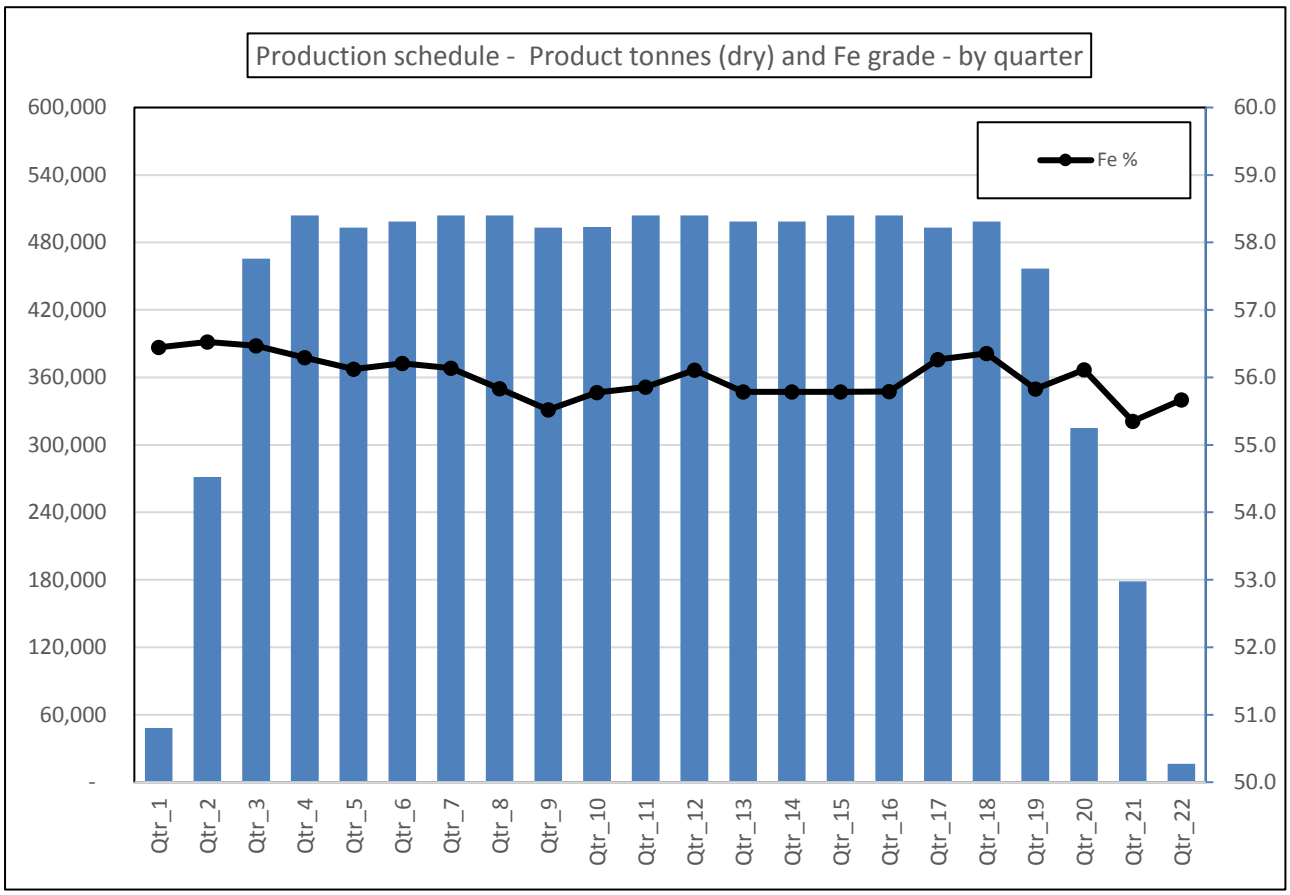

Figure 2 - Robe Mesa Production Schedule

The mine schedule achieved a 2Mtpa production rate over a mine life of just over 5 years (64 months) with an average grade of 56.0% Fe and a strip ratio of 0.57:1 (waste tonnes to ore tonnes), delivering on the objective to achieve a saleable product specification whilst maintaining a low strip ratio.

Mining

The PFS has assumed a contractor model for the purpose of mining, utilising conventional drill and blast, truck and shovel (backhoe excavator) open pit mining practises. A contractor model is well suited to the production rate of 2Mtpa product and a mine life of 64 months. Mining will utilise conventional drill and blast, truck and shovel (backhoe excavator) open pit mining practises. The PFS is based on 5m benches, mined via 2 x 2.5m flitches using a single 120 tonne class backhoe excavator loading 100 tonne mine haul trucks.

The Robe Mesa PFS mines and exports approximately 9.2Mt of ore over a mine life of just over 5 years (64 months), of which 8.2Mt is Probable Ore Reserve and 1.0Mt is Inferred Mineral Resource.

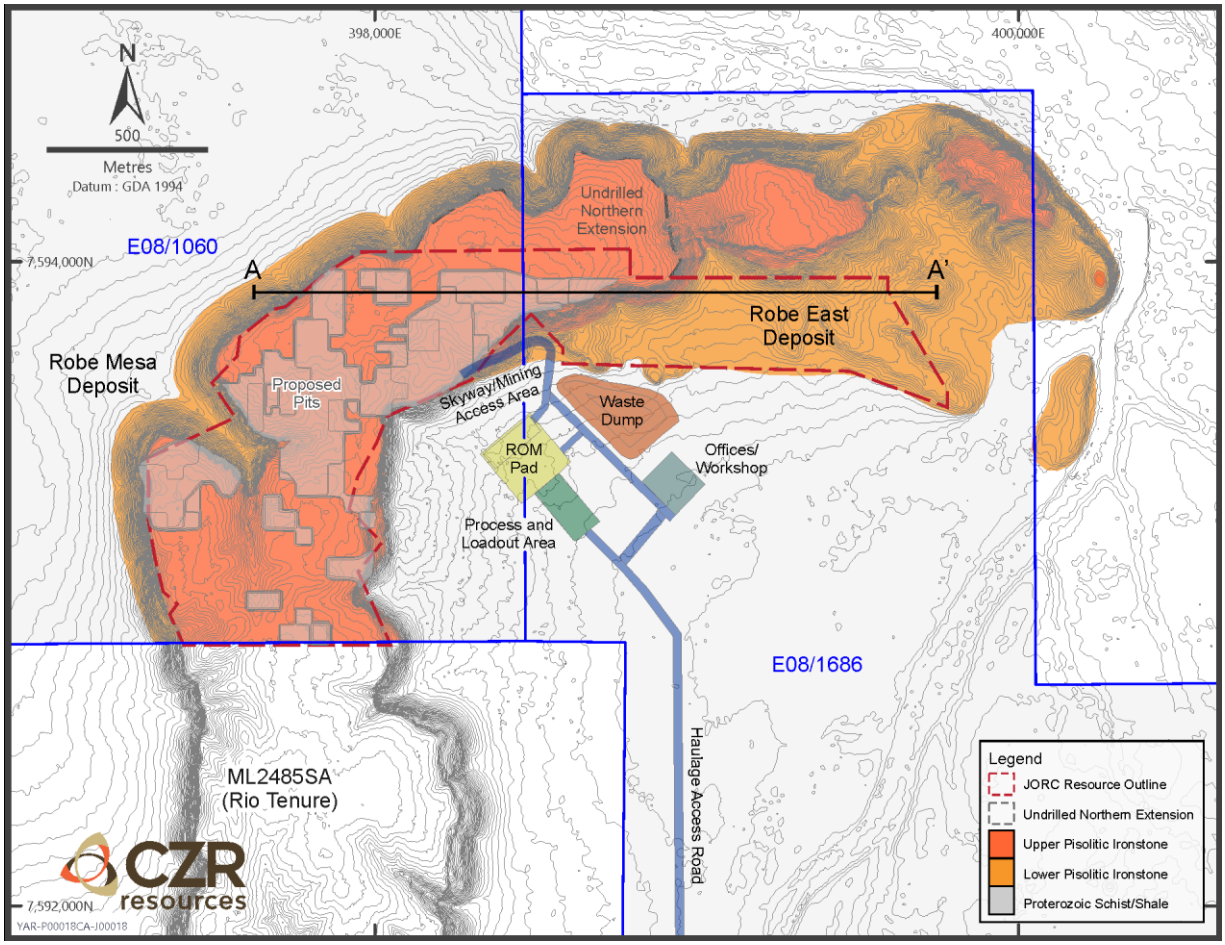

Figure 3 - Robe Mesa proposed site Layout

Processing

The PFS has focused on a project that utilises a simple dry crush and screen process with no form of beneficiation. Preliminary metallurgical test-work has confirmed a relatively soft and friable feed to the process. The plant will utilize a conventional three stage crushing and screening circuit. This is achieved by primary crushing ROM feed using a jaw crusher, followed by secondary and tertiary crushing and screening utilising 2 x cone crushers and twin deck vibratory screens to produce a 100% passing 12.0mm, 95% passing 9.5mm all Fines product. This style of plant for the nature of the envisaged operation is well proven in similar applications.

