



# QUARTERLY ACTIVITIES REPORT

*for the quarter ended 30 September 2014*

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## HIGHLIGHTS

### NAMIBIAN URANIUM EXPLORATION

- Review of previous successful drilling results at Mile 72 completed. Prospective areas identified as a focus for further exploration. Uranium trap sites in southeastern terrane identified for follow up work.

### AUSTRALIAN EXPLORATION

- Manindi Zinc-Copper Project (WA) geological and resource review ongoing. Drilling review and 3-D modelling to be completed in December quarter.
- JORC 2012 compliant mineral resource being completed. Scoping study parameters to be reviewed in light of increased long term zinc and lead pricing forecasts.
- Opportunities for expansion of high-grade zinc mineralised zones and new exploration discoveries in untested areas.
- Mining lease M57/240 at Manindi successfully renewed until 2035.
- Collaboration initiated with the Geological Survey of WA on mineralisation study of Manindi core.

## URANIUM EXPLORATION REVIEW COMPLETED

During the quarter, Metals conducted a review of all of its recent drilling and exploration at Mile 72 Project north of Swakopmund in Namibia (Figure 1). Results from the September 2013 and June 2014 drilling programs confirmed the existence of alaskite-hosted uranium mineralisation at Mile 72.

The program identified zones of uranium-enriched schist-granite-alaskite rocks with significant strike extent in the upper 85m at Mile 72.

A calcrete palaeochannel was identified on the licence in the June 2014 program (secondary Langer Heinrich style of mineralisation). This occurrence is considered promising for the accumulation of surface mineralisation sourced from hard rock sources already identified at the Project.

Eighteen holes of the June 2014 program tested the extensions of previous uranium trends identified in the September 2013 drilling program, including the intersection in drillhole MSRC0031 (**6m at 158ppm  $U_3O_8$  in MSRC0031 from 9m, including 3m at 265ppm  $U_3O_8$  from 12m and including 1m at 572ppm  $U_3O_8$** ), which identified mineralisation under sand cover. The presence of multiple, narrow uranium-enriched horizons within a sequence of schist-granite-pegmatite/alaskite was confirmed by further drilling around MSRC 0031, and includes the results from MSRC0037 (**2m at 690ppm  $U_3O_8$  in MSRC0037 from 3m including 1m at 737ppm  $U_3O_8$** ) and MSRC0046 (**2m at 226ppm  $U_3O_8$  in MSRC0046 from 3m including 1m at 312ppm  $U_3O_8$** ). These uranium-mineralised zones represent an ongoing opportunity for the southeast of the project to host significant primary and/or secondary uranium mineralisation.

The drill results for both programs validated the presence of continuous zones of primary uranium mineralisation at Mile 72 in the South East of the licence area.

### *Vertical and Horizontal Continuity of Uranium Anomalism in Pegmatites Confirmed*

An overview of the drilling to date has facilitated the identification of a number of key geological relationships, the most important of which being the consistency and significant strike extent of the anomalous pegmatite/alaskite zones thus far identified.

At least three zones have been identified in the southeast of the licence from a combination of drilling and trenching. These zones extend for a strike length of between 400m and 1,800m and are open-ended. The drilling was able to confirm the predictable nature of the uranium-enriched zones along strike and at depths of up to 85m below surface. This predictability is of great use in exploration planning and, ultimately, resource estimation.

This strong continuity of the identified mineralised zones is highly encouraging. Although the zones intersected thus far appear narrow and the grades variable, there is scope for wider, duplicated zones to be identified, as well as for the existing zones to become wider in places. The identified zones provide a key starting point for future exploration programs.

