ASX ANNOUNCEMENT

17 October 2019 **ASX: G1A**

GALENA UPGRADES ABRA RESOURCE

HIGHLIGHTS:

- **Following the outstanding FS delivered in July 2019 further infill drilling was conducted to increase confidence in the early years of the mine plan – This has been successful and an upgraded JORC Mineral Resource estimate has resulted**
- **Upgraded JORC Mineral Resource estimate (Indicated plus Inferred) at 5.0% lead cut-off of 41.1Mt at 7.3% lead and 18g/t silver – ~8% increase in contained lead and ~10% increase in contained silver vs. December 2018 Resource**
- **Indicated Mineral Resource is now 16.7Mt at 8.5% lead and 24g/t silver – An increase of 114Kt of lead and 2.1Moz of silver (at a 5% lead cut-off).**
- **2019 Project Development Drilling Program succeeded in its main aim of increasing confidence in the north western Apron Zone sector (i.e., first three years of the Abra mine plan), adding an additional 1.7Mt of Indicated Resource, mainly from that sector**
- **Additional high-grade lead-silver mineralisation has been defined in the north western sector of the Apron Zone that has potential to enhance early project cash flows**

GALENA MINING LTD. ("**Galena**" or the "**Company**") **(ASX: G1A)** announces completion of an updated JORC Code compliant Mineral Resource estimate ("**October 2019 Resource**") for the Abra Base Metals Project ("**Abra**" or the "**Project**") located in the Gascoyne region of Western Australia, which has been independently prepared by Optiro Pty Ltd ("**Optiro**").

Managing Director, Alex Molyneux commented, ***"This Resource upgrade provides a strong boost to both lead and silver metal tonnes but equally important in a practical sense, it has achieved our aim of significantly increasing geological confidence in the first three years of the proposed mine plan."***

Geological model

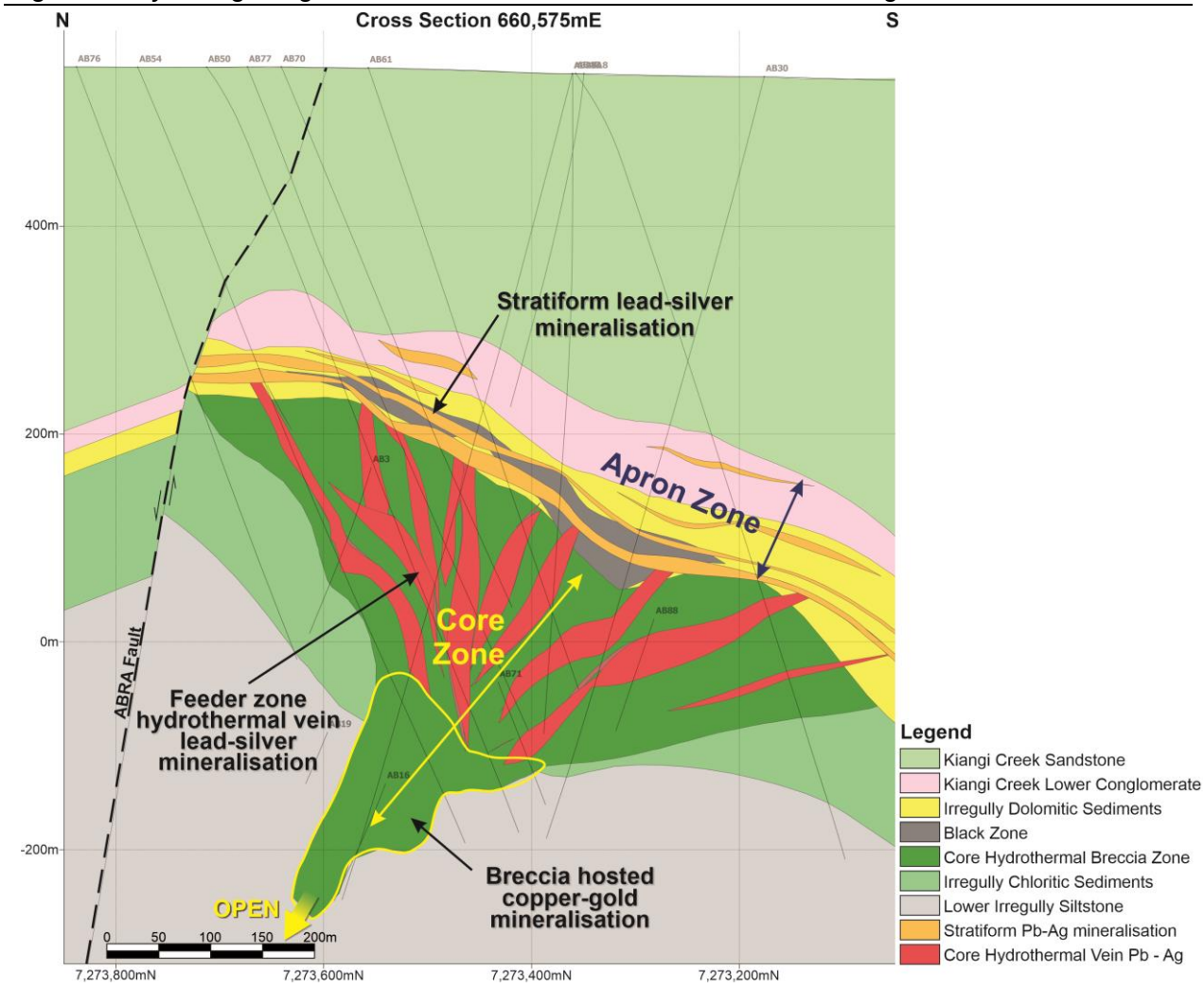
Abra lies within sediments of the Proterozoic Edmund Group. Abra is a base metal replacement-style deposit hosted by sediments. The primary economic metal is lead. Silver, copper, zinc and gold are also present but are of lower tenor.

