ASX ANNOUNCEMENT
25 July 2022 **ASX: G1A**

RE-RELEASE: ABRA INITIAL PRODUCTION GUIDANCE

HIGHLIGHTS

- **Abra Project construction is now 75% complete – Galena confirms first concentrate production remains on-target for Q1 2023 and provides initial production targets based on latest mine plan**
- **CY2023 mill throughput expected to be 0.8-1.0Mtpa resulting in ramp-up year lead production of 53-68kt**
- **Following ramp-up, life of mine average annual production expected to average 93,000 tonnes of lead and 553,000 ounces of silver, with lead 'C1' direct cash cost of US$0.50/lb**
- **Plant processing throughput and mine plan increased to 1.3Mtpa in the current mine plan (vs. 1.2Mtpa in 2019 Feasibility Study)[1]**

GALENA MINING LTD. ("**Galena**" or the "**Company**") **(ASX: G1A)** advises that the announcement titled "Abra Initial Production Guidance" dated 21 July 2022 has been re-released to include additional information required by the ASX Listing Rules relating to the initial production guidance and other information contained therein.

Galena is pleased to provide initial production guidance for its 60%owned Abra Base Metals Mine ("**Abra**" or the "**Project**") having achieved the construction milestone of 75% complete. The guidance for the CY2023 ramp-up year and future life of mine averages are based on the most recently updated mine plan incorporating updated mine designs and the latest cost information.

Managing Director, Tony James commented, ***"With first concentrate production on target for the March 2023 quarter, we provide this update on near-term and life of mine plan and targets. During the construction period of the project, we have worked very closely with our partner Toho Zinc and our key service providers to reach the 75% build mark. For the remainder of 2022 we plan to safely complete the mine construction and commission Abra as a world-class lead-silver mine."***

The guidance provided today is based on the knowledge and confidence gained from additional drilling, Mineral Resource estimation, and advancing construction at Abra, and preparation for commissioning ahead of a planned safe and efficient start-up.

Grade control drilling commenced in June 2022 and ongoing drilling and evaluation over the next 3 months will likely offer further opportunity for additional optimisation of the mine plan.

The forecast life of mine production now averages 93,000tpa lead metal production and 553,000ozpa silver. An 8% increase in mine and mill production is offset by a 6% reduction in lead grade to produce slightly less metal in direct comparison to the 2019 Feasibility Study

("**FS**")[1]. A suitable ramp up profile has been adopted for the CY2023 prior to reaching steady state production which is anticipated to occur in the December quarter 2023.

Note: 1 – Refer to ASX announcement "Galena Delivers Outstanding Feasibility Study for Abra Base Metals Project" dated 22 July 2019.

Updated Mine Plan – Cautionary statement

The Updated Mine Plan Model (defined below) includes a mix of material taken from Indicated Mineral Resources (66%) and Inferred Mineral Resources (34%), with no reduction factor 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 distribution. This may affect mining performance and outcomes (including economic) from those outlined in 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 the Updated Mine Plan Model (defined below) at this time, whilst remaining within suitable evaluation level tolerances. To further test its basis, Galena ran the Updated Mine Plan financial model on a check scenario assuming a zero grade for any Inferred Mineral Resource material in the Updated Mine Plan Model and that produced a substantial positive NPV outcome.

Galena believes the production target, forecast financial information derived from that target and other forward-looking statements included in this announcement are based on reasonable grounds.

Some key steps are still to be completed to bring Abra into production. 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 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. 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 complete the development of the Project as per the assumptions set out in the updated Mine Plan may require additional capital. Investors should note that any failure to precure the required additional capital may result in a delay, change in nature and scale, or even suspension of the Project.

OVERVIEW OF KEY UPDATED MINE PLAN OUTCOMES

Abra is a globally significant lead-silver deposit, located in the Gascoyne region of Western Australia. The mine is under full construction and has reached 75% construction completion and will commence first concentrate production in March quarter CY2023. The Updated Mine Plan confirms the strong projected economic returns for the development of the Mine as a combined underground mine and conventional flotation concentrator to produce a high-value, high-grade lead-silver concentrate.

Table 1 below outlines the current expected production forecast for CY2023 and the Updated Life of Mine outcomes in direct comparison the FS completed in 2019.

Key Outcomes[1]	Updated Mine Plan Production Guidance CY2023	Updated Mine Plan Average Annual Steady State	2019 Feasibility Study Average Annual Steady State
Initial Mine Life		13 Years	16 Years
Mill Throughput	0.8-1.0 Mtpa	1.3 Mtpa[2]	1.2 Mtpa
Lead Grade Mined	7.6%	7.6%	8.1%
Silver Grade Mined	16.6 g/t	16.6 g/t	20.2 g/t
Lead Metal Production	53-68 ktpa	93 ktpa	95 ktpa
Silver Metal Production	325-425 kozpa	553 kozpa	805 kozpa
Lead C1 Direct Cash Cost[3]	US$0.55-0.65/lb	US$0.50/lb	US$0.44/lb
Average Annual EBITDA	A$45-55M	A$100M	A$114m
Lead Metal Price[4]	US$0.90/lb	US$0.90/lb	US$0.92/lb
Exchange rate – US$ per A$1[4]	0.68	0.68	0.70

Table Notes

1. *Key outcomes and metrics shown reference 100% of Project. Abra Project is owned 60% by Galena & 40% by Toho Zinc.*
2. *Updated Mine Plan (defined below) includes both Indicated Mineral Resources (66%) and Inferred Minerals Resources (34%), with no reduction factor 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 update will convert Inferred Mineral Resources material into Indicated Mineral Resources or return the same grade and tonnage distribution.*
3. *Includes a by-product credit for net silver revenue of US$0.04/lb (A$0.06/lb).*
4. *Current lead metal price and exchange rate.*

Table 1: Updated Abra key operating and financial metrics

The Abra mine construction is progressing as planned. Progress reached 73% complete as of 30 June 2022 and has since past 75% complete. Processing plant construction activities reached 79% complete with concrete civils passing 95% complete and structural steel passing 42% complete. During June and early July several key equipment items arrived on site and the only remaining items coming from overseas are the flotation cells and the regrind mill. These items are currently in shipping with the flotation cells expected to arrive on 12 August and the regrind mill expected to arrive on 1 September.

Figure 1 - Abra site with solar farm and village in background (looking west).

SUMMARY OF UPDATED MINE PLAN

Background Information and Work Completed Since 2019. The detail associated with the various work programs and contracts completed since 2019 provide the basis for the information used in the Updated Mine Plan (July 2022)

Abra is a globally significant lead-silver project located in the Gascoyne region of Western Australia. AMPL owns 100% of the Project, which was discovered in 1981 and has been the subject of historical and modern exploration, and previous scoping-level, PFS, and FS studies. There has been no previous mining activity at the Project and the deposit does not outcrop.

AMPL is owned 60% by Galena and 40% by Toho and is subject to a Joint Venture Shareholders Agreement.

The Mine is located within the granted mining lease M52/776 and AMPL has received all necessary major permits from the Western Australian Department of Water and Environment Regulation and Western Australian Department Mines, Industry Regulation and Safety to commence construction. Abra is also subject to an existing Indigenous Land Use Agreement and Heritage Agreement with the Jidi Jidi Aboriginal Corporation, the relevant native title claimant group. (*Refer to ASX announcement "Major Approvals for Abra Concluded" dated 3 July 2019).*

AMPL completed a FS for the project in 2019, confirming the completion of a technical feasibility study with low risk and strong projected economic returns for the development of Abra as a combined underground mine and conventional processing facility (flotation concentrator) to produce a high-value, high-grade lead-silver concentrate. (*Refer to ASX announcement "Galena Delivers Outstanding Feasibility Study for Abra Base Metals Project" dated 22 July 2019).*

Between April 2019 and August 2019, AMPL successfully completed the projects "development drilling program" consisting of 43 diamond core drill holes increasing the total drilling associated with the project by 30%+. (*Refer to ASX announcement "High-Grade results Continue as Abra Drilling Completes" dated 14 August 2019, and "Final Assays for 2019 Abra Drilling Include More High-Grade Lead Intersections" dated 13 September 2019).*

AMPL commenced early site construction works in October 2019 establishing site access, sewage, and water services and camp construction. (*Refer to ASX announcement "Project Construction Commences at Abra" dated 3 October 2019)*.

