ASX Announcement

16 March 2016

ASX Code EMX

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Maiden Resource for Gorno Zinc Project paves way for Scoping Study

Initial Resource of 3.87Mt at 7.7% Zn+Pb and 25g/t Ag estimated for Colonna Zorzone Deposit

- **Maiden Indicated and Inferred Resource of 3.87Mt grading 6.1%Zn, 1.6%Pb and 25g/t Ag for contained metal of 238,000t zinc, 63,000t lead and 3.1Moz silver estimated for Energia's Colonna Zorzone Zinc Deposit.**
- **Resource remains open up dip and down dip (see Fig 1).**
- **In addition, the Exploration Target[1] for the Gorno Zinc Project has also been revised and increased.**
- **Scoping Study being completed by Jorvik Resources on track for delivery later this month.**

Summary Table Gorno Project Mineral Resource

March 2016 OK Estimate Reported using a 1.0% Zinc cut-off grade Subdivided by JORC Code 2012 Resource Categories using ROUNDED figures							
Category	Tonnes (Mt)	Zinc (%)	Contained Zinc (Kt)	Lead (%)	Contained Lead (Kt)	Silver (ppm)	Contained Silver (Moz)
Indicated	0.97	7.0	68	1.9	19.0	29	0.9
Inferred	2.90	5.8	170	1.5	44.0	23	2.2
Total	3.87	6.1	238	1.6	63	25	3.1

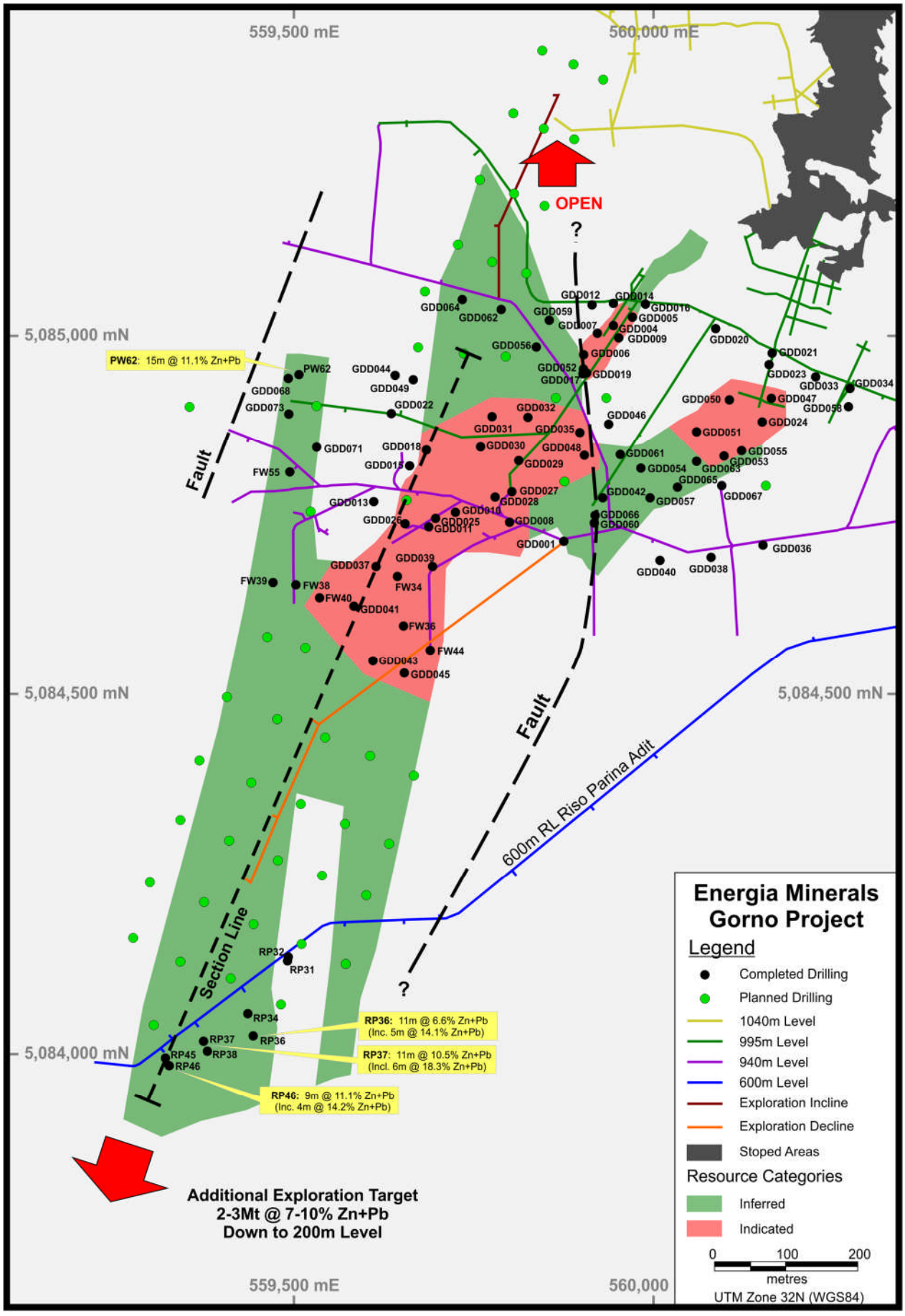

Figure 1: Colonna Zorzone Plan View showing Indicated and Inferred Resource outline

Energia Minerals Ltd (ASX: EMX or "Energia") is pleased to report an initial Indicated and Inferred Mineral Resource Estimate for the Colonna Zorzone Zinc Deposit within its 100%-owned Gorno Zinc Project in Northern Italy.

The new Mineral Resource Estimate, which was independently estimated by the Company's consultants Jorvik Resources Pty Ltd ("Jorvik"), follows a successful underground diamond drilling program over the last eight months.

The Maiden Resource Estimate paves the way for the next phase of evaluation of the Zorzone Deposit, which includes a Scoping Study to be completed by the end of this month. This initial JORC 2012 Resource Estimate will underpin the Scoping Study.

Using a cut-off grade of 1% zinc, the total Indicated and Inferred Resource calculated by Jorvik is **3.87 million tonnes grading 6.1% zinc, 1.6% lead and 25 grams per tonne silver for 238,000 tonnes of contained zinc, 63,000 tonnes of contained lead and 3.1 million ounces of contained silver** as set out below:

Table 1: Summary Table Gorno Project Mineral Resource

March 2016 OK Estimate Reported using a 1.0% Zinc cut-off grade Subdivided by JORC Code 2012 Resource Categories using ROUNDED figures							
Category	**Tonnes (Mt)**	**Zinc (%)**	**Contained Zinc (Kt)**	**Lead (%)**	**Contained Lead (Kt)**	**Silver (ppm)**	**Contained Silver (Moz)**
Indicated	**0.97**	**7.0**	**68**	**1.9**	**19.0**	**29**	**0.9**
Inferred	**2.90**	**5.8**	**170**	**1.5**	**44.0**	**23**	**2.2**
Total	**3.87**	**6.1**	**238**	**1.6**	**63**	**25**	**3.1**

Energia is pleased to advise that while it has converted the previous Exploration Target of 3-5 Mt grading 7-10% Zn+Pb down to the 550RL at Zorzone into Indicated and Inferred Resources, it has also revised and increased the broader **Exploration Target[1] for the Gorno Zinc Project to 7-11 Mt grading 7-10% Zn+Pb**. [1]This Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if future exploration will result in the estimation of a Mineral Resource.

This revised target has been generated by extending the known resource up dip and down dip, including potential extensions adjacent to the known resource and including prospects that have been drilled and/or partially developed by ENI subsidiary SAMIM during the 1970's.

Although the historical prospects have not been reported by a Competent Person in accordance with the JORC 2012 code, Energia's experience at Zorzone has shown them to be extremely robust, as the tonnage and grade of the previous Exploration Target now converted to Resources was based largely on information compiled from SAMIM data.

