

Galena Mining Limited

ASX : G1A

Share Price (22/11/2017)

\$0.40

Shares on Issue

55,600,000

Cash (Sept Qtr)

\$5.4m

Directors & Management

Non Executive Chairman

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CEO

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ASX via Electronic Lodgement

Exceptional Drill Results at Abra Base Metal Deposit

- [31.4m @ 14.5% lead](#) and [2.7% zinc](#) from 437.0m in AB70 (within [64.0m @ 10.6% lead](#) and [1.5% zinc](#) from 408.5m)
- [18.4m @ 10.1% lead](#) from 378.8m in (within [42.2m @ 7.1% lead](#) from 355.0m)
- **Nine out of twelve-hole programme complete**
- **Next assay batch containing multiple drill holes expected within ten days**

Galena Mining Limited (ASX: G1A) ("Galena" or the "Company") is pleased to announce high grade lead intersections have been received in the first assays received from the current drill programmes initial drill hole AB70 (Appendix 1).

These represent very wide and high-grade lead+silver+/-zinc intersections and supports the high-grade focus for revised geological interpretation and model applied by Galena Mining at Abra (Figure 1).

Zinc intersections up to [1.2m@17.6%](#) from 443.2m are associated with high grade lead (Pb) intersections.

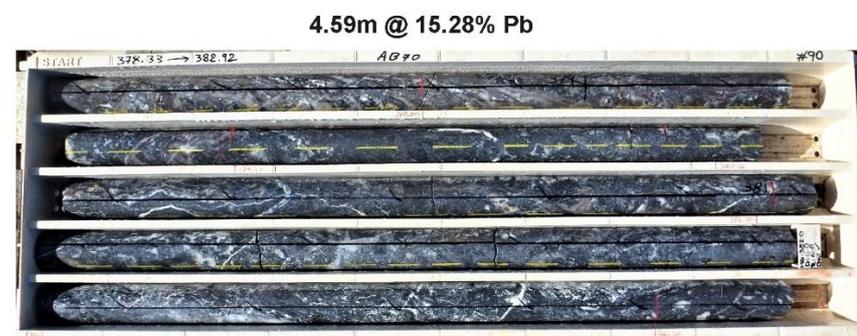


Figure 1: Easily visible, high-grade lead mineralisation in AB70. This section returned 4.59m@15.28% Pb.

Galena initially mobilised one drill rig and commenced drilling in September 2017, with a second drill rig mobilised based on visual results obtained in AB70 (ASX announcement 12 October 2017 and Figure 1).

Galena has now completed 9 holes, for 5,899m, of the 12 hole programme (see Appendix 2 for drill hole survey and Appendix 3 for drill hole pierce point plan). The program was extended in order to better define interpreted high grade zones within the deposit. Galena Mining intends to complete drilling in early December and produce a JORC resource early in 2018.



Figure 2: Massive galena (lead sulphide) in AB70.

The two rigs are currently both drilling double shifts. Assays are pending for completed holes AB71 – 72, 73A and AB74-78) with drill holes AB79 and AB80 yet to be completed. Assays pending contain numerous examples of high-grade lead sulphides and include massive lead sulphides as intersected in the second hole AB71 (Figure 2).

The Abra lead-silver-copper-gold-zinc deposit is wholly owned by Galena and is a world-class lead-silver-copper-gold deposit located in the Gascoyne region of Western Australia. Abra is located approximately 110km from Sandfire Resources high-grade Degussa copper mine, is well serviced by infrastructure and located approximately halfway between Mt Newman and Meekatharra. Drilling is being completed by DDH1 (Figure 3) and McKays Drilling and all core is being logged, processed and sampled onsite by Galena personnel (Figure 4).



Figure 3: DDH1 finishing off the night shift



Figure 4: Core logging and processing at Abra site.

