# ASX ANNOUNCEMENT



## Galena Mining Limited

ASX : G1A

**Shares on Issue** 336,500,000

**Current Cash** ~A\$11m

**Directors & Management** 

**Non-Executive Chairman** Adrian Byass

**CEO** Edward Turner

**COO** Troy Flannery

**Non-Executive Directors** Jonathan Downes Oliver Cairns Tim Morrison

**Company Secretary** Stephen Brockhurst

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# ABRA DELIVERS OUTSTANDING METALLURGICAL RESULTS High-quality, high grade lead-silver concentrate produced with excellent recoveries

### Highlights

- +90% lead recoveries achieved in preliminary metallurgical test-work
- Very high-grade lead concentrates of +72% lead achieved
- PFS test-work confirming that mineralisation at Abra allows liberation at a coarse grain size of 150 microns (80% passing)
- Mineralisation of medium hardness (reduces energy use)
- No elevated levels of deleterious elements present in the concentrate, and as a result no penalties on off-take are expected
- Locked cycle test-work expected in coming weeks, however initial test-work returns outstanding results from 'rougher-cleaner' stages and locked-cycle is expected to enhance already excellent results

Galena Mining Limited (ASX: G1A) ("Galena" or "the Company") is pleased to announce that as part of the more detailed and representative Pre-Feasibility Study (PFS) test-work currently being undertaken in respect of its 100% owned Abra Lead Project (WA), outstanding metallurgical recoveries of a very high-grade clean lead concentrate have been achieved from the latest preliminary metallurgical test work (Figure 1). These results exceed expectations and what was modelled based on Scoping Study testwork conducted previously.



Figure 1: High-grade lead-silver concentrate taken during recent test-work on Abra samples.



Commenting on the initial results of the test-work program, Galena's CEO, Mr Ed Turner said,

"This latest metallurgical test-work has delivered excellent results, significantly improving on the achieved lead concentrate grade for historic test work (1990 and 2007). The very high recovery (>90%) at corresponding outstanding lead concentrate grades exceeds expectations. It is worth noting the benchmark lead concentrates for today's operating base metal mines are commonly around a ~60% lead concentrate at a ~70% recovery".

### **Details of Abra's Metallurgical Program**

Following from the release of the maiden high-grade JORC resource at Abra in March 2018 (ASX release 14<sup>th</sup> March 2018), representative composite samples of the upper levels of the deposit were selected for PFS level test-work. S1, S2 and S3 are representative samples taken from three separate sections of the stratabound (Apron) mineralised horizons. V1 and V2 are representative samples taken from the vein hosted (core) mineralisation (Appendix 1). The aim of this metallurgical test work is to demonstrate Abra's potential to generate clean, high-grade saleable concentrates with metallurgical recoveries in what are high-grade portions of the deposit that mining consultants AMC are currently working on (ASX release 10<sup>th</sup> April 2018). Samples used in this round of test-work were obtained from NQ diamond drilling conducted by Galena Mining in late 2017 are listed below in table 1.

Composite Pb% Ag (g/t) Zn% Cu% Fe% BaO% **S%** 10.9 13.6 0.05 0.05 31.1 12.8 4.8 S1 S2 10.1 19.3 0.1 0.13 8.2 17.5 6.5 S3 7.5 14.6 0.04 0.29 47.9 8.8 4.8 V1 7.5 15.1 0.01 0.41 9.8 1.6 2.9 V2 12.9 12.3 3.7 0.12 3.6 22.9 9.5

Table 1: Abra test-work samples

### **Mineralogy**

Quantitative optical mineralogy examination of five (5) composites of Abra's (lead) mineralized material was conducted by McArthur Ore Deposits Assessments Pty Ltd (MODA). This found the Abra galena to be quite coarse-grained and free of any elevated deleterious elements.

High liberation of the galena will be achieved by a relatively coarse flotation feed sizing of approximately 80% passing -150 microns.

There were minimal associations of the galena with sphalerite and pyrite and the very low content of these sulphide minerals indicates that separation by flotation is readily achieved. No mineral species likely to cause problems with metallurgical processing and lead concentrate quality were observed.

These conclusions are based on the standard MODA technique of quantitative optical mineralogy, which were adopted for assessing Abra's composites. The coarse-grained nature of galena mineralisation at Abra is illustrated in the following photomicrographs (Figure 2).



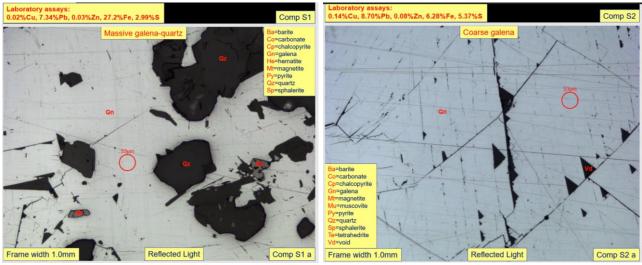


Figure 2: The above two photographs highlight the coarseness of the galena (annotated as "Gn") for Composites S1 & S2, where the light grey colour is galena (PbS) & the small red circles represents 53 µm diameter for scale purposes only.

