RAM RESOURCES

ASX Release
26 April 2017 **ASX: RMR**

Drilling to commence at Keel Zinc Project in Ireland

Highlights

- **Ram's maiden drilling programme at Keel Zinc Project to commence this week**
- **Drilling aimed at growing and upgrading current Inferred Resource of 6.9Mt at 5.6% zinc and 0.8% lead**
- **The first seven diamond drill holes will seek to confirm known high-grade zones of mineralisation**
- **Assays to test known silver mineralisation - no historical silver assays completed**
- **Consultants CSA Global to develop exploration targets within the Resource model and high-priority exploration targets elsewhere along the 10km-long Keel structure for drill testing**
- **Processing of 2015 regional magnetic survey and structural interpretation over 50sqkm now underway to identify targets for exploration**

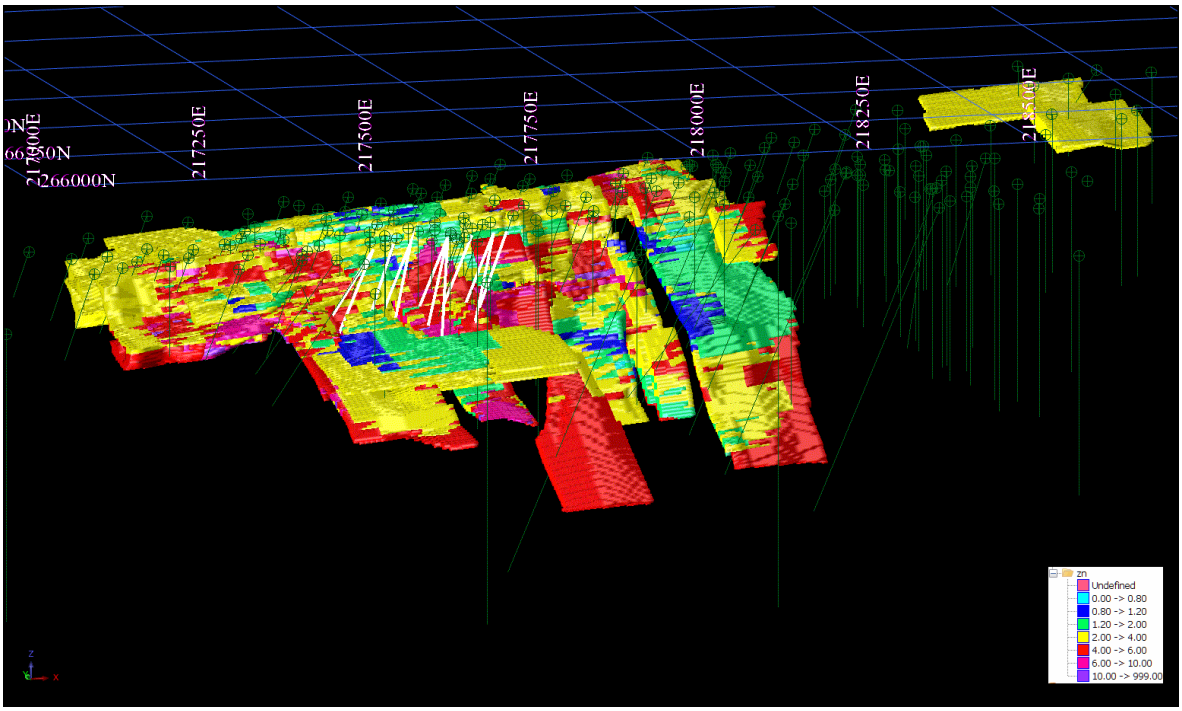

Figure 1: Oblique 1.3 km view of Main Keel Zinc Mineralisation Model (Excludes mineralisation to North)

Ram Resources Limited (**Ram** or **the Company**) (ASX: RMR) is pleased to announce that its maiden drilling program at the Keel Zinc Project in Ireland will start this week. All permits have been secured and local land owners have been notified.

The initial programme will consist of 12 diamond drill holes for 3000m. The first 12 drill holes will target the central zone of known mineralisation with the aim of upgrading and expanding the existing Inferred Resource.

