



ASSAYS TO 48.1% MANGANESE FROM NEW EARAHEEDY DISCOVERIES

Zenith Minerals Limited
ABN 96 119 397 938

August 12, 2014

HIGHLIGHTS

- Results have now been received from rock sampling conducted during first-pass mapping on two new, strike extensive manganese prospects: Bluegrass and Blue Elbow at Zenith's 100% owned Earacheedy Project.
- **Bluegrass Prospect**
 - **Results up to 48.1% Mn** in outcropping, massive to interbedded manganese beds, up to 1.5m thick over 3km of strike
 - Mapping identified zones with more than one manganese unit
 - Flat lying to shallow dipping manganese is an attractive drill target, with easy drill access
- **Blue Elbow Prospect**
 - **Results up to 38.2% Mn** in outcropping manganese, over >500m of strike of massive to locally bedded manganese >1m thick
 - Shallow northerly dip of beds provides an attractive drill target with easy drill access

On the 6th August 2014 Zenith announced to the ASX the discovery of two new manganese prospects during initial field reconnaissance programs conducted within newly acquired ground within its 100% owned Earacheedy Project. The Company is now pleased to report assay results received from surface sampling undertaken during that initial field program.

Assay results from rock chip sampling of out-cropping strike extensive manganese zones returned high-grade manganese **results up to 48.1%Mn and 38.2%Mn** from the new manganese prospects, Bluegrass and Blue Elbow respectively (Figure 1).

As previously reported - Zenith's targeted geological reconnaissance mapping program was undertaken to assess the area immediately along strike of its Lockeridge Manganese Prospect. The field program identified generally shallow north-dipping, outcropping manganese horizons over 3 kilometres of strike at Bluegrass and over 500 metres of strike at Blue Elbow.

The reconnaissance program conducted over 2 days was focused on only two areas identified in Zenith's desktop manganese target study and the Company believes that further systematic geological mapping programs over the newly acquired tenure is likely to turn up additional manganese prospects.

Activities

Exploration/Development

- Earacheedy Manganese
- Kavaklitepe Gold
- Develin Creek Copper-Zinc
- My Minnie Gold
- Mt Alexander Magnetite Iron

Details as at June 2014

Issued Shares	113.1 m
Unlisted options	1.1 m
Mkt. Cap. (\$0.11)	A\$ 12.0m
Cash Jun 14	A\$1.1m
Debt	Nil

Directors

Michael Clifford:

Managing Director

Mike Joyce:

Non Exec Chairman

Stan Macdonald:

Non Exec Director

Julian Goldsworthy:

Non Exec Director

Major Shareholders

HSBC Custod. Nom	9.3 %
Giralia (Atlas Iron)	9.1%
Miquilini	5.3%
Tilbrook/Grey Willow	5.3%
Nada Granich	4.8%
Yandal Inv. PL	3.0%



