



Zenith
Minerals
Limited

ABN 96 119 397 938

QUARTERLY ACTIVITY REPORT FOR THE PERIOD ENDING 30 SEPTEMBER 2014

HIGHLIGHTS

ASX CODE: ZNC

Activities

Exploration /Development

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

Details as at 30th Sep 2014

Issued Shares	123.6 m
Unlisted options	1.1 m
Mkt. Cap. (\$0.08)	A\$ 10.0m
Cash	A\$1.2m
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 Custody, Nom.	8.5%
Giralia (Atlas Iron)	8.3%
Miquilini	4.8%
Nada Granich	4.4%
Citicorp Nom Ltd	4.1%

Contact Us

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Exploration and Development

- **Develin Creek Copper-Zinc-Gold-Silver Massive Sulphide Project, Queensland** (51% with right to acquire 100%):
 - Drilling commenced on resource extension targets,
 - Systematic evaluation of the many high-priority regional targets and prospects commenced including: a 10,000 sample soil geochemical program and a detailed review involving reprocessing historic geophysical datasets.
- **Earaaheedy Manganese Project WA (100%)** - discovery of two new prospects Bluegrass and Blue Elbow with outcropping high-grade manganese up to 48.1% manganese, as well as update to the Red Lake resource estimate.
- **Kavaklitepe Gold Project Turkey (earning 70%)** – Trenching of high order gold soil anomalies & coincident IP anomalies at Kavaklitepe planned for next quarter, subject to permitting.
- **Mt Minnie Gold Project WA (100%)** – tenure granted, field activities to proceed this quarter.

Project Generation

Project reviews continued with a focus on projects that have both synergies with existing Zenith projects or that will enhance the Company's existing project portfolio.

Corporate

The Company completed a capital raising of \$1M at \$0.08 to Australian and overseas sophisticated investors.



Drilling Commenced at Develin Creek



ZENITH'S EXPLORATION PROJECTS

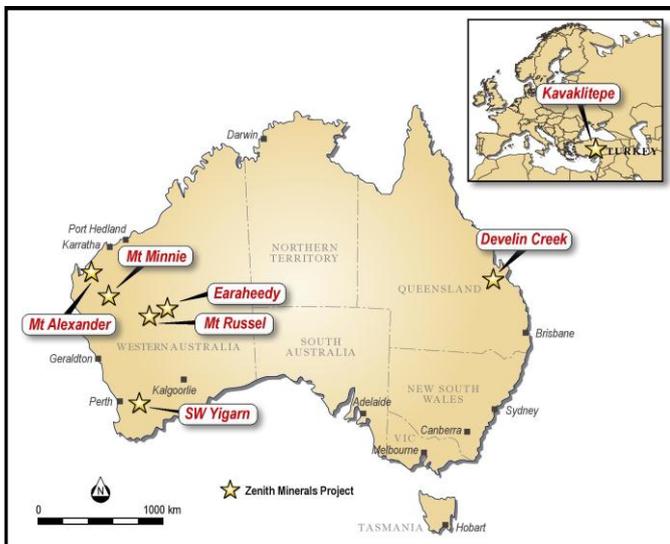
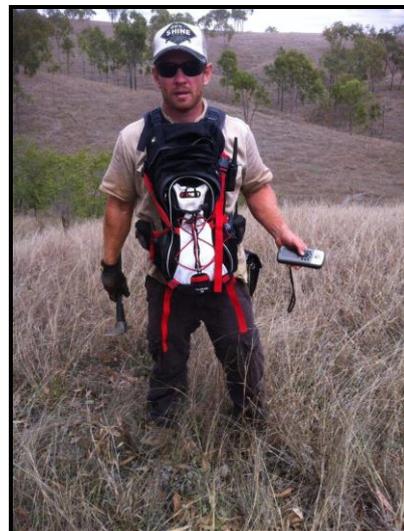


Figure 1: Zenith Project Locations



Soil Sampling during the Quarter at Develin Creek

DEVELIN CREEK COPPER-ZINC-GOLD-SILVER PROJECT – QUEENSLAND

(Zenith 51% right to acquire 100%)

- Drilling in progress to extend the 3 massive sulphide deposits with JORC 2012 Compliant Resources of 1.76Mt grading 1.7% copper, 2% zinc and 0.2g/t gold (total inferred resource),
- Results up to 13.2 metres @ 3.3% copper, 4.0% zinc and 0.4g/t gold in 2010-2011 drilling outside the existing Sulphide City resource boundary extending mineralisation up to a further 200m south – updated resource estimate commenced,
- Previous electrical geophysical surveys mostly completed 20 years ago can detect both the massive sulphides and the underlying stringer zone mineralisation at Develin Creek – confirms valid tools for future exploration,
- Recent airborne electromagnetic survey (HeliTEM) flown over entire host volcanic sequence with limited ground follow-up to date,
- Commenced systematic soil sampling as limited to no coverage over 50km long target host sequence - 10,000 samples planned.

Activities in September Quarter

Subsequent to the end of the quarter the Company announced (ASX Release 7th October 2014) the commencement of drilling and systematic geochemical sampling programs at the Develin Creek base metals project. The drilling is the first in 20 years at the Scorpion and Window deposits and aims to extend the known deposits as well as provide material for initial sighter metallurgical testwork.

Zenith also commenced an update to the resource estimate to include the Fitzroy Resources Limited 2010-2011 drill results that have not yet been incorporated in the current resource estimate. The Company will likely defer any announcement on this resource estimate so that new results from the current drill program may be included in the revised estimate.



Planned Activities

The current drilling program of up to 10 – 15 RC holes should be completed in late October and analysis of drill samples will take approximately 2-3 weeks. Selected drill holes will also be cased so that they may be subject to future downhole electromagnetic surveys to assess if there are any additional conductive bodies such as massive copper-zinc sulphides within proximity to the new Zenith drill holes.

Systematic soil geochemical programs are ongoing and it is anticipated that analytical results from these samples will be available in late November, to date over 3000 samples have been collected. Historically there has been little to no systematic geochemical soil sampling over much of the prospective target horizon, so the Zenith program will be the first to provide effective geochemical coverage.

A detailed review of historic geophysical programs has also commenced. Previous electrical geophysical surveys, mostly completed 20 years ago can detect both the massive copper-zinc sulphides and the underlying pyrite rich stringer zone mineralisation at Develin Creek, confirming that these are appropriate exploration tools for further use. The review will involve re-processing the historic geophysical data using modern computer techniques and integrating them along with historic prospect scale mapping and geochemical data into the Company's three dimensional exploration model.