The presence of multiple, strike consistent zones is considered highly plausible, as it would explain the significant amounts of uranium that have accumulated on the surface in gypcrete

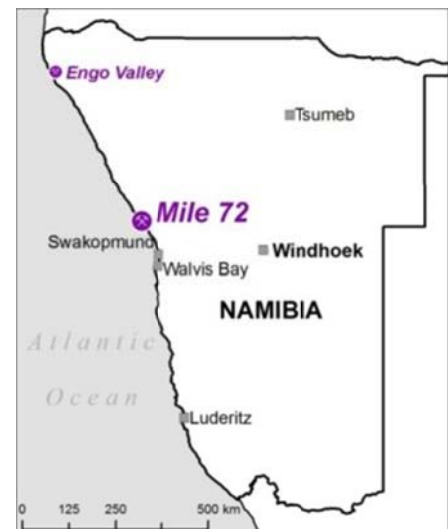


Figure 1 - Location of the Mile 72 Uranium Project, Namibia.

and calcretes at Mile 72. These gypcrete and calcrete deposits recorded some of the highest surface uranium grades of any project globally. Similar significant occurrences of carnotite in sheetwash and weathered bedrock are known in the region, such as at the Aussinanis deposit held by Deep Yellow Limited (ASX:DYL). Deep Yellow have conducted an extensive shallow, close spaced drilling program at Aussinanis and calculated a mineral resource. Processing options exist for the mineralisation, including new low cost upgrading technology such as the U-pgrade™ technology being developed by Marenica Energy (ASX:MEY). The resource and mode of occurrence at Aussinanis are comparable to Mile 72 and analogies are being investigated further by the Metals team.

### ***Radon Cup Anomalies Tested***

The two deeper drilling programs to date have tested a number of targets in outcropping and covered locations and have tested radon cup anomalism under cover.

Thirty five holes of the holes have specifically targeted highly anomalous radon cup highs located in a radiometrically barren region in the centre and northwest of the licence. Localised anomalous radon cup anomalism was seen to be potentially representative of buried primary or secondary uranium mineralisation. The drilling found this not to be the case, with the central and northwest areas being underlain by pelitic schist with sporadic pegmatites (barren), which in turn are underlain by deeper granite bodies (also barren). The schist-granite-pegmatite/alaskite geological terrane of the southeast is a stark contrast to the schist-dominated northwest, and is separated by a major geological structure (See Figure 2).

