

## ASX ANNOUNCEMENT

28 April 2021

ASX: G1A

### GALENA ACHIEVES 2020 DRILLING OBJECTIVES AT ABRA – UPDATES MRE

**GALENA MINING LTD.** ("**Galena**" or the "**Company**") (**ASX: G1A**) announces achievement of the key objectives from the 2020 Abra Drilling Program and has subsequently completed an updated JORC Code 2012 Mineral Resource estimate ("**April 2021 Resource**") for the Abra Base Metals Project ("**Abra**" or the "**Project**") located in the Gascoyne region of Western Australia. The April 2021 Resource has been independently prepared by Optiro Pty Ltd ("**Optiro**").

Managing Director, Alex Molyneux commented, *"The objectives associated with the 2020 Abra Drilling Program were successfully completed. The Project now has over 100 kilometres of drilling in its database, and the geological confidence and understanding of the deposit continues to improve. Almost all of the new holes were drilled within the previous Mineral Resource envelope and over 75% of those holes achieved expected or better results. This Mineral Resource update will now feed into an optimised mine plan, and mine development will allow for underground drilling to continue Resource development, particularly the conversion of significant Inferred Mineral Resources associated with the Core Zone mineralisation, which remains open in several directions and also hosts the interpreted copper-gold zone."*

Table 1 (below) states the Abra April 2021 Resource at a 5.0% lead cut-off grade.

Table 1: Abra JORC Mineral Resource estimate (April 2021 Resource)<sup>1</sup>

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.

### 2020 ABRA DRILLING PROGRAM AND OBJECTIVES

The completed 2020 Abra Drilling program included 57 drill-holes totalling 24,834 cumulative linear meters and was designed to achieve three specific objectives. These objectives were mainly focussed on the original Mineral Resource estimate and potential grade and continuity risk of certain areas within that estimate, and they were:

- (i) Lead-silver orebody infill drilling – Some infill drilling that had previously been planned to take place from underground once the decline was in place was pulled forward into the 2020 Abra Drilling Program. This aimed to further tighten the drill-hole spacing over the first four years of proposed production to 20 by 20 metres and up to 30 by 30

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metres or better, compared with a more variable drilling density of up to 40 by 40 metres and up to 60 by 60 metres in that area previously.

- (ii) Drilling into selected lead-silver 'metal rich' zones – Some drill-holes successfully targeted selected areas within the Abra lead-silver mineralisation where higher concentrations of metal (in both grade and thickness) were projected from previous drilling campaigns, in particular drill-hole AB147, which became the best high-grade lead-silver drill-hole ever at Abra, and the follow-up drill-holes that were added to the program in its vicinity (see *Galena ASX announcements of 19 October 2020, 18 November 2020, 22 January 2021 and 24 February 2021*).
- (iii) Gold-copper exploration – Some of the drilling, in particular drill-hole AB195 (see *Galena ASX announcement of 22 February 2021*) successfully targeted the newly interpreted gold and copper drilling targets to the south and south east of the lead-silver mineralisation and at depth (see *Galena ASX announcement of 29 June 2020*).

The first two of these objectives enable the Company to optimise mine planning, which is now underway.

## MINERAL RESOURCES

### Geological model

Abra is located in the Gascoyne region of Western Australia within clastic and carbonate sediments of the Proterozoic Edmund Group. Abra is a base metals replacement-style deposit, where the primary economic metal is lead. Silver, copper, zinc and gold are also present within the established lead mineralised zones but are of lower tenor.

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

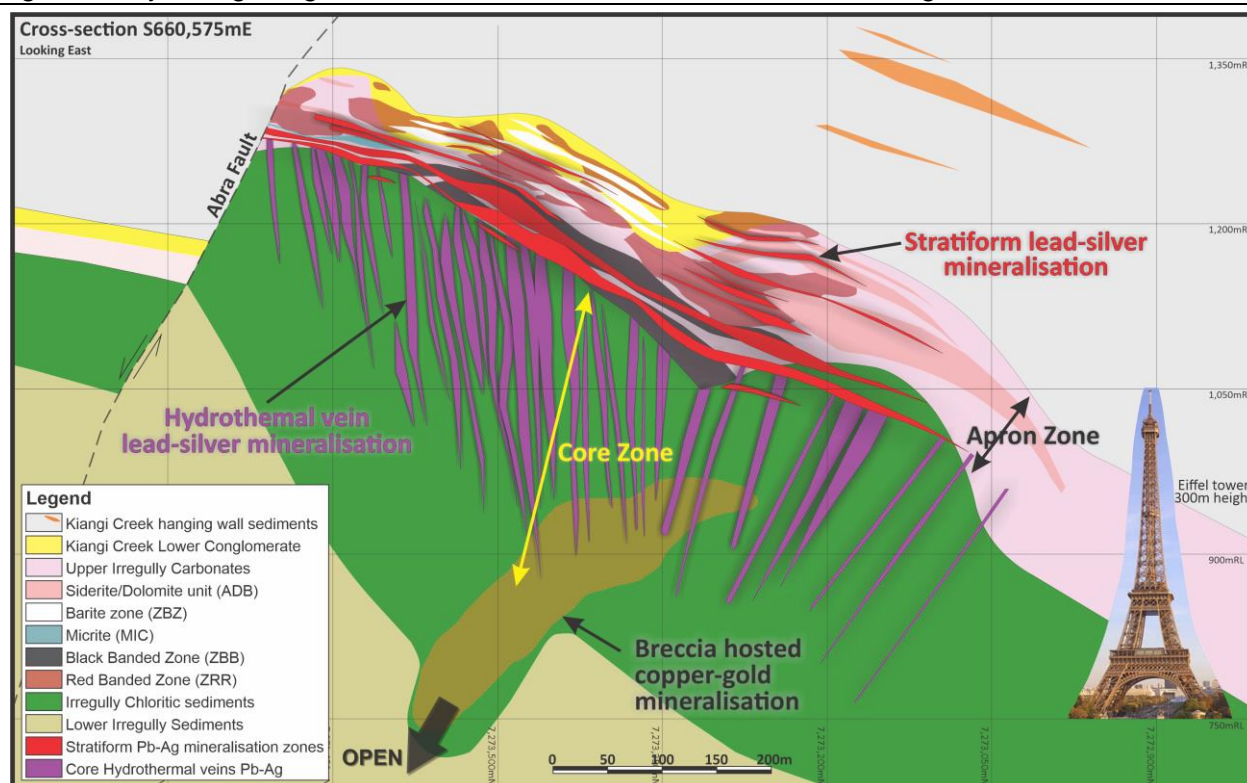
The **Apron Zone** comprises stratiform massive and disseminated lead sulphide (galena), with minor copper sulphide (chalcopyrite) and zinc sulphide (sphalerite) mineralisation within the lower conglomerate unit (KCLC) of the Edmund Basin Kiangi Creek Formation and the Upper Carbonate Unit (UID) of the Irregularly 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  $\pm$  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 1 (below) shows a stylised cross-section of Abra along with regional stratigraphy and main zones of interest.

Figure 1: Stylised geological cross section of Abra at 660,575mE looking east



Source: Galena.

#### April 2021 Resource estimation and outcomes

The April 2021 Resource has been 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 Mineral Resource estimate has been completed by a third-party specialist consultant, Optiro, which is independent of the Company.

