

ASX RELEASE: 31 OCTOBER 2017

## SEPTEMBER 2017 QUARTERLY ACTIVITIES REPORT

- ▶ Acquisition of the high-grade Lennard Shelf Zinc Project to complement the development of Admiral Bay
- ▶ Commencement of exploration targeting at the Lennard Shelf Zinc project for planned drilling programs
- ▶ Completion of the Admiral Bay Pre-Feasibility Study (PFS) stage 1 further confirms project viability
- ▶ Metallurgical testwork with China Minmetals regarding future zinc and lead offtake and financing
- ▶ Completion of drilling at the Pilgangoora North Lithium project and Kyarra Cobalt projects
- ▶ Sale of the Lake Cowan lithium tenements for consideration of A\$250,000 in cash and shares
- ▶ Completion of A\$2m capital raising including equity placement, share purchase plan and drilling contract.
- ▶ Cash balance of approximately A\$2.24 million at 30 September 2017\*

### ACQUISITION OF HIGH GRADE LENNARD SHELF ZINC PROJECT (100% MCT)

Metalicity Limited (**ASX:MCT**) ("**MCT**" or "**Company**") strengthened its zinc project pipeline through the exercise of the option to acquire the high grade Napier Range Zinc Project and the Emanuel Range Zinc Project (collectively the Lennard Shelf Zinc Project), located in the Lennard Shelf of the Kimberley Region, WA. Napier Range represents a low capital and near term producing zinc production opportunity, while Emanuel Range represents an early stage but highly prospective zinc exploration project with an extensive 30km strike of largely untested targets. These projects will complement the development of its large scale long life Admiral Bay Zinc Project, located in the adjoining Canning Basin of the Kimberley Region, WA.

