

### ASX ANNOUNCEMENT

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Number: 458/050416

## DEPTH POTENTIAL AND NEW TARGETS REVEALED AT THE COMMONWEALTH DEPOSIT

- **At least three south plunging ore shoots identified in drill assay data and new down hole EM data.**
- **All three shoots are undrilled at depth and open, in particular below a previous Impact drill intercept of:  
4 m at 41.8 g/t (1.3 ounces per tonne) gold, 93 g/t silver (3 ounces per tonne), 5.5% zinc and 2.3% lead.**
- **Gravity data directly detects known high grade massive sulphide mineralisation at Main Shaft and identifies possible depth extension.**
- **Gravity data also identifies three new nearby targets for massive sulphide mineralisation.**
- **Potential for significant expansion of the Inferred Resource of 100,000 gold equivalent ounces.\***
- **Ongoing interpretation of new gravity and IP data over Silica Hill, Doughnut and Welcome Jack in progress with encouraging results.**
- **Planning in progress for major drill campaign for this Quarter.**

*\* For details on the Inferred Resource and the calculation of the gold equivalent ounces please see page 6 of this report.*

New work at Impact Minerals Limited's (ASX:IPT) 100% owned Commonwealth gold-silver-zinc-lead-copper project 95 km north of Orange in New South Wales has revealed both the potential to significantly increase the size of known resource at the Commonwealth deposit and identified several new nearby targets for similar deposits of high grade massive sulphide.

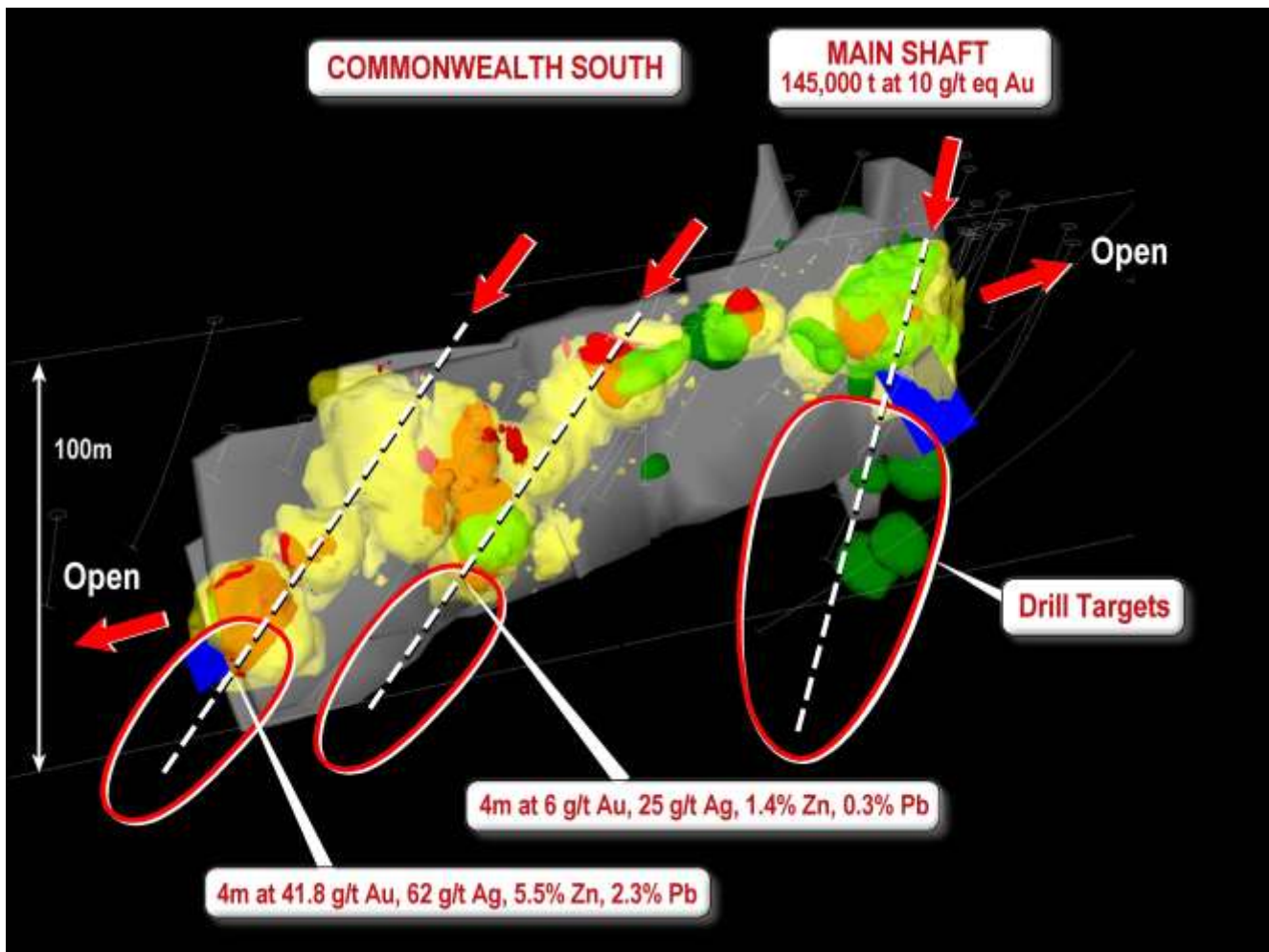
This new potential has been identified from a review and synthesis of data from drill hole assays, two down-hole electromagnetic (EM) surveys and a ground gravity survey, with the new targets to be tested as part of an extensive drill programme to be undertaken this Quarter.

