

# POSITIVE METALLURGY RESULTS FROM OPOSURA

## High-grade, commercial quality zinc and lead-silver concentrates produced

### HIGHLIGHTS:

- +85% zinc recoveries achieved in producing benchmark +53% zinc concentrate
- +80% lead recoveries achieved in producing benchmark +60% zinc concentrate
- No elevated levels of deleterious elements present in either concentrate
- Physical testwork for crushing, milling and abrasion indices in progress
- Optimisation metallurgical testwork is continuing as the scoping study progresses

Azure Minerals Limited (ASX: AZS) (“Azure” or “the Company”) is pleased to report that it continues to make strong progress on key elements of the Scoping Study for its 100%-owned Oposura zinc-lead-silver project with further positive results returned from follow-up metallurgical testwork.

Commenting on the testwork program, **Azure’s Managing Director, Mr Tony Rovira** said, *“This second stage of metallurgical testwork has delivered excellent results, significantly improving on the initial testwork from last year and indicating that we will be able to produce high quality, high grade, clean concentrates with very high recoveries. These excellent results from so early in the study process makes me confident that further optimisation studies, which are currently in progress, will continue to provide additional improvements to these already good recoveries and grades.”*

### **DETAILS OF METALLURGICAL PROGRAM**

The objective of this metallurgical testwork is to demonstrate Oposura’s potential to generate clean, commercial grade, and therefore saleable, concentrates at acceptable metallurgical recoveries and to identify opportunities for further optimisation. Testwork was undertaken by Blue Coast Research (Nanaimo, British Columbia, Canada).

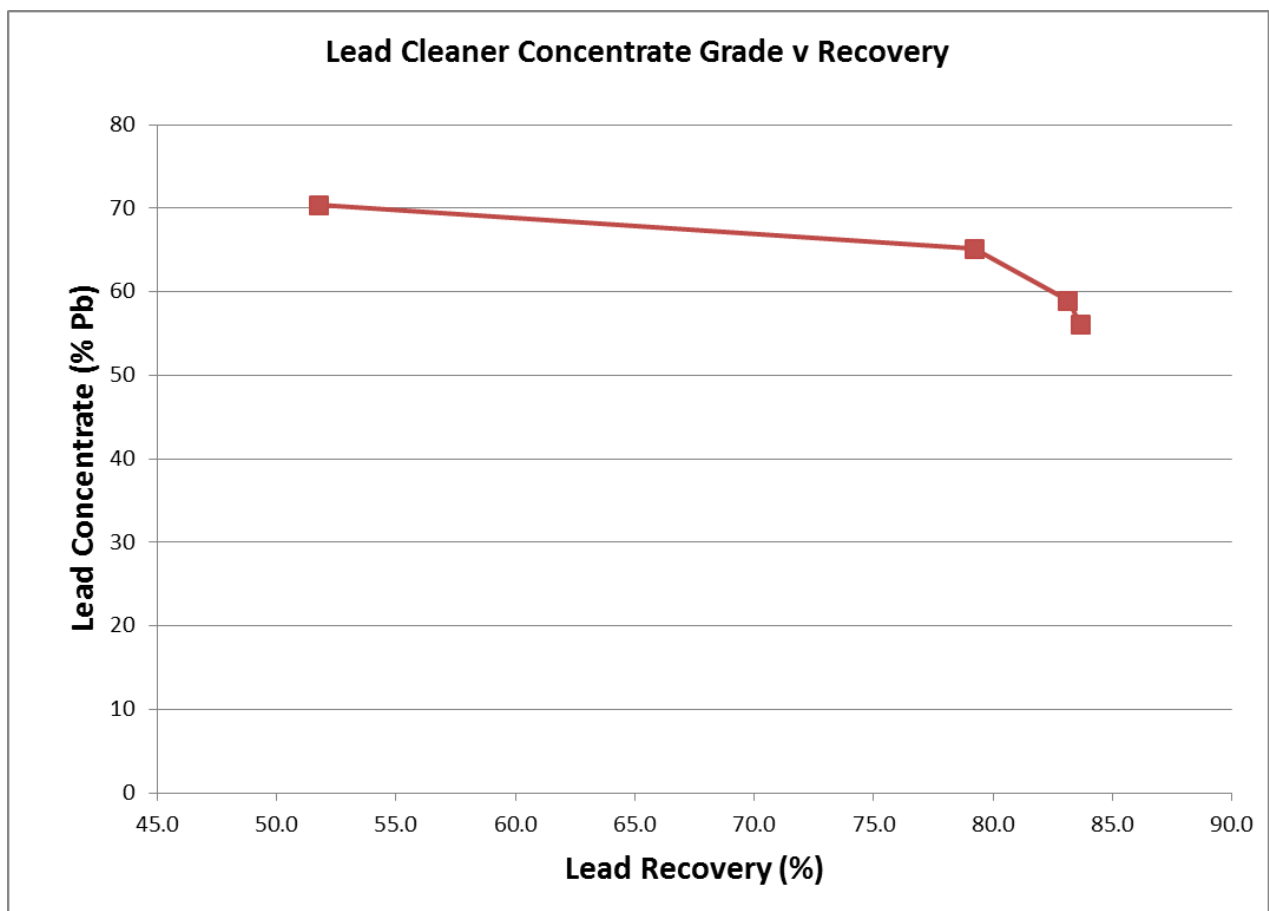
Following the favourable preliminary tests conducted in 2017 (announced 20 November, 2017) further metallurgical tests were undertaken over late February to early April, 2018. These tests were designed to optimise potential grind and flotation reagent regimes and the process flowsheet.