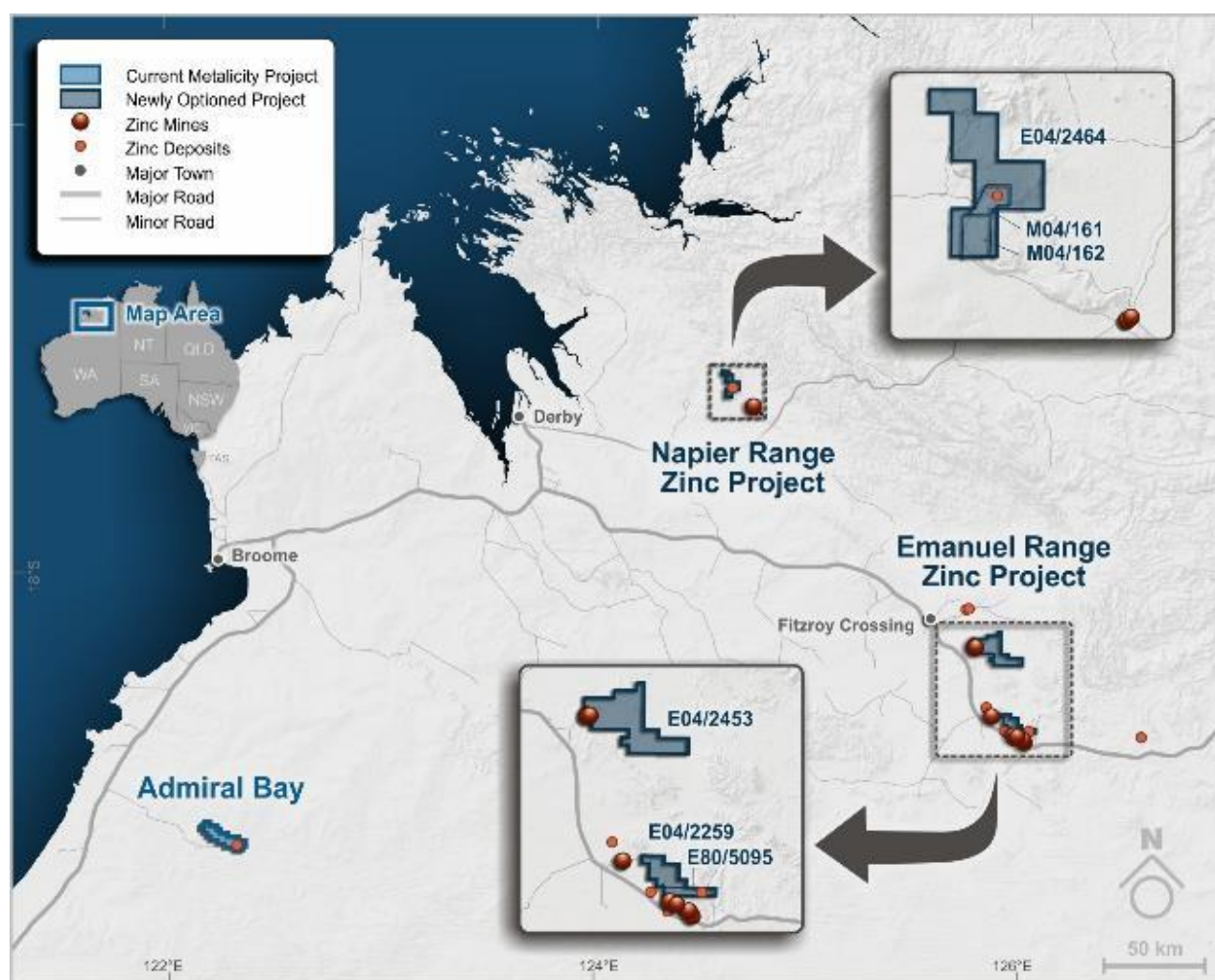
#### Overview

The Napier Range Zinc Project consists of 2 granted mining licenses, an exploration license application and a granted general purpose license (Table 1). It includes the Wagon Pass deposit, with a JORC 2012 compliant Inferred Mineral Resource Estimate of 750Kt at 5.8% Zn, 7.2% Pb, 54g/t Ag (13.6% ZnEq) and an adjoining Exploration Target Range (ETR) of 100Kt-200Kt at 10%-13% ZnEq.

The most recent MRE of 750Kt at 5.8% Zn, 7.2% Pb, 54g/t Ag (13.6% ZnEq) at Wagon Pass was completed by Cube Consulting in 2016, using a 5% Zn + Pb cut off, 2m downhole compositing, and an assumed bulk density of both waste and mineralised material of 3.0 g/cm<sup>3</sup>. The deposit is located between 150-200m depth below surface. Additional details on key parameters of the MRE are presented in ASX Announcement "High Grade Near Surface Zinc Projects on 30/10/17.

Extensions to the Wagon Pass deposit and additional deposits are considered likely if systematically explored, by leading independent geological consultant CSA Global, who recently completed a comprehensive targeting exercise and commented that the area is underexplored (CSA Global 2016). The report outlines 9 targets, 1 for resource extensions to the Wagon Pass deposit and 8 further targets.