Background on Develin Creek Project

Located 70km north-west of Rockhampton in Central Queensland, the Develin Creek base metals project hosts several copper-zinc-gold-silver volcanic hosted massive sulphide (VHMS) deposits and covers an extensive belt of underexplored prospective volcanic rocks. Mineralisation comprises massive sulphide, stringer and breccia style copper-zinc-gold-silver deposits, hosted by basalts.

The Develin Creek deposits are of a style similar to those currently being mined by Sandfire Resources NL at DeGrussa and Independence Group NL at Jaguar - both of those deposits are located in Western Australia. These types of deposits typically occur in clusters making them attractive exploration targets.

The main deposits along with the proposed drill holes and targets to be tested in the current drill program are shown in Figure 2 below.

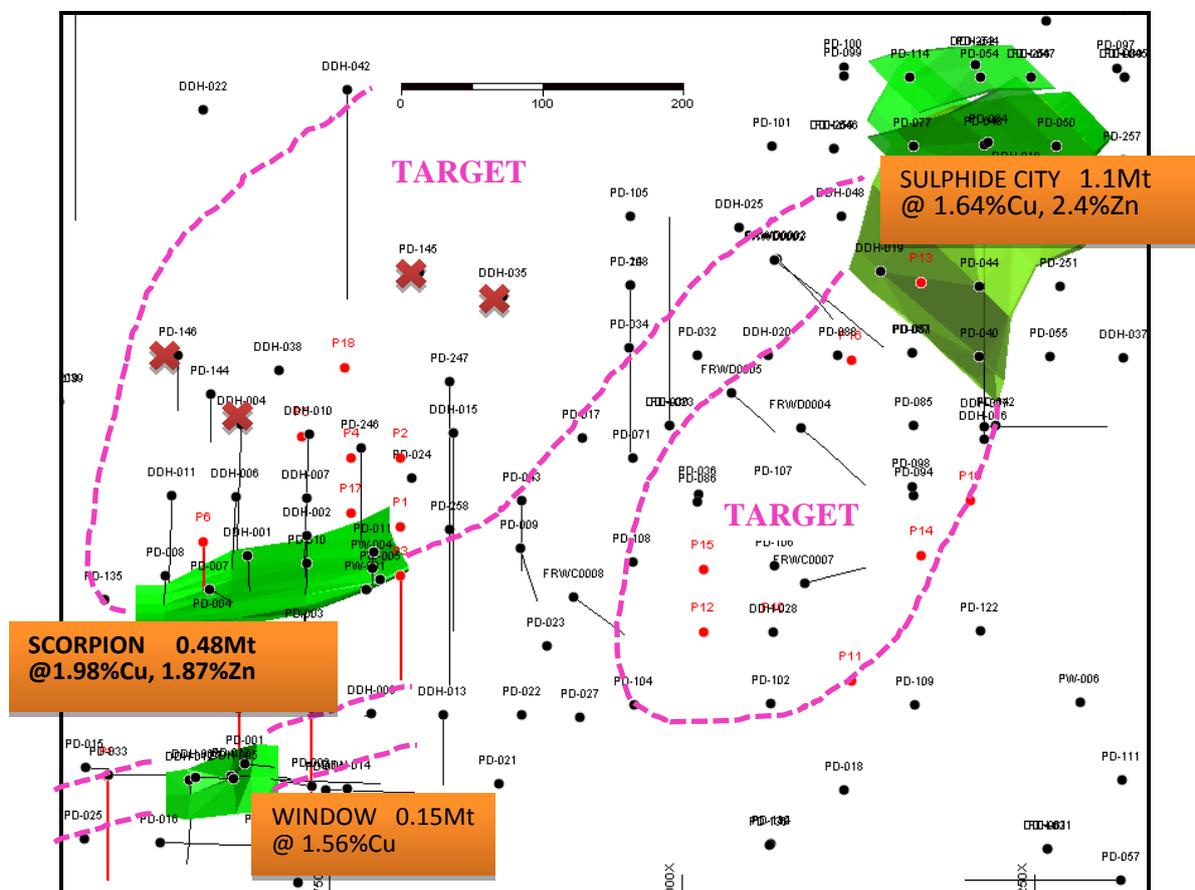


Figure 2: Plan of Develin Creek Resource Extension Targets (Green - Existing Resource Polygons, Dashed outlines – Zenith Targets and Proposed Holes – Red, Red Crosses - Shallow Ineffective Holes)



The **Sulphide City** mineralisation consists of stockwork, disseminated and massive sulphide mineralisation. The main Sulphide City lens, outlined with a 1% copper equivalent cut-off, has a horizontal projection of about 300m x 150m. The lens varies from 2.5m to 29m in thickness, generally dips 25-30° west-northwest and has been intersected at depths between 80m and 200m. Better historic drill intersections (previously reported by Fitzroy Resources Limited to the ASX, 14th Oct 2010, 11th May 2011 and 28th Oct 2011) include:

- **DDH-016** 14.5m @ 0.6% Cu and 4.3% Zn (includes 2.5m @ 12.0% Zn)
- **DDH-044** 11.3m @ 2.1% Cu, 5.9% Zn, 16g/t Ag and 1.21g/t Au
- **PD-052** 15.0m @ 3.1% Cu, 2.3% Zn

The **Scorpion deposit**, 500m south-west of the Sulphide City deposit occurs in a 400m x 200m zone in altered volcanic rocks, the sulphide body, 2.5m – 9.5m thick consists of brecciated massive sulphides and grades up to 6% Cu, 9% Zn, 43g/t Ag and 1g/t Au. Better historic drill results (previously reported by Fitzroy Resources Limited to the ASX, 14th Oct 2010 and 11th May 2011) include:

- **DDH-001** 21.6m @ 2.5% Cu, 1.5% Zn, 13g/t Ag, 0.5g/t Au, (includes 16.2m @ 3.2% Cu, 1.6% Zn)
- **DDH-002** 31.6m @ 1.5% Cu, 1.5% Zn, 15g/t Ag and 0.3g/t Au (includes 16.7m @ 2.1% Cu, 2.0% Zn)
- **PD-007** 44.0m @ 1.6% Cu, 1.0% Zn, 8g/t Ag, 0.3g/t Au, (includes 25.0m @ 2.6% Cu, 1.2% Zn, 10g/t Ag)

The highly weathered **Window** mineralisation consists of steeply dipping chalcopyrite rich massive sulphides and sulphidic breccias with a 2m thick supergene blanket of covellite-chalcocite at 50m depth within a wider zone of stringer style mineralisation. The location and style of mineralisation indicates that the Window Deposit may be the partially eroded footwall stringer zone to the nearby Scorpion massive sulphide lenses. Better historic drilling results from Window (previously reported by Fitzroy Resources Limited to the ASX, 14th Oct 2010) include:

- **PD-012** 84.0m @ 0.8% Cu (includes 48.0m @ 1.2%)

Inferred Resources (JORC Code 2012) for the 3 known mineralised bodies (Sulphide City, Scorpion and Window) at Develin Creek total: **1.76Mt @ 1.71% copper, 2.05% zinc, 8.5g/t silver and 0.24g/t gold**, at a 1% Cu equivalent cut-off (ASX Release-ZNC Qtlly Report June 2014).