A 100kg bulk composite averaging 6.4% Zn, 4.2% Pb and 28.8 g/t Ag was prepared from the core of 11 resource infill drill holes and is considered representative of the overall Oposura deposit. The bulk composite was split into several sub-samples to allow multiple batch flotation tests to be undertaken.

The bulk composite is more representative of the mineralisation at Oposura than the first-pass preliminary metallurgical testwork that was conducted on a composite of rock samples sourced from the historical underground workings at Oposura.

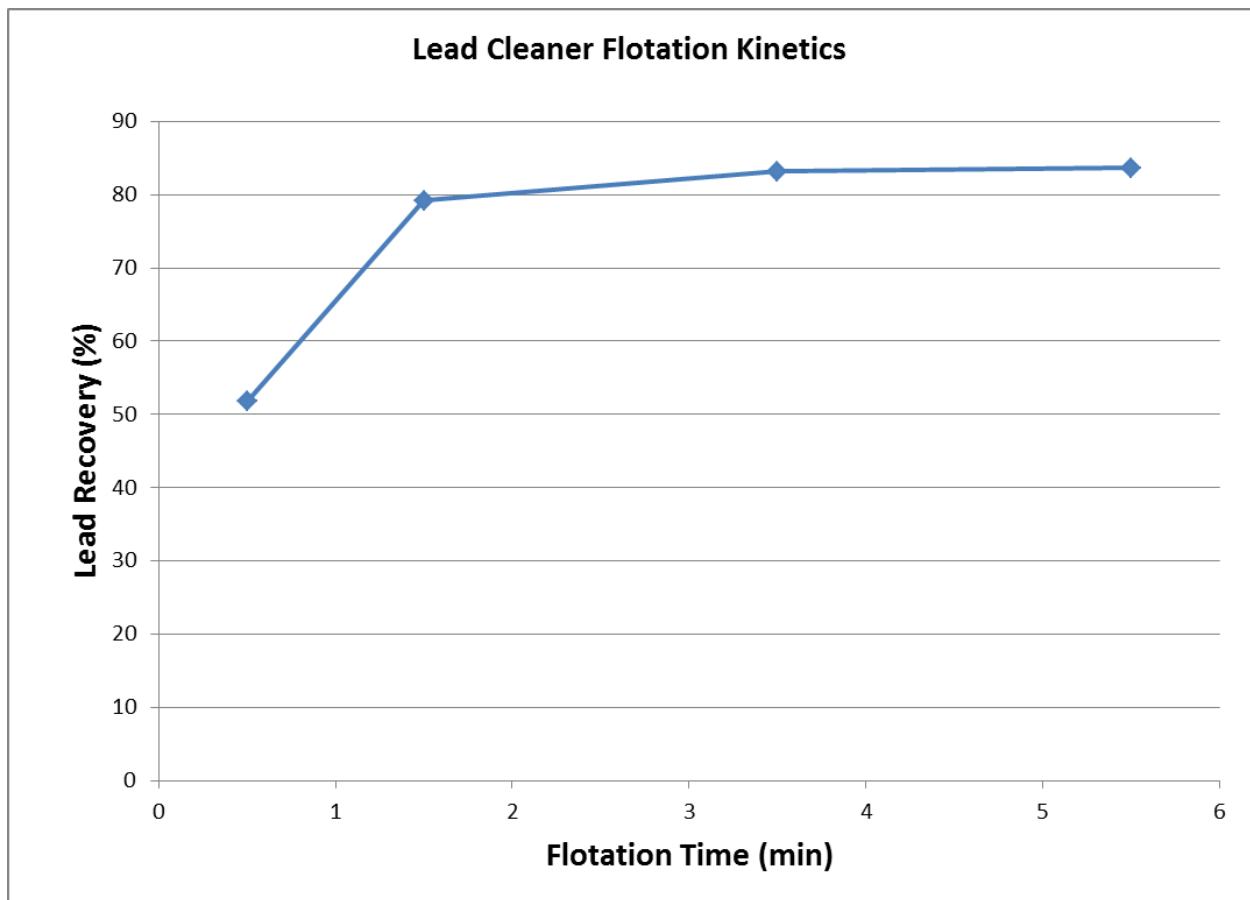
A typical lead-silver and zinc sulphide deposit flowsheet was utilised for the testwork. This involves initially floating galena into a lead-silver “rougher” concentrate. The lead-silver rougher concentrate was then floated in up to three additional flotation cells to produce a series of “cleaner” concentrates. A concentrate grade recovery curve can be generated from the tests as shown in Figure 1. Lead recovery exceeded 80% at the international market benchmark lead concentrate grade of 60% Pb.