**Figure 1: Location of the Lennard Shelf Zinc Projects**



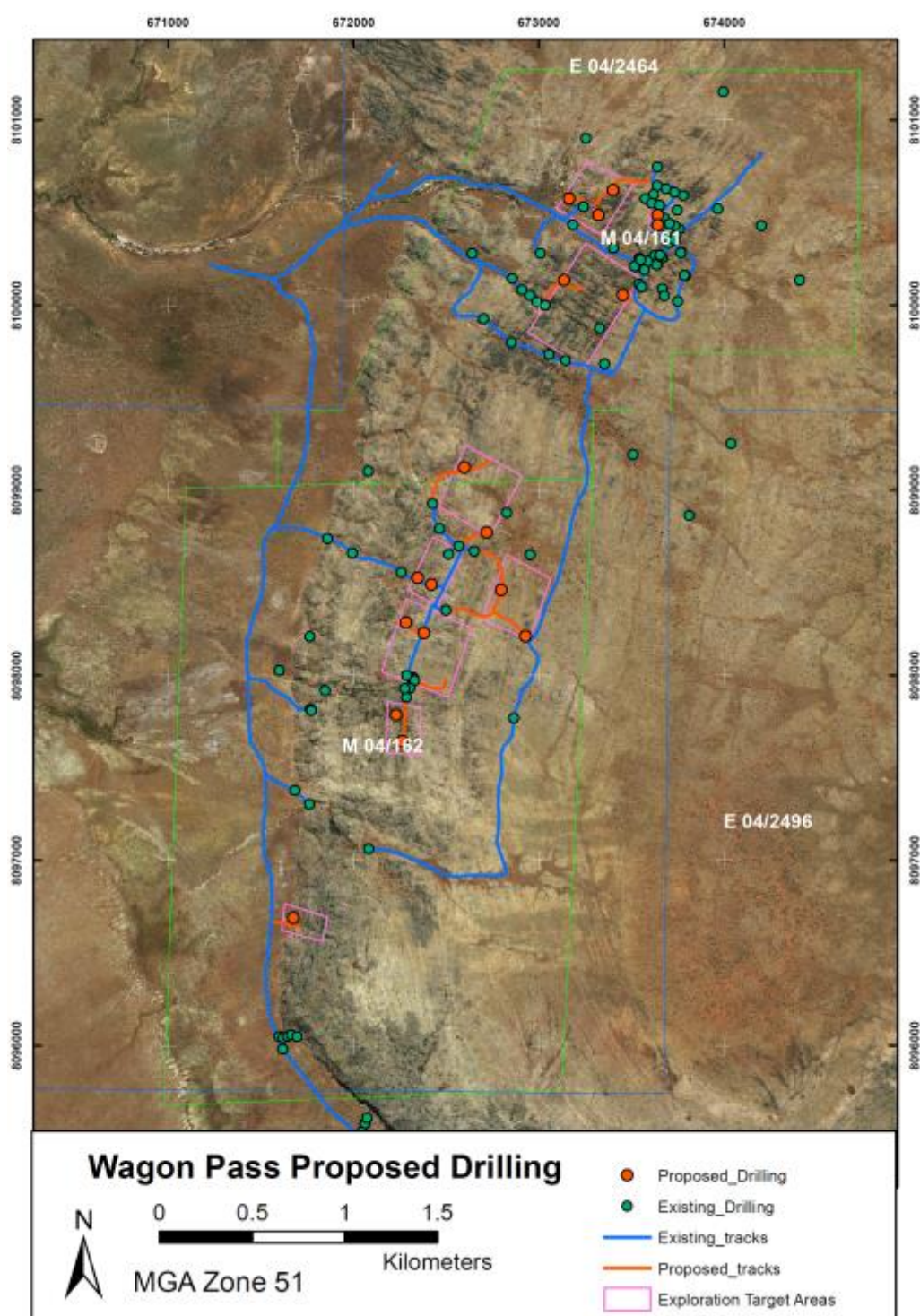
Source: Metalicity

At Wagon Pass, mineralisation potential exists to extend the resource to west of the deposit, with an Exploration Target Range of 100-200Kt at 10-15% ZnEq. The remaining 8 targets are located further south, mostly in analogous settings to Wagon Pass. CSA further commented 'Although drilling has occurred in the project area, many drill holes did not test the favorable Lower Napier stratigraphy.

In addition, the footprint of the Wagon Pass deposit is small and the area is significantly under-explored for additional deposits 0.5 to 1 Mt size.' Based on the CSA Global analysis the Company is targeting multiple occurrences of 0.5-1Mt size, resulting in an Exploration Target Range (ETR) at Napier Range of 1-4 Mt @ 10-15% ZnEq. The grade and tonnage range is based on the grade and geometry of the Wagon Pass deposit, and the clustering nature of this deposit type.

Additional details on key parameters of the ETR are presented in ASX Announcement "High Grade Near Surface Zinc Projects on 30/10/17. The Exploration Target Ranges (ETR) stated above are conceptual in nature and the potential quantities and grades are conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource Estimate outside that known at Wagon Pass, and it is uncertain whether further exploration will result in the estimation of additional Mineral Resources.

Figure 2: Exploration Target areas, existing and proposed drilling, and major gossan locations at Napier Range.



Source: Metalicity

The Emmanuel Range Zinc Project consists of one exploration tenement and two tenement applications in close proximity to the Pillara, Kapok, Cadjebut and Goongewa Mines, in the Emmanuel Range of the Kimberley Region, WA. (Figure 3). All of the tenements in this project cover the prospective stratigraphy and structural positions, in very close proximity to existing deposits or mines. For example, E04/2453 is located less than 2km from the Pillara deposit, the largest Pb-Zn deposit yet discovered in the Lennard Shelf.

A number of synergistic opportunities may be likely with the development of the Company's 100% owned large scale long life and low cost Admiral Bay Zinc Project. The primary synergy is the potential of Napier Range to be a high grade low capital near term producing asset, that would generate sufficient cashflow to help support the development of Admiral Bay.

Other key synergies identified to date include various infrastructure components, mineral processing equipment, human resources, financing and offtake synergies. These will be further evaluated and quantified during the Due Diligence period.

For further information related to Geology, Mineral Resource Estimate (MRE), Exploration Target Range (ETR) please see ASX Announcement "High Grade Near Surface Zinc Projects, 30/10/17.

## Due Diligence

The Company successfully completed due diligence on the acquisition of Napier Range and Emanuel Range and is satisfied with the status of the Option Agreement with Meridian. Due diligence included a complete review of the data and block model for the Wagon Pass MRE, exploration targeting utilising an extensive exploration database sourced by the Company, and the development of a base case financial model to confirm the potential project economics.

## Terms of the Option Agreement with Meridian

Metalicity will complete the acquisition of 100% of the Napier Range and Emanuel Range Projects via the following payments, which may, via agreement between both parties be extended and/or amended:

- A\$450,000 cash by November 22, 2017
- A\$500,000 cash 6 months thereafter May 22, 2018
- A\$1,000,000 cash 6 months thereafter by November 22, 2018

Meridian is a fully owned subsidiary of Chinese State-Owned Enterprise, Northwest Nonferrous International Investment Company Ltd (Northwest). If appropriate the Company will seek to negotiate more favourable terms on the transaction for these the projects with Northwest.

Note that Lennard Shelf Pty Ltd (a 50:50 joint venture between Glencore and Teck) retain an option to earn a 51% participating interest in the Wagon Pass tenements if a new JORC Inferred Resource has been discovered, by either completing and sole funding a Feasibility Study, or spending \$20M on the assessment of the inferred resources. Metalicity has held discussions with both Glencore and Teck regarding this option and will update the market should any investment and/or amendment to the agreement be reached.