Following on from the 2019 "development drilling program" the Company revised its Mineral Resource Estimate to 41.1Mt at 7.3% lead and 18 g/t silver. (*Refer to ASX announcement "Galena Upgrades Abra Resource" dated 17 October 2019).*

Galena confirmed in October 2019 it had finalised an offtake agreement for its share of the concentrate (60%) that would be produced from Abra with international trading Company, IXM for the first 10 years of production. (*Refer to ASX announcement "Galena Offtake Agreement with IXM" dated 24 October 2019).*

In January 2020 AMPL commenced the construction of the Box-Cut at the mine which was required for the commencement of underground development to access the orebody. (*Refer to ASX announcement "Construction of Abra Box-Cut Commenced" dated 30 January 2020).*

GR Engineering Services ("**GR Engineering**") were awarded the engineering, procurement, and construction contract for a 1.2 million tonne per annum lead sulphide flotation processing plant and associated surface infrastructure in early 2020. (*Refer to ASX announcement "*

Abra Plant EPC Awarded" dated 10 February 2020).

Significantly in July 2020, AMPL mandated Taurus Funds management Pty Ltd ("**Taurus**") to provide US$110 million in project financing debt facilities for the project. The approval of the Taurus Debt facilities by joint venture partner Toho Zinc also triggered the release of the final A$60 million investment being made by Toho Zinc. The Financing debt Facility was executed in November 2020. (*Refer to ASX announcements "US$110M Debt Facilities for Galena's Abra project" dated 29 July 2020, and Abra US$110 Project Financing Debt Facility Agreements Executed" dated 12 November 2020).*

In August 2020, the Company commenced an additional diamond drilling program that had some specific objectives in bringing forward some of the required infill drilling that would further tighten the drill hole spacing over the first four years of production proposed in the FS, carry out some additional drilling in some identified metal rich zones and complete some gold-copper exploration. The first objective of the drilling program at the time was to meet the condition of drawing US$70 million of the US$100 million Taurus Project Finance facility. *(Refer ASX announcements "Galena Commences Drilling at Abra" dated 4 August 2020, "US$110M Debt Facilities for Galena's Abra project" dated 29 July 2020, and "Galena Gold & Copper Mineralisation/Exploration Update" dated 29 June 2020).*

An important part of the Abra mine build and the ongoing operating strategy and cost profile was the finalisation of the sites power supply arrangements. In February 2021 AMPL finalised the Power purchase Agreement with Contract Power Australia Pty Ltd ("**Contract Power**"). Contract Power were engaged to build, own, and operate an integrated hybrid power generation facility combining a 10MW natural gas fired power station, a 6MW solar array, 2MW of battery energy storage and a 900Kl LNG storage and regasification facility. The power will be purchased by Abra for an initial erm of 16 years with extension provisions. *(Refer ASX announcement "Execution of Abra power purchase Agreement" dated 17 February 2021).*

The additional drilling program that commenced in August 2020 was completed in early 2021 with an additional 57 diamond core drill holes being completed. In April 2021 Abra updated the Mineral Resource Estimate (MRE) following the completion of that drilling, analysis and geological interpretation of the additional information obtained from the drilling program. The objectives set for the drilling program were successfully completed and the new MRE revised the total JORC MRE to 34.5Mt at 7.2% lead and 16g/t silver. This is the most recent MRE completed at Abra and is the MRE that has been used in the determination of the Updated Mine Plan referred to in this announcement. *(Refer ASX announcement "Galena Achieves 2020 drilling Objectives at Abra – Updates MRE" dated April 2021).*

In June 2021, the Final Investment Decision (FID) was made to complete full development of the Abra mine, with first production scheduled for Q1 CY2023. By the end of May 2021, 17% of the project build had been completed, based on $27.4M of Project works that had been executed prior to FID. At that time, 90% of the various project contracts (by value) were either executed or awarded. *(Refer ASX announcement "Galena Makes Final Investment Decision for Abra" dated 15 June 2021).*

Abra completed its first debt drawdown in June 2021. *(Refer ASX announcement "Galena Completes First US$30M Drawdown Under Abra Debt Facilities" dated 25 June 2021).*

Initial long-lead items associated with the mine build were ordered in August 2021. *(Refer ASX announcement "Galena Orders $9M Long Lead-time Equipment for Abra Plant" dated 11 august 2021).*

In September 2021 three key contracts were confirmed and finalised for the Project with the Underground Mining Contract with Byrnecut, the plant construction contract with GR

Engineering Services and the site bulk earthworks with Red Dust Holdings (RDH). The underground mining contract with Byrnecut was finalised as a 4-year contract initially focussed on gaining access to the orebody which is 230m below the surface. Mining work commenced in early October 2021. At that stage plant engineering work being done by GRES, and the bulk earthworks being done by RDH had commenced. *(Refer ASX announcements "Abra Development Works Ramping Up with Major Contracts Finalised", and "Galena Commences Underground Mining at Abra" dated 6 October 2021, and "EPC Contractor Mobilises to Abra for Plant Construction" dated 5 November 2021).*

In October 2021 two additional key contracts were executed that supported the transportation and exports of the high-grade lead-silver concentrate from Abra via the Geraldton Port. The agreements include a Port Access Agreement with Mid-West Ports Authority and a Haulage, Storage and Stevedoring Services Agreement with Qube ports Pty Ltd ("**Qube**"). *(Refer ASX announcement "Galena Executes Port & Logistics Agreements", dated 1 October 2021).*

From December 2021 the Company has provided regular monthly construction updates on the progress of the construction of the mine. The most recent update reporting to the end of June 2022. The trigger point for providing an Updated Mine Plan and guidance for production in CY2023 was reaching 75% complete which was achieved in early July 2022. *(Refer ASX announcement "Key Equipment Arrives as Abra Reaches 73% Complete" dated 18 July 2022).*

The accuracy level in the Updated Mine Plan for the remaining capital expenditure at 75% complete and based on awarded contracts and pricing is considered extremely accurate as the remaining construction scope of works and pricing for the project construction has been finalised. The accuracy level in the operating costs is ±10%. Some of the operating costs have been finalised through contract awards that overlap over both the construction period and operating periods, and some initial labour recruitment and parts/reagents pricing has occurred as its directly associated with current operational readiness activities. Not all the operational costs have been finalised and some of those costs are still being determined at a higher level of accuracy.

The Updated Mine Plan is based on a 1.3 million tonne per annum steady-state mining and processing rate achieving a 13-year LOM. The Updated Mine Plan has been prepared based on a revised mining schedule to achieve the required steady state 1.3 million tonnes per annum. The Update Mine Plan (defined below) includes a mix of material taken from Indicated Mineral Resources (66%) and Inferred Mineral Resources (34%), with no reduction factor 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 update or mining activities will convert Inferred Mineral Resources into Indicated Mineral Resources or return the same grade and tonnage distribution. This may affect mining outcomes (including economic) from those presented in the Updated Mine Plan. The Abra Ore Reserve will be reviewed in conjunction with updated Mineral Resource estimates on a systematic basis when the mine progresses into production and the continuous cycle of mining depletion and ongoing Mineral Resource conversion and evaluation progresses.

The Updated Mine Plan is also based on processing 1.3 million tonnes per annum steady state following an adequate ramp up period during 2023. The 2019 FS was based on a 1.2 million tonnes per annum steady state. During the detailed design phase of the processing plant as part of the EPC contract, the process flow sheet, design criteria and equipment selection were adjusted so that the plant could process the revised production rate.

Geology Mineral Resources and Ore Reserves

Abra is one of the largest undeveloped lead deposits in the world. It is a base metal replacement-style deposit hosted by sediments of the Proterozoic Edmund Group. The primary economic metal is lead but it also contains significant silver and some presence of copper, zinc and gold.

Since 2017, four separate Mine resource estimates (MRE) have been completed dated March 2018, December 2018, October 2019, and April 2021. The FS used the December 2018 MRE, and the Update Mine Plan (July 2022) has used the April 2021 MRE.

The Abra deposit can be divided into two main parts, the upper "**Apron Zone**" and lower "**Core Zone**".