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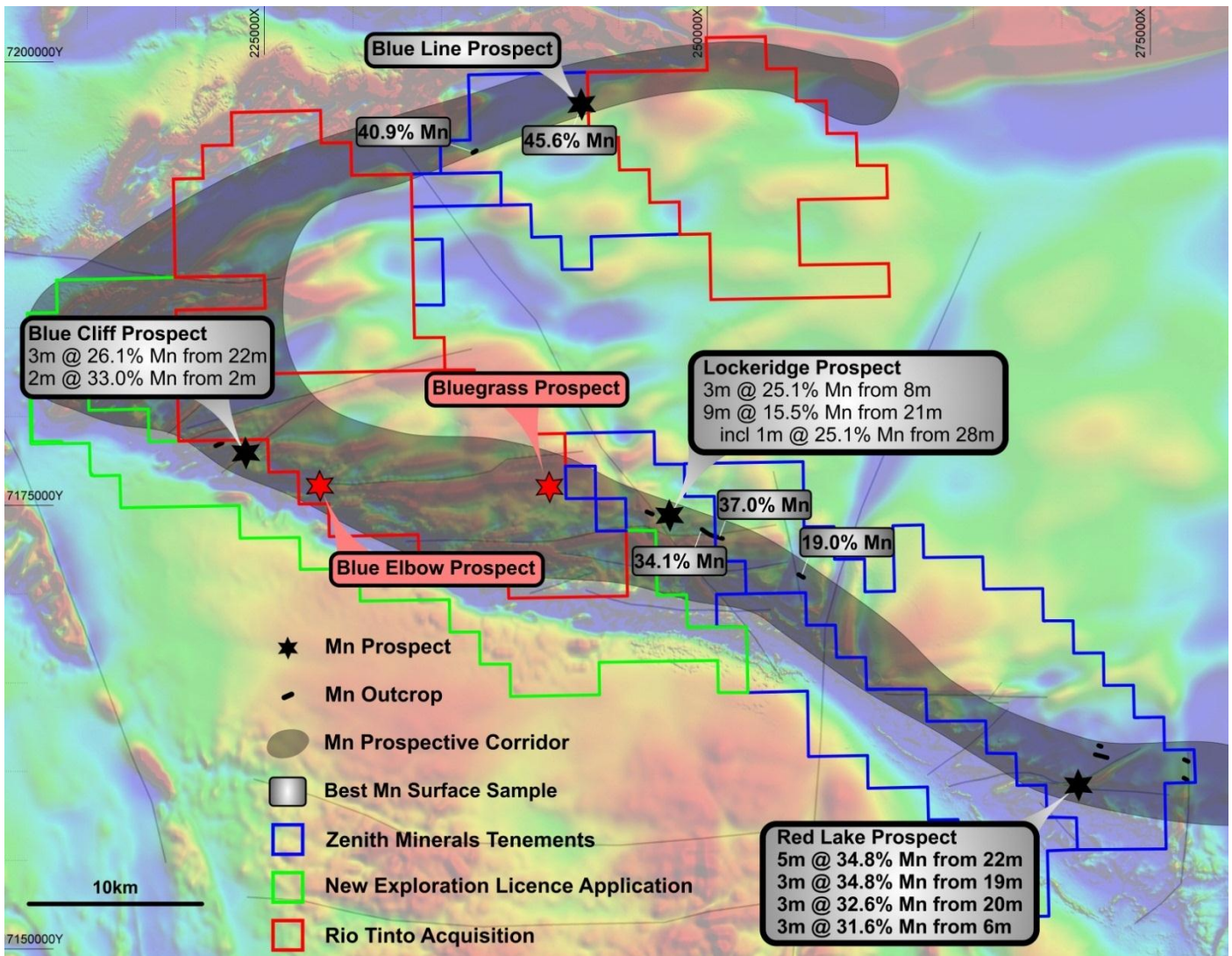


Figure 1: Earaheedy Project – Tenure and Prospects

Bluegrass Prospect

Manganese mineralisation at Bluegrass crops out over 3km of strike in an east-west orientation. Massive manganese beds vary from 0.1 metres to greater than 1.5 metres thick, locally interbedded with thinner, folded, diffuse manganese zones 0.1 metres thick and quartz manganese rich zones that appear to be locally orthogonal to the overall strike of mineralisation (Figure 2). Locally it appears there is more than one massive manganese unit.

19 rock chip samples taken along the strike of the out-cropping manganese unit returned:

- 8 samples with manganese grades equal to or greater than 40% Mn (maximum grade 48.1% Mn) and
- a further 7 samples grading greater than 33% Mn.

All sample results and location details are shown in Figure 2 and details of sampling and results were included in the JORC Tables attached to the previous ASX announcement dated 6th August 2014.

Bluegrass lies along trend from Zenith's Lockeridge Manganese Prospect where drilling in 2013 returned: 3 metres @ 25.1% Mn from 8 metres and 3 metres @ 20.2% Mn from 27 metres depth in a gently northeast dipping horizon.

