

**AL MAYNARD & ASSOCIATES Pty Ltd**  
**Consulting Geologists**

[www.geological.com.au](http://www.geological.com.au)

(ABN 75 120 492 435)

2A Marian Street,  
Leederville, WA, 6007  
Australia

Tel: (+618) 9388 1000  
[al@geological.com.au](mailto:al@geological.com.au)

Mob: 04 0304 9449

*Australian & International Exploration & Evaluation of Mineral Properties*

UPDATED  
INDEPENDENT GEOLOGIST's REPORT  
ON THE

CAPE LAMBERT IRON ASSETS  
WITH SPECIAL REFERENCE TO THE  
VALUATION OF AN UNDERLYING ROYALTY  
ON THE CAPE LAMBERT SOUTH PROJECT  
(R47/18)

held by

PHARLAP HOLDINGS

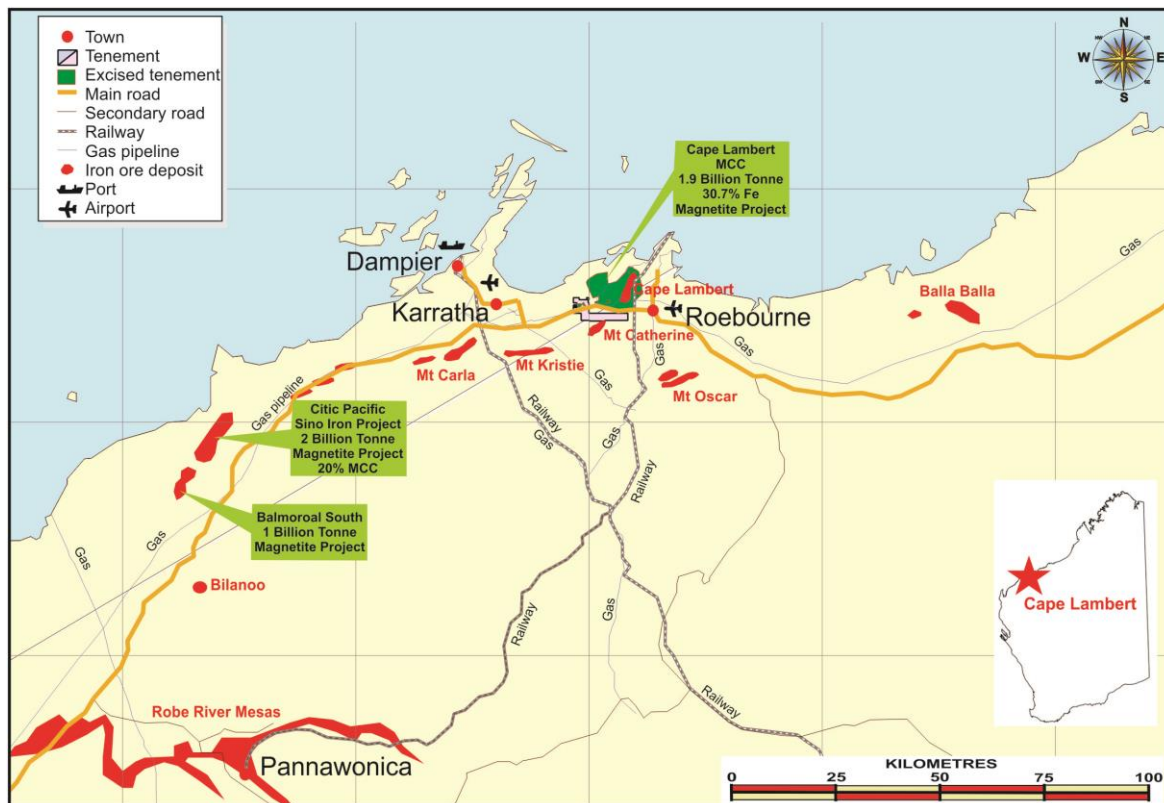
Author: A. J. Maynard BAppSc(Geol), MAIG, MAusIMM.

Company; Al Maynard & Associates Pty Ltd

Date: 27 April, 2023

## 1: EXECUTIVE SUMMARY

This Independent Geologist's Report has been prepared by Allen J. Maynard, principal of Al Maynard & Associates ("AM&A") at the request of SunMirror Luxembourg S.A. ("SunMirror") on the mineral assets contained within the Cape Lambert iron projects owned by MCC located approximately 20 km east of Karratha and 8 km west of Roebourne in Western Australia, Figure 1. This is an update of the previous report dated October 2022.



**Figure 1: Cape Lambert location.**

Pharlap Holdings have a royalty covering future mine production from the MCC Australia Sanjin Mining Pty Ltd (ASX-"MCC") Retention Licence R47/18, their Cape Lambert South Magnetite Project.

SunMirror are interested in acquiring undeveloped magnetite BIF deposits with the aim of quickly developing these deposits to enable the export of high-grade magnetite/Fe concentrates.

The tenement referred to herein is R47/18 covering a BIF unit within the Cleaverville Formation.

Exploration Targets are 4.8Mt of magnetite BIF at 30-35% Fe to produce a range from 1.0 – 1.2 Mt of concentrate at >65% Fe and a further 750,000 to 850,000 t of CID at 50-55% Fe.

MCC carried out a Pre-Feasibility Study (PFS) on the project in 2008 compliant with the reporting standards, costs and revenues at the time.

The results of the PFS indicated that the BIF ore at Cape Lambert can be mined using conventional open cut mining methods at a rate of 50 million tonnes BIF ore per year over a 30-year mine life from which a magnetite concentrate produced that after magnetic beneficiation is a high value marketable product.

The Pharlap Holdings Pte Ltd royalty on the MCC Cape Lambert Magnetite project is \$0.50/tonne of all minerals mined including magnetite BIF ore at a rate of up to 50 million tonnes/year.

The discounted value of this Pharlap Holdings Royalty over a projected 30-year project life is currently valued at A\$251 million within a range from \$233M to \$269M but assumes an immediate production start.

However, as production hasn't commenced, the discounted value of this Pharlap Holdings Royalty over a projected 30-year project life has been calculated using a variety of asset specific discount rates and production start-up dates (see summary section). On the basis of assuming an initial production date in 12.33 years time from now and using a project specific PNAV of 0.5x and a WACC of 10.55%, the royalty is currently valued today at AUD\$ 36.15 million.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Allen J. Maynard', with a stylized flourish at the end.

Allen J. Maynard

Al Maynard & Associates Pty Ltd

## TABLE of CONTENTS

<b>1:</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>2</b>
<b>2:</b>	<b>INTRODUCTION .....</b>	<b>6</b>
	SCOPE AND LIMITATIONS .....	6
	STATEMENT OF COMPETENCE AND INDEPENDENCE.....	7
<b>3:</b>	<b>TENURE, LOCATION AND ACCESS.....</b>	<b>8</b>
	RETENTION LICENCE (WA) .....	8
	MINING LEASE (WA).....	8
	ACCESS AND INFRASTRUCTURE.....	10
	PHYSIOGRAPHY AND CLIMATE.....	11
<b>4:</b>	<b>GEOLOGICAL SETTING.....</b>	<b>13</b>
	REGIONAL GEOLOGY.....	13
	LOCAL GEOLOGY.....	14
	<i>Mineralisation Styles .....</i>	<i>15</i>
<b>5:</b>	<b>EXPLORATION .....</b>	<b>17</b>
	DRILLING .....	17
	<i>Sampling .....</i>	<i>18</i>
	QAQC.....	19
<b>6:</b>	<b>MINERAL RESOURCE AND ORE RESERVE ESTIMATES .....</b>	<b>21</b>
	MCCAH PRE-FEASIBILITY STUDY .....	26
<b>7:</b>	<b>IRON ORE MARKET ANALYSIS .....</b>	<b>29</b>
<b>8:</b>	<b>RISKS .....</b>	<b>31</b>
<b>9:</b>	<b>PROJECT CONCLUSIONS .....</b>	<b>32</b>
<b>10:</b>	<b>REFERENCES.....</b>	<b>35</b>
<b>11:</b>	<b>JORC CODE, 2012 EDITION – TABLE 1 .....</b>	<b>36</b>
	SECTION 1 SAMPLING TECHNIQUES AND DATA .....	36
	SECTION 2 REPORTING OF EXPLORATION RESULTS.....	39
	SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES.....	41

## FIGURES

FIGURE 1:	CAPE LAMBERT LOCATION. ....	2
FIGURE 2:	CAPE LAMBERT MAGNETITE PROJECT TENEMENT LOCATION.....	12
FIGURE 3:	TECTONO-STRATIGRAPHIC DOMAINS OF THE WEST PILBARA GRANITE–GREENSTONE TERRANE. (AFTER HICKMAN AND STRONG, 2003 DAMPIER – BARROW ISLAND). ....	13
FIGURE 4:	CAPE LAMBERT PROJECT TENEMENT – LOCAL SURFACE GEOLOGY. ....	15
FIGURE 5:	BIF OUTCROP. (AFTER SRK, 2008). ....	15
FIGURE 6:	BIF RIDGES. (AFTER SRK, 2008).....	16
FIGURE 7:	AEROMAGNETICS OVER CAPE LAMBERT TENEMENT. (RED = HIGHLY MAGNETIC). ....	16
FIGURE 8:	GEOLOGICAL SECTION ON LOCAL GRID 12,400E. ....	18

FIGURE 9: GEOLOGICAL SECTION ON LOCAL GRID 13,200E. .... 18

FIGURE 10: FIELD DUPLICATE Fe% QAQC (GOLDER 2008). .... 19

FIGURE 11: LABORATORY CHECK Fe% QAQC (GOLDER 2008). .... 20

FIGURE 12: FIELD DUPLICATE Fe% CONCENTRATES QAQC (GOLDER 2008). .... 20

FIGURE 13: GENERAL RELATIONSHIP BETWEEN EXPLORATION RESULTS, MINERAL RESOURCES AND ORE RESERVES. .... 23

FIGURE 14: GOLDER'S RESOURCE CLASSIFICATIONS. (GREEN = INDICATED, BLUE = INFERRED). .... 25

FIGURE 15: 2008 PFS OPEN PIT DESIGN. .... 27

FIGURE 16: 2008 PFS PROCESSING FLOW SHEET. .... 28

FIGURE 17: IRON ORE PRICE AND CHINA STEEL PRODUCTION, MONTHLY ..... 30

TABLES

TABLE 1: SUMMARY TEMPERATURE AND RAINFALL STATISTICS FOR KARRATHA (1993-2019) ..... 11

TABLE 2: PILBARA STRATIGRAPHY. .... 13

TABLE 3: REGIONAL DEFORMATION EVENTS. .... 14

TABLE 4: CAPE LAMBERT IRON ORE PROJECT — DRILLING SUMMARY ..... 17

TABLE 5: EXPLORATION METHODS AND DATA QUALITY ASSURANCE. .... 17

TABLE 6: CAPE LAMBERT IRON ORE PROJECT — GOLDER ASSOCIATES ESTIMATED MINERAL RESOURCES, AS AT MARCH 2009. .... 26

TABLE 7: CAPE LAMBERT IRON ORE PROJECT DCF CALCULATIONS (ROYALTY) ..... 33

Dear Mr Quelin,

## **INDEPENDENT GEOLOGICAL REPORT ON THE CAPE LAMBERT IRON PROJECT.**

### **2: INTRODUCTION**

This Independent Geologist Report ("Report") has been prepared by Al Maynard & Associates ("AM&A") at the request of SunMirror Luxembourg S.A. ("SunMirror"), on the mineral assets contained within the Cape Lambert iron project owned by MCC located approximately 20 km east of Karratha and 8 km west of Roebourne in Western Australia. SunMirror are interested in acquiring undeveloped magnetite BIF deposits with the aim of quickly developing these deposits to enable the export of high-grade magnetite/Fe concentrates.

#### **Scope and Limitations**

This Report has been prepared in general accordance with the requirements of the JORC Code (2012) for reporting Exploration Results and Mineral Resources (the 'JORC Code') (An acceptable Internationally Recognised Mineral Standards approved by ESMA) as adopted by the Australian Institute of Geoscientists ('AIG') and the Australasian Institute of Mining and Metallurgy ('AusIMM').

This Report is valid as of 27<sup>th</sup> April 2023 which is the date of the latest review of the data and technical information.

The information presented in this Report is based on technical reports provided by Cape Lambert Resources supplemented by our own inquiries and assumptions on risk. At the request of AM&A, copies of relevant technical reports and agreements were readily available and relevant references are listed in 6.0 - References.

SunMirror will be invoiced and expected to pay a fee of AUD\$500 for the preparation of this updated Report. This fee comprises a normal, commercial daily rate plus expenses. Payment is not contingent on the results of this report. Except for these fees, neither the writer nor any associates have any interest, nor the rights to any interest in SunMirror nor the mineral assets reported upon.

No recent site visit was undertaken by the author since he has prior knowledge of the district from earlier work in the project area including site visits. The author has driven past the deposit several times during field trips in the Pilbara for other clients and is familiar with the geology of the project. The geology of the region is well studied and documented by many workers including the WA Geological Survey and previous workers on the project are considered to be very reliable.

During 2020 there were periods when travel restrictions in place due to Covid-19 that prevented site visits, especially at the time the original report was written. Phil Jones of AM&A was part of the team working on the project with MacKay and Schnellmann in 2005 and is very familiar with the deposit.


