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The Company Announcements Office  
ASX Limited Via E Lodgement

31<sup>st</sup> Jan 2017

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**Quarterly Activities Report to 31<sup>st</sup> December 2016**

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***Yarraloola Project – West Pilbara***

*Robe Mesa CID Deposit*

- 3 sonic drill-holes recovered 100mm diameter representative intercepts through the upper and lower CID intervals in the Robe Mesa deposit for metallurgical test-work.
- 42 RC drill-holes for 1077m were completed on areas to the east and west of the deposit boundaries with field logging identifying up to 10m of pisolitic iron-stone in 34 holes in the East.
- 1m interval RC samples have been submitted for analysis.

*P08/529 CID Mineralisation*

- 17 RC drill-holes for 617m through a ferruginous breccia intersected intervals of pisolitic iron-stone up to 50m thick in 12 holes.
- 1m interval RC samples have been submitted for analysis.

*Ashburton Magnetite System*

- 10 RC holes for approximately 2000m were completed into the Spinifex Hill, Discovery (now termed the Rossi Hill Prospect) and Southern prospects (now the Walrus Ridge Prospect).
- The RC rig achieved a consistently rapid drill-rate of about 300m/shift.
- All the holes intercepted magnetite-rich intervals reflected by high magnetic susceptibility and the indications are that Rossi Hill and Spinifex Hill have bedded mineralisation across a strike width of about 300m.
- 1m interval RC samples have been submitted for analysis.

***Yarrie Project – North Pilbara***

- Rock-chip sampling has identified mineralisation in two settings on E45/3728.
- Gold (Au) to 0.6 g/t and copper (Cu) to 0.7% in a mafic to ultramafic suite.
- Manganese (Mn) to 44% and cobalt (Co) to 0.13% associated with the Nimingarra Iron Formation.
- Work is focussed on generating targets for drilling.

## Project Summaries

### **Yarraloola Project – West Pilbara**

The Yarraloola tenements cover an area of 853 km<sup>2</sup> in the western part of the Hamersley Basin and adjacent parts of the Ashburton Trough in the West Pilbara (Fig 1). The project has a basement of Archaean and Proterozoic-aged rocks that are in parts overlain by younger sediments of the Carnarvon Basin. All the sequences are prospective for iron mineralisation. In the east, Archaean-age sediments in the Hamersley Basin include iron-rich members of the Marra Mamba, Brockman and Boolgeeda Iron Formations. In the central and western parts, Proterozoic-age metasediments of the Ashburton Trough have interbedded iron formation. In the south, the Coziron tenements are transected by the Robe River pisolitic iron-stone. The pisolitic iron-stones are basin margin sediments of the Carnarvon Basin and currently support large-scale mining operations at Warrambo, Mesa A and Mesa J (Fig 1).

In addition to prospectivity for iron-ore, the Yarraloola tenements are well serviced by established infrastructure that includes bitumen roads and gas-pipelines and these provide opportunities to lower the cost of development for any new discoveries. There are also proposals for additional facilities to be developed within the region. BC Iron Ltd has approval for a new haul-road and port at Cape Preston East, while the API joint-venture controls an easement for a railway through the West Pilbara to a proposed port at Anketell Point. These proposed infrastructure corridors traverse the Coziron tenements.

Coziron currently has exploration focussed on two prospects.

1. The Robe Mesa Deposit on E08/1060 and E08/1686 which contains two intervals of pisolitic ironstone (CID) representing recently deposited material from the Carnarvon Basin (Fig 1).
2. Outcrop and subcrop of magnetite-bearing schists in the Proterozoic-aged, Ashburton Trough on tenements E08/1686 and E08/1826 (Fig 1).

### ***Robe Mesa Deposit***

#### *Background*

The Robe Mesa deposit is defined by 78 vertical RC drill-holes completed during 2014 and 2015 that intersected an upper and lower interval of pisolitic iron-stone with Fe>50%. The geology and geochemistry from the drilling has been used to generate and upgrade an independently calculated JORC-compliant resource which was announced in detail on the ASX on 7<sup>th</sup> December 2015 and 8<sup>th</sup> of February 2016 and is summarised in the following tables.

Robe Mesa Deposit – Updated Mineral Resource Estimate from February 2016 – reported above a **Fe cut-off grade of 50%**.

Category	Mt	Fe%	SiO2%	Al2O3%	TiO2%	LOI%	P%	S%	Fe <sub>ca</sub> %
Indicated	65.7	53.8	8.3	3.4	0.14	10.6	0.04	0.02	60.2
Inferred	18.8	53.8	8.2	3.4	0.14	10.7	0.05	0.02	60.3
<b>Total</b>	<b>84.5</b>	<b>53.8</b>	<b>8.3</b>	<b>3.4</b>	<b>0.14</b>	<b>10.6</b>	<b>0.04</b>	<b>0.02</b>	<b>60.2</b>

Robe Mesa Deposit – Updated Mineral Resource Estimate from February 2016 – reported above a **Fe cut-off grade of 55%**.

Category	Mt	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI%	P%	S%	Fe <sub>ca</sub> %
Indicated	19.5	56.0	6.0	2.7	0.10	10.7	0.04	0.02	62.7
Inferred	5.2	56.0	5.8	2.8	0.1	10.7	0.05	0.02	62.7
<b>Total</b>	<b>24.6</b>	<b>56.0</b>	<b>5.9</b>	<b>2.7</b>	<b>0.1</b>	<b>10.7</b>	<b>0.04</b>	<b>0.02</b>	<b>62.7</b>

The block-model developed from the resource estimation shows that the higher grade resource (Fe>55%) represents contiguous intervals on the upper section of both the lower and upper zone of mineralisation.

The block-model also highlights opportunities for further work. Areas of inferred resource can be infill drilled to increase the resource confidence. The lower-zone mineralisation which projects beneath the surface to the east and west of the mesa offers potential to increase the size of the resource. Recovery of metallurgical samples provide an opportunity to examine material in the 45-50% range which increases the available tonnage but maintains the global ore-grade at Fe = 52%.

