## TERRAMIN AUSTRALIA LIMITED

4<sup>th</sup>

# Quarter Report 2014

### HIGHLIGHTS

- Continued positive engagement with Algerian partner and government
- Conversion of A\$5.5m convertible notes to equity
- Redemption of Transamine SA US \$10m convertible notes replaced by new \$11m notes to a new institutional investor
- Most debt now long term and held by significant shareholders thus improving funding position
- Purchase of freehold land for development of Bird-in-Hand gold deposit significantly de-risking development
- Hydrogeological studies show manageable waterflow at Bird-in-Hand



TERRAMIN AUSTRALIA LIMITED ABN 67 062 576 238

29 January 2015



100% owned by Western Mediterranean Zinc Spa (WMZ)

The Tala Hama Project contains a resource of 68.6 million tonnes (Measured, Indicated and Inferred) at 4.6% Zinc and 1.2% Lead. Terramin holds a 65% shareholding in WMZ. The remaining 35% is held by two Algerian government-owned companies: Enterprise Nationale des Produits Miniers Non-Ferreux et des Substances Utiles Spa (ENOF) (32.5%) and Office National de Recherche Géologique et Minière (ORGM) (2.5%).

#### Update

Following the delivery to ENOF of the revised feasibility study based on a mining method agreed by the JV partners for the development of the Tala Hamza deposit, the Company has been in communication with ENOF and the Algerian government to provide additional information.

ENOF and the Algerian government have advised that they are continuing their review and expect to be in a position to meet with the technical team from Terramin and China Non-Ferrous Metal Industry's Foreign Engineering and Construction Company (**NFC**) after the Chinese New Year celebration in late February. Terramin understands that this review has taken longer than anticipated as a result of a number of changes within the Ministry of Mines including the transfer of the Mines portfolio from the Energy Ministry to the Ministry of Industry.

Based on previous discussions with ENOF and representatives of the Ministry of Mines, it is expected that the meetings will address the technical aspects of the revised study as well as key components of the project financial modelling such as the VAT and custom duties regime, the land acquisition costs and processes and other development costs.

During November, representatives of Terramin attended a National Conference on the Economic and Social Development in Algiers at the invitation of the Algerian ministry of Mines. This conferences organised by the Algerian Ministry of Industry and with the attendance of the Algerian Prime Minister focused on the reforms to the investment regime to attract investment in Algeria, increase growth and employment and reduce the reliance on oil and gas as a major source of revenue. The Ministry had invited a number of industry participants including overseas investors. The conference was also an opportunity for Terramin management to continue its discussion with its partners, the Algerian government and Algerian regulator about the Tala Hamza project. The informal meetings with each key stakeholder were positive and continue to reinforce the confidence of the board in the development of the project.

During the quarter total cash expenditure on the project was \$235,063.

# **BIRD-IN-HAND GOLD PROJECT**

100% owned by Terramin subsidiary Terramin Exploration Pty Ltd

The Bird-in-Hand Gold Project is located approximately 30km north of Terramin's existing mining and processing facilities at the Angas Zinc Mine. The project has a high grade Resource of 233,000 ounces of gold which is amendable to underground mining. It is anticipated that subject to required regulatory approvals, the Bird-in-Hand material will be processed utilising the facilities at the Company's wholly owned Angas mineral treatment facility which can be modified to process gold-bearing material. The existing tailings dam at Angas has the capacity to hold the Bird-in-Hand tailings without any additional lift.

### Update

During the quarter, Terramin entered into a binding agreement to purchase land in close proximity of the deposit. The land is ideally situated for positioning the portal for decline access to the deposit and has sufficient area for mine infrastructure and stockpiling. The land has been previously cleared and disturbed with a history of mining and farming occurring since the late 1800's. This acquisition, which is expected to settle in July 2015, is an important development as it significantly de-risks the development of the project.

The hydrogeological studies at Bird-in-Hand continue with the development of a hydrogeological model. The modelling, undertaken by hydrogeological experts, Australian Groundwater Technologies (**AGT**), incorporates the data collected over the past twelve months of field work.