### **Statement of Competence and Independence**

This Report has been prepared by Allen J. Maynard BAppSc(Geol), MAIG (No. 2062), a geologist with over 40 continuous years in the industry and 35 years in mineral asset valuation. The writer holds the appropriate qualifications, experience and independence to qualify as an independent “Competent Person” under the definitions of the JORC Code.


AM&A will be paid professional fees by SunMirror Luxembourg S.A. (“SunMirror”) for the preparation of this report. The fees paid were not dependent in any way on the outcome of the technical assessment. AM&A is independent from SunMirror. No AM&A staff or specialists who contributed to this report have any interest or entitlement, direct or indirect, in the Company, the mining assets under review, or the outcome of this report.

The Cape Lambert South Magnetite Project located approximately 20 km east 8 km west of Roebourne, Figure 2, consists of one Retention Licence. The tenement straddles the Roebourne (SF50-03) and Dampier (SF50-02) 1:250,000 geological map sheets.

Tenement No.	Holder	Granted Date	End Date	Area (km <sup>2</sup> )	Status
R47/18	MCC Australia Sanjin Mining Pty Ltd	22/03/2019	21/03/2025	83.68	Granted



Government of Western Australia  
 Department of Mines, Industry Regulation and Safety



Home
 Tenement Register
 Online Transactions
 Enquiry ▾
 Admin ▾
 Help ▾

### Tenement Register

#### Register for Tenement R 47/18

Identifier: **R 47/18**

New Search
 Previous
 Next

Status: Live
 Area: 8,368.00000 HA
 Markout: 23/08/2017 16:24:24
 Term Granted: 3 Years (Renewed)
 Commence: 23/03/2019
 Expiry: 21/03/2025
 Death:

**Rent Status**  
 Due for Year End **21/03/2024**: PAID IN FULL  
 Rental for Year End **21/03/2023**: \$92,048.00

**Expenditure Status**  
 Expended Year End : NO EXPENDITURE REQUIRED  
 Current Year Commitment: NO EXPENDITURE REQUIRED

Application Tracking

Holders
 Description
 Relationships
 Survey
 General
 Shire
 Grant
 Conditions
 Dealings
 Payments
 Expenditure
 Combined Reporting
 Bond
 Map
 Native Title
 Warden's Court
 Documents

Current Holders
 Holder Changes
 Applicants On Receive

<b>Organisation</b>	MCC AUSTRALIA SANJIN MINING PTY LTD	100/100
<b>ACN</b>	136 966 482	<b>ABN</b> 25 136 966 482
<b>Principal Place of Business Details</b>		
<b>Address</b>	C/- AUSTRWIDE MINING TITLE MANAGEMENT PTY LTD, PO BOX 1436, WANGARA, WA, 6947	
<b>Email</b>	xxxxxxxxx@austrwidemining.com.au	
<b>Telephone</b>	xxxxxxxxxx400	
<b>Designated Tenement Contact (Correspondence Details)</b>		
<b>Name</b>	AUSTRWIDE MINING TITLE MANAGEMENT PTY LTD	
<b>Address</b>	C/- AUSTRWIDE MINING TITLE MANAGEMENT PTY LTD, PO BOX 1436, WANGARA, WA, 6947	
<b>Email</b>	xxxxxxxxx@austrwidemining.com.au	
<b>Telephone</b>	xxxxxxxxxx400	

The MCC Retention Licence is partly covered by an EL application (E47/4143) held by Cape Lambert Resources Ltd. Should R47/18 lapse, the area covered by the R and within the EL boundaries would revert to the owners of the granted EL.

The Retention licence covers sufficient area to accommodate all the required infrastructure, waste dumps and tailings storage once mining commences.

A Retention Licence (R) is a holding title for a mineral resource that has been identified but is not able to be further explored or mined. A Retention Licence may be granted in respect of the whole or any part of land within the boundaries of a primary tenement. An application fee and rental are payable.

The term of the R is for a period not exceeding five years and renewable for a period not exceeding five years (Rs have been granted for 3 years). There is no maximum area.

Before mining can commence the Retention Licence must be converted to a Mining Lease or for further exploration an appropriate tenement type, typically an Exploration Licence.

The following is a summary of what is required to apply for a Mining Lease:



- A Mining Lease has to be correctly marked out on the ground along with all the necessary papers and fees paid including application fee, rates and taxes.
- An application must be submitted to the Mines Department accompanied (within 14 days) by either a Mining Proposal with Mine Closure Plan; or a Mineralisation Report with supporting statement; or a Resource Report with supporting statement
- After granting, the boundaries must be surveyed by a licenced surveyor.

It shall be a condition of every mining lease that all holes, pits, trenches and other disturbances to the surface of the land made whilst mining which in the opinion of an environmental officer are likely to endanger the safety of any person or animal will be filled in or otherwise made safe to the satisfaction of the environmental officer.

Additional rent for mining lease producing iron ore is payable. A lessee shall pay rent calculated at the rate of 25 cents per tonne of all forms of iron ore obtained from the mining lease after the expiry of the period of 15 years from the day on which iron ore is or was first obtained from that mining lease by the lessee.

Under the WA Mining Act 1978 an application for a mining lease must be accompanied by either a mining proposal (or a statement and mineralisation report).

A mining proposal must be submitted on EARS (Environmental Assessment and Regulatory System) online. The mining proposal will be assessed by an environmental officer of Department of Mines, Industry Regulation and Safety (DMIRS), who will make recommendations to the Mineral Titles Branch.

DMIRS will refer a Mining Proposal to the EPA for the reasons outlined in the MOU between DMIRS and Environment Protection Authority (EPA). A Mining Proposal is of significant proposal under the Part IV of the Environment Protection Act or for the following criteria:

- Environmentally Sensitive Areas including:
  - Within 500m of World Heritage Property
  - Within 500m of a Bush Forever site
  - Within 500m of a Threatened Ecological Community
  - Within 500m of defined wetlands (including Ramsar wetlands, ANCA wetlands, Conservation category wetlands)
- Area containing rare flora Area covered by an Environmental Protection Policy.
- Within 500m of a declared/proposed State Conservation Estate, including National Park, Nature Reserve, Conservation Park, or State Forest and Timber Reserves.
- Within a Public Drinking Water Source Area.
- Within 2 kilometres of a declared occupied town site (for Mining Proposals and petroleum Environment Plans only).
- Hydraulic fracturing exploration and development activities.
- Activities within the Strategic Assessment for the Perth Peel Region and potentially in conflict with the outcomes of the Strategic Assessment.
- Area previously or currently subject to formal assessment by the EPA.

Other Government Departments that may need consulting or approval are as follows:

- Department of Water and Environment Regulation (administers the works approvals and licences (or registration) required for the construction and operation of all prescribed premises,
- Department of Parks and Wildlife (administering the Wildlife Conservation Act 1950 and the Conservation and Land Management Act 1984)
- Department of Water (now part of the DWERs (administering the Rights in Water and Irrigation Act 1914, Metropolitan Water Supply Sewerage and Drainage Act 1909, Country Areas Water Supply Act 1947, Waterways Conservation Act 1976, Water Agencies (Powers) Act 1984 and Water Services Act 2012).
- The Commonwealth Government under Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (operates independent of the State)
- Department of State Development (administers State Agreements)

Baseline environmental data is required for a Mining Proposal, it usually requires study through at least one spring-time period. Refer to:

- EPA Technical Guidance – Sampling of Short-Range Endemic Invertebrate Fauna (2016).
- EPA Technical Guidance – Subterranean Fauna Survey (2016).
- EPA Technical Guidance – Sampling methods for Subterranean Fauna Survey (2016).

The holder of a mining lease shall be required to expend in mining on or in connection with mining on the lease not less than AUD\$100 for each hectare or part thereof of the area of the lease with a minimum of AUD\$10,000 during each year of the term of the lease or in similar mining activity elsewhere in the district.

Reports for each Mining Lease shall be in the form of Form 5 and filed within 60 days after each anniversary date of the commencement of the term of the lease or within 60 days after the surrender, forfeiture, expiry or other cancellation of the lease.

### **Access and Infrastructure**

Access to the tenements is via the North West Coastal Highway which passes through the tenement.

Access to the BIFs is via a well-defined station track which joins the highway 30 km east of Karratha and 1km west of the Rio rail line.

Due to the low relief and nature of the soils the station tracks within the tenements are suitable for traffic in dry periods only.

The towns Roebourne and major mining centre at Karratha and major port of Dampier are all within 30 km of the Cape Lambert Project.

Karratha was established in 1968 to accommodate the processing and exportation workforce of the Hamersley Iron mining company and, in the 1980s, the petroleum and liquefied natural gas operations of the North West Shelf Venture. At June 2018, Karratha had an urban population of 16,708.

Karratha's economic base includes the iron ore operations of the Rio Tinto Group, sea-salt mining, ammonia export operations, North West Shelf Natural Gas Project, Australia's largest natural resource development, the newest Natural Gas Project called Pluto LNG which is situated adjacent to the existing North West Shelf LNG facility and Ammonia/Technical Ammonium Nitrate production facility of Yara International.

Karratha has the largest shopping centre in the Pilbara, Karratha City, which has major food and grocery retailers and department store chains. There is also a smaller centre, Karratha Village, which has health services including a pharmacy and medical and dental practices. The Karratha Health Campus provides hospital services to the district.

Karratha Airport has two passenger airlines servicing the city with regular schedules: Qantas and Virgin Australia. The airport also serves as the hub of the Pilbara's light-aircraft and helicopter services, enabling contractors to access offshore destinations and other parts of the region.

Karratha has a major light and heavy industrial area that provides industrial services to the whole Pilbara region. The WA Mines Department (DMIRS) have an office at Karratha to monitor local mine safety and environmental matters.

Grid power, potable water and telecommunications can be sourced from Karratha.

Physiography and Climate

The West Pilbara region is generally flat over extensive flood plains following the main creek systems with scattered outcrops forming low hills and ridges, corresponding to outcrops of metamorphosed volcanic and sedimentary rocks ('greenstones'). These plains are dominated by spinifex and scattered shrubs with larger trees and other grasses concentrated along the banks of rivers and creeks.

Karratha has a hot dry climate with an annual maximum averaging 32.4°C and the annual minimum averaging 20.8°C. The annual precipitation averages 292 mm falling mainly during the occasional tropical storms between December and March.

Table 1: Summary temperature and rainfall statistics for Karratha (1993-2019)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Temperature</b>													
Mean max temp (°C)	35.9	35.8	36.2	34.4	30	26.5	26.3	28.3	30.9	34.1	35	35.8	32.4
Mean min temp (°C)	26.8	26.7	25.9	22.8	18.3	15.1	13.8	14.3	17	20.8	23.1	25.6	20.8
<b>Rainfall</b>													
Mean rainfall (mm)	47.7	75.4	47.3	17.3	27.7	36	14	4.1	1.3	0.4	1.4	13.6	296.7

Mean number of days of rain ≥ 1 mm	3.3	4.2	3	1.3	2.2	2.1	1.3	0.6	0.3	0.1	0.2	1	19.6
--	-----	-----	---	-----	-----	-----	-----	-----	-----	-----	-----	---	------

Source: Australian Bureau of Meteorology.