Deposit	Tonnes	Cu% Grade	Zn% Grade	Ag g/t Grade	Au g/t Grade
SULPHIDE CITY	1,114,784	1.64	2.41	7.2	0.20
SCORPION	485,100	1.98	1.87	13.9	0.39
WINDOW	156,960	1.45	-	1.0	0.02
TOTAL	1,756,844	1.71	2.05	8.5	0.24

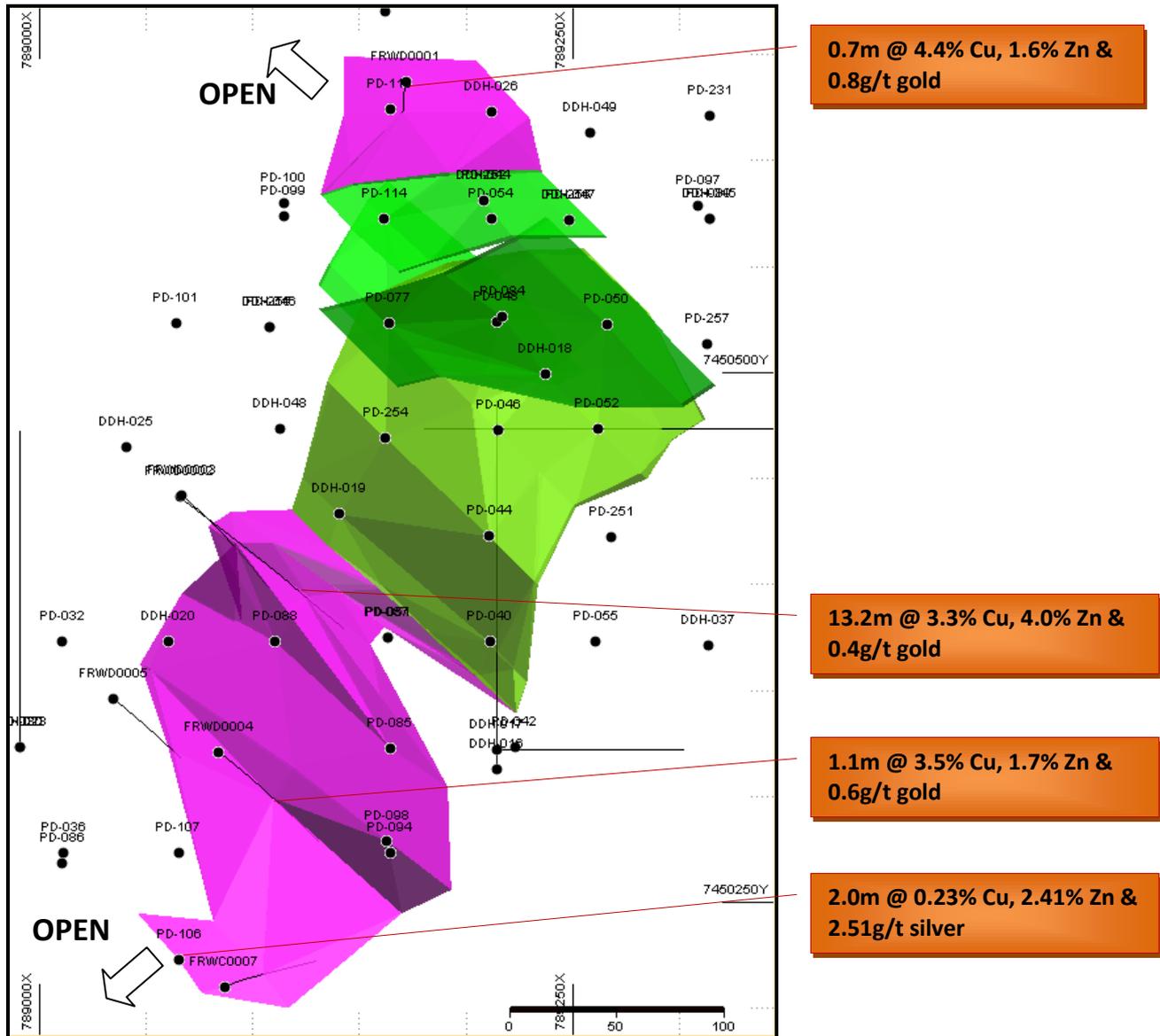
Refer to Competent Person sign-off at the end of this Quarterly Report.

Note that drilling in late 2011 by Fitzroy extended mineralisation at the Sulphide City deposit by 200m to the south, this mineralisation has not yet been included in the resource estimate reported above. Better intersections from that drilling (previously reported by Fitzroy -ASX Releases 28th July 2011, 28th Oct 2011 and 30th Jan 2012) which extends high-grade copper-zinc mineralisation to the north and south (refer to Figure 3) that are not included in the resource estimate include:

- **FRWD0002** 13.2m @ 3.3% Cu, 4.0% Zn & 0.4g/t gold (40m south of existing resource)
- **FRWD0004** 1.1m @ 3.5% Cu, 1.7% Zn & 0.6g/t gold (140m south of existing resource)
- **FRWD0001** 0.7m @ 4.4% Cu, 1.6% Zn & 0.8g/t gold (50m north of existing resource)
- **FRWC007** 2.0m @ 0.23% Cu, 2.41% Zn & 2.51g/t silver (200m south of existing resource)

Significant potential exists to extend the currently defined copper-zinc-gold-silver deposits of Sulphide City, Scorpion and Window and to discover new mineralisation lenses in higher or lower stratigraphic positions.

Elsewhere within the project area, there is good potential to discover previously undetected VHMS mineralisation, in the extensive landholdings totalling 300km². Zenith now controls over 50km of strike length of prospective volcanic host rock sequence. The application of modern geophysical exploration technology offers an improved ability to see through areas of surficial cover to define new drilling targets. Testwork by Fitzroy and previous explorers clearly demonstrates that both IP and electromagnetic (EM) geophysical surveys are able to detect the disseminated and massive sulphide bodies respectively. Although IP geophysical coverage is limited to the area surrounding the known deposits the project wide HeliTEM survey has identified over 66 EM targets of which only a few have had cursory follow-up ground work.