#### *Current Programmes and Results*

During the Quarter two drilling programmes were completed and reported on 22/11/2016 and 22/12/2016.

#### *Sonic Drilling Programme*

Sonic drilling is a lower-cost alternative to wider-diameter diamond drilling to recover representative material from the Robe Mesa Deposit for a metallurgical test-work programme (Fig 2). In total, three holes as twins of previously drilled RC holes on the Upper Robe surface have each been completed to a depth of about 55m (Fig 3). The geology of the sonic holes is consistent with the interpretive logging in the RC holes. Both the upper and lower zones of pisolitic iron-stone have intervals that are cemented with vitreous goethite intercalated with less consolidated material (Fig 4). The zone that separates the pisolitic ironstones includes a variety of siltstones, sandstones, conglomerates and lesser claystones with either a fluvial or perhaps an intertidal origin.

All the material recovered by the sonic rig has been photographed, bagged and weighed and packed transported to a laboratory in Perth

#### *RC Drilling Programme*

A total of 42 vertical holes for 1077m were completed and intercepts of pisolitic iron-stone up to 10m thick was logged in 34 holes (Fig 3). All the holes were sampled on 1m intervals and the material has been dispatched to Perth.

#### *Future Work*

A metallurgical test-work programme is planned for the first quarter of 2017. The geochemical analysis of the RC samples has commenced. Results will be published as they become available.

## **P08/529 Pisolitic Ironstone RC Drill Programme**

### *Background*

Prospecting license 08/529 located on the south-western margin of the Yarraloola Project covers an area of ferruginous detritus associated with the Robe River channel system (Fig 1).

### *Current Work Programmes and Results*

A total of 17 vertical RC drill-holes for 617m were completed to determine the thickness and extent of the ferruginous detritus overlying the basement (Fig 5). Twelve holes report intervals of pisolitic iron-stone which is up to 50m thick.

### *Future Work*

All the holes were sampled on 1m intervals and the material was dispatched to Perth and geochemical analysis has commenced. Results will be reported when they are available.

## **Ashburton Magnetite System**

### *Background*

The Ashburton prospect is a 12 km long by 800 m wide area hosting high-order magnetic anomalies associated with poorly outcropping, Proterozoic schists that are only partly exposed beneath a capping of sands and conglomerates from the Carnarvon Basin on tenements E08/1686 and E08/1826 (Fig 1). The magnetite-mineralised rocks outcrop intermittently as a suite of north-west, trending, strongly folded, variably siliceous, chloritic schists that dip steeply to the south-west. RC and diamond drilling show that the magnetite-rich metasediments are siliceous but hosted by dacitic volcanics. The interpretation is that rather than an outlier of the Hamersley Basin, the Ashburton magnetic anomalies appear to be the expression of mineralisation associated with a deeper water oceanic basin and volcanism and represent an Algoma-style setting.

The mineralisation in the Ashburton which is volcanic-hosted and dips steeply to the south-west, also has a suite of characteristics that may be favourable for larger-scale magnetite recovery, including the following.

1. The transition from weathered to fresh rock appears to be range from about 20 to 30m with the base of oxidation represented by the increase of mass-recovery of magnetite at less than 35m below the surface.
2. No evidence of blue asbestos (crocidolite) in the system.
3. Grainsize that is coarser than material from the adjacent Hamersley Basin iron formations.
4. Generally low phosphorous and sulphur contents.
5. Mass yields from Davis Tube that commonly range from 30 to 40% with the concentrates reporting Fe > 67%, Al<sub>2</sub>O<sub>3</sub> < 1% and SiO<sub>2</sub> < 5%.

### *Current Work Programmes and Results*

The RC drilling during the quarter focussed on high order magnetic anomalies associated with the Rossi Hill, Spinifex Hill, and Walrus Ridge Prospects (Fig 6). A total of 10 inclined -60 holes, each to a depth of approximately 200m, have been completed for a total of approximately 2000m. In addition to the geological logging of the drill-chips, the magnetic susceptibility of each 1m sample has been

measured in the field and indicates that all the drill-holes have intercepts that require assessment of Fe-content.

### Future Work

All the drill-holes have been sampled on 1m intervals and the material has been transported to a laboratory in Perth for geochemical analysis which has commenced. Results will be reported when they are available.

