



CULLEN RESOURCES LIMITED

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

ASX Symbol: CUL

13 December 2013

## EXPLORATION UPDATE

### Overview

- In the New Year, Cullen is planning to drill an EM conductor at the Silverbark North nickel prospect where two previous RC holes did not reach the target
- Heritage clearance enables ground EM to commence at the promising Doyles nickel prospect, early January 2014
- Cullen has applied for an EL in the Dundas Region of the SE Yilgarn (ELA 63/1673), over an area it considers to be prospective for nickel-copper deposits
- Cullen has reviewed target areas for follow-up within its Wyloo Dome tenement package in the Paraburdoo Hinge Zone, in the vicinity of the Paulsens gold mine
- Cullen has been awarded a grant of \$50k from the WA Government for co-funded exploration drilling at its Southern Gold Prospect in the Eureka project area.

### 1. GROUND EM TO COMMENCE AT DOYLES NICKEL PROSPECT, NORTH EASTERN GOLDFIELDS, W.A.

Cullen Resources Limited (Cullen) has previously completed reconnaissance RC drilling to test three EM conductors and one geological/geochemical target for nickel sulphide mineralisation (4 holes for 730m) at Mt Eureka (CUL:ASX announcement , [28 August 2013](#)). However, the EM conductor at Target Area 1 (“Silverbark North” prospect) remains untested given that RC holes MERC105 and 106 were both abandoned above (in the planned hole) the modeled ground EM conductor plate. Cullen plans to test this target by diamond drilling in the New Year.

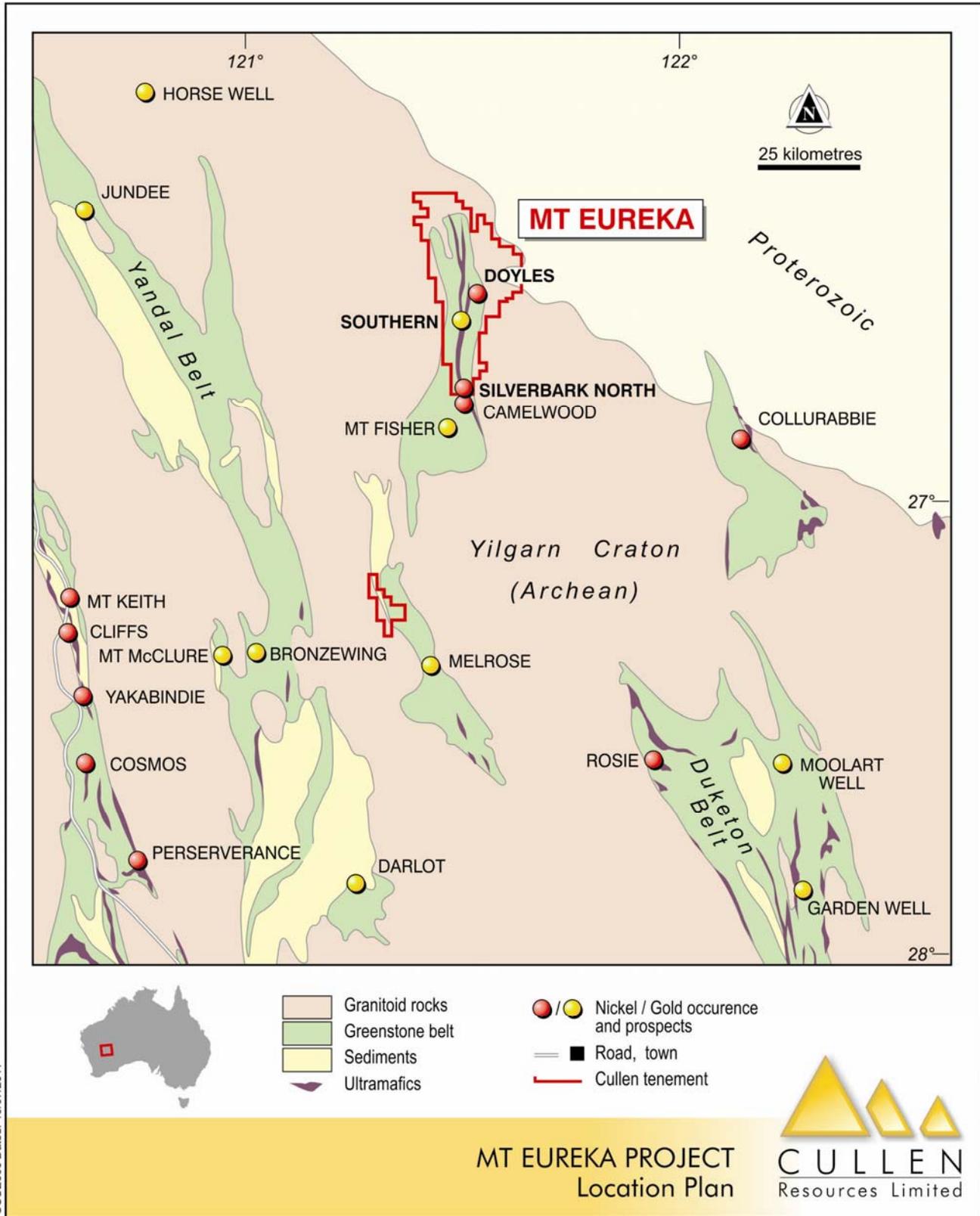
Thereafter, heritage surveying was completed in October to allow geophysical work and drill-testing at **Doyles prospect**, judged by Cullen to be in a highly prospective geological setting for Kambalda-style nickel mineralisation ([Cullen Quarterly Sept 2013](#)). The report for this heritage survey has now been received and clearance given for on-ground exploration.