The April 2021 Resource 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 great detail within the Apron Zone and Core Zone in order 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  $\geq 0.2\%$  Pb cut-off) and the high grade stratiform lead-silver domains ( $\geq 3\%$  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 ( $\geq 20$  g/t Ag cut-off grade).

Mineralisation wireframes were interpreted for the Core Zone hydrothermal vein zones ( $\geq 3\%$  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 north west 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  $\text{Fe\%} + \text{Ba\%} + \text{Pb\%}$  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:  $\text{Density} = 2.6011e^{(0.0091(\text{Pb\%} + \text{Ba\%} + \text{Fe\%}))}$ . 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<sup>3</sup> and 4.33 t/m<sup>3</sup> for an average of 3.51 t/m<sup>3</sup> within the Apron lodes. Within the Core veins, estimated density varied from 2.49 t/m<sup>3</sup> to 4.00 t/m<sup>3</sup> with an average of 3.07 t/m<sup>3</sup>. Bulk densities applied outside the alteration zones range from 2.67 t/m<sup>3</sup> to 3.11 t/m<sup>3</sup> 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.

The Mineral Resource estimate has been 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.

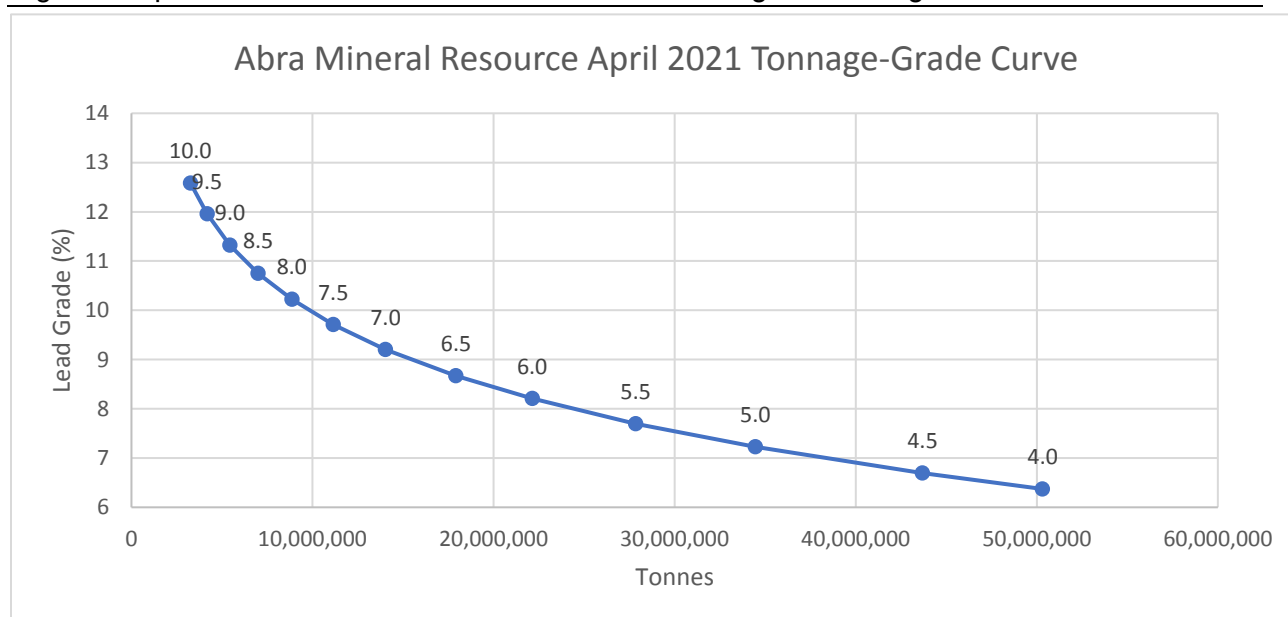
Table 2: Abra JORC Mineral Resource estimate (April 2021 Resource)<sup>1</sup>

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Mineral Resource estimations at a 6.0% lead cut-off grade and 7.5% lead cut-off grade have been provided in Appendix 1 for reference.

Figure 2: April 2021 Resource – Total Mineral Resource 'grade tonnage' curve

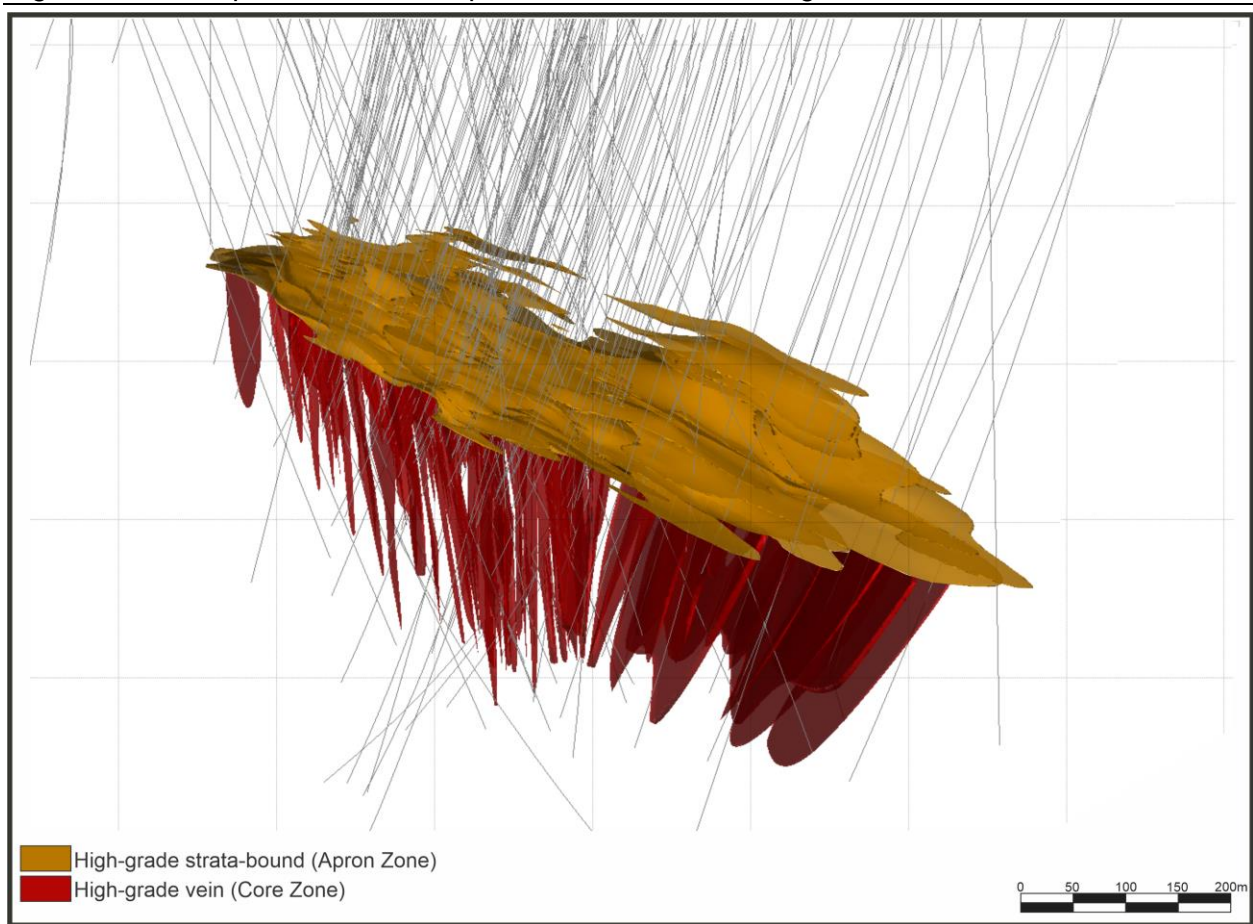


Source: Optiro.