In addition to testing for zinc-lead-barite mineralisation, Ram will also conduct assays to test known silver mineralisation. Ram notes that high silver grades were returned from drilling by Lundin Mining in campaigns from 2005-2012 and had been reported in a historical resource estimate (American Smelting and Refining Company, 1971) at the project. Ram will assay for silver in the upcoming drill programme. No silver assays have been reported at Keel in the historical drill results before 2005.

Ram has an option to acquire an 80% interest in Keel, which covers 66sqkm in the Midlands region of Ireland. Extensive zinc-lead mineralisation was outlined by historic drilling conducted by Rio Tinto in the 1960s and 1970s.

Ram will apply modern exploration techniques to what is a large brownfield zinc system (Appendix 2 JORC Table) with a view to identifying strike extensions and testing new structures.

It is important to note that more than 70 per cent of the holes drilled at Keel are vertical, despite the mineralisation being sub-vertical. As a result there is significant potential to grow the estimated Resource by drilling across the mineralised structures.

The Keel Inlier is a large structure in the Irish Midlands, which has a reputation for being some of best zinc ground in the world. The region is highly prospective, with six other base metal prospects and deposits located within 40km of Keel.

The Keel mineralisation sits on the northern part of the Keel Inlier, which is mineralised in three places: Keel, Garrycam and Newtown Cashel (Zn-Pb-Ba). The structure is over 25km long, with a 10km strike length sitting within the Keel project area.

The Keel Inlier zone is essentially the hanging wall of the Keel Fault, which is known to be associated with zinc-lead mineralisation and the target horizons of the Waulsortian Limestone and the Navan Group.

Ram managing director Bill Guy said the drilling program was expected to generate strong newsflow for several months.

“The Keel Zinc Project is a brownfields zinc exploration opportunity in a world class mining jurisdiction,” Mr Guy said. “There is immense potential to upgrade the existing Resource and grow it by applying modern exploration techniques.”

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Forward Looking Statements

The announcement contains certain statements, which may constitute "forward –looking statements". Such statements are only predictions and are subject to inherent risks and uncertainties, which could cause actual values, results, performance achievements to differ materially from those expressed, implied or projected in any forward-looking statements.

The information in this report that relates to previous exploration results is collected from Minerals Ireland reports submitted by other explorers. Ram has not completed the historical data or the verification process.

Competent Person Statements

The information in this report that relates to Exploration Results is based on information compiled by Mr Charles Guy a director of the Company, and fairly represents this information. Mr Guy is a Member of The Australian Institute of Geoscientists. Mr Guy has sufficient experience which is relevant to style of mineralisation and type of deposit under consideration and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Charles Guy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Mr Guy, a director, currently holds securities in the Company.

References

American Smelting and Refining Company. (1971). *Report of Exploration Completed by the American Smelting and Refining Company on the Rio Tinto Finance and Exploration Ltd Prospecting Licence Nos 183 to 186 incl, 580 to 582 incl and 664, 666 and 667 between May 1 1970 and October 19 1971.* Company Report.

Dawes, A. (2016). *Summary Exploration Report and Further Exploration Potential for PL185 and PL186.* Consultant Report.

Slowey, E. (1986). The Zinc-Lead and Barite Deposits at Keel, County Longford. *Geology and Genesis of Mineral Deposits in Ireland*, 319-330.

Appendix 1 Keel Mineral Resource

CSA Global was engaged by Ram to undertake a Mineral Resource estimate at the Keel Zinc Project in Ireland. CSA Global have reported the Mineral Resource estimate in accordance with the JORC Code[1], which is summarised in Table 1.

Table 1: Keel Zinc Deposit Mineral Resource Estimate, March 2017 (4% Zn cut-off)

JORC Classification	Cut-off grade	Density (t/m^3)	Tonnes (Mt)	Zn (%)	Pb (%)
Inferred	*4% Zn*	*2.85*	*6.9*	*5.6*	*0.8*
Grand Total		***2.85***	***6.9***	***5.6***	***0.8***

**Note relating to Table 1. Due to effects of rounding the total may not represent the sum of all components.*

The Mineral Resource estimate is based on historic drilling results obtained between 1963 and 2012. The Mineral Resource estimate has been classified as Inferred, reflecting risk relating to:

- The assignment of assumed average density values, based on data from similar deposit types;
- A paucity of QAQC data pertaining to the input data;
- A wide spacing between drillholes, negatively impacting estimation quality;
- The use of an assumed collar elevation for most input drillholes;
- The assumption of straight drillhole paths, due to the absence of downhole survey data;
- The geology model being based on sectional interpretations drawn from published papers; and
- The absence of core photography for the input drillholes.