The ground water flows and aquifer interaction determined from the bore construction and pumps tests within the Brighton Limestone and Tapley Hill Formation have revealed that the actual permeability of the host rocks is very low. The large groundwater flows within distinct fractured rock aquifers which transect the geology. The pumping tests indicate water flows of 0.5 to 5l/s. These flows, outside of the fracture zones, are significantly lower than expected and very manageable under mining conditions. Due to the significance of groundwater in the region, the modelling needs to be calibrated and tested for hydraulic variations before it can be used to predict the impact of mining on the hydrogeology. The groundwater survey continues during the summer irrigation season, all of the data collected from the 55 bores in the area will be used to help calibrate the model.

The engagement with the local community at Woodside remain a focus to the Terramin project team given the importance of agricultural and tourism activities in the project area. An update of project work undertaken was provided to the Inverbrackie Groundwater Focus Group in October 2014. A total of 50 people from the local area attended, including members of the Adelaide Hills Council and the Mayor. An overview of the work conducted to scientifically analyse the hydrogeological setting was provided by AGT experts. They presented and discussed the results of the pump tests highlighting that the aquifer sitting above the orebody is very defined and pumping had very little impact on the regional groundwater. The AGT experts and Terramin presented the potential use of pumpable grouts in the mining schedule to seal the mine void through the fracture zones and would leave groundwater unaffected by mining.

The approved 6,600 metre exploration drilling programme is being planned to commence in early 2015. The programme is awaiting finalisation of drilling schedules and is designed to target the upper section of the orebody to improve the confidence from Inferred to Indicated and Measured. Additional holes are designed to test the continuity of the ore at depth. It is expected that the drilling program will take approximately eight months to complete.

During the quarter, total expenditure on the project was \$269,502.



100% owned by Terramin and Terramin Subsidiary Terramin Exploration Pty Ltd

# The Adelaide Hills project consists of twelve contiguous exploration tenements that cover 3493 km<sup>2</sup> stretching 120km between Victor Harbor and Kapunda. (Figure 1). This project area is considered highly prospective for gold, copper, lead, zinc and rare earth elements.

#### Update

The Adelaide Hills has a long history of mining and was the site of Australia's first base metals mine (Glen Osmond, 1841) and first gold mine (Victoria Mine, 1846). From 1841 to 1851 virtually all of Australia's metalliferous mines were located in South Australia. Over 250 historic gold and copper mines and prospects are located on Terramin's Adelaide Hills tenements. Terramin is currently researching the large volume of historical exploration and mining data and synthesising this into a GIS database, and concurrently undertaking new geophysical and geochemical surveys in areas of interest.



Figure 1. Adelaide Hills tenement holdings.

During the reporting period Terramin undertook regional geochemical sampling focussed on assessing the copper potential between Wheal Barton and Kapunda (Figure 1).

At the Wheal Barton and Golden Slope prospects TAFE geoscience students supervised by Terramin collected infill geochemical samples and conducted ground magnetic and conductivity surveys. The modelled conductivity data from Wheal Barton shows a good correlation between poor conductivity and copper in soil results. The poor conductivity (at least in part) appears to map out the bleached kaolinite alteration caused by acid sulphate weathering of the near-surface parts of what the geochemistry suggests is a broad zone of primary Wheal Barton copper mineralisation in the footwall of the main lode.

During the quarter, total expenditure for the project was \$47,518.

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## ANGAS ZINC MINE

100% owned by Terramin

A 400,000 tpa operation that produced zinc and lead-copper-silver-gold concentrates currently in care and maintenance. The processing plant and tailings storage facility are significant assets and are being maintained to optimise the ability to recommence operations.

### Update

During the quarter the Angas Zinc mine remained in compliance with the lease conditions on all levels. Clean-up work and ongoing fuel reduction continued in preparation for the summer period.