Figure 3 shows a 3D visualisation of the April 2021 Resource split between the upper Apron Zone and lower Core Zone.



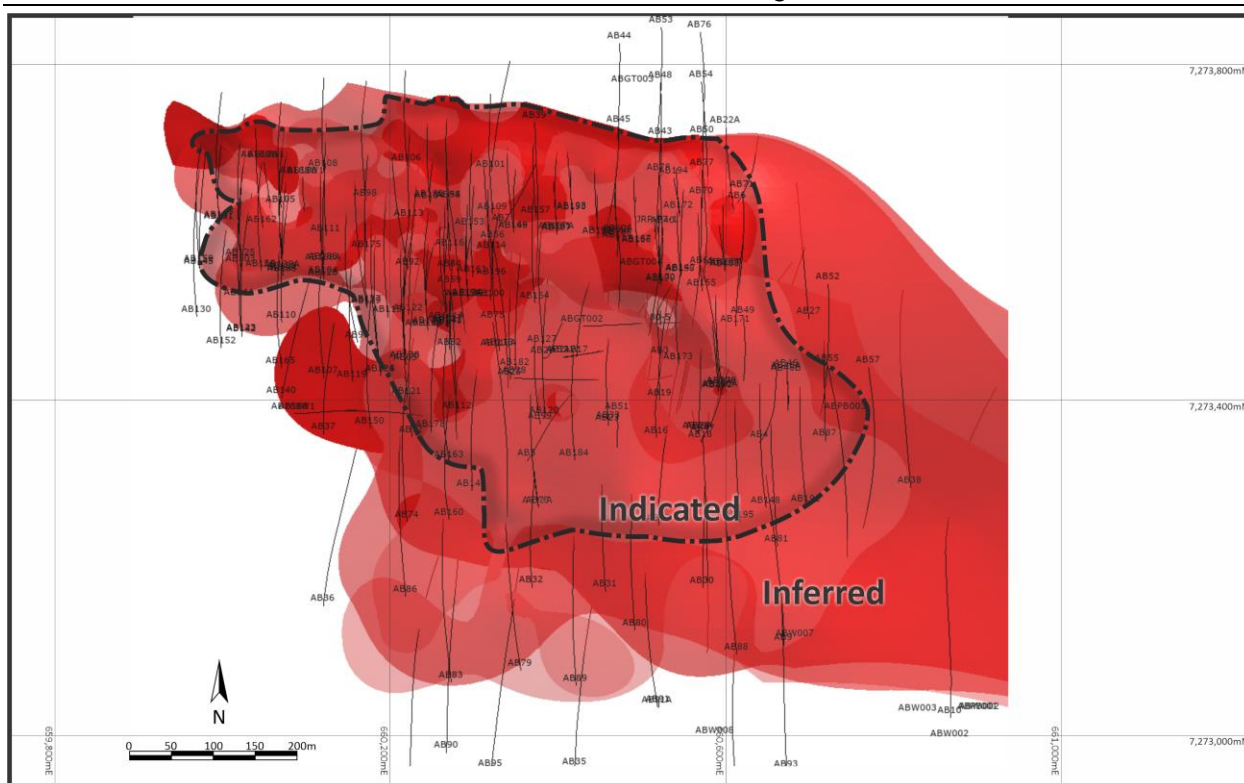
Figure 3: 3D oblique view of Abra April 2021 Resource looking south east



Source: Galena

Figure 4 (below) shows the April 2021 Resource in plan view where the overlain blue polygon outline denotes the maximum lateral extent of the material contained in the Indicated category.

Figure 4: Plan view of Abra April 2021 Resource showing the full extent of the Apron Zone domains 101, 102, 103, 104, and 108, with the area inside of the dashed outline representing the maximum extent of the Indicated Mineral Resource covering all the domains.



Source: Galena

## RESOURCE UPDATE IMPLICATIONS

The Indicated portion of the April 2021 Resource is 1% larger and the total Mineral Resource is 16% smaller than the October 2019 Resource. In general terms Inferred and some Indicated Mineral Resources were reduced in the southwestern quadrant of the deposit. However, there were gains in both tonnage and grade in the shallower northeastern and northwestern quadrants of the Mineral Resource envelope. These quadrants, where the earlier years of mining have been planned, are also generally covered with higher drilling density for classification as Indicated and for mine plan optimisation purposes.

Volume loss in the Apron Zone was mostly associated with a few sub-optimal drill-hole results in the west and southwest of the deposit. These were in lower drilling density areas where the results had more influence on a greater area geostatistically. Whilst some Indicated material was impacted, the effect of these holes was most pronounced on Inferred material. Partially offsetting this effect was the movement of material from the Inferred to the Indicated category in the northern part of the Abra deposit, between the two northern limbs of Indicated in the October 2019 Resource. This has the positive effect of consolidating Indicated Mineral Resources around the shallower northern side of the orebody and mitigating capital infrastructure development in the early years of the mine plan.

For Core Zone mineralisation, a large section in the northeast was added to Indicated based on better drilling density on those vein zones. However, the Core Zone Inferred Mineral Resource



decreased on the southern side of the deposit due to the change in interpretation of the orientation of the structure to a more stringer vein planar interpretation. The jaspilite veins in the south reduced in width significantly due to the poor drill angle to the newly interpreted steep south dipping veins that were interpreted previously as being more shallow and hence thick. The changes in the Core Zone model provide a substantial opportunity for resource development once this zone can be drilled from underground and drill-holes can be drilled perpendicular to the vein zones to gain more robust estimates of true thickness.

The April 2021 Resource has some significant advantages over its predecessor including:

- (i) Increased predictability – Optiro was able to confirm a substantial increase in the predictability of the April 2021 Resource model vs. the October 2019 Resource. Near-to-final Apron Zone domain shapes were prepared based on the new geological interpretation prior to receipt of the final drilling assays from the last 12 drill-holes in February and it was found that the model was extremely predictive with respect to estimating the position and tenor of individual Apron Zone lodes in the position of the additional drill-holes as their data was made available for inclusion in the model.
- (ii) Indicated material is more consolidated around the shallower, northern area of the deposit – The Apron Zone is now largely Indicated in the area that was previously Inferred between the two northern limbs of Indicated in the October 2019 Resource. Furthermore, additional Core Zone Indicated material has generally occurred in the upper Core Zone on the north eastern side, directly under metal-rich stacked Apron Zone lodes (also generally Indicated). These changes have consolidated Indicated shapes on the northern side of the deposit. The upper extent of this material has also moved closer to surface by 14 metres.
- (iii) Increased confidence within Indicated material – The drilling density within the Indicated Mineral Resource outline is much higher for the April 2021 Resource than for the October 2019 Resource. For example, the area covered by 30 x 30 metre or better spacing has more than quadrupled. Increased drilling density of 40 x 40 metre or better spacing covers most of the northern half of the deposit where the first years of the updated mine plan are to be scheduled.