**Figure 3: Sulphide City Deposit (Green) Showing Drill Extensions defined by Fitzroy Resources (Purple)
(Note these intersections are not included in the Resource Estimate)**



KAVAKLITEPE GOLD PROJECT – TURKEY (Zenith earning up to 70%)

- **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 northwest soil anomaly (Kuzey Zone),**
- **Continuous rock chip traverse of 21 metres grading 2.67 g/t gold at the Discovery Zone,**
- **Strong chargeable IP geophysical anomaly identified directly beneath high-grade surface rock chip samples (7.68, 22.7 g/t gold) and gold in soil (up to 6.05 g/t gold) at the Kuzey Zone,**
- **Kavaklitepe has yet to be drilled (only discovered in early 2013).**

Activities in September Quarter

No field activities were completed during the quarter. The next step in evaluation will include trenching to expose the rock beneath the surface soil cover, followed by drilling. The Company continued to pursue forestry permits required to allow this next phase of follow-up work.

Background on Kavaklitepe Project

Zenith's wholly owned subsidiary S2M2 Coal Pty Ltd has an exclusive option to earn up to a 70% interest in Canadian TSX-V listed Columbus Copper's Kavaklitepe Gold Project located in western Turkey. Columbus Copper reported the discovery of gold mineralization at Kavaklitepe in a TSX-V release on January 17, 2013. The original discovery was made by following up a stream sediment anomaly with 5.2 grams per tonne ("g/t") 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 2.67 g/t 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 g/t gold, led to identification of a brecciated zone striking north east. Four rock samples collected there returned 28.2 g/t, 21.7 g/t, 6.7 g/t and 3.66 g/t gold respectively (Columbus TSX-V release 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 g/t gold, including 21.5 metres grading 7.2 g/t 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 g/t) 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.

Successful IP geophysical survey trials by Zenith over two of the major gold in soil anomalies (Güney and Kuzey) at the Kavaklitepe JV project identified strong chargeability anomalies beneath the high-grade gold in soil anomalies. Two survey configurations were tested (gradient array – grid area and pole-dipole - single lines) both returning strong to moderate chargeable responses (>20Mv/v). Beneath the Kuzey zone a strong chargeable IP geophysical anomaly was identified directly beneath high-grade surface rock chip samples (7.68, 22.7 g/t gold) and gold in soil (up to 6.05 g/t gold), whilst a second strong chargeable IP geophysical anomaly was identified beneath the Güney Zone, potentially associated with cross faulting (Figure 4). At Kuzey the chargeability anomaly lies directly beneath the 900m long (50ppb Au) high-grade gold in soil anomaly (maximum 6050ppb Au, 6.05 g/t Au) and can be detected in the survey data to a depth of at least 100m (Figure 5).

Under the Turkish Agreement, S2M2 Coal may earn an initial 51% interest in the Property over three years by, making a further US\$100,000 cash payment 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.

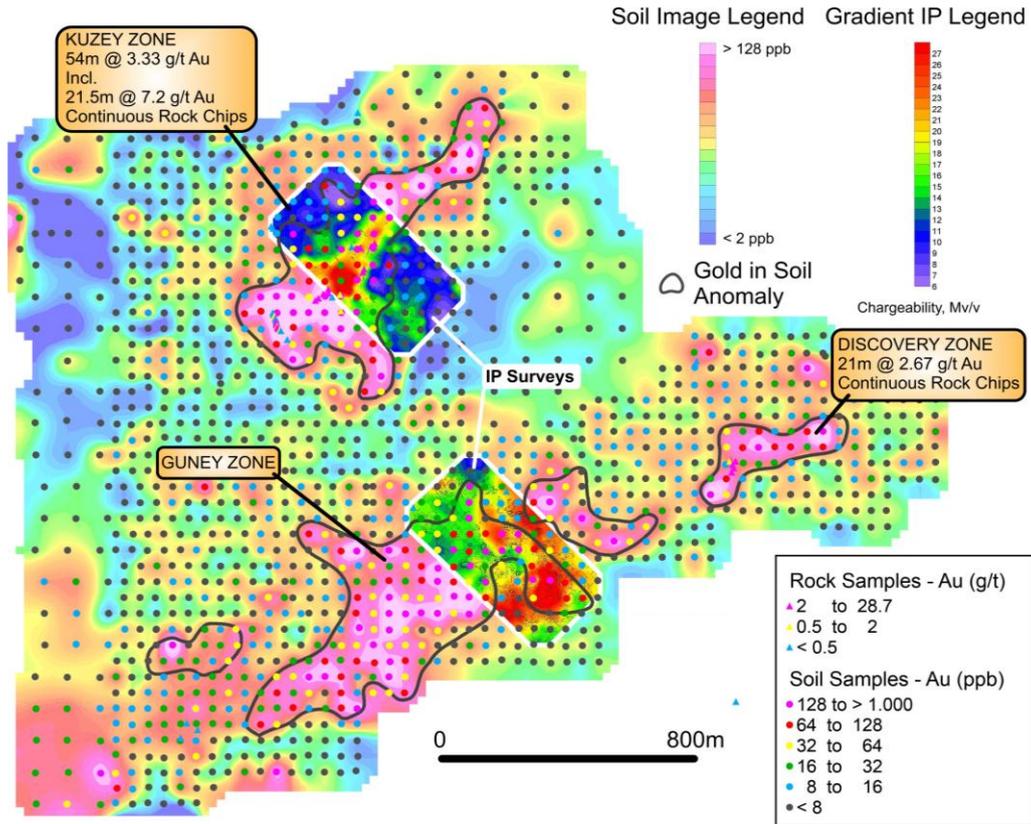


Figure 4: Plan Showing Kavaklitepe Project IP Geophysical Surveys (Images of chargeability at 25m below surface) overlying Gold in Soil Geochemical Anomaly with Rock Chip Sample Locations

