



# QUARTERLY ACTIVITIES REPORT

*for the period ended 31 December 2012*

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## HIGHLIGHTS

### NAMIBIA URANIUM EXPLORATION

- High Density Airborne Magnetic Survey planned during the previous quarter commenced in the first week of January 2013.
- Survey designed to collect high density information to enable best possible targeting of basement drilling for Rössing-style primary uranium mineralisation.
- Metals has previously confirmed uranium mineralisation within the basement alaskite, granites and schists.
- Survey results and interpretation anticipated during the first quarter of 2013.
- Company is entering an exciting period of exploration at Mile 72.

### AUSTRALIAN EXPLORATION

- Re-evaluation of exploration targets at Manindi Base Metal Cu-Zn Project (WA) in light of strong copper and improving zinc markets.
- Victorian Gold projects benefit from appointment of experienced local consultants.



## URANIUM PROJECTS, NAMIBIA

### THE MILE 72 URANIUM PROJECT

The Mile 72 Uranium Project is a large uranium project on the coast of Namibia, north of the city of Swakopmund (Figure 1). Some of the highest uranium grades in the world have been recorded in outcrop and in shallow pits. Metals has recently entered into a new phase of exploration at Mile 72, targeting a large high-tonnage moderate grade primary deposit of a similar style to the Rössing and Husab mines to the south.

In the June 2012 quarter, the Company reported that it had received very positive results in relation to the final batch of 154 assays obtained from the trench sampling at the Mile 72 Project in Namibia. Assay results were also received from the pilot shallow RC drilling programme of 231 drillholes for 1,023m at Mile 72. These showed strong anomalism away from the main Kudu-Impala prospect.

### A new phase of exploration at Mile 72

Following the collection and review of data from the recent surface sampling and shallow RC drilling programme, Metals is entering a new phase of exploration at Mile 72 as it targets uranium mineralisation hosted within the granite-schist-alaskite basement sequence. Primary mineralisation within the licence area is most likely to be of a similar style to the Rössing and Husab deposits.

Granite-hosted primary uranium deposits are typically high tonnage and moderate grade (250-600 ppm or 0.025-0.06 %  $U_3O_8$ ). As such, the grades encountered at surface at Mile 72 are not expected to be encountered at depth but are, rather, a surface enrichment feature indicative of mineralisation at depth (see Figure 2).

Metals' geologists have reviewed all historic and recent data collected at and around Mile 72. Some of the key findings to date include:

- The Mile 72 area has an equivalent propensity to generate alaskites (the hosts to uranium mineralisation) to the Alaskite Alley area that contains Rössing and Husab.
- Interpretation of the Kudu-Impala geology from geophysics shows that unique geological features, which may be important in the concentration of uranium mineralisation, occur within the EPL3308 licence boundary.
- Uranium that is concentrated at surface at Kudu-Impala must be sourced from the basement sequence within the licence area, and has not been transported in from elsewhere.
- Groundwaters may have shifted the surface uranium anomalies relative to subsurface mineralisation to a limited extent.



Figure 1 – Location of the Mile 72 uranium project, Namibia.

- For a mineralised profile in this type of weathering environment, we will expect to see very high grades at surface, followed by a zone of depletion (maybe 20-50 m depth) that contains very little or no mineralisation, followed by fresh primary mineralisation.
- $U_3O_8$  grades up to 324ppm and identification of alaskite rock units in geological logging of the shallow drilling programme are good indicators of potential primary basement uranium mineralisation.
- Several targets have been identified that require further refining and analysis prior to drilling and we expect to identify additional targets as work progresses.



**Figure 2** – Areas exhibiting prime geological conditions for the genesis of alaskites. Mile 72 had the same conditions as those experienced at Husab, Rössing and Valencia. (Red = peak conditions ideal for genesis of alaskite. Pink = peak conditions exceeded required conditions but area still hosts potential for alaskites.)

### Preparation, approval and commencement of high density geophysical survey

During the December 2012 quarter, a geophysical contractor was engaged to complete a high-resolution 50m line-spacing aeromagnetic survey at Mile 72. The period saw a number of minor bureaucratic delays as all government approvals were put in place for the flight to proceed. The survey received approval in the last days of 2012, with the survey commencing on 7 January 2012.

