



# Galena Mining Limited

Presentation

Tony James  
19 October, 2022

*"We acknowledge the Nharnuwangga Wajarri and Ngarlawangga peoples, past, present and emerging who are the Traditional Custodians of the land on which the Abra Project is located"*



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# Disclaimer

**Cautionary statement – Reference to FS and Updated Mine Plan.** This report refers to the Abra Base Metals Mine (“Abra” or the “Project”) Feasibility Study (“FS”) (ASX: 22 July 2019) and Updated Mine Plan (ASX: 25 July 2022). A summary of the FS and Updated Mine Plan material assumptions was published by Galena Mining Limited (“Galena”) on the 22 July 2019 and 25 July 2022 respectively.

Environmental approvals, mining tenements and approvals, other governmental factors and infrastructure requirements for selected mining methods and for transportation of concentrate to market were all analysed in detail and determined not to pose any practical or economic restrictions to the selected mining and processing model. These aspects of the project have not materially changed from the FS to the Updated Mine Plan.

Other material assumptions in regards to metallurgy, mineralogy and geotechnical factors that were made in the previously announced FS have also not materially changed in the Updated Mine Plan and continue to apply. Mine designs, mining schedules and other mining related assumptions relating to the FS were based on the Abra Mineral Resource estimate dated December 2018. Mine designs, mining schedules and other mining related assumptions relating to the Updated Mine Plan were based on the Abra Mineral Resource estimate dated April 2021. Differences exist between the two separate Mineral Resource estimates which has been reflected in differences between the mining related activities and assumptions associated with the FS and the Updated Mine Plan.

All Financial assumptions used in the Updated Mine Plan have been updated to reflect market conditions and the timing of the Updated Mine Plan and will therefore potentially differ to those presented in the FS.

Process and engineering designs for Abra’s FS (July 2019) and Updated Mine Plan (July 2022) were developed to support capital and operating estimates to an accuracy of  $\pm 10\%$ . Key assumptions that the FS and Updated Mine Plan was based on (including those defined as Material Assumptions under ASX Listing Rule 5.9.1) are outlined in the ASX announcements of 22 July 2019 and 25 July 2022 respectively. Galena believes the production target, forecast financial information derived from that target and other forward-looking statements included in those announcements and this presentation are based on reasonable grounds.

A number of key steps need to be completed in order to bring Abra into production. Many of these steps are referred to in this announcement. Investors should note that if there are delays associated with completion of those steps, outcomes may not yield the expected results (including the timing and quantum of estimated revenues and cash flows).

The economic outcomes associated with the FS and the Updated Mine Plan are based on certain assumptions made for commodity prices, concentrate treatment and recovery charges, exchange rates and other economic variables, which are not within the Company’s control and subject to change from time to time. The assumptions made for each may be different in each case due to the different timing of the work and changing market conditions and economic factors. Changes in such assumptions may have a material impact on the economic outcomes (including the timing and quantum of estimated revenues and cash flows).

To develop the Project as per the assumptions set out in the FS and the Updated Mine Plan may require additional capital. Investors should note that any failure to procure the required additional capital may result in a delay, change in nature and scale, or even suspension of the Project.

**Cautionary statement – Reference to FS Mine Model and Updated Mine Plan Mineralised Material.** The mineralised material scheduled to be mined and processed in the FS (“FS Mine Model”) includes a mix of material taken from Probable Ore Reserves (67%) and Inferred Mineral Resources (33%). The mineralised material scheduled to be mined and processed in the Updated Mine Plan includes a mix of Indicated Mineral Resources (66%) and Inferred Mineral Resources (34%). In both cases no reduction factor has been applied to the tonnes and grades of the Inferred Mineral Resources. Inferred Mineral Resources have a lower level of geological confidence and can’t be included in the calculation of Ore Reserves, and there can be no guarantee that a Mineral Resource estimate update will convert Inferred Mineral Resources to Indicated Mineral Resources or return the same grade and tonnage estimation. This may affect mining performance and outcomes (including economic) from those outlined in the FS and the Updated Mine Plan. The Abra Mineral Resource and Ore Reserve will be revised systematically as the project continues considering depletion, new resource definition and mining activities.

Based on the current geological information, Galena believes it has a strong basis for inclusion of certain Inferred Mineral Resource material in both the FS Mine Model and the Updated Mine Plan, at this time whilst remaining within suitable evaluation level tolerances. To further test its basis, Galena ran the financial model on a check scenario assuming a zero grade for any Inferred Mineral Resource material in the FS Mine Model and the Updated Mine Plan, that produced a substantial positive NPV outcome in both cases.

**Forward looking statements** - The contents of this presentation reflect various technical and economic conditions at the time of writing. Given the nature of the resources industry, these conditions can change significantly over relatively short periods of time. Consequently, actual results may vary from those in this presentation.

Some statements in this presentation regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as “planned”, “expected”, “projected”, “estimated”, “may”, “Scheduled”, “intends”, “anticipates”, “believes”, “potential”, “predict”, “foresee”, “proposed”, “aim”, “target”, “opportunity”, “could”, “nominal”, “conceptual” and similar expressions.



## Disclaimer (continued)

**Forward looking statements (continued)** - Forward-looking statements, opinions and estimates included in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements are provided as a general guide only and should not be relied on as guarantee of future performance. Forward-looking statement may be affected by a range of variables that could cause actual results to differ from estimated results and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. So there can be no assurance that actual outcomes will not materially differ from these forward-looking statements.

**Competent Person's statement** - The information in this report related to the Abra Ore Reserve is based on work completed by Mr Roger Bryant, BEng (Mining, Member AUSIMM). Mr Bryant was an employee of Galena Mining Ltd at the time the Ore Reserve was prepared. Mr Bryant has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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 Bryant consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report related to the Abra April 2021 Resource and underpinning the production target is based on work completed by Mr Angelo Scopel BSc (Geol), MAIG, a fulltime employee of Galena Mining and Mr Mark Drabble B.App.Sci. (Geology), MAIG, MAusIMM, Principal Consultant at Optiro Pty Ltd. Mr Scopel was responsible for data review and QAQC, and. Mr Drabble was responsible for the development of the geological model, resource estimation, classification and reporting. Mr Scopel and Mr Drabble 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 Scopel and Mr Drabble consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report to which this statement is attached that relates to exploration results and drilling data is based upon information compiled by Mr Angelo Scopel BSc (Geol), MAIG, a fulltime employee of Galena Mining. Mr Scopel has 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 Scopel consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