### **FURTHER EXPLORATION IN THE SOUTHEAST TERRANE**

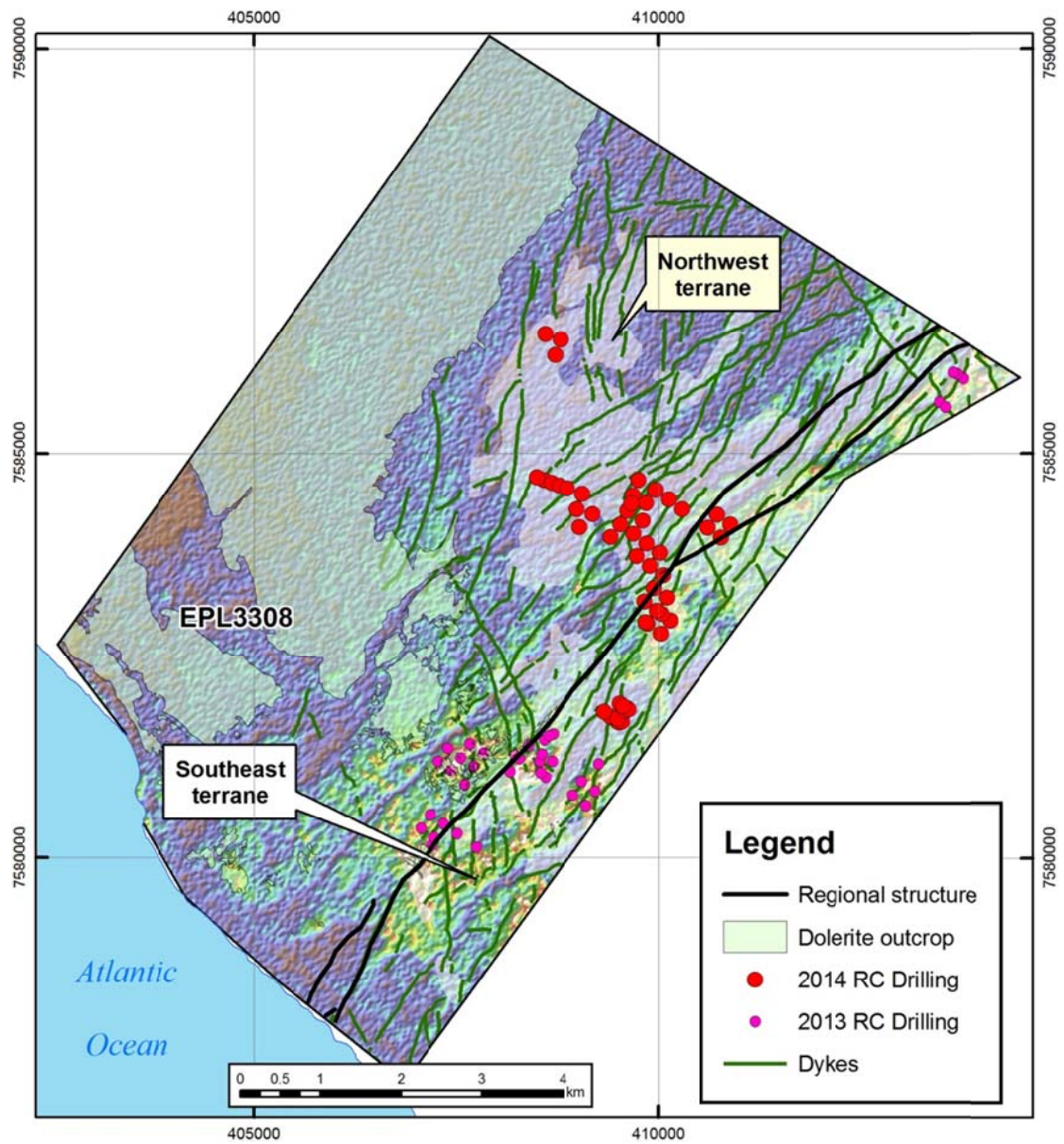
During the September quarter, the Company reviewed the results of all past exploration, focusing on its implications for targets in the southeastern terrane.

This most recent drilling, while sterilising a significant portion of the project area, allows future exploration to focus on the most prospective areas and possible trap zones in the southeastern terrane. As well as primary Rossing-style uranium mineralisation, this program has confirmed the presence of calcrete-hosted uranium at Mile 72 following the existing defined mineralisation trends along strike forms part of the exploration strategy.

Future programs will be designed and costed to test the area comprehensively to ensure any trap sites are located.

The presence of locally sourced uranium mineralisation at Mile 72 is now known to be derived from numerous strike-extensive alaskite/pegmatite zones in the southeastern part of the licence and allows exploration to focus more tightly on the identification of potentially economic mineralisation in that area.

Comparisons with similar shallow occurrences of carnotite in sheetwash and weathered bedrock such as at the Aussinanis deposit will be expanded on by the team to determine the potential for a similar resource at Mile 72, as well as defining the exploration effort required to define it.



**Figure 2** - Location of deeper RC drilling at Mile 72. Drilling has intercepted alaskite-hosted uranium mineralisation in several drillholes in the southeast terrane, defining a series of uranium trends up to 2km long. The drilling in the northwest terrane defined a large area underlain by schist

## BASE METAL PROJECTS, WESTERN AUSTRALIA

Metals Australia holds an interest in two base metals projects in Western Australia (Figure 3).

The Manindi zinc-copper 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 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.

### MANINDI ZINC PROJECT

The Manindi Project is a significant unmined zinc deposit located in the Murchison District of Western Australia, 20 km southwest of the defunct Youanmi gold mine. The project is located on three granted mining licences.

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

Since the deposits were discovered, a large body of work has been conducted, including geochemistry, geophysics, detailed geological mapping, extensive drilling, wireframe modelling, resource modelling and metallurgical test work.