## COMPLETION OF THE ADMIRAL BAY PRE-FEASIBILITY STUDY STAGE 1 (100% MCT)

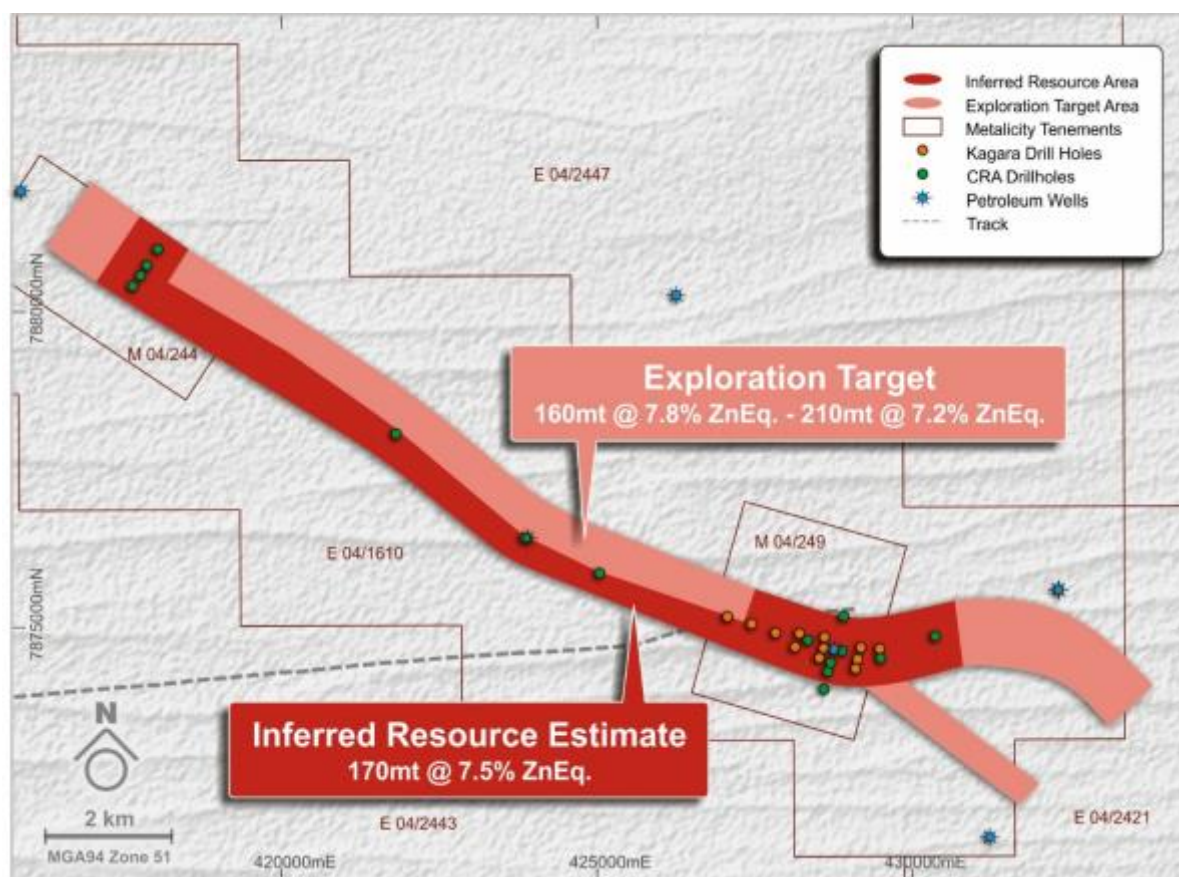
### Pre-Feasibility Study Strategy

To de-risk Admiral Bay through to decision to mine the PFS has been undertaken in two stages, PFS stage 1 and PFS stage 2. The PFS is being project managed by Metalicity and peer reviewed by SRK Consulting.

The PFS stage 1 work at Admiral Bay has involved the refinement of the preferred PFS pathway including the design and budgeting of drilling options, the compilation of a new Mineral Resource Estimate (MRE) for the high-grade zone (Figure 2) and testwork on various critical success factors regarding mining and processing optionality.

As outlined in the Scoping Study, the development and mining of Admiral Bay has been independently reviewed as technically feasible. For a more detailed evaluation of the results of the PFS Stage 1, please see ASX Announcement 'Outstanding Admiral Bay PFS Results', 10/10/17