The deposit can be divided into two main parts. The upper "**Apron Zone**" comprises stratiform massive and disseminated lead sulphides (galena) and minor copper sulphides (chalcopyrite) within a highly altered sequence of clastic and dolomitic sediments. Alteration products include jaspilitic rich sediments (the "Red Zone") and a distinctive stratiform zone of hematite-magnetite alteration (the "Black Zone"). The Apron Zone extends for 1,200 metres along strike, 800 metres down dip and dips gently south.

The “**Core Zone**” underlies the Apron Zone 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 Zone form a feeder style flower shaped geometry in cross section. Hydrothermal veining dips moderately south on the northern flank, sub-vertically in the central parts and gently 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 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 400 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.

October 2019 Mineral Resource estimation and outcomes

The October 2019 Resource has been prepared following completion of the 2019 Project Development Drilling Program, which consisted of 43 drill holes (AB103 to AB143, AB131W1 and AB135W1) for a total of 18,255 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 October 2019 Resource is based on geological assay data from 132 holes for 75,615 linear metres of drilling (22,190 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 samples were analysed using XRF with a lithium metaborate / tetraborate flux. 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 4.5.2). Data from geological logging, structural data, geophysical surveys and core photography was used to assist in the interpretation. A 3D geological model was collaboratively developed which encompassed the major litho-stratigraphic units, alteration zones, brecciation zones, hydrothermal vein zones, and faults. The model was extensively checked in plan and section for geological integrity. The 3D geological model was used to guide the mineralisation interpretations.

Mineralisation wireframes were created for the Apron Zone alteration envelope (~ >0.5% Pb cut-off) and the high grade stratiform lead-silver domains (~ >5% Pb% cut-off). Mineralisation wireframes were interpreted for the Core Zone hydrothermal vein zones (at ~ >1.5% Pb cut-off) and the high-grade domains within these zones (~>5% Pb cut-off grade). A copper-gold zone was modelled in the lower part of the deposit at a nominal 0.2% copper cut-off. A high grade stratiform silver-lead zone was also modelled within the Apron Zone (~>20 g/t Ag cut-off grade).

The Abra 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 10 mRL was employed for grade estimation. Domain boundaries were represented using subcells of 2.5 mE by 2.5 mN by 2.5 mRL. 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 60 to 80 metres in the Apron Zone veins and 70 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.

Bulk densities were assigned to each domain based on the mean measured density from test work for each lithological type. Bulk densities applied range from 2.72t/m^3 to 3.57t/m^3 depending on the lithological unit. For the mineralised domains bulk density increases with lead grade (ie, increasing amount of galena) but is complicated by the presence of the gangue minerals barite, magnetite and hematite. Density correlates well against combined Fe% + Ba% + Pb% but there is incomplete coverage of all these elements in the assay data set (only 30% coverage). Bulk density assignment in the mineralisation was done based on Pb grade. Values were assigned based on the mean values of the bulk density measurements at different Pb% grade bins. For the Apron Zone bulk densities assigned ranged from 3.42 t/m^3 to 4.14t/m^3 with increasing lead grade, and for the Core Zone from 2.90 t/m^3 to 3.60t/m^3.

The deposit is classified as an Indicated Mineral Resource and Inferred Mineral Resource. The bulk of the Indicated Mineral Resource (90%) is contained within the central part of the Apron Zone mineralisation, with 10% in the Core Zone. The distribution of the Inferred Mineral Resource material is on the 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 in the Apron Zone (Red Zone, Black Zone). These are tabular and generally predictable, with the evolution of drilling programmes at Abra supporting the expected mineralisation locations and grades. The drilling density is variable and ranges from 25 by 25m, 50 metres x 25 metres and out to 80 metres in places. A plunge line of higher grade mineralisation and thickness trending 150 (grid) was also used to guide a boundary wireframe which was interpreted around consistent zones of geological and grade confidence. This boundary excluded the periphery of the deposit to the west, south and east, which due to lower geological confidence, broad spaced drilling and grade extrapolation was classified as Inferred Mineral Resource. Zones of thinner, low grade mineralisation on the northern edge of the Apron Zone were also categorised as Inferred Mineral Resource.