This further supports the robust nature and validity of the new Exploration Target and Energia plans to commence testing these targets during 2016 and 2017, using a combination of mapping, face sampling and drilling.

Energia's Managing Director, Mr Kim Robinson, said that completion of this initial Resource Estimate for Colonna Zorzone marked a key milestone for the Gorno Zinc Project as part of its strategy to fast-track development of the project to take advantage of tightening zinc market conditions.

"We are very pleased by the strength of this Maiden Resource Estimate for Zorzone, which, amongst other things, demonstrates the remarkable continuity of this high-grade Mississippi Valley Type zinc deposit."

"The Resource also confirms an unusually high silver content, which is anticipated to significantly enhance the project's economic fundamentals."

"Importantly, the ongoing drilling program at Zorzone has also clearly shown the potential to grow the Zorzone zinc resource while also demonstrating the potential of the broader Gorno region."

"On the back of this initial Resource, we are well on track to complete the Scoping Study for Colonna Zorzone by the end of this month, which will help define the parameters for a potential new, low-cost zinc operation at Gorno." Mr Robinson said.

For and on behalf of Energia Minerals Limited.

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Summary of Resource Estimation

Energia Minerals Limited (Energia) retained Jorvik Resources (Jorvik) to generate a Mineral Resource Estimate for the Gorno Zinc Project (Project), located in Northern Italy between the Seriana and the Brembana Valleys within the administrative boundaries of the Province of Bergamo (Lombardia, Italy). The Mineral Resource estimate is presented in Table 1.

The Project is an Alpine style Zinc-Lead-Silver deposit, which is broadly stratabound with some discordant mineralisation. Mineralisation is largely hosted in the Metallifero Limestone, a dominantly limestone unit forming part of the Lombard Basin sedimentary sequence of the Southern Italian Alps. Geological interpretation of the Metallifero and the mineralisation within, has been completed using historical drilling and mapping, Energia Minerals drilling and mapping, and published geological information. The geological interpretation is considered robust on both a local and regional scale. The mineralisation has an interpreted average dip to the south of 30^0 towards an azimuth of 189^0 with dip angles ranging from sub horizontal (5-10 degrees) to moderately dipping (up to 30-45 degrees).

A total of 63 diamond drillholes and for 6,145m drilled in the Project area have been used to directly inform the March 2016 estimate. The nominal data cut off for the March 2016 estimate was February 5, 2016. A collar table for all of the drillholes used to directly inform the March 2016 estimate is presented in Table 3. Drillhole location co-ordinates are reported in the WGS_1984_UTM_ Zone_32N. Easting and Northing are stated in metres.

Sampling data considered in the resource estimate was derived from diamond drilling completed by Energia in 2015-2016 and historical diamond and percussion pre-production drilling completed by SAMIM between 1973 and 1980. Samples used were:

- NQ and T2-66 size core (47.6 and 51.7mm respectively) collected from Energia drilling were half core cut using a diamond saw with half the core being dispatched to the laboratory, and half retained. Individual samples were taken on geological intervals with lengths ranging between 0.7m and 1.3m. Sampling for assay typically extended approximately 2m up and down hole from the logged mineralised drill intersections.
- AQ size (27mm) core collected from the historical diamond drilling is unknown, however, the historical database indicates that most of the sampling was completed over 1m intervals.
- Historical percussion drilling was via mud/sludge. The sample collection methodology is unknown however, based on historical records most samples were collected over a rod length of 1.2m.

Half core samples from the Energia drilling were dispatched using a reputable contract courier from site to the laboratory where the core is dried, then crushed and pulverised to allow 85% to pass -75µm. A four acid digestion process that is able to dissolve most minerals is used followed by either the analysis techniques of ICP-AES (Atomic Emission Spectroscopy), with ICP-AAS (Atomic Absorption Spectroscopy) typically used to quantify higher grade base metal mineralisation. The digestion method and analysis techniques are deemed appropriate for the nature of the mineralisation.

The nature, quality, and appropriateness of assaying technique(s) applied to the historical samples are unknown.

Drillhole orientation and spacing is non-uniform. An irregular grid of approximately 50mE by 50mN spaced diamond drillhole intersections through the mineralisation exists between the 850m and 1020m RLs. Some closer spaced diamond drilling tests mineralisation between the 990m and 1020m RLs, elsewhere, the diamond drill hole spacing is generally broader.

A total of 48 bulk density measurements have been completed on half core samples of mineralised and unmineralised materials from the Energia drilling and were used to inform the mineral resource calculation.

A nominal modelling grade cut-off grade of 1.0% zinc was used to interpret and model 3-D wireframes outlining the mineralised domains. This cut-off grade effectively represents an upper threshold at which robust 3 dimensionally continuous zones of mineralisation can be modelled without including significant sub-grade mineralisation that is unlikely to be of economic value.

The block model was constructed using a 25m (E) by 25m (N) by 25m (RL) parent block size with sub-celling to 0.5m (E) by 0.5m (N) by 0.5m (RL) to allow an accumulation resource grade estimation.

The accumulation Ordinary Kriging (OK) resource grade estimation approach weighted a single composite of the drillhole assay over the full mineralised drill intersection by the interpreted true thickness of the mineralisation at the drill intersection (centre point).

This effectively negates the effects of variations in the drill hole sample support (and potential bias) relating to drill holes that intersect a mineralised horizon at variable orientations.

Mining software was used to estimate true thickness and grade times thickness for Zn, Pb, Ag and specific gravity. Drillhole sample data was flagged using zone codes relating to the modelled wireframe solids of the mineralised domains and stratigraphy above and below the modelled Metallifero/Gorno contact.

As no silver assay data are available for the historical drill core samples, a linear regression (14.761 * Pb +1) based on moderate correlation of Pb and Ag assay grades for samples from the Energia drilling was used to calculate silver grades for the historical core samples.

Assay and specific gravity data for all core samples captured within mineralisation wireframes were composited over the entire intersection length within the wireframe. The true thickness of the mineralisation at the centroid of each drill intersection was manually measured based on the thickness of the modelled mineralisation wireframe at drill intersection centroid. Lower grade and internal waste samples captured within the wireframes were incorporated into the composite grade calculations, with the grades of all contributing samples weighted by both length and specific gravity.

Comparison of the data both visually and statistically indicate reasonable and acceptable correlation between the block grades and the input data on a global basis in all directions in the block model.

The Mineral Resource estimate (March 2016) for the Gorno Zinc Project (Table 1) has been classified in accordance with the guidelines as set out in the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves” (JORC, 2012 Edition). Classification of the Mineral Resource estimate has taken into consideration the quality of geological and sampling data, geological understanding/interpretation and geological and grade continuity.

The data spacing and distribution at is considered sufficient to establish an appropriate degree of geological and grade continuity appropriate for classification of Indicated and Inferred Mineral Resources.

The grade estimate is based on the assumption that traditional underground mining methods will be applied and the use of high confidence final grade control methods, for example face mapping and sampling and stope grab samples will be utilised.

The Mineral Resource Classification is based on confidence in the geological and grade continuity in relation to the drill hole spacing. Where present, the mineralisation appears to be highly continuous, albeit with significant local variations in grade over similar overall mineralisation true thicknesses. Higher confidence local estimates therefore require a drill spacing that adequately represents the local variation in the mineralised intersection grades.

Block model grade estimates based on informing mineralised drill intersections at an approximate grid spacing of 50m x 50m have been classified as Indicated Resources using wireframes based on digitised outlines considering the geological complexity, data quantity, and drillhole spacing informing the mineralisation interpretation within each mineralised domain.

All remaining block model estimates for the mineralised domain have been classified as Inferred Resources based on reasonable geological continuity and interpolation/ extrapolation of grades from the available mineralised diamond drill hole intersections.