The new high resolution magnetics and radiometrics will provide the Company with an extremely accurate depiction of the subsurface at Mile 72 (Figure 3). Interpretation of previous low-resolution regional magnetic surveys has identified magnetic low anomalies that coincide with high-grade surface uranium mineralisation. Magnetic lows coincide with mineralised alaskites at Rössing and Husab. Trenching and drilling has already confirmed the presence of these rock types in the basement at Mile 72. It is expected that this new high-resolution survey will provide the necessary detail for accurate drill targeting of these anomalies at Mile 72.

The company will use the high resolution data being acquired by the survey, in conjunction with the extensive geochemical trenching data and radiometric data, to refine target drillhole locations for a planned deeper (80-100m deep holes) reverse circulation (RC) drilling programme expected to take place in the coming months. This first pass drilling programme will serve as a precursor to subsequent more substantial and targeted resource definition programmes.

The Mile 72 area has an equivalent propensity to generate alaskites (the hosts to uranium mineralisation) as the “Alaskite Alley” area to the south that contains Rössing and Husab (Figure 2)

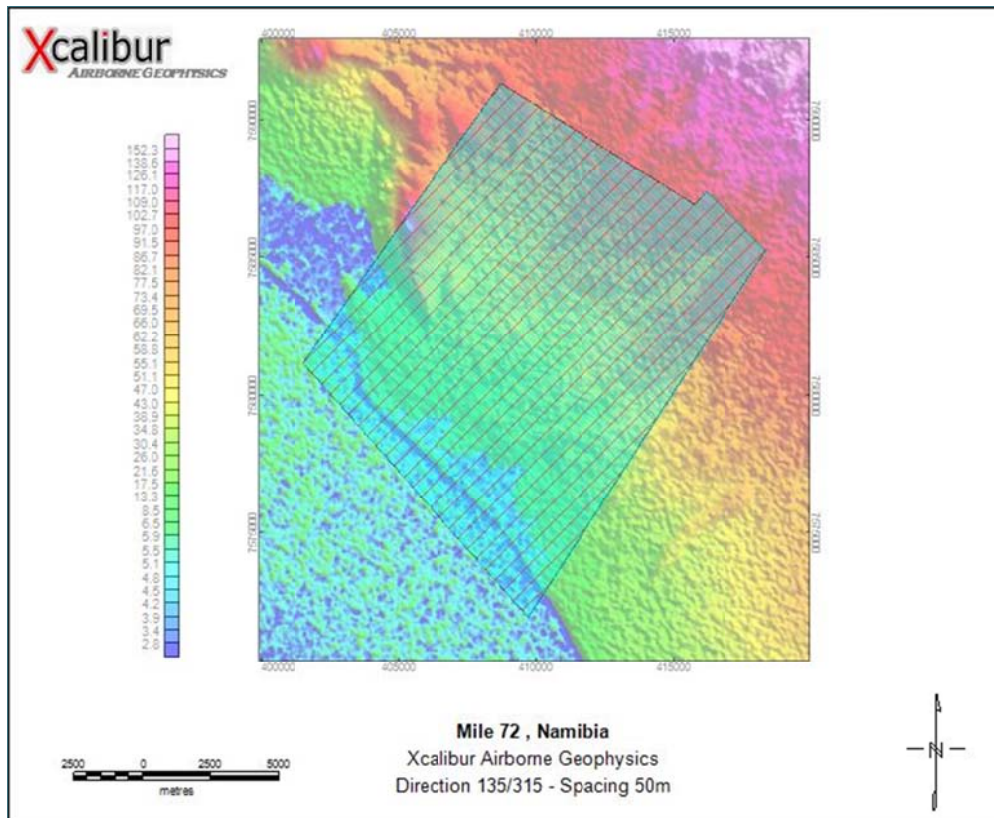


Figure 3 – Geophysics Flight lines planned over Mile 72, January 2013

## THE ENGO VALLEY URANIUM PROJECT

The Engo Valley Project (EPL3306) is located in the remote northwest of Namibia in the Skeleton Coast National Park. The project is located close to the proposed port location at Angra Fria on the northern Namibian coast. The project is prospective for uranium located within and below the Karoo-age sediments present on the licence. Access permits are required to visit the Skeleton Coast National Park and there are no roads and no habitable sites within the 16,000 km<sup>2</sup> park (See Figure 4).