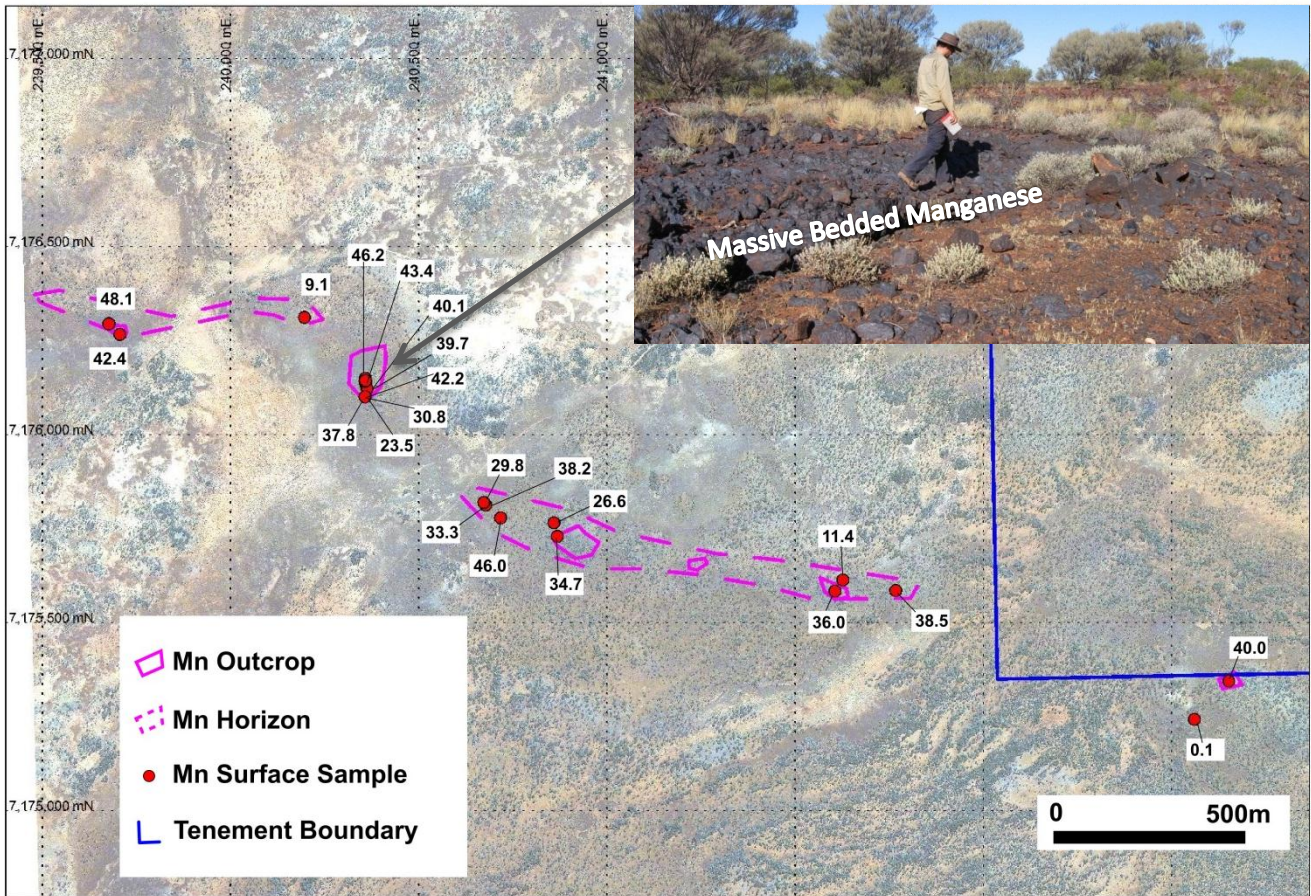
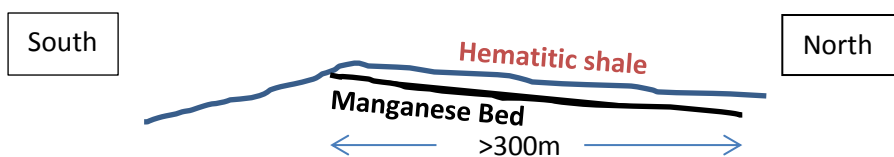


Figure 2: Bluegrass Prospect – Manganese Outcrops with Manganese Grade (Mn %) over Satellite Image Backdrop

Blue Elbow Prospect

The manganese mineralisation at the Blue Elbow prospect outcrops above a ferruginous chert which forms a small east-west ridge. Manganese mineralisation is in-turn overlain by hematitic shales that form a topographic dip surface (shallow northerly dip ~5 degrees), it is likely that the manganese horizon extends to the north at shallow depths beneath this hematitic shale unit (as shown below). Along strike to the east the manganese was tracked in 3 horizons, 2 that parallel the chert ridge the other which strikes more north-south into a small topographic saddle – the latter zone is both massive but generally patchier with more rock clasts in the manganese zone than observed in the main ridge zone area. Sample results from two rock samples returned 27.5%Mn and 38.2%Mn from the main ridge and saddle area respectively (Figure 3).



