



ASX & MEDIA RELEASE

Zenith
Minerals
Limited

ABN 96 119 397 938

ASX CODE: ZNC

Activities

Exploration/Development
Mt Alexander Magnetite Iron
Earaheedy Manganese

Details as at Dec 2013

Issued Shares	95.5 m
Unlisted options	0.2 m
Mkt. Cap. (\$0.1)	A\$ 9.5m
Cash Dec 2013	A\$ 0.85m
Debt	Nil

Directors

Mike Joyce Chairman
Stan Macdonald Non Exec Director
Julian Goldsworthy Non Exec Director

Major Shareholders

HSBC Custod. Nom.	13.5 %
Giralia (Atlas Iron)	10.7%
Nada Granich	5.2%
Tilbrook/Grey Willow	3.9%
Yandal Inv. PL	3.4%

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QUARTERLY ACTIVITY REPORT FOR THE PERIOD ENDING 31 December 2013

HIGHLIGHTS

Zenith announced the proposed acquisition of S2M2 Coal Pty Ltd, an unlisted Australian company with assets including:

- an exclusive option to earn up to 70% interest at the Kavaklitepe gold project in Turkey;
 - two coherent plus 800 metre long high order gold in soil anomalies, with peak soil sample values over 1 g/t gold
 - continuous rock chip traverse of **54.0 metres grading 3.33 g/t gold**, including **21.5 metres grading 7.2 g/t gold** within the NW soil anomaly
 - continuous rock chip traverse of **21 metres grading 2.67 g/t gold** within the NE anomaly
 - Kavaklitepe has yet to be drilled (only discovered in early 2013)
- **Sungai Roi Coal project in Kalimantan (right to earn 90%)**
- **Mt Minnie gold project WA (100%)**
- **cash of ~ A\$660,000**

S2M2 Coal CEO Mick Clifford to join Zenith as MD on completion

Earaheedy Manganese (ZNC 100%)

Drilling completed testing manganese targets in the Earaheedy Basin:

- extensions to Red Lake deposit intersected to the southeast of the resource; hole ZRLAC073- **2m @ 19.4%Mn incl. 1m @ 20.5%Mn**
- drilling confirmed manganese oxide up to 150m down dip from the high grade outcrops at Lockeridge prospect; hole ZTAC026 - **3m @ 25.1% Mn incl 1m @ 29.6%**
- first pass test of manganese outcrops at Christmas Bore Prospect intersected fault related manganese; hole ZBAC004 - **5m @ 16.1% Mn, incl 1m @ 20.3% Mn and 1m @ 22.7% Mn**

3 new tenement applications lodged over zinc - lead targets

Mount Alexander Iron (ZNC 100%)

Zenith completed the acquisition of a 100% interest in the Mount Alexander North tenement, adjoining Zenith's 100% owned 535 million tonne JORC magnetite resource.

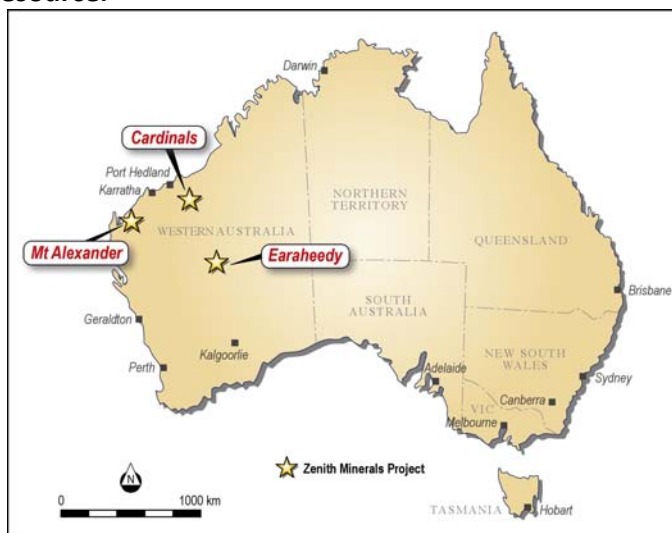


Figure 1: Zenith Minerals Project Locations



CORPORATE

Zenith Minerals Limited (“Zenith”) announced on 23 December (ASX release amended 31 December 2013) that it has entered into binding agreements to purchase all of the shares in S2M2 Coal Pty Ltd (“S2M2 Coal”). The total consideration for the transaction, which will result in S2M2 Coal becoming a wholly owned subsidiary of Zenith, is approximately 16.77 million fully paid ZNC shares.

S2M2 Coal’s key asset is a recently negotiated exclusive option (“Turkish Agreement”) to earn up to a 70% interest in an exciting new gold discovery in Turkey; the Kavaklitepe Gold Project in Turkey, from Canadian junior Columbus Copper Corporation (CCU: TSX-V), see details below.

Zenith will convene an Extraordinary General Meeting at which all relevant shareholder approvals will be sought for the acquisition of S2M2 Coal. Further details of the acquisition will be included in the Notice of Meeting to be sent to Zenith shareholders.

S2M2 COAL’S ASSETS

Kavaklitepe Gold Project Turkey (S2M2 Earning up to 70%)

Under the Turkish Agreement, S2M2 Coal has an exclusive option to earn up to a 70% interest in Canadian TSX-V listed Columbus Copper’s wholly-owned Kavaklitepe Gold Project (“the Property”) located in western Turkey.

Columbus Copper reported the discovery of gold mineralisation at Kavaklitepe in a TSX-V release dated January 17, 2013. The original discovery was made by following up a stream sediment anomaly with 5.2 grams per tonne (“gpt”) gold returned from a rock chip composite in a stream bed outcrop. A small trench in an adjacent road cut was opened up perpendicular to the observed mineralization strike and returned a weighted average grade of 2.67 gpt gold over 21 metres of exposure. About 1.4 kilometres northwest from the discovery outcrop follow up on a soil sample anomaly, peaking at 6.05 gpt gold, led to identification of a brecciated zone striking 50NE with low-sulphidation epithermal gold signature. Four rock samples collected there returned 28.2 gpt, 21.7 gpt, 6.7 gpt and 3.66 gpt gold respectively (see Columbus TSX-V release of March 1, 2013). Further rock sampling along a road bank in this zone confirmed the presence of high-grade gold mineralization returning 54.0 metres of continuous rock chips with an average grade of 3.33 gpt gold, including 21.5 metres grading 7.2 gpt gold.

Columbus Copper also collected a total of 2,127 soil samples on the project in 50 metre x 50 metre and 100 metre x 100 metre grids covering an area of approximately 11 square kilometres, of which 176 samples returned gold grades higher than 50 ppb, 112 - higher than 100 ppb and 40 - higher than 250 ppb with 9 of these samples containing more than 1000 ppb (1 gpt) gold. The soil sampling outlined a potentially mineralized zone measuring 850 metres by 250 metres and continuing for another 800 metres to the southwest and possibly displaced by a northwest southeast trending fault at its southern margin. There are strong, coincident arsenic and antimony anomalies.