The Angas Mine Closure Plan, specifically the Tailings Storage Facility (**TSF**) cover system was completed and submitted to the Department for State Development (**DSD**), the mining regulator. This work has been undertaken in conjunction with DSD's consultants and has progressed the most recent developments in tailings cover systems. An Engineered soil cover system (Phytocap) has been designed to replace the original concept of a HDPE liner on the TSF. The Phytocap design provides a natural soil cover system which generates a superior long-term solution for closure. Terramin's consultants, URS, completed modelling equivalent to a 1,000 year period to determine the suitability of the design over a range of conditions. Design work is ongoing for a cover trial to further detail the feasibility of the final design.

As required under the Mine Lease conditions the Quarterly Environmental Report (**QER**) was completed. No compliance issues were experienced during the period. The consultation with the Strathalbyn Community Consultation Committee (**SCCC**) was undertaken through dissemination of information on the closure plan and QER. Members of the SCCC attended a visit of the mining facility including of the underground mine.

The mine void continues to fill with water as predicted in the water modelling, the water has risen to the 75 level and is measurable in the water monitoring bore which was dry since mining commenced. Additional monitoring of the 140 paste line and bore confirms that acid and metalliferous drainage is not occurring. Underground inspections are still occurring on a regular basis and the condition of the underground remain sound with little degradation in the decline and level accesses.

During the quarter, total expenditure in care and maintenance of the mine infrastructure was \$217,612.





100% owned by Terramin subsidiary Menninnie Metals Pty Ltd

The Menninnie Project comprises a group of five Exploration Licences covering a contiguous area of 2,471km<sup>2</sup> in the Southern Gawler Ranges, South Australia. Menninnie Metals has entered into a Farm-in and Joint Venture Agreement with Musgrave Minerals Ltd (Musgrave) (ASX:MGV) regarding the Menninnie Project. Musgrave can earn up to 51% by spending \$6m in the first phase and, if Menninnie Metals does not contribute, up to 75% by spending an additional \$3m.

#### Update

During the Quarter Musgrave completed five exploration drillholes on EL 5039, three at the Erebus Prospect and two at the Mallee Prospect, and drilled one hole on EL 4813 at the Pipe Track Prospect (see ASX: MGV December 2014 Quarterly Activities and Cashflow Report). The programme of six drillholes involved a combination of RC and diamond methods for a total of 1,494.8m. Musgrave also carried out a ground electromagnetic (EM) survey at the Taal prospect on EL 4813.

The drill targets were selected on the basis of results from recent detailed soil sampling and gravity surveys combined with previous datasets including magnetics, airborne versatile time domain electromagnetics (VTEM) and induced polarization (IP). The ground electromagnetic survey at Taal was carried out to further investigate a VTEM anomaly located at the intersection of two regional-scale structures. Based on the results of this survey, proposed drilling at Taal was postponed until further data are collected to better define the target.

Each of the six drillholes encountered zones of hydrothermal alteration in the volcanic (Pipe Track) and metamorphic (Erebus and Mallee) rocks penetrated, but no strong zones of either Pb-Zn-Ag or Au-Cu mineralisation were intersected. A peak value of 106ppm Mo in a 0.6m interval from 210.7m in the RC hole at Pipe Track is notable in the light of 1m @ 238ppm Mo from 25m, 3m @ 213ppm Mo from 37m, and 1m @ 0.11% Cu, 14.9g/t Ag from 25m in drillholes at the Masagara porphyry copper-molybdenum target located approximately 1500m to the west (see MGV ASX announcement 5 February 2014). The holes drilled recently at Erebus and Mallee (drilled to maximum depths of 186m and 399.5m respectively) encountered zones of skarn-style alteration, including magnetite locally associated with minor chalcopyrite and iron-rich sphalerite. This contrasts with the lower temperature environment of the Menninnie Central deposit located approximately 4km to the northeast, where the mineralising



fluids produced comparatively low-iron sphalerite and destroyed preexisting magnetite. These results from the Erebus and Mallee drilling are consistent with the copper-gold porphyry target model for these two prospects, and warrant further investigation.