For more information visit www.galenamining.com.au

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Competent Person Statement: The information in this report related to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr E Turner B.App Sc, MAIG, and Mr A Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG both an employee and a Director of Galena Mining Limited. Mr Turner and Byass 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 Turner and Mr Byass consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

APPENDIX 1: Significant Assay results AB70

Minimum Pb intersection: [4m@5.0%](#) Pb. Maximum internal dilution [4m@<5.0%](#) Pb.

Minimum Cu intersection: [2m@1.0%](#) Cu. Minimum Au intersection: [2m@1.0ppm](#) Au.

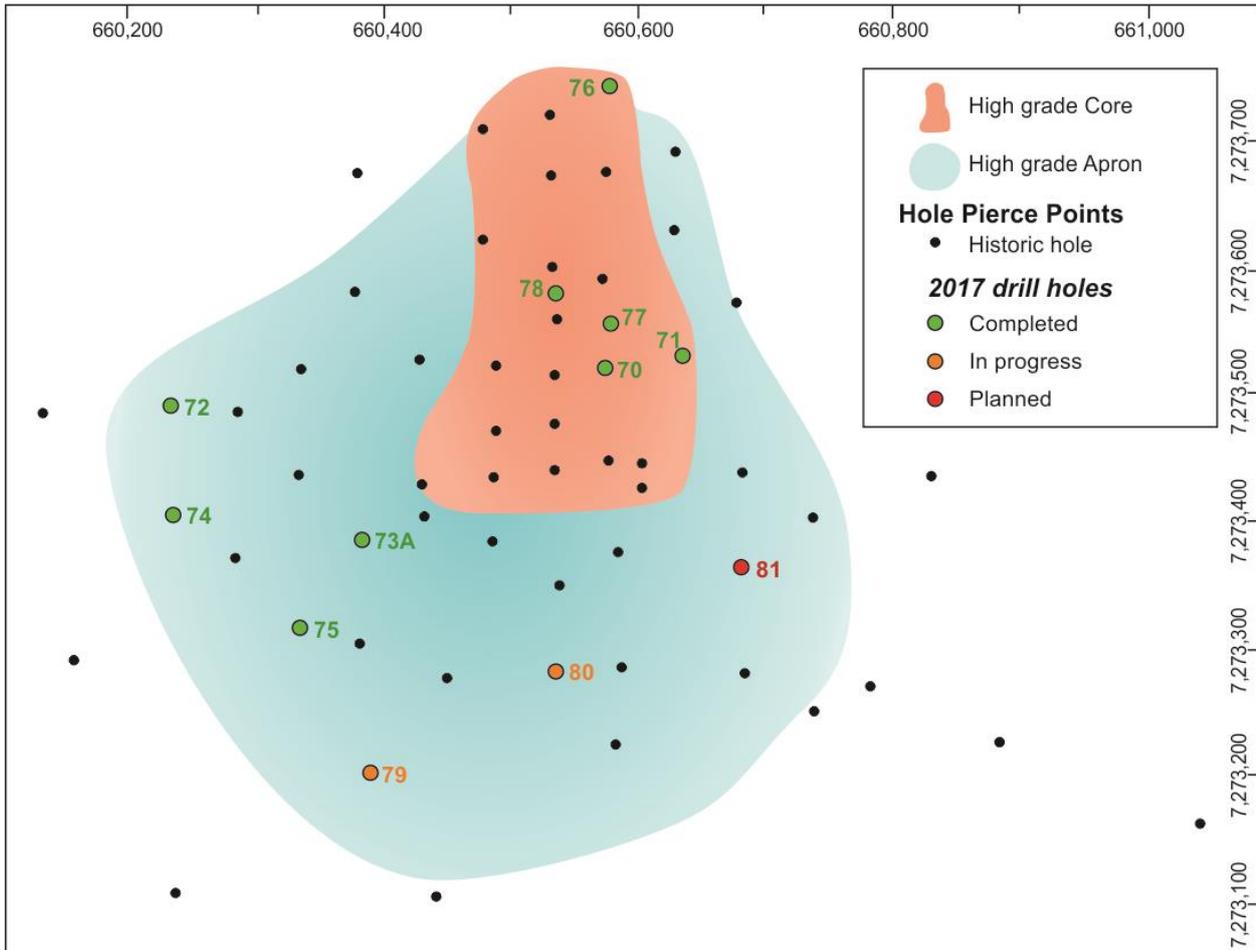
FROM	TO	INTERVAL (downhole)	GRADE Pb (%)	GRADE Ag (ppm)	GRADE Zn (%)	GRADE Cu (%)	GRADE Au (ppm)
293.70	300.50	6.80	6.38	14.0			
355.00	397.20	42.20	7.14	9.2			
Inc. 378.80	397.20	18.40	10.09	13.6			
408.50	472.51	64.01	10.60	7.2	1.50		
Inc. 437.0	468.39	31.39	14.53	10.3	2.68		
522.78	527.20	4.42	6.38	13.0			
610.98	617.17	6.19	5.32	12.5			
536.95	537.89	2.01				1.26	0.11
629.94	634.80	4.86				0.23	2.04