In order to optimise positioning for drilling at Doyles, a ground EM survey is planned to commence in early January 2014. Thereafter processing and interpretation of the geophysical data will allow for drilling to be undertaken as soon as possible in 2014, preferably in conjunction with diamond drilling at Silverbark North.

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Cullen Resources Limited (Cullen) holds 100% of ~650km<sup>2</sup> of approved tenure\* in the Mt Eureka Greenstone Belt in the North Eastern Goldfields of Western Australia which includes multiple targets for nickel sulphides and gold. The high nickel prospectivity of Cullen’s ground is confirmed by the discovery of nickel sulphides by Rox Resources Limited (Rox) at Camelwood (Fisher East Project) and Cannonball, located a few kilometres on strike to the south of Cullen’s tenement boundary (ASX release by Rox, ASX : RXL of 3/10/2013 describes Maiden Resource for Camelwood).

\* Mt Eureka Project – ELs 53/1299, 1300, 1209, 1630, 1635, 1637, 1611 - Cullen 100%

## **2. NEW PROJECT INITIATIVE FOR NICKEL-COPPER DEPOSITS, DUNDAS REGION, W.A.**

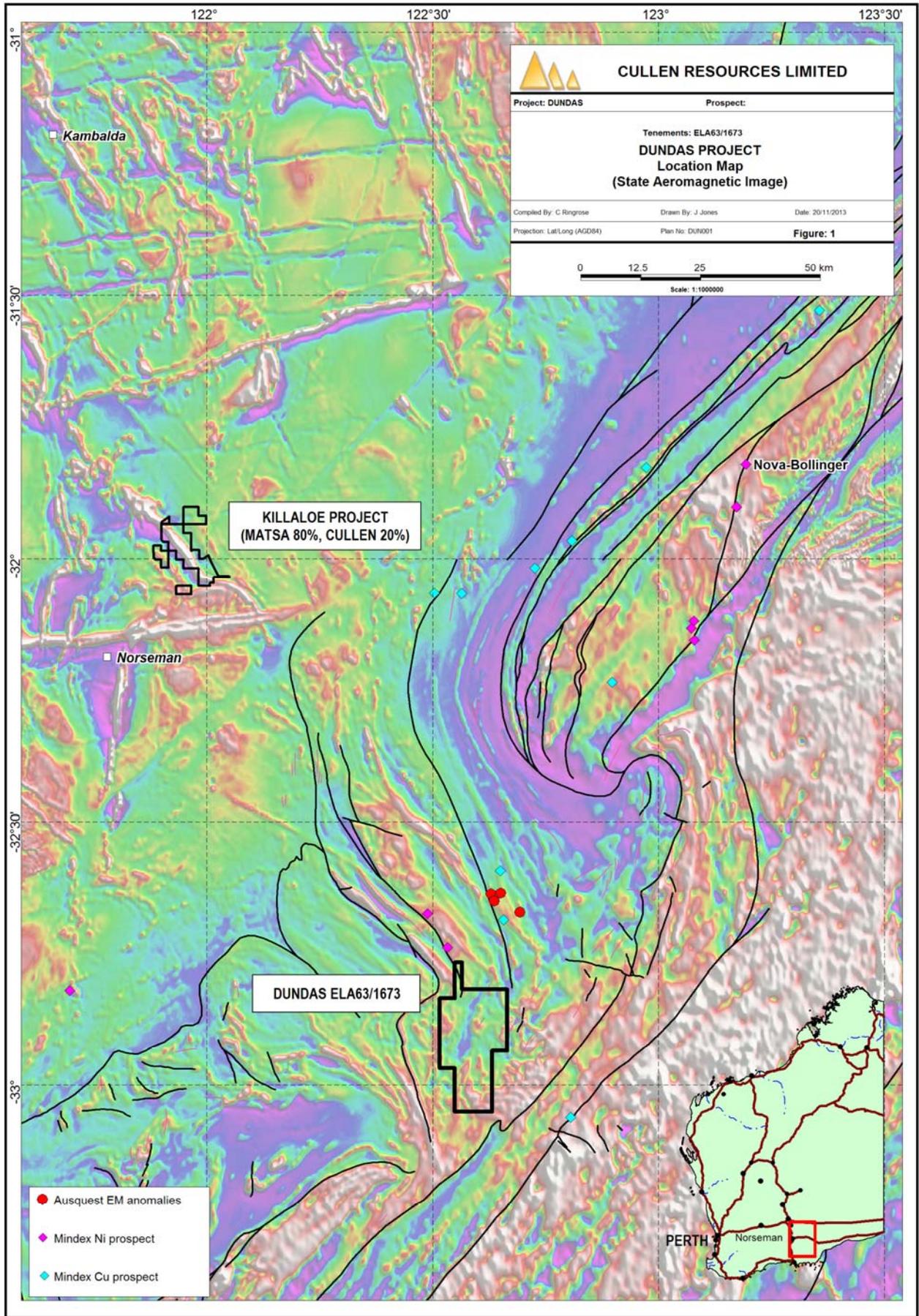
Cullen has made an exploration licence application in the Dundas Region of the SE Yilgarn (ELA 63/1673 – 289km<sup>2</sup>), which it considers is prospective for nickel-copper deposits – an area ~130km south-west of the Nova-Bollinger deposits.