## **ABRA PROJECT UPDATE AND NEXT STEPS**

Various project enabling / early construction works have been in progress at Abra for some time, with the Project 15% complete as of 31 March 2021. Certain key works have now been completed, including: completion of a 280-unit mine site village; mining of the box-cut; installation of production water infrastructure (bores, pumps and water reticulation); installation of site communications; and various site clearing, roadworks and civil works.

Conclusion of the Abra 2020 Drilling Program, updated Mineral Resource estimate for the Project is a key milestone to further progress Abra to a final investment decision (“**FID**”). The outcome of the work shows that Abra continues to demonstrate its standing as a long-life, globally significant high-grade lead-silver project. Mine planning works for an optimised Abra mine plan have commenced.

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

**Galena Mining Ltd.,**



**Alex Molyneux**  
Managing Director

### Competent Person's Statement

The information in this report related to the Abra April 2021 Resource 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.

### Forward-looking statements

The contents of this announcement 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 announcement.

Some statements in this announcement 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.

Forward-looking statements, opinions and estimates included in this announcement 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.

## About Abra Base Metals Project

77.28% owned by Galena, the Abra Base Metals Project ("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).

Abra sits on a granted Mining Lease, is fully permitted, and construction works have commenced (12% complete). Project development is being funded via a combination of an A\$90 million investment by Toho Zinc Co., Ltd. of Japan and US\$110 million of project financing debt facilities provided by Taurus Funds Management. Galena completed an outstanding definitive / bankable feasibility study ("FS") (see Galena ASX announcement of 22 July 2019) for development of a mine and processing facility with a 16-year life producing a high-value, high-grade lead-silver concentrate containing approximately 95kt of lead and 805koz of silver per year after ramp-up. Based on a pre-development capital expenditure estimate of A\$170 million, the FS modelled a pre-tax net present value for Abra (at an 8% discount rate) of A\$553 million and an internal rate of return of 39%.<sup>1</sup>

*Note: 1. Information relating to the production target and financial information derived from the production target is extracted from the ASX announcement of 25 September 2018. Galena confirms that that all material assumptions underpinning the production target, or forecast financial information derived from a production target, in that announcement continue to apply and have not materially changed.*

## Abra location



## APPENDIX 1: APRIL 2021 RESOURCE AT ALTERNATIVE CUT-OFF GRADES

Table: Abra Mineral Resource estimate (April 2021) – 6% lead cut-off<sup>1</sup>

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	11.8	8.3	19
Inferred	10.3	8.1	17
Total	22.1	8.2	18

Notes: 1. Calculated using ordinary kriging method and a 6.0% 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.

Table: Abra JORC Mineral Resource estimate (April 2021) – 7.5% lead cut-off<sup>1</sup>

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	6.3	9.7	22
Inferred	4.9	9.8	19
Total	11.1	9.7	21

Notes: 1. Calculated using ordinary kriging method and a 7.5% 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.

## APPENDIX 2: JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>The Abra April 2021 Mineral Resource Estimate (MRE) is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2021. The resource estimate contains 205 drill-holes for 103,188m of drilling (30,968 samples). Of these, 139 drill-holes for 64,046m were drilled by Galena Mining Limited (GML (2017-2018)) and the proceeding joint venture company Abra Mining Proprietary Limited (AMPL (2019-2021)). The quoted drill metres exclude drill-holes abandoned early for drilling/deviation issues that did not intersect the mineralised strata.</li> <li>Mineralised intervals were diamond drilled using NQ2 diameter core, geologically logged, photographed and cut with ½ core samples 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 to AB143 samples were analysed using XRF with a lithium metaborate / tetraborate flux. From drill-hole AB144 to AB200A samples were analysed using XRF and Laser Ablation. Gold was assayed by fire assay using a 25g, 30g or 50g charge.</li> <li>Sample intervals were selected based upon geological logging and ranged from 0.3 to 3.0m. GML and AMPL generally used 1m sample intervals, and earlier drilling was sampled in 2m intervals. Sampling was continuous throughout the mineralised intervals with cutting lines applied to create a representative sample for the respective interval. The sampling methodology is considered to be representative and appropriate for the style of mineralisation at Abra (poly-metallic lead-zinc-silver-copper-gold).</li> </ul>

Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg, core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg, core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Most drill-holes were diamond drilled from surface commencing with HQ diameter (to minimise hole deviation) and reduced to NQ2 diameter at between 80 and 200m depth. Several holes were RC pre-collared through the barren upper sequence rocks, cased and diamond tailed using NQ2 diameter drilling. Diamond drilling was by wireline methods. Drill-hole depths ranged from 320 to 1,000m with an average depth of 454m.</li> <li>Most core holes were oriented. Pre-GML/AMPL holes were either orientated using Chinagraph spear or Ballmark/Ezmark type systems. Galena's 2017- 2021 drilling was systematically oriented using either a Reflex ACT Mk.3™ or TrueCore™ core orientation system. The bottom of hole line was marked on the core as a reference for structural measurements. Only reliable core orientations were used for obtaining structural measurements.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>All diamond core was measured/recorded for drilling recovery by GML/AMPL staff (and its predecessors).</li> <li>Overall core recovery is excellent due to the silicified and competent nature of the rock with core recoveries typically being close to 100%.</li> <li>No grade versus recovery sample biases due to loss or gain of material has been identified.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>All drill core was logged geologically and geotechnically in detail sufficient to support the Mineral Resource estimate, mining and metallurgical studies. Logging included lithology, texture, veining, grain size, structure, alteration, hardness, fracture density, RQD, alteration, mineralisation, magnetic response.</li> <li>Core logging was both qualitative and quantitative. Lithological observations were qualitative and quantitative. All geotechnical observations and core photographs were quantitative.</li> <li>100% of the diamond core was logged.</li> </ul>