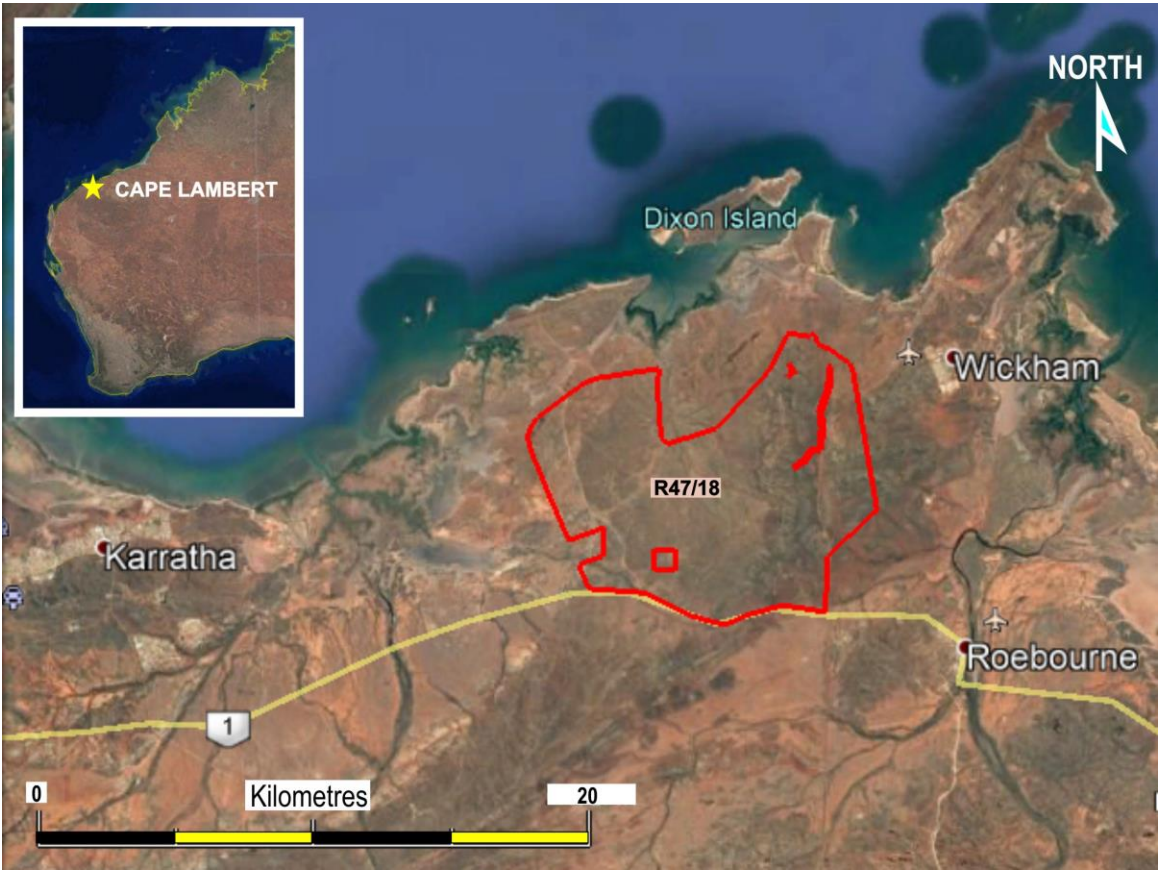
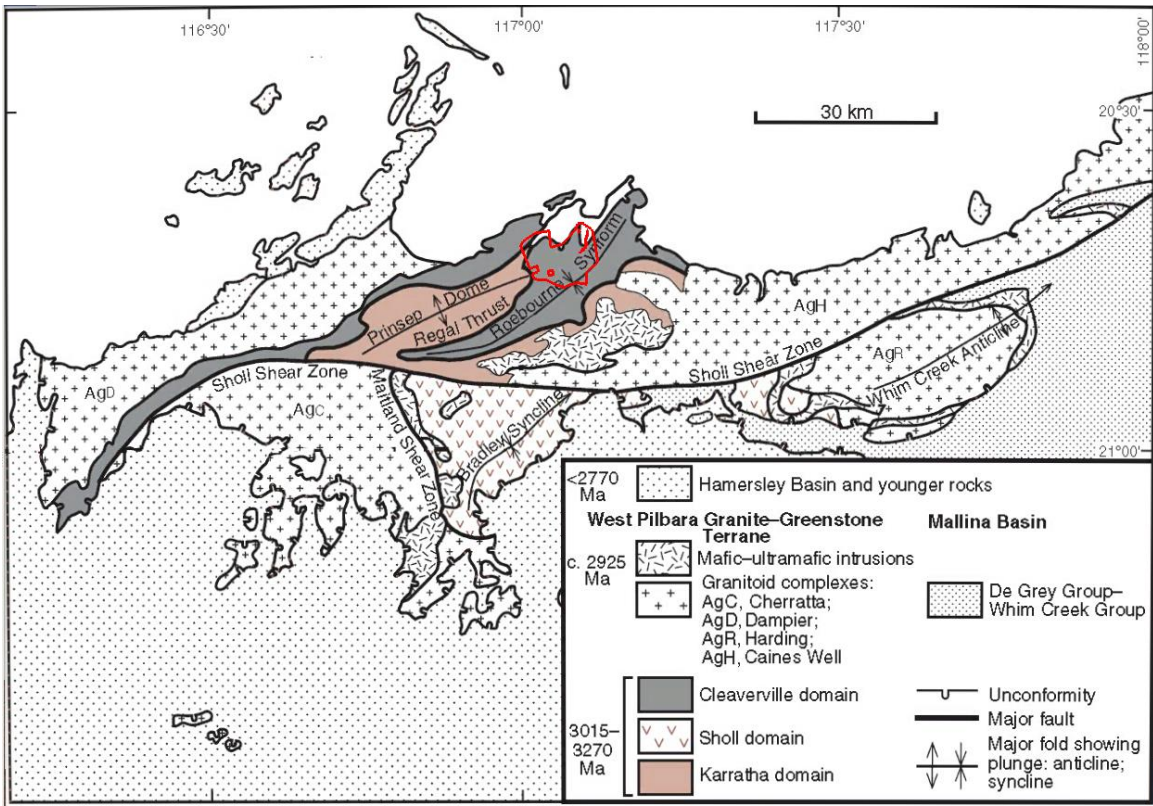


Figure 2: Cape Lambert Magnetite Project tenement location.

4: GEOLOGICAL SETTING

Regional Geology



**Figure 3: Tectono-stratigraphic domains of the West Pilbara Granite–Greenstone Terrane. (after Hickman and Strong, 2003 Dampier – Barrow Island).**

The Cape Lambert project is located within the West Pilbara Super Terrane which comprises the Roebourne, Wundoo and George Creek Groups as detailed below in Table 2.

**Table 2: Pilbara stratigraphy.**

Group	Formation	Lithology
George Creek Gp	Cleaverville Fm	BIF ~3.02 GA
	<i>Low angled unconformity</i>	
Wundoo Gp	Woodbrook Fm	Rhyolite, tuff, minor basalt and thin BIF
	Bradley Basalt	pillow, massive basalt with minor felsic tuff and chert
	Tozer Fm	Calc-alk volc, Minor chert and thin BIF
	Nallana Fm	Dominantly Basalt, ~3.13 Ga
	<i>Scholl Shear Zone</i>	
	Regal Fm	Basal peridotitic komatiite overlain by pillow basalt
	<i>Regal Thrust</i>	
Roebourne Gp	Nickol River Fm	BIF, clastics, felsic volcanic
	Ruth Well Fm	Basalt & extrusive peridotite. ~3.27Ga

The greenstone lithostratigraphy of Dampier comprises the 3,270–3,250 Ma Roebourne Group, the 3,125–3,115 Ma Whundo Group, and the c. 3,020 Ma Cleaverville Formation (Hickman and Strong, 2003). This succession was folded, faulted, and intruded by granitoids during a sequence of magmatic and tectonic events between 3,270 and 2,920 Ma. The first major tectonic event was at about 3,160 Ma when the upper part of the Roebourne Group



was thrust southwards across the lower part over an area of at least 1,750 km<sup>2</sup>. Subsequent deformation included development of the Sholl Shear Zone, a major crustal dislocation with a long history of strike-slip and vertical movement, and regional upright folding at 2,950–2,930 Ma. A total of nine deformation events are recognized prior to earliest deposition of the Fortescue Group at c. 2,770 – 2,760 Ma.

The Cleaverville Formation, which hosts the Cape Lambert magnetite BIFs, comprises some 1500m of banded iron formation BIF, chert, and fine grained clastic rocks lying unconformably on the Wundoo formation volcanics. The Wundoo Group of rocks unconformably overlies the Regal Formation composed of some 2000m of basal peridotites, pillow basalts and cherts.

The basal rocks of the Regal Formation are intruded by the Karratha Granodiorite. The basal contact to the Nickel River Formation of the Roebourne Group is tectonised along the Regal thrust. The Roebourne Group is composed of BIF, sediments, felsic volcanics overlying ultramafic and mafic extrusives.

The area is dominated by north-easterly trending structures formed by successive periods of northwest-southeast to north-south extension and compression. A total of 9 deformation events have been recognized within the area as detailed in Table 3.

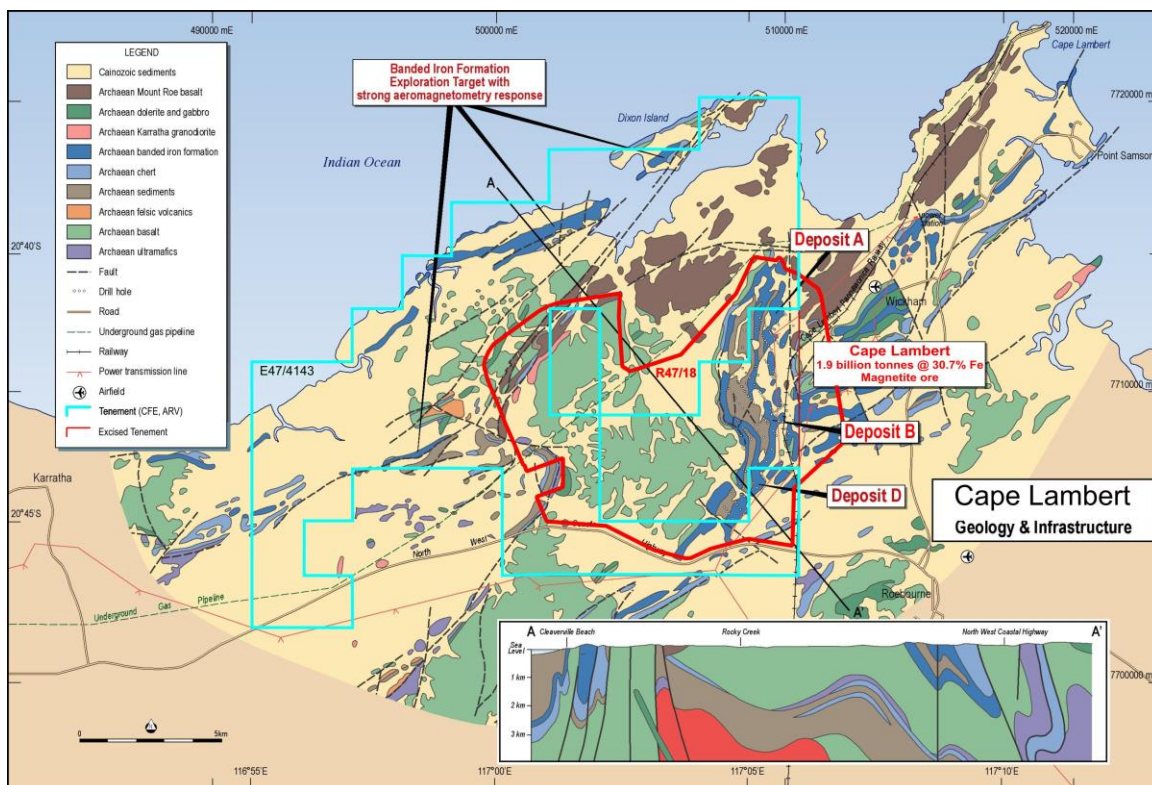
**Table 3: Regional Deformation Events.**

Age (Ma)	Geological Event
3160-3090	D1: Thrusting, recumbent folding and granite intrusion. Deposition of the Whundo Group in a rifted zone. Sinistral movement along the Sholl Shear Zone.
3070-3020	D2: Culmination of sinistral strike-slip movement along the Sholl Shear Zone; transpressional folding and felsic magmatism.
3015-3010	D3: Strike-slip movement, felsic magmatism and transpressional folding of the Cleaverville Formation.
2975-2955	D4 & D5: Recognised in rocks of the Mallina Basin (south of license area). Involved local thrusting and east-west folding, and north-south folding respectively.
2950-2930	D6: Transpressional, northeasterly trending tight to open folding and commencement of dextral movement along Sholl Shear Zone and other easterly and northeasterly striking faults.
2940	D7: Characterised by northerly to northwesterly striking strike-slip faults
2920	D8: Culmination of dextral strike-slip movement along the Sholl Shear Zone and other easterly and northeasterly striking faults.
<2920	D9: Conjugate faulting produced by north-northwest-south-southeast compression.

(Modified after Hickman, 2002)

**Local Geology**

The south-eastern portion of the Cape Lambert South tenements is dominated by three discontinuously outcropping strike ridges of BIF and chert of the Cleaverville Formation located within the Roebourne Synform, see Figure 4.



**Figure 4: Cape Lambert Project tenement – Local surface geology.**

## Mineralisation Styles

### *Magnetite BIF*



**Figure 5: BIF outcrop. (after SRK, 2008).**

The target mineralisation, as a potential source of high-grade Fe concentrates, is magnetite BIF. Magnetite BIF, as suggested by its name, is composed of alternating bands of generally millimetre to centimetre scale bands of magnetite and chert. These units, because of their relative hardness and resistance to weathering, generally form linear ridges proud of the surrounding countryside.