The Proterozoic Fraser Range belt, along the south-east margin of the Archean Yilgarn craton, has received significant exploration attention in the wake of the discovery of the Nova-Bollinger nickel-copper-cobalt deposits by Sirius Resources. These discoveries have driven renewed interest from north of the Tropicana gold deposit along the Albany-Fraser Orogen, in what is a relatively under-explored region characterized by remoteness and areas of thick and variable regolith.

Part of the recent exploration push has yielded a number of EM targets in the Dundas Region, which borders the south-west margin of the main Fraser Range Complex, for Ausquest Limited (AQD:ASX release of 12<sup>th</sup> Nov 2013). There are also known nickel occurrences, from W.A. Department of Mines and Petroleum's "Mindex" database at Fairwater just outside Cullen's application (see Figure).

On the basis of these occurrences, Cullen's application may include favourable, mafic-ultramafic stratigraphy, prospective for nickel-copper deposits, for further evaluation. Cullen's application area appears to have been only lightly explored previously, which probably reflects the complexity of the regolith as evidenced by available maps.

Cullen will commence data compilation and planning for geophysical and geochemical surveying, pending application processing over the next 3-6 months.



### **3. TARGET GENERATION FOR GOLD AND IRON ORE, WYLOO DOME REGION, ASHBURTON, W.A.**

The success of Northern Star Resources Limited's high-grade Paulsens gold mine has refocused attention on the prospectivity of the Wyloo dome region and the Paraburdoo Hinge Zone (PHZ), structural corridor – a complex, extensive zone of faulting which forms the boundary between the Ashburton and Hamersley Basins. The PHZ hosts the Paulsens and Mt Olympus gold deposits.

