

**ASX RELEASE: 11 DECEMBER 2017** 

# CHINA MINMETALS ZINC TESWORK DELIVERS OUTSTANDING RESULTS

- Preliminary metallurgical testwork by an independent laboratory nominated by China Minmetals Nonferrous Metal Co. Ltd (CMN) has confirmed ability to produce high quality international saleable concentrates
- Testwork is part of the Memorandum of Understanding between Metalicity and CMN for the Admiral Bay PFS
- The study was undertaken on 52.4kg of core samples from the high grade zone at Admiral Bay
- ▶ Zinc concentrate grades were achieved on average at 51.27% Zn from high reported recoveries of 88.27% Zn
- Lead concentrate grades were achieved on average at 65.13% Pb from high reported recoveries of 91.88% Pb
- Low deleterious elements reported in the majority of the testwork minimising any potential penalties on the sale of zinc and lead concentrates plus significant revenue from silver and potentially gold credits
- ➤ Zinc mainly exists as primary zinc sulphides (sphalerite), lead exists as primary lead sulphides (galena) and the primary mineralogy was characterised as sphalerite, galena, pyrite and chalcopyrite
- Admiral Bay product appears readily amenable to processing through simple, conventional flotation plant
- CMN results are in line with the Company's metallurgical testwork programs previously undertaken regarding mineralogy, recoveries and concentrate grades validating a high quality international saleable concentrate
- The results are an important step towards accelerating a binding agreement with CMN for Admiral Bay

Metalicity Limited (ASX:MCT) ("MCT" or "Company") is pleased to report that it has significantly strengthened its Memorandum Of Understanding (MOU) with China Minmetals Nonferrous Metals Co. Ltd (CMN), a wholly owned subsidiary of China Minmetals Corporation (Minmetals), one of China's leading zinc smelting companies.

CMN has successfully completed a preliminary metallurgical testwork study program by an independent laboratory nominated by CMN, as part of the MOU between the two companies validating a high quality international saleable concentrate from the Admiral Bay Zinc Project (Admiral Bay). The results reported were generally in line with the Company's previous metallurgical testwork results including high recoveries, high concentrate grades and low deleterious elements.

## Metalicity Managing Director, Matt Gauci, commented:

"Admiral Bay is one of the world's largest and highest value zinc development projects and, critically, is located in the premium mining jurisdiction of Western Australia. The successful testwork is further validation of the quality of the project by Minmetals, one of China largest zinc concentrate and metal producers. It is also another important step towards a binding offtake and financing agreement. We will now advance more detailed testwork with CMN as we continue discussions and site visits with a range of parties.

"Independent analysts have reported compelling economics on Admiral Bay with an NPV of A\$1.2B, Life of Mine (initial 21 years) Net Cash After Tax A\$6.8B and a very capital efficient approach with the starter mine DSO operation capex at A\$300m. Development of the project would also generate more than 1,000 new employment positions and more than A\$1B of tax revenues and royalties for the local economy."

## **BACKGROUND TO MEMORANDUM OF UNDERSTANDING (MOU)**

On 19 July 2017, the Company signed a MOU with CMN for future offtake from Admiral Bay. The MOU contemplates the supply of an initial 10% of future offtake from an anticipated production of 174,000t of zinc concentrate and 115,000t of lead concentrate per annum from Admiral Bay in exchange for preliminary metallurgical and beneficiation testwork. For further details on the MOU see ASX:MCT 19/7/17.

The Company's metallurgical and mineral processing test work carried out to date delivered positive results including (1) The material does not currently demonstrate any deleterious metallurgical behaviour (2) It appears readily amenable to processing through a simple, conventional flotation plant to achieve high zinc, lead and silver recoveries (3) Preliminary metal recovery expectations are in the range of 90-95% across zinc, lead and silver (4) Concentrate product grades were good (Pb +60% and Zn +48%), although selectivity of zinc and lead was not ideal and there is scope for further optimisation (see ASX:MCT 27/7/16).

The preliminary metallurgical testwork study by CMN was undertaken by Changsha Institute of Mining Research Co., Ltd under the commissioning of CMN on 52.4kg of diamond core from drill holes ABRD005, ABRD006, ABRD008 and ABRD009 located primarily within the high-grade zone of Admiral Bay and located within the granted mining license (ML4/249). The core was selected to be representative of the Admiral Bay orebody and an advance on previous testwork.

Samples were crushed and screened to a particle size of -2mm, and were then prepared by mixing and division, and taken for beneficiation tests, analysis, mineralogical studies and standby application. Four composites (ABMET1, ABMET2, ABMET3, ABMET4) were assayed pre-comminution, each sample representing sections of different drill holes. Composites ABMET1 & ABMET4 where combined and selected for testing.

Table 1: Sample Information for testing

Sample ID	Dry Weight (kg)	Pb grade (%)	Zn grade (%)	Au grade (g/t)	Ag grade (g/t)
ABMET1 ABRD 006	26.12	1.17	4.85	0.1	24.98
ABMET2 ABRD 005	14.44	0.58	3.08	0.23	17.54
ABMET3 ABRD 008	2.18	0.3	2.01	0.23	4.47
ABMET4 ABRD 009	9.62	1.78	2.24	0.21	16.06
Calculated total average grade:	52.36	1.08	3.76	0.16	20.44

Bench flotation tests were carried out on the samples to establish the amenability of conventional beneficiation. The samples were characterised by a mineralogy study and chemical composition. The objectives of the bench flotation tests were to:

- (1) To gain a comprehensive understanding of the properties of the samples via a mineralogy study, providing a basis for beneficiation testwork study
- (2) To determine the economic beneficiation process flowsheet, reagent system and performance indices indexes for Admiral Bay Zinc-Lead-Silver by conducting systematic beneficiation tests, investigating the main mineralogical and technological process factors that influence beneficiation indexes, and providing the basis for the next step in testwork study.