<p><i>Sub-sampling techniques and sample preparation</i></p>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All holes were routinely sampled as half cut NQ2 core for assaying, apart from two holes drilled in 2012 which were quarter cored.</li> <li>• The estimate is based entirely on diamond drill core.</li> <li>• All core was appropriately orientated and marked up for sampling by company geologists prior to core cutting. Sample widths range from 0.3m to 3.0m. AMPL and GML's sampling was generally in 1m intervals whereas its predecessors were generally 2m intervals. Half core samples were submitted to the commercial laboratories in Perth for analysis. Sample preparation comprised industry standard oven drying, crushing, and pulverisation to less than 75 microns. Homogenised pulp material was used for assaying.</li> <li>• Blank samples were routinely dispatched to the laboratory to monitor sample preparation. These generally performed within acceptable tolerances. However, elevated lead values were returned from some blanks which is thought to either represent cross sample contamination (i.e. soft lead caking the sample preparation bowl) or issues with the high lead values on the AAS plasma. From drill-hole AB78 onwards, barren flushes were carried out after each sample in sample preparation. The magnitude of the elevated values is not considered to be a material issue on the lead value estimates in the resource estimate.</li> <li>• In GML/AMPL's 2017-2019 drill programs, duplicates of crushed core (proxy for a field duplicate) were routinely assayed. Results showed an excellent correlation demonstrating a high level of repeatability. Renison Goldfields Corporation (RGC) Exploration in 1995 selected 110 half core samples for quarter coring to compare assaying results from earlier generations of drilling/assaying. Results were consistent with the earlier assays.</li> <li>• In AMPL's 2020-2021 infill drilling program a new duplicate sample methodology was added to the crushed core split duplicate methodology. A field duplicate sampling methodology was applied from where the other half of the original core sample was sampled and submitted to the lab for analysis. Most of the field duplicate samples have shown great correlation with a 0.98 correlation value for silver and 0.88 correlation for lead. However, some of the samples have shown greater than 10% variance from the original sample, demonstrating some level of grade variability from the original sample to the field duplicate sample.</li> <li>• Sample sizes were typically 3 to 6 kg (depending on the length of the sample) and are considered appropriate to the fine – medium grained grain size common in the host rock and galena mineralisation at percent grades.</li> </ul>
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<p><i>Quality of assay data and laboratory tests</i></p>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg, standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Several different laboratories have been used for assaying of Abra samples over the project's life prior to GML/AMPL. Sample analysis for the older holes (1981-1995) was generally a three-acid digest with an AAS finish for the base metals. Silver and gold were determined by fire assay using a 30 g or 100g charge. From 2005 samples analysed using a four-acid digest with either and AAS or ICP-OES finish. Later samples used the NaOH fusion technique for base metals followed by ICP-OES. Gold was analysed using either a 25 or 40g fire assay.</li> <li>• GML/AMPL samples were analysed by SGS Laboratories in Perth. An ore grade 4-acid digest was used followed by an ICP-AES finish. From hole AB84 samples were analysed using XRF with a platinum crucible using a lithium metaborate / tetraborate flux. Gold was by fire assay with a 50g charge.</li> <li>• During the 2020-2021 Abra infill drilling program, AMPL submitted all the half-core samples to Bureau Veritas Laboratory in Perth/WA. All the half-core samples were submitted for XRF for Pb, Cu and Zn, Laser Ablation for Ag, and Fire Assay methodology for Au (50g charge).</li> <li>• The analysis methods used are considered to approach total dissolution thus reporting total assay values and are appropriate for the style and tenor of mineralisation at Abra.</li> <li>• No hand held XRF or other geophysical data is reported here</li> <li>• Previous QAQC is summarised as follows: Geopeko Limited verified its assay data by submission of duplicate samples and cross checks by umpire laboratories. RGC submitted standards every 20 samples. The majority of holes were either drilled by Abra Mining Limited (2005-2008), GML (2017 - 2018) or AMPL (2019 - 2021) who used industry standard QAQC programs. Blanks, certified standards and duplicates were regularly submitted to the assaying laboratory and monitored. Both AML and Galena/AMPL completed umpire assaying by an alternate laboratory with results returned consistent with the primary samples. The QAQC data indicates that assaying data accuracy and precision is of an appropriate quality for resource estimation work.</li> </ul>
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<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Most historic significant intersections were verified by (then) GML Geologists Angelo Scopel and Don Maclean while completing a core relogging program in 2017.</li> <li>• Twinned holes were drilled as wedges on AB131/AB131W1 and AB135/AB135W1. With an average separation distance of 7m the intersections showed good correlation with the lithology and mineralisation (interval locations, thickness and grade) between the twinned and in adjacent drill-holes.</li> <li>• Prior to GML, primary geological logging and sampling data was first recorded on paper and then entered into electronic files onsite. Electronic copies were transferred periodically to the Perth head office where the master database was administered. Duplicates of the data were kept onsite after validation. Duplicates of all paper copies of sample data were made for site and head office.</li> <li>• During GML/AMPL's 2017-2019 drilling programs geological logging and sampling data was firstly recorded on either paper or in a Toughbook computer and then entered into an electronic Excel and Access database files onsite. Electronic copies are backed up onsite and routinely transferred to the Perth head office. All paper documents are scanned onsite and electronic copies kept. Duplicates of the data are kept in Perth office after validation. Assay data was imported and merged directly from lab digital files in excel then later uploaded in an Access Database. All data has recently been migrated to a Datashed™ database to ensure data integrity. GML/AMPL used LogChief™ for logging and sampling for the 2018-2021 drill programs.</li> <li>• No adjustments were made to assay data.</li> </ul>
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<p><i>Location of data points</i></p>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill-holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drill-hole collars were surveyed using a DGPS by Haines Surveys (2005), MHR Surveys (2007), Galt Mining Solutions (2017), ABIMS (2018, 2019), Land Surveys (2019), Terry Attwood Surveyor Consultant and ABIMS (2020, 2021). DGPS accuracy is within 0.02m</li> <li>• The 2019 drilling was routinely surveyed using north seeking Gyroscopic (gyro) deviation tools every 30 metres by DDH1 as drilling progressed. QAQC consisted of six holes that had independent gyro surveys run to verify the DDH1 surveys. These returned results consistent with the original survey. Prior to 2008, diamond holes were routinely surveyed every 30 to 50m downhole during drilling using an Eastman Single Shot camera. A number of these holes were later gyroscopically surveyed due to the magnetite rich rocks present in some parts of the deposit which renders the Eastman azimuths inaccurate. Some inconsistencies between the Eastman single shot and gyro data was identified in historic reviews, which was largely attributed to incorrect set-up azimuths being provided to the gyro-operators and some poor gyro QAQC controls. The pre-GML downhole survey data was reviewed, and erroneous data discarded or azimuths corrected to be consistent with neighbouring reliable surveys. From 2008-2018 electronic multi-shot (Ranger and Ezi- shot) tools were used for routine surveying every 30 m while drilling. All GML holes drilled in 2017-2021 were later surveyed using a north seeking gyro by contractor ABIMs. In addition, 13 historic pre-GML holes were also surveyed.</li> <li>• Data is captured in Map Grid of Australia GDA 94, Zone 50.</li> <li>• The topography of the area is very flat. The topographic model used for the resource estimate from a DTM generated as part of an earlier gravity survey over the project area. Drill-hole collars were cross checked against the topography DTM. Topographic accuracy is within 0.1 m vertical.</li> </ul>
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<p><i>Data spacing and distribution</i></p>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The footprint of the Abra deposit extends 1,200m east-west along strike and 800m north south. Drill spacing ranges from 150m spaced centres on the periphery to 25m spacing in the northern parts of the deposit. The 2020-201 drilling program infilled several areas within the northwest, north and northeast parts of the deposit to a drilling pattern of 25m by 25m or better, with other areas in the southeast infilled to 40m by 40m drilling spacing.</li> <li>• The deposit lies between 230m and 750 m below surface.</li> <li>• Data spacing is sufficient to establish geological and grade continuity to establish a mineral resource estimate.</li> <li>• No sample compositing has been applied.</li> </ul>
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Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation in the Apron Zone consists of tabular shallow south dipping zones which can be drilled from north or south with high intersection angles. The Core zone has steeply dipping structures that trend east-west with the northern core vein structures steeply dipping to the south changing progressively towards the south with core veins dipping steeply to the north. The majority of the drill-holes are oriented to the north, with vertical and south dipping holes to validate the thickness and grades of the steep veining.</li> <li>The Apron Zone is not considered to have any sample bias issues due to the high intersection angles of all the drilling. By virtue of its nature as a feeder zone to the Apron mineralisation, the Core Zone has drilling at low intersection angles to the mineralised structures, but account is made for that in the estimation process.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>The previous companies that drilled the deposit implemented sample security protocols. All samples were transported from site to Perth assay laboratories either by company personnel or by courier. All remaining core is stored on site. Drill core was taken twice daily from the drill rig, immediately following completion of day shift and night shift respectively.</li> <li>For GML/AMPL drill core was transported to the core yard where it was logged and sampled. Securely sealed sample bulka-bags were either transported by AMPL staff from the Abra site to Meekatharra for commercial trucking to the laboratory in Perth or trucked directly by GML/AMPL contractors.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Mitchell River Group completed an audit of the geological database used for the estimate in February 2021. This audit included review and documentation of sampling and geological data integrity. No issues have been identified.</li> <li>Optiro carried out a review of the sampling and data collection processes during the site visit to Abra and found that the protocols met industry standard with no material issues.</li> </ul>



## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>Abra Mining Pty Limited (AMPL) holds 100% interest in the Abra Project, consisting of Mining Lease M52/0776, Exploration Licence E52/1455, General Purpose Leases G52/292 and G52/286 and Miscellaneous Licences L52/021, L52/198 and L52/210. Royalties that apply to the M52/776 and E52/1455 tenements include: 5.0% Western Australian State royalty plus 3.5% in historical, vendor and other royalty equivalent payment obligations for lead; and 2.5 % Western Australian State royalty plus 3.5% in historical, vendor and other royalty equivalent payment obligations for silver. Galena Mining Limited (GML) currently owns 77.28% of AMPL, with the remainder owned by Toho Zinc Co. Ltd (Toho) of Japan. Toho have an agreement with Galena to acquire up to 40% of the project assuming key project targets are met. Abra is subject to an existing Indigenous Land Use Agreement and Heritage Agreement with the Jidi Jidi Aboriginal Corporation, the relevant native title claimant group.</li> <li>All tenements are in good standing.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Initial exploration around the Abra deposit by Amoco Minerals Australia Company (Amoco) in 1974 but they failed to discover the Abra deposit when testing the significant magnetic anomaly associated with the mineralisation. Geopeko Limited entered into a JV with Amoco in 1980 and drilled the discovery hole in 1981. In total they drilled 8 diamond core holes (AB1-11) before being taken over by North Limited (North) which did not complete any exploration. In 1995 Renison Goldfields Corporation (RGC) Exploration joint ventured in and drilled another deep diamond core hole (AB22A) with a daughter hole wedged from it (AB22B). Both North and RGC were subject to takeovers and the tenement was relinquished in 1999. Old City Nominees Pty Ltd, a private company, the acquired the ground and subsequently vended the project into Abra Mining Limited (AML).</li> <li>AML resumed drilling in 2005 and has completed all holes between and including AB23-59. Abra Mining drilled out the main extents of the deposit and completed various drilling programs focussing on establishing a high tonnage, low grade lead resource that would be amenable to bulk underground mining. Preliminary mining, geotechnical and metallurgical studies were completed.</li> </ul>

		<ul style="list-style-type: none"> <li>• AML was subsequently taken over in 2011 by Chinese company Hunan Nonferrous Metals' Australian subsidiary, HNC Resources Pty Ltd (HNC), following a lengthy acquisition process. Two diamond holes were drilled in 2012 (AB60A and AB61) HNC divested the project in 2016. GML acquired the project in 2017 and floated on the ASX.</li> <li>• The historic exploration work on the project is of a very high standard and the data sets generated are appropriate for use in the mineral resource estimate.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Abra deposit lies within sediments of the Proterozoic Edmund Group. Abra is a base metal replacement-style deposit hosted by sediments. The primary economic metal is lead (Pb). Silver (Ag), copper (Cu), zinc (Zn) and gold (Au) are also present but are of much lower tenor.</li> <li>• The deposit can be divided into two main parts. The upper "<b>Apron</b>" zone comprises stratiform massive and disseminated lead- sulphides (galena) and minor copper sulphides (chalcopyrite) within a highly altered sequence of clastic and carbonate rich sediments. Alteration products include jaspilitic rich sediments (the "Red Zone"), barite alteration zone ("Barite Zone") and a distinctive stratiform zone of hematite-magnetite alteration (the "Black Zone". The Apron zone extends for 1,000m along strike, 700m down dip and dips gently south.</li> <li>• The "<b>Core</b>" zone underlies the Apron and comprises an elongate funnel shaped body of hydrothermal breccias, veining and intense alteration overprinting gently south dipping sediments. The veining and breccia zones in the Core represent a swarm of east-west striking and steeply dipping feeder zones to the overlying Apron zone. Hydrothermal veining dips steeply south on the northern flank, sub-vertically in the central parts and moderate to steep to the north on the southern margins. High grade lead sulphide mineralisation is predominantly hosted in intensely veined zones. High grade zinc sulphide mineralisation (sphalerite) is found in the central parts of the Core. 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. The Core zone extends from 300 to 750m below surface and can be traced for over 400m along strike.</li> </ul>

<p><i>Drill-hole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill-holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill-hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill-hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Abra resource estimate is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2021. The resource estimate uses 205 drill-holes for 103,188m of drilling (30,968 samples).</li> <li>• A complete listing of all drill-hole details and drill-hole intercepts used in the estimate is not appropriate for this report. All drill-hole information has been previously reported and its exclusion does not detract from the understanding of this report.</li> </ul>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No exploration results are reported in this report</li> <li>• Non-aggregated exploration data is reported here</li> <li>• No metal equivalents are reported here</li> </ul>

Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill-hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• No exploration results are reported here.</li> <li>• The upper strata-bound mineralisation is gently dipping to the south and drilling intercepts are typically close to true width.</li> <li>• The lower vein-hosted mineralisation is generally steeply dipping and drilling intercepts are greater than the true width of the mineralisation.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill-hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• A plan view of the resource outline and appropriate sections and views of the resource are included within this report.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>• No exploration results are reported here.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>• AMPL and its predecessors have collected a substantial amount of bulk density readings from drill core using standard water immersion techniques (over 23,900 readings). This data was used to appropriately assign density values in the Mineral Resource estimate. Where no density data was measured, the density was estimated by using the results of Fe+Ba+Pb calculated ratio. The measured density values to the Fe+Ba+Pb ratio has shown excellent correlation with around 0.9 correlation rate result.</li> <li>• Galena has completed various studies as part of its Feasibility Study, including geotechnical, metallurgical and environmental studies. To date no major issues have been identified.</li> <li>• Groundwater studies and test work has identified water sources suitable for processing water supplies</li> </ul>

*Further work*

- *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*
- *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*

- The Mineral Resource estimate documented in this report will form the basis of an updated Ore Reserve and Life of Mine Planning.
- Mineralisation remains open to the west, east and south. Drilling is also planned to test potential mineralisation north of the Abra Fault.
- Additional drilling is planned from underground positions for resource development and grade control. This includes drilling to convert Inferred Mineral Resource portions of the underlying 'Core" mineralisation to Indicated Mineral Resource.

