



**TERRAMIN AUSTRALIA LIMITED**

# 1<sup>st</sup> Quarter Report 2017

## HIGHLIGHTS

- Successful \$4.0 million share placement with new investor
- Completion of geotechnical drilling at Tala Hamza Zinc Project and work programme for final hydrogeological drilling agreed
- Establishment of Algerian government/ Terramin working group to review mining lease application as it progresses
- Completion of numerous studies including ground water and surface water study for the development of the Bird-in-Hand Gold Project
- Bird-in-Hand Gold Project to be developed as a 100% owned Terramin project

## TALA HAMZA ZINC PROJECT

*100% owned by Western Mediterranean Zinc Spa (WMZ)*

***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%). The Oued Amizour Exploration Permit 5225PE is a 125km<sup>2</sup> tenement which contains several lead-zinc deposits including the Tala Hamza Zinc deposit.***

### Update

During the quarter, the partners have continued to advance the studies for the development of the Tala Hamza Zinc Project.

WMZ recommenced the final Tala Hamza geotechnical drilling campaign after weather conditions restricted ground access late last year. The drilling is being undertaken by one of WMZ's shareholders, ORGM and has now been largely completed. The purpose of the program is to confirm the location of the portal and ventilation shafts. During the quarter, the geotechnical work regarding the subsidence model has also been completed.

The rig used for the geotechnical drilling has been relocated to a different location to commence the hydrogeological drilling program. This purpose of this program is to confirm the hydrogeological conditions in preparation for the final design of the mine and to further determine any environmental impact and associated risk assessment. Another rig is in the process of being commissioned to complete a deeper hydrogeological drill hole in the coming weeks.

In the previous quarter, the dry stacking of tailings has been adopted by the partners as a preferred option for tailings storage management. The project partners are now progressing a comprehensive final design. The outcomes of this study will be included in the revised definitive feasibility study.

Terramin has also started the process of compiling the final documentation for the mining lease application which will incorporate recent project enhancements such as the dry stacking of tailings and the relocation of the processing plant. The documentation for the mining lease application also includes the delivery of an Environmental Impact Assessment which is also in preparation.

During meetings held in Algiers in late February, the representatives of the Algerian Ministry of Industry and Mines, ENOF and Terramin agreed to establish a working group which will review portions of the mining lease application as they are completed so as to facilitate the rapid approval of the project.

During the quarter the cash expenditure on the project was \$626,389.

## 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 588,000 tonnes at 13.3g/t for 252,000 ounces of gold. Initial scoping work includes an underground cut and fill mine design targeting the upper Indicated Resource of 167,000 tonnes at 16.16g/t.***

***It is anticipated that, subject to required regulatory approvals, the Bird-in-Hand material will be processed utilising the facilities at Angas which can be modified to process gold-bearing material. The existing tailings dam at Angas has the capacity to hold all the Bird-in-Hand tailings.***

### Update

During the quarter, the Company focused on developing the proposed surface layout design for the Bird-in-Hand Gold Project site in alignment with community feedback. This follows the completion of the underground designs in the previous quarter. The results and recommendations of the community engagement and studies completed to date have been used to define a detailed plan regarding the placement of key surface infrastructure, with consideration for the logistics and flow of vehicles, as well as integration with the underground design. The Company has now progressed or completed a number of studies (including earthworks modelling, geotechnical modelling, soil contamination, visual amenity studies, noise, dust and vibration studies) which will be incorporated into the mining lease proposal. The mining lease proposal will be formally lodged with the mining lease application in the coming months.

The project team reviewed and progressed the risk assessment for the project in relation to the environmental, community and economic impacts. A two day workshop was attended by the external expert consultants who have had input into the various studies on the project so far. All project components were combined together to better understand the overall project and to identify and analyse environmental risks and construct their mitigation strategies. The risk assessment of the project is an iterative process and will continue to be worked on as the project progresses.

Further modelling was completed for the groundwater study, this time investigating the potential impact the underground mine would have on a wider regional area. Results have shown that with the combination of water ingress management underground (such as grouting) along with a managed aquifer recharge system, there is no material impact on the groundwater levels and water quality for existing users, including baseline flows into the Inverbrackie Creek. A peer review of these water studies has been instigated. The critical review of the groundwater and surface water studies is an important step to ensure integrity and confidence in the process.