Under the Turkish Agreement, S2M2 Coal may earn an initial 51% interest in the Property over three years by, among other things, making US\$400,000 in cash payments of which US\$250,000 was paid on October 9, 2013 and completing US\$2,500,000 in cumulative exploration expenditures on the Property. If S2M2 earns the initial 51% interest in the Property, it may elect to earn a further 19%, for 70% in total, by paying Columbus Copper an additional US\$500,000 and by completing a bankable feasibility study within a four year period. The Turkish Agreement contains other terms and conditions that are customary for an option/joint venture contract.

S2M2 Coal is funding a program of geophysical surveys (induced polarisation and ground magnetics) to endeavour to see through the thin soil cover and leaf litter etc, along with detailed geological mapping of the scarce outcrop on the Property prior to trenching and drill testing.

For additional technical information on the Kavaklitepe Gold Project, please refer to the Columbus Copper TSX-V release dated June 11, 2013.



Mt Minnie Gold Project – Western Australia (S2M2 100%)

The Mt Minnie project consisting of two exploration licence applications is situated approximately 240 km northeast of Carnarvon. The Mt Minnie North – Ram West tenements cover a portion of terrain composed predominantly of mid-Proterozoic granite assigned to the Minnie Creek batholith prospective for reduced intrusion related gold deposits. The project has 7 existing gold prospects requiring follow-up that to date have only been the subject of cursory reconnaissance exploration activity.

Mt Minnie North (E09/2063) – Previous rock chip sampling at the Woods Prospect has identified a zone of very positive gold results including: 21.5 g/t Au, 0.49 g/t Au, 0.3 g/t Au, 0.15 g/t Au and 1.09 g/t Au. In addition rock chip sampling has returned up to 6.64g/t Au from the Osborne Well/Neptune Prospect area, located approximately 12 km to the south east of Woods Prospect. Mineralisation at all prospects is associated with quartz veining and sheared-altered granite.

Ram West (E09/2064) – Previous prospecting has defined 5 gold prospects over an area 10km x 5km that have not been followed up after their initial discovery: Ram West – gold to 0.85 g/t Au with associated bismuth (0.14%), tungsten and molybdenum, Fenceline – gold up to 64.2 g/t Au, Roadside – gold up to 0.3 g/t Au with associated tungsten and molybdenum, Michelle's Copper – gold up to 0.6 g/t Au with associated bismuth (0.2%), molybdenum (278 ppm), tungsten (0.12%) and copper (3.6%), Clay pan – gold up to 0.28 g/t Au. S2M2 Coal is planning a program of detailed mapping and sampling to define the extents of the gold mineralisation.

Sungai Roi Coal Project - Indonesia (Right to earn 90%)

The Sungai Roi coal concession in East Barito, Kalimantan, Indonesia contains an Exploration Target estimated in accordance with Section 17 and Section 38 of the JORC Guidelines 2012 of approximately 1 to 1.2 million tonnes of high-grade (6800 - 6900 kcal/kg GAR) thermal coal. *The potential quantity and grade of this Exploration Target is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

The Exploration Target was estimated by S2M2 Coal based on detailed mapping and sampling of 14 shallow dipping coal seams exposures over a strike length of 3km within a width of 800m and a 40m vertical range based on topographic contours. Cumulative coal seam thickness is up to 1.87m. Drilling to test the validity of the Exploration Target is recommended subject to receipt of necessary permits and approvals.

S2M2 Coal has the exclusive right to conduct due diligence on the Sungai Roi coal concession and the option, at its election, to acquire a 90% interest in the company owning the Sungai Roi coal concession. The multiple, flat lying coal seams of the concession crop out over 3km of strike within an area of gently undulating topography. The project is also close to existing infrastructure including haul roads and barge loading facilities that have the potential to reduce the upfront capital costs and time frame for development of the project.

In October 2013, S2M2 Coal received a conditional offer from an Indonesian entity to purchase S2M2 Coal's rights in respect of the Sungai Roi Coal Project for consideration of US\$500,000 in staged payments and a US\$1.00 royalty per tonne of coal mined. The purchaser will be responsible for all forestry permits, delineation of resources and all costs associated with furthering the Sungai Roi coal project upon signing any purchase agreement. Due diligence and legal documentation of the sale and purchase agreement is in progress.

S2M2 Coal Cash and other assets

At 30 June 2013 S2M2 Coal Pty Ltd had cash deposits of A\$1,044,036, which have been depleted since by the option payment of US\$250,000 on October 9, 2013 to Columbus Copper. S2M2 Coal's Cash balance at mid December was approximately A\$660,000.