The **Apron Zone** comprises stratiform massive and disseminated lead sulphide (galena), with minor copper sulphide (chalcopyrite) and zinc sulphide (sphalerite) mineralisation within the lower conglomerate unit (KCLC) of the Edmund Basin Kiangi Creek Formation and the Upper Carbonate Unit (UID) of the Irregully Formation. The Apron Zone is characterised by flat-lying alteration zones containing jaspilite (Red Zone), barite (Barite Zone), silica-sericite (Micrite Zone), siderite and dolomite (Carbonate Zone), and haematite and magnetite (Black Zone). Distinct stratiform alteration domains can be defined within the Apron Zone and have assisted in the definition of the distribution of the lead mineralisation and construction of the lead mineralisation lodes. The Apron Zone extends for over 1,200 metres along strike and 750 metres down dip, dipping gently south.

The **Core Zone** underlies the Apron Zone immediately below the Upper Carbonate Unit. The Core Zone comprises an elongate funnel shaped body of hydrothermal breccia, veining and intense chlorite alteration overprinting gently south dipping clastic sediments. High-grade lead sulphide mineralisation is predominantly hosted in intensely veined zones. This veining is broadly east-west, with dips varying from moderate north to sub-vertical to steep south going from south to north through the deposit. The main vein mineralisation comprises quartz-magnetite-sulphide ± barite-dolomite in the central to northern parts of the core, with the addition of jaspilite observed in veins to the south. High-grade zinc sulphide mineralisation (sphalerite) is found in the central parts of the Core Zone. Copper (chalcopyrite) and gold mineralisation is sporadically found throughout the upper parts of the Core Zone but forms a semi-coherent body at the base of Core Zone. The Core Zone extends from 300 metres to 750 metres below surface and can be traced for over 1,000 metres along strike.

Figure 2 (below) shows a stylised cross-section of Abra along with regional stratigraphy and main zones of interest.

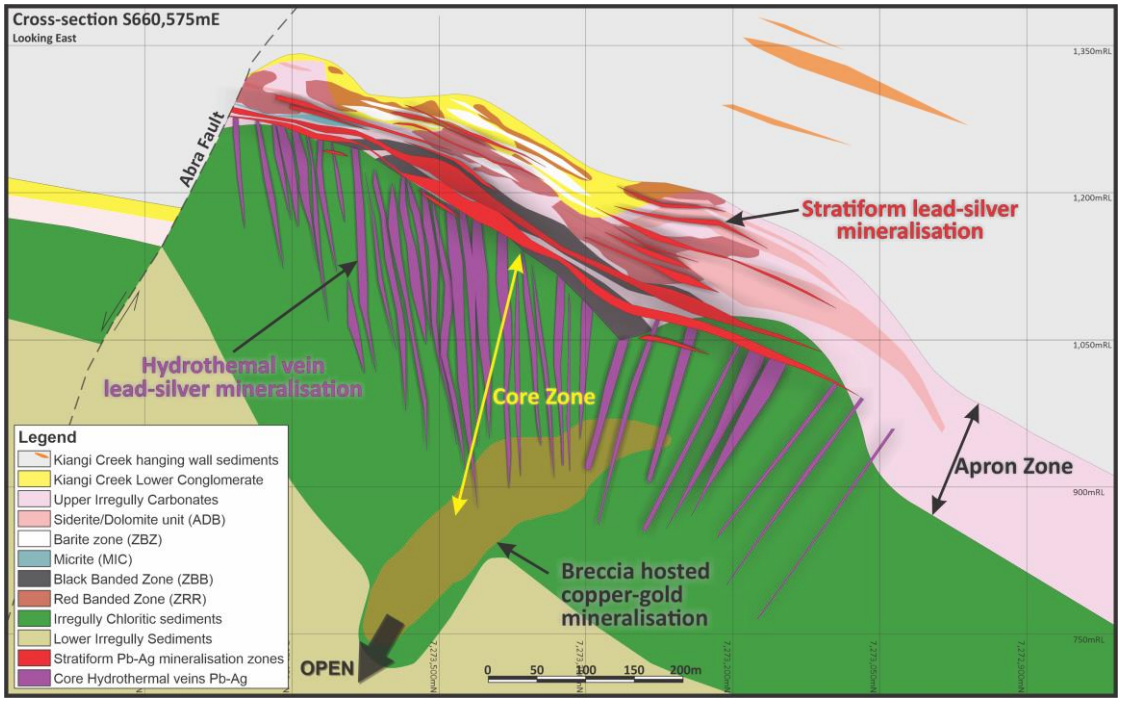


Figure 2 - Stylised cross-section of Abra deposit and regional stratigraphy.

April 2021 Resource estimation

The April 2021 MRE was prepared following receipt of final assay results on completion of the 2020 Abra Drilling Program, which consisted of 57 diamond drill-holes (AB144 to AB200A) for a total of 24,834 cumulative metres of diamond core drilling. The MRE has been completed by a third-party specialist consultant, Optiro, which is independent of the Company. *(Refer ASX announcement "Galena Achieves 2020 drilling Objectives at Abra – Updates MRE" dated April 2021).*

The MRE was prepared assuming mining and processing can be economically undertaken using underground mining methods and conventional flotation processing which is supported by Feasibility Study work previously undertaken (*see Galena ASX announcement of 22 July 2019*).

Table 2 (below) states the Abra April 2021 Resource at a 5.0% lead cut-off grade and Figure 2 (below) shows a 'grade tonnage' curve for the Project for reference.

Table 2: Abra JORC Mineral Resource estimate (April 2021 Resource)[1]

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	16.9	7.4	17
Inferred	17.5	7.0	15
Total	34.5	7.2	16

Notes: 1. Calculated using ordinary kriging method and a 5.0% lead cut-off grade. Tonnages are rounded to the nearest 100,000t, lead grades to one decimal place and silver to the nearest gram. Rounding errors may occur when using the above figures.

The April 2021 MRE is based on geological assay data from 205 holes for 103,188 linear metres of drilling (30,968 samples). Mineralised intervals were diamond drilled using NQ2 diameter core, geologically logged, photographed, cut and then ½ core samples were submitted to the laboratory for analysis. Samples were oven dried, crushed, pulverised, and

analysed for base metals using either a three acid or four acid-digest followed by an AAS or ICP-OES finish. From drill-hole AB84 onwards, samples were analysed using XRF with a lithium metaborate / tetraborate flux. During the 2020 Abra Drilling Program, XRF analysis was undertaken for lead, zinc, and copper with the Laser Ablation technique for silver. Gold was assayed by fire assay using either a 25g, 30g or 50g charge. Industry standard sampling and QAQC protocols were used.

Geological modelling utilised Leapfrog Geo 3D software (Version 6.0.4). Data from geological logging, structural data, geophysical surveys, and core photography was used to assist in the interpretation. A significant step forward was taken during the 3D geological modelling in 2021, whereby all the lithostratigraphic units, alteration zones, brecciation zones, and hydrothermal vein zones were modelled in detail within the Apron Zone and Core Zone to improve the local controls on mineralisation continuity and extents. The deposit has a complex distribution of lithology, permeability, structure, and geochemical characteristics that define specific relationships to mineralised domains. The geological model was built by Optiro and extensively checked in plan and section for geological integrity by the AMPL geology team in several iterations.

Mineralisation wireframes were created for the Apron Zone alteration envelope (nominal ≥0.2% Pb cut-off) and the high grade stratiform lead-silver domains (≥3% Pb cut-off). A total of eleven high grade mineralised domains were interpreted (AP101-111). Interpretation of continuity uses the 3D geological model to control the thickness, continuity, and extents of each domain. Whilst the domain interpretations are broadly consistent with previous MRE models, Abra consider that the updated interpretations have produced more geologically coherent correlations to the local geological controls. Four high-grade stratiform silver zones were also modelled within the Apron Zone (≥20 g/t Ag cut-off grade).

Mineralisation wireframes were interpreted for the Core Zone hydrothermal vein zones (≥3% Pb cut-off). A total of 36 vein style high grade domains were interpreted, based on the logged steeply dipping quartz-sulphide veins observed in the hydrothermal breccia zone (CV0 to CV25). The southern part of the Core zone has moderately north dipping Jaspilite-bearing veins (JASP1 to JASP10). Copper-gold mineralisation was estimated in the lower part of the deposit at a nominal 0.2% copper cut-off.

The Abra Mineral Resource block model was compiled by Optiro using Datamine Studio RM software. Grade estimation was via ordinary kriging of top-cut two metre downhole composites. Grade estimation was constrained within stratiform mineralisation, vein and alteration domains from the geological model. All vein and stratiform mineralisation domains grades were estimated using a process that projected all data onto a plane based on the centreline of each vein/domain. The alteration and vein interpretations were used to constrain all grade estimation. Alteration and vein domain boundaries were treated as hard grade boundaries during grade estimation.