Competent Persons Statements

The information in this table that relates to Mineral Resources is based on information compiled by Mr Steve Rose and Mr Charles (Bill) Guy. Mr Steve Rose is a full-time employee of CSA Global Pty Ltd and is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Charles Guy is a full-time employee of Ram Resources Limited and is a Member of the Australian Institute of Geoscientists. Mr Steve Rose and Mr Charles Guy have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Steve Rose and Mr Charles Guy consent to the disclosure of the information in this report in the form and context in which it appears.

Mr Charles Guy, is a director of Ram Resource and currently holds securities in the Company.

[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

APPENDIX 2: JORC TABLE 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	**Historical sampling:** Reports show: • Soil sampling • Rock chip sampling from an underground exploration shaft and drive • Percussion drilling chip sampling • Diamond core sampling The samples used for the Mineral Resource estimate were derived from surface diamond drilling carried out in campaigns by several companies between 1963 and 2012, with 281 holes having been drilled in total.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Samples taken during that period are reported to have been collected and analysed following best industry practices at the time, however, at this stage RMR has not been able to find detailed procedures for the historic core, however, core sampling procedure has been conducted by grinding or chipping the core along the sampling interval and creating a composite chips sample submitted for assays. It appears that if the initial sample returned favourable grades, then the core would be re-sampled on shorter intervals with the core being cut by diamond saw. This is based on RMR's review of remaining core, it is not however documented in historic reports. The core from campaigns during 2005-2012nhad been sawn in half using a core saw. The cut line is along the apex of the mineralisation. Drill logs from the period 1963-1978 show the core size was NQ and BQ. No details are available for other drilling campaigns, but it assumed to be the same. BQ is a relatively small core size, but given the massive sulphide nature of the mineralisation this will generally not cause problems. It can be seen that angled holes would have been better to define the mineralisation.
	Aspects of the determination of mineralisation that are Material to the Public Report. *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	Review of a limited number of historic drill logs, and their assay data, suggests that sample intervals were determined during geological logging, with samples taken from those relatively restricted zones where sulphides were visible. Sample intervals vary from 0.10 m up to 6.3 m, with most between 0.5 and 2.5 m in length. There are reports that the historic core was sampled by chipping the core along the sample length. Later core (from 2005 onwards, which represents 69 of the 281 holes) was sampled by cutting using a diamond saw. There are no details on how the historic core samples were processed and assayed, but it is assumed (based on the authors' knowledge of typical practice from that time) that the core samples were crushed and pulverised. A sub-sample was then digested using four acids before analysis by AAS. Results were obtained for Zn and Pb routinely, with some Ag assays. Holes drilled more recently (2005 on) were sampled by cutting the core in half and submitting half core to analysis at OMAC laboratory in Galway. The core was crushed and pulverised. A sub-sample was digested using four acid digest and analysed using ICP-EMS to give results for 44 elements, including Zn, Pb, Ag.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube,*	Of the 281 surface holes in the RMR database, the majority were diamond core drilling. Holes range in length from 6m to 609m. Holes less than 30m have been assumed to be percussion or rotary (this accounts for 39 of the 268 holes in the dataset), with the remainder considered to be diamond holes. There are no records to suggest

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</td><td>the core was orientated. Drill logs from 1963 through 1978 show the core size was NQ and BQ. No details are available for other drilling campaigns, but it assumed to be the same.

Drilling conducted from underground was mostly percussion drilling, however, these drillholes have not been used in this Mineral Resource estimate.

