



Zenith
Minerals
Limited
ABN 96 119 397 938

NEW DEVELIN CREEK COPPER-ZINC-GOLD-SILVER RESOURCE EXTENSION DRILL TARGETS DEFINED

20th August 2014

HIGHLIGHTS

On 7th July 2014 Zenith announced the acquisition of up to 100% interest in the Develin Creek Copper-Zinc-Gold-Silver Project, located in Queensland. An initial 51% interest has now been secured following receipt of Queensland Government approvals and Zenith has exclusive option to purchase the remaining 49% interest.

- **The Company has now outlined 4 high-priority Resource Extension Targets at Develin Creek ready for drill testing, including:**
 1. Extensions to the main massive sulphide horizons at Sulphide City extending down-dip to the northwest where existing drilling is sparse,
 2. The north-easterly, down-plunge extensions to the main massive sulphide body at Scorpion,
 3. The northern down-dip extents of the Scorpion deposit where existing sparse drilling intersected bedded sulphides in wide spaced drill holes, and
 4. The area along strike and down dip of the Window deposit which is poorly tested and remains open.
- **Planning and permitting underway for drill testing in fourth calendar quarter.**

Upgrade of the current JORC 2012 resource will commence this month by - inclusion of more recent drilling data including intersections outside the existing Sulphide City resource of **13.2 metres @ 3.3% copper, 4.0% zinc and 0.4g/t gold**, extending mineralisation up to a further 200m south.

The Company's geophysical consultants will commence assessing and ranking the numerous regional prospects and targets generated from the previous Fitzroy Resources Limited airborne electromagnetic survey (HeliTEM) flown over the entire project area that have had limited ground follow-up to date.

It is planned to drill the resource extension targets in the December quarter as well as to advance the many high priority regional targets with ground follow-up prior to drill drilling.

Activities

Exploration/Development

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

Details as at June 2014

Issued Shares	112.3 m
Unlisted options	1.1 m
Mkt. Cap. (\$0.10)	A\$ 11.2m
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%
Miquilin	5.3%
Tilbrook/Grey Willow	5.3%
Nada Granich	4.8%
Yandal Inv. PL	3.0%



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Key assets at Develin Creek include:

- 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,
- Numerous other geophysical and geochemical targets along 50km of host volcanic rocks, with strong evidence that downhole electromagnetic (EM) surveys clearly detect massive sulphide zones, and induced polarisation (IP) geophysical surveys show strong chargeability anomalies associated with stringer zone mineralisation beneath the massive sulphides.

The Develin Creek base metals project is located 80km north-west of Rockhampton in Central Queensland and hosts several copper-zinc-gold volcanic hosted massive sulphide (VHMS) deposits and covers an extensive belt of underexplored prospective volcanic stratigraphy. Mineralisation comprises massive sulphide, stringer and breccia style copper-zinc-gold deposits, hosted by basalts. To date resources have been estimated for three deposits: Sulphide City, Scorpion and Window.

DEVELIN CREEK RESOURCE EXTENSION TARGETS

Significant potential exists to extend the currently defined copper-zinc-gold deposits and to discover new mineralisation lenses in higher or lower stratigraphic positions (Figure 1).