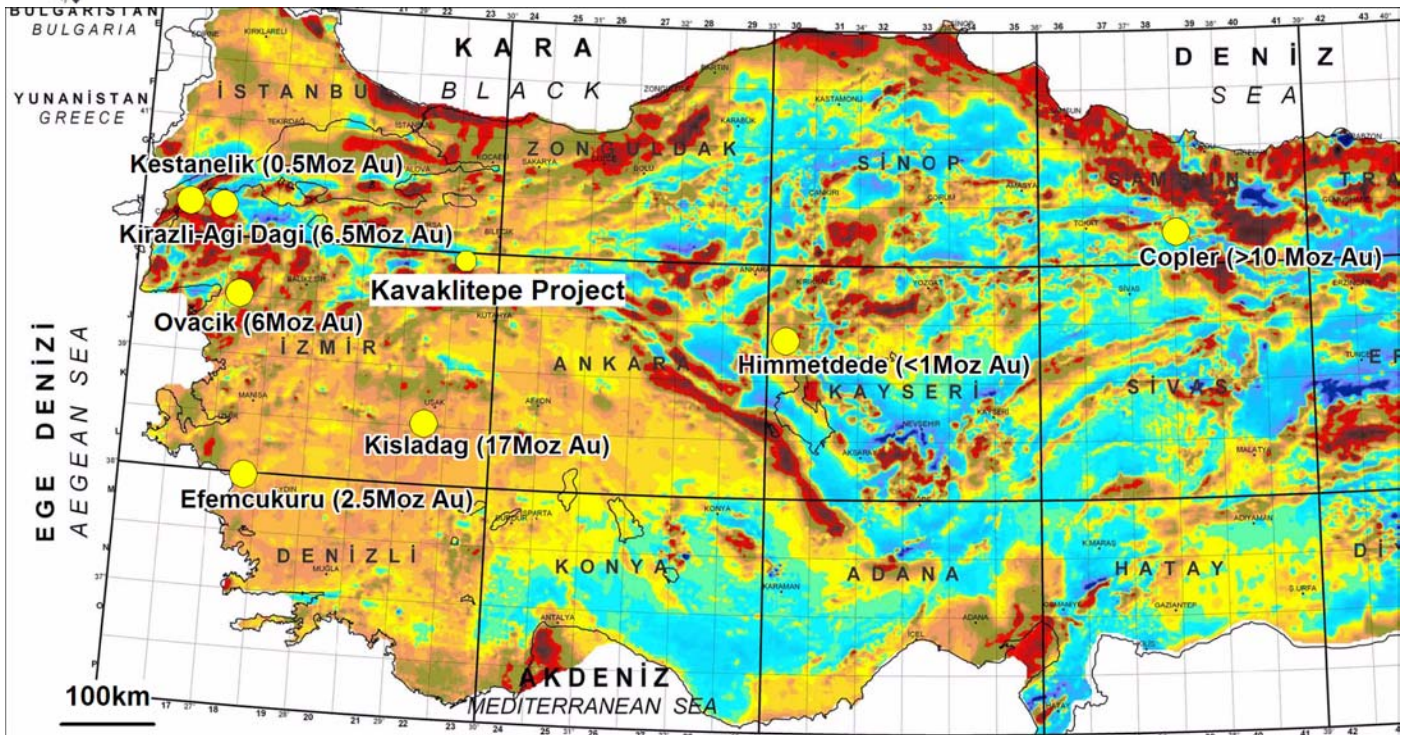


Figure 2: Location plan S2M2 Coal's Kavaklitepe gold project Turkey

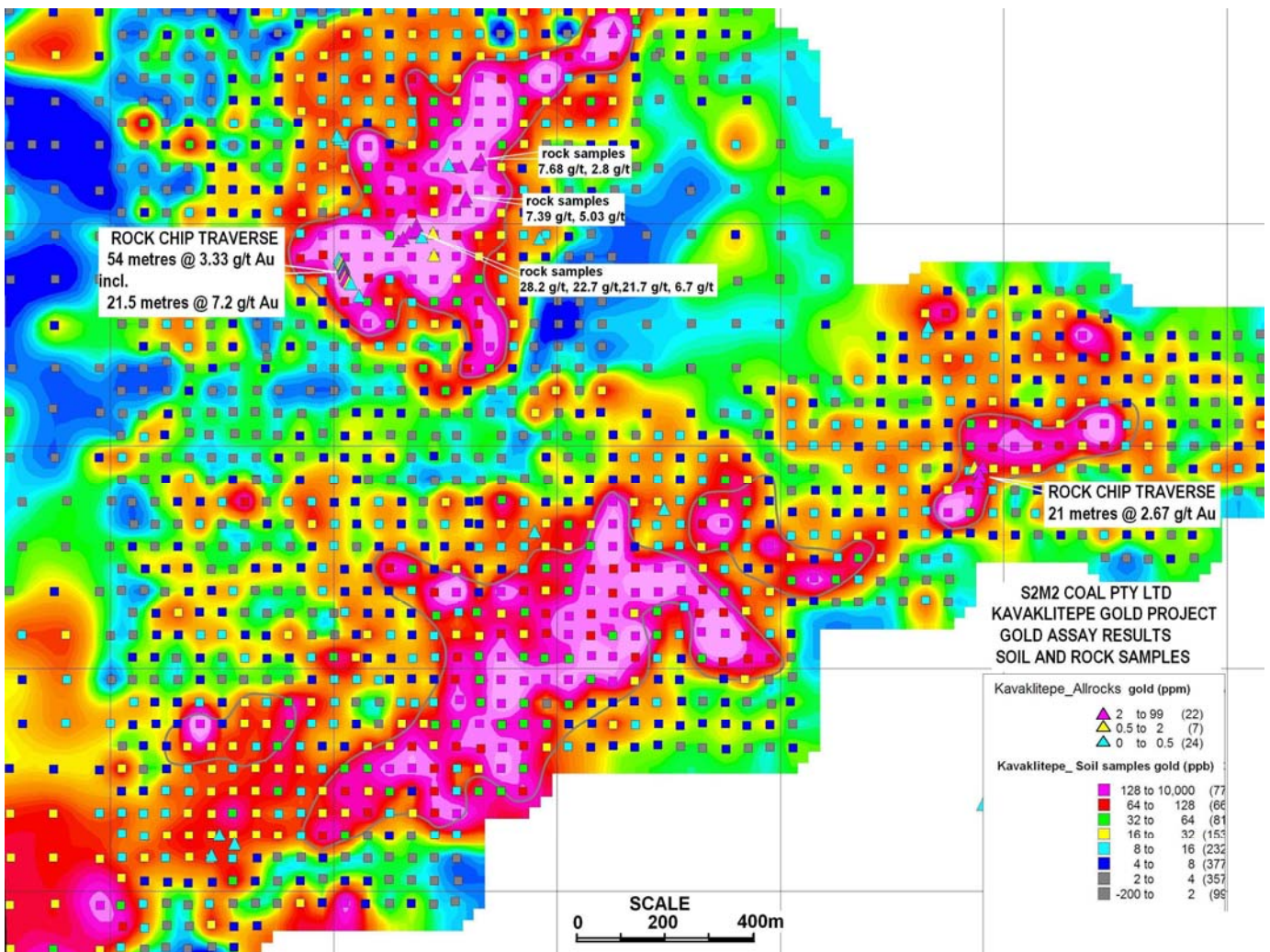


Figure 3: Kavaklitepe gold project Turkey, gold assay results for soils and rock sampling by Columbus Copper



ZENITH'S EXPLORATION PROJECTS

Earaheedy Project (Zenith Minerals 100%)

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. Zenith's priority target is high grade (>40% Mn) manganese oxide formed by weathering or supergene upgrade of primary mineralisation.

Activities in December Quarter

Aircore drilling (39 holes/1419 metres) was completed at several manganese targets during the quarter.

Ten holes tested proximal extensions to Red Lake manganese resource. Holes to the southwest of the deposit intersected shallow manganese oxide, with hole ZRLAC073; 2m @ 19.4%Mn incl. 1m @ 20.5%Mn potentially extending mineralisation some 80 metres beyond previous drilling. Three holes on the northeast edge of the deposit intersected an apparently down-faulted sequence with a high iron unit (hematitic shale) at around 30 metres below surface returning +50% Fe grades in all 3 holes (ie; ZRLAC069- 4m @ 53.1%Fe).

Two holes drilled at the Lockeridge prospect were very positive, confirming that manganese oxide could persist up to 200m down dip from the high grade outcrops. The primary manganese carbonate at Lockeridge is supergene enriched near surface. Previous Zenith drilling was stepped out more than 250 metres down dip from the outcrop, and intersected primary manganese carbonate with Mn grades in the range 3 to 10% Mn for up to 1.2 km down dip. The current program has established potential for supergene manganese oxide with both holes intersecting mineralisation. Hole ZTAC026 (3m @ 25.1% Mn incl. 1m @ 29.6%) intersected the target around 100 metres down dip from the high grade outcrop, and hole ZTAC025 (3m @ 20.2% Mn) hit partially oxidised mineralisation around 150m down dip from surface outcrop.