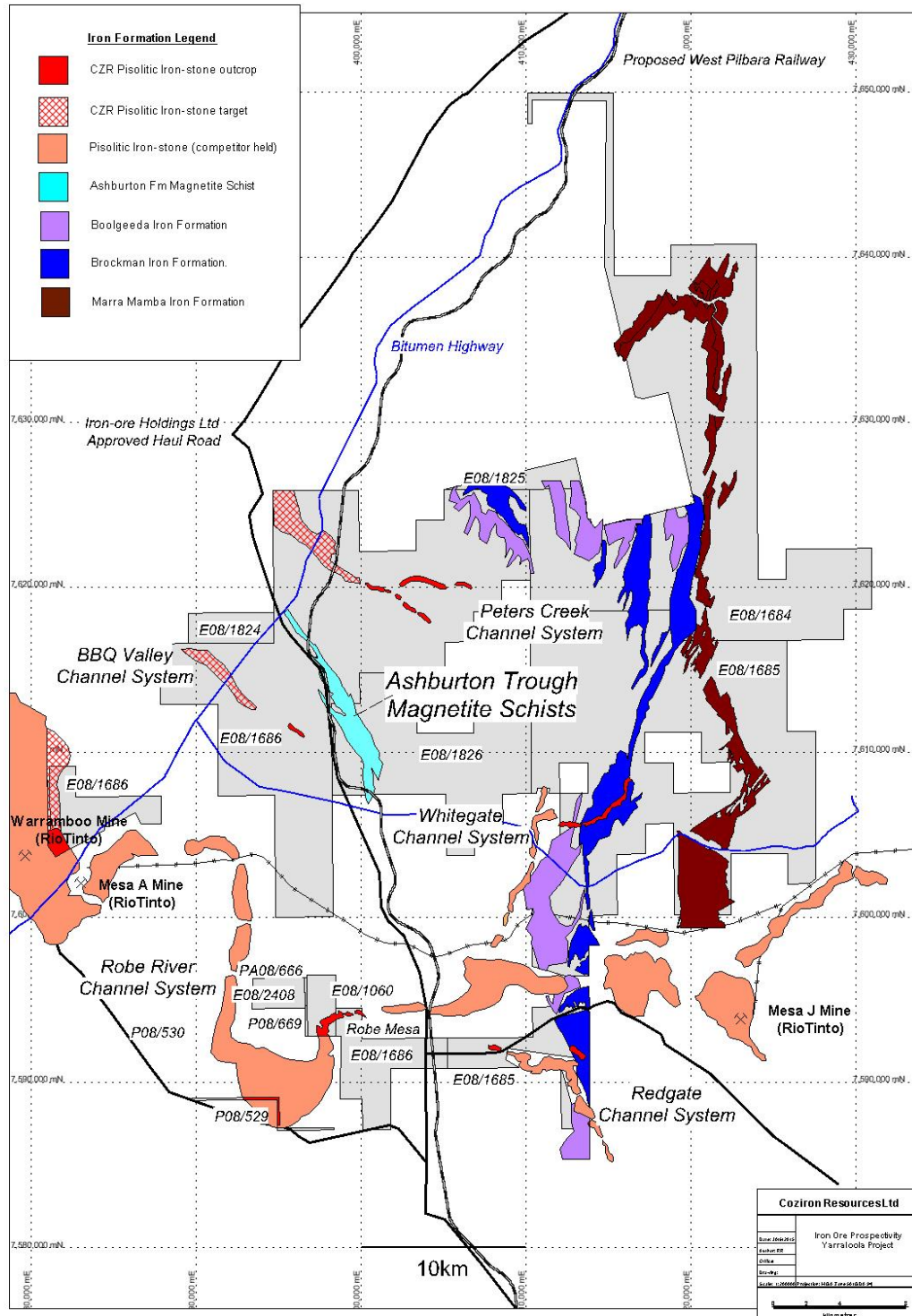


Fig 1. Location of the Robe Mesa and magnetite-schists in the Ashburton Trough on the Yarraloola Project, West Pilbara of Western Australia.



Fig 2. Sonic rig on the Robe Mesa.

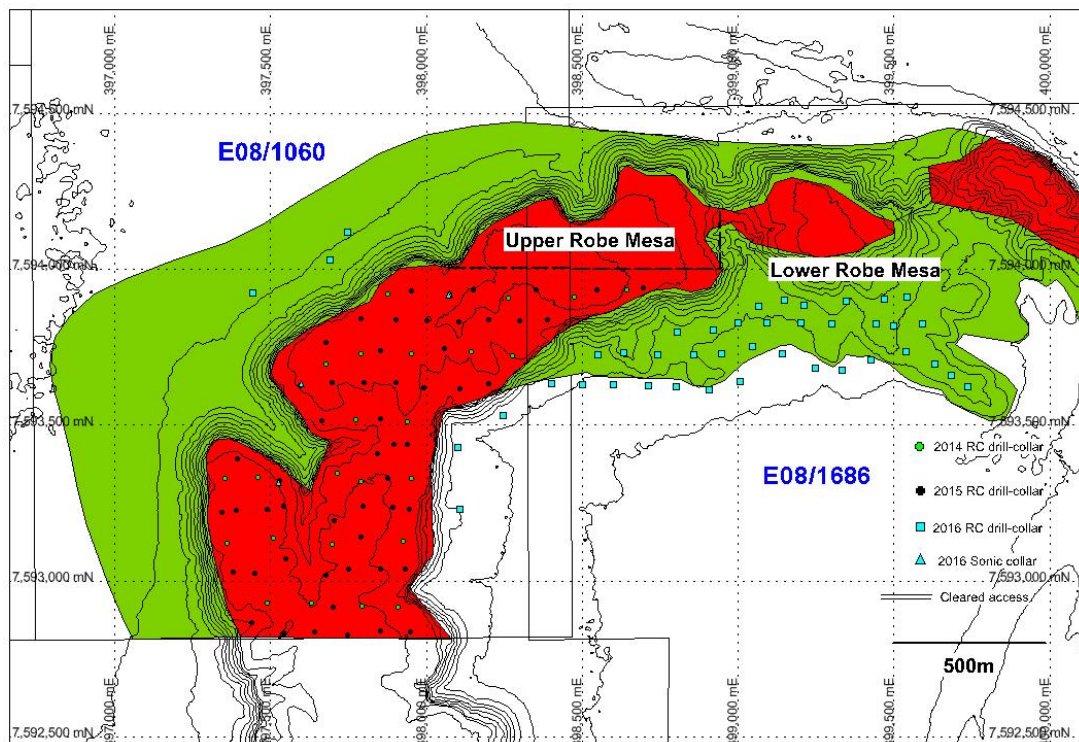


Fig 3. Robe Mesa on tenements E08/1060 and E08/1686 with 5m interval elevation contours distribution of the upper and lower Robe Mesa pisolitic ironstones with the locations of the 2014, 2015 and 2016 RC and Sonic drill-holes.



Fig 4. Samples of pisolitic iron-stone recovered by the sonic-rig from the Robe Mesa Deposit for the metallurgical test-work programme.