### Three Ore Shoots with High Grade Drill Assays that are Open at Depth

New three dimensional modelling of the drill hole assay data indicate that there are potentially at least three ore shoots within the Commonwealth deposit that have a previously unrecognised plunge to the south: one at Main Shaft and two at Commonwealth South (Figure 1). The down-plunge extensions of these shoots have not been drilled.

At Main Shaft the mineralisation occurs as massive sulphides that contain gold and silver together with zinc, lead and iron sulphides (sphalerite, galena and pyrite) and lesser copper sulphide (chalcopyrite).

The drill assay and down hole EM data indicate that the mineralisation is open to the south in particular beneath Hole CMIPT021 that returned an intercept of **8.1 m at 6 g/t gold, 193 g/t silver, 5.9% zinc and 2.3% lead** (see announcement [19 February 2015](#)).



**Figure 1.** 3D View looking to the north west of the Commonwealth resource (grey outline) and showing: grade shells for gold (yellow = 1g/t, red/orange = 2 g/t) and copper (green = 500 ppm copper) from drill assay data; interpreted EM conductors (blue rectangles) and interpreted ore shoots (dashed lines). The down plunge extensions of these shoots have not been drilled and are priority drill targets.

In the two shoots at Commonwealth South, the majority of the mineralisation occurs as veins and disseminations of gold and silver-rich zinc and lead sulphides. However, Impact, in its maiden drill programme at the project, discovered what could be the edges of two new separate lenses of massive and semi-massive sulphide at the edge of the deposit. These two lenses also help define the two ore shoots (Figure 1 and see announcement [22 September 2014](#)).

In the southern most ore shoot, Hole CMIPT017 returned a very high grade intercept at the edge of the deposit of:

**4 m at 41.8 g/t (1.3 ounces per tonne) gold, 93 g/t silver (3 ounces per tonne),  
5.5% zinc and 2.3% lead from 90 metres down hole.**

A down hole EM survey identified a modest small conductor located just south of this intercept within the interpreted southern shoot and this is a drill target (Figure 1).

In the central shoot, Hole CMIPT014 returned two high-grade drill intercepts in massive sulphide of:

**2 m at 6.7 g/t Au, 61.6 g/t Ag, 3.8% Zn, 3.2% Pb from 53 metres; and  
4 m at 6.0 g/t Au, 25 g/t Ag, 1.4% Zn, 0.3% Pb from 72 metres down hole.**

This was the first significant discovery of two massive sulphide lenses at Commonwealth and they occur immediately above and below a prominent unit of rhyolite. Prior to this massive sulphide mineralisation had only been found above the rhyolite. The mineralisation is open at depth (Figure 1).