Outcrops of manganese oxide at the Christmas Bore Prospect on the northern side of the Earraheedy Basin were also drill tested for the first time, with 13 holes completed to confirm the presence of manganese mineralisation. The drilling intersected manganese oxide zones interpreted to be associated with a relatively steeply dipping fault (best ZBAC004 ; 5m @ 16.1% Mn, incl 1 m @ 20.3% Mn and 1m @ 22.7% Mn).

Fourteen holes were drilled on several reconnaissance traverses focussed on the intersection of interpreted fault structures with the projection beneath cover of preferred carbonate stratigraphic units in the Lockeridge and Red Lake areas. No carbonate was intersected and no zones of manganese or iron mineralisation were encountered in these holes.

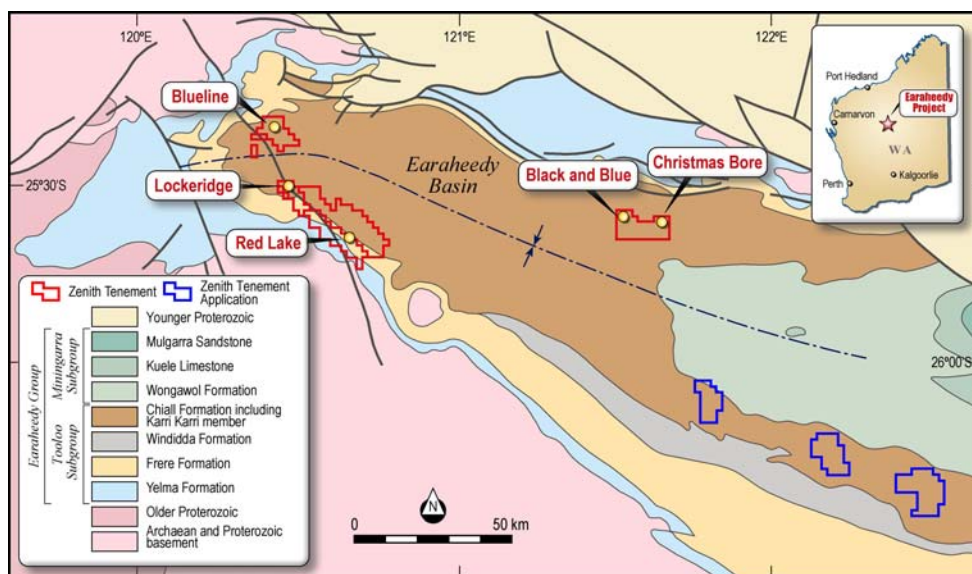


Figure 4. Zenith Tenements and manganese prospects, Western Earraheedy Basin, showing location of manganese prospects and Zenith tenure (new applications for zinc-lead in blue)

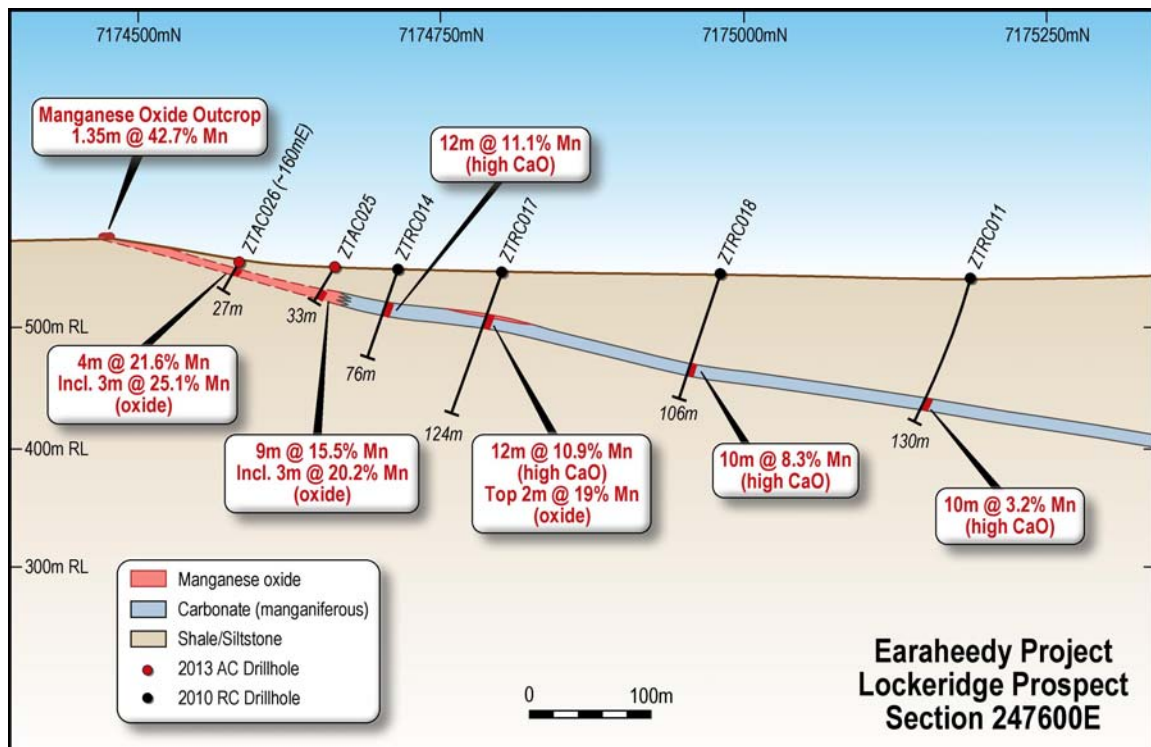


Figure 5. Lockeridge Prospect cross section showing the recent up-dip aircore holes (red)

Background on Earaaheedy Project

Zenith completed the first ever drilling for manganese in the western Earaaheedy in late 2010 at the Lockeridge prospect, intersecting a shallow dipping bed of primary manganese carbonate mineralisation extending 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 at the Black and Blue prospect returned thick zones of manganese oxide; 31m @ 7.9% Mn from surface, incl. 2m @ 17.1 % Mn, 1m @ 22% Mn and 3m @ 14.3 % Mn.

The first DSO grade Mn drill intersections recorded in the Earaaheedy 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, including 1m @ 42.3% Mn.

A maiden resource estimate was reported to ASX on 9 April 2013 for the Red Lake prospect. The tonnage/grade estimates are tabulated below at both a 5% and a 10% Mn cut-off grade.

Red Lake Mn Mineral Resource estimate								
Classification	Reporting Cut-off Grade	Tonnes (Mt)	Mn %	Fe %	Si %	Al ₂ O ₃ %	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: This information was prepared and first disclosed 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 Earaaheedy 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 Earaaheedy 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% Zn + Pb.



