Mariana Resources Ltd. Reports Increased High Grade Gold-Copper Resource and Maiden Zinc Resource at the Hot Maden Project

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Indicated (100% basis): 2.79 Million Oz Gold + 166,000 Tonnes Cu (3.43 Million Oz Au equivalent) Inferred (100% basis): 375,000 Oz Gold + 17,000 Tonnes Cu (439,000 Oz Gold Equivalent**), and Zinc Zone- Indicated (100% basis): 11,600 Tonnes Zinc Inferred (100% basis): 114,000 Tonnes Zinc**

GUERNSEY, July 25, 2016 - Mariana Resources Ltd. ('Mariana' or 'the Company'), the AIM listed exploration and development company with projects in Turkey and South America, is pleased to announce the results of an Updated Mineral Resource estimate for the high grade gold-copper ('Au-Cu') Hot Maden Project ("HM"), eastern Turkey (Figure 1). The Updated Mineral Resource estimate has been prepared by independent mining consultants RungePincockMinarco Limited ("RPM"), and was based on assay results received for drill holes up to, and including HTD-62 as of June 22, 2016, and is reported in accordance with the JORC Code 2012 edition and estimated by a Competent Person as defined by the JORC Code. Drilling to date has been completed by our 70% JV partner Lidya Madencilik Sanayi ve Ticaret A.S. ("Lidya").

Highlights:

- Significant increase in the global gold-copper resource at HM (Figures 2 & 3), with the higher confidence level Indicated Category resources rising to 3.43 Million Oz Au equivalent** and Inferred Category resources now reported at 439,000 Oz Au equivalent**. Overall resource growth has been derived from both step out drilling around main gold-copper zone together with a maiden contribution from initial drilling in the southern zone.
- The Main Zone's Ultra High Grade Domain reports an impressive 2.08 Million Tonnes at an average grade of 32.7 g/t Au and 3.5% Cu (or 36.9 g/t Au equivalent*) for 2.47 Million Oz Au equivalent** in the Indicated Category.
- Maiden Resource for the New Southern Zone discovery, located 300m south of the Main Zone, in the Inferred Category is 1.35 Million Tonnes at an average grade of 7.2 g/t Au and 0.7% Cu for 351,000 Oz Au equivalent** from just 17 holes to date.
- Overall tonnage and grade of the Main Zone gold-copper resource (Indicated Category) has increased to 7.12 Million Tonnes and 15 g/t Au equivalent**, respectively.
- A maiden resource estimate is also reported for the zinc-(lead)-only zone in the hangingwall to the Main Zone Au-Cu resource (Figure 4). At a cut-off grade of 2% Zn, Indicated and Inferred Resources of 11,600 Tonnes Zinc and 114,000 Tonnes Zinc, respectively, are reported.

Chief Executive Officer Glen Parsons today commented: "The confidence and growth in the high grade gold-copper Hot Maden project continues to excite the Board, as well as capture market attention. Drilling to date on the project has delivered a significant increase in the Indicated Category resource at the Main Zone Au-Cu deposit, in addition to two maiden Inferred category resources at the new Southern Zone and the hangingwall zinc-(lead)-only zone.

"The upgrade in the Indicated Category resource represents a 69% increase from the August 2015 Mineral Resource estimate, and now includes an impressive 2.47 Million gold equivalent ounces with an average grade in excess of an ounce Au (and Au equivalent) per tonne. This mineralisation commences just 20m below surface. In addition, the newly discovered Southern zone has delivered a further maiden inferred resource of some 351,000 Oz gold equivalent from just 17 holes.