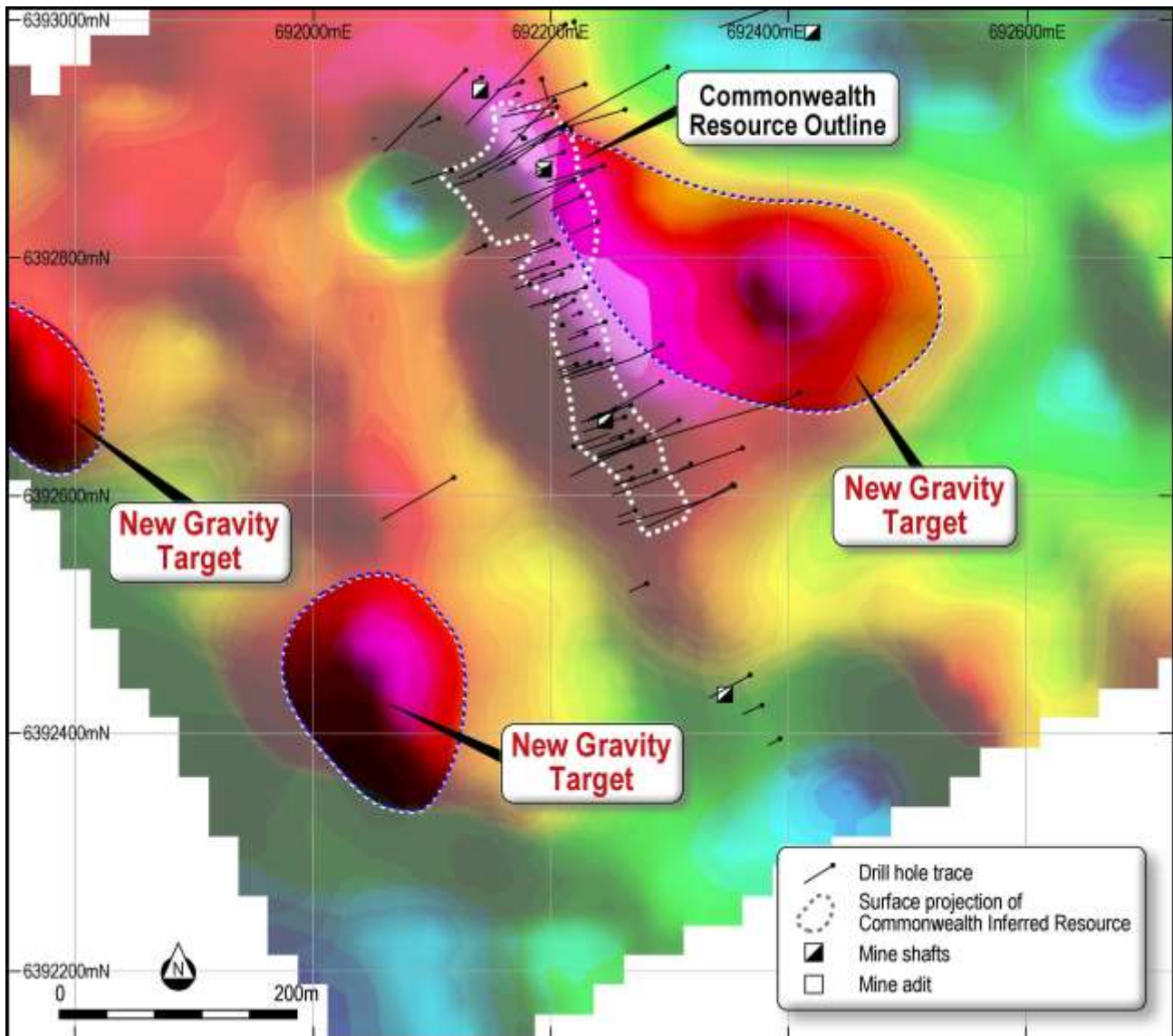
All three shoots will be tested in the upcoming drill programme.

### **Further Depth Potential and New Targets for Massive Sulphide Identified in Ground Gravity Data**

Massive sulphide bodies, such as at Main Shaft, are commonly very dense and are ideally suited for exploration by the gravity method which measures the relative density of rocks.

Accordingly a ground gravity survey covering an area of about 3 square kilometres has been completed over the Commonwealth deposit and surrounding areas at a station spacing of 200 metres by 25 metres or 50 metres.

At Commonwealth, detailed geophysical modelling and density measurements taken by Impact on mineralised core show that the gravity survey has successfully directly detected the massive sulphide mineralisation at Main Shaft (Figures 2 and 3).