At the current production rate of the PFS, for the processing plant specified, operations are envisaged on dayshift only with a night shift operating every third week.

Haulage and Port

The PFS has assumed the use of 60m quad road trains hauling from the Robe Mesa product yard to the Utah Point Multi-User Facility (Utah Point), operating 24/7, 365 days per annum. This haul route is approximately 424km one way, made up of approximately 34km of unsealed mine access road with the remaining 390km on sealed road (North West Coastal Highway, Great Northern Highway, Utah Road). The sealed public roads from Utah Point to the turn-off to site are RAV10 rated and therefore suitable for utilising quad configuration road trains in transporting product to port. An additional permitting process is applicable to the use of 60m road trains.

A reputable haulage contractor experienced in this task has provided budget pricing for the loading of road trains and haulage of product to port, together with other key information relevant to the PFS. Pastin Solutions Pty Ltd was engaged for the purpose of understanding the relevant approvals requirements for the use of 60m quad combination road trains along the route assumed in the PFS for Robe Mesa.

Qube Bulk and the Pilbara Ports Authority have provided commercial terms and pricing as a basis for the operating cost estimate for port in-loading and ship loading at Utah Point.

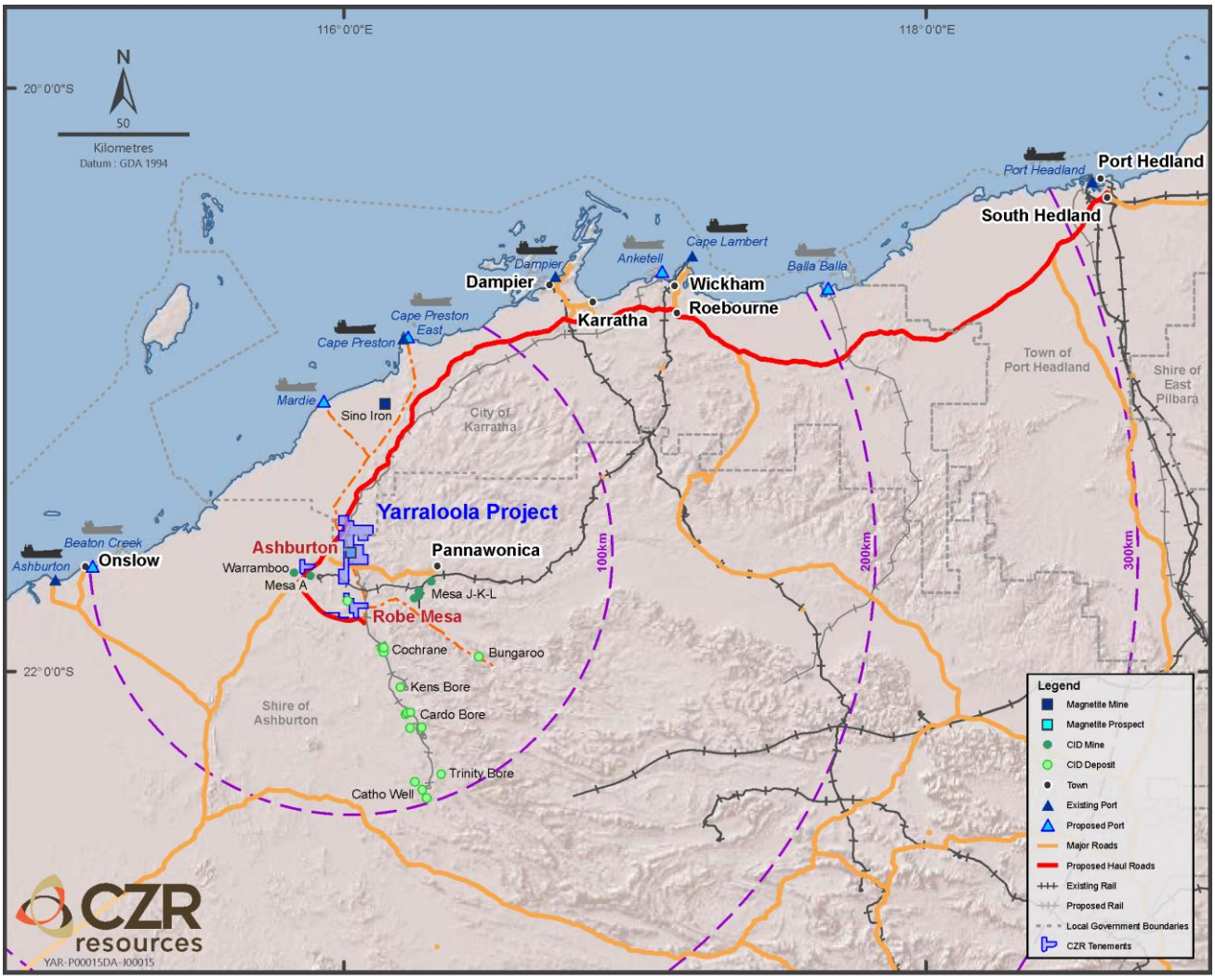

Figure 4 - Transport Route to Port

Infrastructure

The project location is favourable in that it is relatively close to major towns and sealed public access road networks. The project is approximately 200km by road, south-west of the city of Karratha and 175km by road from the township of Onslow. The site is currently accessed via an existing unsealed 35km road that connects with the North West Coastal Highway.

The sealed public roads from Utah Point to the turn-off to site are RAV10 rated and therefore suitable for utilising quad configuration road trains in transporting product to port. The PFS utilises existing and proven port infrastructure at Utah Point in Port Hedland. Utah Point has been in operation since 2010 and is licensed for 24Mtpa of bulk export product. The next phase of study will further investigate other port

options along the coast between Onslow and Dampier.

As part of mine development, early stage development will consist of the development of a ramp to access the mesa, followed by construction of a Skyway and ROM pad and delivery of material to pads for non-process infrastructure.

The PFS has allowed for a 76 room accommodation village on site to cater for a predominantly fly-in fly-out workforce. Other non-process infrastructure allowed for in the PFS includes:

- Mine Operations Infrastructure – Mine Operations Centre and Magazine
- Infrastructure for raw water supply for mining operations and site access road maintenance and dust suppression
- Mine Access Road upgrade and construction (all weather), and North West Coastal Highway Intersection upgrade
- Communications Infrastructure and Services

Whilst a site visit was conducted as part of the contractor quote for the access road, more detailed investigation is required in the next study phase with respect to the availability of suitable borrow material for construction of the access road. The next phase of study will also include a desktop hydrogeological study and field investigation to ascertain raw water supply solutions for the project.

The workforce will be sourced from Perth and Karratha, with the Perth contingent utilising the airport at Karratha for transferring people to and from site.

Project Economics

The mine schedule has been used as a basis to complete a production plan for the project that emulates production across the full supply chain from pit to port (including stockpile inventory positions), from the start of construction through to mine closure, so that working capital and timing of sales can be modelled. The production plan has been used in conjunction with input operating and capital costs to complete a cashflow model for the project.

The PFS cash-flow model used a flat 62% Fe Index Price of US$90/dmt (in addition to other revenue modifying factors assumed for the product) and a constant exchange rate of 0.70 when converting US$ to A$.