Earaheedy Manganese Aircore drilling November 2013 (intersections >10%Mn or 50%Fe)

Hole ID	East MGA 94_51	North MGA 94_51	Prospect	Azim.	dip	Total Depth	From	To	Interval	Mn %	Fe %	SiO2 %	P %
ZRLAC069	270821	7159342	Red Lake	0	-90	42	29	33	4	0.05	53.1	9.6	0.21
ZRLAC070	270758	7159424	Red Lake	0	-90	47	31	35	4	0.08	51.9	10.7	0.21
ZRLAC071	270670	7159514	Red Lake	0	-90	43	31	35	4	0.06	51.6	10.9	0.23
ZRLAC072	270347	7159138	Red Lake	0	-90	18			NSV				
ZRLAC073	270397	7159050	Red Lake	0	-90	15	5	7	2	19.4	23.1	16.9	0.19
						<i>incl</i>	6	7	1	20.5	19.6	17.8	0.22
ZRLAC074	270445	7158948	Red Lake	0	-90	24			NSV				
ZRLAC075	270485	7159009	Red Lake	0	-90	12			NSV				
ZRLAC076	270519	7158874	Red Lake	0	-90	12			NSV				
ZRLAC077	271506	7159296	Red Lake	0	-90	45			NSV				
ZRLAC078	271442	7159380	Red Lake	0	-90	45			NSV				
ZAC001	272876	7160504	Recce	0	-90	60			NSV				
ZAC002	273040	7160600	Recce	0	-90	47			NSV				
ZAC003	273212	7160705	Recce	0	-90	36			NSV				
ZAC004	272499	7160847	Recce	0	-90	37			NSV				
ZAC005	272532	7161002	Recce	0	-90	26			NSV				
ZAC006	268158	7162613	Recce	0	-90	39			NSV				
ZAC007	268348	7162706	Recce	0	-90	23			NSV				
ZAC008	268523	7162788	Recce	0	-90	29			NSV				
ZAC009	265615	7161399	Recce	0	-90	33			NSV				
ZAC010	265805	7161497	Recce	0	-90	42			NSV				
ZAC011	246042	7174480	Recce	0	-90	30			NSV				
ZAC012	246074	7174668	Recce	0	-90	46			NSV				
ZAC013	246099	7174880	Recce	0	-90	50			NSV				
ZAC014	246139	7175061	Recce	0	-90	29			NSV				
ZTAC025	247565	7174660	Lockeridge	180	-60	33	21	30	9	15.5	6.8	33.8	0.20
						<i>incl</i>	27	30	3	20.2	5.5	32.1	0.15
						<i>incl</i>	28	29	1	25.1	5.1	31.2	0.15
ZTAC026	247746	7174587	Lockeridge	180	-60	27	8	12	4	21.6	10.6	32.1	0.22
						<i>incl</i>	8	11	3	25.1	11.2	27.2	0.23
						<i>incl</i>	8	11	1	29.6	8.8	22.8	0.24
ZCBAC001	363778	7169207	Christmas	20	-60	41			NSV				
ZCBAC002	363836	7169283	Christmas	200	-60	42			NSV				
ZCBAC003	363891	7169254	Christmas	200	-60	30			NSV				
ZCBAC004	363965	7169228	Christmas	202	-60	42	12	13	1	16.4	8.1	45.1	0.11
						<i>and</i>	15	16	1	10.5	19.5	36.4	0.35
						<i>and</i>	19	24	5	16.1	7.5	46.9	0.07
						<i>incl</i>	20	21	1	20.3	6.1	43.1	0.07
						<i>and</i>	23	24	1	22.7	6.7	40.2	0.08
ZCBAC005	364125	7169177	Christmas	199	-60	59			NSV				
ZCBAC006	363827	7169316	Christmas	198	-60	48			NSV				
ZCBAC007	363751	7169299	Christmas	203	-60	33	11	12	1	10.6	16.0	39.5	0.23
						<i>and</i>	14	16	2	14.1	14.3	34.7	0.31
						<i>and</i>	18	20	2	13.5	14.0	38.4	0.34
ZCBAC008	363756	7169307	Christmas	201	-60	24	12	13	1	11.2	11.7	44.4	0.10
ZCBAC009	363766	7169393	Christmas	198	-60	69			NSV				
ZCBAC010	363658	7169324	Christmas	199	-60	24			NSV				
ZCBAC011	363526	7169370	Christmas	200	-60	39	8	9	1	17.2	12.4	31.3	0.12
						<i>and</i>	10	11	1	11.2	13.4	37.0	0.10
						<i>and</i>	12	13	1	10.3	11.1	41.8	0.09
						<i>and</i>	15	17	2	14.5	15.5	33.8	0.17
						<i>and</i>	30	31	1	14.0	15.0	36.6	0.24
ZCBAC012	363366	7169434	Christmas	200	-60	24			NSV				
ZCBAC013	363212	7169524	Christmas	198	-60	54			NSV				



Earaheedy Base Metals

A review of the zinc-lead-silver-(copper-gold) potential of the Company's tenure in the Earaheedy Basin has concluded that;

- Irish Style/MVT base metal mineralisation is present at the western end the Earaheedy Basin and in distal outliers of the basin. Wide-spaced (1-10km) drilling undertaken by RGC in the 1990s demonstrated Zn-Pb anomalism across ~300km² of favourable structure and lithology at the western end of the basin. The potential for a large scale (+50Mt) deposit within the preferred target corridor remains untested. Most of the best targets are held by Zenith on existing tenure.
- Potential may exist within the Earaheedy Basin for large scale shale-hosted Zn-Pb deposits (+100Mt) hidden under younger sedimentary cover. Two priority target areas have been identified within possible sub-basins.

Three Exploration Licence Applications were lodged during the quarter to cover areas interpreted to have potential for sedex style zinc-lead mineralization (figure 4).

Mt Alexander Iron (Zenith Minerals 100%)

The Mount Alexander Project is 120 km from the port of Onslow, and 260 km south west of Karratha in the West Pilbara region of Western Australia, close to the Pilbara coast, the sealed North West Coastal Highway and the Dampier Bunbury gas pipeline. Planned rail from the nearby West Pilbara Iron Project (Aquila/AMCI JV) to a new port development at Anketell Point provides a possible alternative infrastructure solution.

Zenith has discovered magnetite iron mineralisation occurs in a banded iron formation (BIF) associated with a sequence of amphibolite, dolomite, schist and quartzite of Proterozoic age in the northern Gascoyne Province. These rocks have been metamorphosed to upper greenschist and amphibolite grade.

In May 2013 the Company announced a significant upgrade to the magnetite resource at Mount Alexander. The new Inferred Resource now stands at **535 million tonnes @ 30.0% Fe**.

