ASX ANNOUNCEMENT

25 September 2018 **ASX: G1A**

GALENA ADVANCES EXCELLENT PFS FOR ABRA BASE METALS PROJECT, DECLARES MAIDEN ORE RESERVE

HIGHLIGHTS:

- **14-year mine life producing a high-value, high-grade lead-silver concentrate containing 91ktpa of lead and 760kozpa of silver after ramp-up**
- **Outstanding economics, with pre-tax NPV of A$528M and IRR of 50%**
- **Transformational improvements in Project scale and value vs. Scoping Study:**
  - **Annual throughput increased by 20% to 1.2Mtpa**
  - **Mine life extended by three years (27%) to 14-years**
  - **Pre-tax NPV increased by A$134M (34%)**
  - **Improvements come with no material increase in pre-development capex**
- **Average annual net free cash flow during commercial production of A$97M**
- **Attractive cash costs among global primary lead producers of US$0.48/lb lead C1 direct cash cost of production**
- **Declaration of maiden JORC Ore Reserve of 10.5Mt Probable at 8.1% lead and 20g/t silver**
- **Clear pathway for rapid completion of permitting and other pre-development works – On track for 2019 construction commencement**
- **Upcoming milestones include Resource upgrade, offtake and continuation of recently commenced project financing discussions**

GALENA MINING LTD. (**"Galena"** or the "**Company**") **(ASX: G1A)** announces completion of the highly anticipated pre-feasibility study ("**PFS**") for its wholly-owned Abra Base Metals Project ("**Abra**" or the "**Project**"), located in Western Australia. The PFS outcomes are considered excellent and in most respects confirm or exceed the previously completed Scoping Study (see Galena ASX announcement of 28 June 2018). The completion of the PFS has also allowed the Company to declare its maiden JORC Ore Reserve for the Project.

Managing Director, Alex Molyneux commented, ***"This PFS confirms Abra is one of the best base metals projects in the world in terms of high investment returns, low country risk and market significance. The overall value of the Project has also just got a whole lot bigger with the NPV rising by 34% to A$528M, and a number of years additional mine life."***

Managing Director, Alex Molyneux went on to say, ***"The work done for the PFS also confirms we have a clear pathway to complete permitting and other pre-development works quickly. Abra is a very 'executable' project and it will be the absolute mission of Galena's team to move it into construction in a timely manner."***

PFS – Cautionary statement

70% of the material included in the current mining schedule for the Abra PFS is included in Probable Ore Reserves. However, the remainder is currently included in Inferred Resources, with no reduction factor applied to the tonnes and grades of the Inferred Resources. Inferred Resources have a lower level of geological confidence and can't be included in the calculation of Ore Reserves. All results of 2018 infill drilling have not been received and there is no guarantee that a Resource update will convert Inferred material into Indicated or return the same grade and tonnage distribution. This may affect mining studies and economic outcomes from this PFS. The Abra Ore Reserve will be reviewed in conjunction with the coming Resource update.

Process and engineering designs for Abra's PFS were developed to support capital and operating estimates to an accuracy of ±20% and ±15% respectively. Key assumptions that the PFS was based on are outlined in the body of this announcement and Appendix 1. Galena has concluded it has a reasonable basis for providing the forward-looking statements in this announcement.

OVERVIEW OF KEY PFS OUTCOMES

Abra is a globally significant lead-silver deposit, with a granted mining licence, located in Western Australia. The excellent PFS confirms the technical and economic robustness of developing an integrated mining and processing operation to produce a high-value, high-grade lead-silver concentrate. Key outcomes of the PFS are presented in Table 1 and Table 2 below.

Table 1: Key PFS outcomes – Production metrics

	Annual	LOM
Mill throughput[1]	1.2Mt	15.3Mt
Diluted mined ore grade:		
- Lead		7.7%
- Silver		20g/t
Life of mine ("**LOM**")		14-years
LOM recoveries:		
- Lead		96%
- Silver		96%
Production (metal in concentrate):		
- Lead	91kt	1.1Mt
- Silver	760koz	9.6Moz
High-value lead-silver concentrate grade:		
- Lead		75%
- Silver		220g/t

Notes: 1. 70% of the mining inventory material is included within Ore Reserves but the remainder is currently included in Inferred Resources.

Table 2: Key PFS outcomes – Capital investment, operating cost and project economics

	Annual	LOM
Capital investment assumptions		
Pre-production capital expenditure[1]		A$154M
Construction period		1.5 to 2.25-years
Operating cost		
Lead C1 direct cash cost of production[2]		A$0.66/lb (US$0.48/lb)
Financial assumptions and Project economics		
Lead metal price		US$0.95/lb
Silver metal price		US$14.50/oz
Exchange rate – US$ per A$1		0.73
Pre-tax net present value ("**NPV**") (8% discount rate)		A$528M
Pre-tax internal rate of return ("**IRR**")		50%
Payback (from first full year of commercial production)		2-years

Notes: 1. Including A$10.1M of contingency, A$13.8M of EPCM and A$12.3M of owner's and indirect costs, 2. Includes a by-product deduction for net silver revenue of A$0.08/lb (US$0.06/lb).

PFS COMPARISON TO PRIOR SCOPING STUDY

The Abra PFS announced today compares favourably with the Scoping Study announced on 28 June 2018 on most key outcomes. Table 3 (below) provides a side-by-side analysis of selected key outcomes from both studies.

Table 3: Selected key study outcomes – PFS vs. prior Scoping Study

	PFS (25 Sep 2018)	Scoping (28 June 2018)[1]	PFS B/(W) Scoping[1]	PFS B/(W) Scoping[1]
Average annual mill throughput	1.2Mtpa	1.0Mtpa	0.2Mtpa	20%
Mine life	14-years	11-years	3-years	27%
Total LOM lead metal production	1.1Mt	0.8Mt	0.3Mt	38%
Total LOM silver metal production	9.6Moz	4.0Moz	5.6Moz	140%
Pre-production capital expenditure	A$154M	A$153M	(A$1M)	(1%)
Lead C1 direct cash cost of production	US$0.48/lb	US$0.46/lb	(US$0.02/lb)	(4%)
Pre-tax NPV[2]	A$528M	A$394M	A$134M	34%
Pre-tax IRR	50%	61%	(11%)	(18%)

Notes: 1. The Scoping Study case being compared to is the 'Base Case'. 2. The Scoping Study NPV was calculated using a 10% discount rate whereas the PFS uses an 8% discount rate, reflecting the more advanced nature of the works involved in the later study. At a 10% discount rate the pre-tax NPV for the PFS is A$451M, ie, 14% higher than the Scoping Study.

The PFS includes a 20% increase in annual production tonnage and a 27% extension of mine life, at a slightly lower grade. These enhancements have been gained by improvements and optimisation of mining methods, stope designs and scheduling since the Scoping Study, without a material increase in pre-development capital expenditure or direct cash operating costs. As a result, the value of Abra (as represented in NPV terms) has transformationally increased whilst underlying investment returns remain extremely strong.

Certain financial assumptions changed from the Scoping Study to the PFS. The lead price remained unchanged at US$0.95/lb. However, the silver price was lowered from US$16.50/oz (Scoping Study) to US$14.50/oz (PFS) to reflect the more material change in spot silver price over the time between the two studies. The exchange rate assumption was also amended for the same reason, from A$1=US$0.75 (Scoping Study) to A$1=US$0.73 (PFS). Furthermore, reflecting the more detailed mine planning (a monthly mine schedule underlies the PFS) and more detailed engineering and other inputs, the real discount rate used to calculate NPV was lowered from 10% (Scoping Study) to 8% (PFS).

UPCOMING PROJECT MILESTONES

A number of key work areas included in the PFS have already been completed to definitive / bankable feasibility study ("**DFS**") level, including the key items of: geotechnical drilling; metallurgical testwork; environmental studies and reports; water supply analysis; hydrogeology; underground mine designs and monthly mining schedule (for the current Reserve / Resource); and infrastructure design. Therefore, Galena aims to focus on a number of parallel workstreams over the next few months to move towards a construction decision as soon as possible.