The project has been drilled in 8 separate drill programs since 1971, with 389 holes having been completed. These include 104 diamond drillholes, 105 RC drillholes, 169 RAB drillholes and 8 percussion holes (see Figure 4).

During these programs, broad zones of mineralisation were intercepted which contained high grades in excess of 20% zinc. In some places grades up to 50% zinc have been intercepted in drilling. To date, 4 major ore zones over 2.5km of strike have been defined, with an additional 5km of strike largely untested by deeper drilling. A number of VTEM electromagnetic targets also remain untested (See Figure 5). These untested targets provide potential to substantially increase the size of the Manindi deposits.



Figure 3 - Location of the Western Australian base metals projects.

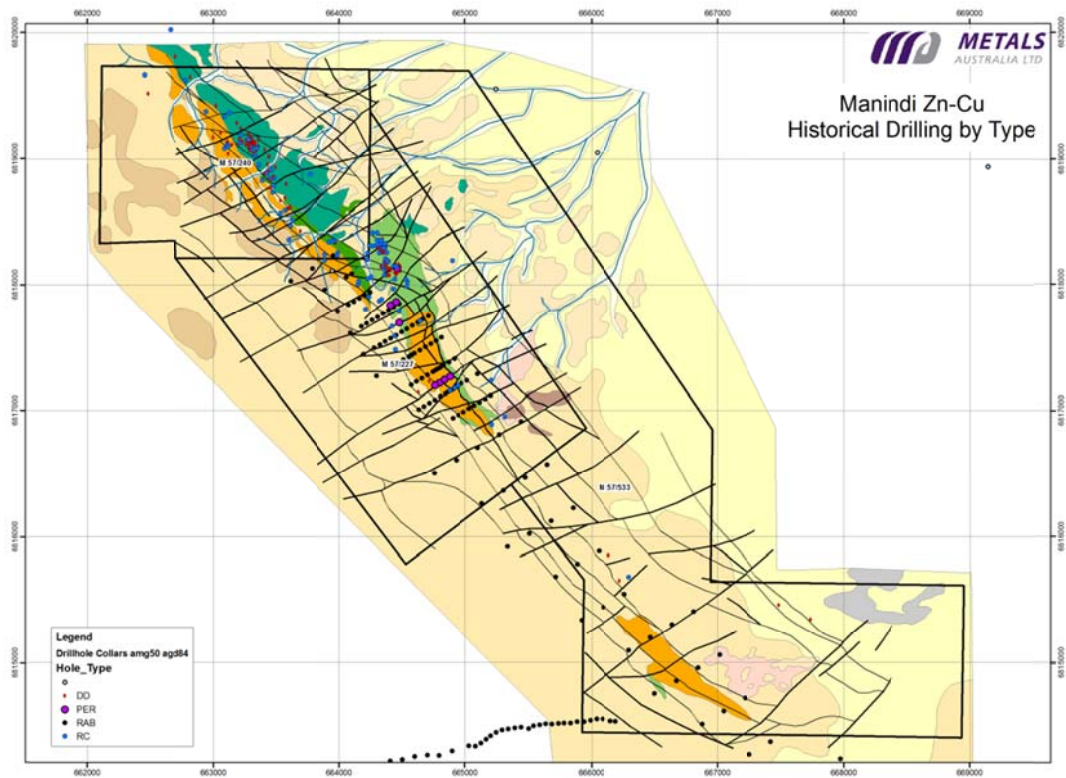


Figure 4 - Drilling over mapped geology and structure at Manindi, Western Australia