"To better grasp this increase, the table below compares the Main Zone Indicated Category Resource from the maiden (August 2015) Resource Estimate against this newly reported upgrade where we can see the phenomenal increase in the ounces and the confidence in category especially in the Ultra High Grade Zone:

COMPARISON OF INDICATED CATEGORY FOR THE MAIN ZONE AT HOT MADEN (2 g/t AuEq* Cut-off)

(This Updated Resource Estimate to Maiden Resource estimate)

PREVIOUSLY REPORTED- Hot Maden Deposit (100% basis) August 2015 Mineral Resource Estimate

Domain	Tonnes	Au	Cu	AuEq	Au	Cu	AuEq
	t	g/t	%	g/t*	Ounces	Tonnes	Ounces**
Main Zone LG	481,000	0.9	1.0	2.4	14,000	5,000	37,000
Main Zone HG	3,199,000	5.2	1.8	8.0	537,000	56,000	822,000
Main Zone UHG	1,031,000	29.2	4.0	35.4	967,000	41,000	1,174,000
Total	4,710,000	10.0	2.2	13.4	1,518,000	102,000	2,033,000

THIS ANNOUNCEMENT Hot Maden Deposit (100% basis)

Domain	Tonnes	Au	Cu	Zn	AuEq	Au	Cu	AuEq
	t	g/t	%	%	g/t*	Ounces	Tonnes	Ounces**
Main Zone LG	463,000	1.1	1.1	0.3	2.4	17,000	5,000	36,000
Main Zone HG	4,501,000	3.9	1.9	0.2	6.3	570,000	87,000	908,000
Main Zone UHG	2,086,000	32.7	3.5	0.1	36.9	2,195,000	73,000	2,476,000
Mixed Gold-Zinc	17,000	7.5	3.1	3.6	11.2	4,000	1,000	6,000
Peripheral Lodes	60,000	2.1	0.4	0.4	2.5	4,000		5,000
Total	7,127,000	12.2	2.3	0.2	15.0	2,790,000	166,000	3,431,000

"In addition, we have been consistently hitting reportable intercepts of zinc and, based on drilling to date, we now have a maiden metal inventory of 11,600T in Indicated and 114,000T in Inferred Resource categories. Whilst the focus of the JV remains on the high grade gold-copper zone, these zinc tonnages could also contribute to the overall economics of the project.

"The continuing planned drilling in the resource and southern areas represent a small portion of the 5 km long Hot Maden alteration zone (Figure 5), which displays prospective exploration and potential growth opportunity. Promisingly, further evidence of exploration potential to the north and south continues along this alteration zone with new priority areas being targeted, specifically the Old Russian Mining zone some further 500m to the south as well as up to 1.5km to the North of the main zone."

The exciting milestones ahead, focussing on the rapid advancement and development of this world class asset, include:

- Continued drilling at Hot Maden to include both exploration and infill drilling,
- The Preliminary Economic Assessment (PEA), which is due end September/ early October 2016.
- The Pre-Feasibility Study (PFS), to be completed during the first half 2017.

"The Hot Maden discovery, resource milestones and defined path to ultimate production reinforces Mariana's strategy of focussed and disciplined exploration across its strategic portfolio development curve and I look forward to updating the market accordingly.

"On an operational note, at both the Hot Maden and Ergama projects, there is no impact due to recent disturbances in Turkey. Operations are continuing normally without interruption at the project with all rigs turning in order to meet the joint ventures planned milestones."

An updated technical report on Hot Maden is in the process of being prepared in accordance with Canadian National Instrument 43-101 ("NI 43-101") standards.

Link to Figures: http://marianaresources.com/site/media/July_25_Maps.pdf

The July 2016 Mineral Resource Estimate in the applicable zones comprises:

Hot Maden Gold-Copper Project Update

Hot Maden - Main Gold-Copper Zone (2 g/t AuEq Cut-off)

Indicated Mineral Resource

Domain	Tonnes	Au	Cu	Zn	AuEq	Au	Cu	AuEq
	t	g/t	%	%	g/t*	Ounces	Tonnes	Ounces**
Main Zone LG	463,000	1.1	1.1	0.3	2.4	17,000	5,000	36,000
Main Zone HG	4,501,000	3.9	1.9	0.2	6.3	570,000	87,000	908,000
Main Zone UHG	2,086,000	32.7	3.5	0.1	36.9	2,195,000	73,000	2,476,000
Mixed Gold-Zinc	17,000	7.5	3.1	3.6	11.2	4,000	1,000	6,000
Peripheral Lodes	60,000	2.1	0.4	0.4	2.5	4,000		5,000
Total	7,127,000	12.2	2.3	0.2	15.0	2,790,000	166,000	3,431,000