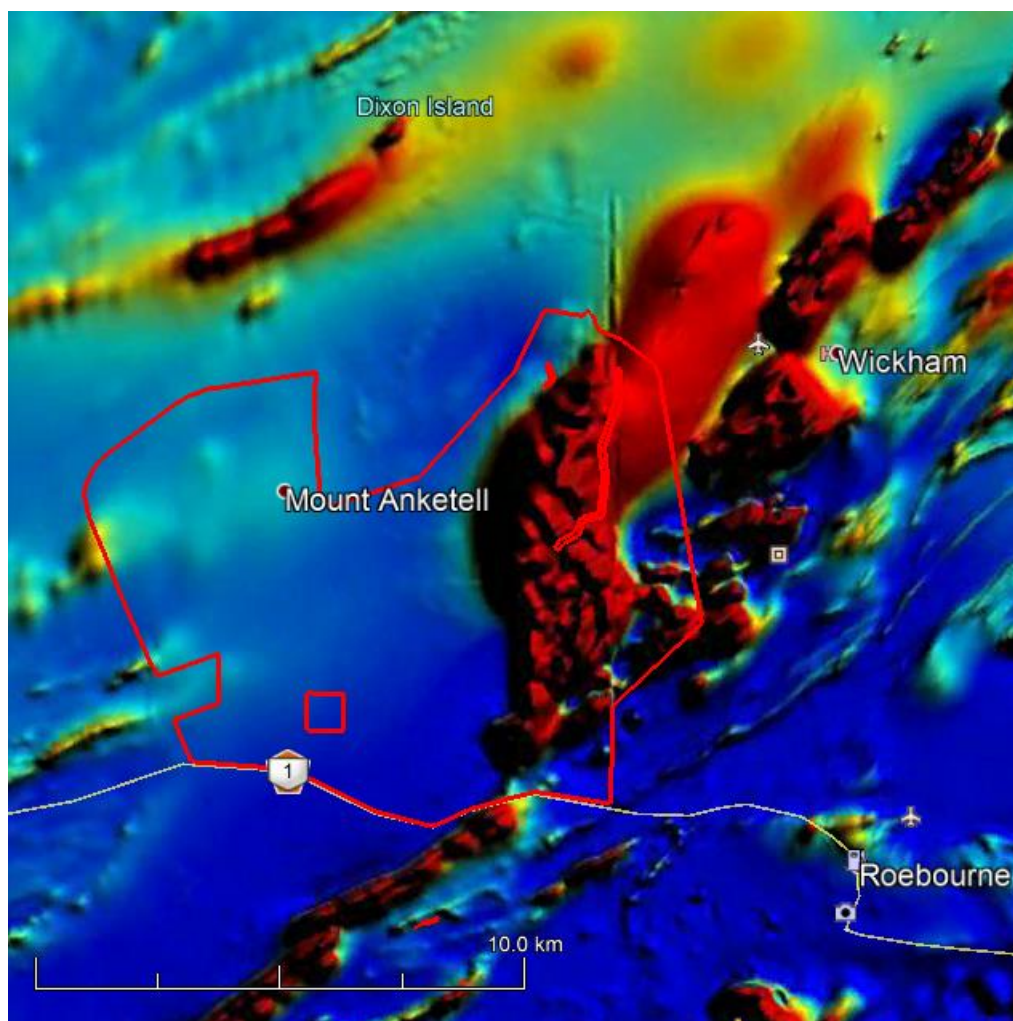


**Figure 6: BIF ridges. (after SRK, 2008).**

Chemical weathering near the surface usually oxidises the magnetite ( $\text{Fe}_3\text{O}_4$ ) to hematite ( $\text{Fe}_2\text{O}_3$ ) then with further weathering to limonite/goethite ( $\text{FeO}(\text{OH}) \cdot n\text{H}_2\text{O}$ ). This oxidation both lowers the Fe grade and the resultant minerals are non-magnetic.

BIF composed of Fe minerals other than magnetite such as hematite, limonite and grunerite are almost always of no commercial value since it is very expensive to metallurgically recover these Fe minerals from the rock. Magnetite is generally easily and relatively cheaply recovered from the rock by grinding and magnetic separation.

Magnetite BIF is usually easily distinguished regionally, even if buried by more recent sediments, by aeromagnetics, by Figure 7.



**Figure 7: Aeromagnetics over Cape Lambert tenement. (red = highly magnetic).**



## 5: EXPLORATION

### Drilling

A total of 377 resource drill holes (83,957m) were completed between 1994 and 2008. The majority of holes were used the reverse circulation (RC) drilling method. A total of 31 holes were core drilled, with RC pre-collars.

The drilling summary is shown in Table 4.

**Table 4: Cape Lambert Iron Ore Project — Drilling Summary**

Stage	Holes	Metres	Spacing
1994-1995 Robe Drilling	186	22,505	200m - 120m
2006-2007 Cape Lambert	166	52,849	Variable
2008 MCCAHA	25	8,608	Variable
<b>Total</b>	<b>377</b>	<b>83,960</b>	

Source: Golder 2009

Drilling samples were combined into either 2m or 4m composite samples and analysed for a range of elements using XRF. In addition, samples determined to be within the resource envelope were also analysed using the Davis Tube Recovery (DTR) method. This is a laboratory scale method for determining the grade and recovery volume of magnetic separation products. This was expected to provide an indication of beneficiation performance throughout the resource. The DTR grades and recovery were both estimated by Golder in the 2009 Mineral Resource estimate. Cape Lambert Iron Ore Pty Ltd (CLIO) and MCC Australia Sanjin Mining Pty Ltd (MCCAHA) used the ALS laboratory in Perth for head and DTR analyses.

Exploration methods and data quality assurance is summarised in Table 5.

**Table 5: Exploration Methods and data quality assurance.**

Exploration Methods	Details of activities	Comments
Drilling	346 RC and 31 precollared core holes	Total 83,960m drilling
Sampling	Samples were taken at 2m or 4m in RC drilling and from 1m to 12m in core drilling.	Approx. 23,600 samples were prepared for geochemical analysis.
Geochemical analysis	Elemental analyses were conducted for Fe, Fe++, Al <sub>2</sub> O <sub>3</sub> , MgO, TiO <sub>2</sub> , SiO <sub>2</sub> , S, P, CaO, K <sub>2</sub> O, Na <sub>2</sub> O, LOI	XRF technique by ALS Laboratories in Perth, WA.
Beneficiation analysis (DTR)	Concentrate grades and LTR were prepared Fe, Fe++, Al <sub>2</sub> O <sub>3</sub> , MgO, TiO <sub>2</sub> , SiO <sub>2</sub> , S, P, CaO, K <sub>2</sub> O, Na <sub>2</sub> O, LOI	Samples with Fe>10% were routinely analysed using DTR
Duplicates and assay checks	Duplicates of every tenth sample were verified by other Laboratories.	All work originally carried out included extensive QAQC and indicated no problems with precision or accuracy.
Specific Gravity analysis	In mineralized zones, 132 density determinations carried out on drill core.	Average specific gravity (Ore Density) was determined as 3.35 t/m <sup>3</sup>

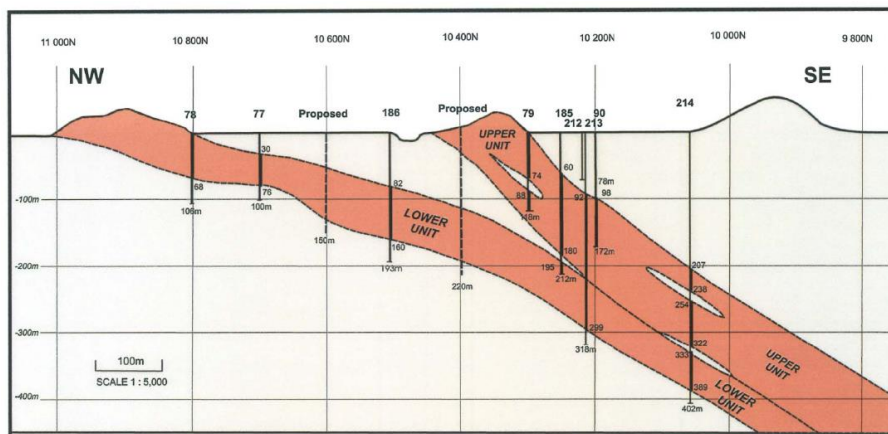


Figure 8: Geological Section on Local Grid 12,400E.

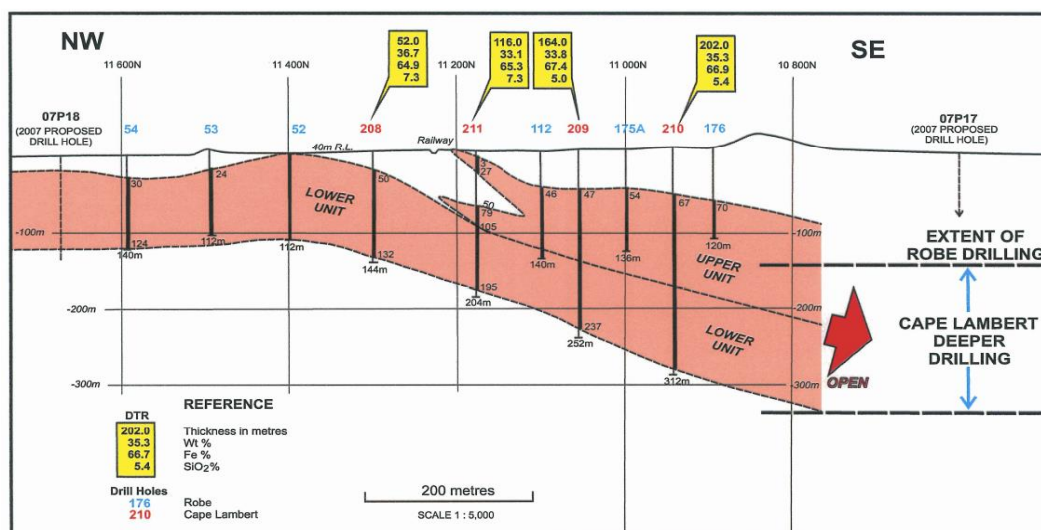


Figure 9: Geological Section on Local Grid 13,200E.

## Sampling

### Robe Drilling Campaign

Sampling in the Robe drilling campaigns consisted of composites to 2 metre intervals. Samples taken during the 1994 campaign were passed through a cyclone, while those in the 1995 campaign were passed through a cyclone and a riffle splitter. Wet samples were passed through a wet splitter and then drained.

Diamond core was sampled on 2 metre intervals, with half core being sent for analysis. Samples for DTR test work were composited over large intervals that varied in length from 10 meters up to 50 meters.

### CLIO Drilling Campaign

Samples taken for the CLIO drilling campaign were passed through a cyclone and a riffle splitter. Wet samples were collected in calico bags and placed in rigid buckets, which were progressively drained. The remaining material was then spear sampled. Samples were taken every metre and then composited to 4 m intervals.

All samples were tested for magnetic susceptibility response; those with a weak response were sent for XRF analysis only, while those with a strong response were sent for full Davis Tube Recovery (DTR) analysis.

No diamond drilling was undertaken by CLIO during the 2006 campaign. A 10,000 m diamond drilling campaign commenced late June 2007 to provide metallurgical, physical and geotechnical data, as well as enhancing the stratigraphic, structural and mineralogical understanding of the resource. The core used in the resource modelling was split along the long core axis by diamond saw and half the core in 4 m intervals despatched for chemical analysis.

*MCCAH Drilling Campaign*

MCCAH followed the sampling procedures used by CLIO.

*QAQC*

Golders undertook a QAQC review of the 2006 to 2007 drill program. The QAQC data reviewed included field and laboratory duplicates, laboratory repeats, standards, and duplicates and repeats sent to an umpire laboratory. Selected plots are provided as Figure 10 to Figure 12.

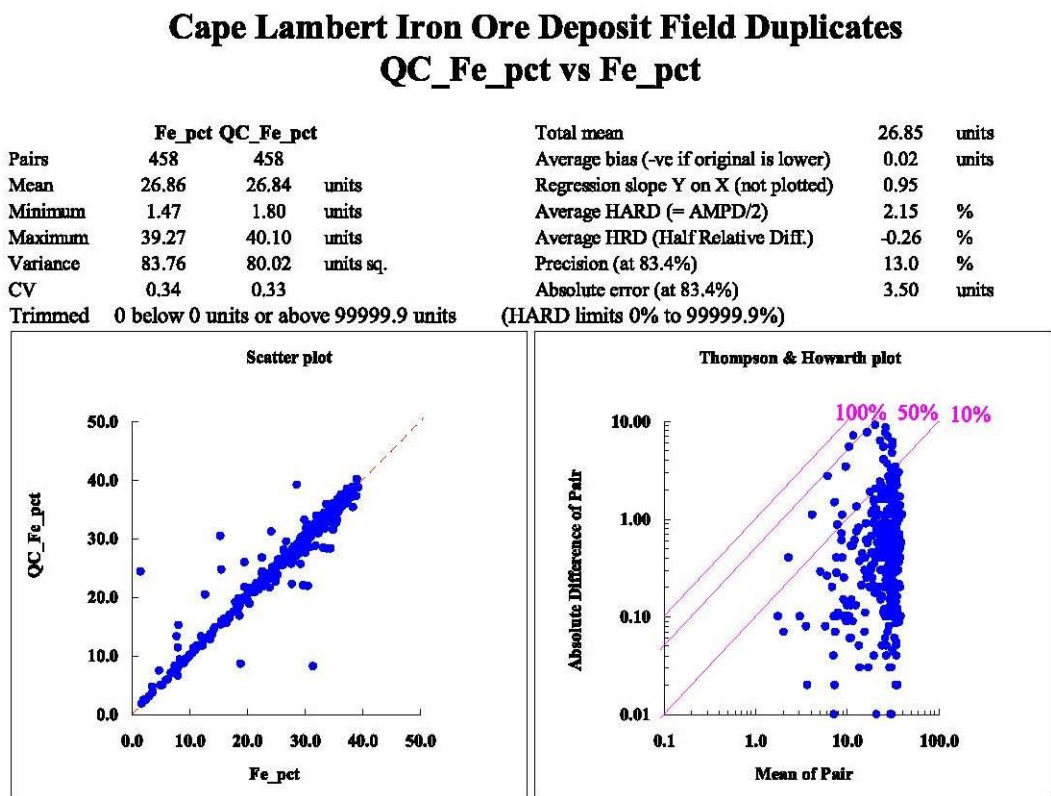


Figure 10: Field duplicate Fe% QAQC (Golder 2008).