All sample results and location details are shown in Figure 3 and details of sampling and results were included in the JORC Tables attached to the previous ASX announcement dated 6th August 2014.



The Blue Elbow prospect is in a similar stratigraphic sequence to Zenith's Red Lake Manganese Deposit where drilling by Zenith in 2012 returned results up to: 3m @ 41% Mn (within 5m @ 34.8% Mn from 22m depth), and 3 metres @ 34.8% Mn from 19 metres (ZLRC057), including 1m @ 42.3% Mn.

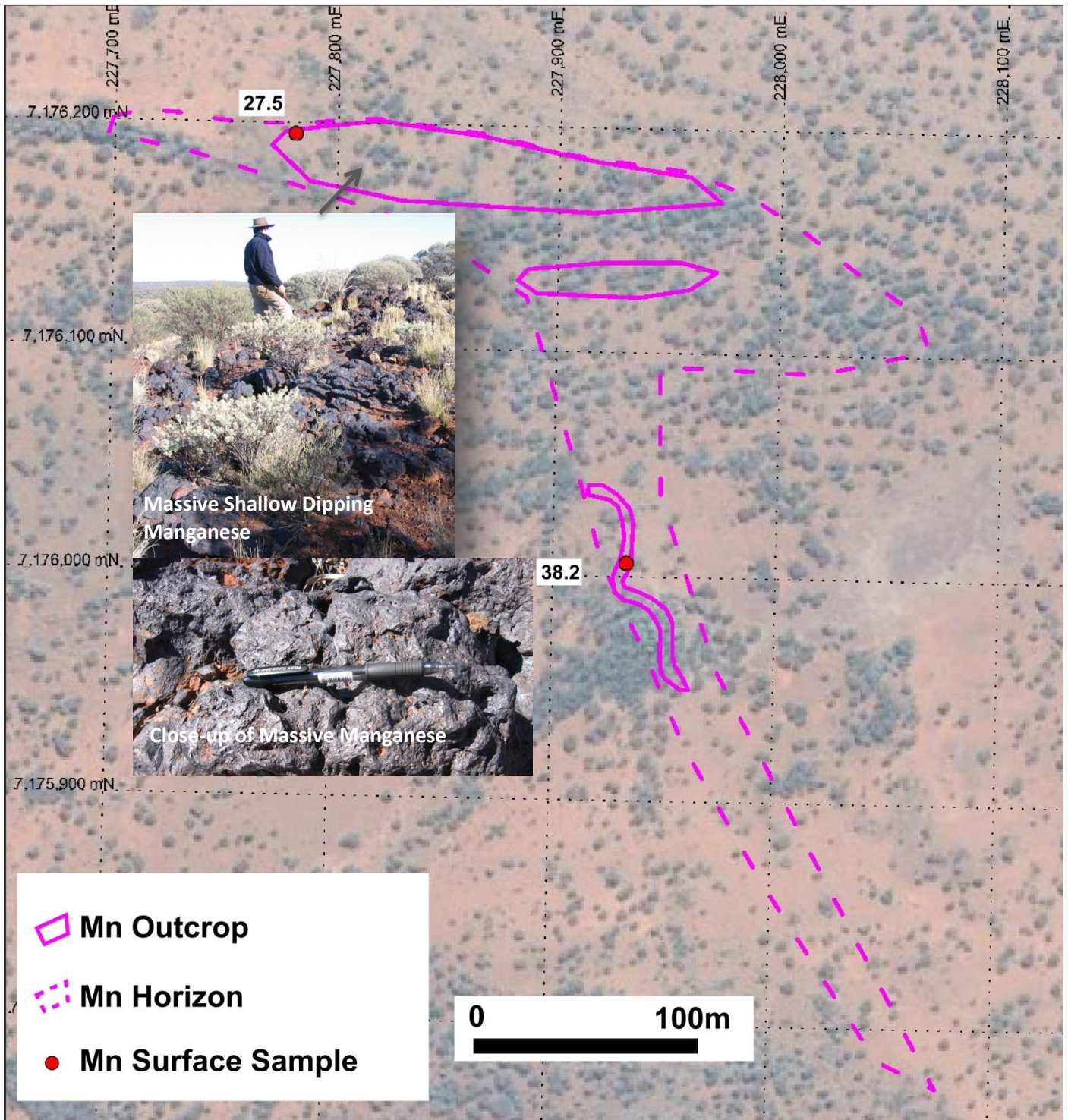


Figure 3: Blue Elbow Prospect – Manganese Outcrops with Manganese Grade (Mn %) over Satellite Image Backdrop



Forward Program

The Company is planning for drill testing. Both of the new prospect areas are lightly vegetated and topography is gently undulating providing easy drill access.

In addition to drill planning Zenith is undertaking a revised resource estimate for its 100% owned Red Lake deposit as a result of a new geological interpretation and to include new density data both of which are likely to impact on the resource estimate. The revised estimate will also ensure that the resource is compliant with the new JORC (2012) code.

BACKGROUND

Zenith was the first mover for manganese in the Proterozoic aged Earraheedy Basin in Western Australia, and has discovered and drill tested several zones of near surface manganese oxide. In 2012 the Company reported the first potential direct shipping ore (“DSO”) grade manganese drill intersections in the Earraheedy Basin and in April 2013 completed a maiden JORC Inferred Resource at the Red Lake deposit, as well as preliminary metallurgical work.