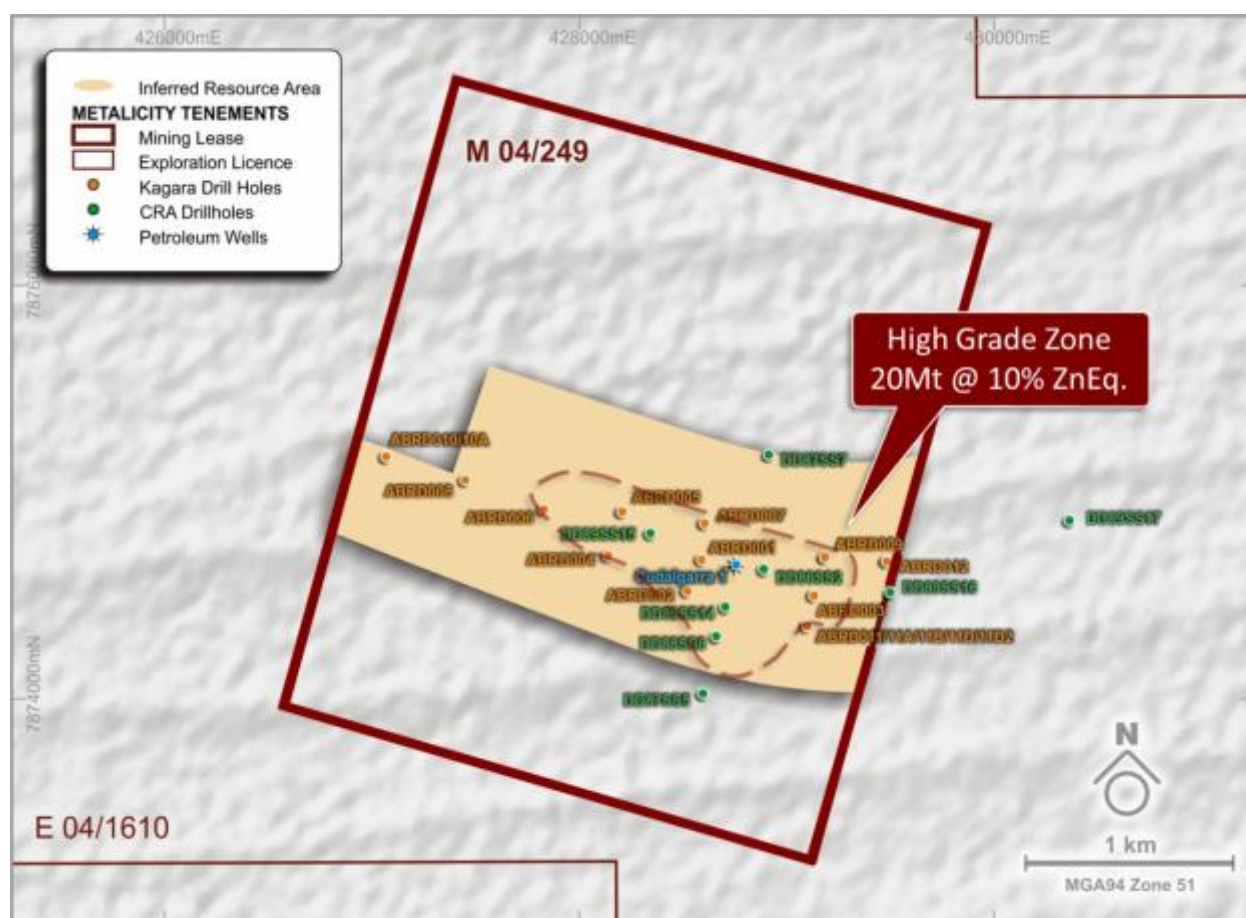
**Figure 3: Admiral Bay Zinc Project: MRE and ETR in plan view**



Source: Metalicity

The Exploration Target Ranges (ETR) stated above are conceptual in nature and the potential quantities and grades are conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource Estimate outside the MRE at Admiral Bay, and it is uncertain whether further exploration will result in the estimation of additional Mineral Resources.

Figure 4: Admiral Bay Zinc Project high grade zone extending over a 2.1km strike



Source: Metalicity

### Highly Capital Efficient DSO Starter Mine Concept

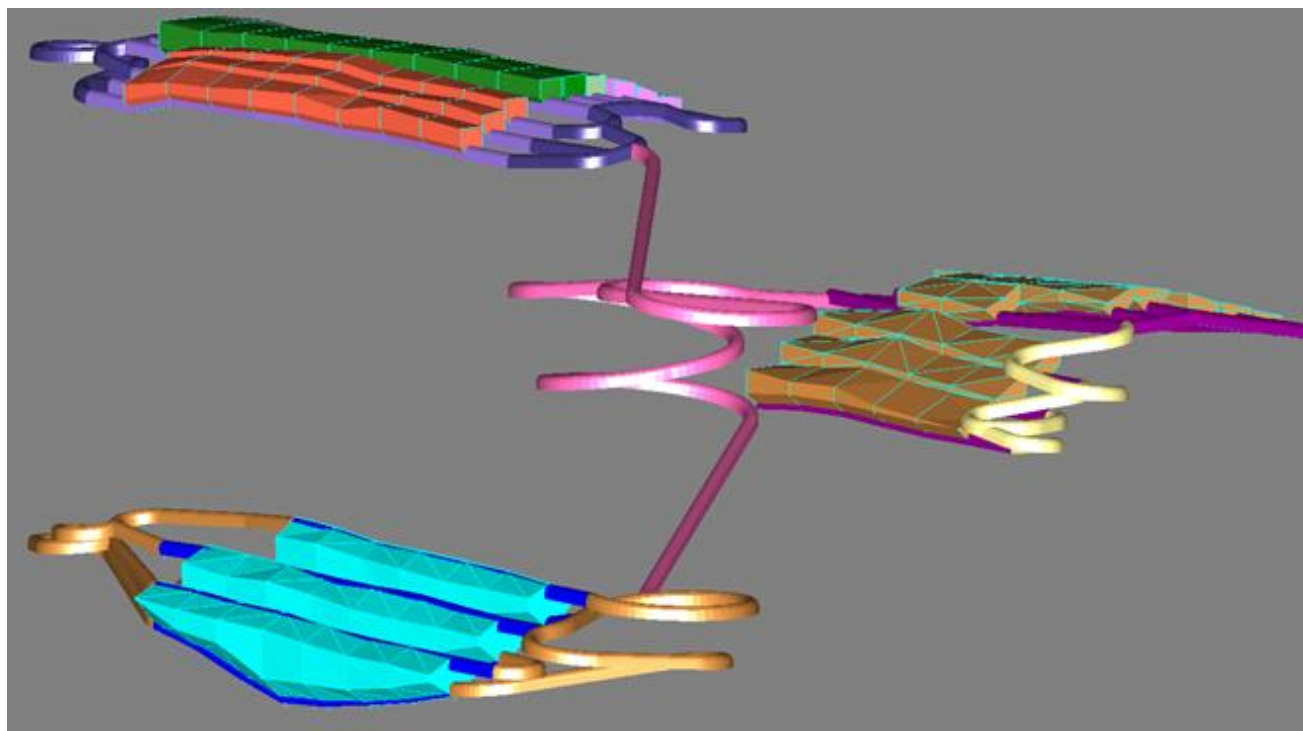
The DSO study consisted of technical and economic modelling of two conceptual alternatives and comparing them to the base case 3-5Mtpa Concentrate model over a LOM of 21 years, as outlined in the Scoping Study. The primary purpose of the study being to reduce the overall capital intensity of the project.