APPENDIX 2: Current program completed diamond core drill holes and their locations

Hole ID	E	N	Dip	Azi	Depth
AB70	660575	7273640	-68	180	649.28
AB71	660625	7273650	-70	180	757.20
AB72	660225	7273355	-70	360	582.92
AB73A	660375	7273280	-70	360	655.85
AB74	660225	7273255	-70	360	577.21
AB75	660325	7273490	-66	180	640.40
AB76	660575	7273840	-70	180	609.17
AB77	660575	7273676	-67	180	732.70
AB78	660525	7273664	-70	180	695.00

APPENDIX 3: Drill hole location plan

Plan showing the pierce points of historic drill holes at the top of mineralisation as well as current program completed holes, holes in progress and planned holes. It also shows the approximate position of the high grade core and high grade apron mineralised zones.



APPENDIX 4: JORC Code, 2012 Edition – Table 1

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<p>Sampling techniques</p>	<ul style="list-style-type: none"> • <i>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.</i> • <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> • <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> • <i>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.</i> 	<p>Mineralised intervals were drilled with NQ diamond core and sampled by cutting the core with a diamond saw and the half core submitted for assay.</p> <p>Sample intervals vary depending on geological contacts and are generally between 0.5m and 1.5m, averaging 1.0m in length. Sampling is continuous throughout the mineralised intervals with no gaps.</p> <p>Prior to cutting, the core was marked up by a geologist, orienting the core to ensure the relative orientation of consecutive pieces of core, always taking the left hand half of the core looking down the hole.</p> <p>All core photographed for reference and sample intervals and can be compared with assays.</p> <p>Samples are taken according to geological controls on mineralisation. This includes larger sample intervals representative of the wide mineralised intervals.</p> <p>All aspects of the determination of mineralisation are described in this table, but of particular materiality to this Public report is the high quality and completeness of core.</p> <p>The core sampling method is considered appropriate for the Abra mineralisation.</p>
<p>Drilling techniques</p>	<ul style="list-style-type: none"> • <i>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).</i> 	<p>HQ core intervals were drilled as pre-collars within the non-mineralised overburden before converting to NQ diamond core standard tube drilling for the remainder of each hole.</p> <p>Core holes were oriented using ACT Mk.3 NQ / HQ Core Ori kit by the drillers and bottom of hole marked on the core.</p>
<p>Drill sample recovery</p>	<ul style="list-style-type: none"> • <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> 	<p>All core was measured for recovery by Galena staff and recovery % recorded. Overall recovery was excellent due to the silicified nature of the rock, which resulted in 100% or close to 100% for a majority of the holes. Photographic evidence of all core supports this.</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> • <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> • <i>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.</i> 	<p>No additional measures were required during drilling to maximize recovery due to the silicified nature of the host rock and mineralised zones.</p> <p>Sample recovery was excellent within unmineralised and mineralised zones.</p>
Logging	<ul style="list-style-type: none"> • <i>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.</i> • <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> • <i>The total length and percentage of the relevant intersections logged.</i> 	<p>All core was logged geologically and geotechnically in detail sufficient to support Mineral Resource estimates, mining and metallurgical studies.</p> <p>Logging included lithology, texture, veining, grain size, structure, alteration, hardness, fracture density, RQD, alteration and mineralisation.</p> <p>Core logging was qualitative and quantitative. Lithological observations were qualitative. All geotechnical observations and core photographs were quantitative.</p> <p>100% of all core which included all mineralised intervals was logged.</p>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<p>All cut core was initially sampled as half core for assaying.</p> <p>N/A</p> <p>All core was appropriately oriented and marked up for sampling by company geologists prior to core cutting.</p> <p>No sub sampling was completed.</p> <p>Sample sizes are considered appropriate to the fine – medium grained grain size common in the host rock and galena mineralisation.