Inferred Mineral Resource

Domain	Tonnes	Au	Cu	Zn	AuEq	Au	Cu	AuEq
	t	g/t	%	%	g/t*	Ounces	Tonnes	Ounces**
Main Zone LG	395,000	1.7	0.9	0.03	2.8	21,000	4,000	35,000
Main Zone HG	31,000	3.9	1.6	0.1	5.8	4,000		6,000
Main Zone UHG	6,000	39.1	2.1	0.01	41.6	7,000		8,000
Mixed Gold-Zinc	4,000	1.7	0.4	2.4	2.2			
Peripheral Lodes	282,000	3.2	0.9	0.1	4.3	29,000	2,000	38,000
Total	718,000	2.7	0.9	0.1	3.8	62,000	7,000	88,000

Hot Maden - Southern Gold-Copper Zone (2 g/t AuEq Cut-off)

Inferred Mineral Resource

Domain	Tonnes	Au	Cu	Zn	AuEq	Au	Cu	AuEq
	t	g/t	%	%	g/t*	Ounces	Tonnes	Ounces**
South Zone LG	396,000	2.8	0.7	0.0	3.6	35,000	3,000	46,000
South Zone HG	583,000	5.3	0.7	0.0	6.1	98,000	4,000	114,000
Main Zone UHG	224,000	22.2	1.0	0.0	23.4	160,000	2,000	169,000
Mixed Gold-Zinc	44,000	9.0	1.0	3.2	10.2	13,000		15,000
Peripheral Lodes	104,000	1.9	0.3	0.0	2.2	6,000		7,000
Total	1,352,000	7.2	0.7	0.1	8.1	313,000	10,000	351,000

Hot Maden - Hangingwall Zinc Zone (2% Zn Cut-off)

Indicated Mineral Resource

	Tonnes t	Zn%	Pb%	Zinc t
Total	398,000	2.9	0.6	11,600

Inferred Mineral Resource

	Tonnes t	Zn%	Pb%	Zinc t
Total	2,871,000	4.0	0.5	114,000

This Updated Mineral Resource Estimate above has been compiled by Stewart Coates from RPM who also falls under the definition of Qualified Person ("QP") as defined in the Canadian National Instrument "NI 43-101". This resource estimate has been estimated in compliance with the CIM Definition Standards on Mineral Resources and Mineral Reserves and will be included in an updated NI 43-101 Technical Report on Hot Maden, within appropriate reporting requirements, which is in the process of being compiled. This report when complete will be filed on AIM as well as on SEDAR.

A detailed breakdown of the Total Mineral Resource estimate is given below:

Note:

1. The Statement of Estimates of Mineral Resources has been compiled under the supervision of Mr. Stewart Coates who is a part-time employee of RPM and a Member of the the Association of Professional Engineers and Geoscientists of the Province of British Columbia. Mr. Coates has sufficient experience that is relevant to

the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined under the JORC Code which is accepted as a Foreign Code by CIM and NI 43-101.There are no material differences between the definitions of Measured, Indicated and Inferred Mineral Resources under the CIM Definition Standards and the equivalent definitions in the JORC Code. The Resource would report the same quantities to the same classifications under both the CIM Definition Standards and the JORC Code.

2. All Mineral Resources figures reported in the table above represent estimates based on drilling completed up to 22 nd June, 2016. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.

3. *Au Equivalence (AuEq) calculated using a 100 day moving average of $US1,215/ounce for Au and $US2.13/pound for Cu as of May 29, 2016. No adjustment has been made for metallurgical recovery or net smelter return as these remain uncertain at this time. Based on grades and contained metal for Au and Cu, it is assumed that both commodities have reasonable potential to be economically extractable.

a. *-The formula used for Au equivalent grade is: AuEq g/t = Au + [(Cu % x 22.0462 x 2.13)/(1215/31.1035)] and assumes 100 % metallurgical recovery.

b. **-Au equivalent ounces are calculated by mulitplying Mineral Resource tonnage by Au equivalent grade and converting for ounces. The formula used for Au equivalent ounces is: AuEq Oz = [Tonnage x AuEq grade (g/t)]/31.1035.