Competent Person Statements

The information in this report that relates to the Exploration Targets, Exploration, Geology and Data at The Gorno Zinc Project is based on, and fairly represents, information which has been compiled by Mr David Andreazza. Mr Andreazza is a full time employee of Energia Minerals Limited and a Member of the Australian Institute of Geologists. Mr Andreazza has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Andreazza consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

The information in this report that relates to the Mineral Resource estimate at The Gorno Zinc Project is based on, and fairly represents, information which has been compiled by Mr James Ridley. Mr Ridley is a Principal Geologist at Jorvik Resources Pty Ltd and a Member of the Australasian Institute of Mining and Metallurgy. Mr Ridley has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ridley consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

Table 2: Collar Coordinates for Drillholes used in Resource Estimate

Hole ID	Easting	Northing	RL	Total Depth (m)
FW34	559687.93	5084618.82	944.2	91.5
FW36	559688.49	5084563.54	944.29	99.4
FW38	559499.61	5084628.49	943.46	69
FW39	559497.74	5084628.23	944.96	78
FW40	559501.38	5084628.17	944.98	75
FW44	559689.84	5084561.24	944.26	142
FW55	559501.09	5084814.12	945.35	56
FW68	559707.74	5085075.38	943.88	59.5
GDD004	559950.38	5085007.59	1001.29	21.4
GDD005	559965.75	5085027.38	1001.3	27.5
GDD006	559918.09	5084960.63	1000.75	81.35
GDD007	559938.68	5084990.78	1000.42	56.35
GDD008	559803.18	5084742.21	943.22	24.7
GDD009	559945.85	5084998.6	1001.47	39.3
GDD010	559725.47	5084764.14	944.78	33.6
GDD011	559685.84	5084739.29	943.55	24.8
GDD018	559649.95	5084820.29	945.51	82.4
GDD019	559908.8	5084945.7	1000.64	26.8
GDD024	560150.01	5084908.65	998.65	58.7
GDD025	559698.6	5084747.79	945.14	25.5
GDD026	559651.54	5084722.66	943.87	42.8
GDD027	559770.09	5084757.97	944.39	64.2
GDD028	559769.63	5084757.57	944.76	45.2
GDD029	559769.18	5084758.5	944.33	106.38
GDD030	559768.24	5084758.88	944.33	109.05

Hole ID	Easting	Northing	RL	Total Depth (m)
GDD031	559768.34	5084759.08	943.97	149.5
GDD032	559768.55	5084758.96	943.96	162.1
GDD035	559769.31	5084758.69	943.91	190
GDD037	559692.6	5084675.92	942.97	107.25
GDD039	559694.97	5084675.53	942.32	79.55
GDD041	559687.99	5084618.57	943.21	138.55
GDD042	559939.49	5084741.35	944.2	90.65
GDD043	559688.28	5084563.8	943.04	141.45
GDD045	559689.15	5084563.64	942.8	141.8
GDD047	560095.28	5084792.38	942.92	174.8
GDD048	559920.81	5084850.4	944.08	88.45
GDD050	560094.98	5084792.56	942.93	159.62
GDD051	560093.6	5084792.31	943.21	113.9
GDD052	559892.42	5084921.46	944.05	76.8
GDD053	560094.9	5084791.7	944.1	95.45
GDD054	559941.25	5084741.27	944.05	134.95
GDD055	560094.78	5084791.07	943.72	112.9
GDD056	559847	5085000	943	56.1
GDD057	559941	5084741	943	126.45
PW04	559985	5085083	1021	186.5
PW05	559985	5085083	1021	117
PW08	559985	5085083	1021	154
PW26	559940.51	5085046.38	1000.35	106.3
PW31	560040.57	5084950.08	999.72	162.6
PW50	560147.81	5084909.18	999.41	234
PW51	560147.13	5084910.21	999.35	228.3
PW52	560149.84	5084909	999.31	190.6
PW53	559821.72	5085075.51	1000.05	184.2
PW62	559522.483	5084909.044	1001.064	109.5
RP25	559570.144	5084177.185	609.315	81.7
RP26	559571.139	5084177.165	609.315	120
RP29	559571.96	5084177.16	609.315	80
RP34	559431.38	5084085.22	609.859	56.5
RP36	559431.38	5084085.22	609.859	79.5
RP37	559367.179	5084037.65	610.195	52.5
RP38	559367.179	5084037.65	610.195	58
RP45	559319.419	5084002.634	610.402	21.5
RP46	559319.419	5084002.634	610.402	42