Mount Alexander BIF Mineral Resource estimate as at May 2013							
		Head Grade					
Classification	Tonnes (Mt)	Fe %	SiO ₂ %	Al ₂ O ₃ %	LOI %	P %	S %
Inferred	535.1	30.0	48.0	2.2	-0.4	0.1	0.46
	DTR	DTR Concentrate Grade					
	Mass Recovery %	Fe %	SiO ₂ %	Al ₂ O ₃ %	LOI %	P %	S %
	24.6	69.9	2.4	0.1	-2.7	0.01	1.1

Substantial additional potential exists for increased tonnage with only ~50% of target BIF drill tested to date. The Company has released (24 May 2013) an **additional Exploration Target of 570 to 680 million tonnes @ 25 to 35% Fe** (excluding the Inferred Resource), in accordance with Section 17 and Section 38 of the JORC Guidelines 2012. The potential quantity and grade of this Exploration Target is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. The Exploration Target has been estimated on the basis of outcrop mapping (by Zenith and by Jigsaw Geoscience, assays from outcrop rock chip samples taken by Zenith, drilling by Zenith (12 RC holes within the Exploration Target) at nominal 300m centres, magnetic susceptibility measurements and total iron and DTR analyses from drill samples, 2.5D profile and 3D inversion modelling of detailed ground (~100-200m line spacing) and airborne magnetic (~50m line spacing) survey data by Core Geophysics. A volume for the magnetite mineralisation was calculated to -100mRL and a bulk density range of 3.1g/cc to 3.7g/cc (consistent with a grade of 25-35wt% iron as magnetite) was applied to the volume derived from the modelling. The updated resource model wireframe was utilised for the Mt Alexander prospect area where appropriate.

Further drilling to test the validity of the Exploration Target is planned within the next 2 years subject to receipt of the necessary permits and approvals, and the availability of funding.



A Scoping Study by consultants ProMet was reported to ASX on 10 May 2011. The Study assessed the basic mining, processing and infrastructure requirements, and estimated Capital Costs and Operating Costs. Based on detailed test work on diamond drill core the Study applied a weight recovery of 30.2% at p80 minus 40 micron grind and a DTR concentrate grade of 69.9% Fe and 3.0% SiO₂. The Base Case selected included processing by crushing, grinding, wet magnetic separation. The Base Case transport option for the concentrate was by slurry pipeline 120 km to the coast near Onslow, and transport by barge to an offshore mooring for transfer into ships for export (transshipment).

* The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

Pre-feasibility study elements undertaken aimed at de-risking the project include; finalised Level 1 and Level 2 flora & flora surveys (which did not identify any major environmental triggers), work on securing access to a project water supply, and investigation of export infrastructure options and bulk material transshipment technology.

Activities in December Quarter

During the quarter the Company completed the acquisition announced on 29 October 2013 of a key tenement that directly adjoins Zenith's 100% owned Mount Alexander magnetite iron ore project and increases the project area to 330 km².

Zenith acquired 100% interest in E08/1987 by issuing 0.5 million ZNC shares (escrowed for 12 months) and payment of \$50,000 cash to Northern Manganese Limited.

Development Partner Selection

The Mount Alexander iron project has now entered a phase of reduced exploration spend, and the focus has moved to engagement with potential development partners/buyers as we seek to develop or monetise this large, capital intensive asset.

Engagement with potential development partners for the Mount Alexander magnetite project is ongoing. Zenith's focus is to continue to de-risk the project through work targeted mainly at transport and export infrastructure models.

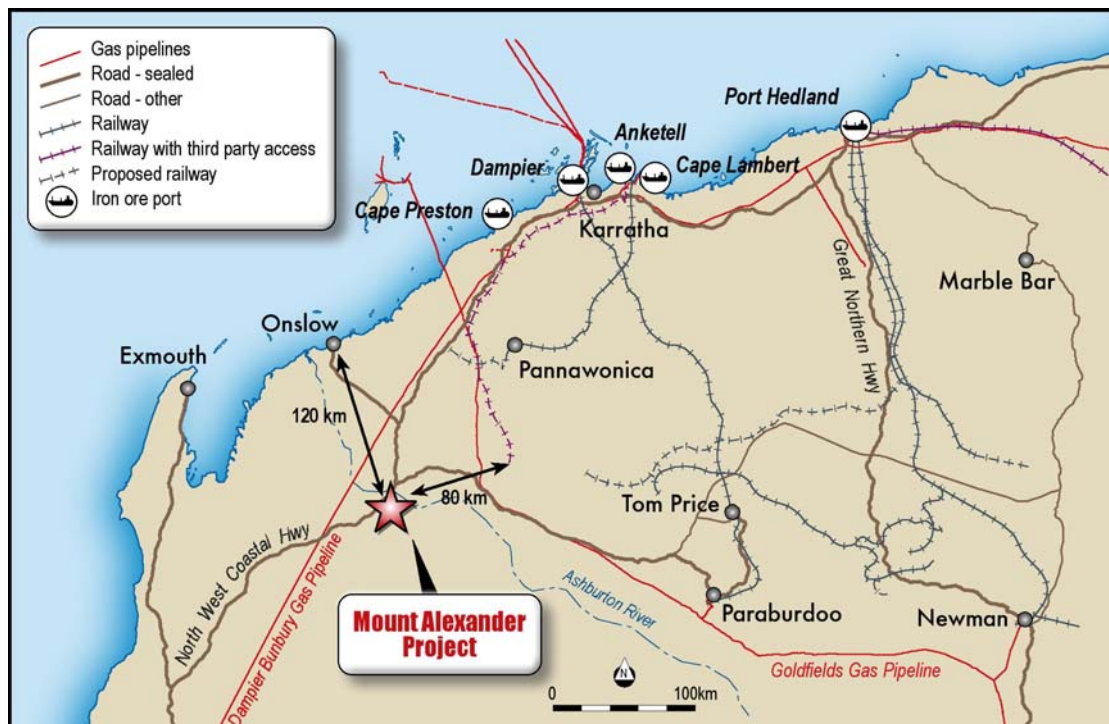


Figure 6: Mount Alexander Project location and proximity to coast and regional infrastructure



Cardinals (Zenith Minerals 100%.)

The Cardinals Project is located in the East Pilbara and is prospective for volcanic hosted copper zinc lead (silver, gold) deposits within the Archaean Kangaroo Caves Formation. No significant activity occurred during the quarter and on the basis of results achieved to date the future of the project is currently under review.

Zenith Minerals Limited

24 January 2014

For further information contact;

Mike Joyce

Director

08 9226 1110

The information in this report that relates to S2M2 Coal Exploration Results and Exploration Targets is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of S2M2 Coal. 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 2012 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 in this report that relates to Zenith Exploration Results is based on information compiled by R M Joyce, who is a director of the Company and a Member of the AusIMM. Mr Joyce 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'. Mr Joyce 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 in this report that relates to Zenith Exploration Targets is based on information compiled by R M Joyce, who is a director of the Company and a Member of the AusIMM. Mr Joyce 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'. Mr Joyce 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 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.

This information this Report that relates to in-situ Mineral Resources at Zenith's Mount Alexander project is extracted from the 24 May 2013 ASX release entitled 'Mount Alexander Resource Upgrade' which is available to view on the Company's website (www.zenithminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the 24 May 2013 market announcement, and that all material assumptions and technical parameters underpinning the Mineral Resource estimate in the 24 May 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.

The information in this Report that relates to in-situ Mineral Resources at Zenith's Red Lake project is based on information compiled by Grant Louw an employee of CSA Global. Grant Louw takes overall responsibility for the Report. 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 Edition)'. 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.