The Proterozoic aged Earraheedy Basin north of Wiluna in WA is a potential new manganese province with similarities to the giant Kalahari manganese field in South Africa. As first mover Zenith established a strong land position with tenements covering ~75 strike km of prospective stratigraphy, subsequently extended to ~130km with the recently acquisition of Rio Tinto’s Earraheedy tenements. Zenith’s priority target is high-grade (>40% Mn) manganese oxide formed by weathering or supergene upgrade of primary carbonate manganese.

Zenith completed the first ever drilling for manganese in the western Earraheedy in late 2010 at the Lockeridge prospect, intersecting a shallow dipping bed of manganese mineralisation extending from surface to 1.2km down dip. Better results from Lockeridge include 12m @ 11.1% Mn from 28m depth, and 3m @ 18.0% Mn from 37m depth. Subsequent drilling returned thick zones of manganese oxide at the Black and Blue prospect; 31m @ 7.9% Mn from surface, incl. 2m @ 17.1 %Mn, 1m @ 22% & 3m @ 14.3 %Mn.

The first DSO grade Mn drill intersections recorded in the Earraheedy Basin were reported by Zenith in 2012 at the Red Lake prospect. Drilling results include; 3m @ 41% Mn (within 5m @ 34.8% Mn from 22m depth), and **3 metres @ 34.8% Mn from 19 metres (ZLRC057), including 1m @ 42.3% Mn.**

A maiden resource estimate for the Red Lake prospect was reported to the ASX on 9 April 2013. The tonnage/grade estimates are tabulated below at both a 5% and a 10% Mn cut-off grade. The resource estimate encompasses a fault-bounded sub-horizontal manganese oxide horizon with a lateral extent of ~400 metres by 300 metres, up to 4 metres in true thickness.

Red Lake Mn Mineral Resource estimate

Classification	Reporting Cut-off Grade	Tonnes (Mt)	Mn %	Fe %	Si %	Al2O3 %	P %	S %
Inferred	5 % Mn	1.6	15.7	21	23.1	9.8	0.25	0.11
Inferred	10% Mn	1.2	19.0	19.1	20.8	9.4	0.26	0.13

Note: The CSA Mineral Resource was estimated within constraining wireframe solids based on the specified nominal lower cut-off grade for Mn. The Mineral Resource is quoted from all blocks above the specified Mn cut-off grade %. Differences may occur due to rounding.