</p>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> 	<p>Assaying was completed by SGS Laboratories in Perth. Au was assayed using fire assay. Pb, Ag, Cu, Zn, Fe were assayed using 4 acid digest method DIG40Q followed with ICP-OES finish. Over limit samples undergo further assaying using DIG43B with an AAS finish. This digest is similar to the DIG40Q, being a HF mixed acid digest, but is specifically designed to cope with large concentrations of the elements of interest. These methods are considered appropriate for ore grade analysis and are considered total analysis. However high Ba content can effect total dissolution. In this case additional acid may be used in order to get total digestion.</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	<p>Galena quality control procedures include the following:</p> <p>Blank samples – submitted at selected points within mineralised intersections at a nominal rate of 2 per 100 samples. The blank material is Bunbury basalt certified as a blank.</p> <p>Reference Standard samples – submitted at a rate of 1 in 20 in sequence with the original core samples. Three different certified standards are being used.</p> <p>Duplicates – to be routinely taken by the laboratory at a rate of 1 in 20 through a second split of the crushed core. They were submitted with the next sample number after the primary sample as part of a continuous sample stream. These are considered as true duplicates and can be used for assessing laboratory precision.</p>
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> • The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data. 	<p>All significant intersections are verified by alternative company geologists.</p> <p>Due to the depth of the mineralisation below surface this is not practical.</p> <p>All primary data was firstly recorded on either paper or in a Toughbook computer according to company procedures and then entered into an electronic database files onsite. Electronic copies are backed up onsite and routinely transferred to the Perth head office where the master database is administered. All paper documents are scanned onsite and electronic copies kept. Duplicates of the data are kept onsite and in Perth office after validation.</p> <p>There were no adjustments made to assay data.</p>
<p>Location of data points</p>	<ul style="list-style-type: none"> • 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. 	<p>Down hole surveys are completed every 15-30m during the drilling with a magnetic tool. A gyroscopic instrument will be used for a continuous downhole survey of each hole following completion of drilling.</p> <p>Data captured in Map Grid of Australia GDA 94, Zone 50.</p> <p>The RL of previous drill collars was measured by both DGPS surveys to an accuracy of 0.02m which gives us with a satisfactory control over the topography. AB70-72, 73A, 74-77 are located between previous drill holes.</p>
<p>Data spacing and distribution</p>	<ul style="list-style-type: none"> • Data spacing for reporting of Exploration Results. 	<p>Drill holes in the current round of drilling is infill drilling and will improve the spacing to approximately 50m x 50m or 50m x 100m centres east – west and 50m x 100m centres north – south over the high grade part of the mineralized body which extends over approximately 600m east – west and 600m north – south.</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. 	<p>Data spacing is sufficient to establish geological and grade continuity to establish a mineral resource estimate.</p> <p>No sample compositing has been applied.</p>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<p>Some drilling may be drilled sub-parallel to mineralized structures as there are multiple mineralised directions. The upper sections of the mineralisation are relatively shallow dipping to the south and can therefore be drilled in either direction.</p> <p>It is not considered that there is a sampling bias.</p>
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	All sampled core will be transmitted from site to Perth assay laboratories either by company personnel or by courier. All remaining core is stored on site.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	No audits have been conducted to date.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<p>Galena Mining holds 100% interest in the Mulgul Project, consisting of Mining Lease M52/0776 and Exploration Lease E52/1455. A 2.5% Net Smelter Royalty exists over leases M52/0776 and E52/1455. Miscellaneous licences G52/286 and L52/021 are also held 100% by AML and these fall within E52/1455.</p> <p>Within the adjoining Jillawarra Project Abra Mining holds 100% of E52/1413.</p> <p>All tenements are in good standing and have existing Aboriginal Heritage Access Agreements in place. No mining agreement has been negotiated.</p>