JORC Code, 2012 Edition – Table 4 Gorno Historical Exploration Drilling Results

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code Explanation	Commentary	Competent Person
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.*	Sampling data considered in the resource estimate was derived diamond drilling completed by Energia in 2015-2016 and historical diamond and percussion pre-production drilling completed by SAMIM between 1973 and 1980. NQ and T2-66 size core (47.6 and 51.7mm respectively) collected from the Energia drilling were half core cut using a diamond saw with half the core being dispatched to the laboratory, and half retained. Individual samples were taken on geological intervals with lengths ranging between 0.7m and 1.3m. Sampling for assay typically extended approximately 2m up and down hole from the logged mineralised drill intersections. The sampling methodology applied to AQ size (27mm) core collected from the historical diamond drilling is unknown, however, the historical database indicates that most of the sampling was completed over 1m intervals. Sample return from the historical percussion drilling was via mud/sludge. The sample collection methodology is unknown however, based on historical records most samples were collected over a rod length of 1.2m.	David Andreazza
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	The core collected by Energia is largely very competent requiring little deviation from routine core run lengths of approx. 1.5m. The core also cuts well with little material loss or contamination and is cut perpendicular to the prevailing structure (mostly bedding) observed in the core. Measures taken to ensure sample representivity from the historical diamond and percussion drilling are unknown, as such, samples from this historical drilling were used to guide the geological interpretation, but were not used to inform the resource estimate.	David Andreazza
	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 1m samples from which 3kg was pulverised to produce a 30g 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.*	Cut core samples from the Energia drilling were dispatched using a reputable contract courier from site to the laboratory where half core is dried, then crushed and pulverised to allow 85% to pass -75µm (industry standard). Energia inserted duplicates, blanks and certified reference materials into sample series collectively at a rate of approximately 3 in 20. In addition, laboratory pulps from 2 sample batches were submitted for umpire analysis. Mineralisation is contained in oxide and sulphide material but is predominantly sulphide. Studies and recent observations have shown very low levels of deleterious elements in both material types. Energia has comprehensive procedures and protocols in place to ensure that 'Industry Standard' sampling processes are employed as a minimum. Historical records indicate that samples from the SAMIM diamond and percussion drilling were processed at an 'in-house' laboratory however, no information on the laboratory or sample processing methodology(s) are available.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
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).*	Diamond drilling by Energia has been undertaken using Atlas Copco Diamec 262 and 250 rigs and a Sandvik DE 130 drill rigs. The Diamec rigs have collected non-oriented T2-66 size core and the Sandvivk rig, non-oriented NQ size core (approx. same diameter of 47.6 and 51.7mm respectively). Historical (SAMIM) diamond drilling was completed using unknown drill rig types collecting non-oriented AQ size core (27mm). Historical (SAMIM) percussion drilling was completed using unknown rig types.	David Andreazza
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Core recovery has been logged for all of the Energia drilling, averaging 98% in both waste and mineralised material. Core blocks are inserted by the drillers at the end of each drilling run, noting the run length, and downhole depth. This data is then compared to the measured recovered core length and recoveries for each run and the entire hole are calculated. Given the nature of the drilling, and the type of mineralisation encountered to date the sampling is judged as being representative. Core recoveries from the historical diamond drilling are not detailed in reports.	David Andreazza
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The core collected by Energia is largely very competent with routine core run lengths of approximately 1.5m. Run lengths were reduced accordingly in fractured or broken ground. Measures taken to maximize sample recovery from the historical diamond and percussion drilling are unknown.	David Andreazza
	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.	There is no evidence of bias exists due to preferential loss/gain of fine/coarse material from the Energia drill core. Core recovery averages 98% in both waste and mineralised rock. No assessment of possible relationships between sample recovery and grade in the historical drilling are possible due to a lack of recovery data.	David Andreazza
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.*	All Energia drill holes have been geologically logged on geological intervals recording lithology, grain size and distribution, sorting, roundness, alteration, mineralisation, veining, structure, oxidation state, colour and geotechnical data noted and stored in the database. All holes were logged to a level of detail sufficient to support future mineral resource estimation, scoping studies, and metallurgical investigations. All historical diamond drill holes were geologically logged on geological intervals. Information pertaining to colour, grainsize, lithology and alteration were manually logged on paper. The level of detail logged is sufficient to support Mineral Resource estimation. Historical percussion holes were NOT geologically logged. Holes were drilled to ascertain extent of and grade of the surrounding mineralisation intersected in exploration drives.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Logging (cont'd)	*Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	Energia Drilling: Oxidation, colour, alteration, roundness, sorting, sphericity, alteration and mineralisation are logged qualitatively. All other values are logged quantitatively. All holes have been photographed both wet and dry and are stored in a database. Historical diamond drilling: All of the logging was qualitative (subjective opinion) in nature. No known core photographs exist.	David Andreazza
	The total length and percentage of the relevant intersections logged.	All Energia holes have been logged over their entire length (100%) including any mineralised intersections. To date the average core loss is less than 2%. All holes historical diamond holes were logged over their entire length, except where recovery was zero (which was rare, and noted in the logs as no recovery).	David Andreazza
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All Energia core is half cut using a Diamonte table diamond saw, typically producing samples for lab submission of approximately 2.5kg weight. Core cutting records from historical drilling is not available.	David Andreazza
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	The sample sub sampling technique(s) applied to the wet rock chip samples from the historical percussion drilling is unknown. No non-core drilling techniques have been employed by Energia.	David Andreazza
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Energia Drilling: Mineralised core is visually identified, and then sampled in geological intervals using 0.7-1.3m intervals, the core is then half cut and half the core is wholly sampled for that interval then inserted into pre numbered calico bags. Cut core samples were dispatched from site to the laboratory where half core is dried, then crushed to -2mm and pulverised to allow 85% to pass -75µm. The sample preparation technique is deemed appropriate. Sample preparation techniques for the historical diamond and percussion drilling is unknown	David Andreazza
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Energia quality control procedures include following standard procedures when sampling, including sampling on geological intervals, and reviews of sampling techniques in the field. Energia core was typically cut at the maximum angle to the prevailing penetrative structure in the core. The laboratory procedures applied to the Energia sample preparation included the use of cleaning lab equip. w/ compressed air between samples, quartz flushes between high grade samples, insertion of crusher duplicate QAQC samples, periodic pulverised sample particle size (QAQC) testing and insertion of laboratory pulp duplicates QAQC samples. Quality control procedures employed for sub-sampling of the historical drilling are not documented in reports.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Sub-sampling techniques and sample preparation (cont'd)	*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.*	Energia field QC procedures included the collection of field duplicates at a rate of 1 in 20 and consist of ¼ core taken from the reserved ½ core. Measures taken to ensure representative nature of samples from the historical diamond and percussion drilling are not detailed in reports.	David Andreazza
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Energia Drilling: The expected sample weight for 1m of half core T2-66 is approximately 2.7kg, and NQ is 2.4kg. This sample weight should be sufficient to appropriately describe base metal mineralisation grades from mineral particle sizes up to 5mm. Historical Drilling: It is not known whether sample sizes appropriate to the grain size were collected from the historical drilling.	David Andreazza
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.*	Energia Drilling: The primary laboratory has used a four acid digestion process that is able to dissolve most minerals; however, although the term "near-total" is used, depending on the sample matrix, all elements may not be quantitatively extracted. The analysis techniques employed are ICP-AES (Atomic Emission Spectroscopy), with ICP-AAS (Atomic Absorption Spectroscopy typically used to quantify higher grade base metal mineralisation. The digestion method and analysis techniques are deemed appropriate for the nature of the mineralisation. The nature, quality, and appropriateness of assaying technique(s) applied to the historical samples are unknown.	David Andreazza
	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.	Hand held XRF equipment has been used to determine preliminary Zn and Pb concentrations in Energia core. The data was used only as a guide to selecting intervals of oxidised mineralisation for full assay analysis. None of the XRF data were used as input to resource estimation. No geophysical or other tools were used to assess grade concentrations in samples from the historical drilling.	David Andreazza
	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.	Energia inserts QA/QC samples (duplicates, blanks and standards) into the sample series at a rate of approx. 3 in 20. These are tracked and reported on by Energia for each batch. When issues are noted the laboratory is informed and investigation conducted defining the nature of the discrepancy and whether further check assays are required. The laboratory completes its own QA/QC procedures and these are also tracked and reported on by Energia. Acceptable overall levels of analytical precision and accuracy are evident from analyses of the routine QAQC data. Energia has submitted pulps from 2 original laboratory batches; 274 samples, including a total of 72 Energia and primary lab QAQC samples, for umpire analysis at a second lab using similar analytical processes as the primary lab,. The results indicate the primary lab may marginally under-report Zn and Pb (insignificant) but significantly under-report Ag by nearly 11% (relative). The difference is attributed to a more complete sample digestion method used by the umpire lap (mircrowave under pressure vs simple heating used by the primary lab). Quality control procedures applied to the analysis of historical samples are unknown.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant mineralised intersections from the Energia drilling have been routinely checked by Energia Minerals personnel, and independent consultants in January 2016, June 2015, June 2012, and March 2010. Visual estimates of sphalerite content are typically confirmed with assay data. Data for significant mineralised drill intersections from the historical drilling have been checked by Energia Minerals personnel and consultants in January 2016, June 2012 and March 2010. This data is generally supported in 3-D by near-by drill intersections from the Energia drilling.	David Andreazza
	The use of twinned holes.	Energia has twinned one historical diamond drill hole and effectively 7 historical percussion drill holes with 5 diamond drill holes. There is good correlation of intersection lengths and grades in the twin diamond drill hole pair, however, twinning of additional historical diamond drill holes is recommended in order to establish a more robust comparative dataset. Assay data for historical diamond drilling is considered suitable for use in resource grade estimation but is of reduced confidence compared to the Energia data. While there is high variability, no obvious bias exists between the mineralised intersection lengths and grades reported for the Energia holes that twin the historical percussion holes. This is not considered to endorse the use of the percussion drill hole assay data for resource grade estimation but does support its use as a guide for interpretation 3-D mineralisation constraints for resource estimation. No historical twin holes are known to have be drilled.	David Andreazza
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All Energia geological, sampling, and spatial data generated and captured in the field is immediately entered into a field notebook on standard Excel templates. These templates are then validated each night in Micromine. This information is then sent to Energia's in house database manager for further validation. If corrections need to be made they are corrected the following day by the person responsible for generating the data. Once complete and validated the data is then compiled into a SQL database managed by an external consultant. All historical drilling data has been compiled from hand written reports and entered into Excel templates. The resultant data have been validated in Micromine and forwarded to Energia's in house database manager for further validation. If corrections were required, edits were completed by the person responsible for capturing the data. Once complete, the validated the data has been compiled into a SQL database.	David Andreazza
	Discuss any adjustment to assay data.	No adjustments or calibrations have been made to any assay data.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	The location and 3-D configuration of accessible underground workings on the 940m and 990m levels and all drill hole collars from the Energia drilling have been surveyed by licensed contractors using RTK GPS equipment to locate the mine access portal (Forcella), robotic total station instrumentation for underground survey control and drill hole collar pick-ups, and laser scanning equipment to determine underground tunnel topology. The accuracy of the survey points is within 0.5m in northing, Easting and RL. All underground mine workings and historical drill hole collars within the Gorno mine area have been digitised from multiple historical plans and geo-referenced according UG workings common across the plans. Underground geological mapping and locations of structural measurements have also been captured using the same process. The locations of unsurveyed UG workings on the 600m, 1000m, 1040m and 1080m levels, the historical drill hole collars on these levels, UG mapping and structural data within the resource area have been further adjusted with geo-referencing of the historical plans relative to the newly surveyed UG workings. The location accuracy of these non-surveyed location data is estimated at $\pm$25m with improved accuracy of approx. +10m expected for the location and UG workings, drill hole collars and mapping on the 600m level using location control based on a vent bore between the 940m and 600m levels. Downhole orientation surveying of Energia holes has been conducted using a Reflex multishot EZ TRAC instrument recording measurements at 1m intervals or a digital televiewer instrument at irregular close spaced (<1m) intervals. Orientations of the historical diamond and percussion drill holes have been determined from paper plans and drill hole logs. Downhole surveys of the Energia drill holes show no significant down hole deviations. It is therefore assumed that the orientations of the historical diamond drill holes are adequately defined based on the logged collar orientation data. The logged orientation of the historical percussion drill holes appears to be 'generic' at fixed azimuth and inclinations perpendicular to the UG development. While no survey verification of the historical drill hole collars locations or collar orientations has been undertaken, there is generally good correlation in the spatial location of mineralised drill intersections between the historical and Energia drill holes.	David Andreazza
	Specification of the grid system used.	The grid system used at Gorno is WGS_1984_UTM_Zone_32N. Easting and Northing are stated in metres.	David Andreazza
	Quality and adequacy of topographic control.	Surface topography data was supplied by the Regione Lombardia (regional government) and is of sufficient accuracy to confirm the location of the Forcella access tunnel.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Drill hole orientation and spacing is non-uniform with multiple holes often drilled from drill set-up locations along exploration drives. An irregular grid of approximately 50mE by 50mN spaced diamond drill hole intersections through the mineralisation exists between the 850m and 1020m RLs, dominated by Energia drilling. Some closer spaced diamond drilling (approx. 25m x 50m) tests mineralisation between the 990m and 1020m RLs while elsewhere, the diamond drill hole spacing is generally broader except a cluster of historical holes drilled from UG workings on the 600m RL. The percussion drilling is distributed in clusters of horizontal and 47° inclined (up) holes at 5m or 10m intervals along selected exploration drives or in horizontal radial fans collared at single rig set-up locations. Assays for these holes were used as guide to interpreting local mineralisation extents.	David Andreazza
	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.	The data spacing and distribution is considered sufficient to establish an appropriate degree of geological and grade continuity appropriate for classification of Indicated and Inferred Mineral Resources.	David Andreazza
	Whether sample compositing has been applied.	Sample compositing has been done only for a minority of the historical diamond drill holes, with no justification given in the geological logs.	David Andreazza
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.*	The attitude of the Metallifero Limestone (host of mineralisation) is interpreted have an average dip to the south of 30^0 towards an azimuth of 189^0 with dip angles ranging from sub horizontal (5-10 degrees) to moderately dipping (up to 30-45 degrees). Bedding attitude has been interpreted from drill hole intersections and dip and dip direction data obtained in the exploration drives and downhole televiewer results. The level of confidence in the bedding and much of the mineralisation attitude is high. Given the multiple directions of drilling from the drives some intersections are at very low angles to the bedding attitude and mineralisation. Measured true thicknesses of the mineralisation at the diamond drill hole intersections are on average 39% less than the drill intersection lengths, with 18% of the true thickness measurements being less than 25% of the corresponding drill intersection lengths. However, there is no evidence of bias in full mineralised intersection grades or true thicknesses in the corresponding diamond drill holes oriented at low angles to the attitude of the mineralisation. Much of the historical percussion drilling has been drilled horizontal at a very low angle to the dip of the mineralisation. This compounded with likely downhole contamination of samples due to settling of heavy minerals on the lower curvature of the holes has been considered in the interpretation of mineralisation constraints for resource estimation.	David Andreazza
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	An accumulation resource grade estimation approach has been used which weights a single composite of the drill hole assay over the full mineralised drill intersection by the interpreted true thickness of the mineralisation at the drill intersection (centre point). This effectively negates the effects of variations in the drill hole sample support (and potential bias) relating to drill holes that intersect a mineralised horizon at highly variable orientations.	James Ridley