Zenith’s priority target in the Earraheedy Basin is high-grade near surface direct shipping (DSO) manganese. In addition to the high-grade DSO manganese intersected in Zenith drilling to date, screening and metallurgical testwork by Zenith shows potential to significantly upgrade the lower grade manganese horizons and further testwork is planned on coarser sample sizes that will better represent manganese material that may be mined.



The Earraheedy project also includes a 30 km long zone of carbonate-hosted zinc (Zn) and lead (Pb) mineralisation in the Yelma Formation at the base of the Earraheedy Basin stratigraphy. Broadly spaced drilling by RGC Exploration from 1992 to 1996 defined several prospects containing drill intersections of oxidised and primary Zn-Pb mineralisation, including;

- Navajoh: 7.3 m @ 6.1 % Zn, 0.77% Pb (incl. 3.3 m @ 11.2% Zn, and 0.93% Pb)
- Magazine: 5 m @ 5.6% Zn +Pb (incl. 2 m @ 8.2% Zn, 2.8% Pb)
- Chinook: 6 metres @ 3.63% Pb +Zn.

The information in this report that relates to Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists Mr Clifford 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The information relating to the Cazaly Resources Blue Cliffs drilling results was prepared and first disclosed to ASX on 27 July 2012 under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The Company has advised that it is not aware of any new information or data that materially affects the information included in the 27 July 2012 market announcement, and that all material assumptions and technical parameters underpinning the Exploration results in the 27 July 2012 market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this Report that relates to in-situ Mineral Resources at Zenith Minerals Limited's Red Lake project is extracted from the 9 April 2013 ASX release entitled "Maiden Manganese Resource Estimate for Earraheedy Project" which is available to view on the Zenith Minerals website (www.zenithminerals.com.au). The Mineral Resource estimate was prepared and first disclosed under the JORC Code 2004, and is based on information compiled by Grant Louw an employee of CSA Global. Grant Louw takes overall responsibility for the Mineral Resource estimate. He is a Member of the Australian Institute of Geoscientists and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2004 and 2012 Editions). Mr Louw consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. This information was prepared and first disclosed to ASX on 9 April 2012 under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The Company has advised that it is not aware of any new information or data that materially affects the information included in the 9 April 2013 market announcement, and that all material assumptions and technical parameters underpinning the Mineral Resource estimate in the 9 April 2013 market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



About Zenith

Zenith is advancing its project portfolio of high-quality, gold, base metal and manganese projects whilst building a superior project base of high-quality advanced exploration assets:

Kavaklitepe Gold Project, Turkey (ZNC earning 70%)

- Recent (2013) grass roots gold discovery in Tethyan Belt – (“elephant” terrain)
- Large, virtually drill-ready, high order gold soil / IP anomaly >1km strike
 - Trenching and drilling (permitting in progress)

Develin Creek Copper-Zinc-Silver-Gold, QLD (ZNC initial 51%, option for 100%)

- 3 known VHMS massive sulphide deposits with JORC resources, 50km of strike of host volcanics
- 2011 drilling outside resource; 13.2 metres @ 3.3% copper, 4.0% zinc, 30g/t silver and 0.4g/t gold
 - Drilling to extend known deposits, geophysics, geochemistry to detect new targets

Mt Minnie Gold Project, WA (ZNC 100%)

- 75km strike of major regional fault. Alteration, geochemistry, rock samples 64.2 and 21.5 g/t Au
 - Initial field assessment to follow-up and extend known prospects

Earaheedy Manganese (and Pb,Zn) Project, WA (ZNC 100%)

- New manganese province discovered by ZNC, potential DSO drill intersections (+40%Mn)
- Target area doubled with new acquisitions (RIO tenements, Blue Cliffs).
 - Mapping, sampling, drilling new ground, beneficiation tests, assess geophysical techniques

Mt Alexander Iron Ore, WA (ZNC 100%)

- JORC magnetite Resource 535 Mt @ 30.0% Fe close to West Pilbara coast, 50% of target untested.
 - Seeking development partner/ buyer for project

Other

- Divesting Indonesian coal project – Conditional offer received, US\$500K +royalty US\$1/t
- Evaluating new project opportunities (acquire at bottom of the cycle)

Zenith Minerals Limited

12th August 2014

For further information contact;

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