## Cape Lambert Iron Ore Deposit Labchk\_DTR

### QC\_Fe\_pct vs Fe\_pct

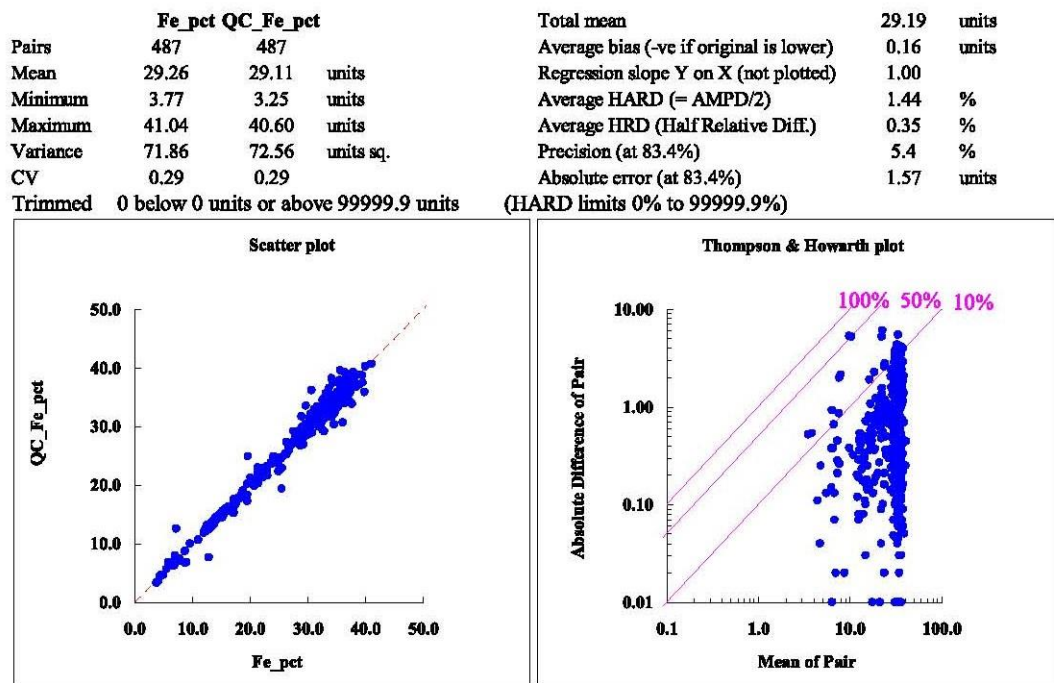


Figure 11: Laboratory check Fe% QAQC (Golder 2008).

## Cape Lambert Iron Ore Deposit Field Duplicates

### QC\_Conc\_Fe\_pct vs Conc\_Fe\_pct

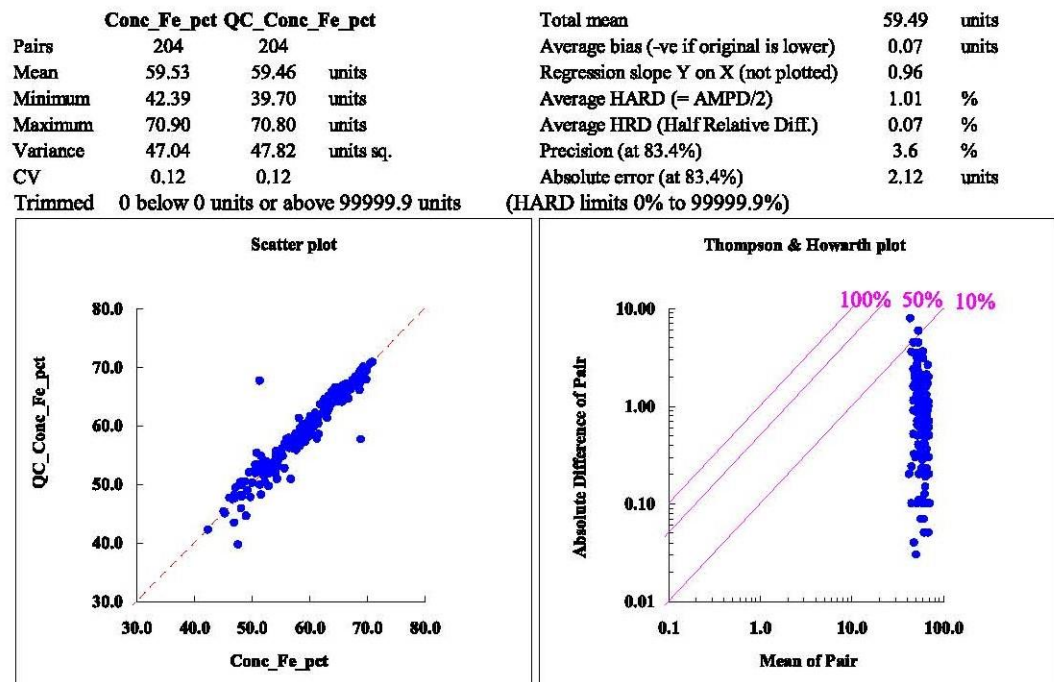


Figure 12: Field duplicate Fe% concentrates QAQC (Golder 2008).

QAQC comments by Golders are summarised below:

- The field duplicates generally show a reasonably good correlation except for two possible sample swaps, sample MA315 092-096 and sample MA411 132-136.
- The sample laboratory repeats generally show better precision than the field duplicates; except again a few possible sample swaps.
- The laboratory pulp repeats show excellent precision for all samples except one.
- The sample repeats sent to the umpire laboratory show a very good correlation, however a couple of sample swaps also appear to have occurred.
- The pulp repeats sent to the umpire laboratory show excellent precision.
- The standards generally show very good accuracy with variations from the expected values mostly less than 2%.

In summary, Golders found that the QAQC results are generally very good in terms of overall accuracy and precision. The main problem appears to be occasional sample swaps.

## 6: MINERAL RESOURCE AND ORE RESERVE ESTIMATES

This report, including the resource estimates, complies with the 2012 edition of the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the 'JORC Code (2012)'). Key definitions of this code are as follows:

*A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.*

*An '**Inferred Mineral Resource**' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.*

*An '**Indicated Mineral Resource**' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.*



*Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.*

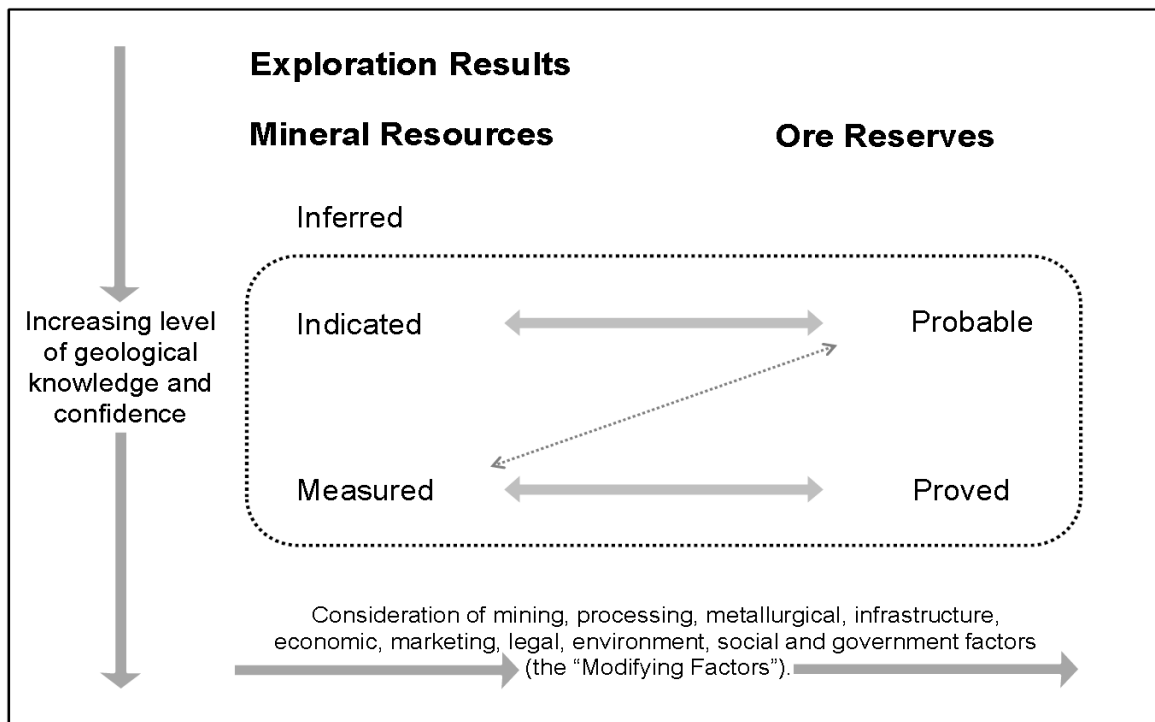
*A **'Measured Mineral Resource'** is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.*

*An **'Ore Reserve'** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Reserves are defined is usually the point where the ore is delivered to the processing plant.*

***'Modifying Factors'** are considerations used to convert Mineral Resources to Ore Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.*

*A **'Probable Ore Reserve'** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.*

*A **'Proved Ore Reserve'** is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.*



**Figure 13: General relationship between Exploration Results, Mineral Resources and Ore Reserves.**

The latest resource estimate was prepared in March 2009 by the international consulting group Golder Associates (Golder) of Perth under the then current JORC Code (2004). The methodology applied to the resource estimate by Golder is generally appropriate and correct for this style of mineralisation. The original drilling and other exploration data has been reviewed by AM&A and compared with the sample collection, subsampling, assaying, sampling and assaying quality control, bulk density, data collection and verification, resource modelling and resource classification applied by Golder has been reviewed by AM&A against the recommendations of the current JORC Code (2012) and the Golder's resource estimate and resource classifications appear reasonable and would conform with current JORC Code (2012).

There has not been any further drilling or other exploration work carried out since this resource estimate report that would affect the Golder resource estimate, resource classifications and conclusions.

Due to the early-stage nature of the project, Ore Reserves cannot be quoted. The results of preliminary mining studies indicate that the BIF ore can be mined from which a magnetite concentrate produced that after magnetic beneficiation is a high value marketable product. All mining studies to date have included Inferred Mineral Resources which will be excluded from any future stated Ore Reserves until they have been upgraded to Indicated by further in-fill drilling.

Drill hole data and resource interpretations were provided to Golder by MCCA. Golder validated the drill hole database and analysed the QAQC results. Golder determined that the QAQC results were very good, although a number of sample swaps were noted.

The resource interpretations were checked and adjusted by Golder then used to prepare wireframes within which the mineralised zones were defined. Vulcan software was used for geological modelling. Golder then composited the samples within the wireframes to even 4 m intervals then carried out exploratory data analysis and spatial data analysis to identify characteristics and grade trends within the mineralised zones. Golder used its own proprietary statistical software for spatial analysis of the data (variography) which showed relatively low nugget variance and long ranges of continuity for Fe as would be expected with BIF style mineralisation.

Golder separated the deposit in to three main domains (north, central, south) for variography and analysis. The domains were based solely on Fe grade using a 20% Fe threshold to define resource outlines. The characteristics of each domain were found to be similar with orientation and geometry being the main differences.

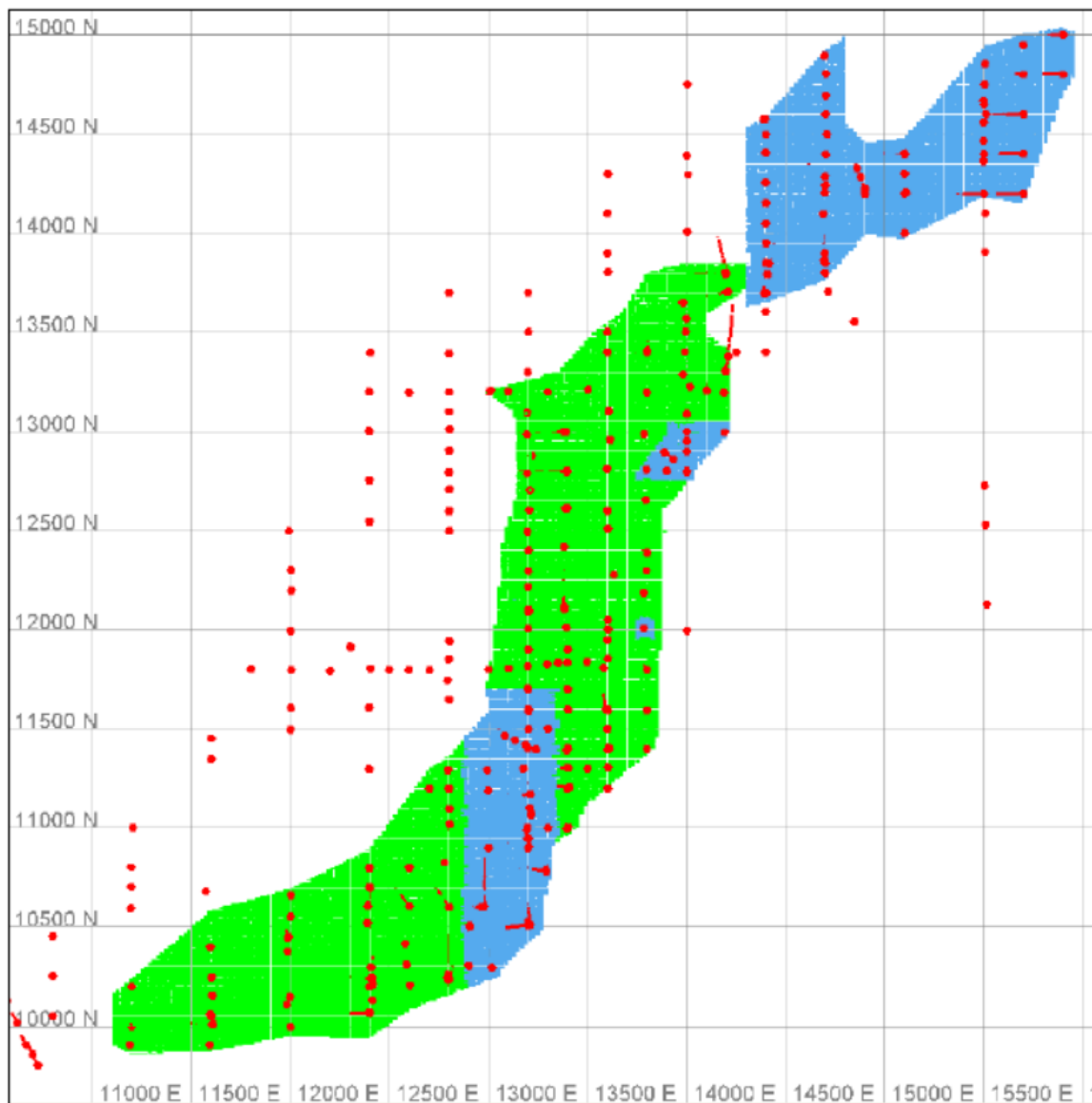
The different orientations were incorporated into the grade estimation utilising Ordinary Kriging. AM&A has reviewed this estimate and compared it against the underlying drill data and considers the estimate to be a good representation of the mineralisation and grade within the Southern and Northern Zones. Interpolation directions for the Central Zone are not optimal and will have caused incorrect grade assignment on a local basis however the overall global estimate is unlikely to be materially affected.