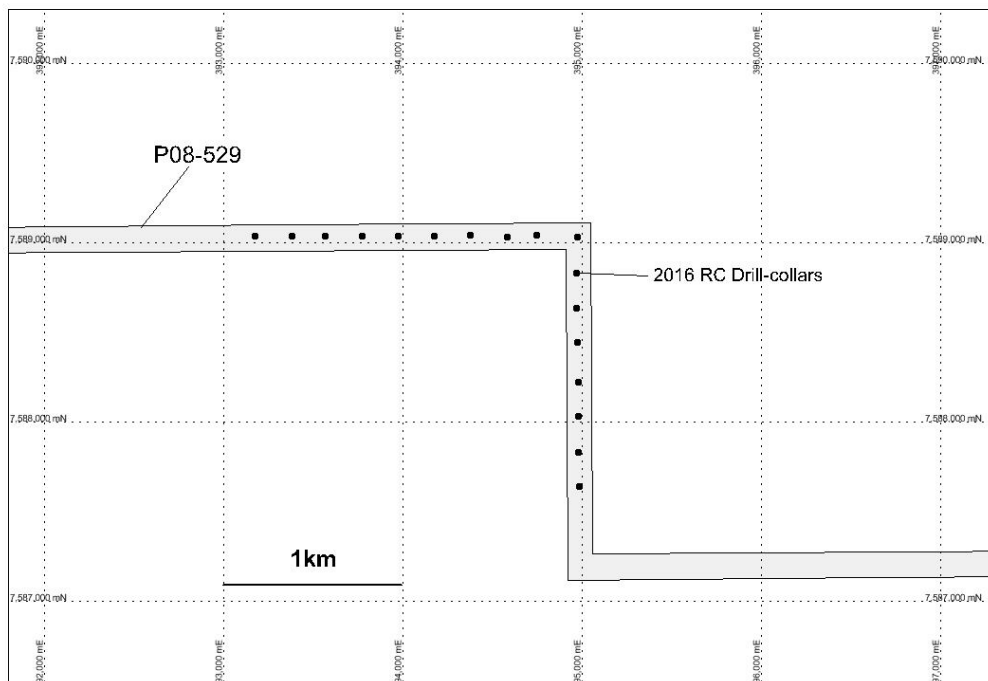


Fig 5. Location of the 2016 RC drill-collars on prospecting licence P08/529.

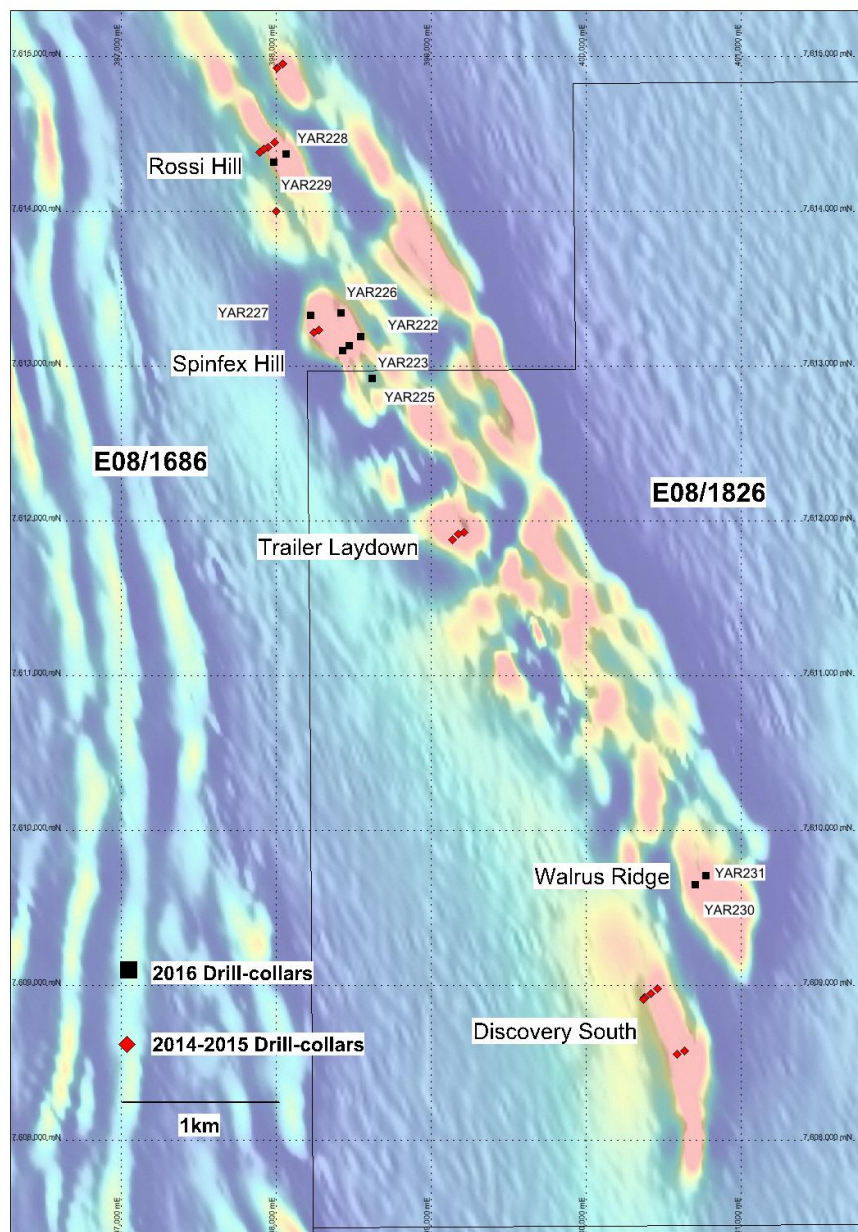


Fig 6. Location of the 2016 RC drill collars (black squares) from the Rossi Hill, Spinfex Hill and Walrus Ridge Prospects overlain on magnetic intensity associated with the Ashburton magnetite system and the 2014 and 2015 RC drill-collars (red diamonds).