**Figure 1: Lead Concentrate Grade versus Recovery**



The mineralisation at Oposura has rapid flotation kinetics and this is exemplified in the lead cleaner flotation kinetics shown in Figure 2. Rapid flotation has several positive impacts on plant design and operation. These include reduced flotation cell capacity and therefore reduced capital costs and reduced operating complexity and simplified process control.

Figure 2: Lead Cleaner Flotation Kinetics



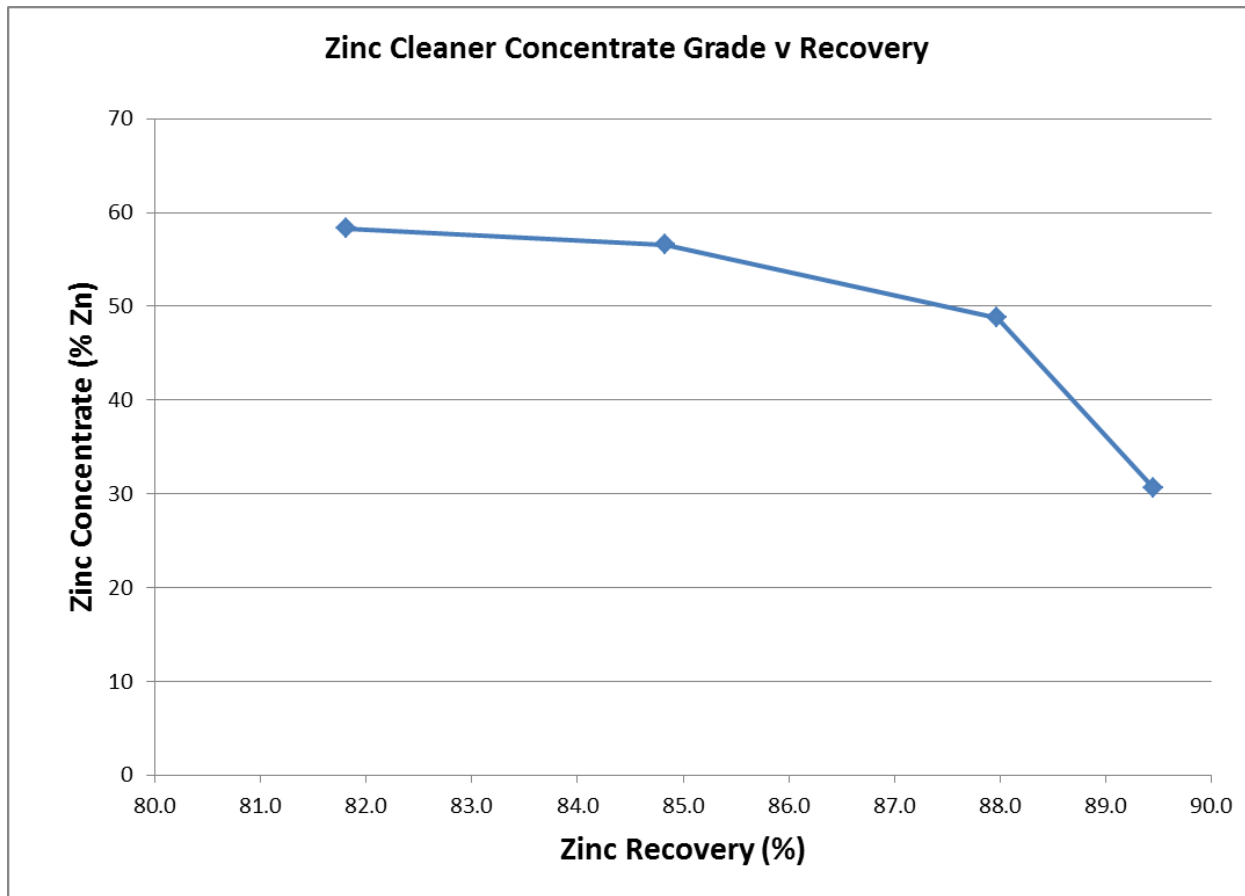
Silver recovery to the final lead concentrate was approximately 70%, with a silver grade of between 300-350g/t Ag per tonne of concentrate.