Criteria	JORC Code Explanation	Commentary	Competent Person
Sample security	*The measures taken to ensure sample security.*	Samples from the Energia drilling are dispatched from the Exploration Site using a single reputable contracted courier service to deliver samples directly to the analytical laboratory where further sample preparation and analysis occurs. Measures taken to ensure sample security from the historical drilling are unknown.	David Andreazza
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	Energia conducts regularly reviews of sampling techniques and material sampled to ensure any change in geological conditions is adequately accounted for in sample preparation. Reviews of assay results and QA/QC results occur for each batch. 1 in 10 checks on all compiled and entered data are completed by Energia. Jorvik Resources was retained to undertake a site visit and review of the sampling techniques and data in January 2016. Jorvik considers the sampling procedures used by Energia and resulting data to be appropriate, aligned with industry standard methodologies, and suitable for use in resource modelling.	David Andreazza

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code Explanation	Commentary	Competent Person
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	The Gorno Lead Zinc deposit is located in the north of Italy, in the Lombardia Province. The Gorno Project is made up of ten (10) granted tenements: Decrees 1571, 1629, 1630, 1632, 1633, 3276, 3277, 3278, 3279, 3280; and six applications. These leases are 100% owned and operated by Energia Italia, a 100% owned subsidiary of Energia Minerals. The titles are current at the time of release of this report.	David Andreazza
	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 no impediments to operating are currently known to exist.	David Andreazza
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	A significant amount of work was undertaken by ENI subsidiaries in the region. Drilling works completed in the period between 1964-1980 have been compiled and digitised. The work completed at the Gorno deposit has included the development of more than 230km of exploration drives, detailed mapping, and the mining and production of over 800,000 tonnes of high grade zinc concentrate. Large scale mining operations ceased at the Gorno deposit in 1978, and the project closed in 1980.	David Andreazza
Geology	*Deposit type, geological setting and style of mineralisation.*	The Gorno deposit is an Alpine Type Lead-Zinc deposit (similar to Mississppi Valley Type Lead Zinc deposits) and broadly stratabound with some breccia bodies and veining also occurring. It displays generally simple mineralogy of low iron sphalerite, galena, pyrite, and minor silver. Gorno lies in a part of the Italian Southern Alps named “Lombard Basin”, formed by a strong subsidence occurring in the Permian-Triassic which allowed the subsequent accumulation of a thick sedimentary pile. The sedimentary sequence is constrained laterally by the Luganese Platform to the west and by the Atesina Platform to the east. The lithotypes in the southern portion of the	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Geology (cont'd)		basin are predominantly Triassic in age. The geological sequences of importance in relation to mineralisation, from oldest to youngest are as follows: • Breno Formation: a back-reef limestone composed by light grey calcareous beds, 10 to 170 m thick. The facies indicate a palaeogeographical evolution from back reef to shelf environment, in low energy water to alternating peri-tidal cycles. • Metalliferous Limestone: composed of dark grey to black limestone deposited in stromatolitic tidal flats, with siliceous intercalations present in the upper part. The dark colour suggests a stagnant anaerobic depositional environment with bituminous beds generally present at the footwall of the Metallifero. This formation represents a transitional phase between the underlying shelf environment and the upper sequence typified by a peri-continental and detrital sedimentation. Three tuffaceous levels are present in the Metallifero stratigraphical column. The pyroclastic tuffs are submarine volcanic phases which intervened during the deposition of the limestones, and effectively represent a control for the mineralized horizons, in that they are always found at the foot wall (Tuff 1) and at the hanging wall (Tuff 2) of the productive mineralised horizons. • Gorno Formation: alternating thinly bedded, black limestone and laminated marl deposited in protected lagoon environment with a thickness of 0-350 metres. A thin tongue, intercalated between the Metalliferous Limestone and the Val Sabbia Sandstone, is often mineralised and is referred to as the mineralised "black shales" of the Gorno deposits. • Val Sabbia Sandstone: present along the southern Lombard Basin border and is composed of alternating tuffaceous sandstone and green and\or red silt-mudstone. These were possibly derived from the erosion of continental sediments present to the south. The thickness varies between 0 and 400 metres. • San Giovanni Bianco Formation: is composed of a thick alternation of marl, sandstone, siltstone and mudstone which transitions at the top of the unit to cellular limestone and evaporitic vuggy dolomite, estimated thickness to be in the order of 150 metres. Structure in the basin is typified by E-W trending belts which can be subdivided in five sectors: • Orobic Anticline, in the northern part, which includes Palaeozoic successions; • Valtorta-Valcanale Line, oriented E-W and separating the Orobic Anticline to the north from the Pb-Zn mineralised belt in the south. The line is responsible for many of the allochthonous units; • Camuno Autochthonous, including the sedimentary cover, which is covered in the central-western part by various overthrusts and outcrops only in the east; • Para-autochthonous and allochthonous units, present over a large area to the south of the Valtorta-Valcanale Line and formed by the double or triple superimposition of the Triassic carbonate formations;	