A block size of 10 mE by 10 mN by 5 mRL was applied for grade estimation. Domain boundaries were represented using subcells of 2.5 mE by 2.5 mN by 1.25 mRL in the Apron and 2.5mE by 1.25mN by 2.5mRL in the Core. Drill spacing is variable due to holes been orientated to dip to both the north and south. Drill spacing ranges from 25 by 25 and 25 by 50m in the shallow parts of the northwest sector, to 50 metres by 50 metres in the centre of the deposit. At the periphery of the deposit, nominal spacing opens to 100 metres by 100 metres.

Lead was the primary element estimated as it is the primary metal of economic significance. A weak correlation exists between lead and silver and a very weak correlation exists between copper and gold. These correlations have not been directly utilised during grade estimation,

however, the estimation search neighbourhoods applied during estimation remained fixed for all elements.

Grade caps were applied based on identifying grade outliers using a population disintegration analysis. Only minor grade caps were applied to lead and silver for a limited number of domains. Copper, zinc and gold required caps in more domains than lead and silver.

The sample search strategy varied by domain. The primary search was 40 metres in the Apron Zone veins and 30 metres in the Core Zone veins in the plane of the vein. No more than three composites were allowed to contribute to a block grade estimate from any single drill-hole. Multiple search passes were employed with increasing search radii applied for secondary and tertiary searches. The final search pass was designed to inform all blocks within the limits of the domains. Model grades were validated visually, by whole of domain grade comparison and using swath plots.

The 2020 Abra Drilling Program has added a significant quantity of measured density and multi-element data to the database. Subsequently, a better correlation between Fe% + Ba% + Pb% and measured density was obtained. Due to a slightly non-linear relationship between these values, an exponential trendline was applied to fit the density data, resulting in the following equation with a correlation value of 0.90: Density = 2.6011e(0.0091(Pb%+Ba%+Fe%)). Testing of the regression density value against the measured density showed that over 88% of the measured values were within 4% of the regression estimate. The bulk densities density data within the alteration zones were comprised 73% from measurements and 27% from regression values in terms of sampled metres. This data allowed density to be estimated into the Apron and Core lodes and surrounding alteration zones using ordinary kriging. This process was constrained by the lode and alteration boundaries. Outside the alteration zones, density was assigned average values developed for each stratigraphic lithological unit. Estimated density varied between 2.85 t/m^3 and 4.33 t/m^3 for an average of 3.51 t/m^3 within the Apron lodes. Within the Core veins, estimated density varied from 2.49 t/m^3 to 4.00 t/m^3 with an average of 3.07 t/m^3. Bulk densities applied outside the alteration zones range from 2.67 t/m^3 to 3.11 t/m^3 depending on the lithological unit.

The deposit is classified as an Indicated Mineral Resource and Inferred Mineral Resource. The bulk of the Indicated Mineral Resource, 81%, is contained within the central and north part of the Apron Zone mineralisation, with 19% in the Core Zone contained in high-grade hydrothermal vein zones in the northeast part of the deposit. The distribution of the Inferred Mineral Resource material is on the southern and eastern margins and downdip areas of the Apron Zone and comprises most of the Core Zone.

The classification of the Apron Zone Indicated Mineral Resource is based on the demonstration of geological continuity of the host lithologies to assign continuity and control the thickness and extents of each domain. Significant analysis of the 2020 infill drilling to interpret a high-resolution geological model forms the basis for the demonstration of geological continuity. For Apron domains 101 to 104 and 108 there is sufficient confidence in the demonstration of geological and grade continuity to classify the bulk of them as Indicated Mineral Resource, with drilling density generally ranging from 25 x 25m to 50m x 50m. Inferred Mineral Resources are defined in areas of lower confidence geological or grade continuity on the margins of the Apron lodes and in six smaller lodes in the upper part of the Apron sequence (105-107,109-111) that are thought to represent feeder style mineralisation zones.

The classification of Indicated Mineral Resource in the Core Zone is based on the significant increase in drilling density in the northeast part of the deposit and increasing confidence in the orientation and dip of the core vein mineralisation lodes from logging and structural measurements. These core mineralisation lodes overprint the hydrothermal breccia and are

located immediately below the stacked apron mineralisation lodes in the northeast, which confirmed the veins to be part of a feeder zone to the Apron. Criteria used was vein orientation readings to define geological continuity, pierce point separation from 15m to 60m (averaging ~35m), angled drill-holes and scissor holes used to confirm true thickness, and primarily estimation search pass 1 or 2.

An Ore Reserve estimate for the Abra deposit, was prepared by AMPL and finalised in December 2018 ("**December 2018 Reserve**"), following completion of the December 2018 MRE (*see Galena ASX announcement of 18 December 2018*).

The revised MRE completed in April 2021, resulted in changes to the geological model. The revised mineralisation domaining process simplified the mining methods require in comparison to the FS to effectively one method. The Updated Mine Plan continues to assume long-hole open stoping ("**LHOS**") is the primary mining method for Abra, with cement paste backfill. Whilst this mining method remain unchanged from the previous studies, the schedule and mining sequence has been revised for the Updated Mine Plan.

Mining and Updated Mine Plan Model

The methodology used to establish the mineralised material to be included in the Updated Mine Plan involved preparing an updated 3D mine design model to determine shapes and locations of individual stopes. The design model was prepared by running mine shape optimiser ("**MSO**") software on the April 2021 Resource. Following the determination of a suitable Cut Off Grade (COG), each individual stope was assessed against that COG. The COG used was 5.5% lead (No provision was made for the inclusion of any silver credits).

In the steeply dipping Core Zone, MSO shapes generated were found to be representative of minable shapes, requiring only limited changes to the final stope shape. These sub-vertical stopes were designed with 25m sub-levels and a minimum mining width of 4m. The stopes ranged from 4m to 30m in width and the length of the stopes was limited to 10m based on the permissible undercut span of paste-fill.

The design of the Apron stopes was more difficult due to the variable flat dipping nature of the Apron Zone mineralisation ranging between 10 to 40 degrees. Manual stope shape drafting was required to reconcile against the MSO shapes. Blast hole lengths were limited to 25m for drilling accuracy, and this determined the sub level height intervals. Stope panels with dips greater than 31 degrees were designed with 15m sublevels and stope panels with dips between 22 and 59 degrees were designed with 10m sublevels. For the Apron stopes a minimum mining width of 3.5m was selected and a minimum footwall rill angle of 40 degrees set. The Apron stopes horizontal widths vary between 10 to 20m and the stope heights vary between 5 and 35m depending on ore thickness and whether multiple lodes can be mined in one stope.

The mining recoveries and dilution factors for development and stoping activities were estimated based on the rock mass characteristics, the mining environment, and the chosen mining method. Development designs assumed 100% ore recovery in all drives. A dilution factor of 5% was applied to all development grades. Stope designs assumed 5% ore loss to account for mining related issues including remote loader limitations and any ore/waste misallocation errors.

Due to the lower grade haloing seen around the economic mineralisation in the model, a dilution grade was applied. Stope dilution was applied based on the equivalent linear overbreak slough (ELOS). Based on the ELOS values, several dilution skins were modelled

and added to the primary stopes shapes. Overbreak was applied to the various stope shapes ranging from 0.2m to 1.0m depending on the regularity of the shape. This resulted in a dilution grade of 2.75% lead for the Apron Zone stopes and 3.5% lead for the Core Zone stopes. Stopes being mined below and adjacent to paste-fill received an additional 2% dilution to account for any paste-fill overbreak. A dilution grade of 2.0% lead was applied to the ore development.

The mine schedule was completed to determine the feasible mine production rates based on the selected mining equipment, the proposed mining methods, and planned infrastructure. The mining schedule in the Updated Mine Plan reflects the chosen ramp up rate for the processing plant in 2023 and the ability to achieve 1.3 million tonnes per annum in steady state production.

Geotechnical work completed in the FS remains the basis of the Rock mass characteristics assumed in the Updated Mine Plan. The geotechnical assessments indicate that ground conditions should be favourable for LHOS mining methods, AMPL's intention to use cement paste-fill in both the Apron Zone and Core Zone stopes remains and this will reduce the risk of adverse geotechnical conditions arising. Mining work completed to date supports the geotechnical assessment of the ground conditions.