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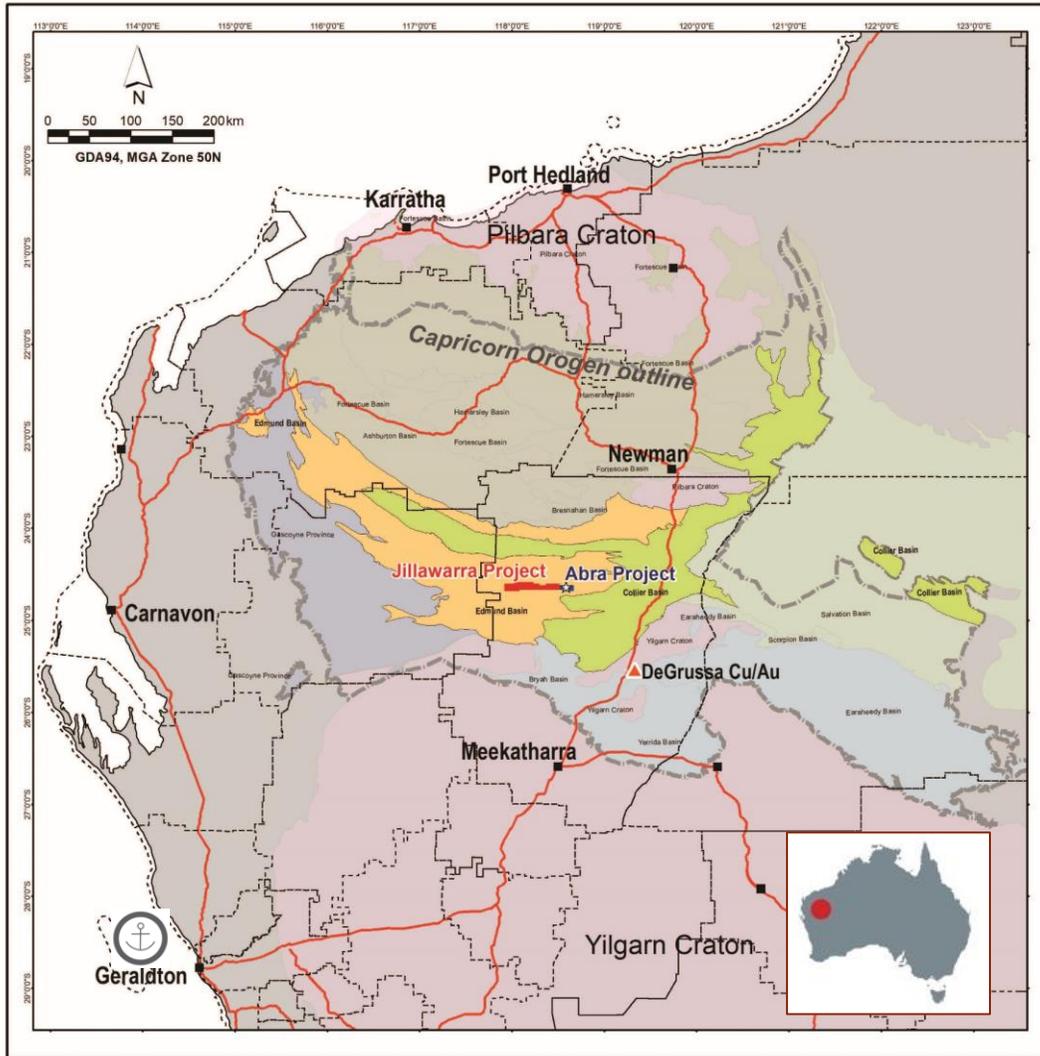
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# Building a New Mine in a New Mineral Province in WA



- The Abra mine is located within Edmund sedimentary basin in the Gascoyne region of WA
- Granted Lease's with all major permits and native title arrangements in place. Construction nearing completion
- High-grade lead-silver concentrate will be trucked to Port of Geraldton in sealed half-height containers, on existing roads
- Port of Geraldton capacity & access contract in place. Port has all permits and infrastructure required to handle Abra's product (it currently handles similar product for other producers)



# Abra Mine

1. Project build 87% complete with first concentrate production on schedule for Q1, 2023<sup>1</sup>
2. Is one of the cleanest & largest undeveloped lead deposits in the world
3. Abra will produce high grade, high value lead-silver concentrate with 1/10<sup>th</sup> typical deleterious elements
4. JV between Galena 60% & Toho 40% underpins long mine life (13+ years) in exciting new mineral province in WA<sup>2</sup>
5. Toho is largest refined lead supplier into strong & established Japanese market (Chigirishima smelter and refinery, Hiroshima)
6. Galena has 10-year offtake agreement finalised with IXM<sup>3</sup>
7. Project is fully funded, with a A\$30M Unsecured Reserve Facility (URF) in place for working capital risk during ramp up in early 2023<sup>4</sup>
8. Steady state mill throughput of 1.3Mtpa producing 93ktpa lead and 553kozpa<sup>5</sup>
9. Average annual EBITDA of A\$100M<sup>5</sup>
10. Exciting exploration ground with known copper-gold mineralisation below the Abra lead-silver deposit

Notes: 1. See Galena ASX announcement of 17 October 2022 (Abra Construction at 87% Complete - Starts Commissioning)

2. See Galena announcement of 1 April 2019 (Toho Transaction Update)

3. See Galena announcement of 24 October 2019 (Galena Offtake Agreement with IXM)

4. See Galena ASX announcement of 26 July 2022 (Galena Successfully Raises \$17M)

5. See Galena ASX announcement of 25 July 2022 (Re-Release: Abra Initial Production Guidance)





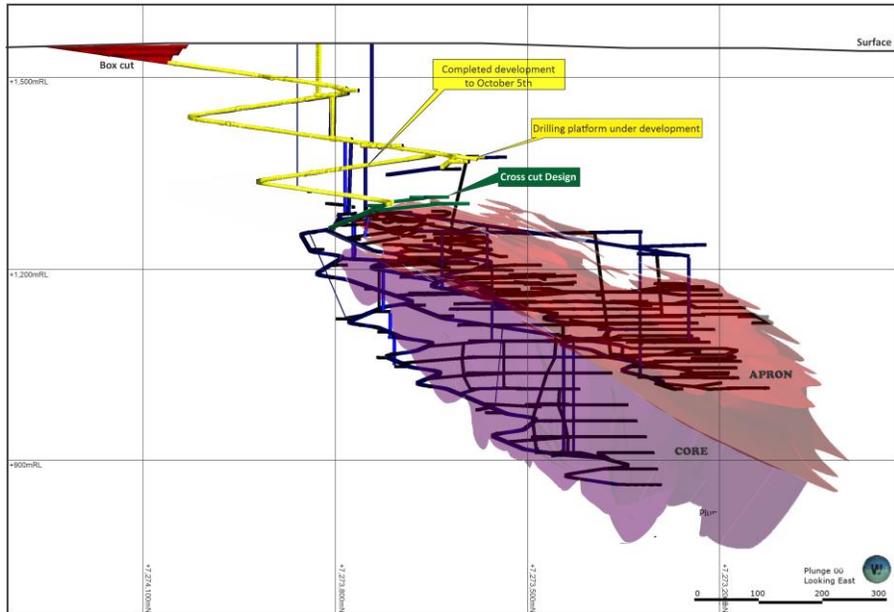
# Abra Lead/Silver Mine is 87% Built<sup>1</sup>





# Underground Development

- First Cut on 5<sup>th</sup> October 2021
- Development to date 2,470m (September)
- Ongoing grade control drilling – Upper Apron (2023 production area)
- First development ore target November 2022



Abra Mine Schematic (September 2022)



Abra Box-Cut, October 2022



# Abra Processing Facility

- 1.3Mtpa plant, 95% complete (GRES)
- All key equipment on site
- On target for first ore in January 2023
- Power on end of October
- Crushing & milling sections dry commissioning October/November
- Metallurgical testing confirms high recoveries – 94% used in FS recovery work
- Conventional 3-stage crushing, grinding, flotation and filtration



*Processing Plant Construction - September 2022*



# Lead Demand

1. In 2021 the global lead consumption for refined lead was 13.1Mtpa<sup>1</sup>
2. Global lead demand forecast to grow by 2.0% pa over the long-term period to 2040 (driven by developing countries)<sup>1</sup>
3. 87% of refined lead is used in batteries, 65% are automotive batteries with 50% being replacement and 15% new
4. ~400 million lead-acid batteries produced each year supplying 1.4 billion vehicles worldwide (1 for every 7 humans)
5. Every vehicle, including the large majority of EV's require 12V lead-acid batteries for key safety and control functions (cheap & reliable)
6. Start-stop technology and Hybrid options are increasing market penetration (Hybrids deliver 70% less emissions for 30% less cost)
7. Increasing demand for large Battery Energy Storage Systems (BESS) associated with solar & wind energy generation and high tariff grid exposure