The mining regulator, now integrated in the Department of the Premier and Cabinet (**DPC**) has recently released a document that outlines the information they expect from Terramin in the mining Lease proposal for Bird-in-Hand Gold Project. This determination for a mining proposal for the Bird-in-Hand Gold Project was gazetted in the SA Government Gazette on 5th April 2017 (**Determination**).

In the meantime, the Company continues to work on its community engagement programme which included the initial steps towards the formation of a community consultative committee for the project (**WCCC**). The purpose of the WCCC is for Terramin to understand and respond to the views of the community in order to meet expectations of the nearby community and other land users proximal to the Project. The WCCC will be involved in developing the mining lease conditions and the determination of the Program for Environmental Protection and Rehabilitation.

During the quarter, the CSIRO delivered an interim report regarding community sentiment towards the Bird-in-Hand Gold Project between the Woodside, Nairne and Strathalbyn localities. The results of the study will help understand community issues and guide the establishment of management systems to mitigate perceived impacts.

During the quarter the cash expenditure on the project was \$284,893.



*Bird-in-Hand gold core samples*

## 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.*



## ADELAIDE HILLS EXPLORATION

*100% owned by Terramin and Terramin subsidiary Terramin Exploration Pty Ltd*

**The Adelaide Hills project consists of twelve contiguous exploration tenements that cover 3702 km<sup>2</sup> and stretch from Lake Alexandrina to Kapunda. 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.

During the quarter work focussed on advancing the Western Murray Basin tenements (EL's 5102, 5339, 5662 and 5846) which cover the central portion of the Padthaway Ridge. The Padthaway Ridge which is considered prospective for copper-gold porphyry deposits is a belt of mafic-felsic volcano-plutonic systems showing arc, forearc and backarc features.

Sampling of historic drillholes held at the State's core library was undertaken as part of an orientation survey. The sampling showed wide spread arsenic anomalism (+100ppm) near surface in Tertiary limestones where depths to basement can be in the order of 50 to 80 metres. Peak arsenic in basement sampling was recorded in government bore M141 which returned 3.5% arsenic. The mobility of arsenic through the cover is thought to in part reflect the low iron content of the underlying cover sediments. Although no significant gold values have been returned from current sampling, arsenic can be an important pathfinder element for epithermal and mesothermal gold deposits.

During the quarter, the cash expenditure on the project was \$49,339.