## Yarrie Project – North Pilbara

### Background

The Yarrie Project consists of six exploration licences (three granted, E45/3725, E45/3728, E45/4065 and three applications E45/4433, E45/4604 and E45/4605) held by XFE Pty Ltd, a wholly owned subsidiary of Coziron, covering a total of 357.5km<sup>2</sup>, about 160km east of Port Hedland (Fig 7). Yarrie has the potential to host high-grade (+62% Fe) iron-ore deposits within the magnetically active Archaean-age Nimingarra Iron Formation (Fig 7). In addition, there is the potential for gold and base-metals associated with a strongly deformed, mixed mafic to ultramafic volcanic suite and interbedded metasediments. The area is largely under-explored because the prospective areas are often overlain



by younger rocks. The tenements cover extensions of the prospective rocks from the Yarrie-Goldsworthy mining project which, until recently, was actively mined by BHP Billiton PLC (BHPB).

Yarrie is serviced by bitumen and gravel roads and a natural gas pipeline between Pt Hedland and the Telfer copper-gold mine. The BHPB-owned rail connection between the Yarrie-Goldsworthy mining area and Port Hedland also services this area.

### *Current Activities and Results*

The focus of activities and results to date for Yarrie during 2016 can be summarised as follows.

1. Four high-priority iron-ore targets from the Egg Creek Prospect on E45/3725 have been identified and eight drill-sites to accommodate up to 1600m have been prepared for vertical RC drilling (Fig 8). The drill-targets are characterised by a positive gravity anomaly in a zone where the magnetic trace of the Nimingarra Iron Formation decreases. The anomalies are analogous to the geological setting of the 65Mt, high-grade (Fe @ 68%) Yarrie Y2/3 deposit located further to the east that was mined by BHP-Billiton Pty Ltd.
2. Gold, base-metals, iron-ore and other potentially mineralised targets are being assessed on E45/3728 by mapping, soil and rock-chip sampling. The first programme collected 82 gridded soil and 20 rock-chip samples. The soil sampling identified some lithologies with anomalous geochemical responses that will require further assessment. The rock-chip samples were also used to characterise some lithologies but four samples detected outcropping evidence for mineralisation. The most significant rock-chips results are presented in Table 1. All sample sites are plotted on Fig 9 with the mineralised samples highlighted.

Table 1. Selected results from the mineralised rock-chip samples in E45/3728 on the Yarrie Project.

Sample No*	Easting GDA Z51	Northing GDA Z51	Au ppb	Cu ppm	Cr ppm	Co ppm	Ba ppm	Mn %
AE2016-006	207,690	7,704,963	274	6,670	656	25.1	24	0.06
AE2016-007	207,690	7,704,963	12	1,140	203	1,340	28,900	44.9
PK2016-003	207,689	7,704,965	242	7,330	733	27.4	40.5	0.06
PK2016-004	207,557	7,704,450	579	210	1,440	89.9	38	0.34

\*- rock-chips reported in Table 1 represent only those samples with precious and base-metals significantly above background and are used to identify structural and lithological features that require follow-up work. The locations of all samples collected as part of the sample database are reported on Fig 3

The gold and base-metal bearing samples are associated with zones of carbonate, sulphide and silica alteration within a suite of mafic to ultramafic rocks that are associated with a major NNE-trending structure (Fig 9). The setting is consistent with the model for Archean load-style gold mineralisation. In contrast, the manganese is reported from brecciated veins associated with the margins of the Nimingarra Iron Formation (Fig 9). The association with barium and manganese associated with the younger Nimingarra sequence perhaps indicates a lower temperature epithermal affiliation for the system.

### *Future Work*

Follow-up work is planned for the gold-prospective system and will include more detailed soil and rock-chip sampling, with a strong interest in areas where the magnetic interpretations suggest there are opportunities for extensional structures. A more systematic sampling programme is also planned

for Nimingarra Formation which is prospective for both iron-ore and manganese mineralisation. Results will be reported as they become available.