12V lead-acid battery in a Kia Soul EV



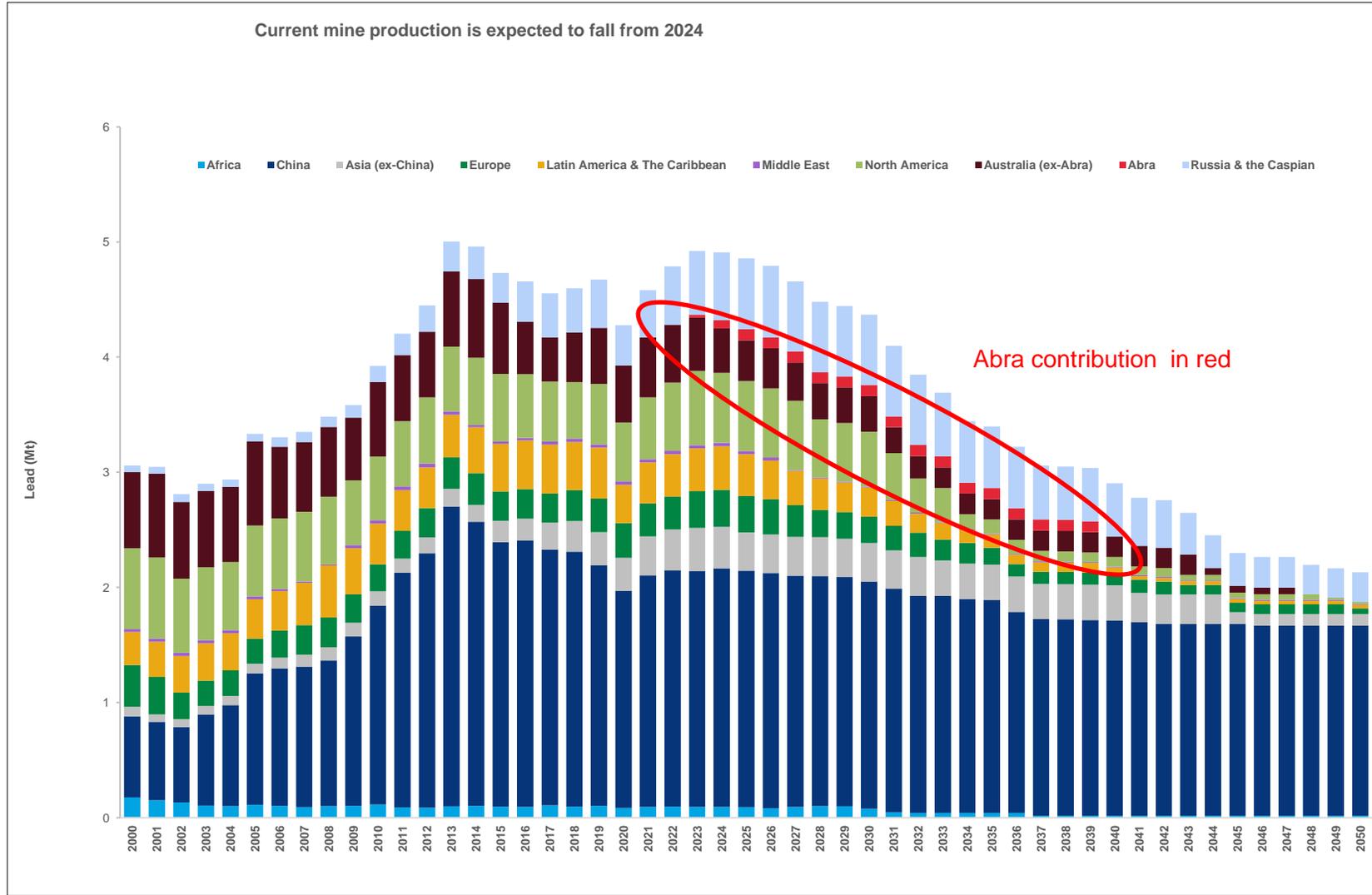
*Galena strongly supports the ongoing elimination of lead-bearing petrol fumes and lead based paint*

Notes: 1. Global Lead Strategic Planning Outlook – Q1 2022 (Wood Mackenzie)



# Lead Supply

1. Global mined lead production is forecast to supply a modest increase from 4.6Mtpa to 4.8Mtpa by 2026 (Including Abra). Reserve depletion and the lack of new mines is generating a deficit outlook beyond 2024<sup>1</sup>
2. Galena is very supportive of increasing lead recycling (currently over 55% worldwide)
3. European smelters under pressure due to surging power prices (Glencore reviews lead operations at Italian plant, Portovesme<sup>2</sup>)