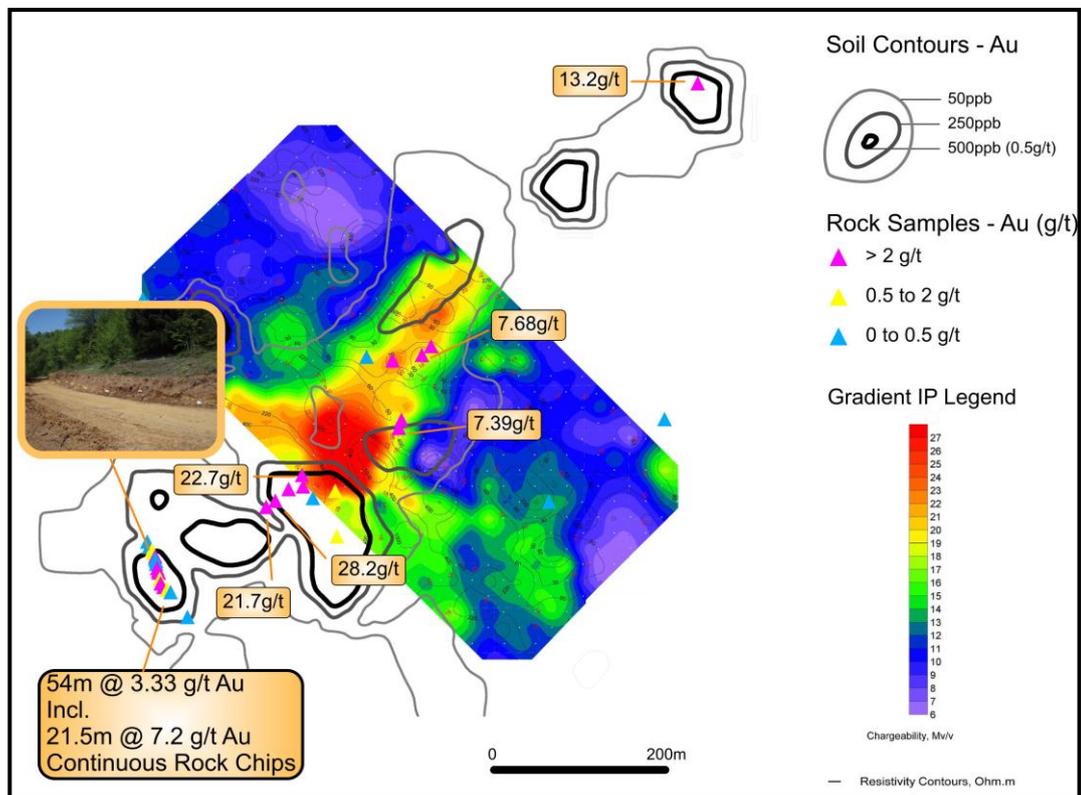


Figure 5: Plan Showing KuzeY Zone Gold in Soil Geochemical Anomaly Contours and Rock Chip Sample Locations overlying IP Geophysical Survey Image of Chargeability (25m depth slice)

EARAHEEDY MANGANESE PROJECT – WA (Zenith 100%)

- Zenith first mover and dominant landholder, recognised potential new manganese (Mn) province in Earacheedy Basin in 2010,
- Strong tenement position - 130 strike kilometres of target manganese horizon,
- Acquisition of Rio Tinto tenure includes airborne EM survey data, covering 30km of strike.
- Manganese appears both structurally controlled and stratiform,
- Zenith's priority target is high-grade near surface oxide grading >40% Mn,
- Red Lake 2012 – 1st direct shipping ore (DSO) grade Mn intersected by drilling in Earacheedy Basin;
 - 3m @ 41.0% Mn within 5m @ 34.8% Mn from 22m
 - 1m @ 40.2% Mn within 3m @ 30.7% Mn from 3m.

Activities in September Quarter

The acquisition of Rio Tinto's Earacheedy tenements during the quarter extended Zenith's manganese prospective target horizon from ~75 kilometres of strike to ~130 kilometres within its 100% owned Earacheedy Project. On the 6th August 2014 Zenith announced the discovery of two new manganese prospects during initial field reconnaissance programs conducted within the newly acquired tenure. Assay results from rock chip sampling of those out-cropping strike extensive manganese zones returned high-grade manganese results up to 48.1%Mn and 38.2%Mn from new prospects, Bluegrass and Blue Elbow respectively (ASX Release 12th August 2014). 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.

In addition the Company's geophysical consultant's commenced assessment of the airborne electromagnetic survey data (VTEM), flown previously by Rio Tinto for iron ore exploration and covering the 3 recently acquired exploration licences. Initial assessment of the VTEM data has been highly encouraging with discrete conductors occurring co-incident with the newly identified high-grade outcropping manganese mineralisation. Further assessment of the VTEM data is in progress.

The Red Lake resource estimate was updated during the quarter based on a revised geological interpretation (ASX Release 9th September 2014). The updated mineral resource estimate for the Red Lake prospect is: 1.4Mt @ 19.0% Mn at a 10% Mn cut-off grade with a higher grade component of 0.2Mt @ 30.0% Mn at a 25% Mn cut-off grade as presented in the Table below.

The resource is classified under the JORC Code 2012 as Inferred, based on confidence in, and continuity of, the results from the drilling campaigns, and surface mapping.

Red Lake Manganese Mineral Resource Estimate as at August 2014

Classification	Reporting Cut-off Grade	Tonnes (Mt)	Mn %	Fe %	Si %	Al ₂ O ₃ %	P %	S %	LOI %
Inferred	25% Mn	0.2	30.0	14.1	13.85	7.9	0.24	0.03	12.1
	20% Mn	0.5	25.1	16.1	17.0	8.9	0.25	0.06	11.9
	15% Mn	1.1	20.8	17.7	20.5	9.3	0.24	0.17	11.5
	10% Mn	1.4	19.0	19.1	20.8	9.6	0.26	0.19	11.4

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.

Re-interpretation of the geology of the Red Lake Manganese Deposit resulted in identification of a new fault that controls the location of the high-grade manganese zones. The recognition of this fault as an important control on high-grade manganese mineralisation now opens up a high-potential resource extension target to the northwest and southeast of the existing Red Lake resource. The newly identified zone is a priority target for follow-up by Zenith (Figure 6).