In January 2012, Metals submitted a detailed Environmental Overview and Environmental Management Plan document to the Namibian Ministry of Environment and Tourism (MET) to apply for an Environmental Clearance and Access Permit to commence surface exploration work at Engo Valley. The necessary Environmental Clearance and Access Permits were granted in July 2012.

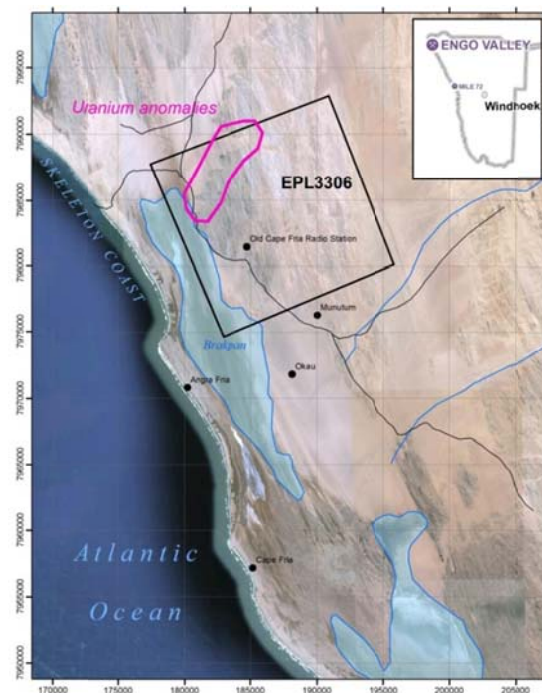


Figure 4 – The Engo Valley licence area (EPL3306)



A programme of field work to map, sample and assess the Engo Valley Project area has been planned and is ready to commence once relevant approvals are in place. Given the remoteness of this project, field work at Engo is not likely to be undertaken until the completion of drilling at Mile 72.

## BASE METAL PROJECTS, WESTERN AUSTRALIA

Metals currently holds an interest in two base metals projects in Western Australia (Figure 5).

The Manindi zinc project is located around 500 km northeast of Perth and is being explored by Metals with a view to expanding the existing resources and examining the project's copper potential.

The Sherlock Bay base metal joint venture project is located in the Pilbara region and is being managed and explored by Australasian Resources Ltd (ARH). The project surrounds ARH's Sherlock Bay nickel deposit.



Figure 5 – Location of the Western Australian base metals projects.

### MANINDI ZINC PROJECT

The Manindi zinc project is a significant resource located in the Murchison District of Western Australia, 20 km southwest of the defunct Youanmi gold mine.