Criteria	JORC Code explanation	Commentary
<p>Exploration done by other parties</p>	<ul style="list-style-type: none"> · <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<p>Historical exploration commenced around the Abra deposit by Amoco Minerals in 1974 but 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. 8 diamond core holes (AB1-11) were drilled before takeover 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). Abra resumed drilling in 2005 and has completed all holes between and including AB23-61. All diamond core drilling completed by all parties was completed to a high standard and contributed towards defining the extent and limits of the mineralisation</p> <p>Further extensive regional exploration within the Mulgull and Jillawarra Projects has been completed within this time by these companies and delineated many geophysical and surface geochemical anomalies and targets however no other potentially economic deposits have been discovered.</p>
<p>Geology</p>	<ul style="list-style-type: none"> · <i>Deposit type, geological setting and style of mineralisation.</i> 	<p>The Abra deposit lies within sediments of the Proterozoic Edmund Group. There are two styles of mineralisation within the Abra deposit; the upper mineralisation is strata-bound massive and disseminated sulphides associated with lead and silver mineralisation (dominantly galena), and the lower mineralisation consists of sulphide-rich hydrothermal veins that transported the mineralisation to the upper zone. This zone contains the copper and gold mineralisation as well as lead and silver.</p>
<p>Drill hole Information</p>	<ul style="list-style-type: none"> · <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> o <i>easting and northing of the drill hole collar</i> o <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> o <i>dip and azimuth of the hole</i> o <i>down hole length and interception depth</i> o <i>hole length.</i> · <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i> 	<p>Historic drill hole information is included in a table within appendices of the IGR released with the Prospectus. Coordinates, dip, depth and azimuth of completed holes AB70-72, 73A, 74-77 are listed in TABLE 1 within the body of the report.</p>

Criteria	JORC Code explanation	Commentary
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> · <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i> · <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i> · <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<p>Significant intersections are calculated as weighted average means for downhole intervals greater than 4m@5% Pb. There was no cutting of high grades.</p> <p>A maximum internal dilution interval of 4m@ <5% Pb was applied.</p> <p>No metal equivalent calculations were made.</p>
<p><i>Relationship between mineralisation widths and intercept lengths</i></p>	<ul style="list-style-type: none"> · <i>These relationships are particularly important in the reporting of Exploration Results.</i> · <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> · <i>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').</i> 	<p>The upper strata-bound mineralisation drill intercepts are interpreted as being close to true width. The lower vein-hosted mineralisation has drill intercepts that, depending on drillhole orientation, may not be close to true width (true width not known).</p>
<p><i>Diagrams</i></p>	<ul style="list-style-type: none"> · <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<p>A plan is included in the report.</p>
<p><i>Balanced reporting</i></p>	<ul style="list-style-type: none"> · <i>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.</i> 	<p>The focus of this drilling program is to delineate high grade mineralisation within the deposit and therefore reporting of the high grade intersections is considered appropriate rather than all of the lower grade zones that have largely been reported by previous explorers including Abra Mining Limited.</p>

Criteria	JORC Code explanation	Commentary
<p><i>Other substantive exploration data</i></p>	<ul style="list-style-type: none"> · <i>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.</i> 	<p>Other historic exploration data has been previously announced by Abra Mining and is also summarised in the IGR within Galena’s Prospectus.</p>
<p><i>Further work</i></p>	<ul style="list-style-type: none"> · <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> · <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<p>Future work will focus on infill drilling within the high grade core of the Abra deposit.</p>

