



# Mount Gibson Iron Limited

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## ASX ANNOUNCEMENT

ASX Code : **MGX**

27 April 2017

### Mount Gibson to restart high grade Koolan Island mine

#### Highlights

- Feasibility study confirms robust economics to restart production at Main Pit at Koolan Island mine.
- Safe and viable Main Pit seawall design and construction method confirmed.
- Initial Main Deposit Ore Reserves of **12.8 Million tonnes grading 66.0% Fe** and initial mine life of 3.5 years.
- Potential Stage Two Pit extension under assessment to convert 7Mt of Mineral Resources to Ore Reserves at east end of Main Pit Deposit.
- Seawall construction and dewatering **capital costs of \$97 million** including contingencies, peak cash draw prior to cashflow of \$145 million, including pre-stripping and other working capital.
- Projected **all-in cash costs of \$53/wmt** Free on Board (FOB)\*, including development capex and final closure costs.
- Estimated pre-tax **Internal Rate of Return of 34%** and **Net Present Value of \$106 million<sup>#</sup>**, and 28 month payback from first ore sales (assuming average Platts 62% Fe price of US\$55/dmt and USD:AUD FX rate of 0.75). At US\$65/dmt, NPV increases to \$233 million and IRR increases to 58%.
- Estimated breakeven at Platts 62% Fe Index price of US\$46/dmt CFR (life of mine, using above assumptions).
- Anticipated 24 month period from approval to ore production.
- First ore sales targeted to commence in early 2019.
- Anticipated site-based workforce of up to 80 during construction, rising to approximately 315 employees and contractors during production.

All figures expressed in Australian dollars unless stated otherwise

\*All-in cash costs are reported FOB and include royalties and capex, corporate cost allocations and closure costs.

<sup>#</sup>Based on real pre-tax discount rate of 8%, equivalent to nominal pre-tax discount rate of 10% and annual inflation of 2.5%.

Mount Gibson Iron Limited (**Mount Gibson**) is pleased to announce Board approval to redevelop and restart production from the high grade Main Pit iron ore deposit at its Koolan Island mine in Western Australia, after a feasibility study confirmed compelling economics for the Project.

Extensive technical evaluation carried out over the last two years, including detailed design and multiple peer reviews by independent engineering experts, has confirmed a safe and viable design and construction method to rebuild the Main Pit seawall, which is required to dewater the pit and recommence production from the Main Pit Deposit.

Seawall construction, pit dewatering and all other activities associated with restarting production are anticipated to take approximately 24 months to complete. Mount Gibson is targeting first ore sales in early 2019.

## Comment

Mount Gibson Chief Executive Officer Jim Beyer said "After two years of extensive work to identify and confirm a safe and effective design and construction method for rebuilding the Main Pit seawall at Koolan Island, it is extremely pleasing to commence construction on what is undoubtedly one of the world's premier and most compelling high grade iron ore investment opportunities.

"Coming shortly after extending the life of our Mid West operations, the redevelopment of Koolan Island also re-establishes Mount Gibson's status as one of Australia's premier high-grade producers at a time of rapidly growing demand for premium quality iron ore products.

"Importantly, it also provides a long term platform for further value creation. Our substantial cash reserves and cashflow from existing operations give us the capacity to undertake this investment without any need to take on debt for the project and still pursue other attractive opportunities which may arise in the months and years ahead."

## Feasibility Study Overview

The Koolan Island Restart Feasibility Study (the "Study") was undertaken to examine the business considerations and technical viability of recommencing mining operations on Koolan Island. The two most significant drivers in relation to assessment of the project were:

- design and construction of a new seawall with the required factor of safety during construction and subsequent operations to ensure minimal risk of failure, and do so at an economically viable cost; and
- the safety and financial viability of restarting hematite mining operations on the island and maintaining a sustainable operation in the anticipated market conditions for the remainder of the mine design life.

The Study has determined a redesigned seawall on the southern side of the flooded Main Pit will enable the extraction and sale of approximately 13 million tonnes of high grade hematite grading approximately 66% Fe over an initial mine life of 3.5 years (Stage One Pit) based on declared Ore Reserves at the Main Pit Deposit of **12.8 Mt grading 66.0% Fe<sup>1</sup>** with a very low level of impurities.

The redesigned seawall, incorporating an impermeable cement bentonite seepage barrier, was designed by engineering expert Coffey, a Tetra Tech Company, and has been subjected to extensive peer review by Golder Associates Pty Ltd, and Fugro's GeoConsulting group in Perth.

Capital costs to rebuild the seawall and dewater the Main Pit are estimated at approximately **\$97 million**, including \$10 million in contingencies. Peak cash draw prior to commencing cashflow is estimated at approximately \$145 million over the period needed to complete construction, dewatering, pre-stripping and other pre-production activities. The project will be funded from Mount Gibson's existing cash reserves, which totalled \$456 million at 31 March 2017.

Mount Gibson considers that, subject to further evaluation, there is potential for a (Stage Two) pit extension by converting approximately 7Mt of Measured and Indicated Resources at the eastern end of the Main Deposit to Ore Reserves following further mine plan optimisation and geotechnical evaluation of the eastern footwall.

Ore sales are targeted to commence in early 2019. All production from Koolan Island remains committed under longstanding offtake agreements which remain active.

All-in cash costs are forecast at **\$53 per wet metric tonne FOB**, inclusive of all capital and operating costs and royalties, corporate cost allocations and final closure costs of approximately \$30.6 million. This cash cost incorporates an estimated average mining cost of **\$7/wmt** of total material moved, and a reduced average life of mine waste:ore strip ratio of **3:1**.

Using an average Platts 62% Fe Index price of US\$55/dmt CFR and an average USD:AUD exchange rate of 0.75, Mount Gibson estimates the Stage One project to have a **Net Present Value of \$106 million<sup>2</sup>** and

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<sup>1</sup> Refer to Ore Reserves Summary on p10-11 and tables in Appendix 1.

<sup>2</sup> A discount rate of 8% real pre-tax has been adopted, broadly equivalent to a nominal pre-tax discount rate of 10% based on inflation of 2.5%.

will generate a pre-tax **Internal Rate of Return of 34%** with a total payback period of 28 months from first ore sales. Using an average Platts 62% Fe Index price of US\$65/dmt CFR, similar to recent spot prices, the Project has a NPV of \$233 million and IRR of 58%.

Based on the above assumptions, Mount Gibson estimates that over its life, the project would have an average Platts 62% Fe Index-equivalent cash breakeven price of **US\$46/dmt CFR** (including capital and closure costs), assuming an average delivered product grade of approximately 66% Fe and an average shipping freight cost to China of US\$9/wmt.

The mine will utilise the retained Koolan Island mining fleet, crusher, shiploader, accommodation camp, stores, workshops and administration facilities. A total site workforce of up to 80 people will be required during the initial seawall construction phase, rising to approximately 315 employees and contractors once in production.