Upcoming value-adding milestone workstreams include:

- Preparation of an updated Mineral Resource estimate once the current ongoing drilling program completes, all assays are received, and data processed.
- A review of the JORC Ore Reserve and underground mine designs / schedule following the updated Mineral Resource estimate for a potential Ore Reserve update and optimisation of the PFS.
- Permitting works – The Company has already concluded, based on completed base line environmental studies that the Project does not require EPA approval. Furthermore, it has already lodged various applications for minor permits allowing for infrastructure works approvals. Galena aims to lodge its final Mining Proposal in three to four months.
- Ongoing discussions with potential customers – Galena commenced engagement with a number of potential customers as part of the PFS process, receiving a very positive response. The Company plans to continue engagement over coming months with a view to considering formal offtake arrangements with such parties.
- Advancing discussions with project financiers – The Company has initiated preliminary discussions with a number of parties regarding project financing. Such parties include traditional project financing banks and strategic counterparties.
- Completion of a DFS.

Galena continues to target commencement of construction at Abra in 2019, initial production in 2021 and the first full-year of steady-state commercial production in 2022.

INVESTOR AND ANALYST CONFERENCE CALL

Galena will hold a conference call on Tuesday 25 September 2018 at 9:30am Perth, Hong Kong and Singapore Time / 11:30am Sydney and Melbourne Time, to discuss the Abra PFS results.

Conference call dial-in details as follows:
Australia-wide toll-free number: 1300 254 398
International callers: +61 3 8687 0650

SUMMARY OF PFS

Abra is a globally significant lead-silver project located in the Gascoyne region of Western Australia. Galena owns 100% of the Project, which was discovered in 1981 and has been the subject of historical and modern exploration, and preliminary (scoping-level) economic studies. There has been no previous mining activity at Abra and the deposit does not outcrop. The Project is located within the granted mining licence M52/776.

Galena undertook this PFS, following completion of the outstanding Scoping Study three months ago, to confirm the technical and economic robustness of developing an integrated mining and processing operation to produce a high-value, high-grade lead-silver concentrate at Abra.

Working with an update of the most recent Mineral Resource estimate (see Galena ASX announcement of 14 March 2018) ("**March 2018 Resource**"), the PFS envisages a 1.2 million tonne per annum (Mtpa) throughput rate over an initial approximately 14-year life. The proposed plan targets high-grade lead-silver mineralisation ranging between 6.7-10.8% lead and 14.4-43.0g/t silver over the LOM. The PFS combines an underground mining operation with a processing plant employing conventional milling and flotation. The production rate was selected after analysing different ore grades against practical underground mining rates and optimising the Project's future infrastructure, which is based on different capital cost and grade optimisation scenarios.

The PFS indicates post-ramp up steady-state production of concentrate containing approximately 91ktpa of lead and 760kozpa silver. Pre-production capital expenditure is estimated to be A$154 million (including contingency and owner's costs) and lead 'C1' direct cash cost of production of A$0.66/lb (US$0.48/lb). Using a lead price of US$0.95/lb and silver price of US$14.50/oz, together with an exchange rate of A$1=US$0.73, results in an estimated NPV of A$528 million (at an 8% discount rate) and an IRR of 50%.

Abra is well located with the availability of key infrastructure and close access to water, public roads, existing mining operations and the towns of Meekatharra and Newman. Lead-silver concentrate will be transported by road to the port of Geraldton (or potentially Port Hedland) in the mid-west of Western Australia.

Abra's granted mining licence (M52/0776) is surrounded by exploration licence E52/1455 and the Project is subject to an Indigenous Land Use Agreement with the Jidi Jidi Aboriginal Corporation, the relevant native title claimant group.

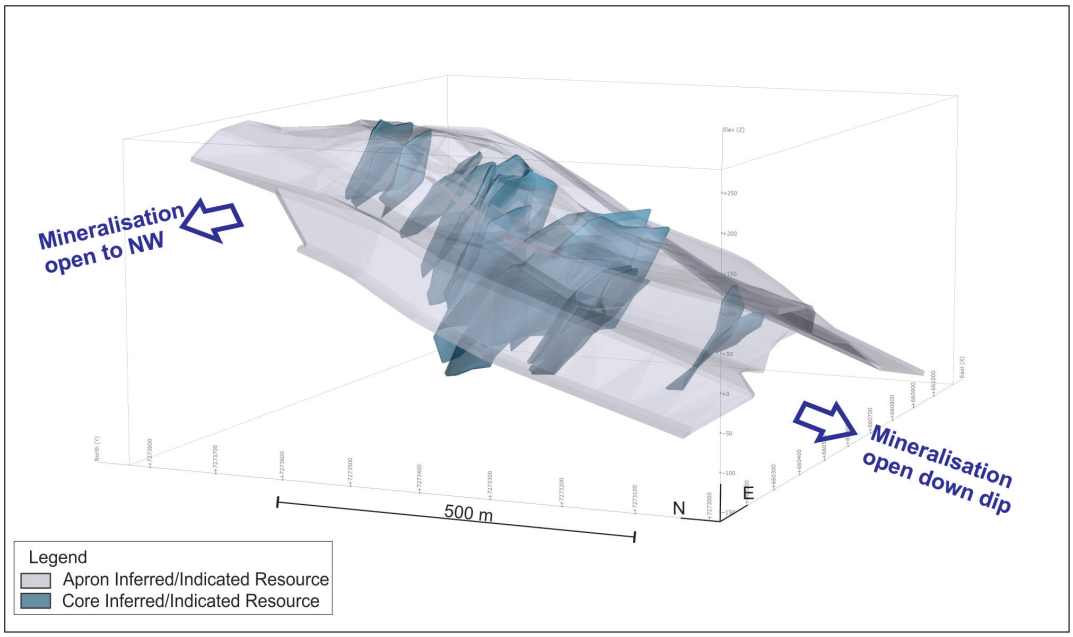
Geology and Mineral Resource estimate

The Abra deposit is broadly split into an upper stratiform zone with laterally continuous high-grade lead and silver mineralisation contained in galena (known as the "**Apron Zone**"), overlying a less continuous but also high-grade zone of hydrothermal vein mineralisation containing copper, gold, lead and silver in galena, chalcopyrite and sphalerite minerals (known as the "**Core Zone**"). Figure 1 (below) highlights the Apron and Core zones and at 5% lead cut-off resource wireframes.

Abra is one of the largest known undeveloped lead deposits in the world and can be considered a globally significant lead-silver project.

Galena completed the March 2018 Resource using data from 46,424 cumulative linear metres of diamond core drilling and 14,413 samples, including 8,024 cumulative linear metres drilling completed between September and December 2017.

Figure 1: Image of PFS Updated Resource (5% lead cut-off wireframes) looking obliquely east



Source: Galena.

At the time of publication of the PFS, Galena is in the midst of a targeted infill and Resource development drilling program to increase geological confidence in selected areas identified in the Inferred Resource category of the March 2018 Resource. This program has also continued to extend mineralisation outside that previous Resource envelope. Once it is completed and all results are returned from the program, new data will be included in a new Resource update. However, for this PFS, Galena has utilised data from some of the already available infill drill-holes to review the block model from the March 2018 Resource, resulting in an interim update in which some material has been reclassified from the Inferred category to Indicated ("**PFS Updated Resource**"). The volume of material in the Indicated category has increased 29%. Full details are contained in Table 1, Sections 1, 2 and 3 in the Appendices. Table 4 (below) summarises the results of the new PFS Updated Resource.

Table 4: JORC Mineral Resource estimate (PFS Updated Resource) at a 5% lead cut-off grade[1]

Resource classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Measured	-	-	-
Indicated	17.0	8.0	20
Inferred	19.7	6.6	15
Total	36.7	7.3	18

Notes: 1. Using Inverse Distance Interpolation.

The PFS Updated Resource is based on geological data from the 46,424 cumulative linear meters of diamond drilling completed up to the end of 2017. Mineralised intervals were diamond drilled using NQ diameter holes, geologically logged, cut and then half core samples were submitted to

a laboratory for analysis. Samples were oven dried, crushed, pulverised and analysed for base metals using either a three or four acid digest followed by an AAS or ICP-OES finish. Gold was assayed by fire assay using a 25g or 30g charge.