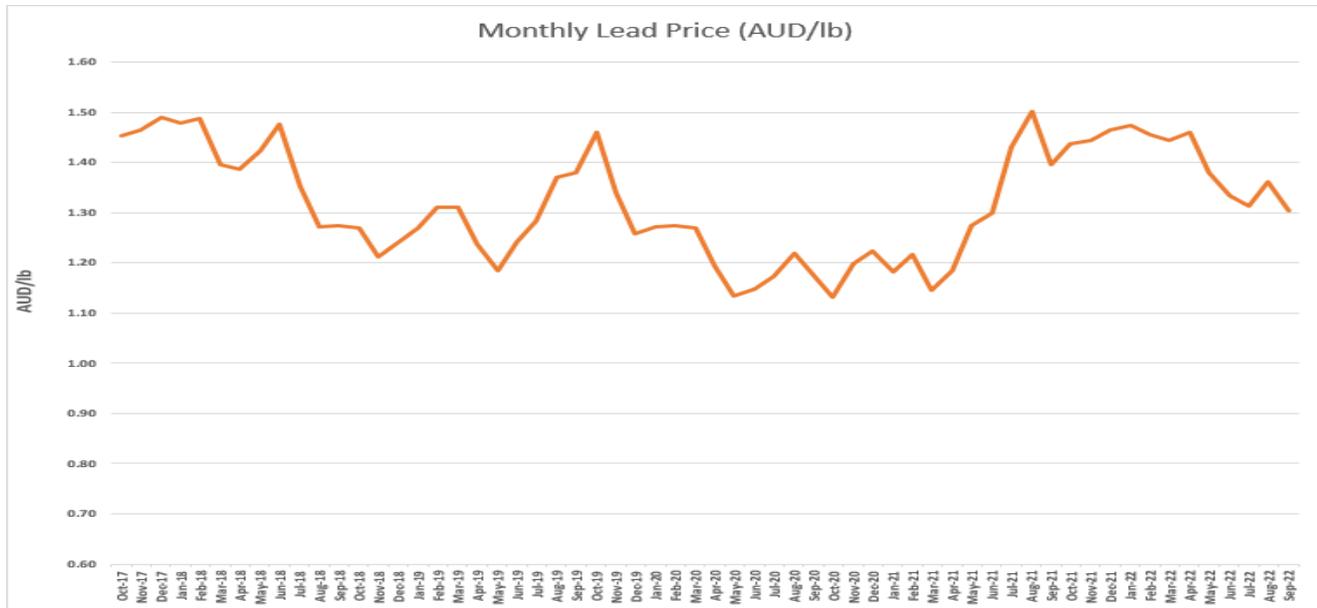
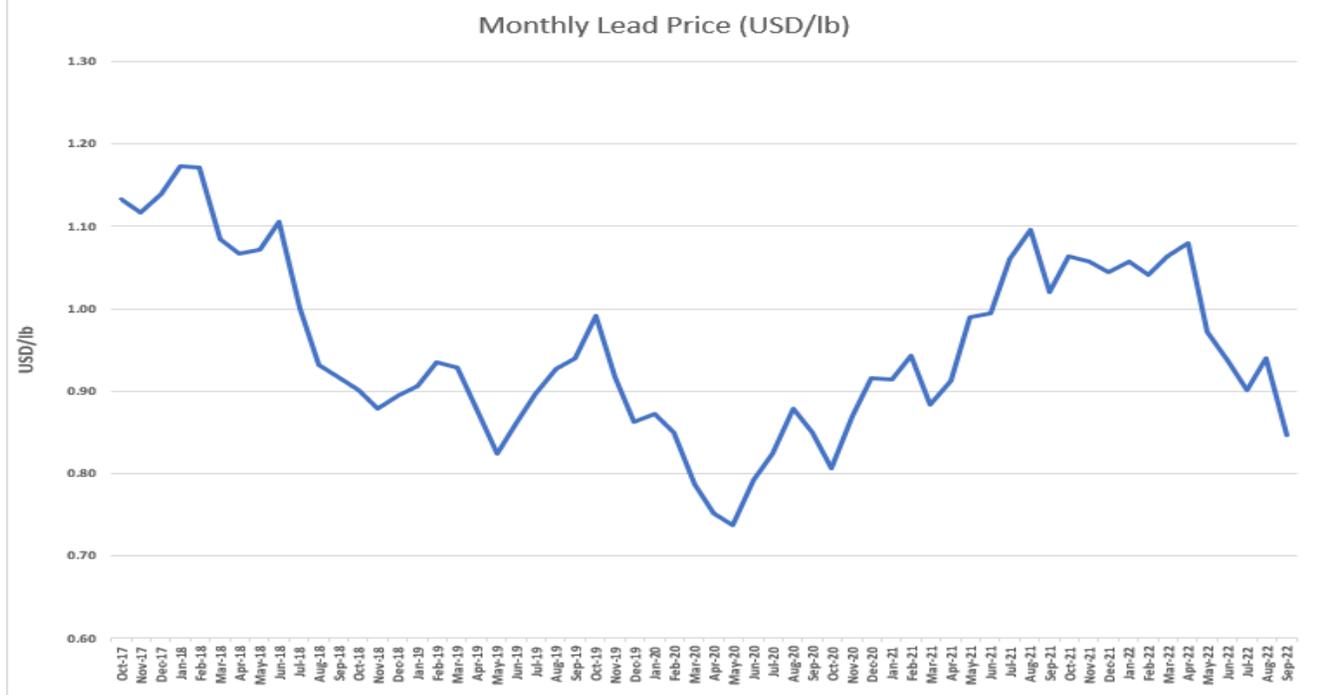


Notes: 1. Global Lead Strategic Planning Outlook – Q1 2022 (Wood Mackenzie)  
 2. Reuters September 29, 2022



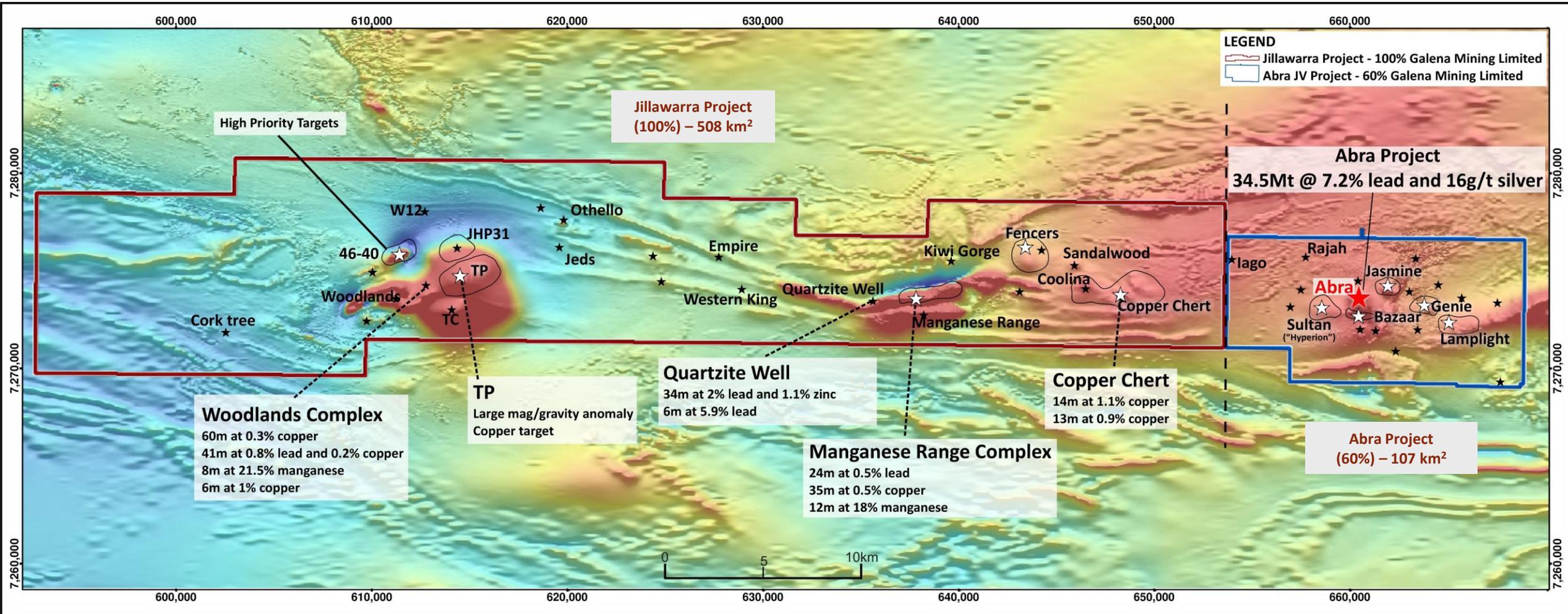
# Lead Price

- A\$ Lead price offers some stability in commodity price in relation to the exchange rate
- Prices & Stocks, Oct 2017 – Oct 2022 (5 years)