Current Ore Reserves are contained within previously reported Main Deposit Mineral Resources of 41.9 Mt @ 64.8% Fe, which comprise a Measured Resource of 2.97Mt @ 60.1% Fe, an Indicated Resource of 33.5Mt @ 65.7% Fe and an Inferred Resource of 5.4Mt @ 61.4% Fe.

Mount Gibson expects to complete the additional geotechnical assessment for the potential 7Mt Stage Two pit extension within the next 12 months.

### ***Location and History***

The Koolan Island mine is located in the Buccaneer Archipelago approximately 130km north of Derby in the Kimberley region of Western Australia. Originally developed by BHP, the mine commenced initial production in 1963 and was formally closed in 1993. Mount Gibson acquired the asset and completed redevelopment of the mine following its takeover of Aztec Resources Ltd in early 2007.

Production from satellite pits commenced in April 2007, and construction of a seawall was undertaken to enable the dewatering of the high grade Main Pit orebody. Full scale production of high grade ore commenced in the Main Pit deposit in 2011 and by mid 2014, the mine had produced and sold in excess of 20 million tonnes of ore under Mount Gibson's ownership.

In October 2014, operations in Main Pit were suspended following an initial slip in the seawall which culminated in a total failure and inundation of Main Pit in late November 2014. Mining continued at the Acacia East satellite pit until February 2016, after which Koolan Island was placed on care and maintenance while Mount Gibson evaluated the potential to resume production at Main Pit.

Koolan Island's location and site layout is depicted in Figure 1 below.



*Figure 1: Koolan Island Location, showing site infrastructure relative to Main Pit.*

## Geology

Iron mineralisation in the form of hematite rich sandstones is developed in the Yampi Member at or close to an unconformity with the underlying Elgee Siltstone on Koolan Island.

The Main Deposit comprises a tabular body of high grade mineralisation 1.8 km long which is between 25 m and 30 m thick and characterised by consistently high grades (>67% Fe) with very low levels of impurities. The deposit was developed by BHP and has been mined to a depth of 80 m below sea level.

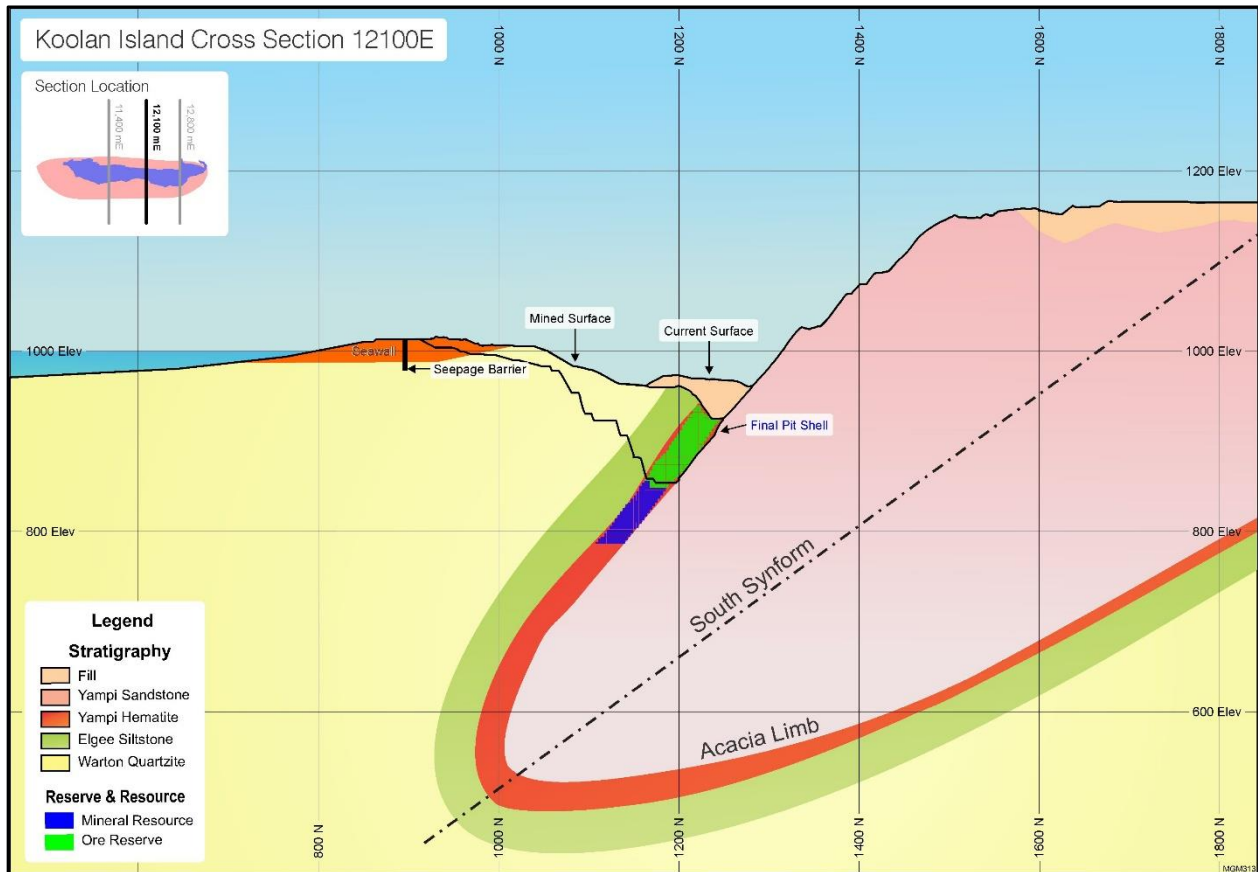


Figure 2: Simplified Cross Section 12,100E, Koolan Island Main Pit, looking West.

## Mineral Resources, Ore Reserves and Mining

The Koolan Island Main Pit is a brownfield project and was examined to a Feasibility Study level in 2017.

The Mineral Resource at Koolan Island Main deposit has not been re-interpreted or re-estimated since 30 June 2016. There has been no additional data or information to alter the Mineral Resource estimate. Ore Reserves within Main Pit were previously removed in 2015 following the inundation of Main Pit in late 2014. The Feasibility Study has enabled Mount Gibson to re-establish Ore Reserves in Main Pit of 12.8Mt grading 66.0% Fe.

The Main Pit Ore Reserves are derived from Measured and Indicated Resources. The Mineral Resource estimate is inclusive of the Ore Reserves.

Mining at Koolan Island will be by open pit method using conventional drill and blast, truck and excavator equipment. As the open pit is already established, there is minimal development work required and the ramp up to commercial production is anticipated to be achieved within 4 months of the recommencement of mining.

The Main Deposit Mineral Resource and re-established Ore Reserves are shown in Table 1 (see pages 10-11 and Appendix 1 for further details).