Table 8 - PFS Project Economics Estimates

Life of Mine Revenue	$M	956.4
Project Cashflow (at 62% Fe Index Price of $90/dmt)[1]	$M	96.4
C1 Cash Cost (nominal - no inflation)	$/dmt	64.78
Payback Period (post construction)[2]	months	19
Pre-production Capital costs (includes contingency & capitalised pre-production opex)	$M	51.1
Capital Contingency & Pre-commissioning/ramp up capitalised mining and crush & screen opex	$M	16.0
Life of Mine Capital costs (Pre-production capital + sustaining capital + mine closure capital)	$M	60.1

[1]Cashflow modelling and Project Payback period use operating cost estimates inflated 1.25% annually over the life of the project

Sensitivity Analysis

The project is most sensitive to the iron ore price, followed by exchange rate (US$:A$). For every US$1.00/dmt movement in the 62% Fe Index Price, Project Cashflow is impacted approximately $9.6M. The sensitivity of NPV to 5% changes in the 62% Fe Index Price, currency exchange rate, VIU discount, capital costs and operating costs, is shown below.

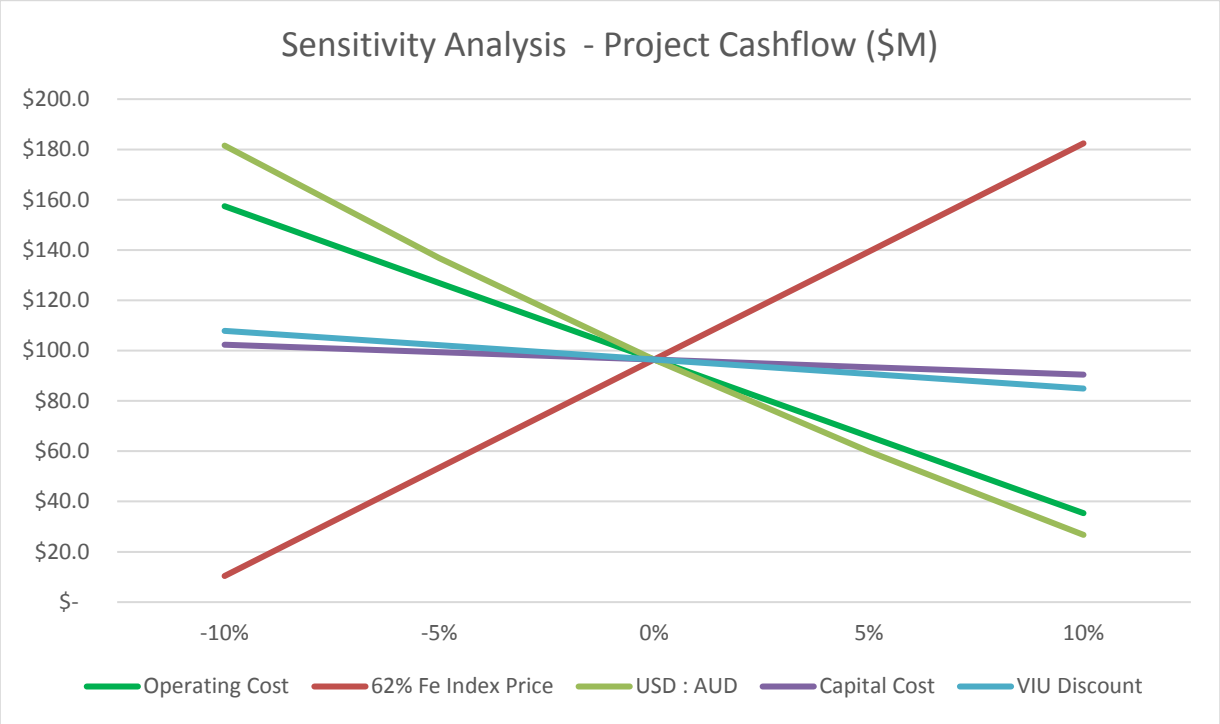

Figure 5 - Project Financial Sensitivity

Risks

The key risks identified for the project include (without limitation and further to the risk factors described in the Forward Looking Statements disclaimer at the beginning of this announcement):

1. Delays in securing Mining Leases
2. Delays in obtaining licences and approvals to operate.
3. A significant and extended decline in the iron-ore price.
4. A significant strengthening of the Australian currency against the United States currency.
5. Lack of port availability to support exports.
6. Delays as a result of a range of economic, political, and social issues arising from the COVID-19 virus.

Opportunities

A key part of the project's development going forward will be to focus on the potential for a closer port option, with the objective to increase cash-flow margins through a reduced haulage cost. The company has engaged other companies looking to develop new port infrastructure along the coast between Onslow and Dampier. The approximate range in haulage distance to the currently identified options is between 110km and 180km, versus the current PFS haulage distance of 424km. Whilst these options represent an opportunity to reduce the haul distance considerably, the benefit to haulage cost would need to be balanced with possible changes in vessel size and port handling costs that may result in a change away from Utah Point.

At the PFS production rate of 2Mtpa (dry), the processing plant and mining fleet identified in the PFS will not be fully utilised. The PFS shows that increasing the production target to 3Mtpa (dry) would not require any additional processing capacity or additional load and haul fleet on site, and therefore the unit cost of mine operations would be reduced.

There is potential to reduce the capital estimate of the PFS with more detailed investigation to be conducted for the access road and intersection works. The estimate for raw water supply is considered to be conservative. If further work reveals existing infrastructure can be leveraged and or water exploration confirms higher flow rates than that assumed in the PFS, then the current capital estimate for raw water supply infrastructure may reduce.

There is also the potential to add material to the mineral resource estimates by completing drilling and sampling of the additional exploration prospects on the Yarraloola tenement, although that cannot be guaranteed.

Robe Mesa Iron-Ore Deposit Background

The Robe Mesa Iron-Ore Deposit (Robe Mesa) on the 85% CZR owned Yarraloola Project is located 150km southwest of Karratha and 20km to the east of a bitumen sealed highway that connects to all the ports and towns along the coast of the Pilbara (Figure 1). The deposit is a “CID” ore-type reflecting the depositional environment of the iron-rich pisolites and fragments of iron-replaced wood in an ancient river channel. Robe Mesa is not an isolated deposit but part of a regional province. Robe Mesa is located between the Mesa A and Mesa J-K CID mines operated by RioTinto Ltd, adjacent to a road transport corridor established by BCI Minerals Ltd for the 134Mt @ 56.7% Fe Bungaroo Valley CID deposit (BCI release to ASX 18 October 2020) which has recently been purchased by Mineral Resources Ltd (BCI release to ASX 31 March 2020). The deposit is also adjacent to the railway corridor identified for transport of future production from the Australian Premium Iron Joint Venture CID deposits extending from Cochrane to Cartho Well to the proposed port at Anketell.