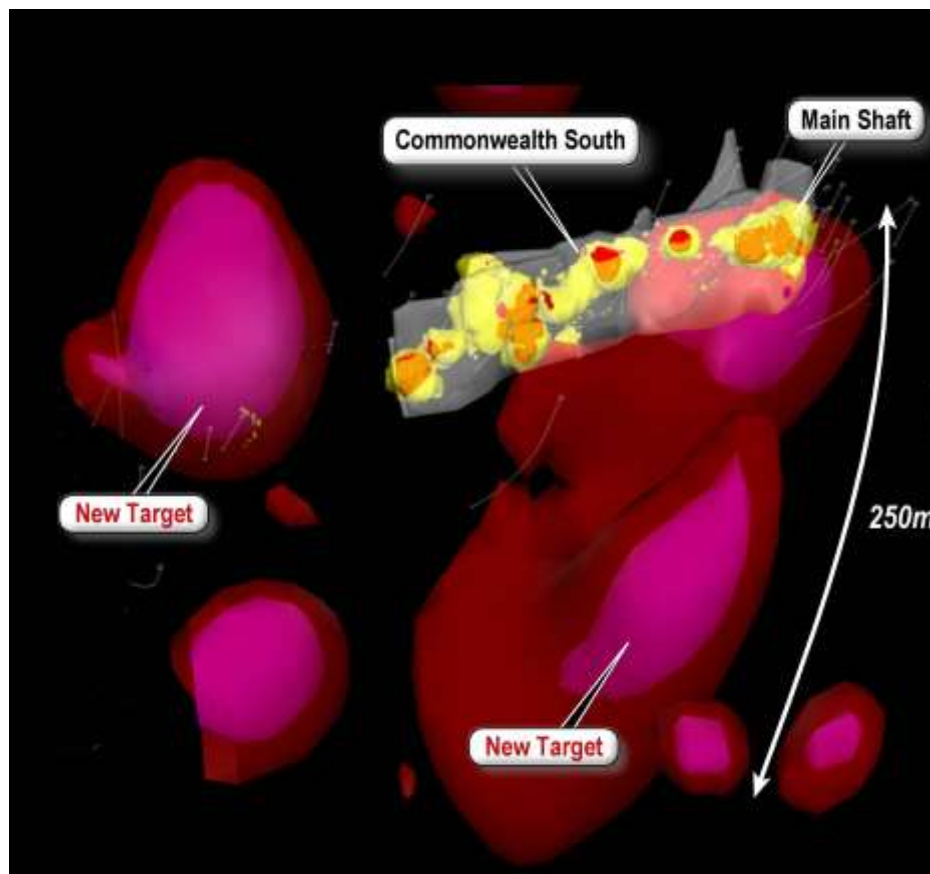
**Figure 2.** Image of ground gravity data over the Commonwealth resource and immediate surrounding area with warmer colours indicating areas underlain by more dense rocks. There is a coincidence of the gravity anomaly with the massive sulphide mineralisation at Main Shaft at the northern end of the resource. Three other areas of similar density have also been identified.

This information has been used to calibrate the gravity data to identify bodies of similar density. From this, four new targets for massive sulphide mineralisation have been identified in and around the Commonwealth resource (Figures 2 and 3):

1. 150 metres east of the Commonwealth deposit;
2. At depth below Commonwealth South. Modelling of the gravity data suggests a moderately dense body may be present down to at least 250 m below surface in an area not tested below 100 metres below surface;
3. 250 metres south west of the Commonwealth deposit; and
4. 400 metres west of the Commonwealth deposit.



The first three targets will be tested in the upcoming drill programme. Further work is required at the fourth target to determine its significance.



**Figure 3.** 3D view looking north west of the gravity data following a mathematical inversion process that identifies bodies of similar density. The colours represent shells or surfaces of the same density with the smaller more dense shells shown in the purple-pink colour and slightly less dense larger shells in the burgundy red colour. The Commonwealth deposit as shown in figure 1 is shown for reference. Note the coincidence of a dense body with the massive sulphide mineralisation at Main Shaft and bodies of similar density that are targets for drilling.

### Next Steps

An interpretation of ground gravity data, induced polarisation data and soil geochemistry data is in progress at the Silica Hill, Doughnut and Welcome Jack Prospects. Initial indications are that further drill targets will be identified.

A programme of up to 3,000 metres of Reverse Circulation (RC) and diamond drilling and scheduled to start within the next 6 to 8 weeks. This will test a significant number of targets within these four prospects.

In addition, given the success of gravity data in identifying the massive sulphide mineralisation at Main Shaft, a further ground gravity survey is underway that will extend coverage to about 8 square kilometres centred on the Commonwealth deposit.

## **About the Commonwealth Mineral Resource Estimate**

The Inferred Resource at Commonwealth, prepared in accordance with the JORC 2012 Code by independent resource consultants Optiro at a 0.5 g/t gold cut off, is:

**720,000 tonnes at 4.5 g/t gold equivalent for a contained 110,000 gold equivalent ounces comprising 2.8 g/t gold, 48 g/t silver, 1.5% zinc, 0.6% lead and 0.1% copper.**

The resource, which is open along trend and at depth, contains both massive sulphide mineralisation at the Main Shaft prospect and disseminated, vein and lesser massive sulphide mineralization at the Commonwealth South prospect. It extends from surface to an average depth of 90 m, has a strike length of 400 m and is up to 25 m thick.