<b>Main Deposit Mineral Resources</b>					
	Tonnes millions	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
<b>Mineral Resources, above 50% Fe</b>					
Measured	2.97	60.1	13.45	0.34	0.007
Indicated	33.51	65.7	4.61	0.67	0.011
Inferred	5.41	61.4	10.96	0.77	0.010
<b>Total</b>	<b>41.90</b>	<b>64.8</b>	<b>6.06</b>	<b>0.66</b>	<b>0.011</b>
<b>Main Deposit - Ore Reserves</b>					
<b>Mineral Reserves, above 50% Fe</b>					
Proved	0.04	63.49	6.68	1.31	0.014
Probable	12.77	66.03	3.70	0.92	0.009
<b>Total</b>	<b>12.82</b>	<b>66.02</b>	<b>3.71</b>	<b>0.93</b>	<b>0.009</b>
<i>Discrepancies may appear due to rounding. Mineral Resources are reported inclusive of Ore Reserves. All tonnages have been estimated as dry tonnages.</i>					

Table 1: Koolan Island. Main Deposit Mineral Resources and Ore Reserves at 26 April 2017

### Seawall Design and Construction

A central focus of geotechnical evaluation was on the design and construction of a new seawall on the southern side of Main Pit. The outline concept for the design was to replace the breached failure channel, and reconstruct the embankment using existing quartzite waste material from the island's mine waste rock dumps. Once completed, this would be followed with the installation of new water seepage barrier required in order to provide an effective long-term groundwater seal.

The seawall was designed by Coffey, a Tetra Tech Company, and has been subjected to extensive peer reviews by Golder Associates Pty Ltd, and Fugro's GeoConsulting group in Perth.

The redesigned seawall (refer Figure 3), incorporating an impermeable cement bentonite seepage barrier, is designed to have a minimum factor of safety of 1.3 during operations. The factor of safety was a design minimum set by the Board and management of Mount Gibson.

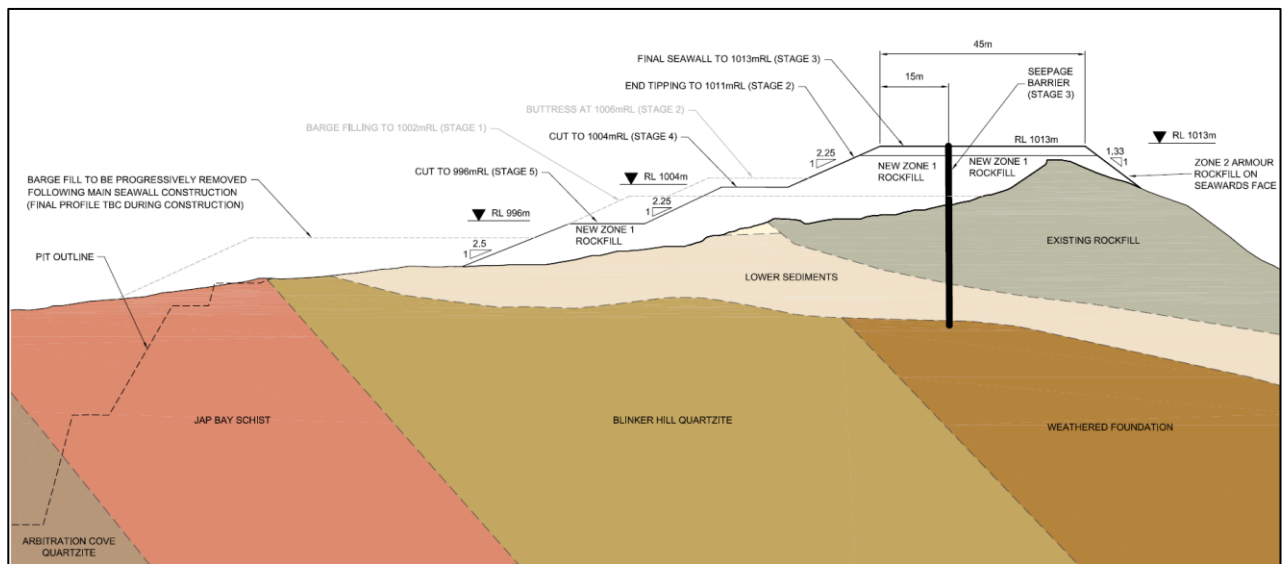


Figure 3 – Seawall Cross-section looking East.

The final design (refer Figure 4) incorporates a 467m long seepage barrier extending from the Eastern to Western abutment through a new rock embankment at the failure channel. The seepage barrier will be a cement bentonite cut-off wall that will be up to 42m deep in places, and be locked into the weathered foundation material located below the embankment rockfill.



Seawall construction will be undertaken in three key stages: embankment construction, seepage barrier construction and pit dewatering.

The first stage will involve re-establishment of the seawall embankment through the failure channel. Embankment construction is projected to take six months and incorporates the installation of wick drains and ground monitoring equipment to determine base readings to monitor that the seawall embankment is functioning as intended.

The construction of the seepage barrier is planned to commence in late 2017 and be completed within approximately 9 months, at which time the dewatering of Main Pit and the rehabilitation of the footwall will commence. The dewatering rate will be restricted for a period to facilitate the shaping of the embankment on the pit side of the seepage barrier.

Once the final shaping of the embankment is completed the dewatering rate can be accelerated and by late 2018 the water level is expected to be below the required level sufficient to enable mining to commence.