### Metallurgical Test work

Metallurgical test work is being performed by ALS Global (Burnie, Tasmania) on the five (5) composites containing lead sulphide, refer to earlier table (Table 1).

The latest metallurgical testing has confirmed the findings of MODA's mineralogy work. The flowsheet developed employs:

- Grinding to 80% passing -150 microns
- Rougher flotation
- Regrinding rougher flotation concentrate to 80% passing -38 microns
- Two stages of cleaner flotation

Importantly, locked cycle testwork is yet to be completed and is expected to enhance the already excellent results.

Abra's reagent scheme is very simple with minimal depressants required and is expected to result in low process operating costs. Open circuit batch flotation tests have achieved >70% lead concentrate grades with recoveries exceeding 90% for most samples.

The graph below (Figure 3) shows the lead recovery versus lead concentrate grade curve at different regrind levels at the preliminary "rougher-cleaner" stages. Final recoveries and lead concentrates are expected to improve on these.



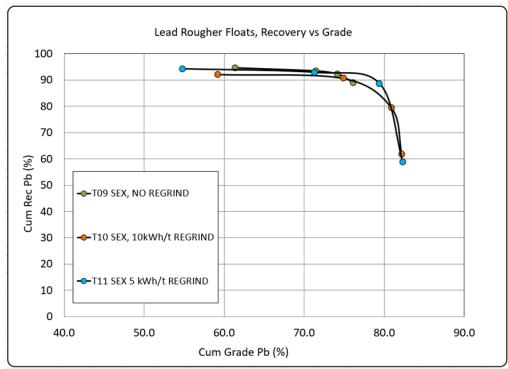


Figure 3: Concentrate and recovery graph highlights +70% concentrate at +90% recovery from preliminary work.

Abra's test-work shows that its regrind power requirements are a very modest 5 kWh/t, which is lower than the >20 kWh/t commonly required for many operating mines.

The Average Bond Work Index for Abra's stratabound (Apron) and vein host mineralised zones is **12.3 kWh/t**, which is classified as medium hardness. The combination of the softness and the coarseness of Abra's mineralisation results in very low energy requirements. This lowers Abra's processing operating and capital costs, which enhances the project viability.

Test-work at the Abra Project shows that the concentrate is very "clean" with a very low zinc or other metal content which could reduce payability. There are no elevated levels of deleterious elements present in the concentrate and hence no penalties on off-take are expected. Silver appears to travel with the lead in a high correlation with good recovery.

On completion of locked cycle testing (currently underway) fire assays will confirm the grade of silver contained within the concentrate.

### <u>Summary</u>

Metallurgical test-work has shown that mineralisation at Galena's 100% owned Abra Lead Proiect (WA) is amenable to producing a very high-grade lead-silver sulphide concentrate with very high recovery (>90%) and at very high concentrate grades (>70%). Additional confirmatory testwork required for a PFS that is representative of Abra's JORC resource is well advanced, with locked-cycle test work expected to be reported in coming weeks and expected to enhance already excellent results.



For more information visit www.galenamining.com.au

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The information in this report related to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr E Turner B.App Sc, MAIG, and Mr A Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG both an employee and a Director of Galena Mining Limited. Mr Turner and Byass have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Turner and Mr Byass consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

#### About Galena's 100%-owned Abra Lead Project

Abra is a world class, high-grade lead-silver-copper-gold-zinc deposit, wholly owned by Galena on a granted mining licence and located in the Gascoyne region of Western Australia. The sediment hosted polymetallic deposit is broadly zoned into an upper level of lead+silver overlying copper+gold mineralisation. Abra is located approximately 110km from Sandfire Resources high-grade Degrussa copper mine, is well serviced by infrastructure and located approximately halfway between Mt Newman and Meekatharra.

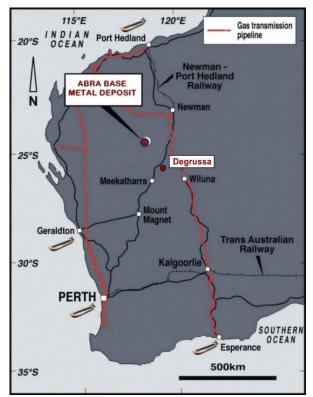


Figure 4: Abra Project location



#### Appendix 1: Metallurgical test work sample locations

Sample ID	Hole ID	From (m)	To (m)	Interval (m)	Weight (kg)
S1	AB70	378.00	398.20	20.20	69.08
S2	AB72	412.80	431.00	18.20	60.76
S3	AB75	515.54	537.00	21.46	84.25
V1	AB71	536.40	548.33	11.93	31.98
V2	AB70	436.00	451.20	15.20	52.38