## SUMMARY OF METALLURGICAL TESTWORK RESULTS

#### **Summary of Results**

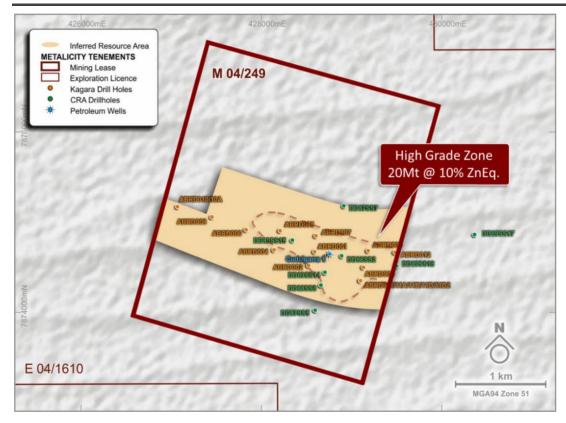
- (1) Samples were characterised as zinc-lead primary sulphides with the main recoverable minerals being sphalerite and galena. The mineralogy was characterised as sphalerite, galena, pyrite and chalcopyrite, with gangue minerals being mainly calcite, quartz, barite and sericite.
- (2) Sequential flotation is the preferred method with lead flotation followed by zinc flotation from lead tailings. The reagent regimes selected were: (a) CaO (Lime) was chosen to depress pyrite, with (b) ZnSO<sub>4</sub> and NaSo<sub>3</sub> selected to depress zinc and (c) ETC and BX have a selective collecting effect on Lead minerals, these were adopted as a collector blend in the Lead flotation
- (3) Full process, close-circuit, tests were carried out with Zinc recoveries of 88.27% to a zinc concentrate with a grade of 51.27% Zn and 181.2 g/t Ag achieved, while Lead recoveries to lead concentrate were 91.88% at a lead concentrate grade of 65.13% Pb and 137g/t Ag (refer to Table2).
- (4) The grade of deleterious elements will not attract penalties.
- (5) Gold and silver are up to 0.23g/t Au and 23.22g/t Ag respectively with a significant recovery value.

Table 2: Testwork summary results for Pb/Zn & Ag grades in concentrate with respective recoveries

Product	Yield Rate (% of Mass)	Pb grade (%)	Zn grade (%)	Ag grade (g/t)	Pb Recovery	Zn Recovery	Ag Recovery
	,				(%)	(%)	(%)
Pb Concentrate	1.89	65.13	3.95	137.65	91.88	1.75	11.25
Zn Concentrate	7.36	0.49	51.27	181.20	2.69	88.27	57.72
Tailings	90.75	0.08	0.47	7.90	5.43	9.98	31.03

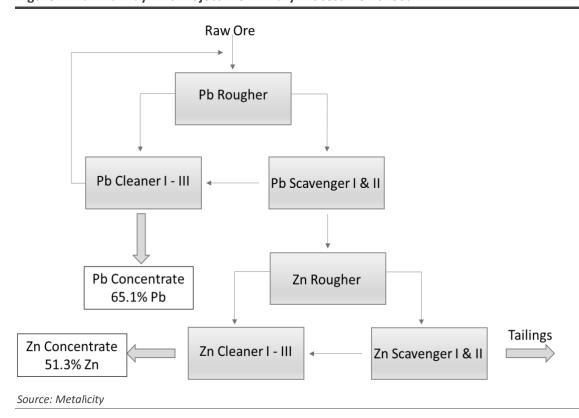


Figure 1: Admiral Bay Zinc Project Plan View



Source: Metalicity

Figure 2: Admiral Bay Zinc Project Preliminary Process Flowsheet





## **ENQUIRIES**

Investors Media

Matt Gauci Michael Vaughan
Managing Director Fivemark Partners
+61 8 9324 1053 +61 422 602 720

mgauci@metalicity.com.au michael.vaughan@fivemark.com.au

### **About Metalicity Limited**

Metalicity Limited is an Australian exploration company with a primary focus on the base metals sector and the development of the world class Admiral Bay Zinc Project, and exploration of the Lennard Shelf Zinc Project, both located in the north west of Australia. The Company is currently undertaking a Pre-Feasibility Study (PFS) on Admiral Bay and preparing for an extensive drilling program at Lennard Shelf. The Company's secondary focus is the lithium and cobalt sector with the addition of several lithium and cobalt projects where early stage exploration has commenced. The Company is supported by a management team with significant collective experience in the resources sector as well as international private equity, institutional and retail funds.

#### **Peer Review Statement**

Information in this ASX Announcement that relates to metallurgical testwork results and interpretation has been reviewed by Ausenco Services Pty Ltd for applicability and clarity. Ausenco is a consultant to Metalicity. Ausenco's services cover a wide range of areas that are specific to the needs of each phase in the project lifecycle, from feasibility studies to Front End Engineering Design (FEED) and right through to the commissioning and operational phases