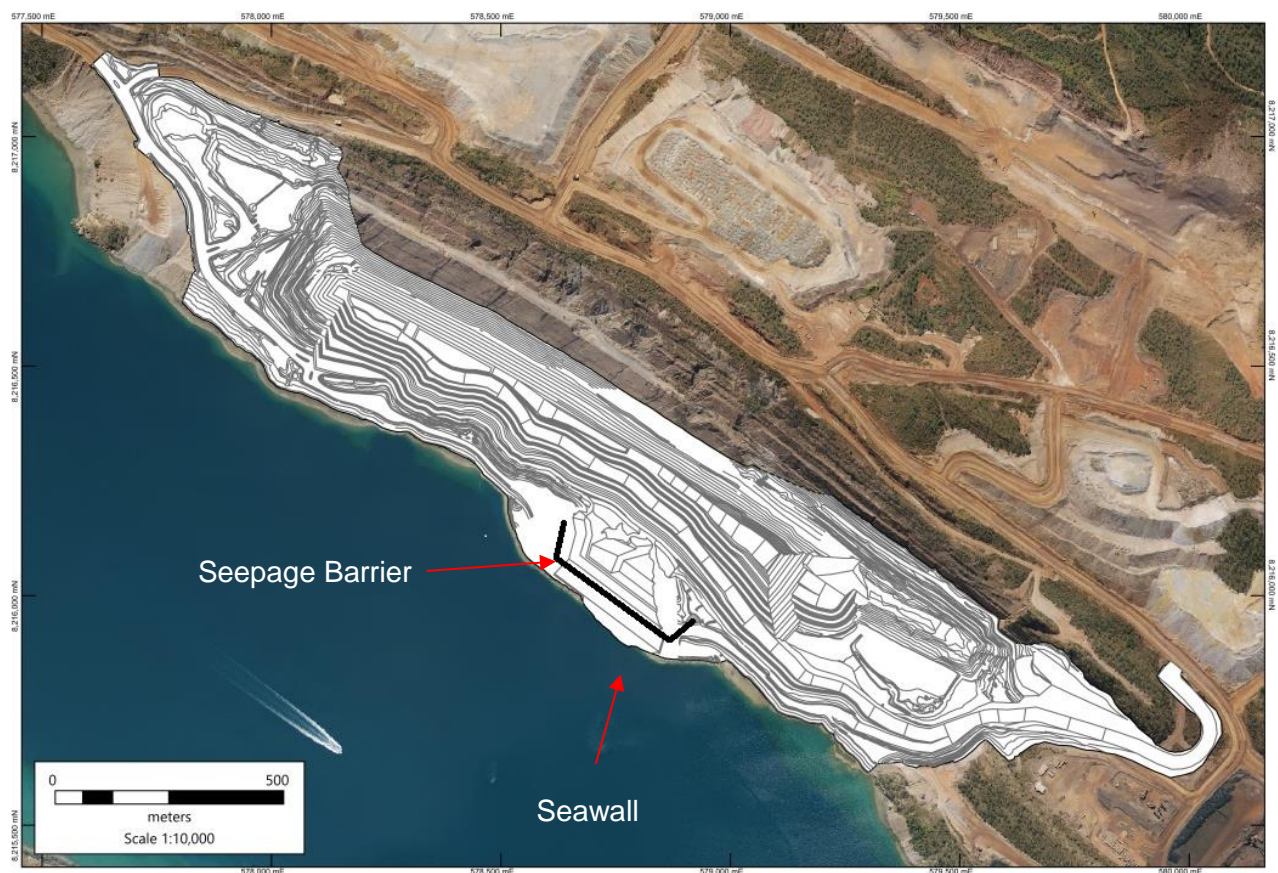


Figure 4 – Outline of Main Pit and Seawall showing approximate location of seepage barrier

### **Geotechnical factors**

The revised Main pit design, optimised to a lower average strip ratio by excluding a high-strip, relatively low-grade cut-back in the western end is contained entirely within the original Main Pit and as such the general design parameters remain unchanged from those successfully implemented during the original phase of mining.

The hanging wall design parameters are based on lithology with the batter angles varying from 60° to 75° with 8m berms at 24m intervals.

The Main pit footwall design is berm-less from the base of the original BHP pit and follows the dip of the orebody. In the western end of the pit the footwall angle is approximately 45° and steepens to approximately 55° (60° in the Stage 2 pit) in the eastern end of the pit.

Work is ongoing to determine the most cost effective method to rehabilitate a section of a berm at the eastern end of the pit to allow its inclusion in a larger Stage Two pit to access approximately of 7Mt of Measured and Indicated Resources at the eastern end of the Main Deposit. This material was previously categorised as Ore Reserves prior to the failure of the seawall in 2014.

Completion of the Stage Two pit assessment and design is anticipated within 12 months.

### ***Processing and Metallurgy***

There are no changes required to the existing processing facility at Koolan Island. Regular maintenance checks have been conducted during the care and maintenance period, together with a major overhaul of the primary crusher.

The metallurgical characteristics of the Main pit ore are well known from previous mining and processing from 2007 to 2014, and offtake contracts remain in place for all of Koolan Island's planned future production volumes.

### ***Infrastructure***

All major infrastructure is in place to facilitate the recommencement of mining at Koolan Island, including accommodation camp and administration facilities, airstrip, waste dumps, processing and crushing infrastructure, workshops, power generation and ship-loading and barging facilities. All have been maintained to a high standard during the care and maintenance period.

### ***Environmental and Regulatory***

All environmental and regulatory approvals are in place for the recommencement of mining in the Main pit at Koolan Island.






### ***Project Schedule***

The project will commence in the June Quarter 2017 with the construction of the rock-fill embankment.

Construction of the seepage barrier is planned to commence in the December Quarter 2017 and be completed late in the June Quarter 2018. Mining is anticipated to commence in the December Quarter 2018.

Ore sales from Main pit are targeted to commence in early 2019.

The Project construction schedule is depicted in Table 2:

<i>Task Name</i>	<i>2017</i>			<i>2018</i>				<i>2019</i>
	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Q1</i>
Rock Fill Embankment Construction								
Seepage Barrier construction								
Dewatering & Footwall Rehabilitation								
Mining								
First Sales Commencement								

*Table 2 – Project Construction Schedule*

The annual production schedule is depicted in Table 3 below:

	Year 1	Year 2	Year 3	Year 4	Total
<b>Ore Mined (Mt)</b>	2.4	3.4	7.1		<b>12.9</b>
<b>Waste Mined (Mt)</b>	15.2	14.3	8.8		<b>38.3</b>
<b>Total Material Movement (Mt)</b>	17.6	17.7	15.9		<b>51.2</b>
<b>Strip Ratio</b>	6.3	4.2	1.2		<b>3.0</b>
<b>Ore Crushed (Mt)</b>	2.4	3.0	5.4	2.1	<b>12.8</b>
<b>Ore Shipped (Mt)</b>	2.3	3.0	5.5	2.1	<b>12.8</b>
<b>Fe Grade (%)</b>	66.2	65.9	65.9	66.4	<b>66.1</b>
<b>Average cash operating cost (excluding initial capex and closure) (A\$/wmt FOB)</b>	67	54	33	19	<b>42</b>

*Table 3 – Annual production schedule (discrepancies may appear due to rounding)*

### **Capital and Operating Costs**

Mining schedules and operating cost estimates have been prepared by Mount Gibson management based on extensive retained knowledge of the orebody and previous operating experience on the island. Capital estimates have been prepared based on the result of the recent construction tender process for rebuilding the seawall and management's estimates for other plant and machinery.

The total development capital cost for seawall construction and dewatering is estimated at \$96.7 million, including \$9.8 million for contingencies. Peak cash draw prior to the commencement of cashflow is estimated at \$145 million, and includes all working capital, pre-stripping and other pre-production activities. Capital cost estimates are detailed in Table 4 below:

Item Description	Cost (\$M)
Seawall rebuild cost	54.1
Island costs	2.8
Dewatering	6.8
Pit rehabilitation	11.7
Contingency	9.8
<b>Seawall Capex Subtotal</b>	<b>85.2</b>
Mining and ancillary equipment	6.5
Other, including insurance	5.0
<b>Total Capex</b>	<b>96.7</b>

*Table 4 – Capital cost estimates*

All-in cash operating costs are estimated at approximately \$53 per wet metric tonne FOB, inclusive of all capital, royalties, corporate costs and closure costs. This reflects a unit mining cost of approximately \$7/wmt of total material moved (TMM), \$4/wmt for crushing and port costs of \$1/wmt. Estimates are based on the Company's recent operating experience at Koolan Island, updated for any known changes in unit rates and reviewed to ensure they are reasonable given the lower volumes and anticipated market conditions.

Mount Gibson has held positive preliminary discussions with its existing insurers for the restart project, and the feasibility cost estimates incorporate an allowance for insurances.