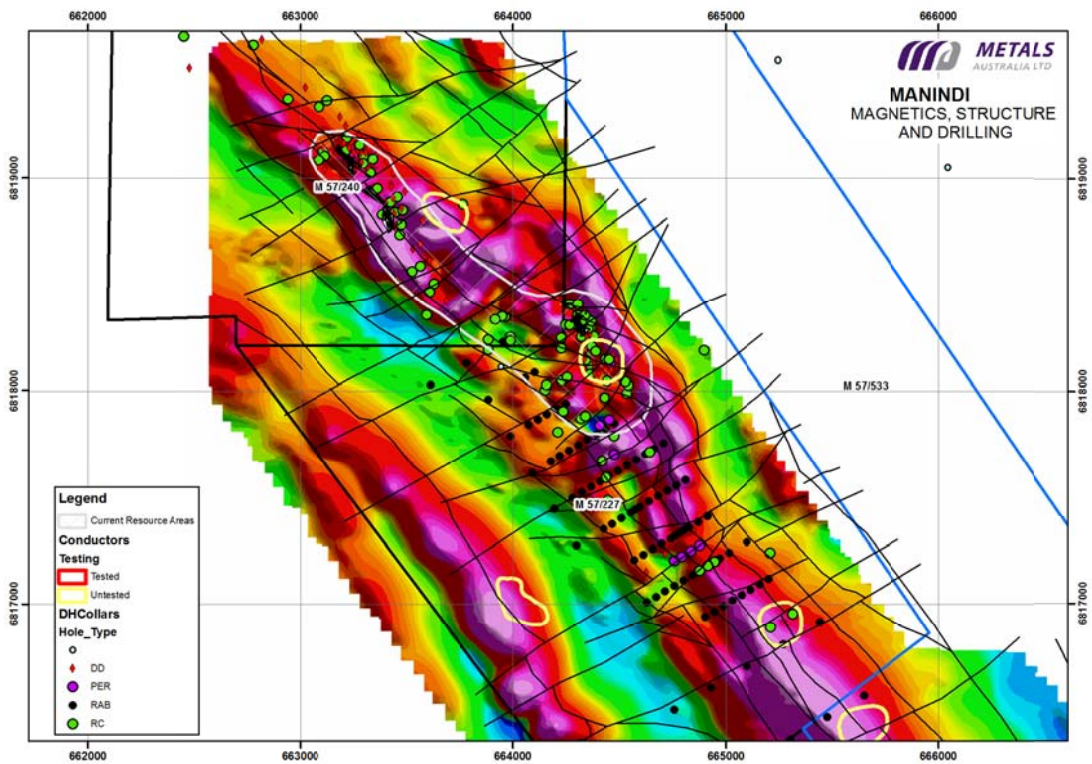


Figure 5 - Magnetic and structure, showing northern resource target area and untested VTEM targets, at Manindi, Western Australia

Metals is well underway on a strategic review of Manindi in the light of improving supply and demand fundamentals for zinc, and hence improved potential economics for the project. The LME price for the metal has increased from US\$2,081/t on 2 January 2014 to US\$2,244/t in October 22, 2014 (source: cash buyer, lme.co.uk).

The objectives of the review currently underway are as follows:

- the re-interpretation of the historical drilling to determine the key controls on mineralisation;
- the generation of a JORC 2012 compliant mineral resource estimate for Manindi;
- refinement of exploration targets, specifically those with the potential to add significantly to the resource inventory;
- to revise metallurgical results, scoping study assumptions and revise pit optimisations as well as review any underground potential of the project.

### ***Review work underway***

During the quarter, the Company continued its review of the drilling data and resource models at Manindi with a view to the recalculation of existing resources, identification of new exploration targets and a review of project economics. The review is ongoing, and work will be increased during the coming quarter, leading up to a new resource estimation for the project.

A review of the drillhole database was conducted during the quarter. The data is being brought to a suitable standard to support the estimation of a JORC 2012 compliant resource. The most accurate and comprehensive digital database is paramount to the subsequent steps of modelling and estimation as well as new target generation. The following work was completed on the Manindi data:

- Confirmation of the drilling completed and available for inclusion in the database, being 104 diamond drillholes, 105 RC drillholes, 169 RAB drillholes and 8 percussion holes.
- Metals Australia drilling and data verified since initial drilling in September 2006 of 69 drillholes (17RC holes and 52 diamond drillholes).
- The addition of 21 historical geological logs.
- The addition on important geotechnical and core recovery information for 24 holes.
- The validation of 408 Specific Gravity (SG) measurements.
- The raw assay data for all drilling was re-loaded into the Company's industry standard Database Management Software (Datashed) to minimise unmerged assays and accurately load missing QAQC samples.