Density determinations were carried out on drill core. A total of 132 values were available from the mineralised zones. An average value of 3.35t/m<sup>3</sup> was derived from the data. AM&A considers this reasonable at scoping level however the data is inadequate for a BFS level evaluation. The total estimated Mineral Resource reported in the 2009 estimate by Golder was 1.91Bt at 30.7% Fe (20% Fe cut-off).

The resource classifications by Golder were based principally on data density, data quality and geological confidence criteria. Considering that the drill spacing was on approximately 200 m spaced sections with drill holes at 100 m centres on each section, the resources were classified as Indicated with the geological complex zones and areas with wider spaced holes as Inferred.

The classification approach for the resource was both quantitative and qualitative. Initially, the kriging slope of regression for Fe was assessed, with areas with a Fe-slope >0.5 considered for classification as Indicated Resources. Small less continuous mineralised zones, areas of broadly spaced drilling and geologically complex zones, were then assessed and considered for classification as Inferred Resources.





**Figure 14: Golders resource classifications. (green = Indicated, blue = Inferred).**

AM&A has reported the Resource in compliance with the recommendations in the Australasian Code for Reporting of Mineral Resources and Ore Reserves (2012) by the Joint Ore Reserves Committee (JORC). The Golder estimate verified by AM&A of Mineral Resources at the Cape Lambert Iron Ore project at June 2009 is summarised in Table 6.

. Resource classifications defined by Golder have been retained. Due to the good distribution of drilling and very regular Fe grade distribution, AM&A considers the reported classifications to be appropriate.

**Table 6: Cape Lambert Iron Ore Project — Golder Associates Estimated Mineral Resources, as at March 2009.**

JORC Classification	Head Grade Estimate (20% Fe Cut off Grade)											
	Tonnes	Fe	Fe++	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>	LOI	CaO	K <sub>2</sub> O	MgO	S	TiO <sub>2</sub>
	Mt	%	%	%	%	%	%	%	%	%	%	%
Measured . . . . .												
Indicated . . . . .	1,434	30.7	16.0	40.4	2.32	0.03	7.22	2.66	0.19	2.61	0.14	0.17
Inferred . . . . .	481	30.5	16.0	41.1	2.81	0.03	5.44	3.09	0.28	2.67	0.19	0.20
Total . . . . .	<u>1,915</u>	<u>30.7</u>	<u>16.0</u>	<u>40.6</u>	<u>2.44</u>	<u>0.03</u>	<u>6.78</u>	<u>2.77</u>	<u>0.21</u>	<u>2.63</u>	<u>0.15</u>	<u>0.17</u>

Source: Golder 2009 Resource Report.  
Mineral Resources shown above include reserves.

JORC Classification	Concentrate Grade Estimate (20% Fe Cut-off Grade)											
	DTR	Fe	Fe++	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>	LOI	CaO	K <sub>2</sub> O	MgO	S	TiO <sub>2</sub>
	Rec%	%	%	%	%	%	%	%	%	%	%	%
Measured . . . . .												
Indicated . . . . .	31.7	61.7	22.0	10.2	0.62	0.01	−.77	0.72	0.05	1.00	0.11	0.08
Inferred . . . . .	<u>32.2</u>	<u>62.0</u>	<u>22.7</u>	<u>10.4</u>	<u>0.63</u>	<u>0.01</u>	<u>−1.3</u>	<u>0.67</u>	<u>0.05</u>	<u>0.89</u>	<u>0.26</u>	<u>0.09</u>
Total . . . . .	<u>31.8</u>	<u>61.8</u>	<u>22.1</u>	<u>10.3</u>	<u>0.62</u>	<u>0.01</u>	<u>−0.9</u>	<u>0.71</u>	<u>0.05</u>	<u>0.97</u>	<u>0.15</u>	<u>0.08</u>

It is usual that Inferred Resources are upgraded to at least the Indicated category before mining commences by infilling the existing holes to form a closer spaced grid. AM&A estimate that approximately 55 holes are required to upgrade the Inferred resources to Indicated for approximately 3,000 m taking approximately 20 days at a cost of approximately AUD\$450,000.

For drilling, the consent of the WA Mines Department in Perth needs to be obtained. The respective application would be made by the owner of the tenement MCC who would also manage the timing, drilling and costs.

**MCCAH Pre-Feasibility Study**

MCCAH carried out a Pre-Feasibility Study (PFS) on the project in 2008 compliant with the reporting standards, costs and revenues at the time that demonstrated that the BIF ore can be mined and a magnetite concentrate produced that after beneficiation is a high value marketable product. A concentrate price of AUD\$100/tonne was assumed and costs appropriate at 2008. The current magnetite concentrate price is at record highs in the order of AUD\$225.

This PFS considered all the relevant factors that could affect the viability of the project including mining, processing, metallurgical, infrastructure, environmental, community impact, geotechnical, hydrological and geotechnical engineering issues as well as economic, marketing, legal and government factors resulting in a positive outcome.

The 2008 PFS was based on a conventional open cut mine (Figure 15) with the mined BIF undergoing simple magnetic beneficiation to produce a high-grade magnetite concentrate for sale (Figure 16).

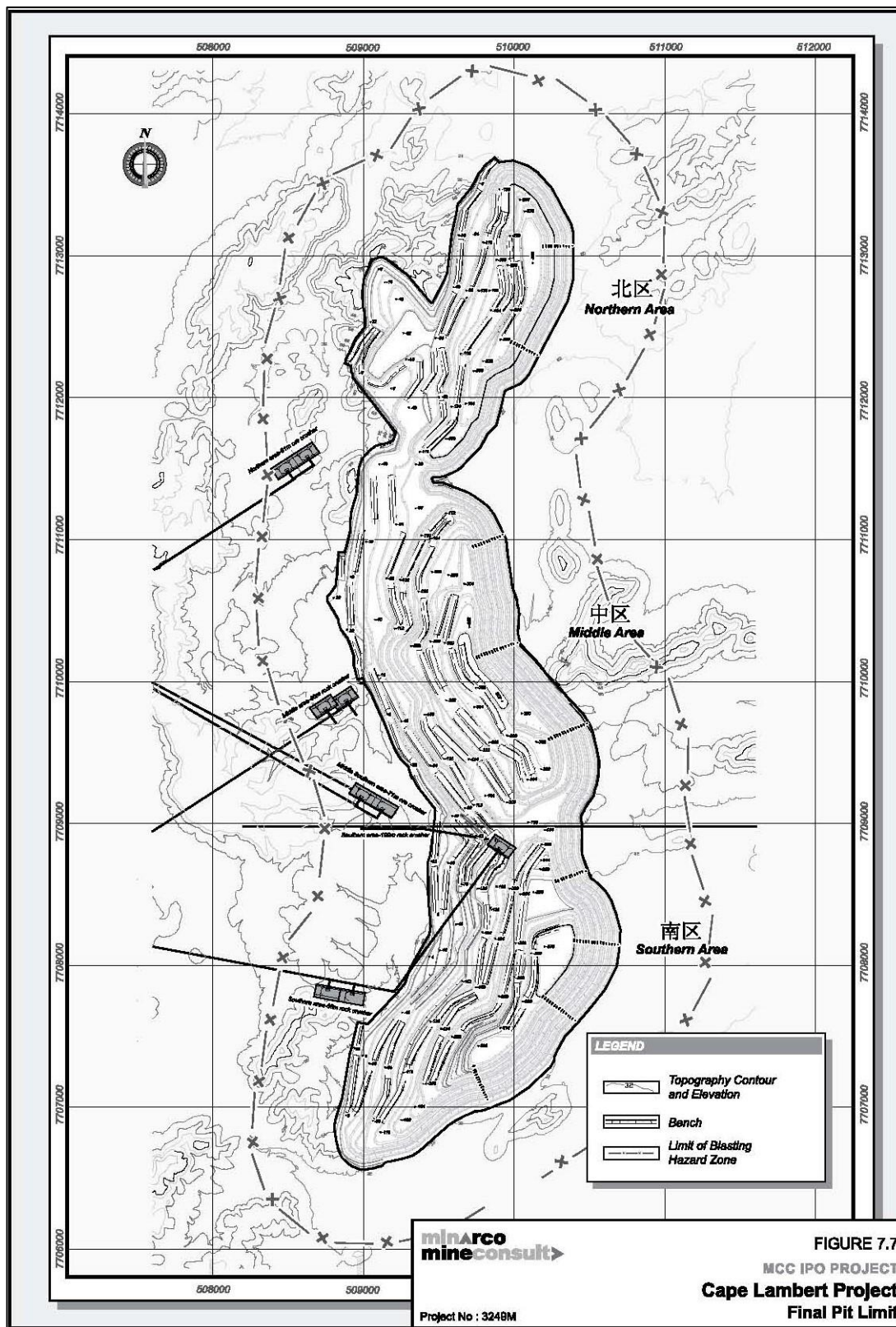
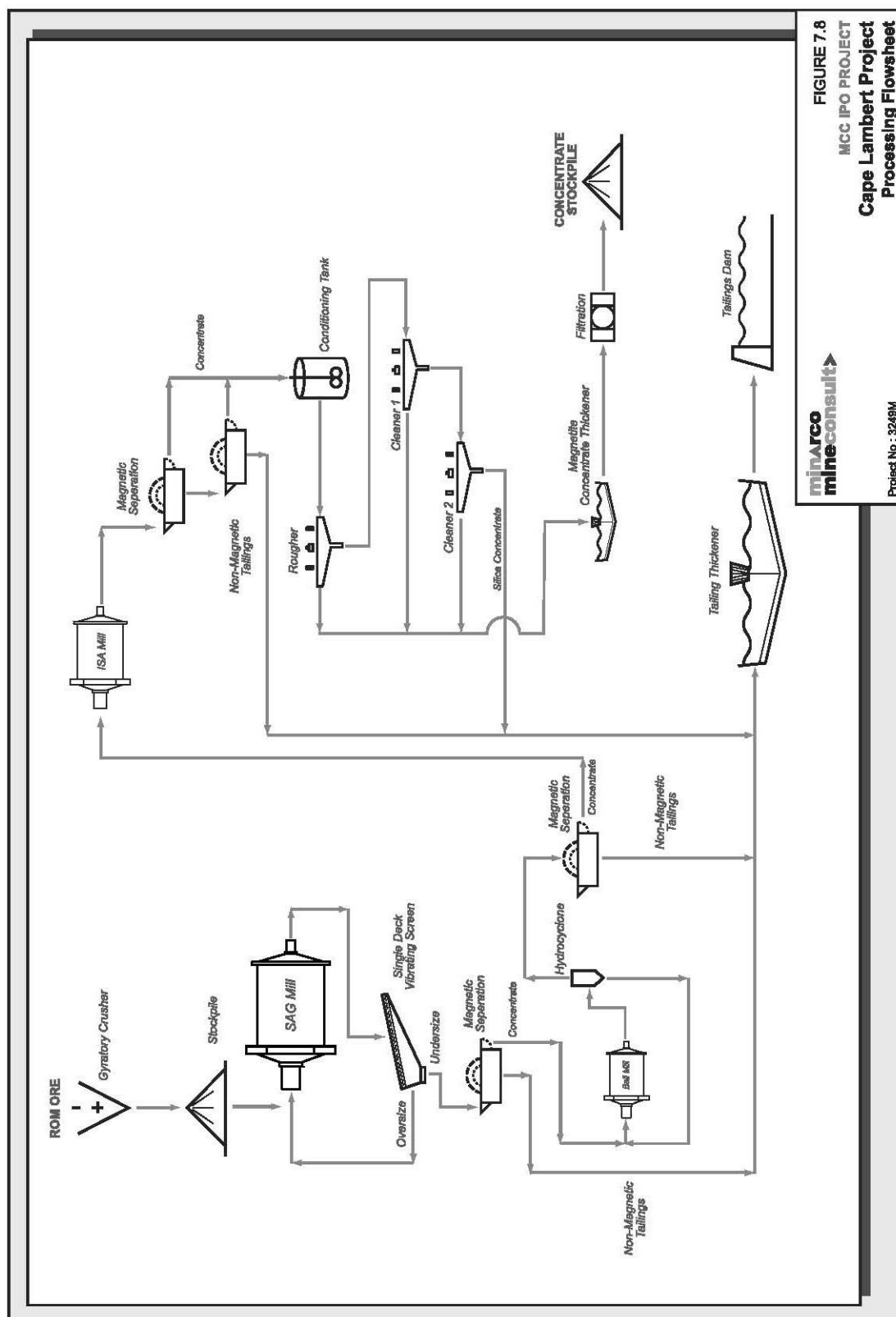


Figure 15: 2008 PFS open pit design.