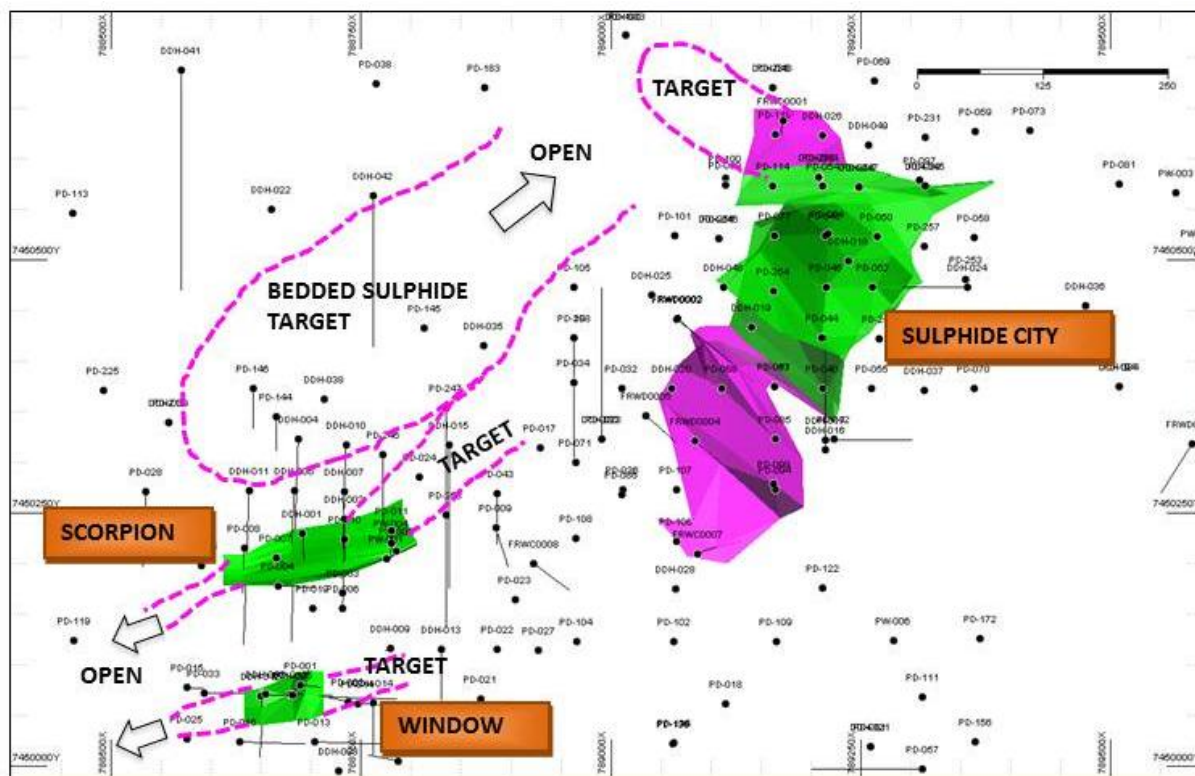


Figure 1: Plan of Develin Creek Resource Extension Targets

(Green - Existing Resource Polygons, Purple – Extensions defined by Fitzroy Drilling, Dashed outlines – Zenith Targets)

Key targets identified by Zenith include extensions to the massive sulphide horizons at **Sulphide City**. Data review and modelling by Zenith has led to the recognition of an interpreted new east-west trending fault that displaces mineralisation at the north end of the Sulphide City deposit. The deposit appears open beyond this fault, particularly extending down-dip to the northwest where existing drilling is sparse (Figure 2).



The main Sulphide City lens, outlined with a 1% copper equivalent cut-off, has a horizontal projection of about 300m x 150m and varies from 2.5m to 29m in thickness. Better historic drill intersections (previously reported by Fitzroy Resources Limited to the ASX, 14th Oct 2010, 11th May 2011 and 28th Oct 2011) include:

- **FRWD0002** 13.2m @ 3.3%Cu, 4.0%Zn, 30g/t Ag and 0.5g/t Au
- **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