JORC Code, 2012 Edition – Table 1
Earaheedy Project Aircore drilling November 2013

Section 1 Sampling Techniques and Data

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

Criteria	Commentary
<i>Sampling techniques</i>	- The tenements were drilled using Air Core (AC) drilling by Zenith Minerals Ltd. Most of the drillholes are approximately 100m spaced as either reconnaissance traverses or extending known prospects. The majority of drill holes were drilled vertically but several holes at the Christmas Bore prospect have a dip of -60° SSW azimuth. - Zenith's QAQC protocols include the analysis of field duplicates and the insertion of appropriate commercial standards. Based on statistical analysis of these results, there is no evidence to suggest the samples are not representative. - AC drilling was used to obtain 1m samples via cyclone which were spear/scoop subsampled at the rig to produce a composite sample of approximately 3 – 5 kg, composite intervals were mainly 4m, although in areas of barren shale 8m composites were taken and 1m spear/scoop samples were collected from the portions of the holes considered likely to host significant mineralisation. The samples were shipped to SGS Perth Laboratory for analysis by XRF.
<i>Drilling techniques</i>	AC drilling predominantly used a conventional 3 ½ inch face sampling blade to refusal, a 4 ½ inch face sampling RC hammer or 3 ½ inch RAB hammer to a nominal depth.
<i>Drill sample recovery</i>	AC sample recovery was visually assessed and recorded where significantly reduced. Very little sample loss has been noted.
	- AC samples were visually checked for recovery moisture and contamination. A cyclone was used and routinely cleaned. Composites were spear/scoop sampled to obtain the most representative sample possible. - Sample recoveries are generally high. No significant sample loss has been recorded correlating with a corresponding increase in Mn grade. Field duplicates produce consistent results. No sample bias is anticipated, and no preferential loss/gain of grade material has been noted.
<i>Logging</i>	- Current AC chips were geologically logged at 1 metre intervals to establish geological boundaries. AC chip trays have been stored for future reference. - AC chip logging recorded the lithology, oxidation state, colour, alteration and veining. - All current drill holes are logged in full.
<i>Sub-sampling techniques and sample preparation</i>	- No diamond drilling has been completed by Zenith Minerals on the tenements. - AC samples were collected as composites (unless otherwise noted) using a spear/scoop of the drill spoil. Samples were generally dry. - AC samples are dried. If the sample weight is greater than 3.5 kg the sample is riffle split at the laboratory. It is then pulverised to a grind size of 75 microns. - Field QAQC procedures included the insertion of a certified reference standard every 20 samples, and a field duplicate every 20 samples for AC drilling. - Field duplicates were collected during AC drilling. Further sampling (lab umpire assays) will be conducted if it is considered necessary.
	A sample size of between 3 and 5 kg was collected. This size is considered appropriate and representative of the material being sampled given the width and continuity of the intersections, and the grain size of the material being collected.
<i>Quality of assay data and laboratory tests</i>	- A fusion-XRF analytical technique has been used for AC samples XRF analysis is a robust technique for major and minor element analysis, and is the most commonly used total analytical technique for iron ore and manganese mineralization. This method is not suitable for high sulphide materials >1%. - No geophysical tools etc. have been used. - Field QAQC procedures include the insertion of both field duplicates and certified reference 'standards'. Assay results have been satisfactory and demonstrate an acceptable level of accuracy and precision. Laboratory QAQC involves the use of internal certified reference standards, blanks, splits and replicates. Analysis of these results also demonstrates an acceptable level of precision and accuracy.
<i>Verification of</i>	On receipt of assays, company personnel verify significant intersections by review of drill



Criteria	Commentary
<i>sampling and assaying</i>	chip trays. Alternative company personnel then check and verify significant drill intersections. - No twinned holes have been drilled to date. - Field data was collected on paper log/sample sheets then entered into Excel spreadsheets. Data was then loaded into database (Datashed by Maxwell Geoservices) . - No adjustments have been made to assay data apart from values below the detection limit which are assigned a value of negative detection limit
<i>Location of data points</i>	- At this stage drill collars have been surveyed by hand held GPS to an accuracy of about 3m. No down hole surveys were taken. - The grid system is MGA_GDA94 Zone 51 - The topographic surface at Red Lake and Lockeridge has been sourced from the DTM from an aeromagnetic survey flown by Zenith. Elsewhere regional public topographic data has been used. It is considered to be of sufficient quality to be valid for this stage of exploration.
<i>Data spacing and distribution</i>	- Initial exploration by Zenith Minerals is targeting discrete areas that may host mineralisation. Consequently current drilling is not grid based, although holes are generally around 100m spaced. - A Mineral Resource has not been estimated based on the AC drilling results from this program. An Inferred Mineral Resource under the JORC 2004 code was released by Zenith Minerals to ASX on 9 April 2013 for the Red Lake manganese deposit. - Composite samples were collected during AC drilling.
<i>Orientation of data in relation to geological structure</i>	- Drilling sections are orientated perpendicular to the strike of the outcrops of manganese mineralisation. The drilling is mostly vertical since the stratigraphic dips are very shallow. - No orientation based sampling bias has been identified in the data at this point.
<i>Sample security</i>	Chain of custody is managed by Zenith Minerals. Samples were transported by Zenith personnel to Wiluna then shipped to SGS via Toll Ipec
<i>Audits or reviews</i>	Data is validated by Maxwell Geoservices whilst loading into database. Any errors identified within the data are notified to Zenith Minerals for validation.



Section 2 Reporting of Exploration Results

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

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	- The Earraheedy Project is located in central Western Australia, about 100km north of Wiluna. The Earraheedy manganese project is situated on tenements E69/1771, 1907, 2657, 2733, 2734, 2735, 2736, and 2737. The tenements are currently held 100% by Zenith Minerals. - The tenements are in good standing and no known impediments exist.
<i>Exploration done by other parties</i>	Zenith completed the first reported drilling for manganese in the Earraheedy Basin in 2012. BHP in the late 70s and RGC Exploration in the 90s completed most of the earlier exploration in the region principally for base metals (lead and zinc). The Earraheedy has more recently been the focus of exploration for iron ore in the Frere Formation, with Giralia Resources NL and Anglo American conducting major drilling programs in the north of the basin, and Zenith Minerals' discovery of high grade manganese outcrops resulting in a series of drilling programs.
<i>Geology</i>	The Earraheedy Basin is located at the eastern end of the Capricorn Orogen. Deposition of the Earraheedy Group is interpreted to have occurred between ~2000Ma and 1790Ma. Zenith Minerals is currently actively exploring the project area for stratabound, structurally controlled and supergene manganese within the top of the Frere Formation and the Karri Karri Member of the Chiall Formation.
<i>Drill hole Information</i>	Refer to Tables in body of text.
<i>Data aggregation methods</i>	- All reported assays have been length weighted if appropriate. No top cuts have been applied. A nominal 10% Mn lower cut off has been applied. - Higher grade Mn intervals lying within broader zones of Mn mineralisation are reported as included intervals. - No metal equivalent values have been used.
<i>Relationship between mineralisation widths and intercept lengths</i>	The manganese mineralised zones at Earraheedy vary in strike between prospects, but all are relatively shallowly dipping (0-20 degrees), other than at Christmas Bore where a steeper dip is interpreted to be related to a fault zone. Consequently the downhole intersections quoted are believed to approximate true width for all prospects other than Christmas Bore, where true width is likely to be approx. 50% of intersected width.
<i>Diagrams</i>	Refer to figures within body of text.
<i>Balanced reporting</i>	All results are reported.
<i>Other substantive exploration data</i>	No other significant exploration work has been completed by Zenith Minerals.
<i>Further work</i>	- Further drilling is warranted at the Lockeridge prospect and other prospects. - Refer to figures in body of text.