The first option consists of a standalone DSO operation utilising ore sorting technology to increase the metal content in the ore to a commercial DSO product. The second option was to combine the DSO and Concentrate models into one project.

The study indicates that the concept of a standalone DSO operation would be feasible with current project knowledge and test work. The combined DSO and Concentrate model also preserves expansion optionality to a larger concentrate model (by starting with minimal infrastructure, focussing on the high grade zone, achieving payback on DSO capital invested) and is feasible.

This development pathway also delivers a lower technical risk and capital intensity profile, as only a third of the capital would be required initially and any operational uncertainty can be quantified during the development and operation of the DSO concept.

**Figure 5: 3D Isometric view of a preliminary mining design layout for the DSO Concept**



Source: Metalicity

### Ore Sorting Technology Testwork

As part of PFS Stage 1, Metalicity contracted Outotec to evaluate the potential benefits of implementing an ore-sorting technology. This technology allows a separation of waste material from ore material through sensors. The sensors scan the run of mine (ROM) material and segregate material based on the mineralogical composition.

Metalicity notes that clients of Outotec have reported encouraging results on Mississippi Valley Type (MVT) deposit when testing the ore-sorting technology. Low grade zinc ore, recorded results of up to 92% head grade increase. A review on the suitability of the ore to be sorted using ore-sorting technology based on existing relevant mineralogical reports was initially carried out.

Subsequently a small amount of sample (approximately 20kg of ore drill core) was selected and a sensor selection test was performed at the TOMRA laboratory in Sydney for testing. The task was to confirm that the DE-XRT sensor was capable of detecting the density difference between the high and low grade regions in the samples received. The samples were colour photographed and imaged on TOMRA's DE-XRT sensing system. In addition, some XRF analysis was completed of various portions on the rocks, in order to gain an understanding of the XRT's sensor response to the various mineralogies (Figure 4).

The preliminary test work results concluded the following:

- The DE-XRT sensor is capable of detecting the density differences between the high density ore (high grade) and low density material (waste) in the samples received.
- The barite is a possible candidate for optical sorting, where the whiteness of the rock can be used to differentiate between it and other material. This will not, however be effective in identifying between the high zinc sulphide and waste areas with a similar colouring.

## Geotechnical Study

The primary objective of the geotechnical PFS is to construct a preliminary Geotechnical Domain Model (GDM) to support mine planning, using the existing data and available drill core. This will result in gaining a better understanding of the effects of mining on the surrounding rock mass, especially the rock mass between the estimated mining areas and the overlying Grant aquifer system. This will assist in the assessment of the risk related to groundwater ingress under the proposed mining methodologies, and will provide key geotechnical design recommendations.

Evaluation of a potential longwall layout indicated that the height of disturbed/caved zone is sensitive to horizontal stress ratio ( $K_h$ ). Based on a panel height of 4 m and 150 m in cross section, the disturbed zone may extend approximately 170m above the panel (for  $K_h$  of 2), depending on stress regime and rock mass quality. The height of disturbed/caved zone increases as the longwall panel is progressively extracted. Indications are that panel strike lengths should be limited to 300 m for  $K_h$  values of 1.0 and 200m for  $K_h$  values of 1.5 (Figure 5).

Evaluation of potential open stope layouts considered two scenarios; one with backfill and one without. Using FLAC 3D software, the model indicates potential maximum heights of the damage above the stope crowns to be 85m with backfill and up to 135m without backfill. The height of disturbed zone is again sensitive to horizontal stress ratio with the maximum height of damage occurring under anisotropic stress conditions. Preliminary results indicate that the damage zone for the stope panel will not exceed 150 m height (the expected height for the aquifer).

The optionality of implementing longwall mining, is deemed geotechnically feasible based on current data and using recommended geometric restrictions (Figure 6).

## Hydrogeological Study

The primary objective of the groundwater study was to develop an updated conceptual model of the local hydrogeology, to inform development of a PFS-level understanding of the local hydrogeology, and specifically to assess the identified risk associated with catastrophic ingress of groundwater in the mine working area.