A separate Inferred Mineral Resource (included within the overall resource) has also been calculated for the massive sulphide lens at Main Shaft alone to demonstrate the high grade nature of such deposits that are the principal target for Impact's exploration programme. The Main Shaft Inferred Resource is:

**145,000 tonnes at 9.3 g/t gold equivalent for a contained 47,000 gold equivalent ounces comprising 4.3 g/t gold, 142 g/t silver, 4.8% zinc, 1.7% lead and 0.2% copper.**

The Commonwealth deposit comprises two areas, Main Shaft and Commonwealth South. The mineralisation at Main Shaft is typical of a volcanogenic massive sulphide (VMS) type system, containing high grade gold, silver, zinc, lead and copper mineralisation which occurs at the upper contact of a rhyolite unit with the overlying volcanic sedimentary rocks. Mineralisation at Commonwealth South occurs at both the upper and lower contacts of the rhyolite and is dominated by 1-50 mm thick stringers and disseminations of sulphide, often associated with intense brecciation and faulting of the rhyolite.

The Commonwealth Resource strike length is 400 m and it is open along trend in particular to the south. The mineralisation has been defined to a maximum depth of 150 m and is still open.

Twenty one new holes were drilled by Impact in 2014. The total number of holes into the Commonwealth project is 108, comprising 49 reverse circulation (RC) holes, 45 diamond holes, 10 underground channel samples and four underground drill holes. Of these holes, 52 intersected the mineralisation wireframe and were used in the estimation. Although some of the holes are from previous explorers, Impact has twinned some of the higher grade intersections and these have largely confirmed the grades and widths.

Quality control measures employed during Impact's drill programme included the use of certified standards (1% of total sample population), field duplicates (2% of total sample population) and blanks (2% of total sample population). No previous quality assurance/quality control (QAQC) has been carried out at the Commonwealth Project. Analysis of the standards and blanks showed acceptable to

good levels of accuracy in the assaying and little contamination. The duplicate samples matched the originals with a high degree of precision.

The drill hole database was reviewed and validated by Optiro. Three-dimensional solid wireframes were constructed from sectional interpretations of the mineralisation using a nominal 0.5 g/t gold cut-off grade. Drill hole intercepts were composited downhole to 1 m lengths and gold, silver, copper, zinc, lead and arsenic grade estimation was carried out using ordinary kriging with hard boundaries.

Three search passes, with increasing search distances and decreasing minimum sample numbers, were employed to fully inform the model. Less than 1% of blocks were not filled in the first three passes. Further estimation passes were run to assign mean grades to un-estimated blocks.

The Commonwealth Mineral Resource estimate has been classified as an Inferred Mineral Resource in accordance with the guidelines of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012). Mineral Resources have been classified on the basis of confidence in geological and grade continuity, geological modelling confidence, grade continuity and limited QAQC. No Measured or Indicated Mineral Resources have been defined.

The Mineral Resource estimate for the Commonwealth Project has been reported above a 0.5 ppm gold cut-off grade. The estimate has been depleted for previous historic mining. Grades have been reported as individual elements (gold, silver, zinc, lead and copper) and, in addition, a gold-equivalent grade has been defined. This has used the following Australian dollar commodity prices:

Gold \$1588/ oz; Silver \$19.55/ oz; Copper \$2.87/lb; Lead \$1.03/lb; Zinc \$1.10/lb.

There has been no metallurgical testing of the Commonwealth mineralisation to date so no metallurgical recoveries have been incorporated into the gold equivalent calculation. This is commensurate with the classification of the Commonwealth prospect as an Inferred Mineral Resource.

### **Investment by Squadron Resources Pty Limited**

The Commonwealth gold-silver-zinc-lead project and also Impact's Broken Hill platinum-copper-nickel project are part of the investment agreement between Impact Minerals and Squadron Resources Pty Ltd, part of the Minderoo Group which represents the philanthropic and business interests of Andrew and Nicola Forrest (see announcement [17 July 2015](#)).

As part of the investment agreement, Squadron at its sole discretion, can invest a further A\$1 million into either or both of the projects to earn a 19.9% interest after Impact has spent a combined total of \$2.5 million on them.