The aim of the lead rougher flotation stage is to maximise the recovery of galena (containing lead and silver) into the lead rougher concentrate and to suppress the recovery of sphalerite (containing zinc) into the lead rougher concentrate. It was noted in the preliminary testwork conducted in 2017 that the lead-silver concentrate contained up to 15% zinc and that optimisation studies would be undertaken with the aim of reducing the amount of zinc reporting to the lead-silver concentrate.

The latest testwork reduced the zinc grade in the lead-silver concentrate from 15% zinc to 5% zinc, thereby increasing the lead grade in the lead concentrate. The tailings from the lead-silver rougher flotation cell is zinc-rich and was processed through a series of zinc rougher and cleaner flotation tests. As a result of more zinc entering into the zinc flotation circuit, zinc recovery into the zinc concentrate has increased from approximately 70% in the preliminary testwork to more than 85% in the recent program, at the international market benchmark zinc concentrate grade of 53% zinc.

These tests generated a series of concentrates with varying zinc recoveries and grades and the concentrate grade-recovery curve is shown in Figure 3.

**Figure 3: Zinc Concentrate Grade versus Recovery**



The reagent regime for the testwork was typical industry standard for this style of mineralisation and flowsheet. The primary grind size ahead of the lead rougher was 120 micron. The reagent regimes for the lead and zinc rougher and cleaner circuits are shown in Table 1. The primary grind size and reagent regime will be further optimised as testwork progresses.

**Table 1: Reagent Regime**

Lead Circuit	Reagent Regime	
	Lead Rougher	Lead Cleaner
Lime (kg/t)	Nil	Nil
Zinc depressant (ZnSO4) (g/t)	600	150
Collector (3418A) (g/t)	10	5
Zinc depressant (NaCN) (g/t)	200	50
Frother (MIBC) (g/t)	49	12
Zinc Circuit	Zinc Rougher	Zinc Cleaner
Lime (kg/t)	1.670	1.250
Zinc activator (CuSO4) (g/t)	500	75
Collector (SIPX) (g/t)	75	40
Frother (MIBC) (g/t)	74	19

### **Further Testwork**

Further testwork will be undertaken to optimise recovery and concentrate grades and to test for variability across the mineralised zone. This will include locked cycle tests which will be more representative of the continuous operation of a typical flotation circuit.

In addition, physical testwork is in progress on core samples to determine crushing, milling, thickening and filtration performance.

-ENDS-

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