The classification of Indicated Mineral Resource in the Core Zone is based on the assessment of continuity of the veins in the feeder zone. A section of the Core Zone was deemed to have sufficient confidence in geological and grade continuity to meet the Indicated Mineral Resource criteria of less than 50 metres x 50 metres (down to 50 metres x 25 metres) and high confidence in the geological continuity of the central part of the vein. Review of sample data, geological logging, structural data and core photos of drill intersection by Galena indicates that this can be interpreted as a consistent broad steeply dipping zone. Outside of this domain the mineralisation is complex and drill/sample spacing is variable. On this basis all other Core Zone vein domains have been classified as Inferred Mineral Resource.

The 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 FS study work undertaken by Galena.

Table 1 (below) states the Abra October 2019 Resource at a 5.0% lead cut-off grade and Figure 2 (below) shows a 'grade tonnage' curve for the Project for reference.

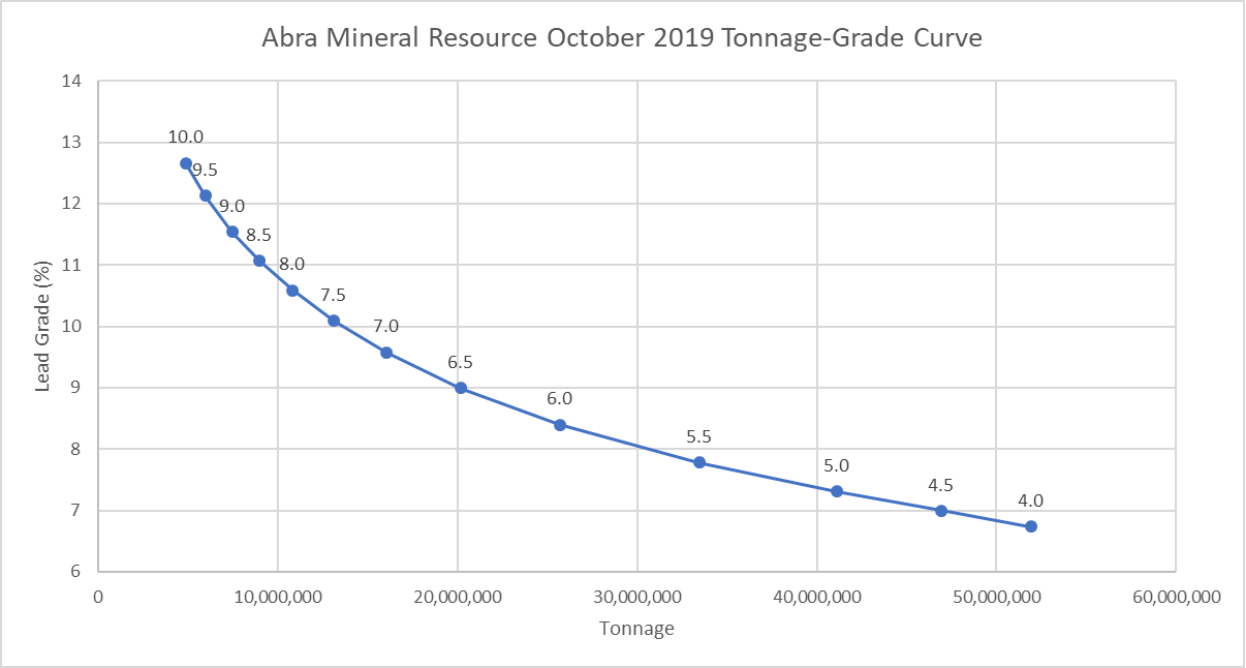
Table 1: Abra JORC Mineral Resource estimate (October 2019 Resource)[1]

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	16.7	8.5	24
Inferred	24.4	6.5	14
Total	41.1	7.3	18

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.