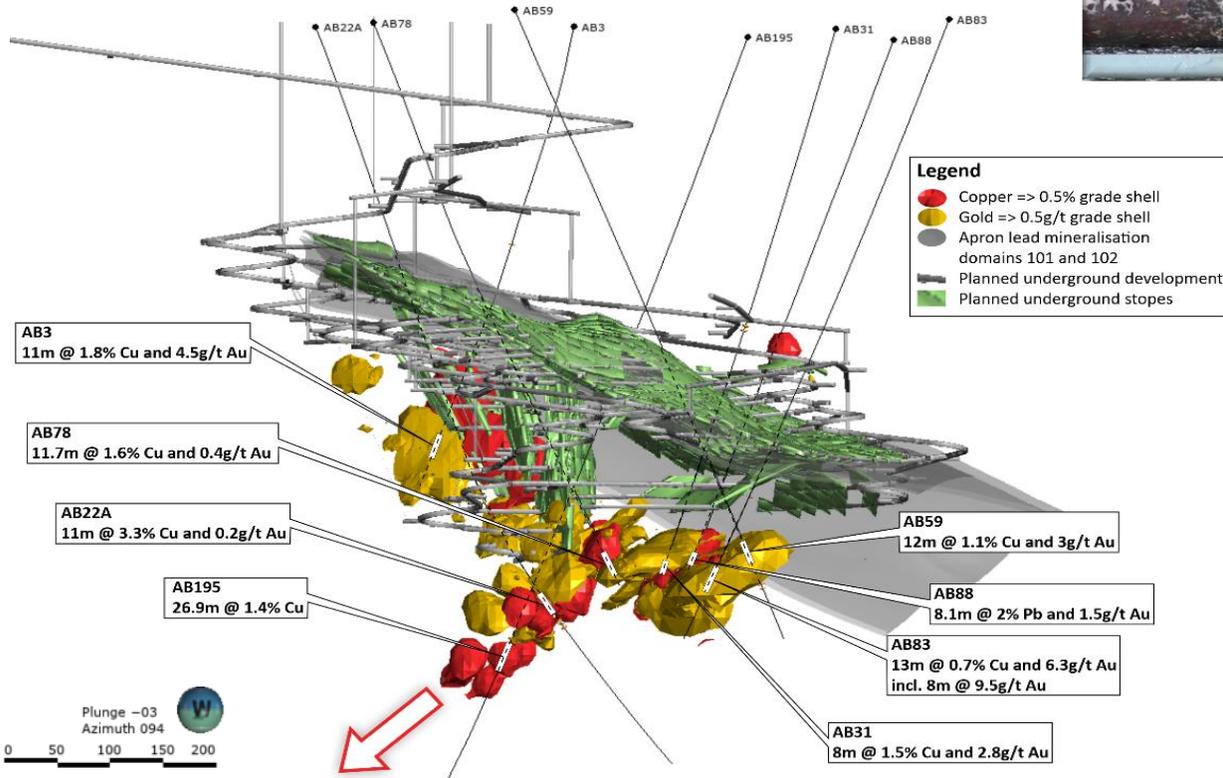
# Mine Being Built Within Potential “Cluster” of Deposits



For more detail please reference G1A Investor Update – August 2021, slides 16 to 19 (ASX: 2 Aug 2021)



# Copper - Gold



**First ever hole specifically targeting copper and gold, (AB195) provided assay results in February 2021 delivering multiple copper and gold intersections**

- Significant intersection showing massive and disseminated chalcopyrite between 360m to 795m down-hole
  - 3.0m @ 4.2g/t gold and 1.1% copper from 671m
  - 1.7m @ 6.9% copper from 698m
  - 8.9m @ 2.3% copper from 773m
  - 26.9m @ 1.4% copper from 764m, including 0.8m at 8.5% copper from 773m
- Down-hole EM survey of AB195 (August 2021) completed identifying several targets for drill testing to be done from underground drill platforms

### Notes

- See Galena ASX announcement of 22 February 2021 (first Targeted Copper-Gold Hole at Abra Hits 26.9m @ 1.4% Copper)



# Updated Mine Plan & Production Guidance<sup>1</sup>

<b>Initial Mine Life</b>  <b>13 Years</b>	<b>Lead Grade Mined</b>  <b>7.6%</b>	<b>Silver Grade Mined</b>  <b>16.6 g/t</b>	<b>Mill Throughput</b>  <b>0.8-1.0 Mtpa</b> CY2023  <b>1.3 Mtpa</b> Annual Steady State
<b>Lead Metal Production</b>  <b>53-68 ktpa</b> CY2023  <b>93 ktpa</b> Annual Steady State	<b>Silver Metal Production</b>  <b>325-425 kozpa</b> CY2023  <b>553 kozpa</b> Annual Steady State	<b>C1 Direct Cash Cost<sup>2</sup></b>  <b>US\$0.50-0.65/lb</b> CY2023  <b>US\$0.50/lb</b> Annual Steady State	<b>EBITDA<sup>3</sup></b>  <b>A\$45-55M</b> CY2023  <b>A\$100M</b> Annual Steady State

## Notes

1. See Galena ASX announcement of 25 July 2022 (Re-Release: Abra Initial Production Guidance)
2. Includes a by-product credit for net silver revenue of US\$0.04/lb (A\$0.06/lb).
3. Assumes a lead metal price of US\$0.90/lb and AUD:USD exchange rate of 0.68



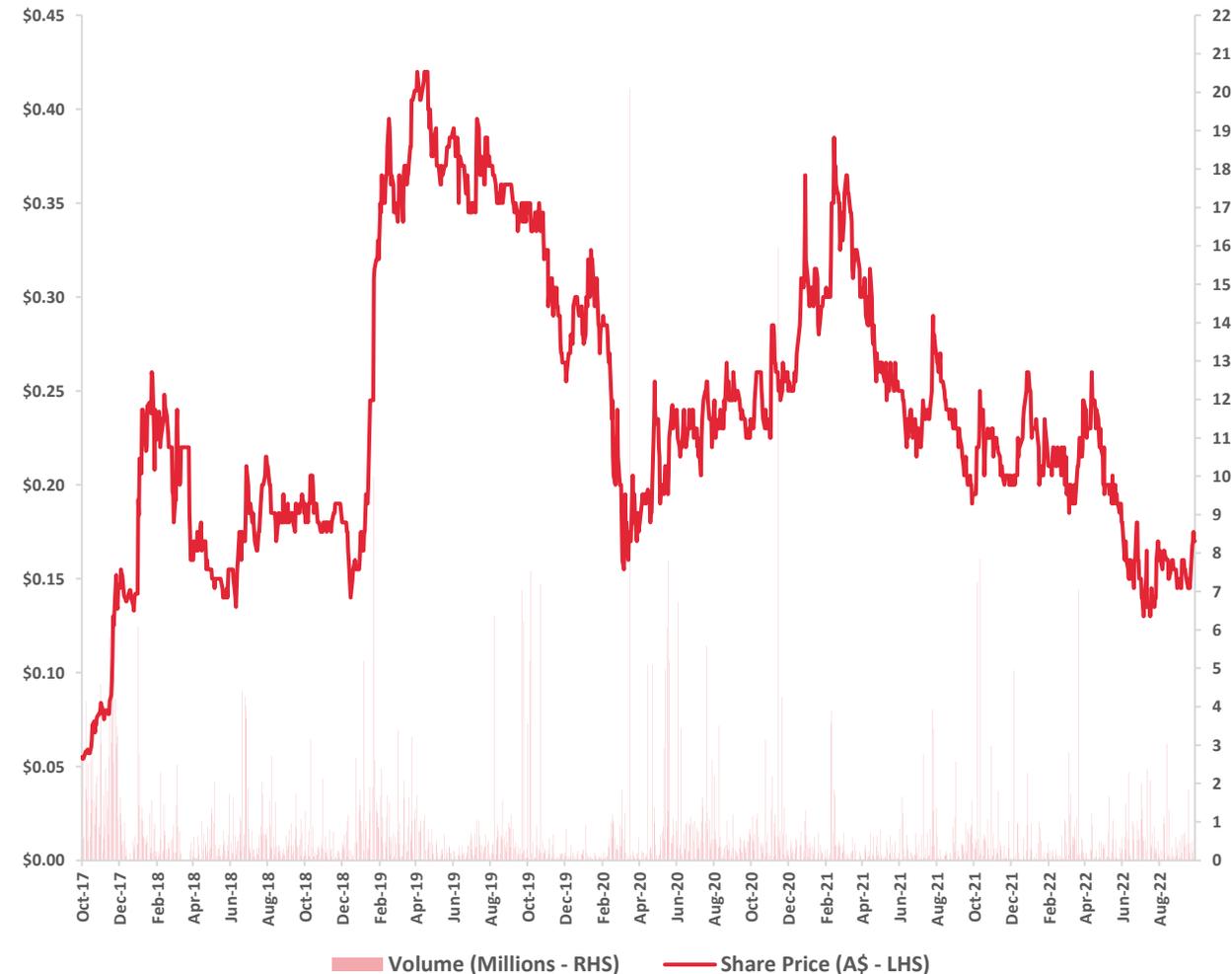
## CAPITAL STRUCTURE As at 30 September 2022