Geological and resource modelling used Micromine software. Wireframing was carried on 50 spaced north-south orientated cross-sections and then cross-checked in plan. A 3D geological model was developed which encompassed the major litho-stratigraphic units, alteration zones, brecciation zones, hydrothermal vein zones, and faults. The 3D geological model was used to guide the mineralisation wire-frame interpretation on 50m spaced north-south orientated cross sections. Solid wireframes were created for the Apron Zone (at lead >2% and lead >5% lower cut-offs) and for the Core Zone (at lead >2% and lead >5% lower cut-offs).

Lead is the primary economic element and was modelled using inverse distance squared interpolation. Secondary metals silver, zinc, copper and gold were estimated using inverse distance squared interpolation. Search ellipse maximum axes ranging from 95 to 220 metres depending on the domain. Ancillary items estimated included the number of holes and composites used to estimate a block and regression line slope. These were used to assist in resource classification. Outlier samples were cut and 2 metre composites used for the estimate.

A model block size of 10m (X) by 10m (Y) by 4m (Z) was used with sub-celling to 2m (X) by 2.5m (Y) by 2.5m (Z). This block size is believed to be appropriate for the data set and for evaluation as an underground mine. Block grades were estimated at the parent block size. Bulk densities were assigned to each domain based on the mean measured density from test-work for each domain. Bulk densities applied range from 2.8 to 3.6 depending on the domain.

Resource classification for Abra is based upon review of critical modifying factors including data density, data quality, geological confidence, geostatistics, variography and quality of the estimate. On this basis the Resource has been classified as Indicated in areas where there is high geological confidence and there is appropriate drill spacing (from generally 50m by 50m but in some areas on 50m by 80m where there is continuity of geology and grade has been confirmed by the current infill drilling program). Inferred Resources are reported where drill spacing is generally greater than 50m by 50m or 50m by 80m constrained by the Apron Zone and Core Zone >5% lead and >2% lead domains from the existing database and there is no other additional confirmatory infill evidence of continuity of geology and grade. The maximum distance from a drill hole is 150m for an appropriately informed block estimate.

The Resource estimate has been prepared assuming mining and processing can be economically undertaken using underground mining methods and conventional floatation processing. A 5% lead cut-off grade was selected having regard to the practical mining and processing, and economic modelling associated with the PFS. The assumptions used in the PFS are presented elsewhere in this announcement.

Mining and Maiden Ore Reserve estimate

Underground mining using long-hole open stoping has been selected as the primary mining method, with paste backfill. However, certain shallow dipping areas within the Apron Zone will be mined as room and pillar. Ground conditions are expected to allow relatively large stopes to be employed. Figure 2 (below) provides an isometric view of the mine design.

In conjunction with the PFS, an Ore Reserve estimate was derived. The Ore Reserve estimation methodology was to prepare a 3D mine design model as per the PFS assumptions to determine

shapes and locations of individual stopes. Those shapes were then tested against the PFS Updated Resource (ie, at 5% lead cut-off grade) block model in order to eliminate shapes that were not within the Indicated Resource and to consider appropriate dilution and mining recovery assumptions. Using available geotechnical data, an overbreak of less than 0.5 metres was estimated and a dilution of such was applied to all hangingwall stopes. The grade of dilution hangingwall material for stope shapes was also estimated (Apron Zone hangingwall dilution grade 4.8% lead and Core Zone hangingwall dilution grade 4.2% lead). This confirmed the mining grade factors considering the reasonable grade of dilution material. Pillars were not designed but an allowance for Ore loss in pillars was included in the stope recovery factor. Consequently, a range of stope recoveries were applied for different mining methods. These range from 75% in the room and pillar areas, up to 95% for long-hole open stoping areas, where no pillars are planned. Based on this, the Ore Reserve estimate assumes an average overall stope recovery of 85%. Given the relatively high grade of dilution hangingwall material, an overall mining dilution factor of 5% was applied. Minimum mining width was assumed to be 5 metres.

Table 5 (below) summarises the Abra Maiden Ore Reserve estimate.

Table 5: JORC Ore Reserve statement[1]

Reserve classification	Tonnes (Mt)	Lead grade (%)	Silver grade (g/t)
Proved	-	-	-
Probable	10.5	8.1	20
Total	10.5	8.1	20

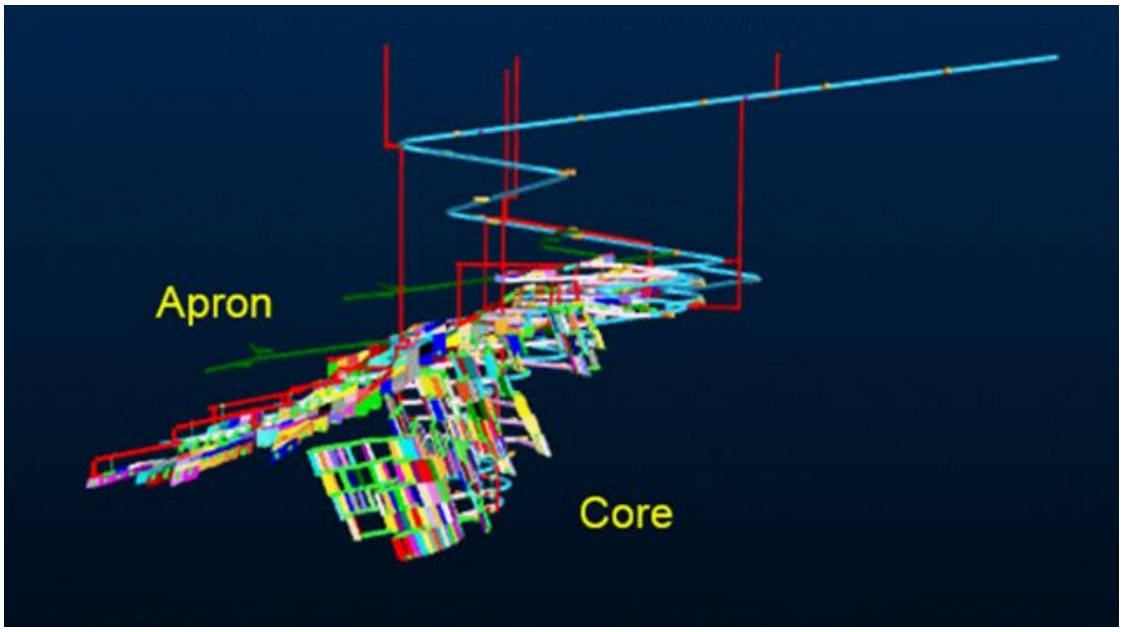
Notes: 1. Prepared by Mining and Project Development Services in conjunction with the PFS.

All Ore Reserve tonnes are included in the Indicated category of the PFS Updated Resource. However, only 62% of such Indicated Resources have become Probable Ore Reserves following the application of modifying factors.

Environmental approvals, mining tenements and approvals, other governmental factors and infrastructure requirements for selected mining methods and for transportation to market were not included as modifying factors for the Ore Reserve estimate as they were all analysed in detail for the PFS and determined not to pose any practical or economic restriction to the selected mining and processing model.

70% of the material in the current PFS mining schedule is included within Ore Reserves. However, the remainder is currently included in Inferred Resources, with no reduction factor applied to the tonnes and grades of the Inferred Resources. Inferred Resources have a lower level of geological confidence and can't be included in the calculation of Ore Reserves. All results of 2018 infill drilling have not been received and there is no guarantee that a Resource update will convert Inferred material into Indicated or return the same grade and tonnage distribution. This may affect mining studies and economic outcomes from this PFS. The Abra Ore Reserve will be reviewed in conjunction with the coming Resource update.

Figure 2: Isometric view of PFS mine design (looking west)



Source: Galena, based on AMC Consultants and Mining and Project Development Services inputs.

The Ore Reserves were calculated assuming the mining and processing methods determined for the PFS (as disclosed elsewhere in this announcement), together with the same material assumptions.