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

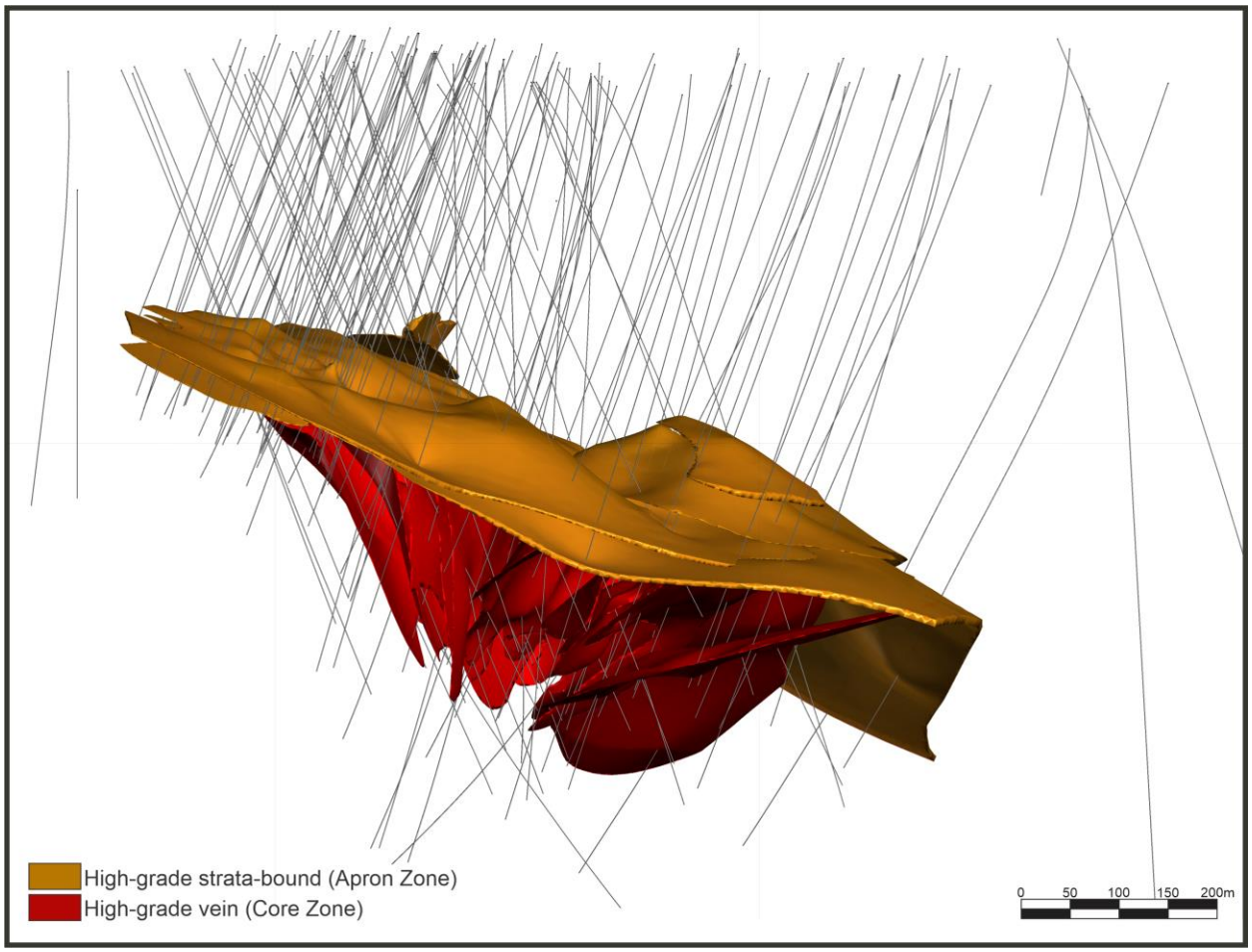
Figure 2: October 2019 Resource – Total Resource 'grade tonnage' curve



Source: Optiro.

Figure 3 shows a 3D visualisation of the October 2019 Resource split between the upper Apron Zone and lower Core Zone.

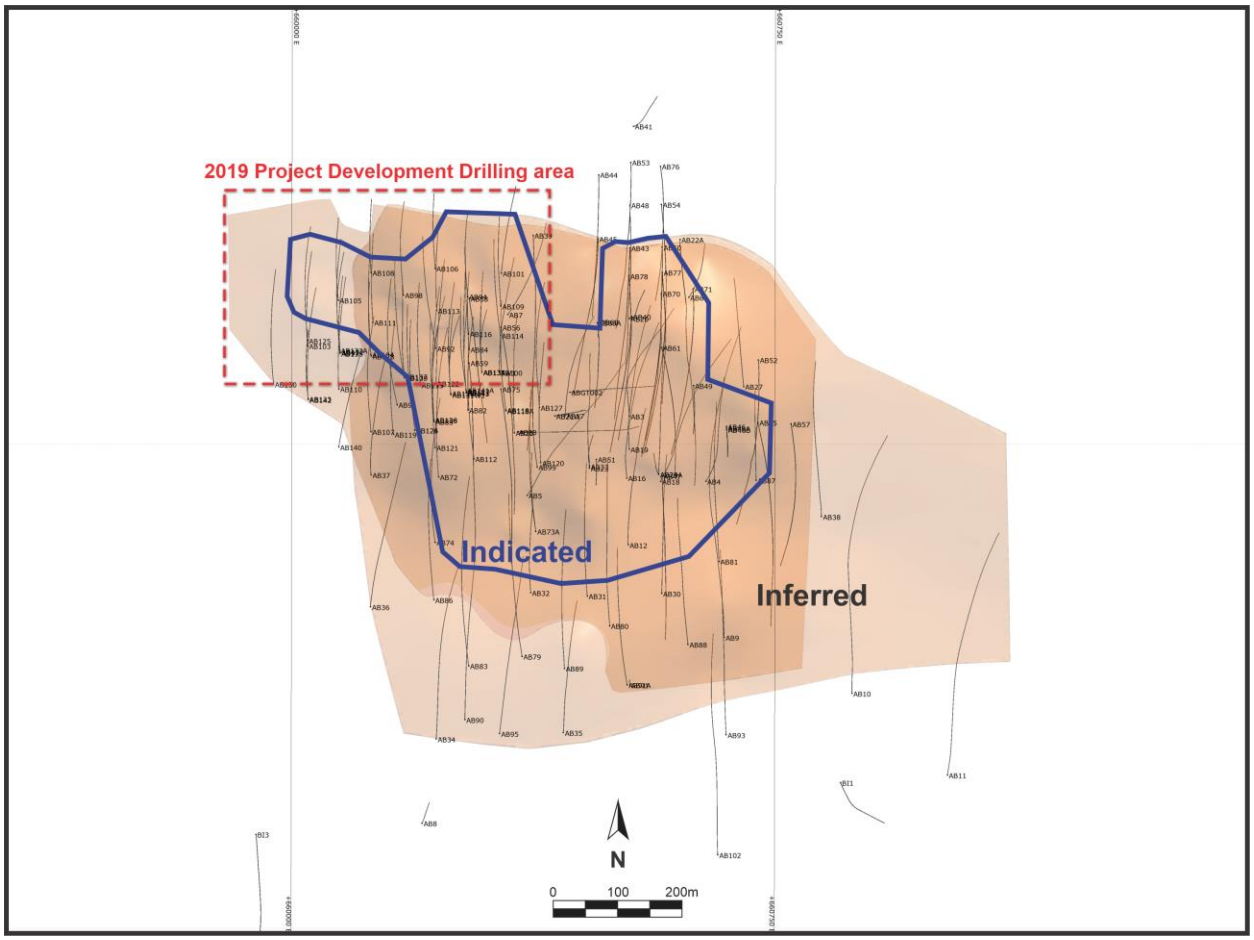
Figure 3: 3D oblique view of Abra October 2019 Resource looking south east