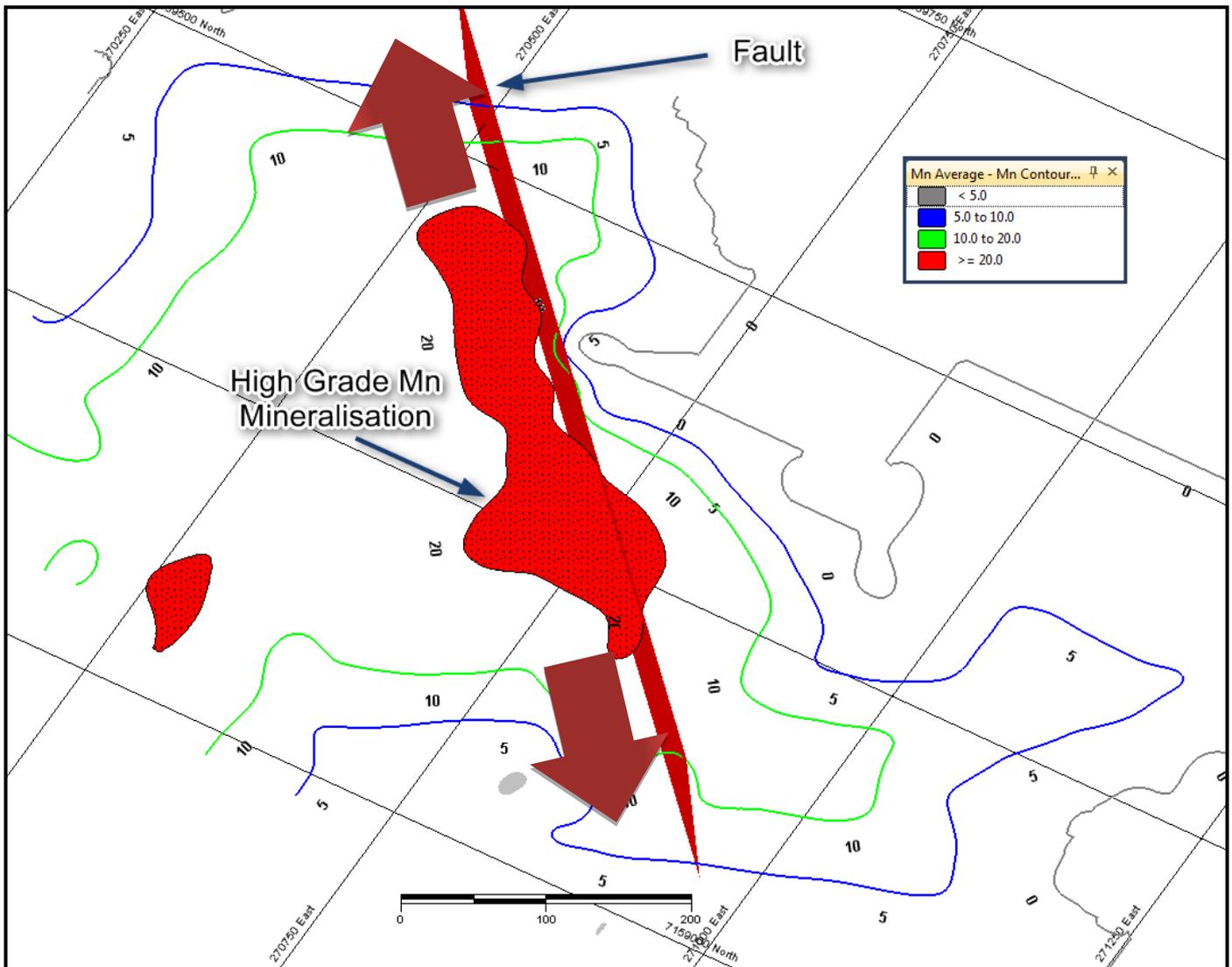


Figure 6: Red Lake Manganese Deposit with Resource Extension Targets (red arrows) - 3D view looking north, (red, green and blue contours show average Mn grades of >20%, >10% and >5% respectively)

Background on Earahedy Project

The Proterozoic aged Earahedy Basin north of Wiluna in Western Australia 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 now covering ~130 strike kilometres of prospective stratigraphy (Figure 7). Zenith's priority target is high-grade (>40% Mn) manganese oxide formed by weathering or supergene upgrade of primary mineralisation.

Zenith completed the first ever drilling for manganese in the western Earahedy in late 2010 at the Lockeridge prospect, intersecting a shallow dipping bed of primary manganese carbonate mineralisation. 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, including: 2m @ 17.1 % Mn, 1m @ 22% Mn and 3m @ 14.3 % Mn.