Cullen has a large tenement holding in North West W.A. (Ashburton/West Pilbara Region) which includes a number of joint ventures: one with Fortescue Mining Group Ltd (Fortescue) for iron ore; a second, with APIJV in the Mt Stuart Iron Ore JV; and a third with Northern Star Resources Limited for all minerals (see ASX: CUL [Cullen Quarterly Sept 2013](#)). Cullen holds the mineral rights other than iron ore in the JVs with Fortescue and APIJV, and also holds two exploration licences in its own right (100%).

Cullen has compiled numerous regional datasets as a basis for advancing its gold exploration. The following prospects, will be the focus for Cullen's field review, and target identification and prioritisation, with further geophysical and geochemical surveying prior to drilling.

#### **CARDO BORE PROJECT – EL08/1341** Cullen 100% of mineral rights other than iron

Cullen's Cardo Bore tenement lies ~35km north of the Paulsen's Gold Mine within the Paraburdoo Hinge Zone. Two gold targets have been identified for further investigation:

- a 500m long strike-parallel zone of siliceous breccia within the Mount McGrath Formation; and
- a 1.5km long NW trending structure within the Duck Creek Dolomite.

#### **MT EDITH PROJECT – EL08/2227** Cullen 100%

This tenement is mostly underlain by well-exposed metabasalt and dolerite of the Archaean upper Fortescue Group, which is the host rock to the Paulsens deposit, located approximately 15km to the east. Numerous NW striking, medium-grained dolerite and gabbro dykes and sills intrude the Fortescue basalts. Interpreted faults/shears include NW, N and NE orientations - the focus of initial follow-up work.

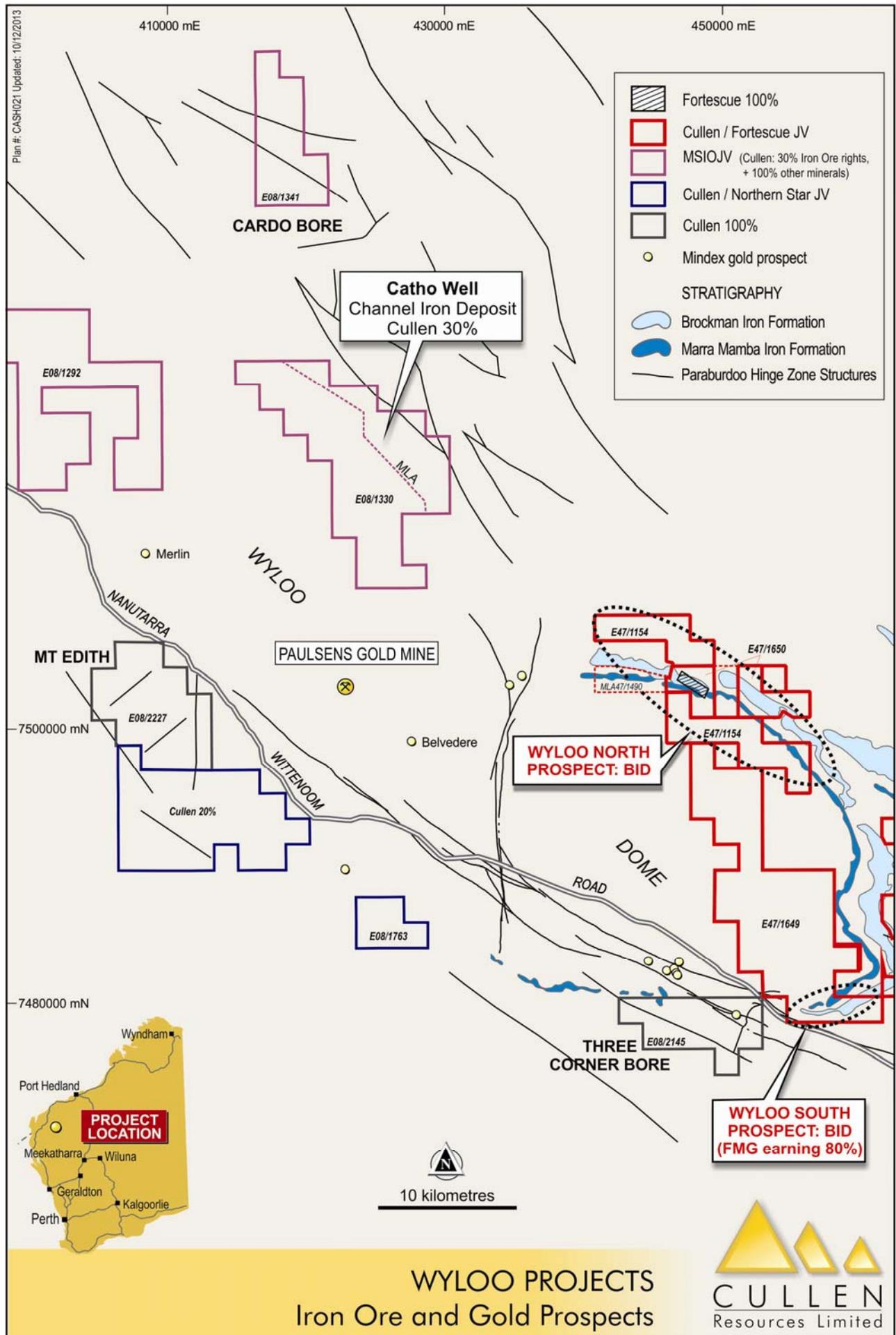
#### **THREE CORNER BORE PROJECT – EL08/2145** Cullen 100%