Figure 3. Tenements comprising the Menninnie Project.



100% owned and operated by Terramin subsidiary Menninnie Metals Pty Ltd

The Mount Ive Project, located in the Southern Gawler Ranges, South Australia, consists of three Exploration Licences covering a contiguous area of 978km<sup>2</sup> and two adjoining Exploration Licence Applications covering a further contiguous area of 1305km<sup>2</sup> (Figure 3). The project is adjacent to (but separate from) the Menninnie Project and its southern boundary lies 6km north of the Paris silver deposit. The area is prospective for gold, silver, copper, lead, zinc and tin.



Figure 4. Tenements comprising the Mt Ive Project.

#### Update

EL 5518 (Thurlga), consisting of two separate parts (Figure 4), was granted to Menninnie Metals by the Department of State Development (DSD) on 28/11/2014 for a period of two years. Acquisition and compilation of available historical exploration data is well advanced for EL 5518 and is nearing completion for the entire project area. Key areas of interest have been identified based on reinterpretation of these data in the light of experience gained from the Menninnie Project. Geological field investigations carried out in some of these key areas on the Mt Ive, Mt Ive South, Tanner and Unalla tenements during the Quarter revealed the presence of encouraging epithermal veins and breccias in GRV outcrops at 4 localities, and abundant fragments of epithermal/hydrothermal veins, breccias and/or altered volcanics occurring as float and lags at other localities. Two of these occurrences include samples containing high concentrations of hydrothermal iron. Both are located where existing gravity readings are too widely spaced to have detected the presence of a significant (eg Carrapateena-sized) near-surface IOCG deposit or a similar-sized Cu-Au skarn system as a potential source of these iron-rich samples. Geological field investigations will intensify throughout the next quarter to assist with the ranking of prospects and planning of higher priority geophysical surveys.

During the quarter, total expenditure on the project was \$23,895.



During the period, the Company entered into an agreement to issue US\$11.0 million worth of unlisted unsecured convertible notes (**New US\$ Notes**) to a new institutional investor. The issue of the New US\$ Notes have been used to redeem the US\$10.0 million convertible notes held by Transaminvest SA which matured on 24 November 2014 (together with US\$50,179.51 in outstanding interest) and for working capital purposes. Please refer to the Company's ASX announcement dated 24 November 2014 which describes the terms of the New US Notes.

In December 2014, New Asia Wealth Investment Holding (SG) Pte Ltd (**New Asia**)advised the Company that it wished to convert its A\$5.5 million convertibles notes (**Notes**) in shares. As a consequence, the Company issued 84,615,384 shares to New Asia to satisfy the Notes. Also, in agreement with the New Asia, the Company issued 1,689,512 shares in satisfaction of the interest due on the Notes.

Most of the Company's debt is now long term and held by significant shareholders providing a more secure funding position.

As of 31 December 2014, the Company's cash balance was \$943,000. Undrawn debt facilities up to \$2.5m is also available to the Company.

### **Competent Person Statement**

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Eric Whittaker, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Whittaker is a full time employee of Terramin Australia Limited. Mr Whittaker has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Whittaker consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



### **CORPORATE INFORMATION**

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### **DIRECTORS AND MANAGEMENT**

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### **CAPITAL STRUCTURE**

at 30 January 2015 Shares on issue

Unlisted Options Unlisted Convertible/redeemable notes: 249,825,703 Notes Convertible at A\$0.065 (maturity October 2016) 110,000,000 Notes Convertible at US\$0.10 (maturity November 2016) **F**+61 8 8213 1416 **W** www.terramin.com.au

Non-Executive Chairman Non-Executive Director Non-Executive Director Non-Executive Director Non-Executive Director

Chief Executive Officer General Manager - Chief Technical Officer Legal Counsel and Company Secretary

1,404,009,037 3,800,000

A\$16,238,670.70

US\$11,000,000