Mine development started in October 2021 and has progressed approximately 2,000m and by the end of June has reached the 1,357mRL which is 44m vertically above the orebody. Figure 3 below shows the progress of the Abra underground development to the 1 July *(Refer ASX announcement "Key Equipment Arrives as Abra Reaches 73% Complete" dated 18 July 2022).*

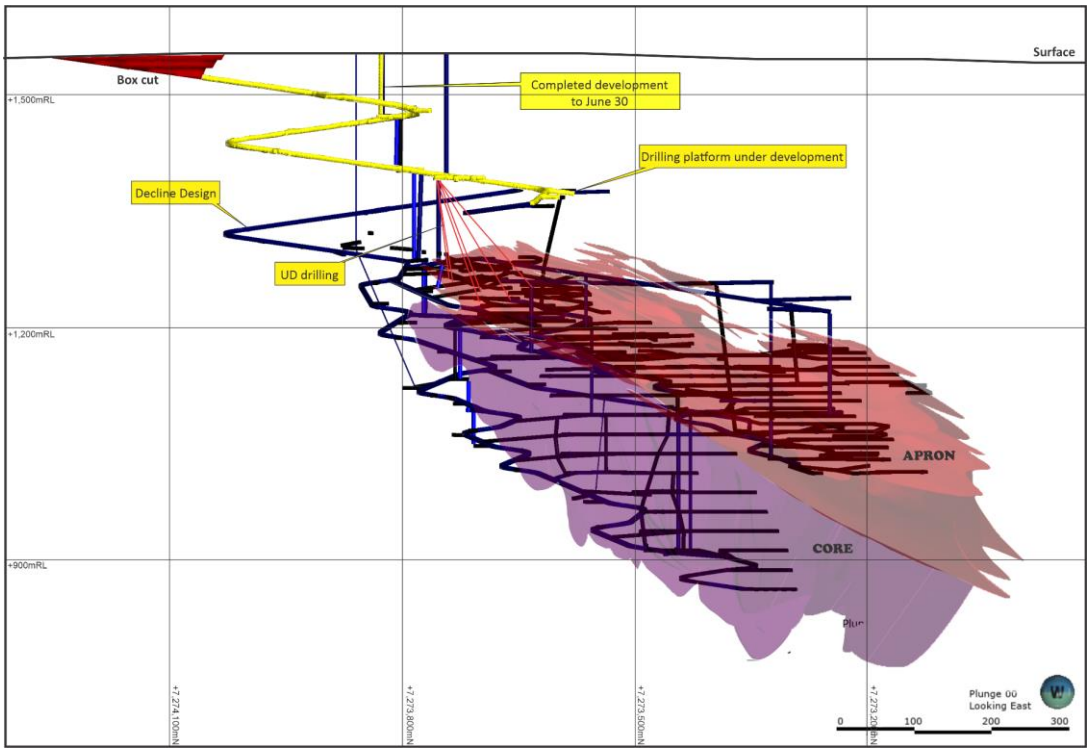


Figure 3 – progress of the Abra underground development to the 1 July (yellow).

The Update Mine Plan contains 14.0 million tonnes at 7.6% lead and 16.6g/t silver.

The Updated Mine Plan includes some mix of material taken from Indicated Mineral Resources (66%) and Inferred Mineral Resources (34%), with no reduction factor 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 Resource update will convert Inferred material into Indicated or return the same grade and tonnage distribution. This may affect mining and economic outcomes from the Updated Mine Plan.

Abra's underground mine design generates the following mining metrics based on the Updated Mine Plan:

- Average tonnes per vertical metre = 40,000 t/vertical m;
- Total development = 56.3 km; and
- Total stoping tonnes and lead grade = 11.8 Mt @ 7.67% lead.

Process plant description

Ongoing metallurgical test work following the FS utilising the drill core from the 2020 drill program has largely confirmed the selected plant flowsheet. A minor difference is a flow sheet optimisation with the removal of the Flash Flotation cell. The plant design has also been done to allow a retro fit of this part of the circuit if it is decided that it is required later after seeing the actual processing plant performance. Figure 4 below has the flash flotation included.

The confidence around previous comminution and flotation test work conducted by AMPL and others during the previous study stages remains the same. The process flowsheet remains effectively the same and has been designed to produce a single high-value, high-grade lead-silver concentrate at maximum recovery. The plant flowsheet is shown in Figure 4 (below) and contains the following processing stages to produce lead-silver concentrate:

- Three stages of crushing with fine ore bin storage and emergency stockpile with feeder.
- Single stage ball mill.
- Flotation and concentrate regrind to produce a lead/silver concentrate.
- Concentrate dewatering utilising a thickener and a filter to produce a transportable concentrate; and
- Tailings thickening and storage in a designated facility with bypass option to send tailings to the paste fill plant for provision of cemented paste fill to underground.

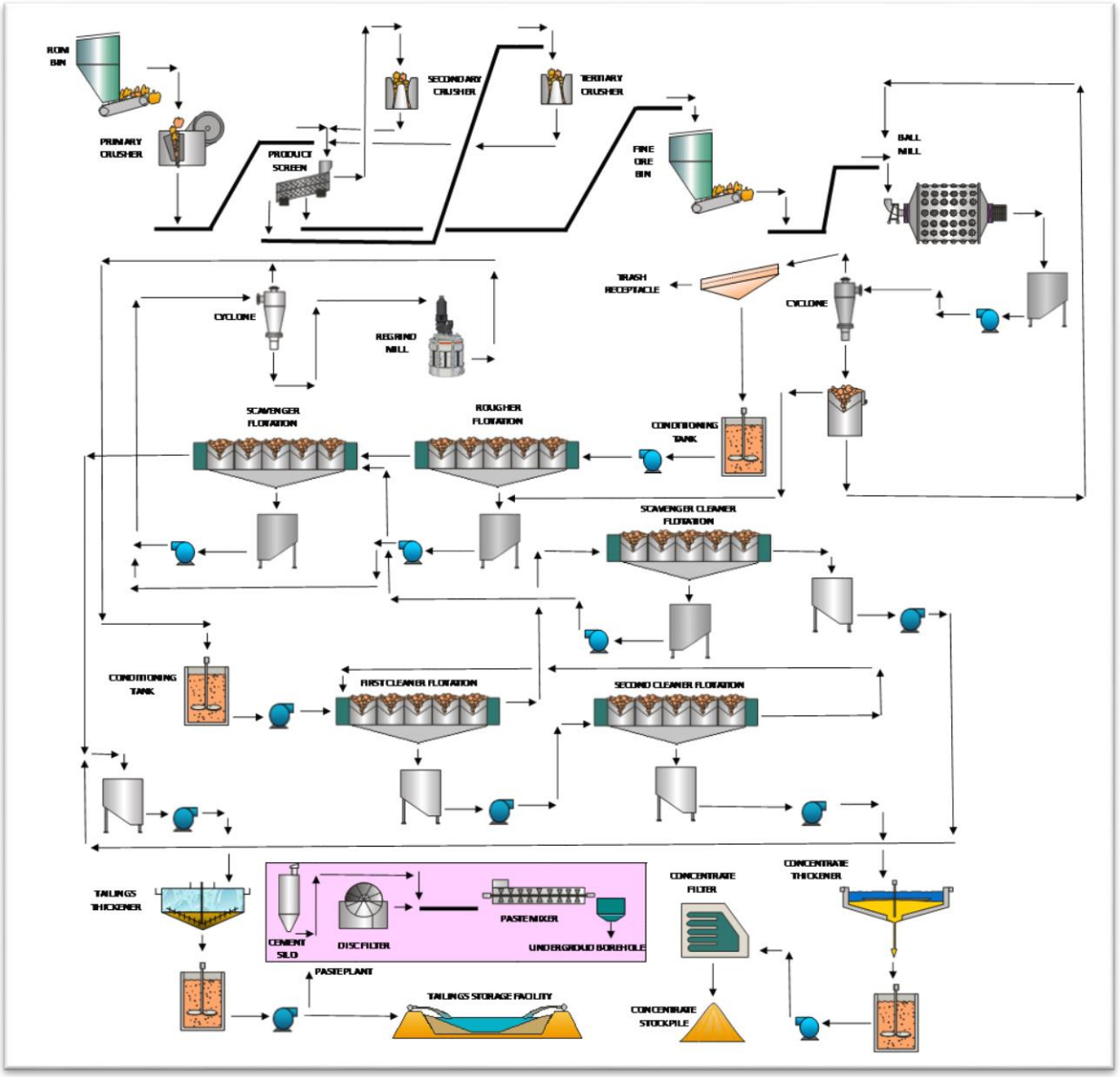


Figure 4: Abra process plant flowsheet (Including flash flotation).