##### **Gold prospectivity**

Lithologies within this tenement include: upper Fortescue Group volcanics; a thin slice of Marra Mamba Iron Formation of the Hamersley Group sediments; and overlying, Lower Wyloo Group sediments and volcanics. North West trending structures of the Paraburdoo Hinge Zone are interpreted by Cullen to control the location of the known gold prospects marked by hydrothermal alteration and quartz veining. Exploration models applicable to this tenement include: Mt Olympus-type (sediment-hosted, "Carlin-style"); Paulsens-Type (auriferous sulphide at tectonised margin of quartz veining); and Monster Lode-type (quartz lode system hosted in Marra Mamba BIFs).

##### **Iron Ore prospectivity**

The tenement includes Marra Mamba iron formation and mapped areas of Tertiary Pisolite which warrant further attention. The tenement lies immediately west of the Wyloo South bedded iron deposit (BID).



#### **4. GOVERNMENT CO-FUNDED EXPLORATION DRILLING GRANT APPROVED**

Cullen has been awarded a grant from the W.A.'s Co-funded drilling initiative for 2014 to test the depth extension of a geochemical anomaly at the Southern Gold Prospect on its EL53/1299 in the Eureka Project, Western Australia. Previous RC drilling supported by Royalties for Regions funding in 2013 (MERC110 – MERC115) has shown convincingly that gold mineralization is present directly beneath a geochemical anomaly, and that this mineralization dips at a 45 degree angle to the north, probably along a thrust fault. Diamond drilling will now test the depth continuation and structural setting of this mineralization.

##### **Summary**

Cullen's Managing Director, Chris Ringrose, comments: 'The Company has a clear exploration roadmap in front of it for the next six months and we plan to drill several highly prospective targets and explore in some of Australia's most promising exploration hotspots. Together with our Joint Ventures, managed by others, for iron ore, we have multiple opportunities and look forward to exploration success in the New Year.'

**Dr Chris Ringrose, Managing Director**

**13 December, 2013**

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**ABOUT CULLEN:** Cullen is a Perth-based minerals explorer with a multi-commodity portfolio including projects managed through a number of JVs with key partners (FMG, APIJV (Aquila-AMCI), Hannans Reward, Northern Star, Matsa and Thundelarra/Lion One Metals), and a number of projects in its own right. The Company's strategy is to identify and build targets based on: data compilation, field reconnaissance and early-stage exploration (particularly geochemistry). Projects are sought for most commodities mainly in Australia but with selected consideration of overseas opportunities, currently in Namibia, Canada and Scandinavia. A number of Cullen's 100%-owned projects are at the target drill-testing stage.

**ATTRIBUTION:** **Competent Person Statement**

*The information in this report that relates to exploration activities is based on information compiled by Dr Chris Ringrose, Managing Director, Cullen Resources Limited who is a Member of the Australasian Institute of Mining and Metallurgy. Dr. Ringrose is a full-time employee of Cullen Resources Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration, and to the activity which has been undertaken, to qualify as a Competent Person as defined by the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr. Ringrose consents to the report being issued in the form and context in which it appears.*