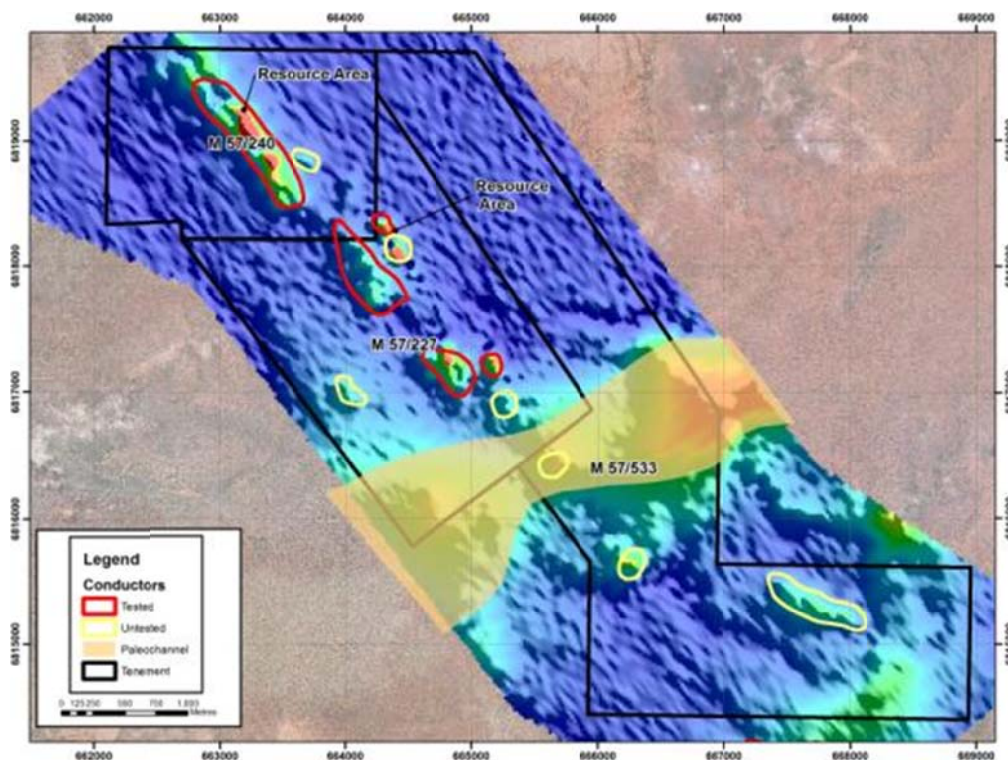


Figure 6 - Resources and FLTEM targets at Manindi

During the quarter, the Company has reviewed the previously generated VTEM targets and is considering a more active approach to test remaining anomalies for copper and zinc mineralisation due to the strong interest in copper and increasing zinc demand seen over the past six months. Copper-rich VMS deposit discoveries found utilising geophysical techniques in WA have generated significant wealth for shareholders in the recent past.

There are six new and untested geophysical anomalies adjacent to the known mineralisation at Manindi which constitute a number of attractive new drill targets for copper and zinc mineralisation. Figure 6 shows the location of the areas containing the defined Resources at Manindi and the highest ranking new FLTEM anomalies. These new geophysical anomalies have the potential to substantially expand the existing resource.

The deposit is a volcanogenic massive sulphide zinc deposit, comprising a series of lenses of mineralisation that have been folded, sheared, faulted, and possibly intruded by later dolerites and gabbros. The style of mineralisation is similar to other base metal sulphide deposits in the Yilgarn Craton, particularly Golden Grove to the west of Manindi at Yalgoo, and Teutonic Bore-Jaguar in the Eastern Goldfields.

Metals has previously delineated a JORC resource of:

**1.354 million tonnes @ 6.04% Zinc, 0.25% Copper, 3.4 g/t Silver & 0.25 g/t Gold**

The resource is divided into the following categories (at a 1% Zinc cut-off):

<b>Measured</b>	<b>497,000 tonnes @ 7.32% Zinc</b>
<b>Indicated</b>	<b>438,000 tonnes @ 6.38% Zinc</b>
<b>Inferred</b>	<b>419,000 tonnes @ 4.14% Zinc</b>