Source: Galena

Figure 4 (below) shows the October 2019 Resource in plan view where the overlain blue polygon outline denotes the lateral extent of the material contained in the Indicated category. Inset box shows area targeted by 2019 project development drilling in the NW sector of Abra.

Figure 4: Plan view of Abra October 2019 Resource



Source: Galena

Implications / commentary

The October 2019 Resource continues to confirm Abra's standing as a globally significant lead-silver deposit.

In total, based on the combined movements of tonnes and grade (at a 5% lead cut-off), the October 2019 Resource is estimated to contain approximately 211kt (i.e., 7.6%) more lead metal than the December 2018 Resource (*see Galena ASX announcement of 18 December 2018*).

A major focus of the 2019 Project Development Drilling Program at Abra was to add Indicated Resource within the first three years of the Project's mine life. As such drilling focused on the shallower north western sector of the overall Resource (as highlighted in Figure 4 above). The drilling successfully added an additional 1.7Mt of Indicated Resource overall, with the bulk of this increase from within the targeted early mine life footprint in that north western sector. The Indicated Resource is now 16.7Mt at 8.4% lead and 24g/t silver (i.e., an increase of 114Kt of lead and 2.1Moz of silver (at a 5% lead cut-off).

Within the north western sector of the Apron (Figure 4), high-grade lead-silver mineralisation has been defined that has potential to enhance early project life cash flow. This includes anIndicated Mineral Resource of 2.4Mt at 10.4% lead and 39g/t silver (at a 7.5% lead cut-off).

Galena Mining Ltd.,

Alex Molyneux
Managing Director

Competent Person's Statement

The information in this report related to the October 2019 Resource estimate is based on work completed by Mr Don Maclean MSc (Geol), MAIG and RP Geo (Exploration and Mining), MSEG, a consultant to Galena Mining and Mr Mark Drabble B.App.Sci. (Geology), MAIG, MAusIMM, Principal Consultant at Optiro Pty Ltd. Mr Maclean was responsible for data review, QAQC, and development of the geological model. Mr Drabble was responsible for resource estimation, classification and reporting. Mr Maclean 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 Maclean 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.