Criteria	JORC Code Explanation	Commentary	Competent Person
Geology (cont'd)		• Fold and fold-fault zone, which constitutes the southern sector near the Po plains and includes Jurassic-Cretaceous formations. Mineralisation in the Gorno district occurs within the Camuno Autochthonous Zone, and the para-autochthonous, and allocthounous units. The geometry of the mineralised bodies is mainly stratabound with common characteristics in the majority of the Gorno deposits. The prevailing distribution trend is N-S and the shape, represented by tabular "columns", which can be longitudinally developed for more than 2000 metres, with widths from 50 to 100 metres and thickness between 3 and 20 metres.	
Drillhole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* ▫ *easting and northing of the drillhole collar* ▫ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* ▫ *dip and azimuth of the hole* ▫ *down hole length and interception depth* ▫ *hole length* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	Information material to the understanding of the exploration results reported by Energia is provided in the text of the public announcements released to the ASX. No material information has been excluded from the announcements.	David Andreazza
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.*	A nominal low cut grade of 2% Zn+Pb has been used to differentiate mineralised material from unmineralised material for public reporting of drilling results. Aggregates were calculated as length weighted averages above the cut off grade typically allowing only 10m of total internal dilution to be included, with maximum individual waste intersections not exceeding 4m. No metal equivalents have been used.	David Andreazza

Criteria	JORC Code Explanation	Commentary	Competent Person
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drillhole 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').*	The attitude of the Metallifero Limestone (host of mineralisation) is interpreted have an average dip of 30^0 towards an azimuth of 189^0 with dip angles ranging from sub horizontal (5-10 degrees) to moderately dipping (up to 30-45 degrees). Bedding attitude has been interpreted from drill hole intersections and dip and dip direction data obtained in the exploration drives and downhole televiewer results. The level of confidence in the bedding and much of the mineralisation attitude is high. Measured true thicknesses of the mineralisation at the diamond drill hole intersections are on average 39% less than the drill intersection lengths, with 18% of the true thickness measurements being less than 25% of the corresponding drill intersection lengths. However, there is no evidence of bias in full mineralised intersection grades or true thicknesses in the corresponding diamond drill holes oriented at low angles to the attitude of the mineralisation.	David Andreazza
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 drillhole collar locations and appropriate sectional views.*	Appropriate maps, sections and mineralised drill intersection details are provided in public announcements released to the ASX. Similar diagrams accompany this report.	David Andreazza
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.*	Exploration results reported in Energia public announcements and this report are comprehensively reported in a balance manner.	David Andreazza
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.*	A significant amount of mining, exploration, survey, and environmental data has been recovered from the Bergamo State Archives, translated and captured in digital format. Metallurgical testwork has been initiated by Energia with results from this work expected to be reported by the metallurgical lab facility in the near future. A total of 48 bulk density measurements have been completed on half core samples of mineralised and unmineralised materials from the Energia drilling. The measurements were completed at a commercial laboratory facility using an industry standard methodology measuring sample weights in air and suspended in water, and calculating bulk density values using the following equation: $$\text{Specific Gravity} = \frac{\text{Weight of sample (g)}}{\text{Weight in air (g) - Weight in water (g)}}$$	David Andreazza
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 works planned at Gorno include rehabilitation of exploration drives, development of a 710m exploration decline from the 940 level, and diamond drilling to test for continuity mineralisation across strike and down plunge to the 600 level.	David Andreazza

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code Explanation	Commentary	Competent Person
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.*	All Energia geological, sampling, and spatial data generated and captured in the field is immediately entered into a field notebook on standard Excel templates. These templates are then validated each night in Micromine. This information is then sent to Energia's in house database manager for further validation. If corrections need to be made they are corrected the following day by the person responsible for generating the data. Once complete and validated the data is then compiled into a SQL database managed by an external consultant. All assay data received from the analytical laboratory has been has routinely been checked, and analysis of QAQC data undertaken by Energia geological staff prior to uploading into a SQL database. All historical drilling data has been compiled from hand written reports and entered into Excel templates. The resultant data have been validated in Micromine and forwarded to Energia's in house database manager for further validation. If corrections were required, edits were completed by the person responsible for capturing the data. Once complete, the validated the data has been compiled into a SQL database.	James Ridley
	Data validation procedures used.	Manual data validation checks are routinely run by Energia's in house database manager. Jorvik Resources (Jorvik) ran their own validation checks on the database supplied for the resource estimate, including: • Review wireframes of underground tunnel developments. • Visual checking of drill hole collar locations relative wireframes of underground tunnels; • Consistency of end of hole depths in the collar, survey, geology and assay datasets; • Gaps and overlapping sampling and logging intervals in the geology and sample/assay datasets; • Assignment of nominal waste grades to unsampled drill intersections of waste rock; • Assignment of half analytical detection limit values to samples with assays reporting less than the detection limit; • Inspection of drill hole paths, logged stratigraphy and mineralised intersections in 3-D. No material errors were identified in the data provided by Energia.	James Ridley
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	James Ridley and Karen Lloyd, of Jorvik Resources undertook a site visit to Energia's Gorno Project area on 19-25 January 2016 where detailed inspection of underground mine workings, diamond drilling, geological data collection and sampling procedures, and mineralised intersections of diamond drill core were undertaken.	James Ridley
	If no site visits have been undertaken indicate why this is the case.	A site visit was undertaken by Jorvik personnel during January 2016 as described above.	James Ridley
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	The confidence in the current geological interpretation of the Colonna Zorzone mine area is considered to be good. The MVT zinc, lead and silver mineralisation typically occurs massive to disseminated sphalerite accompanied by disseminated galena and sulphosalt minerals, tetrahedrite and tennantite hosted in deformed (brecciated) black	James Ridley