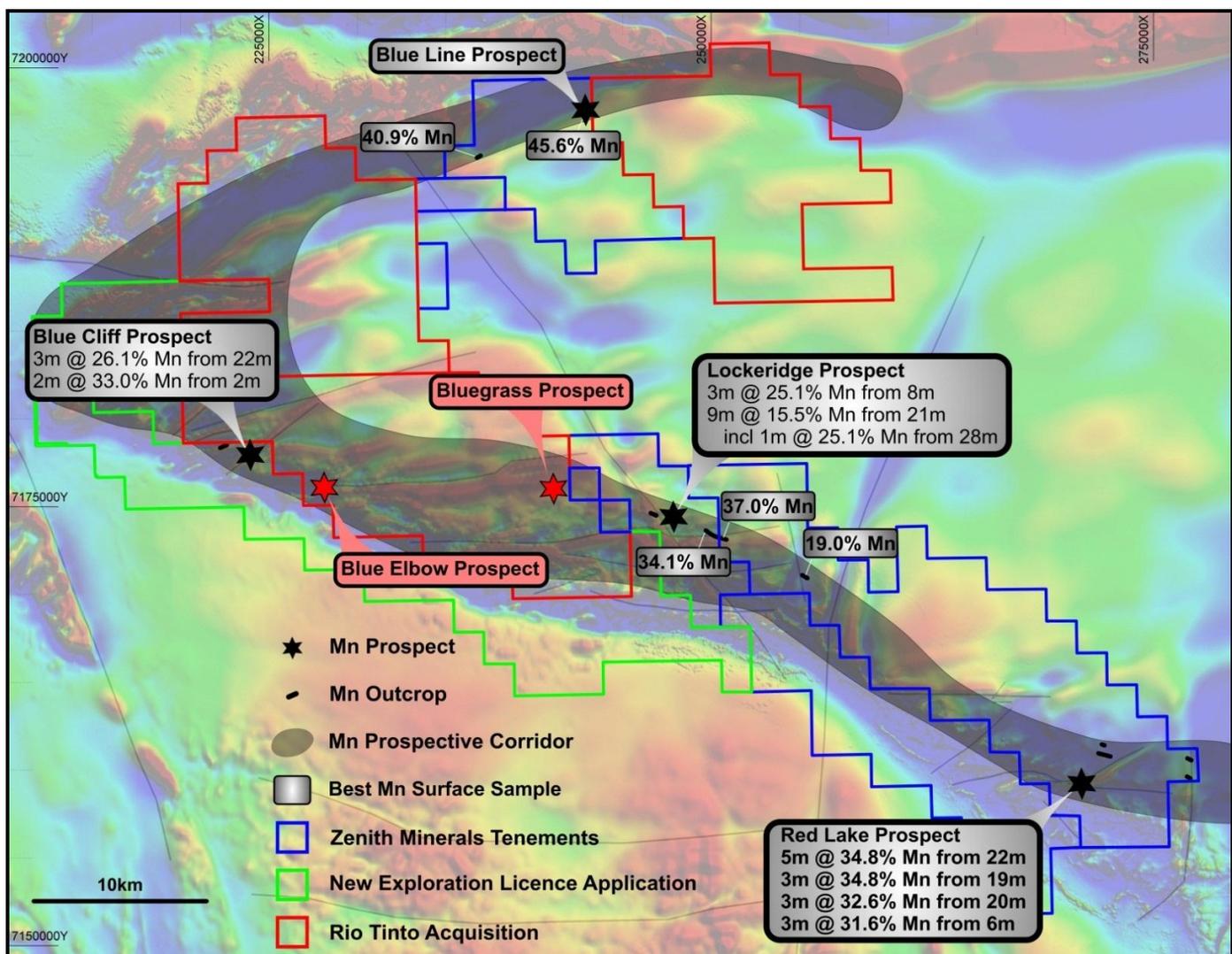


Figure 7. Zenith Tenements and Manganese Prospects, Western Earraheedy Basin,

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, including 1m @ 42.3% Mn.

In late 2013 two additional holes drilled at the Lockeridge prospect were very positive, confirming that manganese oxide could persist up to 200m down dip from the high-grade manganese surface outcrops. The primary manganiferous carbonate at Lockeridge is supergene enriched near surface. Previous Zenith drilling completed in 2010 was stepped out more than 250 metres down dip from the outcrop, and intersected primary manganiferous carbonate with Mn grades in the range 3 to 10% Mn for up to 1.2 km down dip. The 2013 program 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 in late 2013 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, including 1 m @ 20.3% Mn and 1m @ 22.7% Mn).

An exploration licence application has been successfully applied for by Zenith to cover the Blue Cliff Manganese prospect where previous drilling by a JV managed by Cazaly Resources Limited intersected: 2 metres @ 33.0% Mn from 2 metres and 3 metres @ 26.1% Mn from 22 metres depth (as announced by Cazaly to the ASX – 27th July 2012). Zenith considers there to be potential for the development of additional Mn along strike of the Blue Cliffs occurrence as well as within the area adjacent to the new tenure acquired from Rio Tinto.



EARAHEEDY BASE METALS PROJECT – WA (Zenith 100%)

- Irish/MVT Style carbonate hosted zinc and lead (Zn-Pb) mineralisation along western edge of Earahedy Basin,
- Wide spaced (1-10km) historic drilling demonstrates Zn-Pb anomalism over 300km²
- High-grade zinc-lead trends require drill testing,
- Previous drilling intersected:
 - Navajoh Prospect: 7.3m @ 6.1% Zn, 0.77% Pb (incl. 3.3m @ 11.2%Zn & 0.93%Pb)
 - Magazine Prospect: 5m @ 5.6% Zn+Pb (incl. 2m @ 8.2%Zn & 2.8%Pb)
 - Chinook Prospect: 6m @ 3.63% Zn+Pb
- Potential for large scale deposit remains untested.

Activities in September Quarter

No field work during the quarter. The company is seeking expressions of interest from third parties who may be interested in advancing the Earahedy base metals project.

MT ALEXANDER IRON PROJECT – WA (Zenith 100%)

- **Advantages over other WA magnetite deposits;**
 - Location close to coast and infrastructure (Well located close to sealed roads, gas pipelines and only 120km from coast near Onslow (Mitsui, Chevron ports)
 - Coarser grained = better beneficiation
 - Low waste to ore ratio ~ 1:1, provides a good compact mining shape
- Base case in 2011 Scoping study - slurry pipeline, tranship by barge to vessel offshore
- 80km to API JV (Baosteel-AMCI) West Pilbara proposed railway to Anketell Port – third party access indicated by developers,
- Prominent range magnetite zone +4 km long and up to 200 metres thick,
- JORC Inferred Resource of 535Mt @ 30 % Fe is only ~ 50% of target iron formation (“BIF”) area. Clear potential to grow resource within significant additional Exploration Target.

Activities in September Quarter

During the quarter the Company continued discussions with various potential partners interested in advancing the Mt Alexander Iron Project. Field work is proposed for the upcoming quarter to assess an area of potential high-grade DSO hematite mineralisation.

Background on Mt Alexander Project

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 (Baosteel/AMCI JV) to a new port development at Anketell Point provides a possible alternative infrastructure solution (Figure 8).



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							
Classification	Tonnes (Mt)	Head Grade					
		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.