Processing

The process flowsheet selected in the PFS has been designed to produce a single high-value, high-grade lead-silver concentrate. It comprises of single stage primary crushing and semi-autogenous grind milling comminution. A flash flotation cell has been included in the grinding circuit to minimise over-grinding of the soft lead minerals and subsequent fines losses.

The metallurgical testwork on Abra found that optimal grade and recovery will be attained by utilising a lead flotation circuit. The circuit will comprise roughing and scavenging followed by regrind of rougher scavenger concentrate and then two stages of cleaning to produce a final high-value, high-grade concentrate averaging approximately 75% lead and 220g/t silver at a 96% process recovery for both metals.

Marketing and lead market

Abra's product is being marketed as a high-value, high-grade primary lead concentrate with substantial silver credits. Galena's research to date suggests that at 75% contained lead, Abra's lead concentrate will be the highest-grade lead concentrate commercially available globally. It's well in excess of typical concentrates that contain less than 60% lead. Furthermore, Abra concentrate contains no deleterious elements at or close to penalty levels.

As part of the PFS process, Galena retained WH Cunningham as a consultant and approached a number of international smelting companies and trading companies for indicative views on likely concentrate terms. The response was very positive, with nine parties from Europe, East Asia and

China submitting indications of interest. The Company believes Abra's concentrate is in high demand and has incorporated the findings with respect to likely concentrate terms into the PFS.

Lead is a base metal with liquid daily trading on the London Metal Exchange just like copper, nickel or zinc. Approximately 65% of global lead consumption is used for automotive batteries, both in new cars and as secondary replacement of batteries in the existing automotive fleet. Other uses include stationary batteries (14%), industrial traction batteries (7%) and non-battery use (13%). Lead demand is forecast to grow at 1.9% per year in the 2018 to 2040 forecast period. Core drivers of growth are: growing demand in automotive uses (it should be noted that lithium-ion powered electric vehicles all still use lead-acid auxiliary batteries in the same way as internal combustion engine vehicles do); and stationary battery applications for stable low-cost energy storage. The lead market is currently in supply deficit, with very little new mine development over the last decade. At the end of 2017 lead concentrate stockpiles were at or near record lows of 18-days of global smelter requirements.

When in full production, Abra will be the world's 5th or 6th largest primary lead mine.

Transport and logistics

The lead-silver concentrate will be thickened, filtered and then containerised with subsequent transport by road to a port for shipping. The PFS assumes concentrate will leave Abra by truck on the Ashburton Downs Meekatharra Road and then transit via public highways to the Port of Geraldton as the primary shipping port. Port of Geraldton has all permits and infrastructure required to handle lead sulphide concentrates such as Abra's and is currently an active handler of such materials for at least one third-party mine. Galena also considered Port Hedland and it continues to remain a viable alternative.

Pre-production capital expenditure

The capital expenditure required to the first full-year of steady-state commercial concentrate production totals A$154 million, including contingency and owner's costs, as set out in Table 6 below.

Table 6: Abra pre-production capital expenditure

	A$M
Mine development (including box cut and access decline)	31.2
Processing plant (concentrator)	51.4
Surface infrastructure	28.8
Offsite road upgrades and miscellaneous	1.5
Tailings storage facilities ("**TSF**")	5.0
Engineering procurement and construction management ("**EPCM**")	13.8
10% contingency on processing, infrastructure, TSF and EPCM	10.1
Owner's and indirect costs	12.3
Total	154.0

Operating costs and sustaining capital

Operating costs are inclusive of mining, processing, infrastructure, waste storage, administration, shipment, treatment and refining charges ("**TCRCs**"), and royalties. General and administration costs have been allowed for in the operating cost estimate including, insurances, freight, consultants, tenement fees, communications, offices and process plant related expenses. These costs have been derived from a variety of sources and reflect general mining operations and Abra's specific circumstances. LOM operating cost estimates are 'broken down' in Table 7 below.

Table 7: Abra average LOM operating cost estimates

	A$ ¢/lb	US$ ¢/lb
Mining	32.1	23.4
Processing[1]	20.2	14.7
TCRCs and outbound logistics	21.1	15.4
By-product deduction for net silver revenue	(7.7)	(5.6)
Lead C1 direct cash cost of production	(65.7)	48.0
Royalties[2,3]	9.8	7.2

Notes: 1. Includes an allocation for site general and administration cots of A$8/t of throughout, 2. 5.0% Western Australian State royalty plus 3.27% in historical vendor and other royalties, 2. 2.5% Western Australian State royalty plus 3.27% in vendor and other royalties.

Total LOM sustaining capital expenditure is A$90 million.

Production metrics, ramp-up assumptions and production profile

Table 7: Production metrics

	Annual	LOM
Mill throughput[1]	1.2Mt	15.3Mt
Diluted mined ore grade:		
- Lead		7.7%
- Silver		20g/t
LOM recoveries:		
- Lead		96%
- Silver		96%
Production (metal in concentrate):		
- Lead	91kt	1.1Mt
- Silver	760koz	9.6Moz
High-value lead-silver concentrate grade:		
- Lead		75%
- Silver		220g/t
Metal playabilities:		
- Lead		95%
- Silver		95%

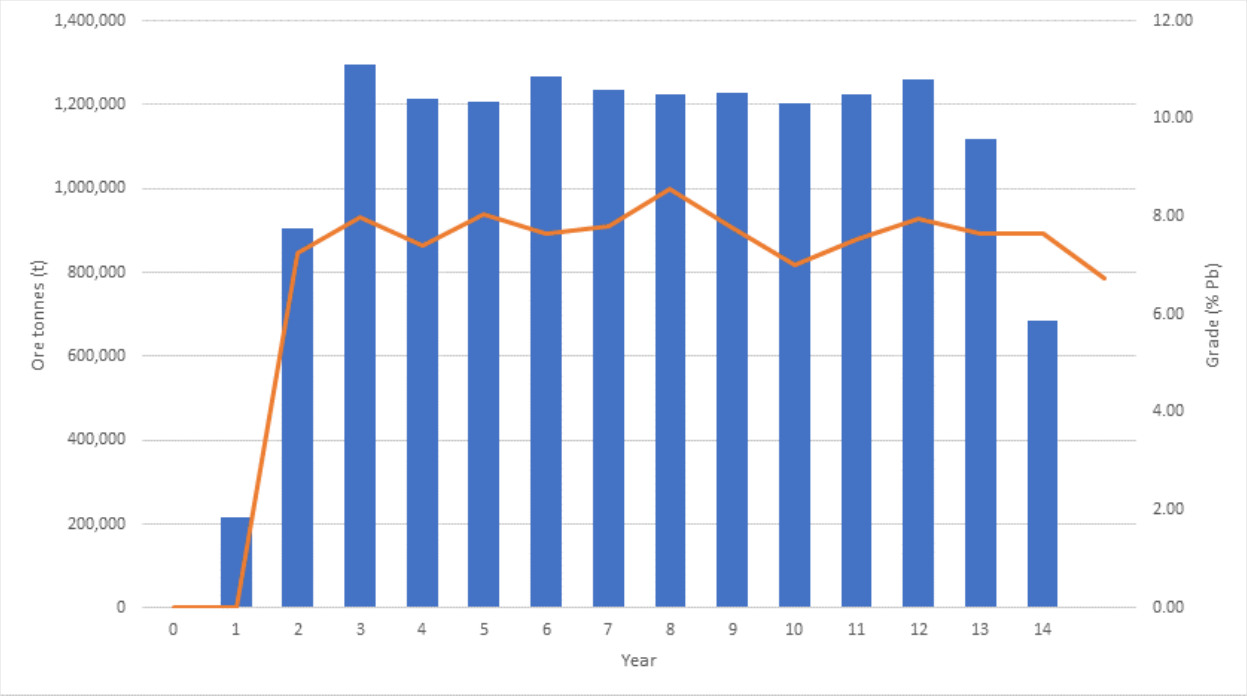
Notes: 1. 70% of the mining inventory material is included within Ore Reserves but the remainder is currently included in Inferred Resources.