Criteria	JORC Code Explanation	Commentary	Competent Person
Geological interpretation (cont'd)		shale and dark grey limestone in the upper portion of the Metallifero Limestone near the contact with the overlying Gorno Formation, or in tectonic breccia zones within the Metallifero Limestone and Breno Formation (limestone) proximal to significant fault structures. The stratigraphy in the mine area forms undulating folds resulting in paired antiform and synform structures trending approximately east-west, with dip angles ranging from sub horizontal (5-10 degrees) to moderately dipping (up to 30-45 degrees). A N-NE trending fault bounds the western margin of the Colonna Zorzone mine area with the stratigraphy to the west interpreted to be offset approximately 120m to the north. A second significant fault structure (central fault) trending near N-S bisects the Colonna Zorzone mine area with relative upward displacement of the stratigraphy to the east. A third less prominent fault structure only mapped on the 600 level and located approximately 140m west of the central fault appears to result in relative downward displacement of the stratigraphy to the east. The location and geometry of the contact between the Metallifero Limestone and the overlying Gorno Formation has been has been interpreted from drill hole stratigraphy logging, dip and dip direction data derived from structural mapping of the exploration drives and downhole televiewer surveys and geological mapping of the underground mine workings. Control strings were digitised in 3-D, snapping to the drill holes, and used to construct a wireframe surface model of the Metallifero / Gorno contact. The interpreted western fault structure defines the limits of the modelled contact to the west. The north and south extents are based on control from diamond drilling on the 1080 and 600 levels, respectively, while the eastern extent of the model has been terminated at approximately 560300mE.	
	Nature of the data used and of any assumptions made.	Assay data has been used to interpret mineralisation domains based on a nominal 1% zinc cut-off grade which was selected based on visual inspection of grade continuity between mineralised drill intersections. The domains were modelled using a minimum thickness of 2m incorporating assays and nominal low grade values for sub-grade mineralisation and waste to achieve the minimum thickness. The modelled Metalifero / Gorno contact and structure orientation measurements were use as a guide to interpreting the geometry of the mineralised domains. Sub-vertical mineralisation outlines were snapped to the drill holes and the resulting strings were used to construct wireframe solids defining a total of four mineralised domains to constrain resource estimation.	James Ridley
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The current interpretation accounts for all of the available geological data. Significant changes to the current interpretation are considered impractical.	James Ridley
	The use of geology in guiding and controlling Mineral Resource estimation.	The mineralisation constraints modelled to constrain resource estimation have been defined using all available geological and structural data and are consistent with the mineralisation geometry and styles observed in the underground mine workings and drill core.	James Ridley

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th><th>Competent Person</th></tr>
<tr><td>Geological interpretation (cont'd)</td><td>The factors affecting continuity both of grade and geology.</td><td>The thickness and distribution of black shales near the top of the Metallifero Limestone and the presence of folding and faulting all impact on the continuity of grade and geology.

Observation of smaller scale fold and fault structures in the underground workings and drill core indicate there is likely to be greater short range variations in mineralisation grades, thicknesses and orientation than reflected at the scale of the current geological interpretation.</td><td>James Ridley</td></tr>
<tr><td>Dimensions</td><td>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.</td><td>The Project consists of semi-continuous to continuous disseminated to massive sulphide mineralisation predominantly occurring within black shale and limestone, karst void fillings and bitumenous joints in the upper portion of the Metallifero Limestone (near contact mineralisation) and to a lesser extent in tectonic breccias developed across the Metallifero Limestone and extending up into the Gorno Formation and down into the Breno Formation.

Four mineralised domains have been modelled with the largest (min_zn = 10) defining near contact mineralisation between the western and central faults extending approximately 300m along strike (E-W), 1500m down dip (N-S) and averaging 3.5m thick. A second zone of near contact mineralisation (min_zn = 4) within a synform structure located east of the central fault extends 250m along strike (NE), approximately 100m across a synform and averages 2.8m thick. A zone of tectonic breccia mineralisation extending across the Metallifero Limestone immediately east of the central fault (min_zn = 30) extends over a strike length of 250m to the NE and has an antiform geometry measuring approximately 25m across by 25m vertical. The final mineralised domain (min_zn = 40) is comprised of lower grade tectonic breccia mineralisation developed within Metallifero Limestone and underlying Breno Formation extending across the central fault. This extends over a 150m strike length (EW), 175m down dip and averages 6m thick.

This Mineral Resource has the following coordinate extents:</td><td>James Ridley</td></tr>
<tr><td></td><td></td><td>Block Model Extents

<table><tr><th></th><th>Minimum</th><th>Maximum</th><th>Extent (m)</th><th>Parent Block Size</th><th>Sub-Block Size</th></tr><tr><td>Easting</td><td>559250</td><td>560200</td><td>950</td><td>25</td><td>0.5</td></tr><tr><td>Northing</td><td>5083850</td><td>5085250</td><td>1,400</td><td>25</td><td>0.5</td></tr><tr><td>mRL</td><td>450</td><td>1150</td><td>700</td><td>700</td><td>0.5</td></tr></table></td><td>James Ridley</td></tr>
<tr><td>Estimation and modelling techniques</td><td>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</td><td>Grade estimation within the modelled mineralisation domains was undertaken using Ordinary Kriging (OK) with grades weighted by the true thicknesses of the mineralisation proximal to the mineralised drill intersections. Vulcan Mining software was used to estimate true thickness and grade times thickness for Zn, Pb, Ag and specific gravity. Drill hole sample data was flagged using zone codes relating to the modelled wireframe solids of the mineralised domains and stratigraphy above and below the modelled Metallifero/Gorno contact.

As no silver assay data are available for the historical drill core samples, a linear regression (14.761 * Pb +1) based on moderate correlation of Pb and Ag assay grades for samples from the Energia drilling was used to calculate silver grades for the</td><td>James Ridley</td></tr>
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Criteria	JORC Code Explanation	Commentary	Competent Person
Estimation and modelling techniques (cont'd)		historical core samples. Correlation and regression analysis between the specific gravity and the Zn+Pb assay data available for 48 samples found that increasing SGs are related to increasing grades when the combined Zn+Pb assay values exceed 10%. A power model ($1.6196 * (Zn+Pb)^{0.2281}$) was fitted to the data and used to calculate SG values for all of the historical and Energia core samples with Zn+Pb grades $\geq$ 10%. The average SG of the lower grade and waste samples in the SG dataset is 2.71 t/m^3, which was assigned to the remaining historical and Energia core samples with Zn+Pb grades < 10%. Assay and specific gravity data for all core samples captured within mineralisation wireframes were composited over the entire intersection length within the wireframe. The true thickness of the mineralisation at the centroid of each drill intersection was manually measured based on the thickness of the modelled mineralisation wireframe at drill intersection centroid. Lower grade and internal waste samples captured within the wireframes were incorporated into the composite grade calculations, with the grades of all contributing samples weighted by both length and specific gravity. Unsampled intervals captured within the composite intervals were assigned values equal to $1/10^{th}$ of the analytical detection limit. True thickness times grade was calculated for all of the composited drill intersections captured within the mineralised zone wireframes to produce accumulation values for Zn, Pb, Ag and SG. 2-D variography in horizontal plan view was carried out on the true thickness and accumulation data for all of the grade and SG variables for the largest mineralised domain (min_zn = 10). The variography has confirmed the geological interpretation with the axis of greatest continuity trending towards azimuths ranging from 10 to 30 degrees. A very low relative nugget effect of 0.05 has been modelled for thickness and SG accumulation while nugget values ranging from 0.15 to 0.25 have been modelled for Zn, Pb and Ag accumulations. Overall ranges for thickness and SG average 950m (major axis) and 400m (semi-major axis) while overall ranges for Zn, Pb and Ag accumulations range from 650m to 950m (major axis) and from 120m to 220m (semi-major axis). These are well in excess of the dominant diamond drill hole spacing which approximates a nominal 50m x 50m grid.	
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	No check estimates or previous estimates encompassing the resource modelling area are available for comparison.	James Ridley
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding by-products as no by products are considered to be material to the Gorno Project	James Ridley
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements have been estimated as no deleterious elements are considered to be material to the resource estimate.	James Ridley