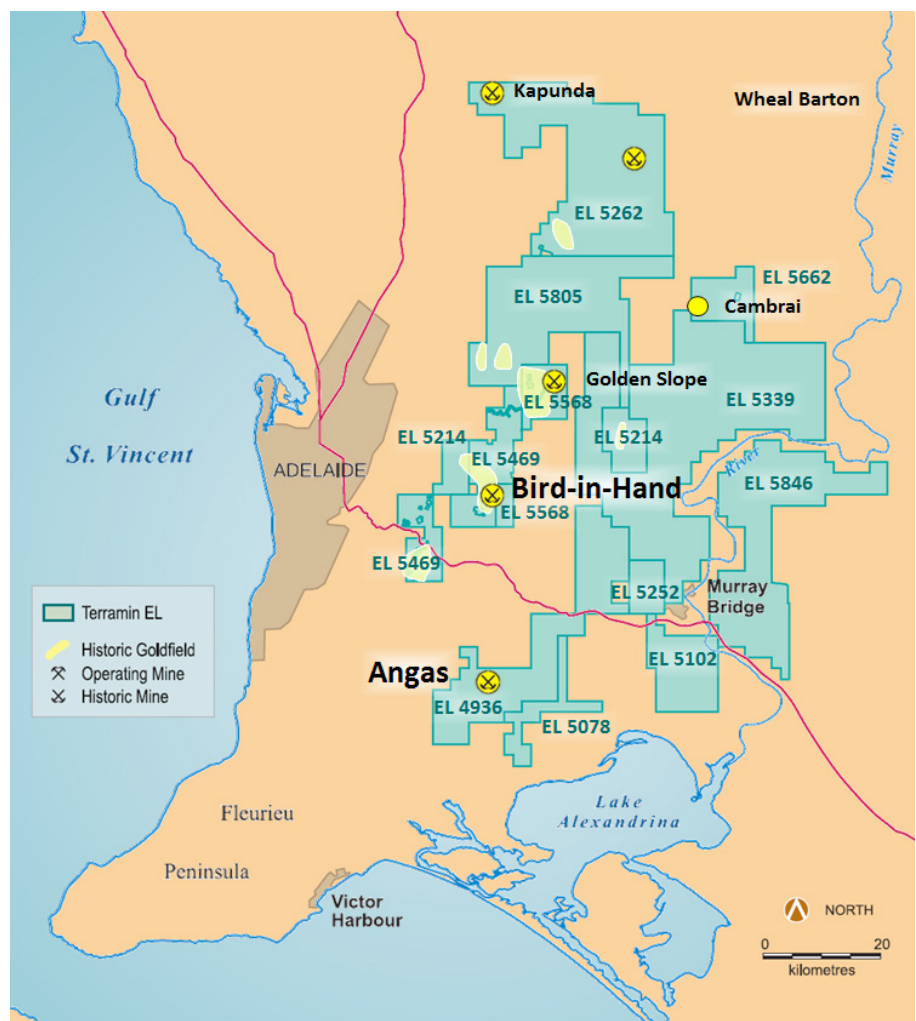


Figure 1 – Adelaide Hills Exploration tenements

## ANGAS ZINC MINE

*100% owned and operated by Terramin*

***A 400,000 tpa operation that produced zinc and lead-copper-silver-gold concentrates currently in care and maintenance. The Angas deposit was mined until late 2013 and shut down due to the devaluation of zinc metal at the time. 1.3m tonnes of zinc and lead mineralisation at a combined grade of 5.4% remain within the mining lease. Processing operations are expected to resume upon the start of mining of the Bird-in-Hand deposit.***

### Update

The Angas Zinc Mine continues to be maintained with the intention of restarting processing in the near future. The Company submitted the final revised Mine Closure Plan (**MCP**) in January, a component of the mine's updated Program for Environmental Protection and Rehabilitation (**PEPR**).

The Angas site continues to be maintained in accordance with the approved Mine Care and Maintenance Plan and is operating in compliance with its lease conditions. The Angas Tailing Storage Facility (**TSF**) annual compliance audit was conducted in March 2017, which concluded, that the integrity of the TSF is sound, is in general good condition and complies with the regulatory requirements.

As part of the Bird-in-Hand Gold Project, the DPC have advised that a miscellaneous purposes licence will be required in order to re-establish the processing facility and TSF at Angas. An updated impact assessment, as required by the DPC is underway.

The Strathalbyn Community Consultation Committee and the Company continues to meet quarterly and continues to update the Committee as the closure plan and Bird-in-Hand Gold Project plan to utilise the Angas processing facility progresses.

During the quarter the cash expenditure on the project was \$169,222.



*Angas Zinc Mine Plant*

## GAWLER RANGES PROJECT

100% owned by Terramin subsidiary Menninnie Metals Pty Ltd

**Terramin's Gawler Ranges Project is located along the southern margin of the Gawler Ranges, northern Eyre Peninsula, South Australia. The project comprises a group of ten Exploration Licences totalling 4539km<sup>2</sup> and one Exploration Licence Application covering 214km<sup>2</sup>. The Project area is prospective for a range of deposit styles that host combinations of gold, silver, copper, molybdenum, lead, zinc, rare earth elements, graphite, and tin ± tungsten.**

**The Project hosts the Menninnie Dam deposit, the largest undeveloped lead-zinc deposit in South Australia. The lodes at Menninnie Central and Viper have been combined to estimate a JORC 2004 compliant Inferred Resource totalling: 7.7Mt @ 3.1% Zn, 2.6% Pb and 27g/t Ag, at a 2.5% Pb+Zn cut-off (ASX: TZN 1st March 2011).**

### Update

During the quarter the Company continued to collect and process field data and rock chip samples collected throughout the project area. The Company also progressed discussions with potential joint venture partners. These discussions are on-going.

A subsequent licence was granted for two years for the Nonning tenement. The new licence is EL 5925 (formerly EL 4813). The Gawler Ranges Project tenements are shown in Figure 2.

During the quarter the cash expenditure on the project was \$91,386.