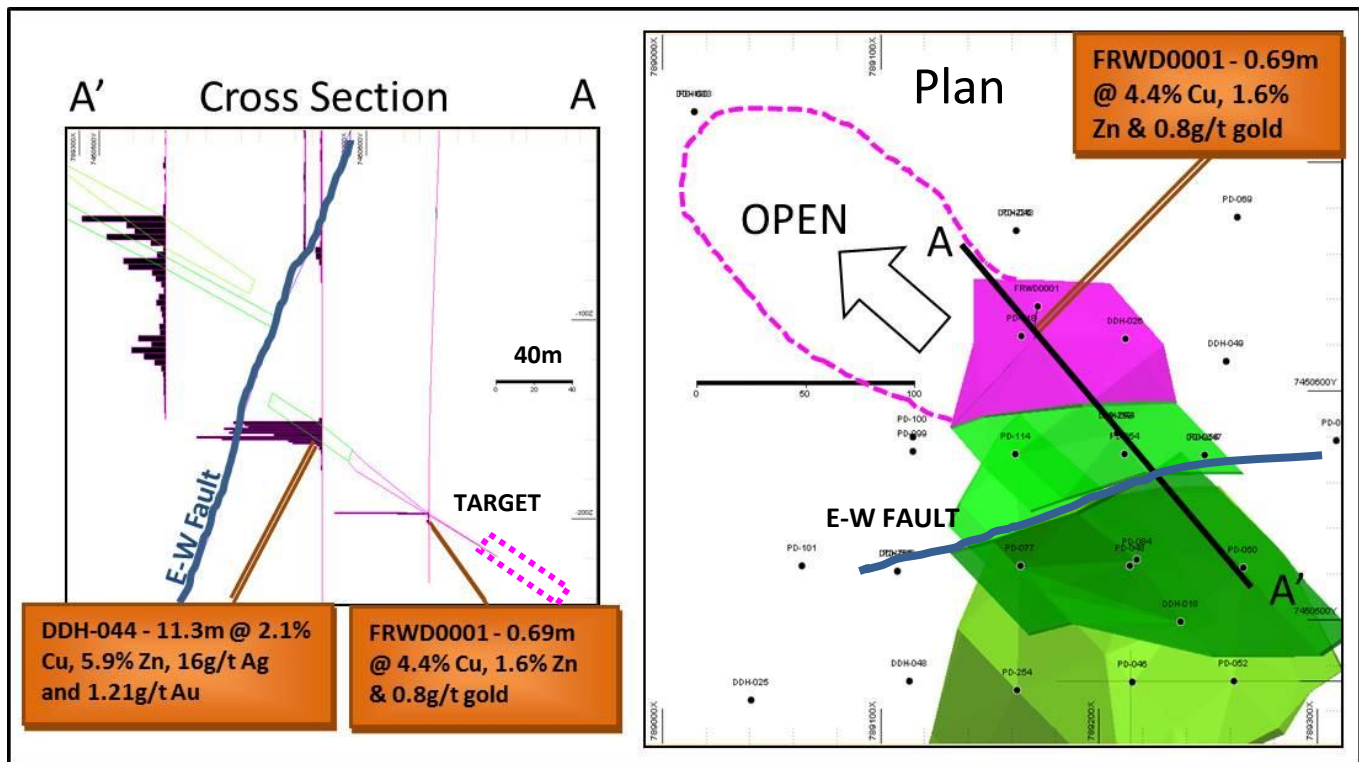


Figure 2: Plan and Section of Sulphide City North – Showing Extension Target
Green - Existing Resource Polygons, Purple – Extension defined by Fitzroy Drilling)

The north-easterly, down-plunge extensions to the main massive sulphide lens at the **Scorpion Deposit** (Figure3 & 4) are open-ended beyond historic hole PD246 which intersected 12m @ 1.47% Cu, 1.33% Zn, 0.35g/t gold, and 10.3g/t Ag including 9 metres of logged massive sulphide, and require drill testing. In addition the northern down-dip extents of the Scorpion Deposit remain open. Sparse deeper drilling intersected bedded sulphides in holes DDH042 – 1.3m @ 1.0% Cu and 0.4g/t gold and hole DDH038 – 1.6m @ 1.5% Cu, 0.8% Zn and 0.3 g/t gold (Figures 3). This distal bedded sulphide target extends over an area some 200m x 350m and may extend as far as the Sulphide City deposit a further 400m north-east of the intersection in hole DDH042.

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 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 May2011) 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)
- **DDH-007** 24.0m @ 1.3% Cu, 1.9% Zn, 8g/t Ag and 0.3g/t Au (includes 14.0m @ 2.1% Cu, 2.8% Zn)