The surface drilling campaigns are summarised (this totals 215, compared to 281 in the RMR database):

<table>
<tr><th>Licence</th><th>Period</th><th>Operator</th><th>Number of Holes</th></tr>
<tr><td rowspan="4">PL185</td><td>1970-1974</td><td>Riofinex/Asarco</td><td>6</td></tr>
<tr><td>1974-1976</td><td>Riofinex/CMF</td><td>15</td></tr>
<tr><td>1987-1999</td><td>Riofinex/Avoca</td><td>2</td></tr>
<tr><td>2006-2012</td><td>Lundin Mining</td><td>3</td></tr>
<tr><td rowspan="6">PL186</td><td>1963-1978</td><td>Riofinex/Asarco</td><td>140</td></tr>
<tr><td>1975-1981</td><td>Riofinex/Dresser</td><td>16</td></tr>
<tr><td>1984-1985</td><td>Riofinex/Cominco</td><td>4</td></tr>
<tr><td>1994-1999</td><td>Riofinex/Avoca</td><td>16</td></tr>
<tr><td>2005-2009</td><td>Lundin Mining</td><td>11</td></tr>
<tr><td>2009-2011</td><td>Lundin Mining</td><td>2</td></tr>
</table>

The majority of holes are vertical diamond holes. With the current geological interpretation of steep fault controlled mineralisation, it can be seen that angled holes would have been better to define the mineralisation.</td></tr>
<tr><td>Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>There is generally very little information available regarding core recovery, other than comments on geological drill logs and in reports. Asarco drill logs from 1963 through 1974 include a column on the geological log to record recovery. Recovery in those logs is recorded as exceeding 90% except for isolated lower recovery through fault gouge zones.</td></tr>
<tr><td></td><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>Drilling was reported to have followed best standard industry practices at the time, however there are currently no available documented details regarding this.</td></tr>
<tr><td></td><td>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.</td><td>This analysis was not carried out because there sample recovery has not been consistently recorded through the historic campaigns.

The sampling used for this Mineral Resource estimate is diamond core, and the authors consider the risk of sample bias due to preferential loss to be low.</td></tr>
<tr><td>Logging</td><td>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.</td><td>Core was geologically logged. The geology information within the drillhole database is reasonably consistent and the general geology of the project area is well defined. The core logging is sufficient to support a Mineral Resource estimate</td></tr>
<tr><td></td><td>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</td><td>Logging is qualitative. No core photographs exist in the dataset used for this Mineral Resource estimate because the data is historic and has been the result of campaigns by several companies.</td></tr>
<tr><td></td><td>The total length and percentage of the relevant intersections logged.</td><td>In the drillhole database 237 out of 281 have logging information. Logging information covers 39,204 m out of 44.723 m of drilling in the RMR database (88%).</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	There are only brief details for the historic holes, and it seems that sampling was by chipping of the core. Holes since 2005 had the core cut in half using a diamond saw.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	A limited number of holes were reported to be underground percussion holes, however these have been excluded from the Mineral Resource estimate.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique	Sample preparation was generally not recorded in the technical reports for historic holes. Holes drilled since 2005 had samples assayed by four acid digest and ICP-EMS at OMAC laboratory in Galway based on review of the assay sheets, however, there are no details on sample preparation. OMAC is part of the ALS Group, an international group of commercial laboratories.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	No QAQC data are available owing to the age of the available data, historic data recording procedures, and the project having had several owners. It is presumed that these data are missing.
	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.	See Above.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	See Above.
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.*	No data are available for the historic holes. Holes drilled since 2005 used the ICP-EMS method, which is appropriate. The method is considered total for base metals. It is not possible to comment categorically on quality because there is no QAQC data available, however the work was carried out at OMAC laboratory, which is a large commercial assay laboratory with significant experience with this type of work.
	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	Not Applicable.
	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.	No QAQC data are available owing to the age of the available data, historic data recording procedures, and the project having had several owners. It is presumed that these data are missing.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	See Above
	The use of twinned holes.	The drilling data currently available does not show the presence of potentially twinned holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Current data available are scans of paper core logs held by Minerals Ireland. .
	Discuss any adjustment to assay data.	It is not known if any adjustments have been made to available assay data, however, qualitative appraisal of the available data suggests no adjustments have been made.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations*	Survey methods have not been discussed in detail in available historic reports. Most of the drillholes in the RMR dataset have an assumed Z value of 120 m RL. This is acceptable at this preliminary stage of the current project, as the terrain at Keel is mostly flat.