Table 8: Ramp-up and LOM metrics

Construction period	1.5-2.25 years (2019-2021)
Ramp-up period	0.5-1.5 years (2020-2021)
First full-year of steady-state commercial production	Year 3 (2022)
LOM	14-years

The LOM production profile is outlined in Figure 3 (below).

Figure 3: LOM production profile (mined Ore – blue columns / mined lead grade – orange line)



Source: Galena, PFS model.

Financial assumptions, financial outcomes and Project economics

Table 9: Financial assumptions

Lead metal price	US$0.95/lb
Silver metal price	US$14.5/oz
Exchange rate – US$ per A$1	0.73
TCRC	US$100/t concentrate
Additional silver refining charge	US$2.2/oz
Royalties (based on net smelter return):	
- Lead[1]	8.27%
- Silver[2]	5.77%
Inflation	Modelled in 'real' 2018 terms

Notes: 1. 5.0% Western Australian State royalty plus 3.27% in historical vendor and other royalties, 2. 2.5% Western Australian State royalty plus 3.27% in vendor and other royalties.

Table 10: LOM revenue, costs and cash flows

	A$M
Total gross revenue	3,256
Smelter charges and outbound logistics	(500)
Net smelter return	2,756
Royalties	(240)
Other operating costs	(1,234)
Capital expenditure (pre-production and sustaining)[1]	(244)
Project cash flow (pre-tax)	1,038

Notes: 1. Closure and rehabilitation costs have not been estimated for this PFS and are not included in cash flow projections.

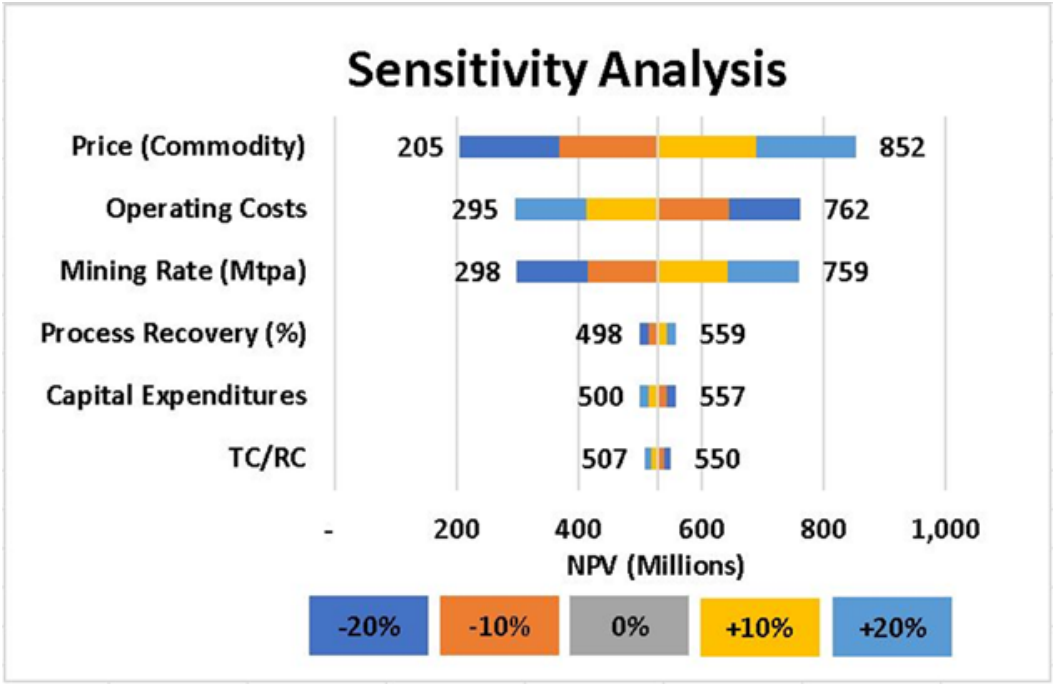
Table 11: EBITDA, margins and Project economics

Steady-state commercial production average annual EBITDA (years 3-13)	A$102M
Steady-state commercial production average annual EBITDA margin (years 3-13)	39 %
Steady-state commercial production average annual net cash flow (years 3-13)	A$97M
Pre-tax NPV (8% discount rate)	A$528M
Pre-tax IRR	50%

Sensitivity analysis

Sensitivity analyses using +/- 20% range pivoting on base case assumptions (displayed in brackets) for lead price (US$0.95/lb), process recovery (96%), TCRCs (US$100/t concentrate), capital expenditure (A$154M), lead C1 direct cash cost (US$0.48/lb) and throughput rate (1.2Mtpa) have been prepared and are shown in Figure 5 below.

Figure 5: Abra PFS pre-tax NPV sensitivity analysis



Source: Galena, PFS model.

PFS preparation, and key consultants / advisers

Galena has untaken the PFS by engaging a group of sub consultants to address the individual discipline elements of the study. GR Engineering Services Limited ("**GRES**") has provided the detailed process design, metallurgy review, mass water and energy balances, plant layout and general arrangement drawings, capital cost and operating cost estimation, infrastructure design and a PFS-level report covering this scope.

Galena engaged a metallurgical consultant, Mineralis Consultants Pty Limited ("**Mineralis**"), to manage a testwork programme and prepare a high-level process design and block flow diagram/flowsheet for the overall process.

The work undertaken by GRES built on the testwork and high-level process design provided by Mineralis.

The GRES scope within the PFS focussed on:

- Refining the process design and technical aspects of the Project
- Evaluating the strategic options and considerations applicable to the Project to define a robust business case which balances the risk profile and the development costs which could be taken forward in a DFS suitable for project financing
- Developing a preliminary project execution plan and schedule which includes identification of and planning for early works
- Long lead equipment items and pre-commitment activities

Other work items for the PFS were split between Galena and other third-party consultants as follows:

- Geology and Mineral Resource estimate by Galena
- Hydrology by Rockwater Pty Limited
- Geotechnical engineering by AMC Consultants ("**AMC**")
- Mine planning by Galena / AMC / Mine Projects and Development Services
- Metallurgical testwork by Mineralis
- Environmental studies and permits by Galena / Jacobs Engineering Group ("**Jacobs**") / Stantec Incorporated
- TSF design by Land & Marine Geological Services
- Communications by CorpCloud Pty Limited
- Approvals, permits and licenses by Galena / Jacobs
- Negotiations with government authorities and statutory bodies, including NGO's and local community representatives by Galena
- Operating strategy by Galena
- Owner's costs by Galena
- Concentrate marketing and product transport by WH Cunningham
- Financial modelling by Galena

Galena Mining Ltd.,

Alex Molyneux
Managing Director

Competent Person's Statement

The information in this report related to the Abra Ore Reserve estimate is based on work completed by Mr Simon Krebs, BEng (Mining, Member AUSIMM. Mr Krebs is an independent consultant to Galena through his company Mining Project and Development Services. Mr Krebs has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Krebs consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report related to the Mineral Resource estimate is based on work completed by Mr A Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG a Director of Galena and Mr Don Maclean MSc (Geol), MAIG and RP Geo (Exploration and Mining), MSEG, a consultant to Galena. Mr Byass was responsible for the resource estimation, classification and reporting. Mr Maclean was responsible for data review, QAQC, and development of the geological model. Mr Byass and Mr Maclean 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 Byass and Mr Maclean consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report to which this statement is attached that relates to Exploration Results and drilling data is based upon information compiled by Mr E Turner B.App Sc, MAIG who is an employee of Galena. Mr Turner has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Turner consents 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.