Shares on issue	614M
Options/rights <sup>1,2,3</sup>	26M
Share price A\$	15.0c
Market capitalisation A\$	92M
Cash A\$	60M
Debt A\$ - US\$125M Taurus debt fully drawn <sup>4</sup>	195M

Notes: **(1)** Options on issue pursuant to Placement in 2019 comprised 1.25M having an exercise price of \$0.50 and expiry date of 26 March 2023, 1.25M having an exercise price \$0.60 and expiry date of 26 March 2023, 1.25M having an exercise price of \$0.50 and expiry date of 17 April 2023 and 1.25M having an exercise price of \$0.60 and expiry date of 17 April 2023. **(2)** 18.5M contingent performance rights for Directors & Executives. **(3)** 2.5M employee share appreciation rights. **(4)** Converted using AUD:USD FX rate of 1.00:0.64.



### ASX: G1A Share Price History





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Thankyou

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*Additional Information*

Tony James  
19 October, 2022



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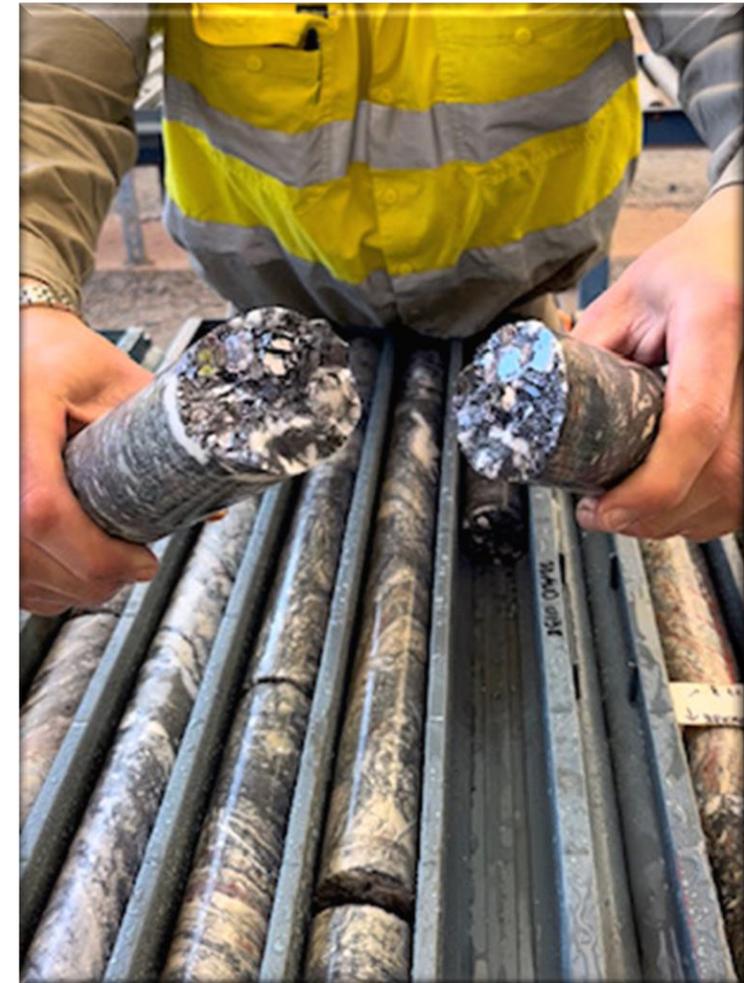
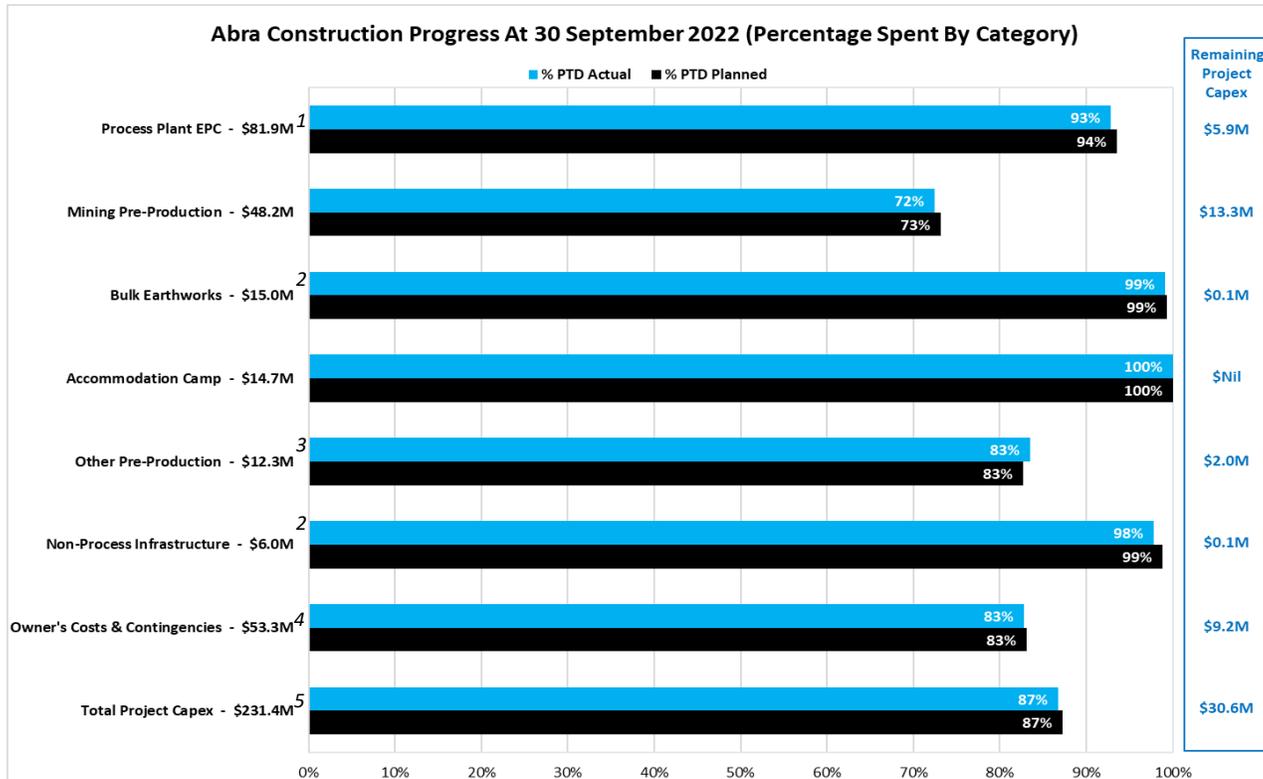