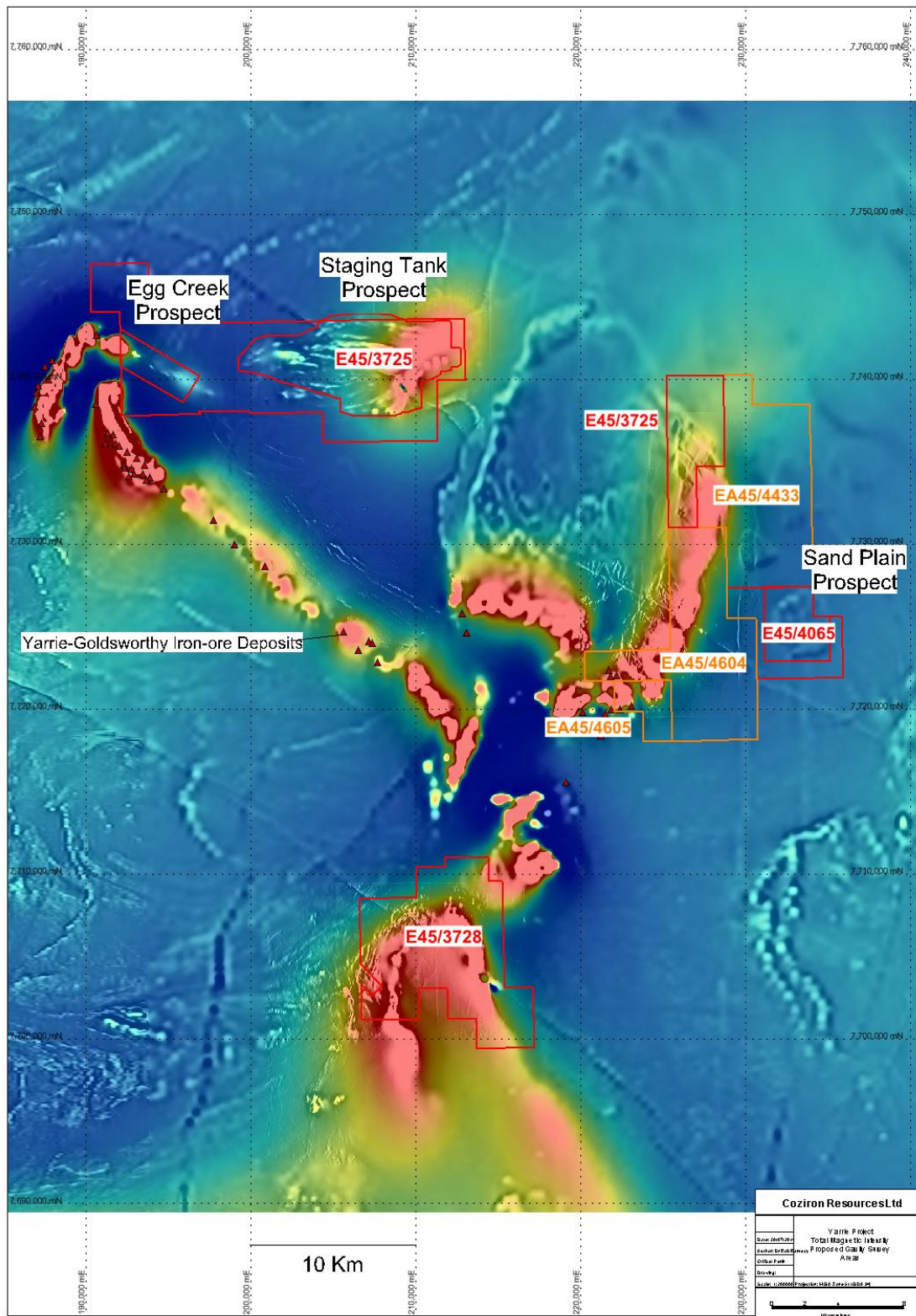
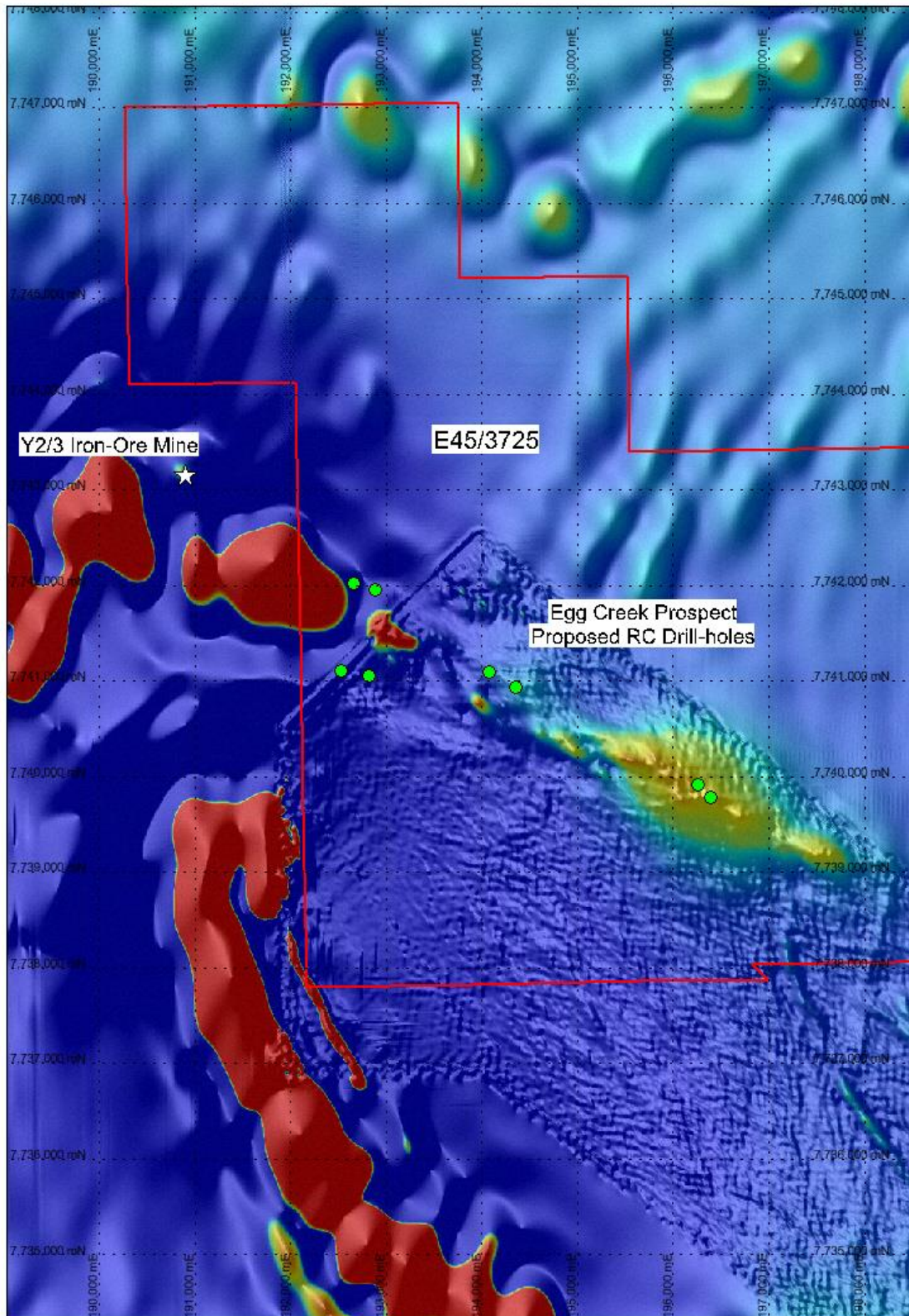


Fig 7. Regional setting of the Yarrie Project overlain onto the magnetic intensity with the most intense responses attributed to the Nimingarra Iron Formation.