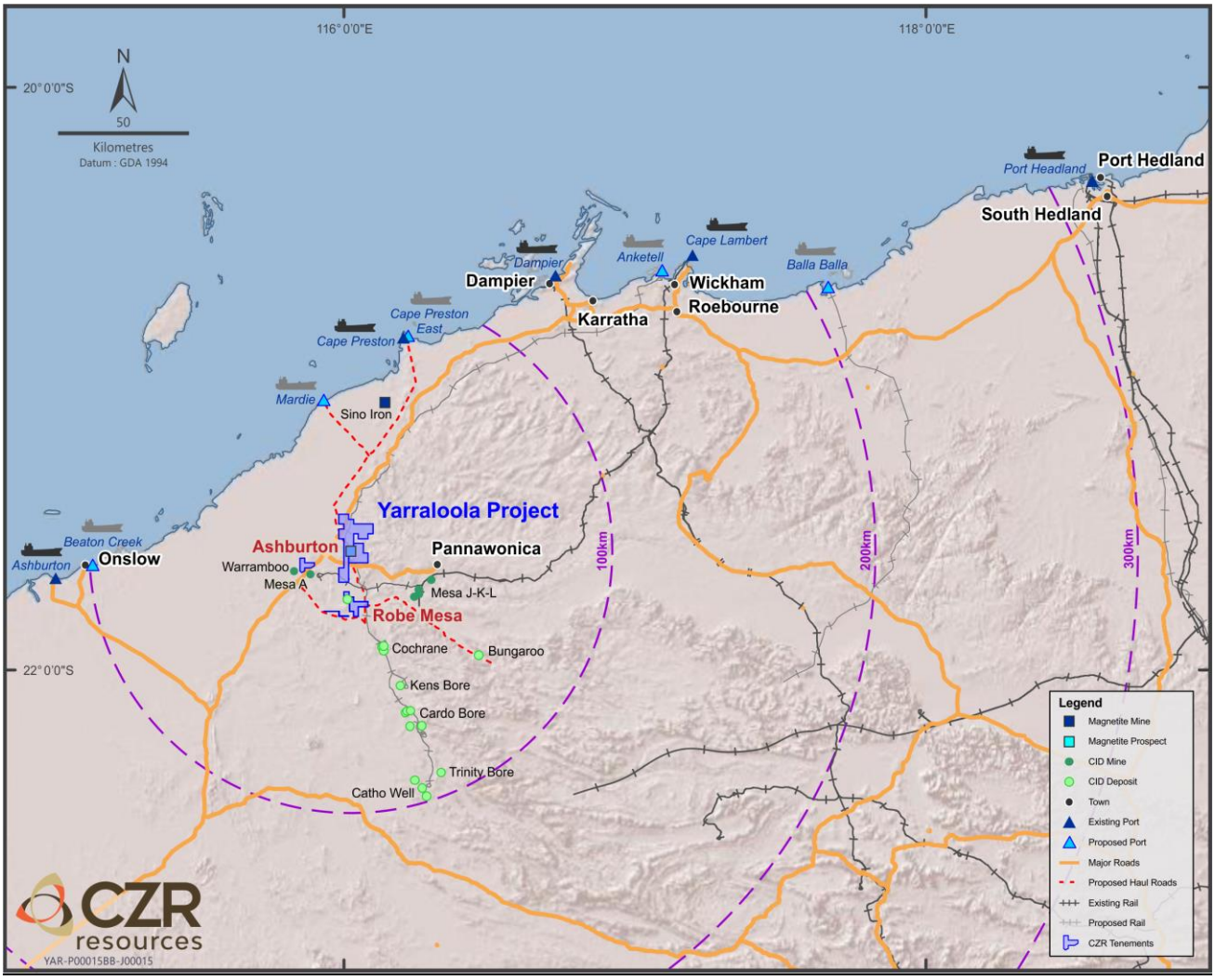

Figure 1 Location of the Robe Mesa in the West Pilbara.

CZR has completed three programmes of RC drilling at Robe Mesa that have delineated the geology and distribution of Fe (Figure 2; Figure 3). The pisolitic iron-stone which was deposited in a riverine channel consists of two cycles of deposition that are separated by variable thickness sandy and silty material with the Fe content of each cycle increasing towards its upper surface (Figure 3). The resulting independent JORC 2012 mineral resource for the Robe Mesa Deposit (including Robe East) of 89.1Mt @ 53.7% Fe (calcining to 60.1% Fe) using a Fe cut-off of 50% includes material from both cycles of mineralisation (Table 4; (CZR release to ASX 26 April 2017). At a 55% Fe cut-off, the higher grade 24.7Mt @ 56% Fe (calcining to 62.7%Fe) JORC 2012 mineral resource estimate is from the upper parts of depositional cycles and it is this material that is the focus of the PFS (Table 2).

Future work to bring the Robe Mesa into production will require the conversion of the Exploration License to a Mining Lease and the completion of a range of studies to obtain the statutory approvals for mining.

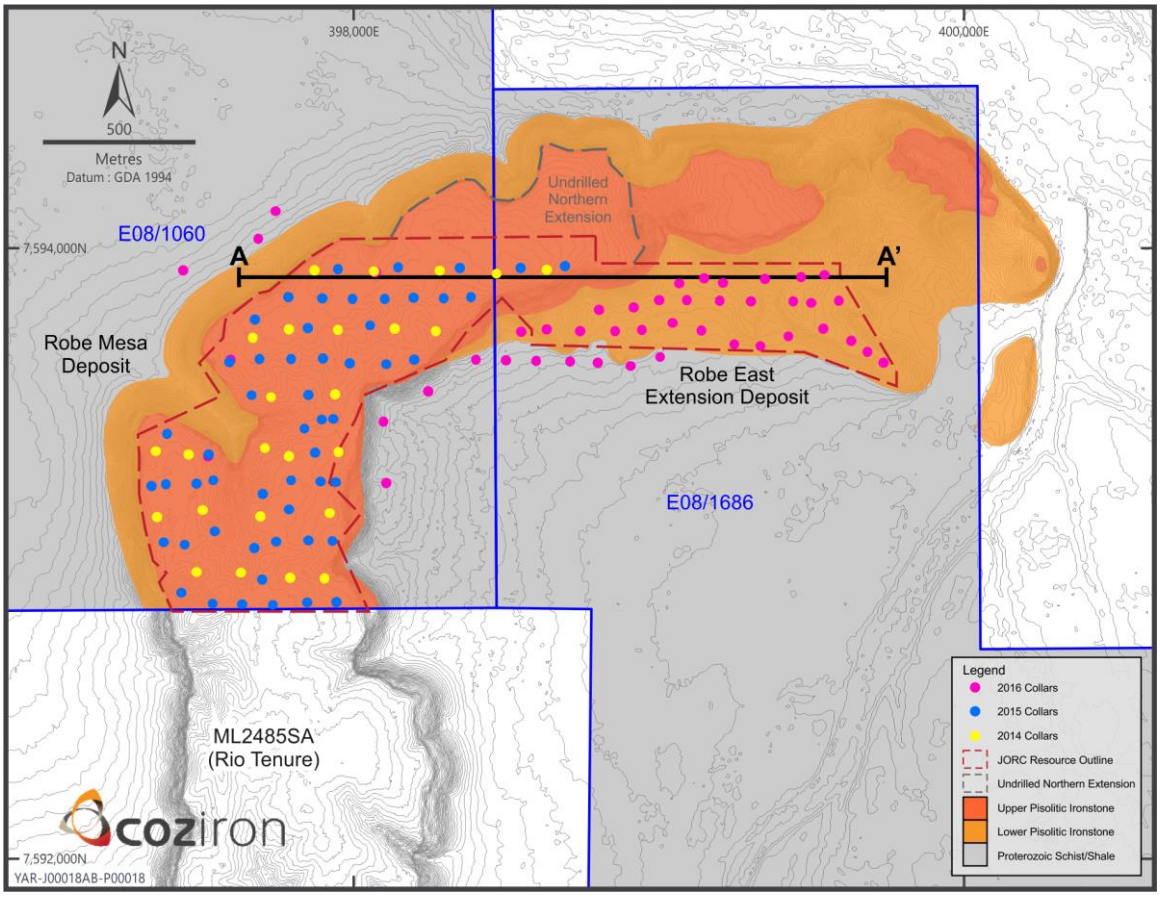

Figure 2 Location of all reverse circulation drill-collars from Robe Mesa and Robe East that were used for the JORC2012 resource estimates (CZR release to the ASX 8 February 2016 and 26 April 2017).

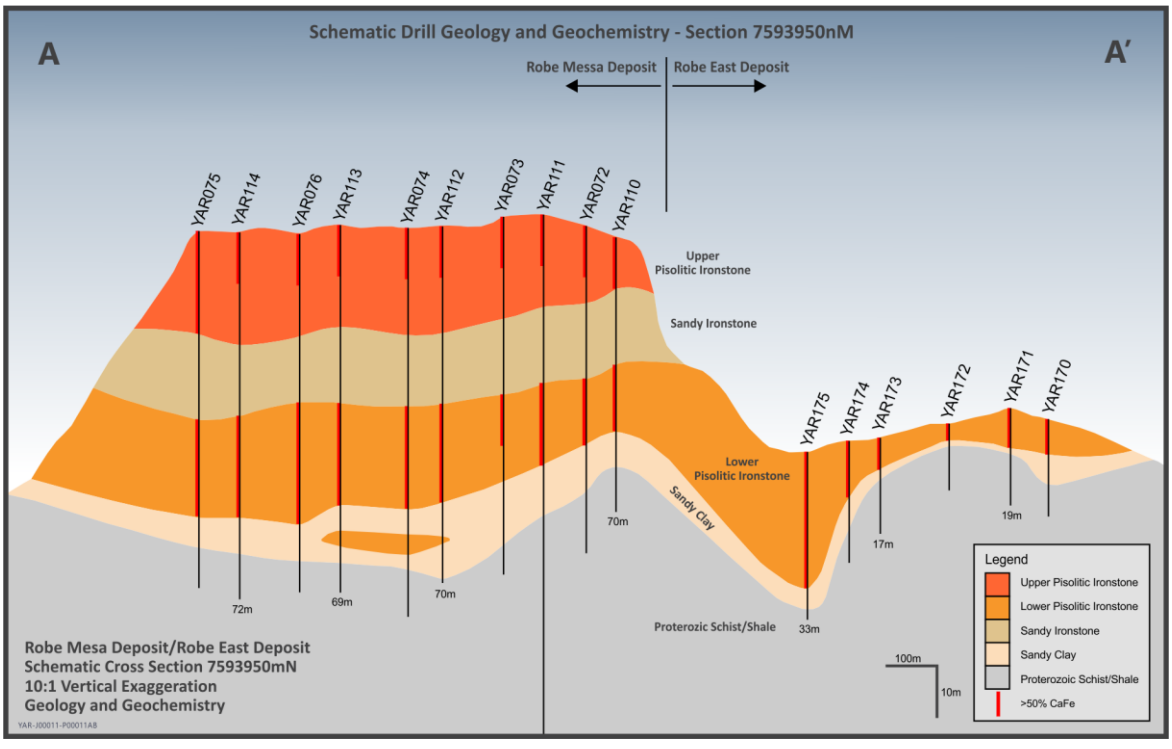

Figure 3 Robe Mesa and Robe East representative cross-section on 7593950N showing RC drill-locations, intercepts with calcined Fe>50% and the interpreted geology (8 February 2016, 26 April 2017 ASX Announcements).