### ***Collaboration initiated with Geological Survey of WA***

During the period, the Company was approached by members of a research team at the Geological Survey of WA (GSWA) to review available diamond core from Manindi. The Mineral Systems team at the GSWA is conducting detailed studies into a number of Volcanogenic Massive Sulphide (VMS) deposits in the Murchison and southwest of WA with the aim of building genetic models for the environment of ore formation and providing useful vectors for exploring in greenfields areas.

The company has reviewed their recent work on the adjacent Yuinmery base metal deposit and has offered its co-operation to the GSWA team, by providing access to core from Manindi.

The study thus far has had considerable success in the use detailed hyperspectral logging in relation to other VMS deposits in the region, and the Company is looking forward to working with the GSWA in its work as it increases its own work on Manindi.

### **Planned activities and further exploration**

During the coming quarter, the company expects to release an update and review of the drilling at Manindi. New results and interpretation, part of the current review process, is being compiled to provide supporting information as required under the JORC Code (2012). These results will then form part of the JORC 2012 resource update and exploration plans for the project which will follow.

### **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 (Figure 6).

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.

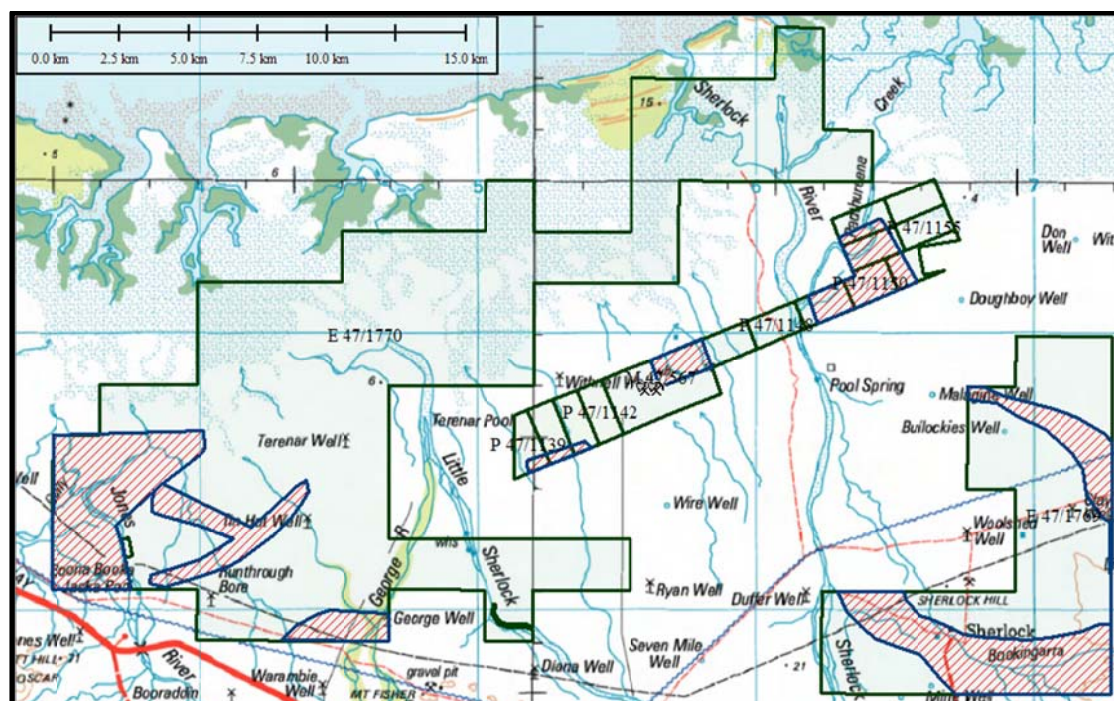


Figure 6 - Areas of exploratory interest set against 1:250,000 topography data

During the quarter, the joint venture partner was fined by the Department of Mines and Petroleum for not meeting expenditure commitments on the licences. The fines were paid,