# Abra Project Timeline





# Abra Construction Progress (30 September 2022 – 87% Complete)<sup>1</sup>

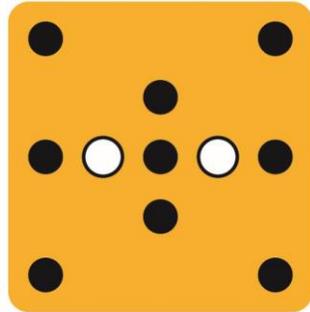


Notes: (1) Process Plant EPC planned spend is based on the initial estimated planned spend at the commencement of the project and remains slightly ahead of actual spend, even though the processing plant infrastructure work completed remains ahead of the most recent planned work schedule. (2) TSF and NPI construction works were intentionally delayed until the finalisation of designs and award of construction contracts and have now recommenced. (3) Other Pre-Production includes water supply & recovery, vehicles & mobile equipment, initial fills & spare parts, shire road maintenance, paste fill plant acquisition and construction indirect costs. (4) Owner's Costs & Contingencies includes employee & contractor, flights, accommodation, fuel, site management and general & administration costs as well as additional owner's contingencies on the remaining project capex. (5) Total Project Capex includes expenditure from the commencement of the project in July 2019 through to planned practical completion of the process plant in January 2023. As at 30 September 2022, a total of \$200.7M had been spent and the total remaining project capex was \$30.6M.

Notes: 1. See Galena ASX announcement of 17 October 2022 (Abra Construction at 87% Complete - Starts Commissioning)



# Key Contractors & Service Providers

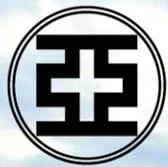


**BYRNECUT**



**GR ENGINEERING SERVICES**  
ENGINEERING CONSULTANTS AND CONTRACTORS



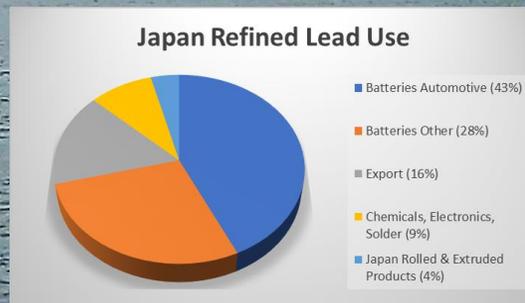


# 東邦亜鉛株式会社 TOHO ZINC CO., LTD.

2019 – **Abra JV**  
 2010's – Open Rasp mine in NSW(2012), **Acquire 100% CBH Resources**  
 2000's – **CBH Resources Ltd, Australia**. Silver upgrade Chigirishima  
 – Tianjin & Gunma Kankyo Lead recycling JV's  
 1990's – JV Dalian Jingya & Guang Ming Co electric components  
 1980's – Annaka Cadmium Oxide smelter & refinery  
 1970's – Lead sound insulation boards, SOFT CALM  
 1960's – Onahama Zinc & Fujioka Iron smelters & refineries established  
 – Gran Bretana mine Peru & Qaleh Zari mine Iran  
 1950's – **Chigirishima** converted from Copper to Lead smelter & refinery  
 1930's – **Toho Zinc Co established** from Japan Zinc Smelting Co

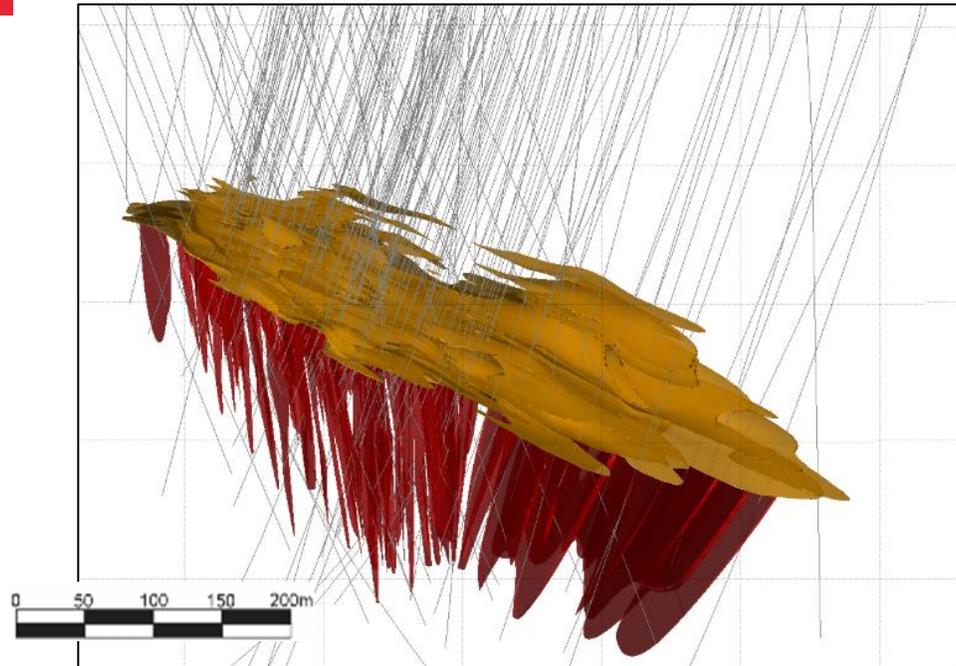
Japan contributes 2% of worlds refined lead production (230-250ktpa)  
 Toho top producer in Japan domestic market (100ktpa refined Lead)  
 Toho imports 140-160ktpa Lead concentrate to Chigirishima

TOHO investment in Abra		
Concentrate Supply	Abra	Typical Other
Time frame	13+ years	
Qty	Min 50ktpa	
Lead grade	75 %	55 - 65 %
Silver grade	129 g/t	100 - 2,000 g/t
Deleterious Elements (DE)	1/10 <sup>th</sup> DE	DE