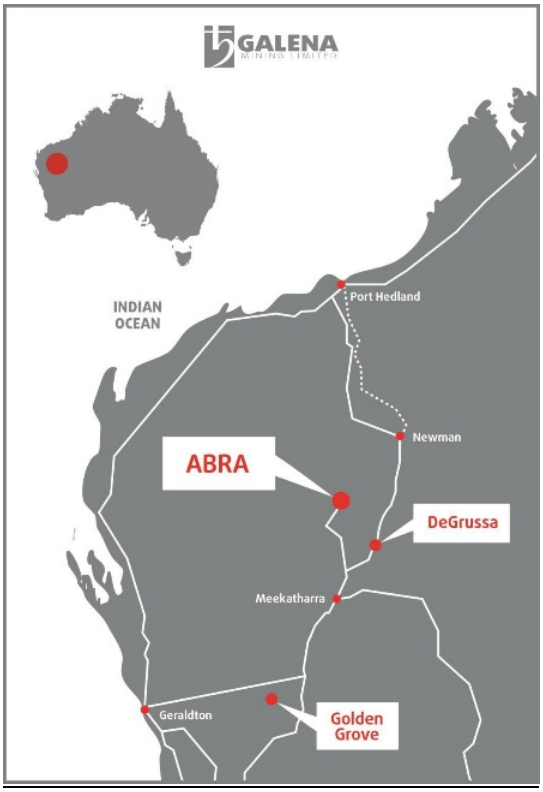
About Abra Base Metals Project

Abra comprises a globally significant high-grade lead-silver project and additional copper-gold mineralisation. It is wholly-owned by Galena and sits within a granted mining licence located in the Gascoyne region of Western Australia. Abra is located approximately half way between the towns of Newman and Meekatharra, 110km from Sandfire Resources' DeGrussa Copper Mine, and is well serviced by infrastructure (se Figure 6 below).

The high-grade lead-silver deposit is sedimentary hosted replacement style with the upper sections dominated by stratiform lead-silver horizons that dip shallowly to the south can be divided into two main parts. The upper Apron zone comprises stratabound massive and disseminated lead sulphides (galena) and minor copper sulphides (chalcopyrite) within a highly altered sequence of clastic and dolomitic sediments. The Apron zone is open in several directions, 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 Core zone extends from 300 to 750m below surface and can be traced for 400m along strike.

Abra location



APPENDIX 1: 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 (eg, '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 (eg, submarine nodules) may warrant disclosure of detailed information.	• The Abra resource and reserve estimate is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2018. The database used for the estimate contains 91 holes for 55,529m of drilling (18,181 samples). Of this 26 holes (17,129m) were drilled by Galena Mining Limited (GML). Mineralised intervals were diamond drilled using NQ diameter, geologically logged, 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 digest followed by an AAS or ICP-OES finish. Gold was assayed by fire assay using a 25 g or 30 g charge. • Sample intervals were based upon geological logging and ranged from 0.5 to 3.0m. Prior to GML involvement in the project drilling was typically sampled on 2m intervals. GML's sampling was generally on 1m intervals to assist in better delineating high grade mineralisation within the deposit. 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).

		• The samples for Abra's 2018 metallurgical test work program were selected from diamond drill holes completed by Galena Mining in 2017 (holes AB70, AB71, AB72 and AB75). Six representative intervals of mineralisation were selected to be submitted for test work representing the major mineralisation styles. Three intervals of stratiform Pb-Ag mineralisation referred to as the "Apron", were selected (composites S1, S2, S3). Three intervals from the feeder vein and breccia mineralisation, referred to as the "Core" were also selected. These comprised vein hosted Pb-Ag mineralisation (composite V1), vein hosted Pb-Ag-Zn (composite V2) and the breccia hosted Cu-Au mineralisation (composite B1). For each composite the remaining half NQ core for was bagged as per the original assayed sample interval. For the 6 composites a total of 130 individual samples were submitted. Samples were dispatched to ALS Metallurgy in Burnie, Tasmania for metallurgical test work and mineralogical studies. • ALS Metallurgy performed comminution (Bond Ball Work Index), grindability, batch floatation for Galena and locked cycle floatation for circuit development. • ALS submitted samples for mineralogical assessment at the float grind size. • Concentrates generated were analysed for trace elements and classical wet chemistry for lead.

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 to minimise hole deviation using HQ diameter and reduced to NQ diameter between 80 and 200m. Several holes were RC pre-collared through the barren upper sequence rocks, cased and diamond tailed using NQ diameter drilling. Diamond drilling was by wireline methods using standards tubes. Completed hole depths range in depth from 400 to 955 m with and average depth of 650m. • Most core holes were oriented. Pre-GML mining holes were either orientated using a spear or Ballmark/Ezymark type systems. GML's 2017 and 2018 drilling was systematically oriented using either a Reflex ACT Mk.3 or TrueCore core orientation system. The bottom of hole 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 staff (and its predecessors). • Overall core recovery is excellent due to the silicified and competent nature of the rock with core recoveries typically being 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 all mineralised core intervals were 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*	• Almost all holes were routinely sampled as half cut NQ core for assaying. Two holes drilled in 2012 which were quarter cored. The metallurgical samples were all from ½ NQ diameter core. • 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. GMLs sampling was generally in 1m intervals whereas its predecessors were generally 2m intervals. ½ 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. • Blanks samples were routinely dispatched to the laboratory to monitor

	duplicate/second-half sampling. • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	sample preparation. These generally performed within acceptable tolerances. Some elevated lead values are present which is likely the result of cross sample contamination by soft lead caking the sample preparation bowls. The magnitude of this is not of material impact on the lead values estimates in the resource estimate. • In GML's 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. Historically some original half core (110 samples) was later quarter cored 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.
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.*	• Several different laboratories have been used for assaying of Abra samples over the Project's life prior to GML. 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 were NaOH fusion for base metals followed by ICP-OES. Gold was analysed using either a 25 or 40g fire assay.

	• *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.*	• GML's samples were analysed by SGS Laboratories in Perth. An ore grade 4 acid digest was used followed by an ICP-AES finish. Gold was by fire assay with a 50g charge. From hole AB84 samples were analysed using XRF with a platinum crucible using a lithium metaborate / tetraborate flux. • The assaying methods are appropriate for the style and tenor of mineralisation at Abra. • No XRF or other geophysical data is reported here • Geopeko 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 AML or GML (2005 - 2018) who used industry standard QAQC programs. Blanks, certified standards and duplicates were regularly submitted to the assaying laboratory and monitored. Both AML and GML 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.*	• Most historic significant intersections were verified by GML Geologists whilst completing a core relogging program in 2017 • Due to the depth to mineralisation no twinned holes have been attempted yet. • 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

	• *Discuss any adjustment to assay data.*	office. • During GML's 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. • 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) and ABIMS (2018). DGPS accuracy is within 0.02m. 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 were corrected to be consistent with

		neighbour reliable surveys. From 2008 electronic multi-shot (Ranger and Ezi- shot) tools were used for routine surveying every 30 m while drilling. A north seeking gyro was used to survey all 26 holes drilled by GML drilling and 12 historic holes. Drill hole trace accuracy is considered to within several metres downhole (depending on the depth). • 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 was generated from DGPS drill collar surveys which is of sufficient accuracy for the resource estimate. A detailed site topographic survey is recommended for future mining studies.
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 1,000m east-west along strike and 800m north south. Drill spacing ranges from 150m spaced centres on the periphery to 50m x 50m spacing in the central parts of the deposit. In some small areas drill spacing was close to 50m by 25m. The deposit lies from 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.*	• Some initial drill holes may have been drilled sub-parallel to mineralised structures which dip steeply to the north but the majority of drill holes are oriented to the south so as to sample possible structures in an unbiased manner. The upper sections of the mineralisation are relatively shallow dipping to the south and can therefore be drilled in either direction. • It is not considered that there is a significant sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• The various companies that drilled the deposit maintained their own sample security measures. All sampled core was transmitted 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 drilling core was transported to the core yard where it was logged and sampled. Securely sealed sample bulka-bags were either transported by GML staff from the Abra site to Meekatharra for commercial trucking to the laboratory in Perth or trucked directly by GML contractors.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of sampling techniques and data have been completed.