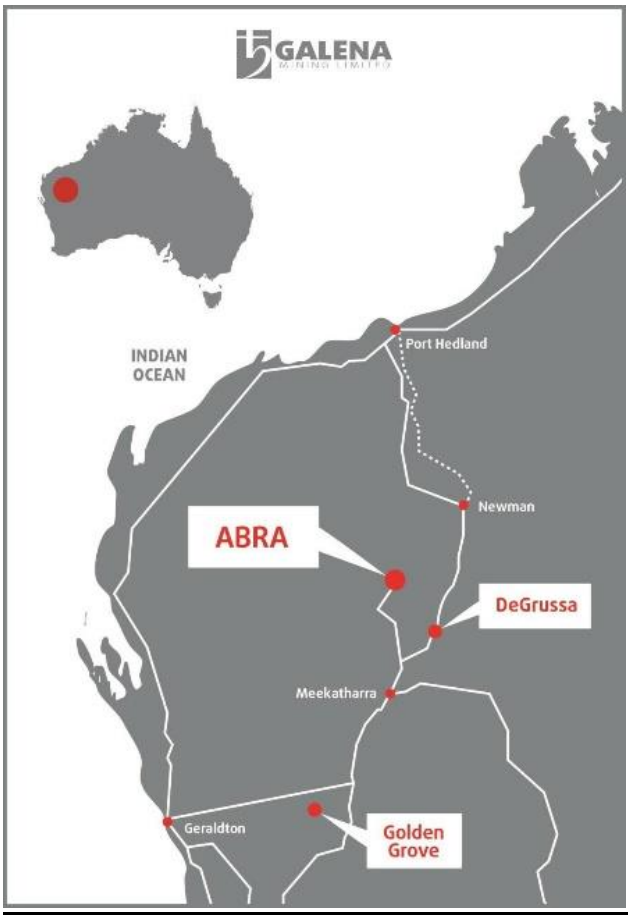
About Abra Base Metals Project

86.67% 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).

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%.[1]

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: OCTOBER 2019 RESOURCE AT ALTERNATIVE CUT-OFF GRADES

Table: Abra JORC Mineral Resource estimate (October 2019 Resource) – 6% lead cut-off[1]

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	13.2	9.3	26
Inferred	12.5	7.5	16
Total	25.7	8.4	21

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 (October 2019 Resource) – 7.5% lead cut-off[1]

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	8.6	10.6	32
Inferred	4.5	9.1	20
Total	13.1	10.1	28

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
Sampling techniques	• 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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • 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.	• The Abra October 2019 Mineral Resource Estimate (MRE) is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2019. The resource estimate contains 132 holes for 75,615m of drilling (22,190 samples). Of these 77 holes for 38,891m were drilled by Galena Mining Limited (GML (2017-2018)) and the proceeding joint venture company Abra Mining Proprietary Limited (AMPL (2019)). nb quoted figures only include effective drill holes, excluding holes abandoned early for drilling/deviation issues that did not intersect the mineralised strata. • 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 drillhole AB84 onwards samples were analysed using XRF with a lithium metaborate / tetraborate flux. Gold was assayed by fire assay using a 25 g, 30 g or 50 g charge. • Sample intervals were based upon geological logging and ranged from 0.5 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 the right-hand side of the core taken. The sampling methodology is considered to be representative and appropriate for the style of mineralisation at Abra (poly-metallic lead-zinc-silver-copper-gold).

Drilling techniques	• *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).*	• Most 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. Hole depths ranged from 320 to 955 m with an average depth of 570m. • Most core holes were oriented. Pre-GML/AMPL holes were either orientated using a Chinagraph spear or Ballmark/Ezymark type systems. Galena's 2017, 2018 and 2019 drilling was systematically oriented using either a Reflex ACT Mk.3^{TM} or TrueCore^{TM} 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.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• All diamond core was measured/recorded for drilling recovery by GML/AMPL staff (and its predecessors). • Overall core recovery is excellent due to the silicified and competent nature of the rock with core recoveries typically being close to 100%. • No grade versus recovery sample biases due to loss or gain of material has been identified.
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• 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. • Core logging was both qualitative and quantitative. Lithological observations were qualitative. All geotechnical observations and core photographs were quantitative. • 100% of the diamond core was logged.

Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All holes were routinely sampled as half cut NQ2 core for assaying, apart from two holes drilled in 2012 which were quarter cored. • The estimate is based entirely on diamond drill core. • All core was appropriately orientated and marked up for sampling by company geologists prior to core cutting. Sample widths range from 0.5m 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 laboratory for analysis. Sample preparation comprised industry standard oven drying, crushing, and pulverisation to less than 75 microns. Homogenised pulp material was used for assaying. • 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 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. • 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. • 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.

Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *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.*	• 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. • 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. • 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. • No hand held XRF or other geophysical data is reported here • 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) 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.

Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Most historic significant intersections were verified by (then) GML Geologists Angelo Scopel and Don Maclean while completing a core relogging program in 2017. • 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 drillholes. • Prior to GML primary geological logging and sampling data was firstly 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. • During GML/AMPL's 2017-2019 drilling programs geological logging and sampling data was firstly recorded on either paper or in a Toughbook computer according to 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 2018-2019 drill program • No adjustments were made to assay data.

Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All drill hole collars were surveyed using a DGPS by Haines Surveys (2005), MHR Surveys (2007), Galt Mining Solutions (2017), ABIMS (2018, 2019) and Land Surveys (2019). DGPS accuracy is within 0.02m. • 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 2017-2018 were later surveyed using a north seeking gyro by contractor ABIMs. In addition, 13 historic pre-GML holes were also surveyed. • Data is captured in Map Grid of Australia GDA 94, Zone 50. • 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.

Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• 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 100 and 50m spacing in the central parts of the deposit. The 2019 drilling infilled and extended the north-western part of the Apron and drill spacing averages 50m by 40m, with some intersections down to 25m x 30m spacing. The deposit lies between 250m and 700 m below surface. • Data spacing is sufficient to establish geological and grade continuity to establish a mineral resource estimate. • No sample compositing has been applied.

Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• The mineralisation in the Apron Zone consists of tabular shallow south dipping zones can be drilled from north or south with high intersection angles. The Core zone has steeply dipping structures that trend east-west. The majority of drill holes are oriented to the south to sample most of the identified structures in the Core Zone an unbiased manner. Approximately 40 early drillholes were drilled oriented towards the north, which is sub-parallel to some of the mineralised structures in the Core breccia zone. • 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 is 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.
Sample security	• *The measures taken to ensure sample security.*	• 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. • 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.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Mitchell River Group completed an audit of the geological database used for the estimate in October 2019. This audit included review and documentation of sampling and geological data integrity. No issues have been identified • 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.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *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.*	• 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. A 3.0% Net Smelter Royalty exists over leases M52/0776 and E52/1455. Galena Mining Limited (GML) currently owns 86.67% 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. • All tenements are in good standing.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• 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). • 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. • ABL 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. • 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.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• 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. • The deposit can be divided into two main parts. The upper "**Apron**" zone comprises stratiform massive and disseminated lead- sulphides (galena) and minor copper sulphides (chalcopyrite) within a highly altered sequence of clastic and dolomitic sediments. Alteration products include jaspilitic rich sediments (the "Red 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. • The "**Core**" 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 form a feeder style flower shaped geometry in cross section. Hydrothermal veining dips moderately south on the northern flank, sub-vertically in the central parts and gently 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 400m along strike.

Drill hole Information	• *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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *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.*	• The Abra resource estimate is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2019. The resource estimate uses 132 holes for 75,615m of drilling (22,190 samples). • A complete listing of all drill hole details and drillhole 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.
Data aggregation methods	• *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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No exploration results are reported in this report • Non-aggregated exploration data is reported here • No metal equivalents are reported here

Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	• No exploration results are reported here. • The upper strata-bound mineralisation is gently dipping and drilling intercepts are typically close to true width. • The lower vein-hosted mineralisation is generally steeply dipping and drilling intercepts are greater than the true width of the mineralisation
Diagrams	• *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.*	• A plan view of the resource outline and appropriate sections and views of the resource are included with this report.
Balanced reporting	• *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.*	• No exploration results are reported here.
Other substantive exploration data	• *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.*	• AMPL and its predecessors have collected a substantial amount of bulk density readings from drill core using standard water immersion techniques (over 10,200 readings). This data was used to appropriately assign density values in the Mineral Resource estimate. • Galena has completed various studies as part of its FS study program, including geotechnical, metallurgical and environmental studies. To date no major issues have been identified. • Groundwater studies and test work has identified water sources suitable for processing water supplies

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 updated Feasibility studies (FS) and Ore Reserve. These studies will examine such aspects as:
		  • Mining methods
		  • Geotechnical
		  • Hydrology
		  • Metallurgically
		  • Plant and infrastructure design
		  • Transport and shipping
		  • Environmental studies
		  • Social impact studies
		• Mineralisation remains open to the west and further drilling is planned to test this area
		• Additional drilling is planned from underground positions for resource development and grade control. This includes drilling to convert Inferred portions of the underlying ‘Core” mineralisation to Indicated Resource.

Section 3 Estimating and Reporting of Mineral Resources
(Criteria listed in the preceding section also apply to this section.)

Database integrity	• *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.* • *Data validation procedures used.*	• The Abra drilling database is stored in Datashed™ with data hosting services provided by the Mitchell River Group. • 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. • All data was visually validated on import. • From 2018 Log Chief™ was used for logging and sampling which has in built validation checks.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person for the geological/assay data and geological interpretation is Mr Don Maclean: MSc (Geol), MAIG and RP Geo (Exploration and Mining), MSEG. Mr MacLean is a consultant to GML and spent extensive time at Abra in 2017, 2018 and 2019. • 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 carried out a review of key drill core intercepts, geology, logging, drillhole collar verification and sampling methodology, • 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.

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 4.5.2). A 3D geological model was interpreted which encompassed the major 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 feeder hydrothermal veins and breccias of the "Core" zone (Core). • The 3D geological model was used to guide 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, the major hydrothermal veins and Core high grade domains. Alteration domains were also created for back ground coding using a lower grade lead cut-off value (~0.5% Pb). • Mineralisation wireframes were interpreted for the Core hydrothermal vein zones (at ~ Pb%>1.5% cut-off) and the high grade domains within these zones (~ Pb>5% cut-off grade). • Within the Core zone a higher-grade breccia hosted copper-gold zone was modelled 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. The Core hydrothermal vein domains and copper-gold breccia domain were used to assist in estimating copper and gold grades. • Drilling in 2019 identified a high-grade silver-lead zone on the western flank of the Apron 102 lode. The high-grade silver area was modelled 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. • The current interpretation is believed to be the best fit based on the current level of understanding of the deposit. Several scenarios were modelled in the Core zone to test continuity of structure and orientation, and to correlate mineralisation to the underlying geology. • Variography modelling of the Core mineralisation suggests that there may be a component of gently south dipping stratigraphy parallel continuity to the core. This is at odds with the steep to moderate dips of veining and mineralisation observed in drill core. This indicates there may be a secondary stratigraphic control to mineralisation or more than one mineralising event, with 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.
Dimensions	• *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.*	• 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 700 metres below surface.
Estimation and modelling techniques	*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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the*	• 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 Core region are interpreted using a nominal 5% 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. • The Abra resource was previously estimated in December 2018 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.