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Estimation and modelling techniques (cont'd)	*In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	A single block model for Colonna Zorzone was constructed using a 25mE by 25m N by 700m RL parent block size with sub-blocking to 0.5mE by 0.5mN by 0.5mRL for domain volume resolution. All estimation was completed in 2-D on the 800m RL at the parent block scale, using block discretisation of 5 x 5 x 1 for all domains. The size of the search ellipse was based on the dominant spacing of the mineralised diamond drill hole intersection, and extended to allow for a lesser sample support. Hard boundaries were used for both input data and block selection when estimating individual mineralisation zones. Three search passes, with increasing search distances and decreasing minimum sample numbers, were employed. The first pass used distances of 150mE by 75mN by 150mRL along the major (azim 020), semi-major (azim 110) and minor axis (vertical) directions with a maximum 8 and minimum 4 intersection composites used to complete each parent block estimate. In the second pass the search ranges were doubled, but the constraints on the minimum and maximum number of composites left unchanged . In the third pass the search ranges (600m x 300m x 600m) were double those used in the second pass and the minimum number of drill hole composites required to complete an estimate decreased to 2. Parent block estimates were made with the true thickness and accumulation composites data projected to the 800mRL aligned with the centroids of the parent blocks intersecting the mineralisation domains. Parent block estimates for each mineralised domain were completed at the 800mRL and then assigned to all corresponding sub-blocks located within the mineralised domain. On completion of the ordinary kriging of the thickness and accumulation variables for each mineralised zone, block Zn, Pb and Ag grades, and SG values were calculated by dividing the kriged accumulation estimates by the kriged true thickness estimate for each block.	James Ridley
	Any assumptions behind modelling of selective mining units.	No selective mining units were assumed in this accumulation based estimate as studies into the mine design criteria are still underway.	James Ridley
	Any assumptions about correlation between variables.	As no silver assay data are available for the historical drill core samples, a linear regression (14.761 * Pb +1) based on moderate correlation of Pb and Ag assay grades for samples from the Energia drilling was used to calculate silver grades for the historical core samples. Correlation and regression analysis between the specific gravity and the Zn+Pb assay data available for 48 samples found that increasing SGs are related to increasing grades when the combined Zn+Pb assay values exceed 10%. A power model ($1.6196 * (Zn+Pb)^{0.2281}$) was fitted to the data and used to calculate SG values for all of the historical and Energia core samples with Zn+Pb grades $\geq$ 10%. The average SG of the lower grade and waste samples in the SG dataset is 2.71 t/m^3, which was assigned to the remaining historical and Energia core samples with Zn+Pb grades < 10%.	James Ridley
	Description of how the geological interpretation was used to control the resource estimates.	The location and geometry of the Metallifero/Gorno contact has been modelled based on all available geological and structural data. This model was then used a guide to interpreting the geometry of mineralised zone outlines and wireframes used to constrain resource estimation. Separate mineralised zone domains have been modelled capturing distinctively different mineralisation styles (near contact versus	James Ridley

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Estimation and modelling techniques (cont'd)		tectonic breccia zones). Full domain control was used for estimation of thickness and grade accumulation variables within each mineralisation domain using hard boundaries for input data and block selections for each domain.	
	Discussion of basis for using or not using grade cutting or capping	Statistical analysis of the thickness and grade accumulation variables for the 4 mineralised zone domains has reported relatively low coefficients of variation. No significant outlier values are evident requiring top-cuts to be applied to the input variables for grade estimation.	James Ridley
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	Validation of the block model included visual checks of block model construction and domain coding, volume check of mineralisation zones against resource wireframes. Validation of the estimate included visual checks against resource wireframes and drillholes, comparison of block grades with input composite data via statistics. The estimate has honoured the raw data and appears to be appropriately smoothed.	James Ridley
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The tonnages are estimated using estimated SG values determined from measurements of dry bulk density.	James Ridley
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	A nominal modelling grade cut-off grade of 1.0% zinc was used to interpret and model 3-D wireframes outlining the mineralised domains . This cut-off grade effectively represents an upper threshold at which robust 3 dimensionally continuous zones of mineralisation can be modelled without including significant sub-grade mineralisation that is unlikely to be of economic value.	James Ridley
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.*	Mining of the Gorno Deposit will be by various underground mining methods. Studies are currently underway to develop an optimised mine plan.	James Ridley
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.*	No assumptions or predictions relating metallurgical amenability are reflected in the resource block model. However, records of substantial historical production in the district has demonstrated that the mineralisation is amenable to the recovery oxide and sulphide Zn, Pb and Ag concentrates using conventional flotation methods.	James Ridley

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	Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.		
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.*	Approvals for rehabilitation and exploration development at the Gorno project are in place. The Gorno project includes 250km of existing underground workings and the approvals process to move to full production is underway. No significant environmental constraints are envisaged.	James Ridley
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.*	A total of 48 bulk density measurements have been completed on half core samples of mineralised and unmineralised materials from the Energia drilling. The measurements were completed at a commercial laboratory facility using an industry standard methodology measuring sample weights in air and suspended in water, and calculating bulk density values using the following equation: $\text{Specific Gravity} = \frac{\text{Weight of sample (g)}}{\text{Weight in air (g) - Weight in water (g)}}$ The samples tested are from drill holes with good geographical spread across the resource area and adequately reflect variations in mineralisation styles and grades. Furthermore, the samples contain little to no void space or porosity and therefore, the resultant SG determinations are considered to represent dry bulk density measurements. Correlation and regression analysis between the specific gravity and Zn+Pb assay data available for 42 of the bulk density samples found that increasing SGs are related to increasing grades when the combined Zn+Pb assay values exceed 10%. A power model ($1.6196 * (Zn+Pb)^{0.2281}$) was fitted to the data and used to calculate SG values for all of the historical and Energia core samples with Zn+Pb grades $\geq$ 10%. The average SG of the lower grade and waste samples in the SG dataset is 2.71 t/m^3, which was assigned to the remaining historical and Energia core samples with Zn+Pb grades < 10%.	James Ridley
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	The bulk density samples contain little to no void space or porosity.	James Ridley

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Bulk density (cont'd)	*Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Assessment of the bulk density data indicates there is little to no difference in the bulk densities of unmineralised Metallifero, Gorno and Breno waste rock. The size of the bulk density dataset is insufficient to enable detailed statistical analysis of the bulk density versus Zn+Pb grades sub-divided by mineralisation styles. However, the available data suggests that sulphide mineral concentrations in the samples have the greatest impact on the magnitude of bulk density values.	James Ridley
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The Mineral Resource Classification is based on confidence in the geological and grade continuity in relation to the drill hole spacing. Where present, the mineralisation appears to be highly continuous, albeit with significant local variations in grade over similar overall mineralisation true thicknesses. Higher confidence local estimates therefore require a drill spacing that adequately represents the local variation in the mineralised intersection grades. Block model grade estimates based on informing mineralised drill intersections at an approximate grid spacing of 50m x 50m have been classified as Indicated Resources using wireframes based on digitised outlines considering the geological complexity, data quantity, and drillhole spacing informing the mineralisation interpretation within each mineralised domain. All remaining block model estimates for the mineralised domain have been classified as Inferred Resources based on reasonable geological continuity and interpolation/ extrapolation of grades from the available mineralised diamond drill hole intersections.	James Ridley
	Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	The resource classification constraints take into account all of the JORC Table 1 assessment parameters.	James Ridley
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the view of the Competent Person.	James Ridley
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	An internal peer review of this resource estimate has been undertaken by Karen Lloyd and Louis Voortman of Jorvik Resources.	James Ridley
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 public reporting of the Mineral Resource estimate is in accordance with JORC Code (2012 edition) guidelines.	James Ridley

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	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.	The statement relates to global estimates of tonnes and grade. The confidence intervals have been based on estimates at the parent block size.	James Ridley
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production has been undertaken to date within the resource area.	James Ridley