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.*	• Abra Mining holds 100% interest in the Mulgul Project, consisting of Mining Lease M52/0776, Exploration Licence E52/1455, General Purpose Leases G52/292 and G52/286 and Miscellaneous Licence L52/021. A 3.0% Net Smelter Royalty exists over leases M52/0776 and E52/1455. Within the adjoining Jillawarra Project Abra Mining holds 100% of E52/1413, E52/3630 and E52/3575.
	• *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.*	• All tenements are in good standing and have existing Aboriginal Heritage Access Agreements in place. No mining agreement has been negotiated.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Initial exploration around the Abra deposit by Amoco Minerals 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 which did not complete any exploration. In 1995 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. AML 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. • 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 HNC divested the project in 2016. Galena Mining acquired the project in 2017 and floated on the ASX. • 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. Silver, copper, zinc and gold are also present but are of much lower tenor. • The deposit can be divided into two main parts. The upper "Apron" zone comprises strata-form massive and disseminated lead- sulphides (galena) and minor copper sulphides (chalcopyrite) within a highly altered sequence of clastic and dolomitic sediments. Alteration products include jasperlitic rich sediments (the "Red Zone") and a distinctive stratiform zone of hematatite-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 typically dip steeply to the north. 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 coherent body at the base of Core. The core zones 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*	• The Abra resource estimate is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2017. The database used for the estimate contains 77 holes for 46,424m of drilling. The database includes several RC precollars that were never tailed and a number of core holes that were abandoned before mineralisation was encountered due to hole deviation or drilling issues. In total the database includes 64 holes successful holes for 43,887m (14,137 samples). • 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.

	explain why this is the case.	
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 mineralisatio n 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*	• Appropriate diagrams are included with this report

	drill hole collar locations and appropriate sectional views.	
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.*	• GML and its predecessors have collected a substantial amount of bulk density from drill core using standard water immersion techniques (over 7,100 readings). This data was used to appropriately assign density in the resource estimate. • A small preliminary metallurgical test work program was completed in 2008 which indicated very favourable lead recoveries. Quantitative optical mineralogy examination of five (5) composites of Abra's (lead) mineralized material was conducted by McArthur Ore Deposits Assessments Pty Ltd (MODA). This found the Abra galena to be quite coarse-grained and free of any elevated deleterious elements. • Preliminary geotechnical studies were completed by AML. No major geotechnical issues have been identified.
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.*	• Further step out drilling is planned for 2019 as the mineralization does remain open in several directions as shown in Figure 2 within the body of the text. • Some infill drilling may be required in 2019 for communition, metallurgy and geotechnical data gathering during feasibility study test work. • Further drilling in 2019 may be required to increase confidence levels of mineralization within early years of production.

		• Additional infill drilling is recommended to improve geological confidence to upgrade the resource to higher confidence categories (ie from Inferred Resource to Indicated Resource, and from Indicated Resource to Measured Resource to aid in future Reserve estimates. Most of this is planned to be undertaken once underground access is established.

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.*	• Diamond drilling geological and assay data was stored in an Access database which was exported into Micromine as csv files where it was validated for inconsistencies, overlapping intervals, out of range values, and any other erroneous data. • All data was visually validated on import. Other validation steps included visual comparison of data to historic cross sections and systematic checking of high grade assay values against source data.
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 CP for the geological/assay data Mr Ed Turner is an employee of GML and spent extensive time at Abra in 2017 and 2018. Mr Turner was also previously an employee of AML and worked on Abra from 2008 to 2010 as Exploration Manager. The CP for the Resource Estimate Mr Adrian Byass and CP for the geological interpretation Mr Don Maclean have visited the Abra site numerous times over the last 12 months to ensure that the planned resource drilling was completed to a satisfactory level. The CP for Ore Reserves Mr Simon Krebs also visited the Abra site in 2018. • The CP's 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 Micromine software. Wireframing was carried on 50 spaced N-S orientated cross sections which was cross checked in plan. A 3D geological model was developed 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 and the steeply north dipping hydrothermal veins and breccias of the “Core” zone. • The 3D geological model was used to guide the mineralization wire-frame interpretation on 50m spaced N-S orientated cross sections. Solid wireframes were created for the “Apron” zone (at Pb>2% and Pb>5% lower cut-offs) and for the “Core” zone (at Pb>2% and Pb>5% lower cut-offs). These form continuous coherent zones. Interpretation parameters were at least 2 holes, a minimum of 4m down hole width and a maximum of 4m internal dilution (although in some cases material below cut-off was included if it was close to the cut-off or to maintain a geologically coherent shape).

		• The primary lode domains were interpreted using lead grades and then the geometry reviewed by looking at zinc, copper and silver. Silver correlates with lead grade suggesting silver is present in argentiferous galena. Zinc and copper are generally spatially associated with the lead domains but generally not of sufficient tenor to warrant domaining separately. There is some indications that zinc may be horizontally zoned and it may be able to be domained separately with additional drilling. • Copper and gold mineralisation is spatially related and the is a clear copper-gold zone lying at the base of the deposit. • No alternate interpretations have been considered as the model developed is believed best represent the current geological understanding of the deposit.
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 Resource estimate encompasses all of the Abra Lead Deposit which extends for 1000m 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*	• Resource modelling was carried out using Micromine software. • Sample assays were composited to 2.0m which is the most common

	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 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.*	sample length and appropriate for the mineralisation style and block size. • Lead is the primary economic element and was modelled using both ordinary kriging and inverse distance squared interpolation. Secondary metals silver, zinc, copper and gold were estimated using inverse distance squared interpolation. • Search ellipse maximum axes ranging from 95 to 220 metres depending on the domain. The search ellipse and variogram axes were aligned to the overall dip and strike of each mineralised domain. • Kriging parameters were based on lead variography. Ancillary items estimated included the number of holes and composites used to estimate a block, kriging variance and regression line slope. These were used to assist in resource classification. • Pb, Zn, Cu, Au and Ag were estimated for each domain using only composites from within that domain. • Three estimation passes were used to estimate each block (at 60%, 100% and 150% of the variogram range). The minimum/maximum number of samples and holes required for each block estimate varied depending on the pass. For pass 1 and 2 a minimum of 10 (max 24) composites from 4 holes was required. For pass 3 a minimum of 4 samples (max 24) from 2 holes was required, • A block size of 10m (X) by 10m (Y) by 4m (Z) was used with sub-celling to 2.5m (X) by 2.5m (Y) by 2m (Z). This block size is believed to be appropriate for the data set and for evaluation as an underground mine. • Block grades were estimated at the parent block size. • Samples were cut to the 99th percentile. Sample cutting has minimal impact

		on the contained metal. • Validation of the estimate included systematic visual cross checking of the model in cross section and plan, comparison of the estimated grades to composite data and cross checking of wireframe volumes.
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.*	• The Resource estimate has been prepared assuming 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.*	• It is assumed that lead and silver sulphide mineralisation can be economically extracted using conventional flotation methods. Preliminary metallurgical test work was conducted in 2008 by AML on three core samples from two holes to support a 2008 conceptual study of the project. Test work indicated that a float recovery of 95% is achievable for lead in the lead domain and an expected concentrate grade of approximately 55% to 65% Pb is achievable. • GML has sent 130 half core samples from six zones representing the major oretypes at Abra for mineralogical and metallurgical testwork. 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.

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 7,137 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 domain based on the mean measured density from test work for each domain. Bulk densities applied range from 2.8 to 3.6 depending on the domain • Bulk density does appear to increase with sulphide content but more work is needed to reliably estimate bulk densities based on this relationship
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,*	• The resource classification for Abra is based upon review of a wide range of critical modifying factors. Important modifying factors taken into consideration include: • Data density is adequate to support Indicated and Inferred resource classification. Drill spacing

	quality, quantity and distribution of the data). • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	ranges from 50 by 50m spacing up to 150m spacing which is appropriate for the styles and controls of mineralization at Abra. • Data quality. The diamond drilling has been carried in accordance with modern industry best practice standards and have QAQC data which supports the geological, geotechnical and assay databases. • Geological structure. The overall geometry of the main mineralised domains are well understood from diamond core geological and structural loggingA portion of the mineralization is however structurally complex in localized (short distance) zones. This is evident in some of veins/breccias within the "Core" zone. Structure is generally well understood and geological/grade continuity can be demonstrated with an appropriate level of confidence to support Indicated and Inferred resource classification. • Geostatistics and variography. Variograms were reasilly generated that support continuity and the parameters of the major geological and grade domains used for this estimate. • Based on review of the modifying factors the Competent Person is of the view that the resource should be classified as an Indicated and Inferred Resource and this is an appropriate reflection of status of the project. Approximately half of the resource is classified within each category. Based on the experience gained during 2017 and 2018 infill drilling it is expected that additional drilling into areas of wider-spaced drilling (infill) would continue to upgrade resources currently classified as Inferred into the Indicated category. • The Resource has been classified as Indicated in areas where there is high geological confidence (ie the Apron and Core >5% Pb modelled domains) and there is appropriate drill spacing (from generally 50 by 50 but in some limited areas to approximaty 80 by 80 m where there is very good continuity of geology and grade). • Inferred Resources are reported where drill spacing is generally greater than 50 by 50 constrained by the Apron and Core >5% Pb and