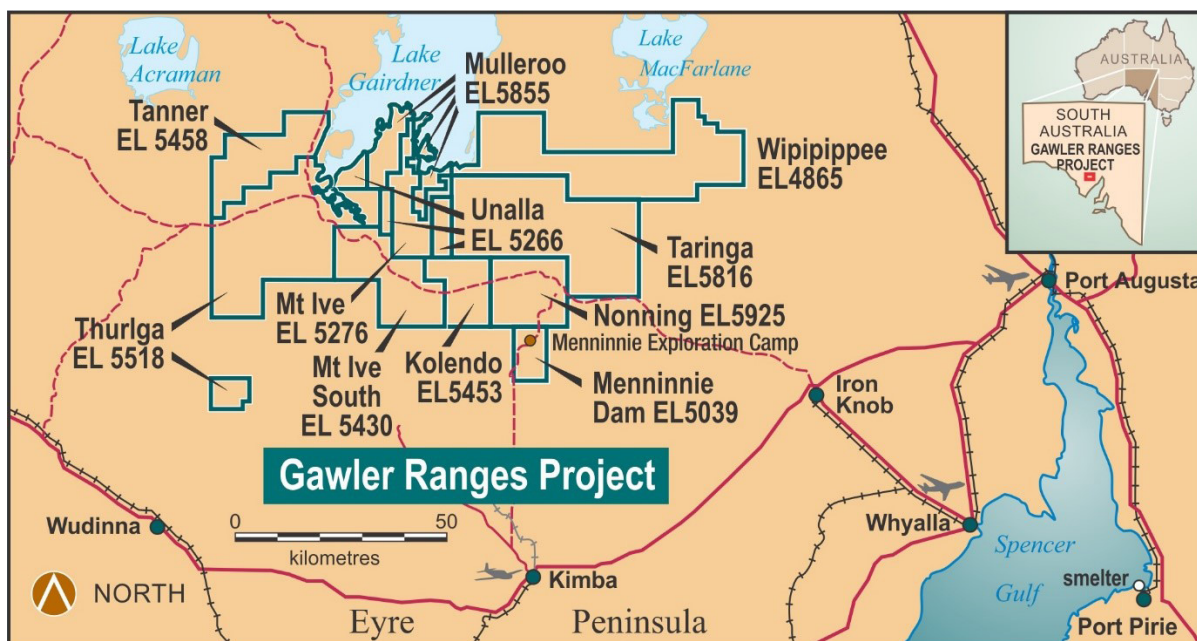


Figure 2: Gawler Ranges Project - Tenements



## CORPORATE

During the reporting quarter, Terramin agreed on a share placement to raise \$4.0 million with a new sophisticated investor based in Australia. Under the subscription agreement with the new investor, 25,000,000 shares were issued at an agreed price of \$0.16 per share. The funds raised are used to advance the Company's Tala Hamza Zinc and the Bird-in-Hand Gold Projects, repay interest and transaction fees owing (totalling \$2.3 million in the reporting period) and for working capital. As at 31 March 2017, the Company's cash balance was \$783,517

Also during the first quarter 2017, Terramin and its corporate advisor, Investec Australia Limited, evaluated interest in the Bird-in-Hand Gold Project from a number of third parties. This process was prompted by a number of unsolicited approaches for the Bird-in-Hand Gold Project due to its exceptional grade and low start-up costs. Following this in-depth exercise and discussions with a number of third parties the Board has concluded that the development of the Bird-in-Hand project as a 100% Terramin owned resulted in better value for shareholders. As a result the Board has resolved the Company will continue on developing the Bird-in-Hand Gold Project as a 100% owned project.

Terramin continues to discuss with third parties regarding potential transactions in respect of its Gawler Ranges Project.

During the quarter, Mr Wang Xinyu was appointed as a director representing China Non-Ferrous Metals Industry's Foreign Engineering & Construction Co, Ltd (**NFC**) to the board of Terramin with immediate effect. Mr Wang will replace Mr Yaheng Xie. Mr Wang is a Vice President of NFC with more than 25 years in the resources industry. Mr Wang brings to the Board a wealth of knowledge and experience, further strengthening the depth and breadth of mining expertise among existing directors and management of Terramin.

## CORPORATE INFORMATION

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## DIRECTORS AND MANAGEMENT

**Feng (Bruce) Sheng**  
**Michael H Kennedy**  
**Kevin McGuinness**  
**Angelo Siciliano**  
**Wang Xinyu**

*Non-Executive Chairman*  
*Non-Executive Deputy Chairman*  
*Non-Executive Director*  
*Non-Executive Director*  
*Non-Executive Director*

**Martin Janes**  
**Joe Ranford**  
**Stéphane Gauducheau**

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

## CAPITAL STRUCTURE

as at 31 March 2017

<b>Shares on issue</b>	<b>1,821,137,218</b>
<b>Unlisted Options</b>	<b>3,500,000</b>
<b>Unlisted Share Rights</b>	<b>721,334</b>