Excluding development capex and closure costs, life-of-mine cash operating costs are expected to average approximately \$42/wmt FOB, inclusive of sustaining capex, corporate cost allocations and royalties, as indicated in Table 3.

Life of Mine average operating unit rates are depicted in Table 5 below:

Item	Unit	Unit Rate
<b>Mining</b>	Wmt of Total Material Moved (TMM)	\$6.95
<b>Crushing</b>	Wmt	\$4.17
<b>Port</b>	Wmt shipped	\$0.96

*Table 5 – Average life of mine operating unit rates*

### **Financial Metrics**

The financial metrics of the Project, based on the above factors, are depicted in Table 6 below, assuming an a USD:AUD exchange rate of 0.75 and a Platts 62% Fe iron ore price of US\$55/dmt and US\$65/dmt respectively:

Koolan Island	Stage One Pit	
62%Fe Iron Ore Price & FX Assumption	US\$55/dmt & A\$1.00/US\$0.75	US\$65/dmt & A\$1.00/US\$0.75 (Spot)
Pre-Tax NPV (8% real pre-tax)*	\$106 million	\$233 million
Pre-Tax IRR	34%	58%
Seawall and Other Start-Up Capital	\$96.7 million	\$96.7 million
Peak Cash Draw	\$145 million	\$142 million
Payback Period	28 months (from first ore sales)	22 months (from first ore sales)
Life of Mine Ore	12.8Mt	12.8Mt
Economic Life (to completion of sales)	41 months	41 months

*Table 6 – Financial metrics*

*\*equivalent to nominal pre-tax discount rate of 10% based on annual inflation of 2.5%*

Given the premium quality of ore from Main Deposit, which is anticipated to average approximately 66% Fe over the mine life, Koolan Island ore will attract a significant premium to the Platts 62% Fe Index price.

Accounting for the expected premium for Koolan Island product, the Project is estimated to be cash breakeven, including development capital and closure costs, at a Platts 62% Fe price of US\$46/wmt CFR based on the above assumptions and an average freight cost of US\$9/wmt.

### **Sensitivity Analysis**

The NPV of the Project is most sensitive to ore price and the foreign exchange rate. Modelling indicates that every US\$1/dmt movement in the Platts 62% Fe index price impacts the NPV by approximately \$12 million. Similarly, every USD \$0.01 movement in the AUD:USD exchange rate impacts NPV by approximately \$8 million.

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Mount Gibson will host an analysts/institutions teleconference at **11.00am AEST (9.00am WST) on 27 April 2017**. Investors will be able to listen in to the teleconference by dialing **1800 857 029** immediately prior to the scheduled start time and entering the access code **18314558#** at the prompts. A recording of the teleconference will also be available via the Mount Gibson website after completion of the teleconference. In case of difficulties, operator assistance can be reached by calling 1800 857 079 (Australian callers) or +61 3 8788 6028 (overseas callers).

## Koolan Island JORC 2012 Ore Reserves Summary

Main Deposit Ore Reserves – at 26 April 2017								
<i>Cut-off Grade</i>	<i>Reserve Classification</i>	<i>Million Tonnes</i>	<i>Fe</i>	<i>SiO2</i>	<i>Al2O3</i>	<i>P</i>	<i>S</i>	<i>LOI</i>
50% Fe	Proved	0.04	63.49	6.68	1.31	0.014	0.008	0.57
50% Fe	Probable	12.77	66.03	3.70	0.92	0.009	0.003	0.42
<b>50% Fe</b>	<b>Proved + Probable</b>	<b>12.82</b>	<b>66.02</b>	<b>3.71</b>	<b>0.93</b>	<b>0.009</b>	<b>0.003</b>	<b>0.42</b>

Table 7 – Main Deposit Ore Reserves Summary

### Material Assumptions for Ore Reserves

The Koolan Island Main pit is a brownfield project and has been examined to a Feasibility Study level in 2017. Material assumptions used in estimating Ore Reserves are as summarised on pages 1-3 and 9-10 of this release.

### Ore Reserve Classification

The Main Pit Ore Reserves are derived from Measured and Indicated Resources. The Mineral Resource estimate is inclusive of the Ore Reserves.

### Mining Method

The mining method is conventional drill and blast and load and haul with an excavator and large open pit mining equipment. This is considered to be appropriate for the style of mineralisation and was previously utilised in the Main Pit.

The geotechnical parameters are unchanged from the previous phase of mining in Main Pit. Based on the geotechnical recommendations, 60° - 75° batter angles and 8m wide berms at 24m intervals have been incorporated in all pit designs. The Main Pit footwall is berm-less from the base of the BHP pit. The footwall angle varies from 45° in the western end of the pit to approximately 60° in the eastern end of the pit.

A wall support program incorporating depressurisation holes, shotcreting, self-drilling anchors and cable bolts (as required) is included in the mine schedule and cost estimates.

A minimum mining width of 30m is applied on all benches for safe and efficient working.

Allowance for dilution and ore loss has been applied using block model regularisation. Block model regularisation has been determined to approximate the findings of a 1.0m dilution skin analysis.

### **Ore Processing and Metallurgy**

Ore will be processed by standard dry crushing and screening process. This is considered to be appropriate for the type of mineralisation and is well tested at other Mount Gibson operations.

100% process recovery is assumed for all materials as is the case for all other Mount Gibson operations using dry crush and screen process and confirmed in reconciliations.

Main Pit ore was mined and processed over seven years between 2007 and 2014 and the metallurgical properties are well understood. Lump and fines yields and products grades derived from historical data are included in the model for scheduling purposes.

### **Cut-off Grade**

The cut-off grade for the Main Deposit is 50% Fe. This is a fully costed cut-off grade and is based on all operating costs associated with the extraction, processing and shipping of economic material. All material above the cut-off grade, as reported in the Ore Reserve is included in the Main Pit schedule.

### **Material Modifying Factors**

Mining schedules and operating cost estimates have been prepared by Mount Gibson management based on knowledge of the orebody and previous operating experience on the island. Capital estimates have been prepared based on the result of the recent tender process for rebuilding the seawall and management's estimates for other plant and machinery.

The operating costs for the restart of mining operations have been estimated based on the historical costs of previous mining activities updated for any known changes in rates and reviewed to ensure they are reasonable given the lower volumes and anticipated market conditions.

Major contract costs (including production drilling, explosives supply and associated blasting services, ground support, laboratory services and equipment hire) are based on actual contract rates in place at the time of the seawall failure. These rates are anticipated to be achievable when renegotiated nearing the time of operations commencing.

All major infrastructure is established and any costs associated with bringing infrastructure into operations has been included in the project cost analysis. The island has its own dedicated port and shiploading facilities close to Main Pit, minimising ore transport requirements. Ore will be loaded onto Panamax-class vessels, with all planned sales volumes committed under existing offtake agreements.

Mining Leases M04/416 and M04/417 are live and in good standing.

All regulatory approvals are in place to recommence mining in the Main Pit.