APPENDIX 5B
CONSOLIDATED STATEMENT OF CASH FLOWS
For Quarter Ended 31 December 2013

	Current Quarter \$A'000	Year to Date (6 months) \$A'000
CASH FLOWS RELATED TO OPERATING ACTIVITIES		
1.1 Receipts from product sales and related debtors	-	-
1.2 Payments for: (i) exploration and evaluation	(168)	(319)
(ii) development	-	-
(iii) production	-	-
(iv) administration	(139)	(259)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	3	15
1.5 Interest and other costs of finance paid	-	-
1.6 GST and Taxation (paid)/received	1	(16)
1.7 Other (provide details if material)		
<i>Research and Development Grant</i>	-	-
NET OPERATING CASH FLOWS	<u>(303)</u>	<u>(579)</u>
CASH FLOWS RELATED TO INVESTING ACTIVITIES		
1.8 Payment for purchases of: (i) prospect	-	-
(ii) equity investments	-	-
(iii) other fixed assets	-	-
1.9 Proceeds from sale of: (i) prospects	-	-
(ii) equity investments	-	-
(iii) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other - Acquisition costs	-	-
NET INVESTING CASH FLOWS	<u>-</u>	<u>-</u>
1.13 Total Operating & Investing Cash Flows	(303)	(579)
CASH FLOWS RELATED TO FINANCING ACTIVITIES		
1.14 Proceeds from issues of shares, options, etc.	-	-
1.15 Proceeds from sale of forfeited shares	-	-
1.16 Proceeds from borrowings	-	-
1.17 Repayment of borrowings	-	-
1.18 Dividends paid	-	-
1.19 Other – Expenses of issue	-	-
NET FINANCING CASH FLOWS	<u>-</u>	<u>-</u>
NET INCREASE (DECREASE) IN CASH HELD	(303)	(579)
1.20 Cash at beginning of quarter/year to date	1,154	1,430
1.21 Exchange rate adjustments to Item 1.20 above	-	-
1.22 CASH AT END OF QUARTER	<u>851</u>	<u>851</u>

PAYMENTS TO DIRECTORS OF THE ENTITY AND ASSOCIATES OF THE DIRECTORS

PAYMENTS TO RELATED ENTITIES OF THE ENTITY AND ASSOCIATES OF THE RELATED ENTITIES

	Current Quarter \$A'000
1.23 Aggregate amount of payments to the parties included in item 1.2	12
1.24 Aggregate amount of loans to the parties included in item 1.10	-
1.25 Explanation necessary for an understanding of the transactions: Reimbursement of administration and exploration expenses incurred on behalf of the Company and for the payment of director services.	-

NON-CASH FINANCING AND INVESTING ACTIVITIES

- 2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows: -
- 2.2 Details of outlays made by other entities to establish or increase their shares in projects in which the reporting entity has an interest: -

FINANCING FACILITIES AVAILABLE

Provide details of used and unused loan facilities and credit standby arrangements, adding such notes as are necessary for an understanding of the position	Amount Available \$A'000	Amount Used \$A'000
3.1 Loan facilities	-	-
3.2 Credit standby arrangements	-	-

ESTIMATED CASH OUTFLOW FOR NEXT QUARTER

	\$A'000
4.1 Exploration and evaluation	150
4.2 Development	-
4.3 Production	-
4.4 Administration	150
TOTAL	300

RECONCILIATION OF CASH

Reconciliation of cash at the end of the quarter (as shown in the statement of cash flows) to the related items in the accounts as follows:	Current Quarter \$A'000	Previous Quarter \$A'000
5.1 Cash on hand and at bank	97	200
5.2 Deposits at call	754	954
5.3 Bank overdraft	-	-
5.4 Other – Bank Bills (various)	-	-
TOTAL :CASH AT END OF QUARTER (Item 1.22)	851	1,154

CHANGES IN INTERESTS IN MINING TENEMENTS

	Tenement Reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
6 Interests in mining tenements held	E08/1410 Mt Alexander E08/1972 Mt Alexander E08/1987 Mt Alexander E08/2046 Mt Alexander E38/2895 Earaheedy East E38/2896 Earaheedy East E38/2897 Earaheedy East E45/3449 Cardinals E69/1771 Earaheedy E69/1907 Earaheedy E69/2657 Earaheedy E69/2733 Earaheedy E69/2734 Earaheedy E69/2735 Earaheedy E69/2736 Earaheedy E69/2737 Earaheedy L08/119 Mt Alexander	Application Application Application	100% 100% 100% 100% - - - 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%	100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%
6.1 Interests in mining tenements relinquished, reduced or lapsed	-	-	-	-
6.2 Interests in mining tenements acquired or increased	E08/1987 Mt Alexander	Acquisition	-	100%

ISSUED AND QUOTED SECURITIES AT END OF CURRENT QUARTER

Category of Securities	Number Issued	Number Quoted	Issue Price Per Security (cents)	Amount Paid-Up Per Security (cents)
7.1 Preference securities	-	-	-	-
7.2 Changes during the quarter	-	-	-	-
7.3 Ordinary Securities:	95,531,274	95,531,274		
7.4 Changes during quarter				
(a) Increases through issues-	500,000	500,000	\$0.135	\$0.135
(b) Decrease through return of capital, buy-backs	-	-	-	-
7.5 Convertible debt securities	-	-	-	-
7.6 Changes during the quarter				
(a) Increases through issues	-	-	-	-
(b) Decrease through return of capital, buy-backs	-	-	-	-
7.7 Options			<i>Exercise Price</i>	<i>Expiry Date</i>
	200,000	-	\$0.29	20 Aug 2016

7.8 Issued during quarter	-	-	-	-
7.9 Exercised during quarter	-	-	-	-
7.10 Expired during quarter	100,000	-	\$0.14	31 Dec 2013
7.11 Debentures	-	-		
7.12 Unsecured notes	-	-		

COMPLIANCE STATEMENT

1. This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Law or other standards acceptable to ASX.
2. This statement does give a true and fair view of the matters disclosed.

Sign here:



Date: 24 January 2014

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Director/Company Secretary

Print name: A Dermedgoglou