Figure 5: Photo showing construction progress crushing and screening circuit (July 2022).

Figure 6: Photo showing construction progress milling, flotation, thickening and filtration circuits (July 2022).

Grade recovery modelling of flotation data indicates that the Abra process plant will recover 93% lead, producing a lead concentrate expected to contain 75% lead and approximately 129g/t silver.

Product marketing

Analysis and testing of Abra's concentrate (including direct lead smelter testing) confirm Abra's concentrate will be unusually high-grade for a primary lead concentrate product, and it does not contain any penalty elements at even near to penalty levels. Furthermore, its specification meets import requirements in all key jurisdictions. As a result, Abra's high-grade, high-value

product can be considered a premium product in comparison to existing low-silver primary lead concentrates available on international markets.

In October 2019, Galena entered into a 10 year off-take agreement with IXM S.A. for its 60% share of Abra's concentrate production and simultaneously entered into a back-to-back agreement with the Abra joint venture company. The agreement with IXM is priced at a premium to benchmark treatment charges with the back-to-back agreement priced at benchmark terms, providing a financial benefit to Galena. (*Refer to ASX announcement "Galena Offtake Agreement with IXM" dated 24 October 2019).*

In November 2019, Abra entered into a 10 year off-take agreement with its Joint Venture partner Toho Zinc for its 40% share of Abra's concentrate production on arms-length benchmark terms.

Outbound logistics

AMPL will ship its high-grade lead-silver concentrate through the Port of Geraldton. The Port of Geraldton has all permits and infrastructure required to handle lead sulphide concentrates.

In October 2021, AMPL announced the execution of a Port Access Agreement with the Mid-West Ports Authority, providing AMPL with the right to export up to 140,000 tonnes of mineral concentrates per year through the common user facilities (Berth 6) at the Geraldton Port for an initial period of 10 years. *(Refer ASX announcement "Galena Executes Port & Logistics Agreements", dated 1 October 2021).*

At the same time, AMPL announced the execution of an Export Logistics Agreement with Qube Ports Pty Ltd, supporting the transportation and export of concentrate between the Abra mine and the Geraldton Port. Under the terms of the agreement, Qube will provide all equipment and personnel to undertake the loading, transportation, storage, and stevedoring of Abra's mineral concentrates using their Rotabox™ system. This system enables the secure transport of Abra's high-value, high-grade lead-silver concentrate between the mine and the port precinct, as well as a proven system for bulk loading of mineral concentrates into ships' holds in a manner which minimises environmental impact. The Qube agreement has an initial term of 5 years with an extension option of an additional 5 years. *(Refer ASX announcement "Galena Executes Port & Logistics Agreements", dated 1 October 2021).*

Operation and drivers of operating cost model

The operating costs presented in the Updated Mine Plan are current and are either established through active work and supply contracts or revised based on current market conditions. Work continues with the mines operational readiness programs which will continually improve the accuracy of future operating costs.

The Project will operate on a continuous basis 24-hours per day, 365-days per year. Personnel to undertake onsite management, mine technical services, geology, mineral processing operations and maintenance, occupational health, safety and environment and administration will be employees of AMPL. The mining operations will be carried out by a suitably experienced underground mining contractor.

The operating costs associated with the underground mining are based on the contract terms established with the mining contractor for the first 4 years of the project. Owner's costs associated with the mining part of the project have also been updated based on current market conditions and pricing work completed based on current operational readiness activities.

The operating costs associated with the processing part of the Project are a combination of those costs developed in accordance with the GRES standard for cost estimation and updated costs based on current market conditions and pricing work completed based on current operational readiness activities.

Tailings storage

The original tailings storage facility ("**TSF**") has been designed to store 8.5Mt of tailings based on the FS mine life. The TSF design and size has not changed in the Updated Mine Plan. Tailings production will also be used for paste backfill in the underground mine.

Water

The Abra water balance estimate associated with the FS was modelled on steady state operating conditions This provides a net raw water requirement of approximately 23.4L/s which is expected to be supplied by aquifers within 7km of the proposed processing plant. Several production water bores have been established adjacent to the sites infrastructure during 2022 and these are tested and ready to adequately provide the water required for the mine processing and other activities. Initial water being pumped from the underground workings is higher than initially predicted in the hydrology modelling and it is expected to reduce as mining continues, potentially returning the water extraction to longer term model predictions. During the construction phase of the project excess water is being evaporated.

Power

The power for the mine site and accommodation village will be provided by a dedicated power station located on the mine site. The construction of the power station and associated infrastructure is 76% complete as of 30 June 2022. The power supply and set up is expected to be finalised in last quarter of 2022 prior to plant commissioning. The plant consists of modular natural gas fired reciprocating generators and power will be generated at 11kV. Solar generation in the form of photovoltaic cells will be integrated into the power station to offset fuel usage. A battery energy storage system will be installed, primarily for the purpose of providing the step load change capacity required to start the ball mill, and grid support. Power will be provided under a power supply agreement with a build own operate contract. The LNG storage and regasification facility will be built, owned, and operated by the LNG supplier. *(Refer ASX announcement "Execution of Abra power purchase Agreement" dated 17 February 2021).*

Other infrastructure

The supporting infrastructure required for development of the Project includes the following:

- access roads established and road maintenance agreement in place between Abra and the Meekatharra shire;
- village for up to 280 personnel fully constructed;
- airstrip with 1,800m gravel pavement to suit Dash 8-Q400 or equivalent aircraft fully constructed;
- bulk earthworks for the process plant site and infrastructure that includes the internal roads, ponds, TSF, airstrip, village, explosive magazine storage and mine service areas nearing completion with work currently ongoing on the TSF and water dams;

- communications network with microwave link from site to the existing Telstra facility at Doolgunna established;
- buildings including offices, change rooms, crib rooms, toilet blocks, plant workshops, warehouse and storage sheds nearing completion with change room and plant building remaining;
- mine infrastructure including wash down bay, refuelling facilities, mine workshops, and explosive magazines established;
- power supply and reticulation, including LNG storage at 76% complete by end of June 2022;
- water supply, storage, and reticulation established;
- waste management facilities established; and
- logistics including wheel and container wash systems for vehicles currently under construction.

Project implementation

The Project implementation is well advanced with the project construction at 73% complete by end of June 2022. *(Refer ASX announcement "Key Equipment Arrives as Abra reaches 73% Complete").*

As outlined in the FS the project execution has been based on the same modus operandi with a suitably qualified underground mining contractor awarded the underground mining contract (Byrnecut) and a well credentialed engineering company awarded the engineering, procurement, and construction ("**EPC**") of the processing facility. Several other significant contractors have also been engaged to complete various parts of the mine's construction. All the contractors have been under the daily supervision and management of the mine owners' team. *(Refer ASX announcement "Abra Development Works Ramping Up with Major Contracts Finalised").*

The key project milestones are summarised in the following Table 3, based on current site activities.

Table 3: Key Project implementation milestones

Activity	Timeline
First ore from decline development	November 2022
First ore feed to the processing plant	January 2023
First concentrate production	February 2023

Pre-development capital expenditure

The Project pre-development capital cost estimate developed for the Updated Mine Plan is based on actual contract pricing. The mining development cost includes the box-cut, decline development, capital vertical development, and underground grade control drilling to reach first production. The capital costs are summarised in Table 4.

Table 4: Pre-development capital expenditure estimate summary

Facility / item	Expenditure (A$M)
Process plant EPC	81.9
Mine development	48.2
Bulk earthworks (including aerodrome & TSF)	15.0
Accommodation camp	14.7
Other pre-production (including water supply & recovery, vehicles & mobile equipment, initial fills & spare parts, shire road maintenance, paste fill plant acquisition and construction indirect costs)	12.3
Non-process infrastructure	6.0
Owner's costs	46.6
Owner's contingency	6.7
Total	231.4

Notes: 1. As at 30 June 2022, a total of $168.2M had been spent and the total remaining project capex was $63.1M (see Galena ASX announcement of 18 July 2022).

Operating costs (non-mining)

The operating cost estimate (excluding underground mining), broken down by category, has been presented in Table 5. Most of these costs are based on actual contract pricing, updated operational staffing plans and salary benchmarking.