Criteria	JORC Code explanation	Commentary
	used in Mineral Resource estimation.	Surveys for historic holes would have been in Imperial units, which have been converted to metric in the RMR drillhole database. The collars of holes in the RMR drillhole database were compared to historic plans and sections to ensure they plotted in the correct position.
	Specification of the grid system used.	The grid system used is the National Irish metric Grid
	Quality and adequacy of topographic control.	Survey methods have not been discussed in detail in available historic reports. Most of the drillholes in the RMR dataset have an assumed Z value of 120 m RL. This is acceptable at this preliminary stage of the current project, as the terrain at Keel is mostly flat. The topographic surfaces used in the construction of the Mineral Resource has been built from collar elevation data.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The data spacing is irregular, with a clustering around the Keel exploration shaft, but average spacings are approximately 80x80 m.
	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 Competent Persons believe the mineralised domains have sufficient geological and grade continuity to support the classification applied to the Mineral Resource given the current drill pattern. Mineral Resource estimation procedures are also considered appropriate give the quantity of data available and style of mineralisation under consideration.
	Whether sample compositing has been applied.	Samples were composited to 1 m prior to grade interpolation. This was considered appropriate given that most the samples have been collected with lengths between 0.5 and 2.5m. 50% of the samples are less than 1.5m in length. This allowed the natural variability of the sample data to be maintained prior to grade interpolation.
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 Keel deposit is hosted within fault zones related to the Keel Fault. Drilling occurred perpendicular to the general trend of the Keel Fault on sections approximating azimuth 330°. Most historic (pre-2005) holes are vertical. Angled holes would provide better definition of the controlling faults and mineralisation.
	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.	Whilst most of the historic drilling (pre-2005) is vertical, it is not considered to have introduced a material sampling bias. The interpretation of the mineralisation has taken this into account.
Sample Security	*The measures taken to ensure sample security.*	No data are available because of the age of the exploration work and because the project has had several owners. It is presumed that this data is missing. However, the risks of possible tampering are considered low, due to the relatively low value of the mineral (compared to say gold), mineralisation is visible, and drilling has been over an extended period with several owners.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No QAQC data are available owing to the age of the available data, historic data recording procedures, and the project having had several owners. It is presumed that these data are missing.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	The project comprises two exploration licences, P185 and P186. RMR has an option to purchase 80% of the tenements. Licences are currently granted and before the announced transaction, owned at 80% by Diversified Asset Holdings Pty Ltd. Ownership information has been verified by consulting the Minerals Ireland website. On PL185 there is Mount Jessop Bog Natural Heritage Area, and Lough Bawn Proposed Natural Heritage Area, but these are outside of the Keel Deposit area.
	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.	Exploration licences P185 and P186 are granted, in a state of good standing, and have no known impediments to operate in the area.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	All data presented in this release is of historical nature from 1963 to 2012. This exploration work was not carried out by RMR. RMR has an extensive database of historic reports and information that it has collated into a drillhole database file. That said, there is still information that has still to be incorporated, but is unlikely to be material to this Mineral Resource estimate.
Geology	*Deposit type, geological setting and style of mineralisation.*	Keel Deposit is an Irish Base Metal type Carbonate Hosted Lead-Zinc deposit. The mineralisation is hosted by lower Carboniferous sandstones, conglomerates and carbonates which unconformably overlie Lower Palaeozoic basement. This Lower Palaeozoic basement is an inlier in the licence area, and forms the core of a broad anticline, with beds dipping moderately to the northwest and southeast on fold limbs. The inlier is fault bounded by the Keel Fault to the south. This shows as a series of normal faults. The stratigraphy of the licence area is well documented in published works. Mineralisation occurs as sphalerite, galena and pyrite. Sphalerite and galena are dominant in mineralisation controlled by the Keel Fault. Sphalerite occurs as coarsely crystalline cavity-fill and fine disseminations. Mineralisation is associated with steep to moderate dipping faults which mainly trend northeast-southwest and dip 45-85o to the south. Mineralisation can thicken as the associated fault passes through favourable beds.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	Exploration results are not being reported.