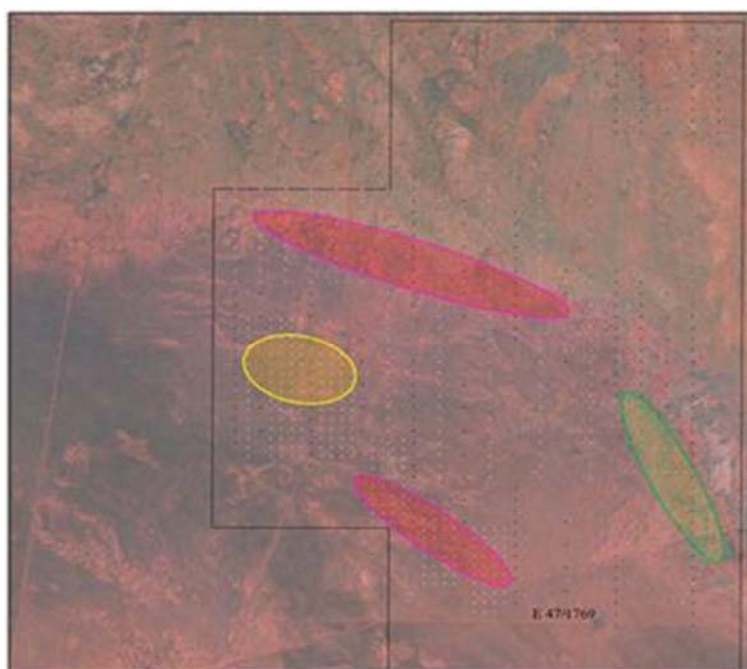


and ARH subsequently lodged documentation with the Department to have the extension granted on. The extensions of term have not yet been granted by the Department.

A total of 2,129 samples were collected across the Sherlock Extended project during July and August 2014 which were submitted to Genalysis Laboratory for analysis. 513 samples were collected on E47/1769 targeting the Caines Well Granite 'margin zone' and also following up some potential precious metal trends within the body of the granite. The program's aim is to improve the resolution of the anomalism and therefore justify follow up drill testing.

Figure 7 shows the sampling undertaken on E47/1769, with areas circled yellow and magenta indicating possible precious metals trends and the area highlighted green being the granite 'margin zone' with elevated base metals.

Results are being received from the laboratory and ARH has not yet completed analysis of the new data.



**Figure 7** - Areas of prospectivity based on biogeochemical and hyperspectral analysis  
(yellow=gold, magenta=platinum/palladium, green=base metals)

## GOLD PROJECTS, VICTORIA

During the quarter, Metals relinquished its two licences in Western Victoria, at St Arnaud South (EL5242) and Wedderburn (EL5243). The Company no longer holds licences in Victoria and will focus its exploration efforts on Western Australia and Namibia.

## MINERAL AND EXPLORATION LICENCES

Country	State/Region	Project	Tenement ID	Area km <sup>2</sup>	Grant Date	Expiry Date	Interest %	Company
Namibia		Mile 72	EPL 3308	73	19/05/2005	17/5/2015	100	Metals Namibia (Pty) Ltd
Australia	WA	Manindi	M57/227	4.64	3/09/1992	2/09/2034	80	Karrilea Holdings Pty Ltd
			M57/240	3.15	10/11/1993	9/11/2035	80	
			M57/533	8.01	17/01/2008	16/01/2029	80	
Australia	WA	Sherlock Bay	E47/1769	76.7	7/09/2009	Pending	30	Metals Australia Ltd
			E47/1770	223	7/09/2009	Pending	30	

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### Competent Person Declaration

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Dr Matthew Painter, who is a full time employee of Sabre Resources Ltd and a consultant to Metals Australia Ltd and who is a member of The Australasian Institute of Geoscientists. Dr Painter has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that 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 Resource and Ore Reserves". Dr Painter consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. 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 announcements.

### 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 program 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.