4. Mineral Resource grades are estimated in accordance with the JORC Code.

5. Mineral Resources are reported on a dry in-situ basis.

6. LG = low grade, HG = high grade and UHG = ultra-high grade.

7. Reported at a 2 g/t AuEq cut-off.

8. Mineral Resources referred to above, have not been subject to detailed economic analysis and therefore, have not been demonstrated to have actual economic viability.

Resource Estimate Authorship and Methodology The Mineral Resource Estimate for the Hot Maden Project was compiled under the supervision of Mr Stewart Coates, a full time employee of RPM and a Member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia. The Mineral Resource Estimate was completed using the following parameters:

- A site visit was conducted by Stewart Coates (RPM) to review the project and deposit geology, drilling, sampling and QAQC procedures. The data, drilling and geological records were found to be well maintained by Lidya and comprehensive field procedures had been developed. The site visit review concluded no significant issues were identified with regards to current geological understanding and data information.
- The Hot Maden Mineral Resource area extends over a north-south strike length of 670m (from 4,541,710mN - 4,542,380mN), has a maximum width of 105m (740,590mE - 740,695mE) and includes the 495m vertical interval from 885mRL to 390mRL.
- Drill holes used in the Mineral Resource estimate included 52 diamond holes for a total of 3,748m within the wireframes. The database contained records for 65 drill holes for 16,455m of drilling.
- Drill hole spacing is approximately 50m by 50m at the Project. Approximately 55% of current drilling is angled -60 degrees to the east, with the remaining holes angled -60 degrees to the west. Mineralisation is generally sub-vertical.

- Since the commencement of drilling Lidya has implemented a consistent QAQC system utilising standards, blanks and duplicate samples. The program included the submission of one standard every 20th sample, the submission of two blanks in every assay batch and field duplicates taken every 40th sample. All standards and blanks were obtained and certified by Geostats. Duplicates were split to quarter core with a core saw.
- Monitoring of standards, blanks and duplicates was undertaken by Lidya and Mariana geologists. Raw QAQC data was reviewed by RPM and results considered acceptable and suitable for use in Mineral Resource estimation.
- The mineralisation was constrained by resource outlines based on mineralisation envelopes prepared using a nominal 0.5g/t Au Equivalent cut-off grade for lower grade material, 3g/t Au Equivalent for higher grade material and approximately 15g/t Au Equivalent for ultra-high grade material. All mineralisation intersections were defined with a minimum down hole width of 2m.
- Samples within the wireframes were composited to even 1m intervals based on analysis of the sample lengths in the database. Top cuts were applied to the data based on statistical analysis of individual lodes. A top cut of 35g/t Au was applied within the higher grade domain (Object 101), a top cut of 175g/t Au was applied to the ultra-high grade domain (Object 102), a top cut of 20g/t Au was applied to Object 103 and a top cut of 10g/t Au was applied to Objects 2 and 3, resulting in a total of 10 samples being cut. Top cuts for the remaining elements were not required; no Au top cut was applied to the remaining lodes.
- A Surpac block model was used for the estimate with a block size of 25m NS by 25m EW by 10m vertical with sub-cells of 3.125m by 3.125m by 1.25m. This was selected as the optimal block size as a result of kriging neighbourhood analysis (KNA).
- Using parameters derived from modelled variograms, Ordinary Kriging (OK) was used to estimate average block grades in three passes using Surpac software. Linear grade estimation was deemed suitable for the Hot Maden Mineral Resource due to the geological control on mineralisation. Maximum extrapolation of wireframes from drilling was 50m down-dip and 50m along strike. This was equal to one drill hole spacing. Maximum extrapolation between drill sections was half drill hole spacing. Down-dip and along strike extrapolations were classified as Inferred Mineral Resource.
- Bulk densities within the wireframes were calculated based on a linear regression equation between Fe grade and density measurements obtained from drill core. A bulk density of 2.85t/m^3 was assigned to waste material as a result of average core densities outside the wireframes. A bulk density of 2.20t/m^3 was assigned to overburden.
- The Mineral Resource was classified as Indicated and Inferred Mineral Resource based on data quality, sample spacing, and lode continuity. The Indicated Mineral Resource was defined within areas of close spaced diamond drilling of less than 50m by 50m, and where the continuity and predictability of the lode positions was good. The Inferred Mineral Resource was assigned to areas of the deposit where drill hole spacing was greater than 50m by 50m, where small isolated pods of mineralisation occur outside the main mineralised zones, and to geologically complex zones.
- The high grade nature of the mineralisation and the substantial thickness and size of the deposit suggest that the project has potential for eventual economic extraction using open pit and underground mining techniques.