Criteria	JORC Code explanation	Commentary
	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.	Exploration results are not being reported.
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.*	Exploration results are not being reported.
	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.	Exploration results are not being reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Exploration results are not being reported.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	Exploration results are not being reported.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The sectional azimuth is 330º, with most holes vertical and fewer later holes drilled with a dip of 55º to the northwest. The section orientations are approximately perpendicular to the strike of the mineralisation. The dip of the mineralisation is generally steep to moderate to the south. Vertical holes will tend to intersect mineralisation at low angles. It should be noted that the mineralisation orientation was demonstrated when the exploration shaft and drives was developed, so there is strong support for the interpretation of the mineralisation orientation independent of the surface drilling.
	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').	Exploration results are not being reported.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Relevant maps and diagrams are included in the body of the report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Exploration results are not being reported.
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*	No substantive exploration data not already mentioned in this table has been used in the preparation of this Mineral Resource estimate.

Criteria	JORC Code explanation	Commentary
	results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Further work will be focused on infilling the core of the mineralisation in order to upgrade to a higher Mineral Resource classification, and testing for dip extensions and strike extensions.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams have been included in the body of this report.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
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.*	The data are based on historic drilling results. A drill hole database file was created using DataShed and all available data were collated into the database. The data were checked against historic plans and sections to ensure the hole collars and traces plotted in the correct location. Geology information in the drill hole database was similarly checked against historic plans and sections. Assay information in the drill hole database was checked against available historic logs and assay results files.
	Data validation procedures used.	A comprehensive database validation process was carried out using the tools in DataShed. Absent collar data, multiple collar entries, suspect downhole survey results, absent survey data, overlapping intervals, negative sample lengths and sample intervals which extended beyond the hole depth defined in the collar table were reviewed. Only minor validation errors were detected which were corrected prior to the preparation of the Mineral Resource estimate
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Site visits have been completed by Bill Guy who assumes responsibility for the data components. Steve Rose assumes responsibility for geological modelling, grade interpolation and reporting of the Mineral Resource estimate and has not completed a site visit.
	If no site visits have been undertaken indicate why this is the case.	Bill Guy has undertaken a site visit.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	Geological interpretation was completed by Steve Rose, using interpretations from published papers as a guide (e.g. (Slowey, 1986). Peer review of the interpretation was completed by Neal Reynolds of CSA Global. The original interpretation of the mineralisation from 1963 had the deposit as being broadly stratabound, similar to other carbonate hosted lead-zinc deposits. When an exploration shaft and drives were developed in 1967 and gave extensive exposure of the mineralisation it was apparent that the mineralisation was dominantly controlled by the Keel Fault, with some thickening when the fault cut through favourable beds. This is the interpretation that is presented in (Slowey, 1986) and is the most likely.
	Nature of the data used and of any assumptions made.	Geological logging in conjunction with assays has been used to assist with the mineralisation interpretations. A cut-off grade of 0.8% Zn was used to define the mineralisation wireframes.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Alternative interpretations are likely to materially impact on the Mineral Resource estimate on a local, but not global basis.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geological logging in conjunction with assays has been used to assist with the mineralisation interpretations. Available historic maps and sections have been used to guide interpretation.
	The factors affecting continuity both of grade and geology.	Continuity is affected by later cross-faults, at depth by the Lower Palaeozoic basement, and up dip by the overburden.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise),*	The Mineral Resource extends 2.3 km along strike, with the main zone forming 1.3 km; the width is 500 m, with individual lenses