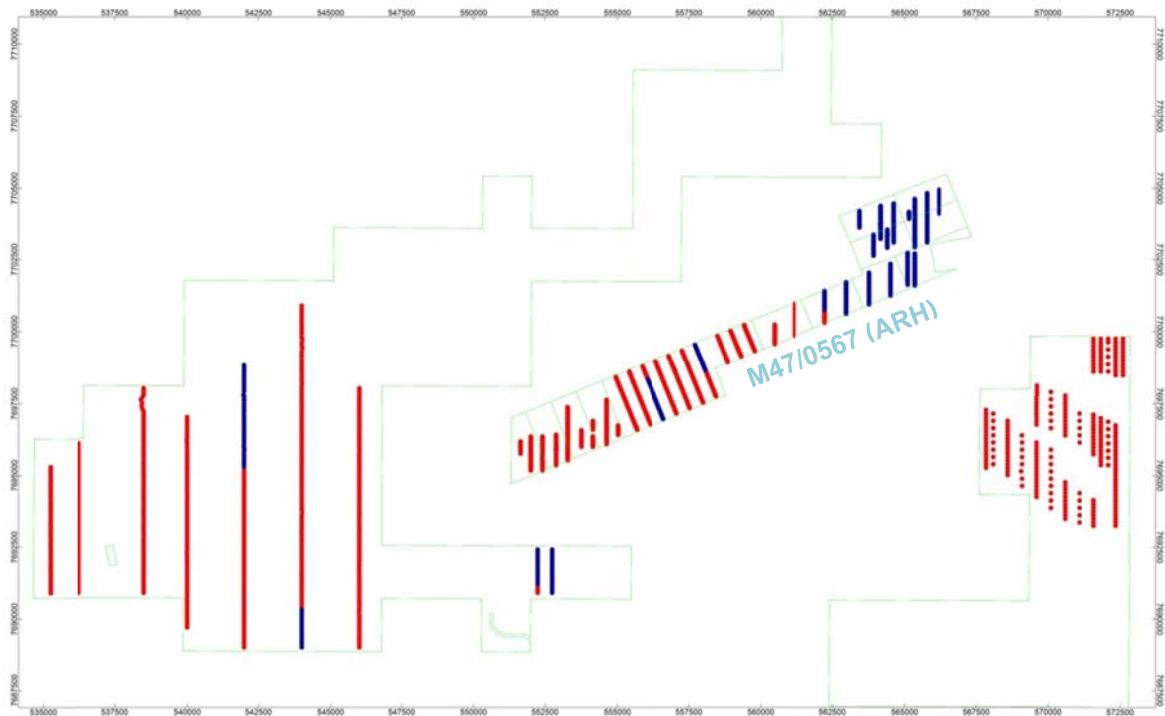
## **SHERLOCK BAY EXTENDED BASE METAL PROJECT**

The Sherlock Bay Extended project is composed of two Exploration Licences (E47/1769 and E47/1770), which surround the main Sherlock Bay nickel deposit (wholly owned by Australasian Resources Ltd - 'ARH'). The project is prospective for nickel, copper, silver and gold mineralisation.

The project is a joint venture between ARH (70% interest) and Metals (30% interest). ARH are the managers of the project, with Metals being 'free-carried' through to the completion of a bankable feasibility study and the decision to commence commercial mining.

During the quarter, samples were still being analysed for the vegetation sampling programme. ARH completed an extensive biogeochemical sampling programme over the Sherlock Bay Extended Project. Samples were collected and submitted to Genalysis Laboratory in Perth for analysis, with results for around 20% of the samples remaining to be received in the coming quarter.

Once all data is received, the data will be analysed in detail by the consultant biogeochemists. As with all biogeochemical surveys, the raw data is not comparable to regular soil geochemical results. All data must be received in order to determine element uptake rates by different plant species throughout the sampled area, and the results standardised in order to produce a comparable data set suitable for interpretation and target generation.

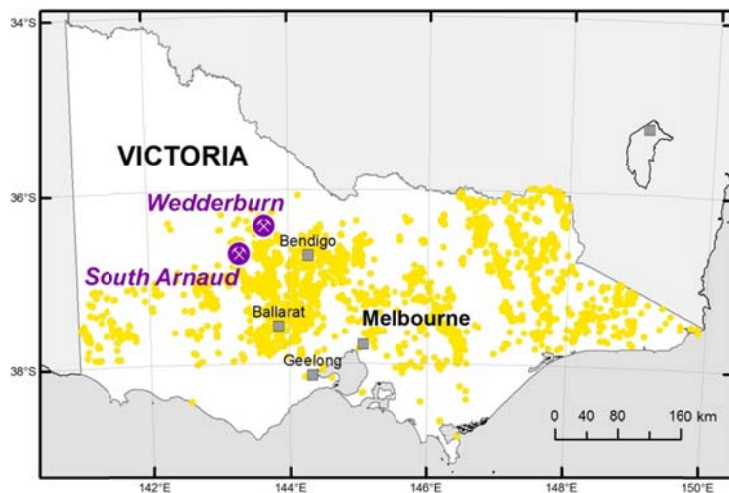


**Figure 7** – Vegetation sampling over the Sherlock Project area, which includes the central tenement (M47/0567, ARH 100%) and the two outlying Sherlock Bay Extended tenements (E47/1769 and E47/1770, MLS 30%, ARH 70%). Red sample points have been returned from the laboratory. Blue sample points are pending. Grid = 2500m.