Competent Persons

The Statement of Estimates of Mineral Resources has been compiled under the supervision of Mr Stewart Coates, who is a full time employee of RPM and a Member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia. Mr. Coates has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined in the CIM Standards of Disclosure and as a Competent Person as defined in the JORC code (2012). Stewart Coates has consented to the inclusion in this release of the matters based on his information in the form and context in which it appears. All information relating to exploration activities has been reviewed by Eric Roth, Chief Operating Officer and Executive Director of Mariana Resources. Mr Roth holds a Ph.D. in Economic Geology from the University of Western Australia, is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM), and is a Fellow of the Society of Economic Geologists (SEG). Mr Roth has 25 years of experience in international minerals exploration and mining project evaluation.

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About Mariana Resources

Mariana Resources Ltd. is an AIM quoted exploration and development company with an extensive portfolio of gold, silver and copper projects in South America and Turkey.

Mariana's most advanced asset is the Hot Maden gold-copper project in north east Turkey, which is a joint venture with its Turkish JV partner Lidya (30% Mariana and 70% Lidya) rapidly advancing to development . A maiden mineral resource estimate of 2.03 Moz gold Equivalent (Indicated Category) and 0.97 Moz gold Equivalent (Inferred Category) (100% basis) was reported for Hot Maden on August 18, 2015. Elsewhere in Turkey, Mariana holds a 100% interest in the Ergama gold-copper project.

In southern Argentina, the Company's core gold-silver projects are Las Calandrias (100%), Sierra Blanca (100%), Los Cisnes (100%), Bozal (100%). These projects are part of a 160,000+ Ha land package in the Deseado Massif epithermal gold-silver district in mining-friendly Santa Cruz Province.

Mariana acquired 100% interests in the Doña Ines gold-silver and Exploradora East copper prospects in northern Chile through the Aegean Metals Group transaction which closed in January, 2015, with Mariana exploration now being funded by Asset Chile through the provision of $1.65m for a total 50% interest.

In Suriname, Mariana has a direct holding of 10.2% of the Nassau Gold project. The Nassau Gold Project is a 28,000 Ha exploration concession located approximately 125 km south east of the capital Paramaribo and immediately adjacent to Newmont Mining's 4.2Moz gold Merian project.

In Peru, Mariana is focusing on acquiring new opportunities which complement its current portfolio.

About Lidya Madencilik Sanayi ve Ticaret A.S. Lidya is a metal mining exploration company that has been operating in Turkey since 2009. Lidya is part of the Calik Group, one of Turkey's largest private conglomerates with activities in the areas of mining, energy, finance, construction, textiles, telecom and media. Lidya established a strategic partnership with Canadian TSX listed mining company Alacer Gold Corp. in August 2009. This was the first major international partnership in the Turkish mining sector with the primary goal of discovering and developing new gold and copper mines throughout Turkey. Alacer and Lidya are 80:20 Joint Venture partners at the Cöpler Gold Mine in central-eastern Turkey, which produced 227,000 ounces of gold during 2014 at all-in cash costs of USD 695/oz.

About RungePincockMinarco RungePincockMinarco Limited (ASX: RUL) is the world's largest publicly traded independent group of mining technical experts, with history stretching back to 1968. RPM has local expertise in all mining regions and are experienced across all commodities and mining methods. Listed on the Australian Securities Exchange on 27 May 2008, RPM is a global leader in the provision of advisory consulting, technology and professional development solutions to the mining industry. RPM has global expertise achieved through their work in over 118 countries and their approach to the business of mining is strongly grounded in economic principles. RPM operates offices in 18 locations across 12 countries. Safe Harbour This press release contains certain statements which may be deemed to be forward-looking statements. These forward-looking statements are made as at the date of this press release and include, without limitation, statements regarding discussions of future plans, the realization, cost, timing and extent of mineral resource estimates, estimated future exploration expenditures, costs and timing of the development of new deposits, success of exploration activities, permitting time lines, and requirements for additional