	average sample spacing and the search employed. • *Any assumptions behind modelling of selective mining units.* • *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.*	• 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 10 mRL was employed for grade estimation. Domain boundaries were represented using subcells of 2.5 mE by 2.5 mN by 2.5 mRL. 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 50 m averaging 50 m by 50 m in the centre of the deposit although the crossing of drillholes 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 60 to 80 m in the Apron veins and 70 m in the Core veins in the plane of the vein. No more than three composites were allowed to contribute to a block grade estimate from any single drillhole. 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. • The extent of higher-grade domains is controlled by the domain geometry. 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 lithology interpretation was applied as a variable during bulk density assignment. 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 • 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. • Model grades were validated visually, by whole of domain grade comparison and using swath plots. • No mining has occurred at Abra.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Model estimates are done on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A range of cut-off grades are reported which are believed to be appropriate for underground mining.
Mining factors or assumptions	• *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.*	• 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.
Metallurgical factors or assumptions	• *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.*	• 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. • In 2018 and 2019 an additional 20 composites designed to give a representative spread of ore types and early mine life production have been sent for testwork as part of ongoing FS study work. Results to date compare favourably with the earlier testwork

Environmental factors or assumptions	• *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.*	• The Abra project is on a granted mining lease. No environmental factors / issues have been identified to date. • The project will produce a lead sulphide concentrate that can easily trucked to Geraldton and shipped. The Golden Grove Mine has been shipping similar concentrate products from Geraldton for many years
Bulk density	• *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.* • *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.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• A total of 10,200 bulk density measurements were taken from a suite of mineralised and un-mineralised drill core using conventional water immersion techniques. • Bulk densities were assigned to each lithological domain based on the mean measured density from test work for each lithology type. Bulk densities applied range from 2.7 to 3.69 t/m^3 depending on the lithological unit. • Bulk density is noted to increase with lead grade (i.e. increasing amount of dense galena) but is complicated by the presence of dense gangue mineral barite, magnetite and hematite). Density correlates well against combined Fe% + Ba% + Pb% but there is incomplete coverage of all these elements in the assay data set (only 30% coverage). Bulk density assignment in the mineralisation was based on Pb grade. Values were assigned based on the mean bulk density measurements at different Pb% grade bins. For the Apron bulk densities assigned ranged from 3.40 to 4.14 t/m^3 with increasing lead grade, and for the core from 2.9 to 3.6 t/m^3.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The deposit is classified as an Indicated Mineral Resource (IND) and Inferred Mineral Resource (INF). The bulk of the IND (90%) is contained within the central part of the Apron zone mineralisation, with 10% in the Core zone. The distribution of the INF material is on the margins and downdip areas of the Apron and comprises most of the Core zone. • The classification of the **Apron** IND resource is based on the demonstration of geological continuity of the host lithologies in the Apron (Red zone, Black zone). These are tabular and predictable, with the evolution of drilling programmes at Abra supporting the expected mineralisation locations and grades. The drilling density is variable and ranges from 50 x 25m out to 80m in places. A plunge line of higher grade mineralisation and thickness trending 150^0 (grid) was also used to guide a boundary string which was interpreted around consistent zones of geological and grade confidence. This boundary excluded the periphery of the deposit to the west, south and east, which due to lower geological confidence, broad spaced drilling and

		grade extrapolation was classified as INF. A zone of thinner, low grade mineralisation on the northern edge of the Apron was also categorised as INF. • The classification of IND in the **Core** zone is based on the assessment of continuity of the veins in the feeder zone. A section of the Core was deemed to have sufficient confidence in geological and grade continuity to meet the IND criteria of less than 50 x50 m (down to 50 x 25m) and high confidence in the geological continuity of the central part of the vein. Review of sample data, geological logging, structural data and core photos of drill intersection by GML indicate that this can be interpreted as a consistent broad steeply dipping zone Outside of this domain the mineralisation is complex and drill/sample spacing is variable. On this basis all other core vein domains have been classified as INF.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No external audits or reviews have been completed on the October 2019 Abra MRE. The estimate has been reviewed internally by Optiro and Galena. 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.
Discussion of relative accuracy/ confidence	• *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.* • *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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• 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. • The accuracy of the Indicated Mineral Resource is estimated to be accurate to a quarterly level of reporting on a feasibility study schedule.

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**