*Fig 8. Location of the proposed RC-drill holes with the total magnetic intensity as a back-ground and the location of the Y2/3 Iron-ore deposit which was mined by BHP Billiton Ltd.*

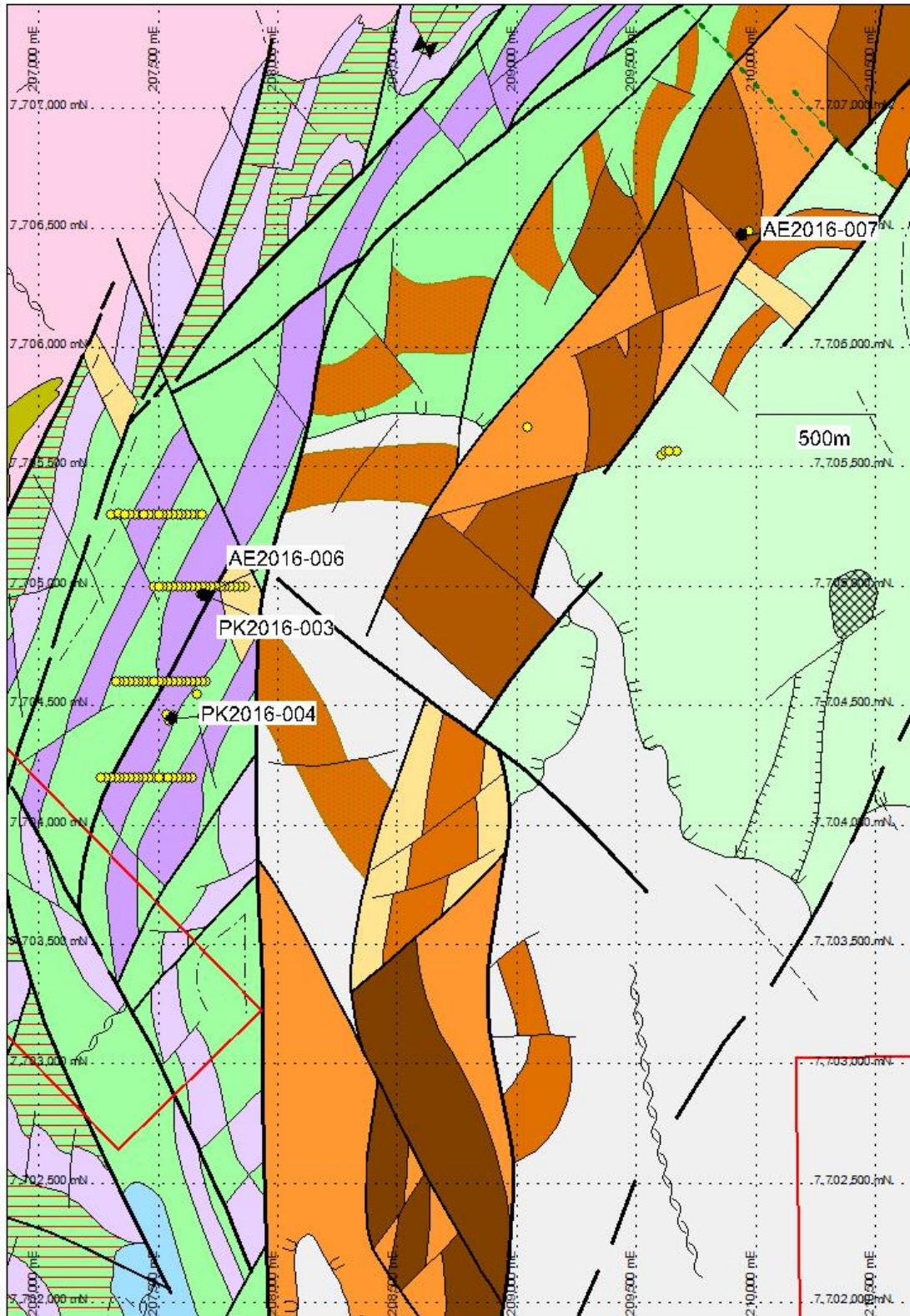


Fig 9 Interpreted Geological map for the western portion of E45/3728 showing the location of the first stage of soil and rock-chip samples (yellow) circles and mineralised rock-chip samples reported in Table 1. Purple and green units are ultramafic to mafic rocks and the orange and brown are parts of the Nimingarra Iron Formation. (The complete legend for the geological map is presented in Fig 10)