Preliminary results of the geotechnical modelling indicate that under an isolated example of conventional stope and backfill methods, disturbance of the Carribuddy Formation will not extend into the overlying Grant formation. This means the Carribuddy Formation will continue to act as an effective aquitard under these conditions, minimizing risk of catastrophic ingress of groundwater into underground workings. For the cases reviewed, it may eliminate the requirement for dewatering the Grant Aquifer.

Based on estimated permeabilities ( $10^{-9}$  to  $10^{-6}$  m/s), conventional dewatering via bores drilled from surface would most likely be the lowest risk option. If dewatering is required, it has been estimated that it can be accomplished through a network of 10-15 bores over the current full extension of the Admiral Bay Project (~18km strike length). High groundwater temperatures were not considered a major obstacle to the dewatering plan. Considering the likelihood of having to manage hypersaline water, the estimated capital cost is approximately \$1.5M AUD/bore.



## Ventilation Study

Metalicity has undertaken a review of the accuracy of the VRT (virgin rock temperature) measurements at a Scoping study level and a preliminary economic impact of the VRT on the project. The study was carried out by Metalicity.

There are three previous reports covering the ventilation requirements for Admiral Bay; (a) an order of magnitude study for CRA Exploration (CRAE, 1989), (b) a study prepared by Mining Plus Pty Ltd (Mining Plus) for the PFS document prepared by RSV Australia Pty Ltd (RSV, 2009) and (c) a review conducted by BBE Consulting Australasia (BBE) for the Scoping Study of the Project (SRK, 2016).

The current study evaluated two issues. Data from two different drilling campaigns and the published literature was reviewed with the intent of confirming the estimation of the expected VRT at target depth. In addition, a sensitivity analysis on the cost of energy consumption for the ventilation component and number of ventilation shafts on the overall project economics based on different ventilation requirements suggested for the Admiral Bay deposit by subject matter experts. Further review of the original data confirms the estimated virgin rock temperatures within the zone of interest, to between 80° and 85°Celsius. The data showed no major differences in temperature gradient along the entire length of the project. It is suggested that the temperature gradient defined from the data points, can be extrapolated across the project area and provide the accuracy required for a pre-feasibility study (Figure 8).

Based on the preliminary economic assessment of the ventilation and associated power requirements of the project, it is suggested that incorrect estimates would not have a material impact on the Project economics. In addition, the construction of additional ventilation shafts as the mining extends along the resource outside M04/249 do not overly impact the economic viability of the project. It should however be noted that final ventilation requirements and consequent cost impact will be very dependent on the selected mining method. Within the scope of accuracy of the current project study, additional refrigeration power requirements are not considered as a fatal flaw either from a technical or an economic perspective.

## High Grade Mineral Resource Estimate

Metalicity commissioned SRK to carry out a technical review on the Geology and Mineral Resource aspects of the Admiral Bay deposit. The Geological and Mineral Resource review focussed on M04/249, and evaluated the previous geological and grade estimation models, specifically on M04/249 where most of the drilling has been completed. SRK's review was informed by the latest Mineral Resource estimation by Ridley (2016).

The work program involved SRK reviewing all of the exploration data and Ridley's mineralisation domains. Seismic data for relevant lines were extracted and examined to provide guidance for the development of surfaces of important stratigraphic contacts. SRK then developed new mineralisation domains that broadly following Ridley's interpretation.

The geological modelling relies on a limited set of drilling data, and is therefore poorly constrained at present. Reprocessing of the existing seismic datasets and integration of these 2D data into a 3D geological model may help refine the geological model. Acquisition of a new 3D seismic dataset across M04/249 should also be considered in order to improve the 3D geological models and assist drill targeting.

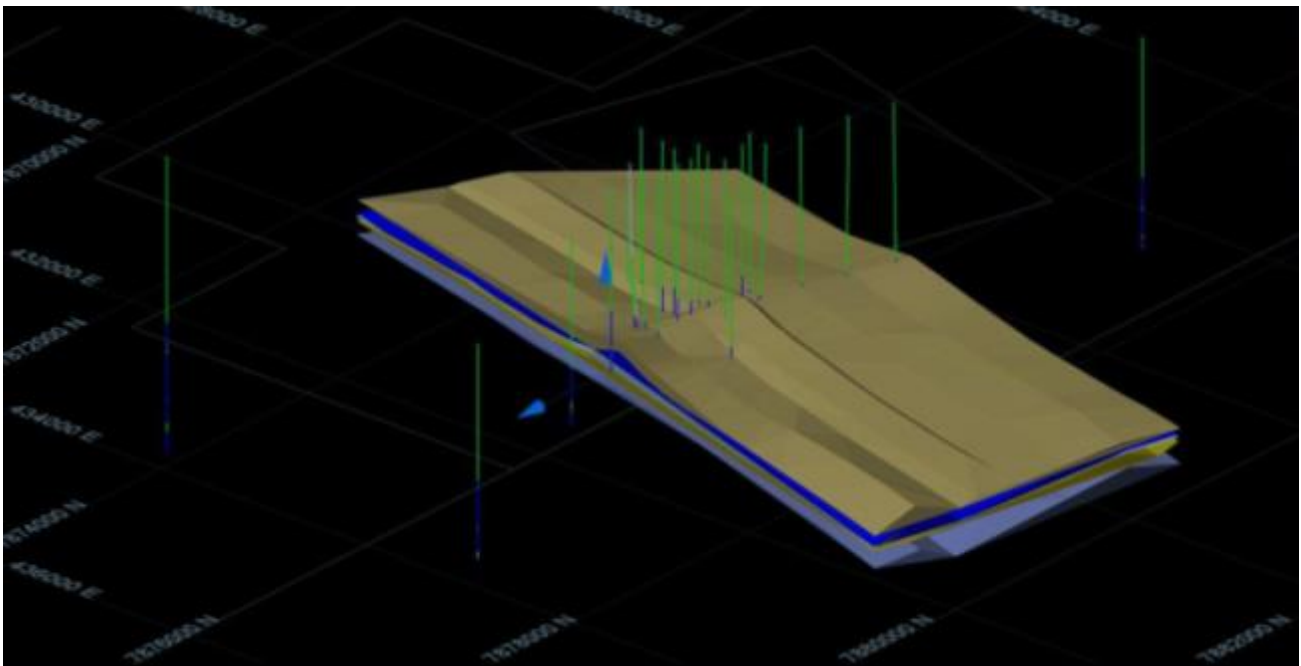
Mineralisation is spatially controlled by the presence of the thickest part of the bioherm accumulation in the Goldwyer and Nita formations. These form an antiformal feature, with mineralisation rapidly thinning away