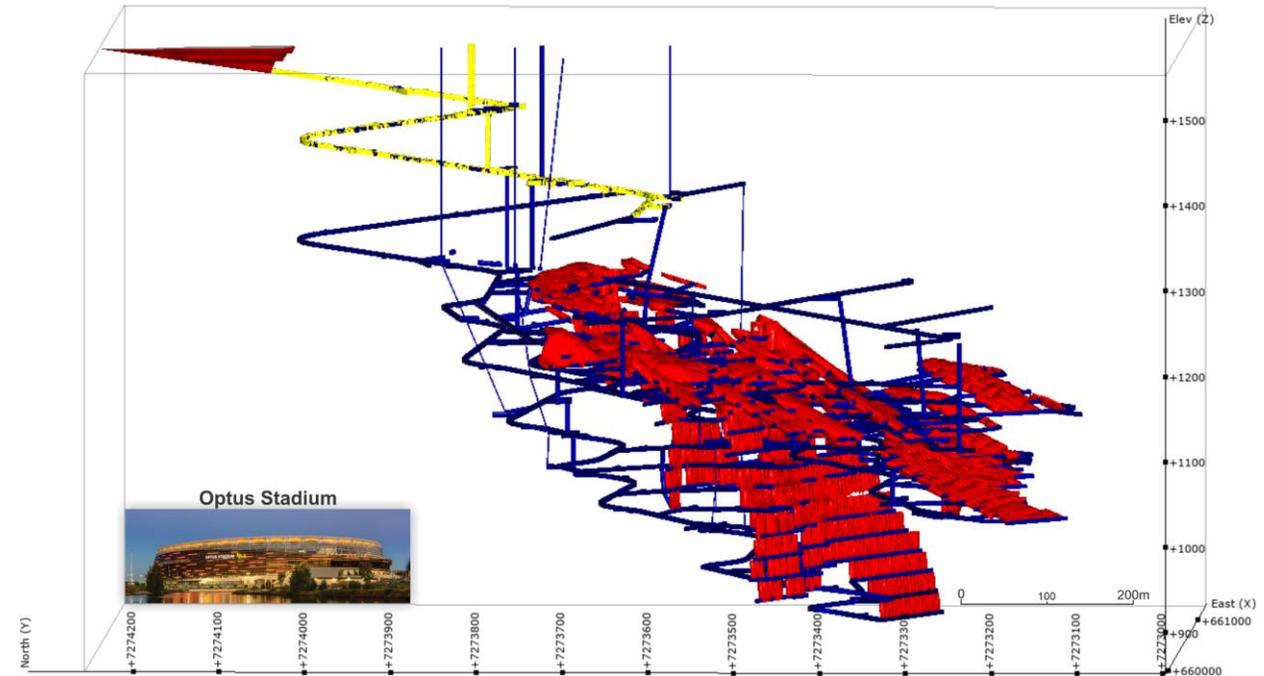


# Abra Mineral Resource & Updated Mine Plan



<b>JORC Mineral Resource estimate (April 2021 Resource) at a 5% lead cut-off grade<sup>1</sup></b>			
<u>Resource classification</u>	<u>Tonnes (Mt)</u>	<u>Lead grade (%)</u>	<u>Silver grade (g/t)</u>
Indicated	16.9	7.4	17
Inferred	17.5	7.0	15
<b>Total</b>	<b>34.5</b>	<b>7.2</b>	<b>16</b>

Notes: 1. For more detail on Mineral Resource Estimate please see Galena ASX announcement of 28 April 2021.



<b>Updated Mine Plan – Production metrics<sup>2</sup></b>	
Mill throughput	1.3Mtpa
Initial mine life	13-years
Average LOM lead metal production	93ktpa
Average LOM silver metal production	553kozpa

Notes: 2. For more detail please see Galena ASX announcement of 25 July 2022 (Updated Mine Plan)



# Abra Processing & Concentrate Production

- Metallurgical testing confirms high recoveries – 94% used in FS recovery work
- Conventional 3-stage crushing, grinding, flotation and filtration
- Product to be highest grade primary lead concentrate available globally – 75% lead and 80 - 200g/t silver
- 40% of concentrate production to Toho Zinc on benchmark terms
- 60% of concentrate being Galena portion committed to IXM under 10-year contract providing a significant premium to benchmark (high quality concentrate)



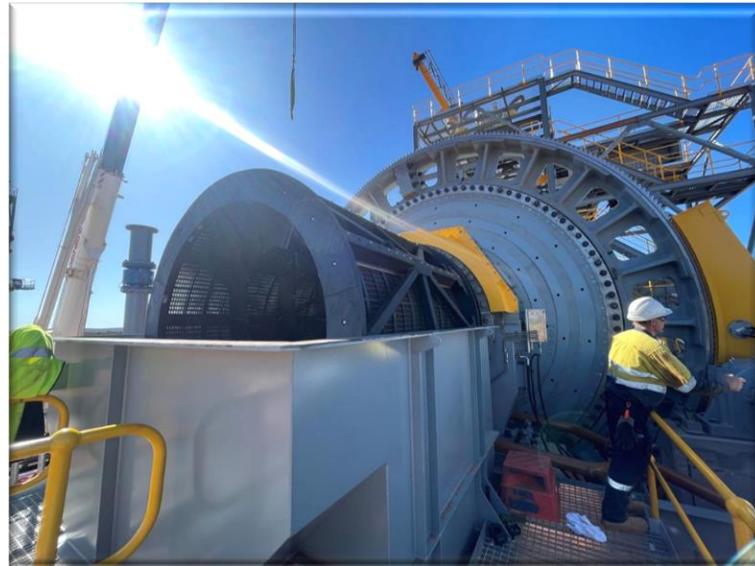
*Flotation Test Work.*



16,000 solar panels installed



Grinding, Flotation & Filtering Sections



Mill Discharge Assembly



Mill Pinion & Girth Gear



*Grade Control Drill Core*



*Mine Administration Building & Processing Plant*



*Abra Village With Mine in Background*



*TSF, Power Station & Processing Plant, October 2022*



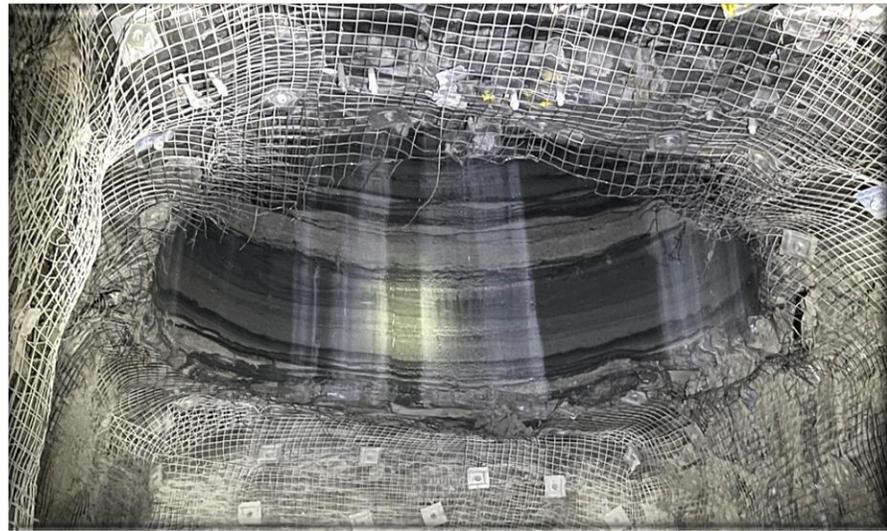
*Processing Plant & Boxcut, October 2022*



*Underground Decline Development*



*Underground pump station*



*6m Diameter Ventilation Shaft*



*Boxcut, October 2022*



*Surface Infill drilling, 2020*



*Abra airstrip, July 2022*



*Underground drilling, 2022*



# Updated Mine Plan & 2023 Production Guidance<sup>1</sup>

- Abra Project construction is now 83% complete<sup>2</sup>
- Galena confirms first concentrate production remains on-target for Q1 2023 and provides initial production target for CY2023 and an Updated Mine Plan

	Updated Mine Plan Production Guidance CY2023	Updated Mine Plan Average Annual Steady State
Initial Mine Life		13 Years
Mill Throughput	0.8-1.0 Mtpa	1.3 Mtpa
Lead Grade Mined	7.6%	7.6%
Silver Grade Mined	16.6 g/t	16.6 g/t
Lead Metal Production	53-68 ktpa	93 ktpa
Silver Metal Production	325-425 kozpa	553 kozpa
Lead C1 Direct Cash Cost <sup>2</sup>	US\$0.55-0.65/lb	US\$0.50/lb
Average Annual EBITDA	A\$45-55M	A\$100M
Lead Metal Price <sup>3</sup>	US\$0.90/lb	US\$0.90/lb
Exchange rate – US\$ per A\$ <sup>3</sup>	0.68	0.68

*Table Notes*

2. Includes a by-product credit for net silver revenue of US\$0.04/lb (A\$0.06/lb).

3. Current Lead metal price and exchange rate.

Notes: 1. For more detail please see Galena ASX announcement of 25 July 2022 (Re-Release: Abra Initial Production Guidance)

2. See Galena ASX announcement of 16 September 2022 (Abra Construction 83% Complete at end of August)