Table 5: Abra non-mining operating cost breakdown

	(A$M per year)	(A$/t ore)
Processing		
Salaries / labour	10.2	7.84
Power	7.4	5.68
Reagents and consumables	5.8	4.48
Maintenance	3.4	2.59
General	2.9	2.26
Crusher feeding	1.5	1.16
Sub-total processing	31.2	24.01
Administration and other		
Salaries / labour	5.1	3.91
Maintenance	0.6	0.48
Trucking to Port & Freight	12.6	9.72
General	2.3	1.71
Power	0.3	0.25
Total operating cost	52.1	40.08
Paste plant	8.5	6.53

Operating costs (mining)

The mining cost estimate covers all activities related to underground mining to deliver ore to the processing plant run-of-mine pad. An experienced Australian contract mining company has been engaged for the initial 4 years of the project and this operating model is expected to

continue for the life of the project. The agreed mining rates are not provided in detail as they are considered commercially sensitive between the parties. Separate "owner's costs" have been determined for the provision of all primary services, technical and management functions.

Lead C1 direct cash cost

Table 6 (below) provides the calculated lead C1 direct cash cost for Abra based on the Updated Mine Plan.

Table 6: Abra lead C1 direct cash cost

	(US$/lb)	(A$/lb)
Mining	0.26	0.39
Processing	0.12	0.17
Treatment charges and outbound logistics	0.08	0.12
Other	0.08	0.11
Net silver by-product credit	(0.04)	(0.06)
Lead C1 direct cash cost	0.50	0.73
Royalties[1,2]	0.07	0.10

Notes: 1. 5.0% Western Australian State royalty plus 3.5% in historical, vendor, Taurus, and other royalty equivalent payment obligations for lead. 2. 2.5 % Western Australian State royalty plus 3.5% in historical, vendor, Taurus, and other royalty equivalent payment obligations for silver.

Sustaining capital expenditure

Sustaining and deferred capital will cover the funding required over the life of the project to replace items of plant that have reached their useful life, or new and planned expenditure to modify the plant/equipment as necessary to sustain operations at the rated capacity. Sustaining capital also includes additional TSF lifts over the LOM.

Where applicable sustaining and deferred capital has been estimated either as a percentage of the direct capital cost based on typical industry experience or from first principles. The allocations include:

- Capital lateral development costs (includes decline after commencement of production) are A$84.6M.
- Capital vertical development costs after commencement of production are A$10.4M.
- Process plant projects – 0.25% of the process plant total installed capital years 2-12 of production.
- Flash Flotation Cell / Cleaner Flotation Cell process improvement cost of A$2.0M has been included as a process contingency in CY2023.
- Surface non mining mobile equipment and vehicles – replaced in years 6/7/8, A$3.2M allowed for scheduled replacement.
- Mill refurbishment in year 5 &10 at A$290,000.
- Completion of cell 1A and a new tailing cell 1B construction and TSF wall lift allowance of A$11.7M over the first 12 years; and
- Rehabilitation – provisional sum of A$10M allowed for in year 13.

The LOM sustaining capital cost estimate for non-underground mining infrastructure is A$26.1M.

Updated Mine Plan production metrics, ramp-up assumptions and production profile

Table 7: Updated Mine Plan production metrics

	Annual[1]	LOM
Mill throughput[2]	1.3Mt	14.0Mt
Diluted mined ore grade:		
- Lead		7.6%
- Silver		16.6g/t
LOM		13-years
LOM recoveries:		
- Lead		93%
- Silver		78%
Production (metal in concentrate):		
- Lead	93kt	1.07Mt
- Silver	553koz	7.5Moz
High-value lead-silver concentrate grade:		
- Lead		75%
- Silver		129g/t

Notes: 1. Average of steady-state years CY2024-2032. 2. 66% of the mine model material is included within Probable Ore Reserves but the remainder is currently included in Inferred Mineral Resources.

Table 8: Updated Mine Plan ramp-up and LOM

	Period
Mining first ore	November 2022
Completion of construction and process plant commissioning	January 2023
Ramp-up period	CY2023
First full-year of steady-state commercial production	CY2024
LOM	13-years

The LOM production profile is outlined in Figure 7.

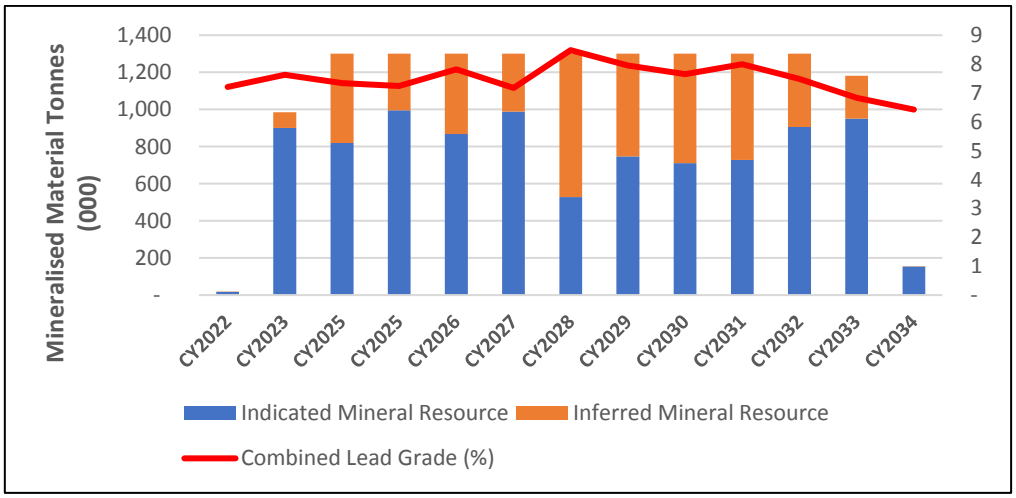


Figure 7: Abra LOM production profile.

Update Mine Plan financial assumptions

AMPL chose to utilise current 'spot' assumptions (i.e., as at close of business on 18 July 2022) for key assumptions (lead metal price and exchange rate).

Assumptions applied in the Updated Mine Plan financial model are set out in Table 9.

Table 9: Updated Mine Plan financial assumptions

	LOM
Metal payability[1]	95%
Lead metal price	US$0.90/lb
Silver metal price	US$25.00/oz
Lead treatment charge	US$96/t conc.
Silver refining charge	US$1.00/oz silver
Exchange rate – US$ per A$1	0.68
Inflation	Modelled in 'real' 2022 terms
Royalties	
Lead[2]	8.5%
Silver[3]	6.0%

Notes: 1. Subject to standard deductions (i.e., 3 units for lead and 50g/t for silver). 2. 5.0% Western Australian State royalty plus 3.5% in historical, vendor, Taurus, and other royalty equivalent payment obligations. 3. 2.5 % Western Australian State royalty plus 3.5% in historical, vendor, Taurus, and other royalty equivalent payment obligations.

Project funding

As of 30 June 2022, AMPL and Galena had combined cash reserves of A$48M. In November 2020, Galena put in place US$110M in finalised debt facilities arranged by Taurus Funds Management. The facilities include a US$100M Project Finance Facility plus a US$10M Cost Overrun Facility (*see Galena ASX announcement of 12 November 2020*).

The Project Finance Facility consists of a US$100M, 69-month term loan primarily to fund capital expenditures for the development of Abra. Key terms include:

- Fixed interest of 8.0% per annum on drawn amounts, payable quarterly in arrears.
- Arrangement fee of 2.5% (already paid) and commitment fee of 2.0% on undrawn amounts.
- 1.125% net smelter return royalty.
- No mandatory hedging.
- Early repayment allowed without penalty.

The Cost Overrun Facility consists of a US$10M loan to finance identified cost overruns on the Project in capital expenditure and working capital. Fixed interest of 10.0% per annum will apply to amounts drawn under the Cost Overrun Facility.

In June 2022, AMPL completed its third drawdown in the amount of US$20M under the Project Finance Facility, taking the total drawn (and received) amounts under that facility to US$85M. As at 30 June 2022, US$25 million remained undrawn under the Taurus Debt Facilities.

The Taurus Debt Facilities are secured against Abra Project assets and over the shares that each of Galena and Toho own in AMPL, and additional drawdowns remain subject to satisfaction of customary conditions precedent.