**Figure 16: 2008 PFS processing flow sheet.**

The 2008 PFS assumed that at full production, 15 Mt of iron ore concentrate grading 65% Fe is planned to be produced. In the PFS the concentrate grade after magnetic beneficiation was assumed to remain constant throughout the life of the project, however the DTR results used to estimate concentrate recovery and grade in the resource model shows a total deposit average CFe grade of 61.8%.

The C\_Fe% grade varies from around 60% in the southern portion of the deposit to around 68% in the northern portion. The mass recovery of 31.8% demonstrated by the DTR results supports the project life of mine assumption recovery of 31.25%.

The Pharlap Holdings Pte Ltd royalty on the MCC Cape Lambert Magnetite project is AUD\$0.50/ tonne of all minerals including magnetite BIF ore at a rate of up to 50 million tonnes/year. The discounted value of this Pharlap Holdings Royalty over a projected 30-year project life is currently valued at AUD\$251 million within a range from AUD\$233M to \$269M based on immediate production.

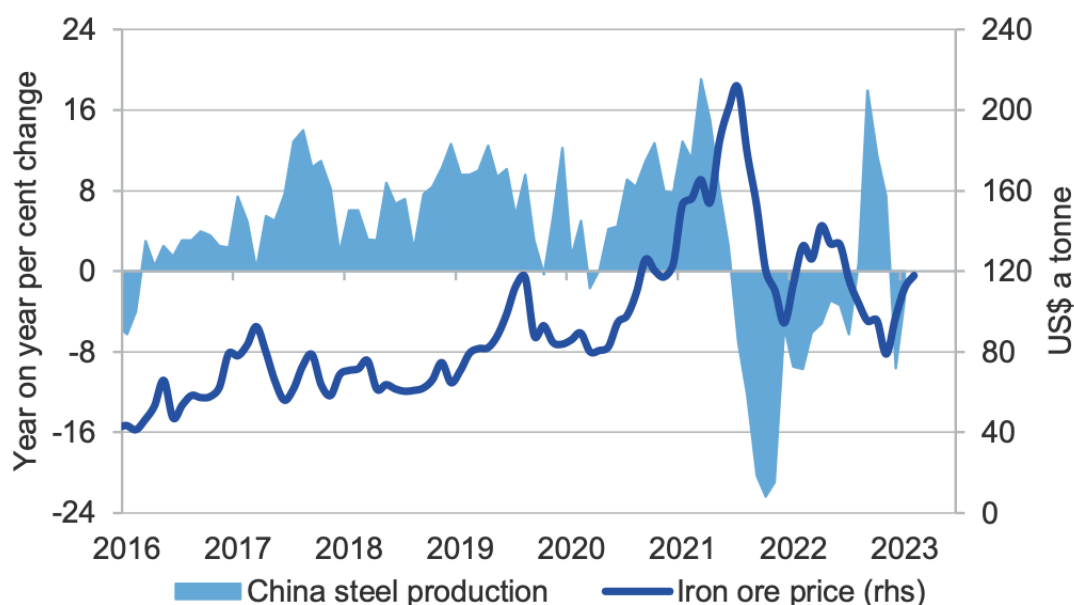
Mining at a rate of 50 million tonnes BIF ore per year over a 30-year mine life requires a total resource of 1.5 billion tonnes which is less than the total Golders resource estimate of 1.915 billion tonnes. Actual mining rates will be determined by current market prices for the magnetite concentrate produced from the BIF ore, mining and other production costs and availability of markets. If mining at a rate of 50 million tonnes BIF ore per year is achieved the royalty will raise AUD\$25 million for that year.

Mining and processing BIF very similar to the BIF at Cape Lambert in the Western Australia, including in the Pilbara region, is very common with the most notable operation currently in production being the Sino Iron Project operated by Citic Pacific Mining with an eventual annual production target of more than 27 million tonnes of magnetite concentrate.

AM&A note that SunMirror / Pharlap is only a passive holder of a royalty and has no influence on any future exploration program or mining operation by MCC and so are unable to provide a definitive time plan with dates for any future activities and measures for the project.

## **7: IRON ORE MARKET ANALYSIS**

The iron ore price surged in 2021 to reach its highest level since 2011 above USD 200 / tonne. Prices were driven by high demand in China and fears of disrupted supply in Brazil and elsewhere. The iron ore price then progressively decreased throughout 2022 as China maintained COVID restrictions and global interest rates rose to reach a low of USD 80 / tonne in the second half of 2022. A rebound has occurred since then with the full reopening of China reaching USD 120 / tonne in Q1 2023 (Figure 17). Prices going forward are expected to ease with the continued impact of higher interest rates and a global economy slowdown. From an estimated average price of around US\$100 per tonne (FOB) in 2023, the benchmark iron ore price is projected to average around US\$63 per tonne (in real terms) by 2028.



Notes: China import Iron ore fines 62% Fe spot (CFR Tianjin port)

Source: Bloomberg (2023) China import prices; World Steel Association (2023)

**Figure 17: Iron ore price and China steel production, monthly**

From a medium term outlook perspective, China — accounting for around 57% of global iron ore demand in 2022 — faces a number of key structural drivers that are expected to contribute to this lower demand growth. The foremost of these is China’s stated aim to reach peak steel output by 2030. As well as contributing to the country’s net zero emissions ambition, China’s efforts to reduce aggregate steel output are expected to support a longer-term shift in its economy away from investment-led (and toward consumption-led) growth.

China also faces a falling total (and working age) population, with the country announcing its first decline in population in over six decades in 2022. This is expected to prompt a more modest rate of growth for the Chinese economy in coming years compared with prior decades. Together with the slowdown in the real estate sector, this is expected to see China’s iron ore demand decline by around 1% annually over the outlook period to 2028.

However, growing steel demand and production capacity in regions such as emerging Asia and the Middle East are projected to see strong growth in ex-China iron ore consumption over the outlook period. This includes more than 100 million tonnes of integrated (Blast Furnace-Basic Oxygen Furnace) steelmaking expected to come online in the next few years in Asia alone. This is expected to see ex-China demand for iron ore rise by around 3.2% per annum over the outlook.

On the supply side, the world’s two largest producers — Australia and Brazil — are expected to continue to collectively grow export volumes by 3.2% per annum over the outlook period. This follows a ramp up of greenfield projects for major Australian miners, and major expansions planned by Brazilian producers Vale, CSN and others. New supply from emerging producers in Africa will also contribute to annual growth of around 3% in global trade of iron ore).



## 8: RISKS

A key risk, common to all exploration companies, is that the expected mineralisation may not be present or that it may be too small to warrant commercial exploitation.

The interpretations and conclusions reached in this Report are based on current scientific understanding and the best evidence available to the author at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty.

The ability of any person to achieve forward-looking production and economic targets is dependent on numerous factors that are beyond AM&A's control and that AM&A cannot anticipate. These factors include, but are not limited to, site-specific mining and geological conditions, management and personnel capabilities, availability of funding to properly operate and capitalise the operation, variations in cost elements and market conditions, developing and operating the mine in an efficient manner, unforeseen changes in legislation and new industry developments. Any of these factors may substantially alter the performance of any mining operation.

The data included in this report and the basis of the interpretations herein have been derived from a compilation of data included in annual technical reports sourced from various company reports, public documents and Western Australian Mineral Exploration reports (WAMEX reports) compiled by way of historical tenement database searches.

In most cases the historical exploration reports do not include or discuss the use of quality assurance and quality control (QAQC) procedures as part of the sampling programs, this data frequently not reported. Therefore, it is difficult to determine the validity of much of the historical samples. AM&A have relied on the 2009 Golder report and M-MC Independent Technical Review Report to confirm the reliability of the drilling, sampling, assaying and resource modelling.

A Mineral Resource estimate is reported for the project that is in accordance with the 2012 JORC Code. This Mineral Resource estimate was originally modelled and reported by Golder in March 2009, prior to the implementation of the current JORC Code (2012). AM&A have reviewed the Golder Mineral Resource report and have concluded that the resource estimate as reported and classifications assigned by Golder conforms with the current JORC Code (2012). Estimates of Mineral Resources may change when new information becomes available or new modifying factors arise. Interpretations and assumptions on the geology and controls on the mineralisation on which Resource or Reserve estimates based on may be found to be inaccurate after further mapping, drilling, sampling or through future production. Any adjustment could affect the development and mining plans, which could materially and adversely affect the potential revenue from the Project and the valuation of the Project. If the Resources are over-estimated in either quantity or quality of ore, the profitability of the project will be adversely affected. If however the quantity or quality is underestimated the profitability of the project will be enhanced. Mineral value fluctuations, dilution, grade and mining losses all could potentially change the value of the Resource estimate.

The exploration potential of the project may change when new information becomes available or new modifying factors arise. Interpretations and assumptions on the geology and controls on the mineralisation on which the exploration potential has been based on may be found to be inaccurate after further mapping, drilling and sampling or through future production. Any adjustment could affect the potential for future development and mining plans, which could materially and adversely affect the potential revenue from the Project and the valuation of the Project. If the potential is over-estimated in either quantity or quality of ore, the profitability of the project will be adversely affected. If however the quantity or quality is underestimated the profitability of the project will be enhanced. Mineral value fluctuations, dilution, grade and mining losses all could potentially change the value of the stated exploration potential.

Mineral exploration, by its very nature has significant risks, especially for early-stage projects and additional challenges occur in areas of historical mining. Based on the industry wide exploration success rates it is likely that, that no significant economic mineralisation will be located within the projects. Even in the event significant mineralisation does exist within the projects, factors both in and out of the control of Artemis may prevent the location of such mineralisation.

This may include, but is not limited to, factors such as community consultation and agreements, metallurgical, mining and environmental considerations, availability and suitability of processing facilities or capital to build appropriate facilities, regulatory guidelines and restrictions, ability to develop infrastructure appropriately, and mine closure processes. In addition variations in commodity prices, saleability of commodities and other factors outside the control of the Company may have either negative or positive impacts on the projects that may be defined.

Within the projects there are registered heritage sites which may impact potential exploration activities.

The interpretations and conclusions reached in this Report are based on current scientific understanding and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty.

## **9: PROJECT CONCLUSIONS**

The tenement package under consideration for this report is comprises a granted Retention Licence R47/18.

The tenement covers BIF units within the Cleaverville Formation. The Retention Licence reportedly contains the 1.9 billion tonnes @ 30.7% Fe Cape Lambert Magnetite deposit currently owned by China Metallurgical Group Corporation ("MCC"). This Mineral Resource estimate was originally modelled and reported by Golder in March 2009, prior to the implementation of the current JORC Code (2012).



AM&A have reviewed the Golder Mineral Resource report and have concluded that the resource estimate as reported and classifications assigned by Golder conforms with the current JORC Code (2012). There has not been any further drilling or other exploration work carried out since this resource estimate report that would affect the Golder resource estimate, resource classifications and conclusions.

Ore Reserves cannot be quoted for the project without the project owners MCC carrying out another PFS using current revenue and cost values, especially since the magnetite concentrate market price has doubled since the 2008 PFS.

The results of earlier preliminary mining studies in 2008 however indicate that the BIF ore can be mined using conventional open cut mining methods at a rate of 50 million tonnes BIF ore per year over a 30-year mine life from which a magnetite concentrate produced that after magnetic beneficiation is a high value marketable product.

This resource has a royalty held by Pharlap Holdings Pte Ltd worth \$0.50/ tonne of all minerals mined including magnetite BIF ore at a rate of up to 50 million tonnes/year.

The discounted value of this Pharlap Holdings Royalty over a projected 30-year project life is currently valued at A\$251 million within a range from \$233M to \$269M assuming an immediate production start date.