The project is located within the Dambimangari Native Title claim area. Mount Gibson has a co-existence deed which remains in place with the Dambimangari people which outlines the Mount Gibson commitment to traditional owners and particularly focuses on the provision of employment and training opportunities.

The Koolan Island Restart Project economics have been assessed using the discounted cashflow method, based on a monthly schedule of seawall rebuild and tonnes mined, crushed and shipped. Capital and operating costs are applied to mining, crushing and shipping. State royalties and taxes have also been applied to derive a Net Present Value ("NPV") for the Project.

Financial modelling indicates the Koolan Re-start project will produce a positive NPV at a real pre-tax discount rate of 8%, equivalent to a nominal pre-tax discount rate of 10% based on annual inflation of 2.5%.

## **Competent Persons Statements**

### **Main Deposit Mineral Resources**

*The information in this report relating to the Mineral Resources of Main Deposit at Koolan Island is based on information compiled by Elizabeth Haren, a Competent Person who is a member and Chartered Professional of the Australasian Institute of Mining and Metallurgy and a member of the Australian Institute of Geoscientists. Ms Haren was a full-time employee of, and is now a consultant to, Mount Gibson Iron Limited and has sufficient experience that is 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'. Ms Haren consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.*

### **Main Deposit Ore Reserves**

*The information in this report relating to Ore Reserves at Koolan Island is based on information compiled by Brett Morey, a Competent Person who is a member of the Australasian Institute of Mining and Metallurgy. Brett Morey is a full-time employee of Mount Gibson Iron Limited. Brett Morey has sufficient experience that is 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'. Brett Morey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The Ore Reserve estimates comply with recommendations in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012) by the Joint Ore Reserves Committee (JORC). Therefore they are suitable for public reporting.*

## APPENDIX 1 – Koolan Island, Main Deposit

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<b>Sampling techniques</b>	<p>All of the data used for resource estimation is based on the logging and sampling of RC and diamond core drilling.</p> <p>Percussion samples were composited over 2m intervals.</p> <p>Diamond samples were taken at 1m intervals.</p> <p>Reverse Circulation samples were taken over 1m intervals. Historical sampling (pre 1993) is of lower quality and where any ambiguity exists is excluded from the database for estimation.</p>
<b>Drilling techniques</b>	<p>Historic BHP drill hole data from 1957 to 1986 was mostly percussion drilled. BHP drilled 1 diamond hole, 25 RC holes with diamond tails, 44 RC holes and an adit. The BHP data makes up 26% of the total database.</p> <p>Aztec drilled 32 reverse circulation holes which make up 10% of the database.</p> <p>Mount Gibson Iron (MGX) has drilled 243 reverse circulation drill holes and four diamond holes since 2007. The MGX holes make up the majority of the database.</p>
<b>Drill sample recovery</b>	<p>Geologist or driller records sample recovery during drilling. No issues were detected.</p> <p>Standard drilling techniques were adequate for sample recovery.</p> <p>No relationship between sample recovery and grade has been demonstrated. No bias to material size has been demonstrated.</p>
<b>Logging</b>	<p>All drill holes have been geologically logged appropriately to the mineralisation style to support Mineral Resource estimation with logging subsequently confirmed through mining.</p> <p>Some diamond core has been photographed.</p> <p>The total length of drill holes is 49,834.5m with approximately 98% of the drill holes logged.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>Samples are received and prepared at the SGS run Koolan Island lab as 2 to 5 kg RC chip samples. They are dried for 12 hours at 105°C, crushed to &lt;2mm and split and reduced using riffle splitters or rotary sampling devices to 300 grams. The 300 gram sample is pulverised to 75µm, from which an aliquot is taken for XRF and LOI analysis.</p> <p>Sample preparation from historical drilling prior to 1993 by BHP is not clearly understood, however this makes up 26% of the drill database, and less than 10% of sample and assay data used for the remaining Mineral Resource.</p>
<b>Quality of assay data and laboratory tests</b>	<p>The nature, quality and appropriateness of the sample preparation techniques employed by MGX are to industry standard.</p> <p>Most BHP holes were shallow and the areas have since been mined out. No QAQC information is available for these holes. Comparison between BHP holes and Aztec holes in 2005 showed there is good agreement between both datasets for Fe, and QA/QC data supports the accuracy of the Aztec data across the assay suite. While the BHP SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> data differs, there is no good reason to doubt its quality given that the company was able to operate and successfully meet sales contracts.</p> <p>Aztec Resources Ltd holes had field duplicates, lab duplicates and site made standards as QA checks. Results were of acceptable quality.</p> <p>MGX uses certified reference material as a standard, along with field and laboratory duplicates. MGX QAQC procedures and results are of acceptable quality.</p>
<b>Verification of sampling and assaying</b>	<p>No external verification was completed.</p> <p>Historical BHP data was twinned by Aztec RC holes and found to be acceptable</p> <p>Drill hole data found to be spurious was excluded from the database</p> <p>Adjustments to data were made where required after data validation processes.</p>



Criteria	Commentary
<b><i>Location of data points</i></b>	<p>Survey control of hole locations have been established through the mine survey department, while detailed down hole surveys of accessible holes have been conducted by contractors, Surtron.</p> <p>Koolan Island Mine Grid (KIMG) is aligned consistent with average strike trends of the mineralisation at most of the known deposits, and the Main deposit in particular. The marked variants from this are the Eastern and Mullet limbs. All directional references in the Mineral Resources reports are according to the KIMG, which is rotated +30.18° relative to the Map Grid of Australia (MGA94_51).</p> <p>Topographic and survey control has been undertaken by either the mine-based survey team, or contract survey companies and is considered high quality.</p>
<b><i>Data spacing and distribution</i></b>	<p>The data spacing is approximately 50m along the strike of the mineralisation.</p> <p>The data spacing and distribution is more than adequate to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation and classifications applied.</p> <p>Percussion samples were composited over 2m intervals.</p>
<b><i>Orientation of data in relation to geological structure</i></b>	<p>The orientation of the mineralisation is well defined and drill holes were oriented to intersect mineralisation at an appropriate angle.</p>
<b><i>Sample security</i></b>	<p>Sample security was not considered a significant risk to the project. No specific measures have been taken by MGX to ensure sample security.</p>
<b><i>Audits or reviews</i></b>	<p>A formal audit of BHP drilling and survey data was carried out by Snowden Mining consultants in 2004. The historical BHP and Aztec data is generally of moderate quality as inferred by nearby MGX drill holes confirming broadly the extent and tenor of Fe mineralisation. Most historical data is in mined out areas and has little influence on remaining Mineral Resources. Ongoing reconciliations have not to date indicated an urgent need for external audits of the resource database. An audit of the Koolan mineral laboratory was conducted in May 2014 by an external group with no material concerns or problems identified.</p>

## Section 2 Reporting of Exploration Results

(Criteria listed in section 1, and where relevant, in sections 3 and 4, also apply to this section.)