Table 1 Robe Mesa JORC 2012 mineral resource reported above a 50% Fe cut-off grade (8 February 2016 ASX Announcement).

Category	Tonnes	Fe	SiO_2	Al_2O_3	TiO_2	LOI	P	S	Fe_{ca}
	Mt	%	%	%	%	%	%	%	%
Indicated	65.7	53.8	8.27	3.43	0.14	10.63	0.041	0.018	60.2
Inferred	18.8	53.8	8.22	3.42	0.14	10.71	0.046	0.017	60.3
Total	**84.5**	**53.8**	**8.26**	**3.43**	**0.14**	**10.64**	**0.042**	**0.018**	**60.2**

Table 2 Robe Mesa JORC 2012 mineral resource reported above a 55% Fe cut-off grade (8 February 2016 ASX Announcement).

Category	Tonnes	Fe	SiO_2	Al_2O_3	TiO_2	LOI	P	S	Fe_{ca}
	Mt	%	%	%	%	%	%	%	%
Indicated	19.5	56.0	5.95	2.72	0.10	10.71	0.043	0.017	62.7
Inferred	5.2	56.0	5.79	2.76	0.10	10.71	0.047	0.016	62.7
Total	**24.7**	**56.0**	**5.92**	**2.73**	**0.10**	**10.71**	**0.044**	**0.016**	**62.7**

Table 3 Robe East JORC 2012 mineral resource reported above a 50% Fe cut-off grade (26 April 2017 ASX Announcement).

Category	Tonnes	Fe	SiO_2	Al_2O_3	TiO_2	LOI	P	S	Fe_{ca}
	Mt	%	%	%	%	%	%	%	%
Inferred	4.6	51.8	9.7	3.8	0.20	10.9	0.1	0.02	58.2
Total	**4.6**	**51.8**	**9.9**	**3.8**	**0.20**	**10.9**	**0.1**	**0.02**	**58.3**

Table 4 Combined Robe Mesa and Robe East JORC 2012 mineral resource reported above a 50% Fe cut-off grade (26 April 2017 ASX Announcement).

Category	Tonnes	Fe	SiO_2	Al_2O_3	TiO_2	LOI	P	S	Fe_{ca}
	Mt	%	%	%	%	%	%	%	%
Indicated	65.7	53.8	8.3	3.43	0.14	10.63	0.04	0.02	60.2
Inferred	23.4	53.4	8.5	3.49	0.15	10.75	0.06	0.02	59.9
Total	**89.1**	**53.7**	**8.3**	**3.45**	**0.14**	**10.66**	**0.05**	**0.02**	**60.1**

Fe_{ca} is the calcined iron-content calculated as (Fe%/(100-LOI%))*100 *and represents the amount iron after the volatiles (mainly held as weakly bound water in the structure of the hydrous iron-rich minerals) is excluded from the analysis.*

This announcement is authorised for release to the market by the Board of Directors of CZR Resources Ltd.

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Competent Persons Statement

The information in this announcement that relates to exploration activities and exploration results is based on information compiled by Rob Ramsay (BSc Hons, MSc, PhD), a Competent Person who is a Member of the Australian Institute of Geoscientists. Rob Ramsay has worked for CZR since May 2012, initially as an independent geological contactor but was then appointed as a Non-executive Director in December 2012 and as Managing Director in December 2020. Rob Ramsay is a Geologist with over 35 years of experience and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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". Rob Ramsay has given his consent to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the Mineral Resources at the Robe Mesa project (including Robe East) are extracted from CZR's ASX Announcements entitled "Yarraloola Project – Robe Mesa resource confidence increased from Inferred to Indicated category" (dated 8 February 2016) and "Yarraloola Project – Robe Mesa resource upgrade from 2016 Robe East extension drilling" (dated 26 April 2017). The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and confirms that all material assumptions and technical parameters underpinning the Mineral Resources estimates in those announcements continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

The information in this report that relates to Ore Reserves has been compiled by Stephen O'Grady, Principal of Intermine Engineering Consultants, a Competent Person who is who is a Member of the Australasian Institute of Mining and Metallurgy and is an independent consultant to CZR Resources Ltd. Mr O'Grady has had sufficient experience in Ore Reserve estimation relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr O'Grady consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	Samples for the resource calculations were all collected from 5.5" (140mm) reverse circulation drilling programmes with continuous down-hole sampling. Metallurgical samples were collected from a 100mm diameter sonic drilling programme that provides a continuous down-hole core-sample.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	2-3kg of RC drill cuttings are spilt continuously during drilling and collected at 1 metre intervals in a pre-labelled calico sample bag. In 2014 and 2015, the rig used a continuously operating rotary cone splitter, while in 2016 samples passed over a static cone splitter attached to the drill-rig. Continuously sampled sonic core was recovered in a sealed plastic bag directly from the core-barrel, labelled with start and end run-intervals as measured from the rig and weighed.

	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	The entire 2-3kg RC drill-chip sample was crushed, dried and pulverized at Ultratrace Laboratories (now known as Bureau Veritas) in Perth. Western Australia. A sub sample was fused and the "extended iron-ore suite" of major oxide and selected trace-element analysis was obtained by XRF Spectrometry in 2014 and a basic iron-ore suite was reported from the 2015 and 2016 programmes because most trace elements are below detection. Sonic drill-holes were located as "twins" near an RC drill-hole with both a geological and assay profile. Sonic core samples were selected by comparison with results from the adjacent RC hole and all the material in the interval selected was used as a representative bulk-sample for subsequent processing.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	All reverse circulation (RC) drill-holes used a 5.5" (140mm) face-sampling percussion hammer. Sonic drilling recovers intervals of 100mm diameter cored material that is lifted in a core-barrel to the surface.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	RC sample size was monitored by Geologists during the drilling programme. The volume of sample derived from each metre drilled was approximately equal. After the sonic core intervals were transferred from the barrel to a sealed plastic bag, it was weighed, then the bag was opened, measured for length and weighed. In friable intervals, the weights of material recovered provide the estimate of sampling quality. After being photographed and logged for geology, the intervals were transferred to labelled calico bags for transport to the laboratory.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Standard RC sampling techniques were employed and deemed adequate for sample recovery. Some water was injected into the sample stream during drilling to minimise the loss of fine particles. Sonic coring provides a continuous down-hole sample in softer, semi-consolidated rocks in a similar process to diamond-drilling in hard-rock.
	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.	The loss of fine material has been minimised during RC and sonic drilling. Sample recovery is regarded as being representative.

Logging	*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.*	Each metre of reverse circulation chips and all sonic-core samples are described geologically for colour, texture and have an estimate of mineralogical abundance.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips is qualitative. All intervals of the sonic core were photographed.
	The total length and percentage of the relevant intersections logged.	Entire drill-holes are logged.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Sonic core was not cut and entire core is sampled for metallurgical studies.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Reverse circulation drill chip samples were collected dry and split by a either a continuously operating rotary-cone or static-cone splitter during drilling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Reverse circulation drilling is an appropriate method of recovering representative samples though the interval of mineralisation. The drilling contractor used suitable sample collection and handling procedures to maintain sample integrity. Sonic drilling provided a continuous core-sample through the dry, semi-consolidated material with a high-proportion of finer grained material.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Duplicate RC samples were simultaneously collected at a ratio of about 1:20 from the mineralized intervals, using the splitters attached to the rig to ensure representivity. Sonic core samples are split at appropriate stages in the metallurgical flow-sheet during laboratory processing to ensure representivity.
	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.	The reverse circulation method samples continuously and the splitters attached to the rig selects a representative proportion of the sample, providing an indication of compositional variations associated with each lithology or mineralised interval. Sonic drilling provides a continuous sample from semi-consolidated rocks.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The 2-3kg of homogenised drill chips that was recovered for each sample is sufficient to provide a representative indication of the material being sampled. The 100mm diameter sonic core provides sufficient volumes of sample from the geological intervals of interest to complete the study flow-sheets.

Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	All samples were analysed at Bureau Veritas (Ultratrace) Laboratories in Perth. A standard suite of major-element oxides and trace element oxides were determined by XRF analysis on fused disks. Loss on Ignition (LOI) was determined by thermogravimetric analysis at 1000° C
	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.	No hand-held geophysical tools or hand-held analytical tools were used for the reported results.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of their in-house procedures. Results highlight that sample assay values are accurate and that contamination has been contained.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	No independent of alternative company personnel were used to verify the intersections.
	The use of twinned holes.	Sonic drill-holes for the collection of metallurgical sampling twin an adjacent RC hole. RC holes have not yet been twinned to determine short-range variations geology and geochemistry.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All spatially located sample data is stored electronically in an access data-base. Assay data was received electronically and uploaded. Printed and laboratory-released PDF copies of analysis certificates are stored. All hand-held GPS locations for drill-holes are confirmed by an independent licensed surveyor.
	Discuss any adjustment to assay data.	No adjustment or calibrations are made to any assay data.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Drill hole locations were initially derived from a hand held Garmin 72h GPS units, with an average accuracy of ±3m. All collars were then recorded by an independent licensed surveyor using a differential GPS with an accuracy of 0.1m
	Specification of the grid system used.	The grid system is MGA GDA94, zone 50, all easting's and northing's are reported in MGA co-ordinates
	Quality and adequacy of topographic control.	SRTM30 data is used to provide topographic control and is regarded as being adequate for

		the stage exploration. This model is being corrected using results from the differential surveying of the drill-hole collars which has an accuracy on the height of 0.1m
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Drilling is located approximately on centres from a 100m grid over an area of outcropping mapped mineralisation.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	200m spaced drilling allowed the generation of an Inferred Resource, reducing to 100m spacing was sufficient for the conversion of a high-proportion of the inferred to indicated and the maiden probable reserve in the above announcement.
	Whether sample compositing has been applied.	Sample results represent 1m interval reverse circulation drill-chips and samples have not been composited.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Mineralisation is contained within a sub-horizontal sheet and the vertical drill-holes and associated sampling collects representative material through the mineralised zone.
	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.	The drill orientation was selected to minimise any sampling bias.
Sample security	*The measures taken to ensure sample security.*	Individually numbered samples are packed into labelled bulka bags and transported by CZR Geologists to independent intra-state transport companies in Karratha from where they are transported directly to Bureau Veritas (Ultratrace) laboratories in Perth.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No audits or reviews of the sampling techniques and data have been obtained.

Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*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.*	All exploration licenses and prospecting licenses owned 85% by Zanthus Resources Ltd and 15% by ZanF Pty Ltd. The tenements are covered by the Kuruma Marthudunera Native Title Claim and relevant heritage agreements are in place.

	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.	The tenements are in good standing and no known impediments exist.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	In 1990-1991, Aberfoyle Resources held tenements covering the Ashburton Trough which partially overlapped Yarraloola. They collected 26 rock-chip and 73 stream sediment samples for gold and base-metal exploration but encountered no significant results and surrendered the ground.
		In 1991-1992, Poseidon Exploration Ltd held exploration tenements covering the Ashburton Trough which partially overlapped Yarraloola for base-metals, gold and iron-ore. They collected 54 rock-chips, 236 soil samples, 492 stream sediment samples and completed 159 RAB holes for 2410m but encountered no significant mineralisation and surrendered the tenements.
		In 1997-1998, Sipa Resources NL held tenements over the Ashburton Trough that partially covered Yarraloola for gold and base-metals. A field trip after the interpretation of LANDSAT and air-photos collected six rock-chip samples which failed to detect mineralisation and the tenements were surrendered.
		In 2005-2009, Red Hill Iron Ltd held a tenement 15km northwest of Pannawonica which partially overlapped Yarraloola for gold and base-metal prospectivity. Following and aeromagnetic survey and air-photo interpretation, 16 rock-chips and 207 soil samples were collected but no targets were generated and the ground was surrendered.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Robe Mesa is a fluvial deposit of goethite-rich fragments of wood and pisolites supported by a fine grained goethitic matrix. The deposit outlines the trace of a Tertiary-aged channel from the Robe River into older rocks of the Ashburton Formation that have since eroded. Deposits of the channelized-style of goethitic ironstone are represented and mined in other parts of the Pilbara region of Western Australia and the material is commonly referred to a “CID” for marketing purposes. The Mesa contains two cycles of deposition that each has a sharp basal contact and shows an upwards increase the amount of iron-rich fragments.

Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*	*Although not relevant because exploration results are not being reported, the sections provide background to the database that was used to generate the ore-reserve.*
	o *easting and northing of the drill hole collar*	Drill-hole collar Eastings and Northings are reported using map projection GDA Zone50, entered into an Access database and the map locations are checked by the competent person.
	o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*	A differential GPS survey of the drill collars has provided elevation data on an approximately 100m spacing which has been integrated into the SRTM30 data.
	o *dip and azimuth of the hole*	All holes are vertical.
	o *down hole length and interception depth*	Down hole lengths and intercept depths from the RC drilling are calculated from 1m interval samples that are progressively collected as the holes are drilled. Any lengths or intercepts reported from the sonic drilling are recovered from the down-hole logs and sample intervals generated during drilling.
	o *hole length.*	Hole lengths are reported both on the geological and driller logs, entered into the access database and have been checked by a competent person.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*	Minimum intercept widths are defined as drill intervals greater than 5m with samples reporting Fe>55%. Some intercepts include a maximum of 2m of samples with Fe<55%. Intercept values are numerical averages of the relevant 1m sample results. No cutting of high grades has been used.
	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.	All sample intervals used to calculate the intercepts are of equal length.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are presented
Relationship between mineralisation widths and intercept lengths	*If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	*Although not relevant because exploration results are not being reported, the sections provide background to the database that was used to generate the ore-reserve.* Vertical drill-holes are designed to intercept the

		true widths of the horizontally-oriented sheets of pisolitic iron-stone mineralisation.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	Down-hole widths are regarded as true widths of mineralisation.
	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	A map with the drill-hole locations and a representative geological cross section is presented.
Diagrams	*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.*	Relevant diagrams have been included within the Mineral Resource report main body of text
Balanced reporting	*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.*	The report is believed to include all representative and relevant information and is believed to be comprehensive. Exploration results are not being reported for the first time.
Other substantive exploration data	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Extensional, infill and grade-control drilling is being planned prior to the commencement of mining.
Further work	*Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Areas of outcropping mineralisation that have yet to be drilled are identified on the relevant maps.

Section 3 – Estimation and Reporting of Mineral Resources

Criteria	**JORC Code explanation**	**Commentary**
Database integrity	*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.*	Assay data has been supplied by the laboratory in both excel format and as printed certificates for verification. Data in digital format is electronically loaded directly into an Access database to prevent transcription errors.

	Data validation procedures used.	Data tables were periodically compared to results published in the assay certificates to ensure data integrity. Sample outliers were routinely compared to assay certificates as well.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Site visits were not undertaken by either Optiro Pty Ltd or PayneGeo Pty Ltd.
	If no site visits have been undertaken indicate why this is the case.	The resource estimates were completed by Experts who were fully familiar with the geography and geology of the Robe deposit area and site was closed due to seasonal weather conditions at the time the work was being undertaken.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	There is a reasonable level of confidence in the geological interpretation due published information on adjacent deposits, the consistent drilling results and the outcropping geology. Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries. All wireframes are constructed to 55% Fe_{Ca} cut-off grades for shape consistency.
	Nature of the data used and of any assumptions made.	The mineralisation is generally quite consistent and drill intercepts clearly define the shape of the mineralised body with limited options for large scale alternate interpretations.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The controls on and interpretation of mineralisation is relatively straightforward and no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries.
	The factors affecting continuity both of grade and geology.	Wireframes are constructed to 55% Fe_{ca} cut-off grade for shape consistency.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource*	The Mesa Robe deposit has a total length along the trace of the palaeo-channel of 1700 m and a width of 800 m across the channel and extends vertically for approximately 70 m below surface.

Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Grade estimation using Ordinary Kriging (OK) was completed using Surpac software for seven elements; Fe, SiO_2, Al_2O_3, TiO_2, LOI, P and S. Drill grid spacing was between 100 m and 200 m. Variogram orientations were largely controlled by the strike of mineralisation and downhole variography. Variograms for estimation were determined individually for each element. Other estimation parameters, such as search distance, minimum and maximum sample numbers was derived from KNA.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Compared to the previous estimate, tonnage has increased with an associated minor decrease in grade. The resource model has not been compared to any reconciliation data.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	Oxides and elements such as SiO_2, Al_2O_3, TiO_2, Phosphorous and sulphur are deleterious and above detection and have been estimated.

	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The block model dimensions and parameters were based on the geological boundaries and average drill grid spacing. Sub-blocks were used to ensure that the block model honoured the domain geometries and volume. Block estimates were controlled by the original parent block dimensions. The individual parent block dimensions were 100 mE by 100 mN by 5 mRL, with sub-blocking to 25 mE by 25 mN by 1.25 mRL. Estimation into parent blocks used a discretisation of 5 (X points) by 5 (Y points) by 2 (Z points) to better represent estimated block volumes.
	Any assumptions behind modelling of selective mining units.	No selective mining units were modelled in this estimate. It is assumed that the SMU is equal to the block model parent cell or smaller.
	Any assumptions about correlation between variables.	Multi-element analysis was conducted on the samples. There was a strong positive correlation between SiO_2 and Al_2O_3 and TiO_2. There was a strong negative correlation with Fe and SiO_2, Al_2O_3 and TiO_2.
	Description of how the geological interpretation was used to control the resource estimates.	Drillhole sample data was flagged using domain codes generated from three dimensional mineralisation domains. Mineralisation domains were treated as hard boundaries in the estimation process.
	Discussion of basis for using or not using grade cutting or capping.	No top cuts or bottom cuts were required as all the elements had a low cv and there were no real distinct outliers.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	Model validation was carried out using visual comparisons between composites and estimated blocks, checks for negative or absent grades, and statistical comparison against the input drillhole data and graphical profile (swath) plots.

Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied*	The resource model is modelled to a nominal wireframe cut-off grade of 55% Fe_{ca} with a minimum width of 5 m to encapsulate the entire mineralised body.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	No minimum mining assumptions were made during the resource wireframing or estimation process. Mining parameters, including minimum width assumptions, will be applied during the conversion to Ore Reserves.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	No metallurgical factors or assumptions are made during the resource estimation process as this will be addressed during conversion to Ore Reserve. The resource block model has been populated with multi-element data which is required for the metallurgical analysis during the Ore Reserve process.

Environmental factors or assumptions	*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. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made*	No environmental factors or assumptions are made during the resource estimation process.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	A bulk density of 2.6 was applied to the mineralised zones. This was determined via researched into other CID's in the Pilbara.
	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,	No bulk density measurements have been undertaken because suitable drill-core material is yet to be available.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	A bulk density of 2.6 is assumed for all mineralised material in the Resource Estimate.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories*	Classification of the resource models is based primarily on demonstrated assay data quality, drill density and geological understanding.
	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).	The classification takes into account the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The classification reflects the view of the Competent Person.

Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	This updated Mineral Resource estimate has not been subjected to any independent audits or reviews.
Discussion of relative accuracy/confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate*	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. The statement relates to global estimates of tonnes and grade.
	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	The estimate is considered to be relevant to a global report of tonnage and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available	No mining has been undertaken on any of the resource and therefore there is no production data is available.

Section 3 – Estimation and Reporting of Mineral Resources

Criteria	**JORC Code explanation**	**Commentary**
Database integrity	*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.*	Assay data has been supplied by the laboratory in both excel format and as printed certificates for verification. Data in digital format is electronically loaded directly into an Access database to prevent transcription errors.
	Data validation procedures used.	Data tables were periodically compared to results published in the assay certificates to ensure data integrity. Sample outliers were routinely compared to assay certificates as well.

Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	No site visit was undertaken by the Competent Persons responsible for the Resource Estimates.
	If no site visits have been undertaken indicate why this is the case.	The Competent Persons were fully familiar with the geology and geography of the Robe Mesa area and the site was closed due to seasonal weather conditions at the time the studies were being completed.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	There is a reasonable level of confidence in the geological interpretation due to the consistent drilling results and the outcropping geology. Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries. All wireframes are constructed to 55% Fe_{Ca} cut-off grades for shape consistency.
	Nature of the data used and of any assumptions made.	The mineralisation is generally quite consistent and drill intercepts clearly define the shape of the mineralised body with limited options for large scale alternate interpretations.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The controls on and interpretation of mineralisation is relatively straightforward and no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries.
	The factors affecting continuity both of grade and geology.	Wireframes are constructed to 55% Fe_{Ca} cut-off grade for shape consistency.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource*	The Mesa Robe deposit has a total strike length of 1700 m, across strike width of 800 m and extend vertically for approximately 70 m below surface.

Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Grade estimation using Ordinary Kriging (OK) was completed using Surpac software for seven elements; Fe, SiO_2, Al_2O_3, TiO_2, LOI, P and S. Drill grid spacing was between 100 m and 200 m. Variogram orientations were largely controlled by the strike of mineralisation and downhole variography. Variograms for estimation were determined individually for each element. Other estimation parameters, such as search distance, minimum and maximum sample numbers was derived from KNA.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Compared to the previous estimate, tonnage has increased with an associated minor decrease in grade. The resource model has not been compared to any reconciliation data.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	Oxides and elements such as SiO_2, Al_2O_3, TiO_2, Phosphorous and sulphur are deleterious and above detection and have been estimated.

	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The block model dimensions and parameters were based on the geological boundaries and average drill grid spacing. Sub-blocks were used to ensure that the block model honoured the domain geometries and volume. Block estimates were controlled by the original parent block dimensions. The individual parent block dimensions were 100 mE by 100 mN by 5 mRL, with sub-blocking to 25 mE by 25 mN by 1.25 mRL. Estimation into parent blocks used a discretisation of 5 (X points) by 5 (Y points) by 2 (Z points) to better represent estimated block volumes.
	Any assumptions behind modelling of selective mining units.	No selective mining units were modelled in this estimate. It is assumed that the SMU is equal to the block model parent cell or smaller.
	Any assumptions about correlation between variables.	Multi-element analysis was conducted on the samples. There was a strong positive correlation between SiO_2 and Al_2O_3 and TiO_2. There was a strong negative correlation with Fe and SiO_2, Al_2O_3 and TiO_2.
	Description of how the geological interpretation was used to control the resource estimates.	Drillhole sample data was flagged using domain codes generated from three dimensional mineralisation domains. Mineralisation domains were treated as hard boundaries in the estimation process.
	Discussion of basis for using or not using grade cutting or capping.	No top cuts or bottom cuts were required as all the elements had a low cv and there were no real distinct outliers.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	Model validation was carried out using visual comparisons between composites and estimated blocks, checks for negative or absent grades, and statistical comparison against the input drillhole data and graphical profile (swath) plots.

Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied*	The resource model is modelled to a nominal wireframe cut-off grade of 55% Fe_{ca} with a minimum width of 5 m to encapsulate the entire mineralised body.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	No minimum mining assumptions were made during the resource wireframing or estimation process. Mining parameters, including minimum width assumptions, will be applied during the conversion to Ore Reserves.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	No metallurgical factors or assumptions are made during the resource estimation process as this will be addressed during conversion to Ore Reserve. The resource block model has been populated with multi-element data which is required for the metallurgical analysis during the Ore Reserve process.

Environmental factors or assumptions	*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. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made*	No environmental factors or assumptions are made during the resource estimation process.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	A bulk density of 2.6 was applied to the mineralised zones. This was determined via researched into other CID's in the Pilbara.
	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,	No bulk density measurements have been undertaken because suitable drill-core material is yet to be available.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	A bulk density of 2.6 is assumed for all mineralised material in the Resource Estimate.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories*	Classification of the resource models is based primarily on demonstrated assay data quality, drill density and geological understanding.
	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).	The classification takes into account the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The classification reflects the view of the Competent Person.

Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	This updated Mineral Resource estimate has not been subjected to any independent audits or reviews.
Discussion of relative accuracy and confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate*	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. The statement relates to global estimates of tonnes and grade.
	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	The estimate is considered to be relevant to a global report of tonnage and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available	No mining has been undertaken on any of the resource and therefore there is no production data is available.

Section 4 – Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*	The Open Pit Ore Reserve is based on the Mineral Resource estimate by Optiro Consultants as reported in Jan 2016. The Model is "rm_nov15.mdl"
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Mineral Resources are inclusive of Reserves
Site visits	*Comment on any site visits undertaken by the*	The Competent Person, Stephen O'Grady has

Criteria	JORC Code explanation	Commentary
	Competent Person and the outcome of those visits. *If no site visits have been undertaken indicate why this is the case.*	visited site. The Competent Person has also relied on reports from other independent consultants and site surveys in determining the viability of the Ore Reserve.
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*	A Pre-Feasibility level estimation of costs, modifying factors and parameters resulting in a mine plan that is technically achievable and economic using the determined Ore Reserve.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	A cut-off grade of 55% Fe was applied to enable the product grade.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	Optimisation using Whittle software has been completed and is the basis for the final pit design outline.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Conventional open cut mining methods of drill and blast and load and haul utilizing 120t excavators and 90t trucks would be employed and are widely used in the mining industry and production rates and budget costings have been sourced and validated from a reputable mining contractor.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Overall wall angles of 55° have been used. Final wall heights will range from 10 to 20m in height. A desktop geotechnical review was completed and supports the wall angles used within the context of the pit design and resulting wall heights.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	The Optiro resource model “rm_nov15.mdl”was not regularized for use in the Ore Reserve. The original block size of 12.5m x 12.5m x 1.25m has been used, given the scale of equipment envisaged and the fact the grade distribution is homogenous.
	The mining modifying factors used.	No additional modifying factors such as grade dilution or ore tonnage loss factors have been applied.
	Any minimum mining widths used.	The minimum mining width used is 25m at the

Criteria	JORC Code explanation	Commentary
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	base of pits. The resource model classification comprised Indicated and Inferred. Inferred has been included in the optimization. The mine plan includes 1.0 Mt of Inferred and 8.2Mt of Indicated. The Ore Reserve does not include any Inferred resource and the Ore Reserve is technically and economically viable without the inclusion of the Inferred resource.
	The infrastructure requirements of the selected mining methods.	Mobilisation, establishment and all site and mine infrastructure to support mining has been accounted for in the study. The Fines product will be road hauled to the Utah Point Multi User Facility in Port Hedland where it will be stockpiled before being ship loading for export
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* *Whether the metallurgical process is well-tested technology or novel in nature.* *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	All ore will be processed via a mobile dry crush and screen plant established at the mine site. The plant will utilize conventional three stage crushing and screening (1 x Primary Jaw crusher and 2 x Secondary Cone crushers) to produce a 100% passing 12.0mm, 95% passing 9.5mm all Fines product. This style of plant for the nature of the envisaged operation is well proven in similar applications. Recent metallurgical test-work was completed by Bureau Veritas. There are no yield or grade modifications through the process. No problematic levels of deleterious elements have been detected during test work. Metallurgical testwork has been completed on Sonic drill core, no bulk samples have been collected.

Criteria	JORC Code explanation	Commentary
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Desk-top studies of the flora and fauna have identified key species with conservation status that will require consideration as part of the field studies that are being planned so that any potential impacts can be minimized. At the PFS stage, the project has not identified any need for waste rock encapsulation. More comprehensive studies will be completed as the project progresses to meet the approvals requirements. At this stage, CZR has not yet made an application for any of the licenses to commence mining.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The site is located approximately 200km by road, south-west of the city of Karratha and 175km by road from the township of Onslow. The site is currently accessed via an existing unsealed 35km road that connects with the North West Coastal Highway. The sealed road between the intersection of the site access road with the North West Coastal Highway all the way to the Utah Point Multi-User Facility at Port Hedland is of a RAV10 rating and therefore suitable for utilising quad configuration road trains in transporting product to port. The PFS has assumed export of product from the existing Utah Bulk Handling Facility in Port Hedland. Non-process infrastructure allowed for in the PFS includes establishment of a Mine Ramp and ROM Pad, Mine Operations Infrastructure (Mine Operations Centre, Plant location, Product loadout and Magazine), infrastructure for raw water supply for mining operations and site access road maintenance and dust suppression, Mine Access Road upgrade and construction (all weather), North West Coastal Highway Intersection upgrade, Communications Infrastructure, on-site Accommodation Village (76 room) and water treatment infrastructure. The workforce will be sourced from Perth and Karatha. Water supply is expected to be available from

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		bore-holes located in proximity to the mine site as exploration drilling has intersected good flows of low-salinity water when some holes extended beneath the level of the adjacent Robe River. Power will be generated on site using diesel generators.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *Allowances made for the content of deleterious elements.* *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* *The allowances made for royalties payable, both Government and private.*	Capital costs and operating costs have been predominantly estimated on the basis of submissions received in response to RFQs from experienced contractors for the relevant capital or operating estimate, and to a lesser extent recent market soundings and first principle estimates received from external consultants. RFQs were based upon PFS determined scope and project requirements. Provisional sums have been assumed in the case of raw water supply infrastructure until such time as hydrogeological desktop studies and field investigations are completed. All costs and revenue are in A$ unless stated otherwise Transport costs were derived from a RFQ from an experienced haulage contractor (haulage) and current market information (sea freight rates). Mine Closure, rehabilitation and environmental monitoring post closure has been included in the cashflow model and developed from first principles by mine closure consultants

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Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *he derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	The PFS assumes an iron ore price based upon a flat 62% Fe Index Price of US$90/dmt CFR China over the life of the mine. A Value in Use discount of 12.5% of the base product price is also applied to adjust for product impurities. A flat foreign exchange rate of 0.70 has been used for converting A$ to US$. A Western Australia government royalty of 7.5% is applicable to iron ore and has been applied within the revenue calculation. An additional third-party royalty of 1% has also been assumed and used in the calculation of revenue. The Competent Person considers this to be an appropriate commodity price assumption based on the current level of study and price environment at the time of the completion of the Ore Reserve work.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	The iron ore price improved in 2019 and has strengthened further in 2020 as a result of stimulus in China and supply disruption from Brazil. There is a transparent, quoted and strongly traded market for the sale of iron ore. The market for Western Australian iron ore is well established and liquid. The Ore Reserve and mine production schedule support a saleable product comparable with existing products that are well established in the market (Rio Tinto Robe Fines, FMG SSF). The style of product comprises approximately 10% of the present Australian export volume. A market assessment completed as part of the PFS was used to guide Revenue Factors used in the PFS for the purpose of cashflow modelling and estimating Ore Reserves.

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Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	The Ore Reserve estimate is supported by a pre-tax cashflow model that has been prepared using revenue inputs and capital and operating cost inputs at a Pre-Feasibility level. The model covers the current 5 year (64 month) life of the project. The majority of the major cost inputs have been sourced from contractors and suppliers. All operating costs have been inflated at a rate of 1.25% annually. A discount rate of 8% has been applied. The resulting NPV and IRR is positive and sensitivity analysis has been completed for the commodity price as contained in the PFS.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	The owners will commence discussions and negotiations with the native title holders, government and other key stakeholders as the project progresses towards development.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	No material naturally occurring risks have been identified for the project. The conversion of the exploration license areas to mining leases will require negotiation of an access and compensation agreement that has the potential to delay the development of the project. It is expected that other future agreements and Government approvals will be required for the successful implementation of the project.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	The Indicated Mineral Resource has been converted to a Probable Ore Reserve. The result appropriately reflects the Competent Person's view of the deposit.

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Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	The Ore Reserve estimate has not been independently audited or reviewed.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognized that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The mine designs, schedule and financial model for the Ore Reserve have been completed to a Pre-Feasibility level with a corresponding +/- 25% level of confidence. A degree of uncertainty is associated with geological estimates and the Ore Reserve classification reflects the level of confidence in the Mineral Resource. A degree of uncertainty regarding the estimate of mining modifying factors exists; this will be reviewed with further drilling density and mining studies. There is a degree of uncertainty in the commodity price used however the Competent person is satisfied that the assumptions used to determine the economic viability of the Ore Reserve are based on reasonable current data.