		>2% Pb domains. The maximum distance from a drill hole is 150m for an appropriately informed block estimate. • Further drilling/sampling is needed to increase the confidence to a level for an appropriate for classification in a higher category (ie from Inferred to Indicated and Indicated to Measured Resource)
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Brett Gossage of EGRM Consulting Pty Ltd has provided an independent review of the geological interpretation, grade estimation studies, and the resource classification approach.
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 estimate is based on diamond core drilling with appropriate modern QAQC. The estimate utilises all available geological and structural data. It is the CP's opinion that the resource classification used is consistent with the relative accuracy/confidence levels guidelines in the 2012 JORC Code. • The estimate is classified as Inferred (global) and Indicated (local) and is intended for scoping and preliminary PFS level studies • The deposit is un-mined and no production data is available

Section 4 Estimation and Reporting of Ore Reserves

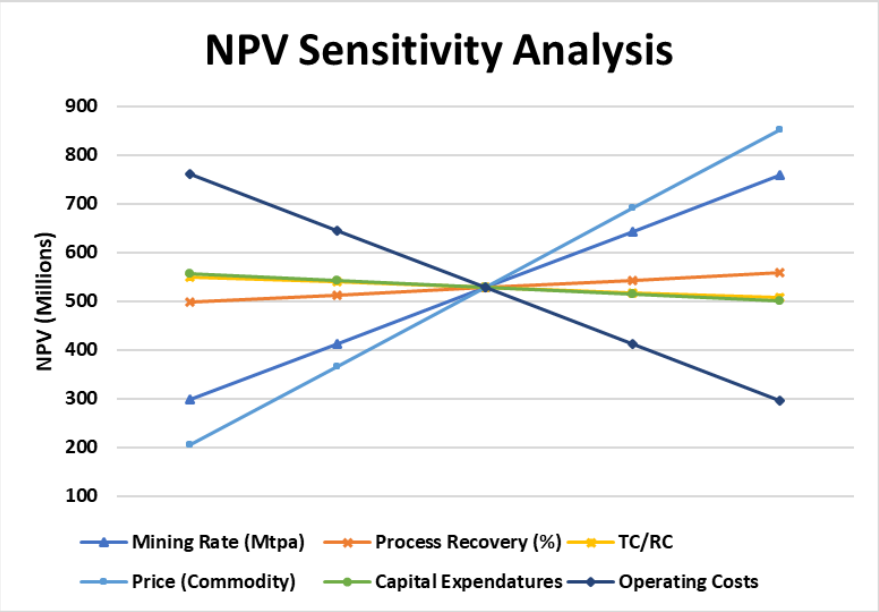
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• JORC 2012 Resource Estimate, where the Mineral resource is based on Inverse Distance Squared estimation method • The Mineral Resources are inclusive of the Ore Reserves.
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 has visited the Abra project and numerous site visits have been undertaken by the JORC Resource Competent Person.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• A Pre Feasibility Study has been completed to enable Mineral Resources to be converted to Reserves at +/- 20% accuracy on capital estimates and +/- 15% accuracy on operating costs. • Underground Mining Contractor rates have been applied. Capex & Processing costs by GR Engineering for the Abra Project have been applied.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• Cut-off grades are based on comparable WA UG mining costs & a long term lead price of US$0.95/lb
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design*	• A Pre-Feasibility level study was performed on Abra to determine the viability of the deposit • No Inferred resource was used in the calculation of the Reserves. • The UG mining method and assumptions are based on a detailed mine design. • Sub Level Open Stoping (SLOS) and Room & Pillar (R&P) underground

Criteria	JORC Code explanation	Commentary
	issues such as pre-strip, access, etc. • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	mining methods are commonly applied in WA, which are applied to the Abra deposit • Standard geotechnical conditions for a shallow UG mine in WA are applied to Abra; a HR of 6 has been applied • Slope optimization modelling does not apply to the Abra UG mine • Mining dilution = 5% • Mining recovery = 85% • Minimum mining width = 5m • Approximately 30% of the applied resource is inferred, this is scheduled at the end of the mine's life and has minimal impact on the Project's NPV give a discount rate of 8% is applied. • A decline and associated ventilation and dewatering infrastructure is required before the UG level accesses can be constructed, which are required for SLOS and R&P mining methods.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve*	• Crush, grind & flotation is the proposed metallurgical process, this is the appropriate process for a base metals project. • The process has been successfully applied for many decades across Australia • The metallurgical test work is representative for the part of the Abra ore body (Apron & Core) that is covered in this mining study. • No problematic deleterious have been identified • N/A • Yes

Criteria	JORC Code explanation	Commentary
	estimation been based on the appropriate mineralogy to meet the specifications?	
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• Environmental base line studies performed on Abra have not identified any hinderances to permitting of the project. • Waste rock characterization studies are currently in progress, waste material has been classified as Non Acid Forming (NAF)
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• Infrastructure to suit a 1.2 Mtpa operation is planned to be installed over GP52/292. Existing roads that run within 0.5 km of this GP will be used for transporting the final concentrate to the Port of Geraldton.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Capital costs are based on detailed studies on Abra by leading EPCM and Mining Consultancies. • Operating costs are based on detailed design work by above consultancies. • No problematic deleterious have been identified • The long term average of US$:AU$ of $0.73 has been applied • Transport charges are based on quotes from trucking & ship broking companies • Treatment & Refining charges are based on current data publicly available for lead concentrate • Allowances have been made for government (5% for Pb & 2.5% for Ag) & private (3.27%) royalties.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates,*	• A head grade of 7.7% for lead & silver grade of 20 g/t have been applied based on the Abra JORC Resource and Reserve.

Criteria	JORC Code explanation	Commentary
	transportation and treatment charges, penalties, net smelter returns, etc. • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• A long-term lead price of US$ 0.95/lb & US$14.50/oz for silver have been applied.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• Recent London Metals Exchange (LME) stockpiles indicate that there is an under supplied lead market, which is expected to remain in place for reasonable period of time. • LME for lead is a transparent and deep market, lead production from the Abra project (will account for ~5% of the lead market) is not expected to over supply the market. • Abra's lead concentrate is extremely high grade and clean, which exceeds all published lead customer specifications
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• NPV = $ 528M as the base case, which has a discount rate of 8% applied, lead price of US$ 95/lb & silver price US$ 14.50/oz, no inflation • Accuracy is at +/-20% on capex and +/-15% on ope; Capex = $154M & Opex (C1 cost payable) = US$ 0.47/lb • NPV ranges are displayed in the below graph

Criteria	JORC Code explanation	Commentary
		
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• The Abra project is on a Mining lease with an existing native title agreement in place.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and*	• No material risks have been identified for the Abra Project. • The Abra Project has a native title agreement in place, no marketing arrangements have been agreed.

Criteria	JORC Code explanation	Commentary
	government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	• The Abra Project is on a granted Mining Lease (M52/776), a General Purpose lease for site infrastructure has been granted (G52/292). This is immediately adjacent to ML52/776. • There are no material unresolved matters with any parties.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• The reported Ore Reserves are classified as Probable. • The Probable Ore Reserves are consistent with the CP's view of the deposit at this stage of the studies completed • There are no Probable Ore Reserves derived from Measured Resources.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• Internal reviews have been conducted with no issues being identified

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which 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.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• Confidence in the Reserve is high due to the conventional underground mining methods and processing technique being applied. • The location of the Abra deposit is within easy road access and is on an existing Mining Lease. • No modifying factors are expected to be significantly changed prior to mining