However, as production hasn't commenced, and in order to arrive at a fair value for the royalty, the author has calculated the valuation based various asset specific PNAV discount rates and initial production date scenarios. The range of WACC discount rates and initial mining start up dates are summarised in the spreadsheet below (Table 7)

Various assumptions are made:-

1. Production assumption and royalty values are as per in this Section 6 of this report.
2. A range of initial start-up production dates were modelled starting at 7.5 years to 17.5 years with a central case at 12.33 years (consistent with the way the company would have looked at it at the time of acquisition with a central case at 15 years.
3. A PNAV ratio of 0.5x, which is consistent with an iron ore royalty on a pre-development mining project in a safe jurisdiction such as Western Australia.
4. WACC (Weighted Average Cost of Capital) ranging from 9.5% to 11.5% with a central case of 10.55%, reflecting the current cost of capital in the mining sector

**Table 7: Cape Lambert Iron Ore Project DCF Calculations (Royalty)**

Tonnes p.a.	Royalty /t	Per Annum	Discount rate 1		Discount rate 2
50,000,000	\$0.50	\$25,000,000	9.5%		11.5%
Year	Royalty \$	Discounted Royalty 1	Cumulative Royalty 1	Discounted Royalty 2	Cumulative Royalty 2
1	\$25,000,000	\$25,000,000	\$25,000,000	\$25,000,000	\$25,000,000
2	\$25,000,000	\$22,831,050	\$47,831,050	\$22,421,525	\$47,421,525
3	\$25,000,000	\$20,850,274	\$68,681,324	\$20,108,991	\$67,530,515
4	\$25,000,000	\$19,041,346	\$87,722,671	\$18,034,969	\$85,565,485
5	\$25,000,000	\$17,389,357	\$105,112,028	\$16,174,860	\$101,740,345
6	\$25,000,000	\$15,880,692	\$120,992,720	\$14,506,601	\$116,246,946
7	\$25,000,000	\$14,502,915	\$135,495,634	\$13,010,405	\$129,257,351
8	\$25,000,000	\$13,244,671	\$148,740,305	\$11,668,524	\$140,925,875
9	\$25,000,000	\$12,095,590	\$160,835,895	\$10,465,044	\$151,390,919
10	\$25,000,000	\$11,046,201	\$171,882,096	\$9,385,690	\$160,776,609
11	\$25,000,000	\$10,087,855	\$181,969,951	\$8,417,659	\$169,194,268
12	\$25,000,000	\$9,212,653	\$191,182,604	\$7,549,470	\$176,743,739
13	\$25,000,000	\$8,413,381	\$199,595,985	\$6,770,825	\$183,514,564
14	\$25,000,000	\$7,683,453	\$207,279,438	\$6,072,489	\$189,587,053
15	\$25,000,000	\$7,016,852	\$214,296,291	\$5,446,178	\$195,033,231
16	\$25,000,000	\$6,408,084	\$220,704,375	\$4,884,465	\$199,917,696
17	\$25,000,000	\$5,852,132	\$226,556,507	\$4,380,686	\$204,298,382
18	\$25,000,000	\$5,344,413	\$231,900,920	\$3,928,866	\$208,227,249
19	\$25,000,000	\$4,880,742	\$236,781,662	\$3,523,647	\$211,750,896
20	\$25,000,000	\$4,457,299	\$241,238,960	\$3,160,222	\$214,911,117
21	\$25,000,000	\$4,070,592	\$245,309,553	\$2,834,279	\$217,745,396
22	\$25,000,000	\$3,717,436	\$249,026,989	\$2,541,955	\$220,287,351
23	\$25,000,000	\$3,394,919	\$252,421,908	\$2,279,780	\$222,567,131
24	\$25,000,000	\$3,100,382	\$255,522,290	\$2,044,646	\$224,611,777
25	\$25,000,000	\$2,831,399	\$258,353,690	\$1,833,763	\$226,445,540
26	\$25,000,000	\$2,585,753	\$260,939,443	\$1,644,630	\$228,090,170
27	\$25,000,000	\$2,361,418	\$263,300,861	\$1,475,005	\$229,565,175
28	\$25,000,000	\$2,156,546	\$265,457,407	\$1,322,874	\$230,888,049
29	\$25,000,000	\$1,969,449	\$267,426,856	\$1,186,434	\$232,074,484
30	\$25,000,000	\$1,798,583	\$269,225,439	\$1,064,067	\$233,138,550
		Rounded A\$M	\$269		\$233
		Midpoint		\$251	

CAPE LAMBERT ROYALTY RISKED VALUATION										
Production start year		12.33								
Asset specific PNAV		0.5								
Discount rate range		9.5%      11.5%								
CAPE LAMBERT ROYALTY VALUE (in AUD millions)										
Production year										
		5	7.5	10	12.33	15	17.5	20	22.5	25
WACC	6%	136.29	117.81	101.84	88.91	76.10	65.79	56.87	49.16	42.50
	7%	118.33	99.92	84.37	72.07	60.16	50.79	42.89	36.22	30.58
	8%	103.44	85.33	70.40	58.84	47.91	39.52	32.61	26.90	22.19
	9%	90.98	73.34	59.13	48.37	38.43	30.98	24.98	20.14	16.23
	9.5%	85.51	68.15	54.32	43.97	34.50	27.50	21.92	17.47	13.92
	10.55%	75.41	58.69	45.67	36.15	27.66	21.53	16.75	13.04	10.15
	11.50%	67.64	51.53	39.25	30.46	22.78	17.35	13.22	10.07	7.67

In summary, the discounted value of this Pharlap Holdings Royalty over a projected 30-year project life is currently valued at A\$36.15 million.

Yours faithfully,



Allen J. Maynard. BAppSc(Geol), MAIG. MAusIMM.

**10: REFERENCES**

AusIMM, (2004): "Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code), prepared by the Joint Ore Reserves Committee (JORC) of the AusIMM, the Australian Institute of Geoscientists (AIG) and the Minerals Council of Australia (MCA), effective December 2004.

Anon, Undated 2012?, The Cape Lambert Magnetite Project Brief, Unpubl. for MCC Overseas Ltd.

Anon, 2008, The Cape Lambert Iron Ore Project Summary, Unpubl. for MCC Mining (Western Australia) Pty Ltd.

Anon, March 2021, Iron Ore/Resources and Energy Quarterly March 2021, [www.industry.gov.au/OCE](http://www.industry.gov.au/OCE).

Golder, 2007: Resource Model Update, Cape Lambert Iron Ore Deposit, Western Australia. Golder Associates report to MCCAHA dated February 2008.

Golder, 2009: Appendix V, Independent Technical Review Report. Golder Associates report to MCCAHA.

Golder, 2009: Resource Model Update, Cape Lambert Iron Ore Deposit, Western Australia. Golder Associates report to MCCAHA dated March 2009.

Hickman, A. H., and Smithies, R. H., (2000): "Roebourne, W.A. Sheet SF 50-3 (2nd edition): 1:250,000 Geological Series". Western Australia Geological Survey

MetPlant, 2007: Cape Lambert Iron Ore Ltd. Scoping Study for the Cape Lambert Project, Volume 1-Report. MetPlant Engineering Services, dated April 2007

NETC, 2008: Cape Lambert Magnetite Iron Ore Project Pre-feasibility Study Report. Northern Engineering & Technology Corporation, MCC report dated September 2008.

**CHEMICAL SYMBOLS**

Fe	Iron
Mn	Manganese
P	Phosphorus
Si	Silica

**ABBREVIATIONS**

B	billion
m <sup>3</sup>	cubic metre
M	million
t	tonne
tpa	tonnes per annum

## 11: JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>A total of 377 resource drill holes (83,957m) were completed between 1994 and 2008. The majority of holes were used the reverse circulation (RC) drilling method. A total of 31 holes were core drilled, with RC pre-collars.</li> <li>All samples determined to be within the resource envelope were also analysed using the Davis Tube Recovery (DTR) method.</li> <li>Drilling samples were combined into either 2m or 4m composite samples and analysed for a range of elements using XRF. QAQC samples were included with sample batches.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li><i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>377 face sampling RC of which 31 had Diamond tails were drilled.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential</i></li> </ul>	<ul style="list-style-type: none"> <li>Sample recoveries from the drilling were reported by Golder as being satisfactory. Considering the geology/lithologies drilled and degree of supervision sample recoveries should be very good.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>loss/gain of fine/coarse material.</i>	
Logging	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>• Geological logging and sampling was carried out by Cape Lambert Iron Ore Ltd and MMC geologists. This logging was both qualitative and quantitative.</li> <li>• All the drilled samples were logged. No logging sheets were available for reporting.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• 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.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• The RC samples were split with a riffle splitter at the drill rig and the diamond core was split by diamond saw providing unbiased and representative samples.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• 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.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• The laboratories reported by Golder in their 2009 report were reputable and the analytical methods used appropriate for the mineralisation.</li> <li>• Golder reported that an appropriate number of QAQC samples were included in the sample batches and no problems were encountered however no QAQC data was available for verification by AM&amp;A.</li> </ul>
Verification of sampling	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> </ul>	<ul style="list-style-type: none"> <li>• No independent verification of the original drill sampling and assays</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>and assaying</i>	<ul style="list-style-type: none"> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	was possible.
<i>Location of data points</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>The drill holes were drilled using GDA94 datum.</li> <li>The drill holes were located by a licenced survey team.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>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.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The drill hole spacing was adequate to establish geological and grade continuity and to make an Mineral Resource estimate at the categories reported.</li> <li>The grades were composited over 4 m.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>The drill holes were oriented to intersect the BIF units approximately perpendicular to their strike.</li> <li>The inclined drill holes intersected the BIF units at less than 90 degrees therefore all intersection widths are longer than the true widths.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>There is no available record of the sample security measures taken.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Due to the lack access to historic drill samples no audits of the sampling is possible.</li> </ul>



## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Retention Licence R47/18 is in good standing. It is currently held by MCC Australia Sanjin Mining Pty Ltd and due to expire 21/3/2022..</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The author acknowledges the work of the previous explorers, in particular Cape Lambert Iron Ore Pty Ltd and MMC..</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The main iron ore mineralisation reported is found as magnetite bearing BIF beds of the Cleaverville Formation located within the Roebourne Synform.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>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: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The drill hole locations and summaries of the grades are within the Mineral Resource section of the report.</li> <li>All the holes were inclined 60 degrees and were designed to intersect the BIF units orthogonally.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>All the Davis Tube Results were of composited samples determined by the the iron grade &gt;120% Fe of the samples.</li> <li>No metal equivalents were reported.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>All drill intercepts are less than 90 degrees to the units being tested so all intersection widths are longer than the true widths.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>All appropriate maps and cross sections are included in the text of the report.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>The author believes that the report of the exploration results properly represents and not misleading of the mineralisation.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>All the substantive exploration available to the author has been reported.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> </ul>	<ul style="list-style-type: none"> <li>Further in-fill drilling at appropriate spacing is required to possibly</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	convert the Exploration Target to a Mineral Resource.

### Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The data was verified by Golder for their 2009 Mineral Resource modelling.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The author has driven past the deposit several times during field trips in the Pilbara for other clients and is familiar with the geology of the project.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The geology of the Cape Lambert BIF deposit is relatively simple and the geological interpretation used by Golder in their wireframing for their resource modelling is appropriate.</li> <li>The grade continuity is very high with minor variations along strike. Some minor problems with grade continuity in detail are possible in the central portion of the resource but these problems are unlikely to affect the global resource estimate.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The resource occurs in three main BIF units ranging up to 150 m thick over a strike length greater than 10 km.</li> </ul>
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>The resource was modelled by Golder in 2009 utilising Ordinary Kriging and this method is deemed appropriate by AM&amp;A for the style of mineralisation being modelled.</li> <li>Golder separated the deposit in to three main domains (north, central, south) for variography and analysis. The domains were based solely</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>parameters used.</p> <ul style="list-style-type: none"> <li>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>• The assumptions made regarding recovery of by-products.</li> <li>• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>• Any assumptions behind modelling of selective mining units.</li> <li>• Any assumptions about correlation between variables.</li> <li>• Description of how the geological interpretation was used to control the resource estimates.</li> <li>• Discussion of basis for using or not using grade cutting or capping.</li> <li>• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>on Fe grade using a 20% Fe threshold to define resource outlines.</p> <ul style="list-style-type: none"> <li>• The different orientations were incorporated into the grade estimation utilising Ordinary Kriging.</li> <li>• No check estimates are available but considering the additional drilling the Golder estimate shows a logical extension of the earlier estimates by other parties.</li> <li>• The resource includes Davis Tube Recovery results that reflect the expected metallurgical recovery of magnetite from the BIF ore.</li> <li>• All the potential deleterious elements have been considered including Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, P, S</li> <li>• Selective mining units were not modelled.</li> <li>• All elements modelled separately and no correlations were considered.</li> <li>• The BIF units were wireframed before modelling.</li> <li>• No grade caps were used since the grade range did not include outliers.</li> <li>• The modelling was checked internally by Golder.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>• All grades are on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>• The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>• The resources are quoted using a 20% Fe lower cut-off.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• It has been assumed that the resource will be mined using conventional open cut methods.</li> <li>• The BIF units hosting the magnetite ore are tens of metres thick and not likely to be heavily diluted during mining.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>The magnetite will be recovered from the BIF using magnetic separation methods. The Davis Tube Recovery results simulate the expected recoveries.</li> </ul>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No environmental problems are expected that will significantly affect the proposed mining.</li> </ul>
<i>Bulk density</i>	<ul style="list-style-type: none"> <li><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></li> <li><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>Density determinations were carried out on drill core. A total of 132 values were available from the mineralised zones. An average value of 3.35t/m3 was derived from the data.</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of</i></li> </ul>	<ul style="list-style-type: none"> <li>The majority of the resource is categorised as Indicated and the remainder Inferred.</li> <li>AM&amp;A consider that Golder took appropriate account of all the relevant factors when assigning the resource categories and</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></p> <ul style="list-style-type: none"> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	appropriately reflects the Author's view of the deposit.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• There have not been any audits of the Mineral Resource estimate but M-MC independently reviewed the resource as part of the PFS.</li> </ul>
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• AM&amp;A considers that the 2009 global resource estimate report by Golder meets all the criteria for reporting Mineral Resources required by the JOC Code (2012) and that the confidence of the estimates is properly reflected by the resource categories assigned.</li> </ul>