### Section 3 Estimating and Reporting of Mineral Resources

(Criteria listed in the preceding section also apply to this section.)

Database integrity	<ul style="list-style-type: none"><li>• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li><li>• Data validation procedures used.</li></ul>	<ul style="list-style-type: none"><li>• The Abra drilling database is stored in Datashed™ with data hosting services provided by the Mitchell River Group.</li><li>• Approximately 25% of the assay data has been cross checked against the original assay results and logging sheets. Records of cross checks are stored in the database.</li><li>• All data was visually validated on import.</li><li>• From 2018, Log Chief™ was used for logging and sampling which has in built validation checks.</li></ul>
Site visits	<ul style="list-style-type: none"><li>• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li><li>• If no site visits have been undertaken indicate why this is the case.</li></ul>	<ul style="list-style-type: none"><li>• The Competent Person for the geological and assay data is Mr Angelo Scopel (Geol), Bachelor in Geology, MAIG. Mr. Scopel is a permanent employee of Galena Mining Limited and worked at Abra Project between 2007 until November 2011 with Abra Mining Limited, returning to the project in September 2017 with Galena Mining. Mr. Scopel spent extensive periods of time at Abra in 2017, 2018, 2019, and 2020</li><li>• The Competent Person for the Mineral Resource Estimate is Mr Mark Drabble: B.App. Sci. (Geology), MAusIMM, MAIG. Mr Drabble is a Principal Consultant with Optiro Pty Ltd. Mr Drabble visited the Abra Project in August 2018 and December 2020 to carry out reviews of key drill core intercepts, geology, logging, drill-hole collar verification and sampling methodology,</li><li>• The Competent Persons are of the opinion that this work has all been completed in line with industry best practice and to an appropriate standard for the Mineral Resource reported.</li></ul>



*Geological interpretation*

- *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*
- *Nature of the data used and of any assumptions made.*
- *The effect, if any, of alternative interpretations on Mineral Resource estimation.*
- *The use of geology in guiding and controlling Mineral Resource estimation.*
- *The factors affecting continuity both of grade and geology.*

- The geological interpretation is based upon geological logging data from diamond drill core for the Abra deposit. Structural data from orientated drill core and historic structural studies were important guides for the interpretation.
- Geological modelling utilised Leapfrog Geo 3D™ software (Version 6.0.4). A 3D geological model was interpreted which encompassed the all litho-stratigraphic units, alteration zones, brecciation zones, hydrothermal vein zones, and faults. The deposit comprises the gently south dipping stratiform “Apron” zone (Apron) and the steep dipping feeder hydrothermal veins and breccias of the “Core” zone (Core).
- The detailed 3D geological model was used to control the mineralisation wireframe interpretation. Mineralisation was coded into domains consistent with the host lithology. Solid vein style wireframes were created for the Apron zone stratiform Pb-Ag mineralisation and the major hydrothermal veins of the Core zone.
- Mineralisation wireframes were interpreted at ~ Pb% >3% cut-off.
- Within the Core zone a higher-grade breccia hosted copper-gold zone was estimated in the lower part of the deposit using a nominal 0.2% copper cut-off. This zone transitions upwards into predominantly more vein-style hosted lead-copper mineralisation in the upper parts of the Core zone.
- Drilling in 2019 and 2020 identified high-grade silver-lead zones correlating with Pb mineralised domains on the western flank of the Apron 102 lode. The high-grade silver was modelled using a nominal 40-60 g/t Ag cut-off grade and used to assist in grade estimation.
- The primary lode domains were interpreted using lead grades and then the geometry reviewed by looking at zinc, copper and silver. Silver weakly correlates with lead grade suggesting silver may be present in argentiferous galena. Zinc and copper are generally spatially associated with the lead domains but are not of sufficient tenor to warrant domaining separately. Copper and gold mineralisation is spatially related but are not correlate by grade.

		<ul style="list-style-type: none"> <li>The infill drilling has resulted in a significant advance in the understanding of the local geological complexity of the deposit, and the key associations are used to impose geologically coherent interpretations of the mineralisation continuity. The global concept of Apron and Core is maintained, but local changes to the mineralisation orientations have been implemented to honour the changes in understanding of the geological framework of the deposit, and the metal distributions resulting from the detailed modelling.</li> <li>The Core has a secondary stratigraphic control to mineralisation with more than one mineralising event. There is strong evidence of a low grade stratigraphic controlled event overprinted by higher grade brecciation and hydrothermal vein set(s). The background lead grade estimation in the Core zone was carried out using the stratigraphic orientation.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource estimate encompasses all of the Abra Lead Deposit which extends for 1200m along strike and 800m across strike. The resource lies between 250 and 750 metres below surface.</li> </ul>
Estimation and modelling techniques	<p><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></p> <ul style="list-style-type: none"> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	<ul style="list-style-type: none"> <li>The Abra resource block model was compiled using Datamine Studio RM™ software. Grade estimation was via ordinary kriging of top-cut two metre downhole composites. Grade estimation was constrained to stratiform mineralisation, vein and alteration domains developed from physical observation of core samples and on lead grade characteristics. The interpreted veins are based on logged features while the high-grade lead veins in the Apron and Core regions are interpreted using a nominal 3% lead cut-off grade. All stratiform mineralisation and vein grades were estimated using a process that projected all data onto a plane based on the centreline of each vein/domain.</li> <li>The Abra resource was previously estimated in October 2019 by Optiro using Datamine™ software and ordinary kriged (OK) methods of grade estimation. The deposit is undeveloped and is being evaluated by exploration using diamond drilling. This update is based on a significant programme of infill drilling carried out during</li> </ul>

- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill-hole data, and use of reconciliation data if available.

2020.

- No assumptions are made regarding recovery of by-products. The model contains estimated values for lead, silver, copper, zinc and gold. No deleterious elements have been estimated.
- A block size of 10 mE by 10 mN by 5 mRL was employed 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, 1.25mN and 2.5mRL in the Core. Drill spacing is variable due to holes been orientated to dip to both the north and south. Nominal spacing is down to 25 m by 25 m averaging 50 m by 50 m in the centre of the deposit although the crossing of drill-holes results in considerably closer spacing at some depths. At the periphery of the deposit, nominal spacing opens to 100 m by 100 m.
- The sample search strategy varied by domain. The primary search was 40 m in the Apron veins and 30 m in the Core veins in the plane of each 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.
- Apart from the subcell resolution applied at domain boundaries, no assumptions have been made regarding selective mining units.
- 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
- 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 except in the case of copper and gold estimation in the Core zone, which were constrained by the hydrothermal breccia limits but not the vein boundaries.
- 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