capital. The words "plans", "expects", "budget", "scheduled", "estimate", "forecasts", "intend", "anticipate", "believe", "may", "will", or similar expressions or variations of such words are intended to identify forward-looking statements. Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors that may cause actual results to vary materially from those expressed or implied by such forward-looking statements, including, but not limited to: the effects of general economic conditions; the price of gold, silver and copper; misjudgements in the course of preparing forward-looking statements; risks associated with international operations; the need for additional financing; risks inherent in exploration results; conclusions of economic evaluations; changes in project parameters; currency and commodity price fluctuations; title matters; environmental liability claims; unanticipated operational risks; accidents, labour disputes and other risks of the mining industry; delays in obtaining governmental approvals or in the completion of development or construction activities; political risk; and other risks and uncertainties described in the Company's annual financial statements for the most recently completed financial year which is available on the Company's website at www.marianaresources.com . Although we believe that the expectations reflected in such forward-looking statements are based upon reasonable assumptions and have attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking statements. Accordingly, readers are cautioned not to place undue reliance on forward-looking statements. We do not undertake to update any forward-looking statements, except in accordance with applicable securities laws.

1. : JORC Code (2012) Table 1, Sections 1, 2 and 3

Exploration results at Hot Maden were reported by MARL and released to the AIM between 2014 and 2016. Mr Eric Roth, Chief Operating Officer of MARL compiled the information in Section 1 and Section 2 of JORC Table 1 in this Mineral Resource report and is the Competent Person for those sections. RPM has included these sections in their entirety to ensure that all relevant sections of Table 1 are included in this report.

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips measurement tools appropriate to the minerals under investigati handheld XRF instruments, etc). These examples should not b sampling. Include reference to measures taken to ensure sa calibration of any measurement tools or systems used. Aspects are Material to the Public Report. In cases where 'industry stan relatively simple (eg 'reverse circulation drilling was used to o pulverised to produce a 30 g charge for fire assay'). In other case as where there is coarse gold that has inherent sampling problen types (eg submarine nodules) may warrant disclosure of detailed i
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary details (eg core diameter, triple or standard tube, depth of diam whether core is oriented and if so, by what method, etc).
Drill sample recovery	Method of recording and assessing core and chip sample recove to maximise sample recovery and ensure representative nature of between sample recovery and grade and whether sample bia loss/gain of fine/coarse material.
Logging	Whether core and chip samples have been geologically and ge support appropriate Mineral Resource estimation, mining studies is qualitative or quantitative in nature. Core (or costean, chann percentage of the relevant intersections logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all co sampled, rotary split, etc and whether sampled wet or dry. For appropriateness of the sample preparation technique. Qua sub-sampling stages to maximise representivity of samples. Mea representative of the in situ material collected, including for inst sampling. Whether sample sizes are appropriate to the grain size

Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and lab technique is considered partial or total. For geophysical tools, s etc, the parameters used in determining the analysis including in calibrations factors applied and their derivation, etc. Nature o standards, blanks, duplicates, external laboratory checks) and wh of bias) and precision have been established.
Verification of sampling and assaying	The verification of significant intersections by either independent of twinned holes. Documentation of primary data, data entry p (physical and electronic) protocols. Discuss any adjustment to ass
Location of data points	Accuracy and quality of surveys used to locate drill holes (colla workings and other locations used in Mineral Resource estimati Quality and adequacy of topographic control.
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the d establish the degree of geological and grade continuity appro Reserve estimation procedure(s) and classifications applied. Whe
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased samplin which this is known, considering the deposit type. If the relations orientation of key mineralised structures is considered to have i assessed and reported if material.
Sample security	The measures taken to ensure sample security.
Audits or reviews	The results of any audits or reviews of sampling techniques and d

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation
Mineral tenement and land tenure status	Type, reference name/number, location and owners parties such as joint ventures, partnerships, ove wilderness or national park and environmental se reporting along with any known impediments to obtai
Exploration done by other parties	Acknowledgment and appraisal of exploration by oth
Geology	Deposit type, geological setting and style of mineralis