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	Main Mineral Resource is located on Mining Lease M04/417-I held by Koolan Iron Ore Pty Ltd, a 100% owned subsidiary of MGX. The mining tenement is granted under the Western Australian Mining Act, 1978. Koolan Iron Ore Pty Ltd has a native title and heritage agreement with the Dambimangari Native title group
<b>Exploration done by other parties</b>	Exploration has been conducted in the area of the Main resource since 1922, with active exploration (and mining) by BHP from 1957 to 1993, Aztec Resources from 2004 to 2006 and MGX from 2006 to 2012.
<b>Geology</b>	The mineralised zone is an overturned enriched haematitic sandstone horizon within the Yampi Sandstone Member unconformably overlying the Elgee Siltstone. It is between 12 and 30 metres thick, and dips 65 to 80° to the south.
<b>Drill hole Information</b>	As outlined in Drilling techniques of Section 1, there are more than 300 drill holes at or around the Main deposit dating back to 1957 forming the basis for the Mineral Resource estimate outlined in Section 3. Material drill results for Main pit have previously been announced to the market as required under the reporting requirements of the ASX Listing Rules. All material exploration results relevant to the Main area have been considered in establishing the Mineral Resource discussed in section 3.
<b>Data aggregation methods</b>	Not Applicable - No exploration results or drill hole intercepts are discussed in this ASX announcement.
<b>Relationship between mineralisation widths and intercept lengths</b>	No exploration results or drill hole intercepts are discussed in this ASX announcement, however as the deposit has been mined for a number of years the true mineralisation widths are well known and understood.
<b>Diagrams</b>	Cross Sections, long sections and photos of the geology, mineralisation and mineral resource have been released in previous ASX announcements.
<b>Balanced reporting</b>	Not Applicable - No exploration results or drill hole intercepts are discussed in this ASX announcement.
<b>Other substantive exploration data</b>	Not Applicable - No exploration results or drill hole intercepts are discussed in this ASX announcement.

### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in sections 2 and 4, also apply to this section.)

Criteria	Commentary
<b>Database integrity</b>	<p>Data extracted from the database for Mineral Resource estimation purposes is run through general checks to ensure data validity. The database is maintained by MGX with automated validation and extraction processes in place.</p> <p>Checks on data include sensible ranges of values for attributes, drill hole collars matching topography and within expected limits, overlapping sample intervals, depths, azimuths, dips and co-ordinates for consistency. Any inconsistent information is either modified or excluded from use in the estimation.</p> <p>Further checks are completed during the importing of the data into the mine planning software prior to modelling and estimation.</p>
<b>Site visits</b>	<p>Elizabeth Haren, the Competent Person for Mineral Resources, has made several visits to Koolan Island. Elizabeth Haren was a full-time employee of, and is now a consultant to, Mount Gibson Iron Limited.</p>
<b>Geological interpretation</b>	<p>There is an extremely high degree of confidence with the mineralisation interpretation. The mineralisation and geology is very consistent and has been proven by historical and current mining on Koolan Island.</p> <p>Interpretation used in the Mineral Resource estimate uses the drill holes exclusively.</p> <p>There are limited alternative interpretations possible for the mineralisation which would have a minimal impact on the Mineral Resource.</p> <p>The mineralisation is generally in the Yampi Sandstone directly above the unconformity of the Elgee Siltstone.</p> <p>The continuity of grade and geology is very good.</p>
<b>Dimensions</b>	<p>The Main deposit mineralisation is approximately 2,000 m in length and is currently modelled to approximately 215 m in depth below mean sea level. Mineralisation continues and extends beyond this depth however further infill drilling is required to define this area with confidence. The resource is open at depth.</p>
<b>Estimation and modelling techniques</b>	<p>Ordinary Kriging of a suite of Iron Ore elements (Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, LOI, P, S, CaO, MnO, MgO, Na<sub>2</sub>O, TiO) was completed using CAE Studio software. Minor domains of limited extent and information were estimated using Inverse Distance.</p> <p>Waste material was estimated where enough quality data was present however the majority of waste material is assigned default grades.</p> <p>While the mineralisation tends to be planar in most cases, care was taken to ensure orientation changes were honoured by the sample search and estimation orientation regimes. Estimation parameter selection was guided by the results of mining reconciliation.</p> <p>No assumptions were made regarding recovery of by-products.</p> <p>A full suite of Iron Ore elements were estimated.</p> <p>Block sizes used are 25 mE, 6 mN and 8 mRL. The bulk of the drilling data is at a nominal 25 m x 25 m spacing at the western end of the deposit and increases to nominally 50 m x 50 m in the eastern end.</p> <p>No local estimation or SMU correction has been undertaken.</p> <p>Correlations between elements were considered and while co-kriging was not implemented, using similar estimation parameters for correlated elements allows some reproduction of correlations.</p> <p>All estimation was completed within mineralisation units using "hard" boundaries.</p> <p>In general, most element distributions did not have extreme outliers therefore minimal top-cutting was used. Where top-cutting occurred this was done prior to sample compositing.</p> <p>Validation was completed by checking the global averages of composites versus model from each domain, by creating trend plots of composites versus model from each domain and by visual validation of grade trends in the model to ensure they honoured the input data.</p>

<b>Moisture</b>	All tonnages have been estimated as dry tonnages.
<b>Cut-off parameters</b>	<p>The 50% Fe cut-off is determined by the combined grade-tonnage characteristics as the minimum iron grade and/or maximum contaminant grades which will allow production to maintain contract-specified qualities for Lump and Fines products as currently occurring at Koolan Island.</p> <p>A cut-off study was completed by Coffey International Ltd (mining consultants) supporting the choice of 50% Fe as the cut-off.</p>
<b>Mining factors or assumptions</b>	The mining factors assumed correlate directly to recent operations at Koolan Island.
<b>Metallurgical factors or assumptions</b>	The metallurgical factors assumed correlate directly to recent operations at Koolan Island.
<b>Environmental factors or assumptions</b>	Environmental factors are already considered as part of the recent mining operations at Koolan Island.
<b>Bulk density</b>	<p>Surtron down hole survey data has been used to measure densities on all deposits at Koolan Island.</p> <p>In all cases the Surtron data confirms the positive relationship between Fe and density.</p> <p>Regression formulas have been used to assign densities with respect to Fe estimates. In 2013, review of reconciliation information between production and the Mineral Resource estimate led to a review of bulk density. On this basis the regression was modified to reflect higher densities for the 2013 Mineral resource. This method was reviewed and continued for subsequent Mineral Resource estimations.</p>
<b>Classification</b>	<p>The basis for the classification of the Mineral Resource has included:</p> <ul style="list-style-type: none"> <li>a. Quality and reliability of raw data;</li> <li>b. Confidence in the geological interpretation;</li> <li>c. Number, spacing and orientation of intercepts in each mineralised zone;</li> <li>d. Confidence concerning the known limits of mining;</li> <li>e. Knowledge of grade and density continuities gained from observations and;</li> <li>f. Geostatistical analyses.</li> </ul>
	This information was used to code blocks meeting confidence criteria such as which estimation pass it was estimated in and the kriging variance of a block to define Measured, Indicated and Inferred material.
<b>Audits or reviews</b>	The Mineral Resource estimates are reviewed internally within MGX on a three levelled assessment structure. Periodic updates are completed when new information and understanding is required to be reflected in the Mineral Resource.
<b>Discussion of relative accuracy/confidence</b>	<p>The block model grade estimates were validated against the drill hole composites to ensure that the model reflects the input data. Monthly, quarterly and annual reconciliations are conducted, assessed and reported.</p> <p>The Koolan Island Mineral Resource models are provided as a basis for long term planning and mine design, and are not necessarily sufficient for shorter term planning and scheduling.</p>

## Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	The Mineral Resource Statement for Main deposit was updated in June 2016 prior to sign off for the 30 June 2016. This Mineral Resource statement was signed by Elizabeth Haren who was a full-time employee of, and is now a consultant to, Mount Gibson Iron Limited and an AusIMM member with sufficient relevant experience to qualify as a Competent Person. The Mineral Resource is inclusive of these Ore Reserves.
<b>Site visits</b>	Brett Morey, Technical Services Manager with Mount Gibson Iron worked at Koolan Island for four years from 2012 to 2015 and in the Corporate office since 2016.
<b>Study status</b>	<p>A detailed and practical mine plan was developed within the previously established Main Pit. The Main Pit was optimised using Whittle software.</p> <p>Conventional open pit mining is planned to continue as per previous operations using hydraulic excavators and dump trucks.</p> <p>Standard modifying factors used for open pit mining were applied.</p>
<b>Cut-off parameters</b>	<p>A cut-off grade of 50% Fe was used. This cut-off grade reflects current mining practice, blending, and product sales. A cut-off grade study was undertaken in 2014 which supports the use of the 50% cut off used in this statement.</p> <p>MGX uses the definition of marginal cut-off grade as follows: “material that would produce a more positive cash flow if processed than when treated as waste in the process of mining towards the defined pit limits. It applies to material that will be mined or stockpiled in the process of gaining access to economic material.”</p>
<b>Mining factors or assumptions</b>	<p>The 2017 Feasibility Study converted the Mineral Resource in Main pit deposit to an Ore Reserve.</p> <p>The deposit has been mined by conventional open pit mining methods, utilising industry standard practices of drilling, blasting, and load and haul using hydraulic backhoe excavators. The overburden waste has been removed by large size excavators with bulk mining method. Where required medium size excavators have been used for selective mining of ore.</p> <p>Known mining parameters from Main pit were used in the optimisation and pit design.</p> <p>These factors include slope stability, ore recovery, mining dilution, and minimum mining width.</p> <p>Modelling of mining dilution in three dimensions is by the digital application of a dilution skin around the ore in the Mineral Resource model.</p> <p>Metallurgical parameters are then added to the diluted model.</p> <p>The final diluted mining block model is used directly for pit optimisation and scheduling, without the further application of global factors.</p> <p>Ore Reserves are reported directly from the diluted mining block model, with consideration of grade, topography and pit design.</p> <p>Inferred Mineral Resources do not form part of the Ore Reserves.</p> <p>Mine infrastructure is well established following 9 years of mining operations.</p> <p>The physical width and therefore depth of Main Pit is constrained by the final hanging wall pit limit relative to the position of the seawall.</p> <p>Main pit has an overall strip ratio of 3.0:1 Waste: Ore</p>
<b>Metallurgical factors or assumptions</b>	<p>Ore from the main deposit is crushed and screened at the existing Koolan Island process plant.</p> <p>Metallurgical characteristics of Main Pit ore are known from seven years of recent actual production data, and 30 years of historical mining and crushing prior to 1993.</p>
<b>Environmental</b>	All statutory and regulatory approvals have been received for mining, occupational health and safety, environmental, and native title rights.
<b>Infrastructure</b>	Existing site infrastructure in place includes haul roads, pumping, crusher plant, stockpile areas, port, offices, workshop, warehouse, camp, water supply, airstrip, power generation, barge landing and associated



Criteria	Commentary
	facilities.
<b>Costs</b>	<p>All costs for mining, processing and shipping were derived from the operating mine and existing contracts. Where existing contracts are not in place, rates from pre seawall failure in 2014 were applied.</p> <p>Royalties currently paid to the State Government were included in cost modelling.</p> <p>Penalties and premiums currently applying to impurities levels in product sales to customers were included in cost modelling.</p>
<b>Revenue factors</b>	<p>Ore Reserves were calculated based on MGX FY2017 financial modelling.</p> <p>Financial assumptions used in cost modelling are as per reported for the Feasibility Study and include:</p> <ul style="list-style-type: none"> <li>• forecast consensus Pilbara FOB benchmark iron ore contract prices</li> <li>• impurity penalties</li> <li>• freight</li> <li>• currency exchange rates</li> <li>• royalties</li> </ul> <p>Lump yield and product quality are derived from the LOM schedule.</p>
<b>Market assessment</b>	<p>MGX has customer contracts in place for all of Koolan Island's production volume.</p> <p>Koolan Island product is a very high quality ore that is sought after by customers.</p> <p>Crushed and screened products were sold to these customers in previous years.</p>
<b>Economic</b>	<p>The LOM financial model has demonstrated that Main pit will generate significant NPV. The NPV is most sensitive to iron ore price and foreign exchange rate variation, but has the benefit of a high Fe grade of 66%, and average strip ratio of 3.0:1 Waste:Ore.</p>
<b>Social</b>	<p>The Koolan Island mine has operated continuously under Mount Gibson management since 2006. Mount Gibson enjoys a good relationship with the Traditional Owners and local community.</p>
<b>Other</b>	<p>Major risks identified are:</p> <p>Seawall. Independent experts were engaged throughout the design process to review the seawall design to mitigate the risk of seawall failure and flooding of Main Pit.</p> <p>Footwall. Extensive geotechnical studies have been carried out, with established factors of safety of the footwall and a ground support plan established.</p> <p>Water ingress from high rainfall events and cyclones is a short term risk. Strategies are in place to control this risk, including implementation of a high capacity pumping system.</p> <p>Iron ore price variation and foreign exchange rates.</p>
<b>Classification</b>	<p>In-pit Measured and Indicated Mineral Resources have been converted to Proved and Probable Ore Reserves.</p> <p>Ore Reserves do not include Inferred Mineral Resources.</p> <p>Mr Brett Morey is satisfied that the stated Probable Ore Reserves accurately reflect the outcome of mine planning and the input of economic parameters into optimisation studies.</p>
<b>Audits or reviews</b>	<p>The project parameters and outcomes have been internally reviewed and approved by MGX executive management.</p> <p>Periodic updates are completed when new information and understanding is required to be reflected in the Ore Reserve.</p>
<b>Discussion of relative accuracy/confidence</b>	<p>All parameters are well defined from the existing mining operation.</p> <p>Monthly, quarterly and annual reconciliations are conducted, assessed and reported. Historical reconciliation data indicates that the factors used to convert from Mineral Resource to Ore Reserve are robust.</p>