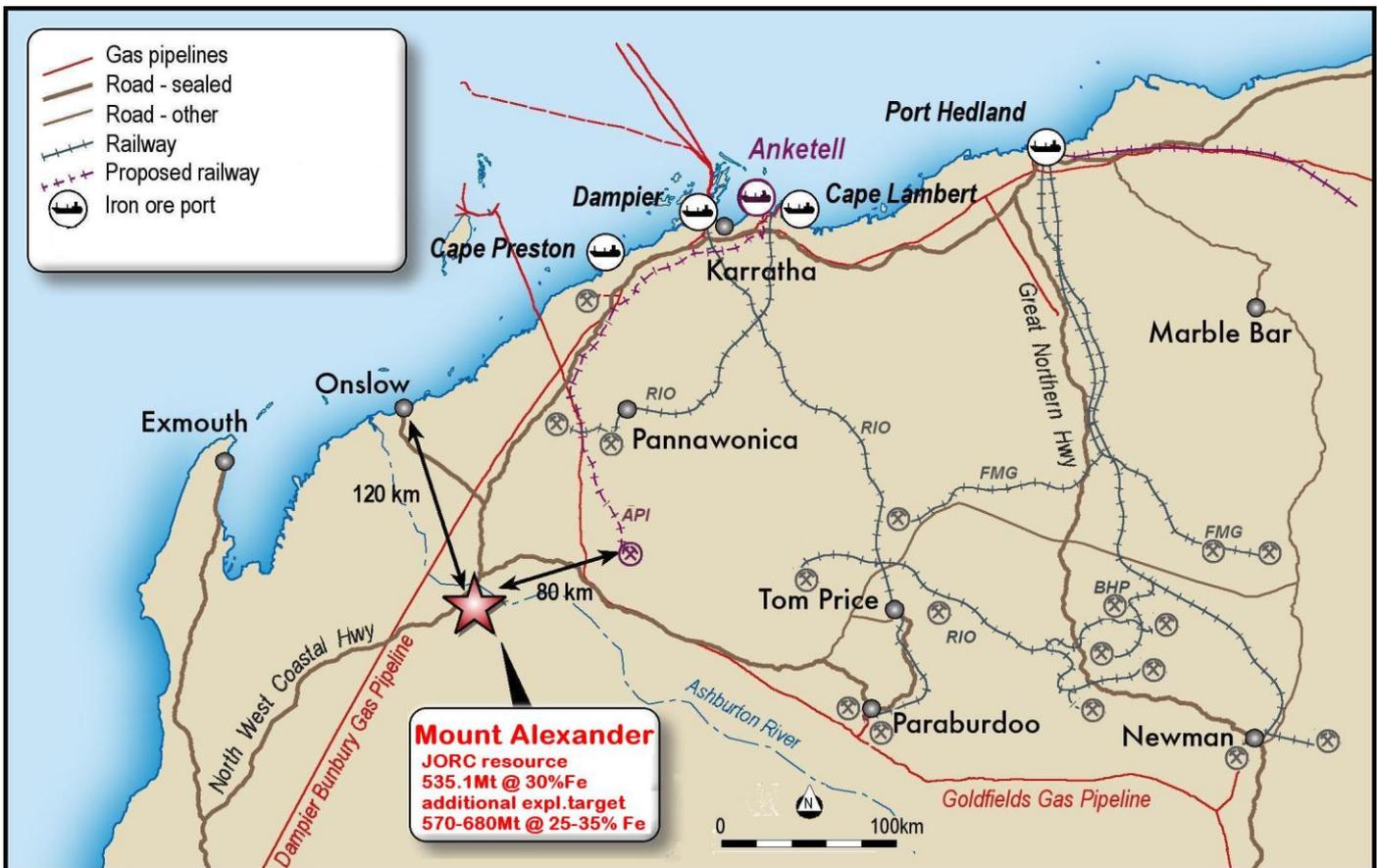


Figure 8: Mount Alexander Project Location Map – (Note Proximity to Coast and Regional Infrastructure)

MT MINNIE GOLD PROJECT – WA (Zenith 100%)

- 7 under explored gold prospects over 50km of strike,
- High-grade rock samples include: 64.2 g/t gold & 21.5 g/t gold,
- Only cursory previous reconnaissance exploration activity by previous explorer focused on nearby Minnie Springs molybdenum deposit,
- Zenith applying new geological model – project prospective for reduced intrusion related gold deposits (trace element metal association including: bismuth, molybdenum and tungsten).

Activities in September Quarter

Field assessment is planned to commence in the coming quarterly period.

Background on Mt Minnie Project

The Mt Minnie project consisting of two exploration licences is situated approximately 240 km northeast of Carnarvon in Western Australia. 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.

MT RUSSEL COPPER PROJECT – WA (Zenith 100%)

- **Exploration License Application,**
- **Near surface copper exploration results in historic shallow drilling,**
- **Yerrida basin setting, same host sequence as Thaduna Green Dragon copper deposits under assessment 100km to the north.**

Activities in September Quarter

A reconnaissance site visit was completed during the quarter. The historic ACM drill hole collar was successfully located providing confidence in the historic exploration records. Unfortunately no mineralised drill samples remain at surface. Follow-up surface sampling and mapping is planned for the upcoming quarter.

Background on Mt Russel Project

Exploration licence E53/1809 (Mt Russel) encompasses historic copper exploration results reported by ACM in 1983 (GSWA – WAMEX Report a12928) including: 10m @ 0.28% Cu from 10m down-hole, in the oxidized portion of the hole of a regional stratigraphic drill hole.

The project area covers the southern margins of the Yerrida Basin (Maralouou formation) – part of the Capricorn Orogenic belt. A number of explorers are active in the northern portion of the Yerrida Basin including: Sipa Resources Limited (ASX:SRI) who have reported promising results from their Thaduna copper project and Sandfire Resources NL (ASX:SFR) and Joint Venture partner Ventnor Resources Limited (ASX:VRX) who are assessing the Green Dragon copper project.

The Mt Russel area is considered a viable near surface flat lying oxide copper target amenable to potential cheap mining and processing via solvent extraction electrowinning, similar to the near surface copper oxide deposits of the mid-western USA, that overly the large porphyry copper deposits

SUNGAI ROI COAL PROJECT – INDONESIA (Zenith Right to earn 90%)

- **Coal concession in East Barito, Kalimantan, Indonesia,**
- **Multiple, flat lying high-grade thermal coal seams crop out over 3km of strike,**
- **Close to existing infrastructure including haul roads and barge loading facilities,**
- **Conditional offer received, US\$500,000 in staged payments and royalty of US\$1.00/tonne coal mined for S2M2 Coal’s rights.**

Activities in September Quarter

No field activities were conducted during the quarter.



Background on Sungai Roi Project

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 on 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 company is awaiting confirmation of clean and clear title to the coal license.

NEW OPPORTUNITIES

The Company is continuing to assess resource opportunities that have both synergies with existing Zenith projects or that will enhance the Company's existing project portfolio.

During the quarter the Company's geological team completed a detailed review of the historic exploration programs conducted at the SW Yilgarn prospects Bottleneck and Nanicup Ridge. The reviews concluded that the high-grade gold zones were of a small and restricted nature and did not rank above existing projects within the Company's project portfolio. No interest was received from approaches to potential partners and the exploration licence applications were subsequently withdrawn.

CORPORATE

Zenith completed a capital raising of \$1,000,000 through a share placement at \$0.08 cents per share, comprising 12,500,000 shares to Australian and overseas sophisticated investors. Zenith director Mike Joyce intends to participate in the placement, subject to shareholder approval under ASX Listing Rule 10.11 which will be sought at the Company's Annual General Meeting, currently scheduled for 19th November 2014.

Zenith Minerals Limited

24th October 2014

For further information contact;

Directors Michael Clifford or Mike Joyce

Phone 08 9226 1110



The information in this report that relates to Zenith 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 Zenith. 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 in-situ Mineral Resources at the Develin Creek project is based on information compiled by Ms Fleur Muller an employee of Geostat Services Pty Ltd. Ms Muller takes overall responsibility for the Report. She is a Member of the AusIMM and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity she 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 2012 Edition). Ms Muller consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

The information in this report that relates to Zenith Exploration Targets at Mt Alexander 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 Mineral Resources is based on information compiled by Mr Dmitry Pertel, a Competent Person who is a fulltime employee of CSA Global Pty Ltd and a member of the Australian Institute of Geoscientists (AIG). Mr Pertel has sufficient experience 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 Mineral Resources and Ore Reserves". Mr Pertel consents to the inclusion of such information in this report in the form and context in which it appears.