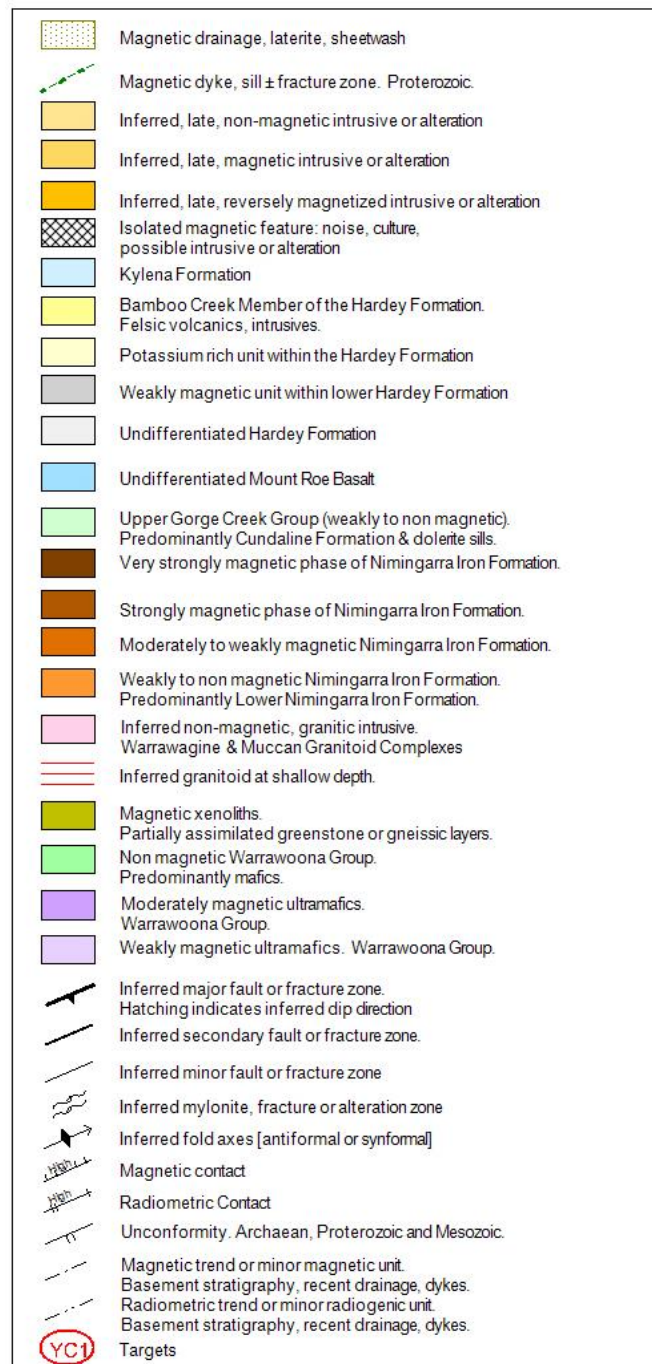


Fig 10 Complete legend for the Fig 3 geological map.

### Shepherds Well Project – West Pilbara

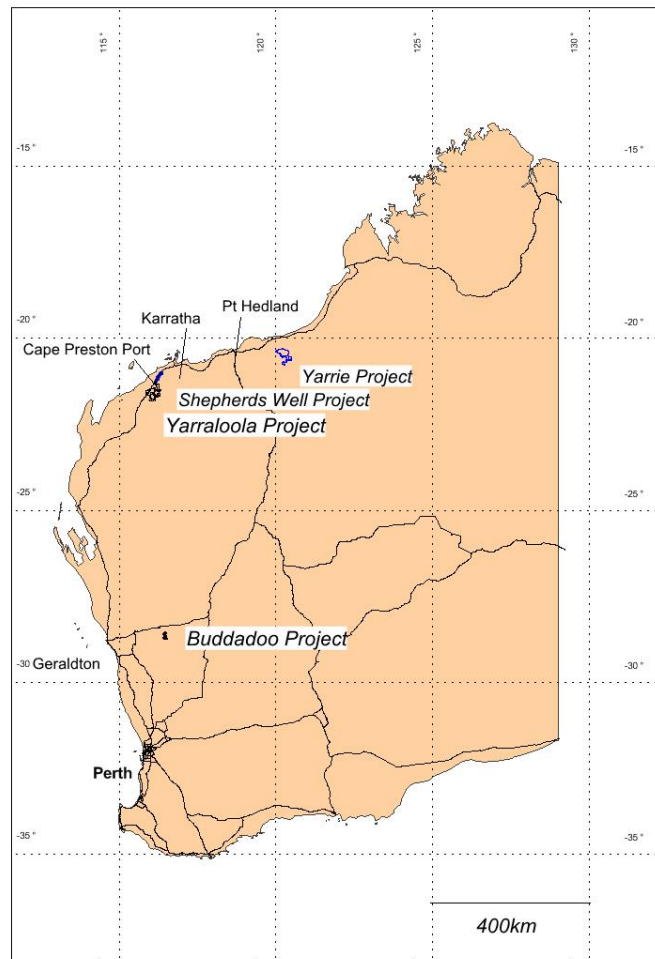
No significant activity was undertaken during the quarter.

### Buddadoo Project – West Yilgarn

No significant work was undertaken during the quarter.

## **ABOUT COZIRON RESOURCES LIMITED**

Coziron Resources Limited has exploration focussed on the Yarraloola (853km<sup>2</sup> of granted tenements) and Buddadoo (210km<sup>2</sup> granted) Projects and an option over Shepherd Well (193km<sup>2</sup>) and Yarrie (357.5km<sup>2</sup>). The Yarraloola, Buddadoo, Shepherds Well and Yarrie projects have iron-ore as the principal exploration target (Fig 14).



*Fig 14. Location of the Coziron Resources Ltd projects in Western Australia.*

For further information please contact Adam Sierakowski on 08 6211 5099.

### **COMPETENT PERSONS STATEMENT**

*The information in this report that relates to mineral resources and exploration results is based on information compiled by Rob Ramsay (BSc Hons, MSc, PhD) who is a Member of the Australian Institute of Geoscientists. Rob Ramsay is a full-time Consultant Geologist for Coziron and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Rob Ramsay has given his consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.*

*Coziron Resources Ltd – Changes to the Tenement Schedule in the past Quarter*

Project	Location	Tenement Number	Economic Entity's Interest at Quarter End	Change in Economic Entity's Interest During Quarter
Yarraloola	West Pilbara, WA	E08/1060	85%	No Change
Yarraloola	West Pilbara, WA	E08/1684	85%	No Change
Yarraloola	West Pilbara, WA	E08/1685	85%	No Change
Yarraloola	West Pilbara, WA	E08/1686	85%	No Change
Yarraloola	West Pilbara, WA	E08/1824	85%	No Change
Yarraloola	West Pilbara, WA	E08/1825	85%	No Change
Yarraloola	West Pilbara, WA	E08/1826	85%	No Change
Yarraloola	West Pilbara, WA	E08/2408	100%	No Change
Yarraloola	West Pilbara, WA	P08/529	85%	No Change
Yarraloola	West Pilbara, WA	P08/666	100%	No Change
Yarraloola	West Pilbara, WA	P08/669	100%	No Change
Shepherds Well	West Pilbara, WA	E08/2361	70%	No Change
Yarrie	East Pilbara, WA	E45/3725	70%	No Change
Yarrie	East Pilbara, WA	E45/3728	70%	No Change
Yarrie	East Pilbara, WA	E45/4065	70%	No Change
Yarrie	East Pilbara, WA	E45/4604	70%	No Change
Yarrie	East Pilbara, WA	E45/4605	70%	No Change
Yarrie	East Pilbara, WA	E45/4433	100%	No change
Buddadoo	Mid-west, WA	E59/1350	85%	No Change