		<p>limited number of domains. Copper, zinc and gold required caps in more domains than lead and silver.</p> <ul style="list-style-type: none"> <li>Model grades were validated visually, by whole of domain grade comparison and using swath plots.</li> <li>No mining has occurred at Abra.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Model estimates are done on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>A range of cut-off grades are reported which are believed to be appropriate for underground mining.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>No specific assumptions were made on mining method during the Mineral Resource estimate apart from the expectation that mining will be undertaken using conventional underground mining methods.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>In early 2018 GML sent 130 half core samples (six composited zones) representing the major ore types at Abra for mineralogical and metallurgical test work. This work indicates that a high quality lead-silver concentrate with an average grade of 74% lead is achievable. No major deleterious elements were identified.</li> <li>In 2018 and 2019 an additional 20 composites, designed to give a representative spread of ore types and early mine life production, were sent for test work as part of ongoing FS study work. Comminution results indicated that AMPL should opt for a three-stage crush in combination with a ball mill. Composite mineralogy showed that a regrind to sub 40 micron would be required to liberate galena and produce a high grade concentrate. Flotation results, both batch and locked cycle tests, confirmed that a conventional flotation circuit, comprised of roughing, scavenging, regrind and two stages of cleaning, was suited to the duty. Simple flotation data modelling indicated that the plant can produce a 73-75% lead concentrate grade for 93.8% lead recovery. Dewatering test work conducted on bulk concentrate and tailings confirmed that both products were amenable to conventional thickening and filtration methods. Bulk concentrate was subjected to characterisation test work for the purposes of handling and shipping. A paste fill study conducted on bulk tailings indicated that Abra tailings</li> </ul>

		<p>is amenable to use as cemented mine backfill</p> <ul style="list-style-type: none"> <li>In 2021, thirteen composite samples were taken for metallurgical testwork, each one of the samples, representing the significant intercepts for mineralisation lodes Apron 101, Apron 102, Apron 103, and core mineralisation from the NE area of the deposit within a single drill-hole to estimate the metallurgical test work results within a specific mining stope. A comprehensive comminution program comprised of Uniaxial Compressive Strength tests and Drop Weight Tests was conducted as part of detailed crusher circuit design. Bond work index, Bond abrasion index and SAG mill circuit test work is underway and will close out the comminution test work program. Other metallurgical test work, including minerology, batch flotation, reagent optimisation, signature plot to model the regrind and further paste fill test work, will be undertaken on the 2020/2021 composites. The metallurgical test work results are still pending.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a Greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>The Abra project is on a granted mining lease. No environmental factors / issues have been identified to date.</li> <li>The project will produce a lead sulphide concentrate that can be trucked to Geraldton and shipped. The Golden Grove Mine has been shipping similar concentrate products from Geraldton for many years</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vughs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>A total of 23,913 bulk density measurements were taken from a suite of mineralised and un-mineralised drill core using conventional water immersion techniques.</li> <li>The bulk density measurements correlate well with the sum of the lead, barium and iron grades, with density increasing as the summed grade increases. This relationship allowed the density to be calculated for a number of drill-hole intervals without a physical measurement. Once done, the database comprised a total of 25,485 density values. These density values were used to estimate block density using ordinary kriging within the limits of the Apron alteration envelope and hydrothermal breccia. In all cases, the estimation process was constrained by the mineralisation and alteration interpretations. Outside the alteration limits, density was assigned based on average zone values allocated to each lithological unit. Estimated density varied between 2.85 t/m<sup>3</sup> and 4.33 t/m<sup>3</sup> for an average of 3.51 t/m<sup>3</sup> within the Apron lodes. Within the Core veins, estimated density varied from 2.49 t/m<sup>3</sup> to 4.00 t/m<sup>3</sup> with an average of 3.07 t/m<sup>3</sup>. Bulk densities outside the alteration limits were assigned to each lithological domain based on the mean measured density from test work for each lithology type. Bulk densities applied range from 2.767 to</li> </ul>

		3.6911 t/m3 depending on the lithological unit.
Classification	<ul style="list-style-type: none"> <li>• The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>• Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>• Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>• The deposit is classified as an Indicated Mineral Resource (IND) and Inferred Mineral Resource (INF). The bulk of the IND (81%) is contained within the central part of the Apron zone mineralisation, with 19% in the Core zone. The distribution of the INF material is on the margins and downdip areas of the Apron and comprises much of the Core zone.</li> <li>• The classification of Indicated Mineral Resources (IND) in the Apron zone is based on the demonstration of geological and grade continuity underpinned by a high resolution 3D geological model that has interpreted all of the lithological units and used these to control the assumption of continuity of the mineralised domains. There are clear associations of lithology, structure, geochemistry, and permeability in the Apron sedimentary package, and these were applied to define mineralised vein style domains using a nominal 3%Pb cut-off grade. Thickness is observed to be variable, and this is accounted for in the pinch and swell of the vein models. Lateral extents of the vein boundaries are well controlled by the infill drilling which ranges from 25m x 25m to 50m x 50m for the bulk of the areas defined as IND.</li> <li>• As a real-world test of the mineralisation model the assay results for last 12 drill-holes were received after the first pass mineralised domains were interpreted. As they were progressively updated into the database the assay intersections were compared to the proposed mineralisation models and were found in almost all cases to support the preliminary interpretations. This is considered to be an important validation of the geological and grade confidence applied to the classifications.</li> <li>• The classification of the Indicated in the Core zone is based on the infill drilling of 25m x 25m over the NE area of the deposit. The reinterpretation of the mineralised domains used a nominal 3%Pb cut-off grade and the observation of steeply dipping overprinting vein packages to produce narrow vein style mineralised domains that progressively rotate from a steep south, to vertical to moderate north dip orientation from north to south. The infill drill spacing, definition of east-west trending geological continuity of the vein packages, pierce points ranging from 15m to 55m (averaging</li> </ul>

		<p>35m), use of angled drill-holes on variable orientations to validate true thickness, and the use of estimation search pass 1 and 2 were key criteria in the definition of an area of high confidence mineralisation that supports the definition as Indicated Mineral Resources. All other parts of the Core are classified as Inferred Mineral Resources.</p> <ul style="list-style-type: none"> <li>• Changes from previous estimates show reductions in thickness and metal loss in the Apron due to the reinterpretation of the mineralisation to honour the detailed geological model. Grade continuity ranges are generally reduced from previous MRE estimates as a function of the infill drilling, but the global grade has been more or less maintained. Metal loss occurred on the western margin of the deposit due to the loss of INF mineralisation due to 2021 drilling results that redefined the western margin and limited the extrapolation of grade.</li> <li>• The Core has been reinterpreted using a 3% Pb cut-off into narrow veins that reflect the steep vein packages logged in the drilling that overprint the background stratiform mineralizing event. This has reduced the grade of the IND but there has been a significant increase in the tonnage due to the detailed drilling in the NE area of the deposit.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>• No external audits or reviews have been completed on the April 2021 Abra MRE. The estimate has been reviewed internally by Optiro and by AMPL. The data, methodology and resulting estimate are believed to have been completed to appropriate industry standards and represent a fair reflection of the current understanding of the Abra deposit.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>• These statements of relative accuracy and confidence of the</li> </ul>	<ul style="list-style-type: none"> <li>• The Mineral Resource is considered to be a global estimate of element grades. Due to the smoothing in the model the local grade estimates are considered to be less reliable and this is reflected in the categorisation of the Mineral Resource as Indicated and Inferred Mineral Resource classes.</li> <li>• The accuracy of the Indicated Mineral Resource is estimated to be accurate to a quarterly level of reporting on a feasibility study schedule.</li> </ul>

	<i>estimate should be compared with production data, where available.</i>	
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#### Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.) **N/A – no Ore Reserves Reported here**

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