Drill hole information	A summary of all information material to the under-st the following information for all Material drill holes: ea (Reduced Level - elevation above sea level in met down hole length and interception depth hole lengt basis that the information is not Material and this ex report, the Competent Person should clearly explain
Data aggregation methods	In reporting Exploration Results, weighting aver truncations (e.g. cutting of high grades) and cut-off g aggregate intercepts incorporate short lengths of hig the procedure used for such aggregation should be should be shown in detail. The assumptions used clearly stated.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the mineralisation with respect to the drill hole angle is and only the down hole lengths are reported, there s length, true width not known').
Diagrams	Appropriate maps and sections (with scales) and significant discovery being reported. These should in locations and appropriate sectional views.
Balanced Reporting	Accuracy and quality of surveys used to locate dril workings and other locations used in Mineral Reso Exploration Results is not practicable, representativ should be practiced to avoid misleading reporting of
Other substantive exploration data	Other exploration data, if meaningful and materia geological observations; geophysical survey results method of treatment; metallurgical test results; characteristics; potential deleterious or contaminating
Further work	The nature and scale of planned further work (e.g. t scale step-out drilling). Diagrams clearly highlightin geological interpretations and future drilling areas, pr

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation
Database integrity	Measures taken to ensure that data has not been corrupted by, for exam between its initial collection and its use for Mineral Resource estim procedures used.
Site visits	Comment on any site visits undertaken by the Competent Person and the visits have been undertaken indicate why this is the case.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpreta of the data used and of any assumptions made. The effect, if any, of alt Resource estimation. The use of geology in guiding and controlling Minera affecting continuity both of grade and geology.
Dimensions	The extent and variability of the Mineral Resource expressed as length width, and depth below surface to the upper and lower limits of the Mineral

Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied treatment of extreme grade values, domaining, interpolation parame extrapolation from data points. If a computer assisted estimation method w computer software and parameters used. The availability of check estimat production records and whether the Mineral Resource estimate takes app assumptions made regarding recovery of by-products. Estimation of delete variables of economic significance (eg sulphur for acid mine drainage cha model interpolation, the block size in relation to the average sample spac assumptions behind modelling of selective mining units. Any assump variables. Description of how the geological interpretation was used t Discussion of basis for using or not using grade cutting or capping. The p process used, the comparison of model data to drill hole data, and use of r
Moisture	Whether the tonnages are estimated on a dry basis or with natura determination of the moisture content.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum minin applicable, external) mining dilution. It is always necessary as part of the p prospects for eventual economic extraction to consider potential mining m regarding mining methods and parameters when estimating Mineral Reso Where this is the case, this should be reported with an explanation of th made.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenab of the process of determining reasonable prospects for eventual econom metallurgical methods, but the assumptions regarding metallurgical trea made when reporting Mineral Resources may not always be rigorous. Wh reported with an explanation of the basis of the metallurgical assumptions
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposa part of the process of determining reasonable prospects for eventual ec potential environmental impacts of the mining and processing ope determination of potential environmental impacts, particularly for a green well advanced, the status of early consideration of these potential environm Where these aspects have not been considered this should be repo environmental assumptions made.
Bulk density	Whether assumed or determined. If assumed, the basis for the assum used, whether wet or dry, the frequency of the measurements, the nature, samples. The bulk density for bulk material must have been measured by for void spaces (vugs, porosity, etc), moisture and differences between ro deposit. Discuss assumptions for bulk density estimates used in the e materials.

Classification	The basis for the classification of the Mineral Resources into varying appropriate account has been taken of all relevant factors (ie relat estimations, reliability of input data, confidence in continuity of geology a and distribution of the data). Whether the result appropriately reflects th deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidenc estimate using an approach or procedure deemed appropriate by the Co application of statistical or geostatistical procedures to quantify the relativ stated confidence limits, or, if such an approach is not deemed appropria factors that could affect the relative accuracy and confidence of the estim whether it relates to global or local estimates, and, if local, state the re relevant to technical and economic evaluation. Documentation should in procedures used. These statements of relative accuracy and confidence o with production data, where available.

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