from the antiformal hinge. Drilling should therefore firstly focus on the delineation of this hinge, with subsequent drilling targeting the limbs.

The GSAZ defines a zone of structural complexity, which makes prediction of the location of mineralisation east of the drill section ABRD011–ABRD003–ABRD009 more challenging. SRK therefore recommends that drilling should be focused to the west of this section, where mineralisation seems structurally less complex.

Re-estimation, using the updated geological models and mineralisation domains developed by SRK, and using a more local approach to grade, may help better define higher-grade zones to target for future drill planning.

**Figure 6: Antiformal geometry of Goldwyer and Nita formation within M 04/249**



Source: SRK (Admiral Bay – Geological and Mineral Resource Review, 2017)

## COBALT PROJECTS (100% MCT)

### Kyarra Cobalt Project

The Company completed an initial 1,800m RC drill program at the Kyarra Cobalt project following recent desktop and field work where another 65 rock chip samples were collected including significant results of up to 1500 ppm Co and >1% Zn in weathered near-surface rock chips were received, across the entire outcrop area sampled. Some of the cobalt anomalism has been observed to be associated with west-north-west striking breccia zones interpreted to be related to deep-seated structures and to represent part of a plumbing system for metalliferous fluids upward and southwards into suitable trap horizons. Of particular note are the generally steep dips of units (typically >50° to the south and southeast), which indicate significant disruption of the units in this area in contrast to the generally held view of the Yerrida Basin units being flat lying. Due to significant delays in the delivery and then processing of the samples, largely out of the control of the Company, results and interpretation of the program will be due shortly.

## LITHIUM PROJECTS (100% MCT)

### Pilgangoora North Lithium Project

The Company completed an initial 500-600m RC drill program at the Pilgangoora North Project aimed at testing for mineralized pegmatites extending north into the southern parts of the tenement, below the pegmatites already mapped at surface. Drilling intersected pegmatites in every hole. Due to significant delays in the delivery and then processing of the samples, largely out of the control of the Company, the results and interpretation of the program will be due shortly.

### Lake Cowan Lithium Project

Subsequent to the quarter the Company executed a binding agreement with Tawana Resources NL (ASX:TAW) to sell its interest in the Lake Cowan Project (comprising 2 EL's and 1 ELA) for a total sum of \$50,000 cash and 769,230 shares in Tawana. The shares in Tawana are currently valued at approximately \$276,922 (at 36c), however the company views great upside in Tawana as that company enters the production phase with appropriate financing and importantly established infrastructure, representing significant upside for the Company's equity stake in Tawana.

## CORPORATE AND FINANCIAL

The Company completed a \$2m capital raising via an equity placement, equity funded drilling contract and a share purchase plan. Proceeds of the raising are to be invested in drilling its lithium and cobalt projects, completion of the Admiral Bay Zinc Project PFS and due diligence on the Lennard Shelf Zinc Project. These programs have been largely been completed.

Cash balance at the end of the Quarter stood at approximately \$2.24 million (excluding \$1.86m Options in the money and \$250,000 cash/shares (at 26c in TAW) from the Lake Cowan Sale).

## ENQUIRIES

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### Competent Person Statement Regarding Napier Range Zinc Project

See Metalicity Announcement 30/10/17

### Competent Person Statement Regarding Admiral Bay Project

See Metalicity ASX Announcement 19/04/2017.

### Competent Person Statement Regarding Lithium Projects

See Metalicity ASX Announcement 28/04/2017

### Competent Person Statement Regarding Kyarra Cobalt Project

See Metalicity ASX Announcements of 21/06/2017 and 21/07/2017

\*Excludes recent sale of Lake Cowan for \$250,000 cash/shares and 1.86M options in the money