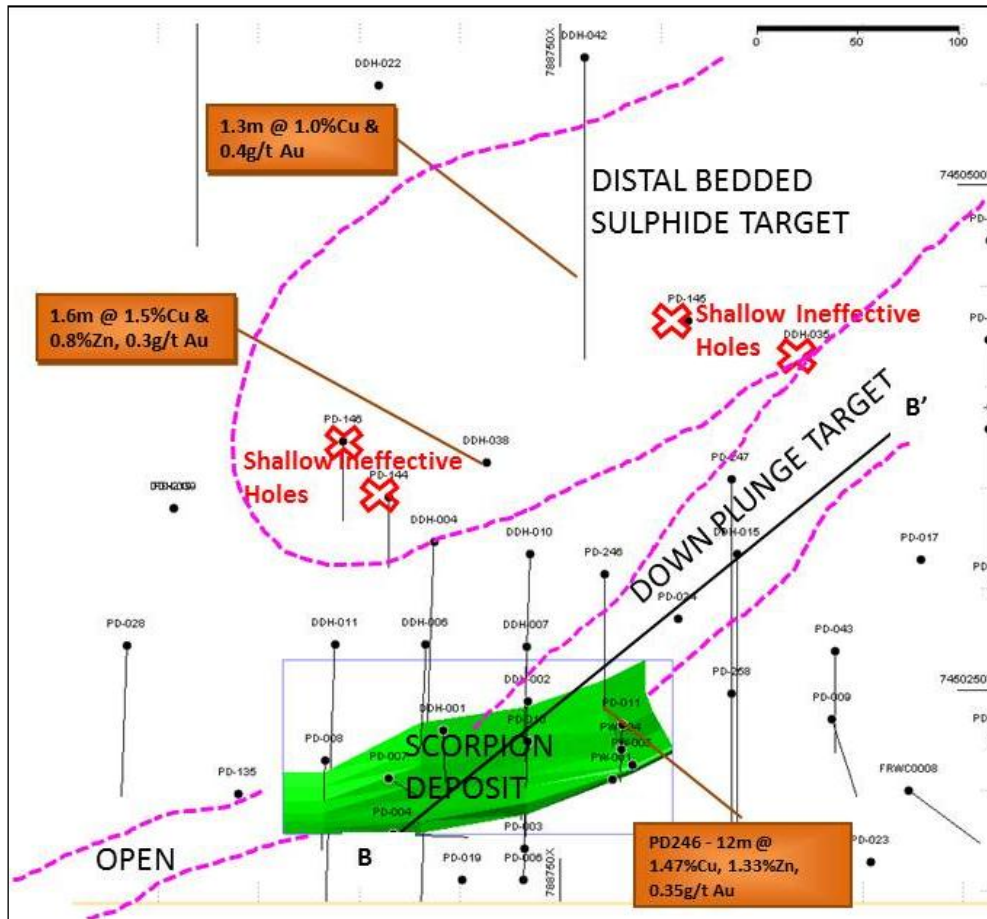


Figure 3: Plan of Scorpion Deposit Area with drill hole traces – Showing Extension Targets and Distal Bedded Sulphide Target

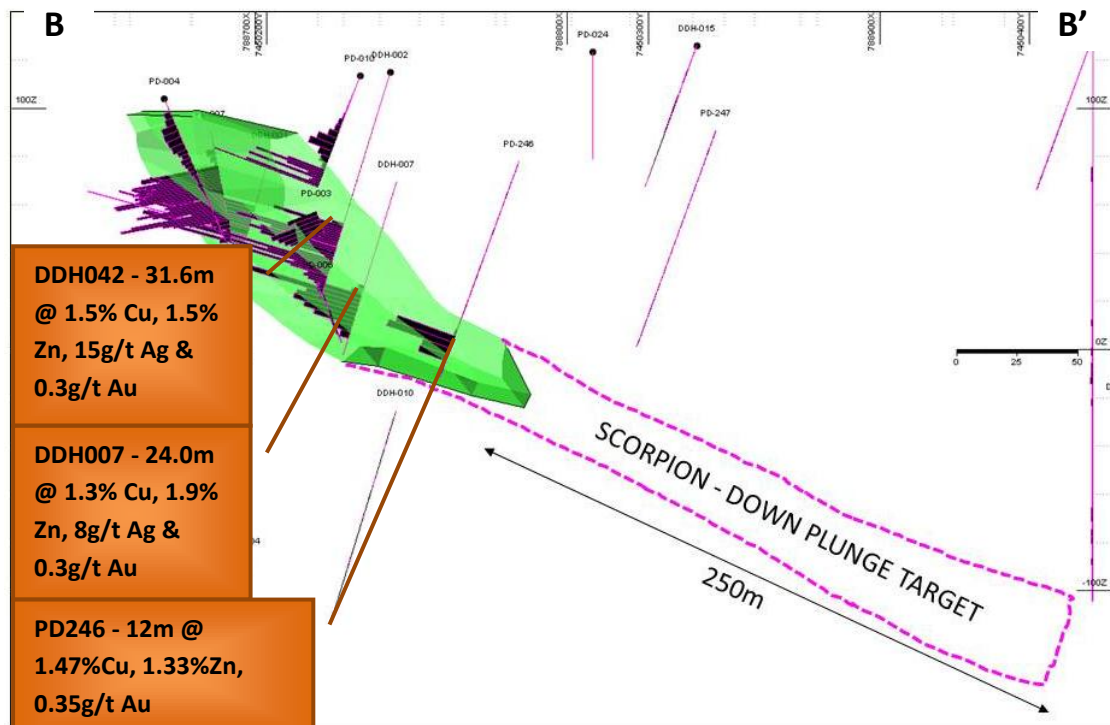


Figure 4: Longitudinal Section (B-B') of the Scorpion Deposit (resource in green) with drillhole traces and copper histogram plot– Showing Down Plunge Extension Target to the north east