Tax

The Updated Mine Plan assumes A$72M of historical tax losses are available as at 1 July 2021 and the Australian corporate tax rate applicable to AMPL will be 30%.

Updated Mine Plan financial outcomes

Table 10 summarises the LOM revenue, costs, and cash flows.

Table 10: Abra LOM revenue, costs and cash flow

	(A$M)
Gross revenue	2,881
Smelter charges and outbound logistics	(262)
Net smelter return	2,619
Royalties and royalty equivalent payments	(213)
Other operating costs	(1,389)
Capital expenditure (pre-production and sustaining)	(283)
Undiscounted pre-tax project cash flows	734

Table 11 summarises the EBITDA, margins and project economics.

Table 11: Abra EBITDA, margins and project economics

Steady-state commercial production average annual EBITDA (CY2024-2032)	A$100M
Steady-state commercial production average annual EBITDA margin (CY2024-2032)	40%
Steady-state commercial post-tax average annual cash flow available for debt service (CY2024-2032)	A$64M

Sensitivity analysis

Sensitivity analyses using ±20% range pivoting on base case assumptions (displayed in brackets) for lead price (US$0.90/lb), foreign exchange (US$0.68), silver price (US$25.00), process recovery (93%), lead treatment charge (US$96/t concentrate) and pre-development capital expenditure (A$231M) have been prepared and are shown in Figure 8 below.

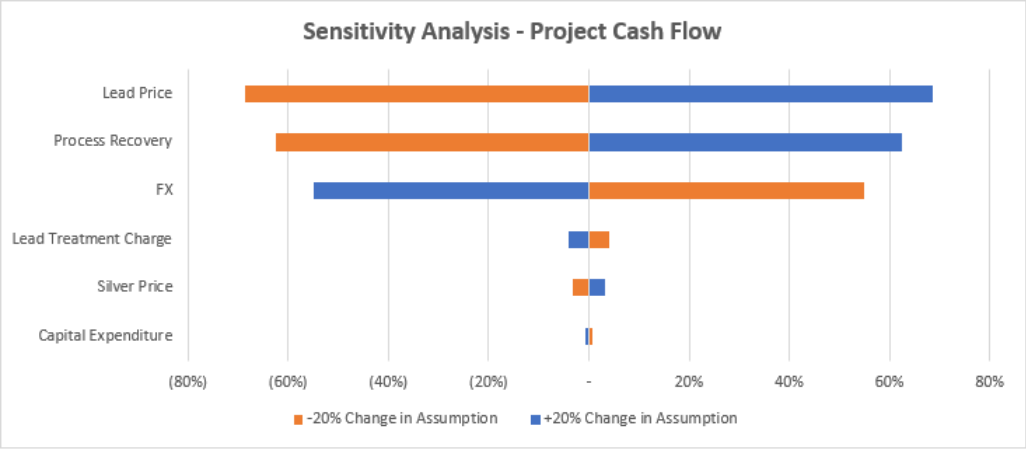


Figure 8: Abra sensitivity analysis

DISCLAIMER

Forward looking statements

The contents of this initial production guidance and updated mine plan contains forward-looking statements which are identified by words such as, 'estimates', 'targets' or 'expects' and other similar words that involve risks and uncertainties.

These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement, are expected to take place.

Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions, and other important factors, many of which are beyond the control of the Company, the Directors and the Company's management.

The Company cannot and does not give any assurance that the results, performance, or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements.

Cautionary Statement

With the Abra Project construction reaching 75% complete, several key steps are still required to be completed to bring the mine into production. Investors should note that if there are delays associated with those steps, outcomes may not yield the expected results (including the timing and quantum of estimated revenues and cashflows).

The Updated Mine Plan material mined and processed includes a mix of both Indicated Mineral Resources (66%) and Inferred Mineral Resources (34%), with no reduction factor applied to the tonnes and grades of the Inferred Mineral Resources. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated minerals resources or that the production target itself will be realised. This may affect the mining studies and economic outcomes delivered in the Updated Mine Plan.

The economic outcomes associated with the Updated Mine Plan presented in this release 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 companies control and are subject to change from time to time. Changes in such assumptions may have a material impact on the economic outcomes (including the timing and quantum of estimated revenues and cashflows).

To bring the Abra mine into production, additional capital may be required. Investors should note that any failure to precure the required additional capital may result in a delay, change in nature and scale, or even suspension of the Project.

The updated mine plan is presented in direct comparison to FS completed in July 22 *(See Galena ASX announcement of 22 July 2019)*. FS cautionary statements referring specifically to that work is outlined in that announcement and investors should reference those statements in considering that work.

Galena completed an outstanding definitive / bankable FS (*see Galena ASX announcement of 22 July 2019*) for development of an underground mine and processing facility to produce a high-value, high-grade lead-silver concentrate. A 'final investment decision' to complete the Project was made in June 2021 and construction is ongoing and anticipated to reach first commercial production in the first quarter of 2023.

The information in this report relating 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.

Abra JORC Mineral Resource estimate[1, 2]

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	16.9	7.4	17
Inferred	17.5	7.0	15
Total	34.5	7.2	16

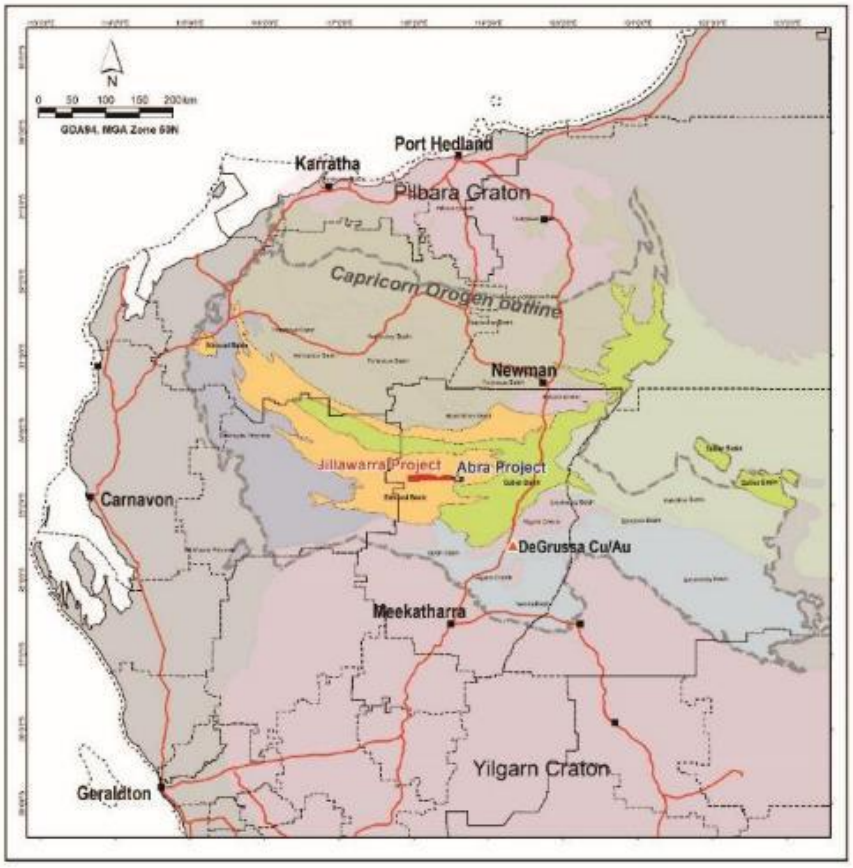
Notes:

1. See Galena ASX announcement of 28 April 2021. Galena confirms that it not aware of any new information or data that materially affects the information included in Galena's ASX announcement of 28 April 2021 and confirms that all material assumptions and technical parameters underpinning the resource estimates continue to apply and have not materially changed.

2. Calculated using ordinary kriging method and a 5.0% lead cut-off grade. Tonnages are rounded to the nearest 100,000t, lead grades to one decimal place and silver to the nearest gram. Rounding errors may occur when using the above figures.

About Abra Base Metals Project & Location

60% owned by Galena, the Abra Base Metals Mine ("**Abra**" or the "**Project**") is a globally significant lead-silver project located in the Gascoyne region of Western Australia (between the towns of Newman and Meekatharra, approximately 110 kilometres from Sandfire's DeGrussa Project).



The Board of Directors of Galena authorised this announcement for release to the market.

For further information contact:

Galena Mining Limited

Anthony (Tony) James
Managing Director