Criteria	JORC Code explanation	Commentary
	plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	having typical widths of 50 m; the Mineral Resource extends 450 m down dip, which is 320 m below surface.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Mineral Resource estimation ws completed via ordinary kriging, using five grade estimation domains, which were broadly defined using a cut-off of 0.8% Zn. Variography used for estimation was derived from a combination of the 3 largest domains, which were coincident in geometry and input data summary statistics. The semivariogram model used was rotated to align with the geometry of each domain during estimation. Log probability plots of the assay grades for Zn and Pb were created, however, no top cuts were used as analysis of each domain did not indicate any significant high-grade outliers (population distributions were smooth through the curve). The two target variables; Zn and Pb were estimated independently in a univariate sense. Kriging neighbourhood analysis was used by testing two areas of the main domain to optimise block size, search ellipse size and input sample parameters based on the variography of the variable Zn. Search ellipses used were initially 2/3 of the range of the longest structure in each dimension of the semivariogram model. The second pass search was double these dimensions. Any blocks not populated after pass two were assigned the Sichel mean of the domain input data (since the distributions were pseudo log-normal). Search ellipses, similar to variography, were rotated to align with the domain orientations.
	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 estimate was carried out during this Mineral Resource estimate as the estimate validated well with trend plots, and compared well with the mean of the input samples. A previous grade-tonnage estimate was carried out in 1971, however it was not reported in accordance with the JORC Code. That estimate showed slightly lower tonnes at a higher grade. This was a polygonal estimate, and this difference was expected.
	The assumptions made regarding recovery of by-products.	The Keel Deposit is a zinc-lead deposit. Testing results available from reports from 1968 indicate that recovery will be possible using conventional sulphide flotation methods.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	Only Zn and Pb have been estimated. The available dataset does not have sufficient details on other elements.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	40x5x10 m (XYZ) parent cells were used with 10 x 1.25 x 2.5 m (XYZ) sub blocks. Drill spacing was variable, but averaged 80 x 80 m with most holes vertical.
	Any assumptions behind modelling of selective mining units.	No assumptions have been made regarding selective mining units.
	Any assumptions about correlation between variables.	No assumptions have been made regarding correlation between variables.

Criteria	JORC Code explanation	Commentary
	Description of how the geological interpretation was used to control the resource estimates.	Mineralisation wireframes from geological logging and historic sections were used to constrain grade estimation from this domain. Only data from the relevant domain was used in the interpolation of block grades. Boundaries were treated as hard.
	Discussion of basis for using or not using grade cutting or capping.	There were no significant outliers in the dataset, and therefore grade cutting was considered unnecessary.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Drillhole grades were initially visually compared with cell model grades. Domain drill hole and block model statistics were compared. Swath plots were then created to compare drillhole grades with block model grades for easting, northing and elevation slices throughout the deposit. The block model reflected the tenor of the grades in the drill hole samples both globally and locally.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The Mineral Resource is reported above a cut-off grade of 4% Zn. The adopted cut-off grade is considered reasonable for Mineral Resources that are likely to be extracted by underground methods.
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.*	In selecting the cut-off grade, it was assumed that underground mining methods will be applied at Keel deposit.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	Some testwork was carried out in 1968 as part of a mining study by Riofinex. This is reported that satisfactory recovery of zinc and lead mineralisation was possible with conventional sulphide flotation.
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*	Environmental considerations have not yet been considered due to the early stage of this project. It is therefore assumed that waste could be disposed in accordance with a site-specific mine and rehabilitation plan.

Criteria	JORC Code explanation	Commentary
	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.	
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.*	No bulk density data is available for Keel Deposit. A value of 2.85 t/m^3 was assumed based on review of values used on neighbouring lead-zinc deposits.
	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.	No bulk density data is available for Keel Deposit. A value of 2.85 t/m^3 was assumed based on review of values used on neighbouring lead-zinc deposits.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	No bulk density data is available for Keel Deposit. A value of 2.85 t/m3 was assumed based on review of values used on neighbouring lead-zinc deposits.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The Mineral Resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of JORC 2012 Table 1. After considering the integrity of all input data, available QC results, data distribution, geological and grade continuity, areas of the deposit were classified as Inferred where geological continuity is good.
	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).	Appropriate account has been taken of all relevant criteria including data integrity, data quantity, geological continuity, and grade continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Persons' views of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The current model has not been audited by an independent third party but has been subject to CSA Global's internal peer review processes.

Criteria	JORC Code explanation	Commentary
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 Mineral Resource accuracy is communicated through the classification assigned to this Mineral Resource. The Mineral Resource estimate has been classified in accordance with the JORC Code, 2012 Edition using a qualitative approach. All factors that have been considered have been adequately communicated in Section 1 and Section 3 of this Table.
	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 Mineral Resource statement relates to a global tonnage and grade estimate. Grade estimates have been made for each block in the block model.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The Keel Deposit has never been developed, so there is no production data available.

Appendix 2 CSA Global Summary Report of Keel Deposit Mineral Estimate