The area along strike and down dip of the **Window** deposit is poorly tested and remains open (Figure 5). The highly weathered Window mineralisation consists of a supergene zone of secondary copper minerals within a steeply dipping stringer style mineralisation comprising a multiphase quartz / pyrite /chalcopyrite stockwork. The location and style of mineralisation indicates that Window may be the partially eroded footwall stringer zone to the nearby Scorpion massive sulphide lenses. Better historic drilling results previously reported by Fitzroy Resources Limited to the ASX, 14th Oct 2010) include **PD-012, 84.0m @ 0.8% Cu (including 48.0m @ 1.2%)**.



**Figure 5: Plan of the Window Deposit (resource in green)
drill hole traces and copper histogram plot – Showing Extension Targets**

Potential also exists for near deposit discoveries such as mineralisation concealed under extensive cover, particularly to the west where existing IP geophysical coverage terminates approximately 300m to the west of the Window-Scorpion deposit. It is also important to note that the detailed IP survey also terminates to the immediate east of the Sulphide City resource area, where there is a 250m x 900m gap in IP coverage before a widely spaced, more regional survey starts.

DEVELIN CREEK RESOURCES

The current (JORC 2012) Inferred Resource estimate was first calculated by Icon Resources to the ASX in 2007 for the three main mineralized bodies (Sulphide City, Scorpion and Window). Zenith completed a review and updated the resource to be compliant with the JORC 2012 guidelines in July 2014. The resource defined to date by drilling is: 1.76Mt grading 1.7% copper (Cu), 2% zinc (Zn) and 0.2g/t gold (refer to JORC compliant resource statement and associated tables attached to the Zenith June 2014 Quarterly Report, dated 30th July 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



Subsequent to the resource estimates reported in 2007, drilling by Fitzroy extended mineralisation at the Sulphide City deposit by 200m to the south. Drilling intersections previously reported by Fitzroy (ASX Releases 28th July 2011, 28th Oct 2011 and 30th Jan 2012) that extend high-grade copper-zinc mineralisation to the north and south that are not included in the 2007 resource estimate above include:

- **FRWD0002 - 13.2m @ 3.3% Cu, 4.0% Zn & 0.4g/t gold (40m south of resource)**
- **FRWD0004 - 1.1m @ 3.5% Cu, 1.7% Zn & 0.6g/t gold (140m south of resource)**
- **FRWD0001 - 0.7m @ 4.7% Cu, 1.9% Zn & 0.8g/t gold (50m north of resource)**
- **FRWC007 - 2.0m @ 0.2% Cu, 2.4% Zn & 2.2g/t silver (200m south of resource)**

Zenith has commissioned an updated JORC resource that will include these additional drill holes.

BACKGROUND ON VHMS COPPER-ZINC-GOLD DEPOSITS

VHMS ore deposits are a type of metal sulphide ore deposit created by volcanic-associated hydrothermal events in submarine environments. VHMS deposits are a major economic source of metals worldwide and in particular contain large accumulations of copper and zinc with associated gold and silver that are exploited by both open pit and underground mining methods, the deposits occur in clusters and have well defined exploration vectors.

A study in 1980 on 8 VHMS districts in Canada and Japan (D F Sangster - Geological Survey of Canada) demonstrated that: on average the VHMS districts studied contained between 4 and 20 deposits, each district has an average of 12 deposits and the total base metal content of each district is 5.4 million tonnes.

The ongoing successful discovery of VHMS copper-zinc deposits in a single district is highlighted by the discovery history of the Bathurst VHMS district in Canada, where a total of 41 individual deposits have been discovered progressively over a 42 year period. The VHMS clustering is also well demonstrated via the discovery of deposits by Independence Group (and its predecessors) along the 15km long Bentley-Jaguar-Teutonic Bore mine trend, as shown below in Figure 6. Such deposit clustering is very likely at the Develin Creek project and it is anticipated that further exploration will result in the discovery of additional mineralisation.



Figure 6: VHMS Deposit Cluster at IGO's Bentley-Teutonic Bore Trend

(Source: IGO ASX Release May 2014)

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 and an employee of Zenith Minerals Limited. 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.

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

20th August 2014

For further information contact;

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