## GOLD PROJECTS, VICTORIA

Metals holds two low impact exploration licences in western Victoria (Figure ). The South Arnaud (EL5242) and Wedderburn (EL5243), projects contain significant historic workings that have received little modern and systematic exploration.

The Victorian Goldfields were discovered in the gold rushes of the mid-1800s, with all significant gold mining activity ceasing by 1930. Government records show that numerous gold prospects, mines and occurrences are documented within the licence areas.



**Figure 8** – Location of the Wedderburn and South Arnaud projects in western Victoria. Yellow dots represent gold deposits and prospects, and their distribution highlights the rich gold belts of Victoria.

Metals has secured the services of a very experienced local consultant who has worked previously in the Wedderburn and South Arnaud areas. During the December quarter, the consultant has undertaken a detailed desktop review of historical mining and exploration in

the St Arnaud area (EL5242) ahead of planned field work in 2013, identifying several target areas that will complement previous work by the Company.

### **EL5242 –PERCYDALE FAULT ZONE, WEDDERBURN**

Work this quarter has focused on historic workings on EL 5242 that are hosted by the Percydale Fault Zone, which is a sheared, altered zone of strong deformation that is up to 500 metres wide. The fault zone within the licence has regular north-west striking, west dipping fault zones that show a strong association with gold mineralisation.

Within the Percydale Fault Zone, repeating zones of strike-parallel quartz veining over 5 to 20 metres width are apparent. Discrete veins within this zone have exhibited high grade gold mineralisation over short strike lengths of 50 to 100 metres. Grades have typically been in the range of 10 to 30 g/t Au, and high values of lead, zinc, copper, and silver have been associated with the gold mineralisation at various locations throughout the area. .

#### **Large tonnage, moderate grade gold potential**

Historical exploration in the region was carried out at a time of significantly lower gold prices by larger companies in search of large tonnage, high grade deposits. A review of that work shows that a series small high-grade bodies were identified (3,000-10,000t range) but did not assess the potential for larger, lower grade disseminated gold mineralisation in the area.

Reappraisal of the historical work indicates there is potential for a 10 to 20 metre wide, moderate grade shear zone to exist between hanging wall and footwall fault structures in the EL area (North Percydale Block).

Initial work by Metals Australia has shown rock chip samples from the Greenock mine area returned in excess of 3 g/t Au, giving positive indications. The length and orientation of these zones is presently unknown but will be subject to further work.

With the majority of past exploration focused on 10g/t or higher grades, the broader low grade zones have been dismissed historically. In consideration of the style of gold mineralisation, the Company is evaluating the most appropriate and effective exploration and sampling techniques, as the historically used techniques may not have been the most suitable and could have missed significant mineralisation.

### **PLANNED ACTIVITY IN 2013 ON EL 5242**

Approval is being sought to take soil and rock samples on the unrestricted crown land within the exploration licence. Once acquired, mapping and sampling will commence targeting the Percydale Fault Zone in order to outline further targets based using the Company's large-tonnage, moderate grade model.

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**Competent Person Declaration**

The information in this release relating to the geology and exploration results of the projects owned by Metals Australia Ltd is based on information compiled by Dr Matthew Painter, who is a full time consultant to Metals Australia. Dr Painter is a member of The Australian Institute of Geoscientists, a Recognised Professional Organisation by the Australasian Joint Ore Reserves Committee, who has sufficient experience relevant to the style of mineralisation and types of deposits under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Painter consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

**Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Metals Australia Ltd's planned exploration programme and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although Metals Australia Ltd believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.