It is anticipated that Impact will meet the \$2.5 million expenditure target in the September Quarter 2016.

#### **Dr Michael G Jones Managing Director**

*The review of exploration activities and results contained in this report is based on information compiled by Dr Mike Jones, a Member of the Australian Institute of Geoscientists. He is a director of the company and works for Impact Minerals Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mike Jones has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

**APPENDIX 1 - SECTION 1 SAMPLING TECHNIQUES AND DATA**

Criteria	JORC Code explanation	Commentary
<p><b>Sampling techniques</b></p>	<p><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></p>	<p><b>Rock chip samples</b> Random grab samples were taken at surface which represented favourable geology and alteration to known mineralisation in the region. Samples are variably weathered.</p> <p><b>Soil Samples</b> About 250g of soil was taken from 15-20cm below surface and sieved to - 2mm size. Samples put in plastic snap seal bags. Samples were subsequently sieved to -250 micron at SGS Laboratories for assay by aqua regia digest.</p> <p><b>RC Drilling</b> Reverse Circulation (RC) percussion drilling was used to produce a 1m bulk sample (~25kg) which was collected in plastic bags and representative 1m split samples (12.5%, or nominally 3kg) were collected using a riffle splitter and placed in a calico bag. The cyclone was cleaned out with compressed air at the end of each hole and periodically during the drilling. Holes were drilled to optimally intercept interpreted mineralised zones.</p> <p><b>Diamond Drilling</b> Diamond drilling was used to produce drill core either with a diameter of 63.5 mm (HQ) or 47.6 mm (NQ).</p>
	<p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</i></p>	<p><b>Rock chip samples</b> Representative samples at each sample site weigh between 0.8 and 1.2 kg. Sample sites were chosen due to historic rock and soil assay results and the geophysical surveys conducted on the Commonwealth Project. Historic rock sample methods are unknown but are considered immaterial.</p> <p><b>Soil Samples and Drill Samples</b> Sample representivity was ensured by a combination of Company Procedures regarding quality control (QC) and quality assurance / testing (QA). Examples of QC include (but are not limited to), daily workplace and equipment inspections, as well as drilling and sampling procedures. Examples of QA include (but are not limited to) collection of “field duplicates”, the use of certified standards and blank samples approximately every 50 samples</p>



Criteria	JORC Code explanation	Commentary
	<p><i>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</i></p>	<p><b>Rock chip samples</b> Rock samples were sent to SGS Perth where they were crushed, dried and pulverised (total prep) to produce a 25-30 g sub-samples for analysis initially by Aqua Regia digest with ICP-MS finish for base metals then by four acid digest with an ICP/AES finish for ore grade base metal samples and lead collection fire assay with AAS finish for gold.</p> <p><b>Soil Samples</b> Soil samples were sent to ACME Laboratories in Vancouver for analysis by aqua regia digest or to SGS Laboratories in Perth for analysis by the MMI digest.</p> <p><b>RC and diamond drill samples</b> RC samples and cut samples of core were submitted to ALS in Orange, NSW. Laboratory sample preparation involved: sample crushed to 70% less than 2mm, riffle/rotary split off 1 kg, pulverise split to &gt;85% passing 75 microns. RC samples analysed by MEICP41 or MEOG46 for ore grade samples, aqua regia digest with ICP OES analysis and AA24 fire assay with AAS finish. Historical diamond and RC samples were sent to Fox Anamet, Brookvale NSW where gold was determined by fire assay, base metals by DCP and AAS methods. Weathered samples contained gossanous sulphide material and fresh samples containing visible pyrite, galena, sphalerite and chalcocopyrite.</p>
<b>Drilling techniques</b>	<p><i>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, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></p>	<p>Diamond drilling accounts for about 50 % of the drilling and comprises NQ (47.6 mm diameter) and HQ (63.5 mm diameter) sized core. Impact diamond core is triple tube and is oriented. Historical diamond core was not oriented. RC drilling accounts for about 50% of the drilling and comprises 4 inch hammer.</p>
<b>Drill sample recovery</b>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed</i></p>	<p>Diamond core recoveries for all holes are logged and recorded. Recoveries are estimated to be approximately &gt;97% for the Commonwealth Project. No significant core loss or sample recovery problems are observed in the drill core or historic reports. RC samples were visually checked for recovery, moisture and contamination.</p>
	<p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples</i></p>	<p>Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the driller.  The RC samples are collected by plastic bag directly from the rig-mounted cyclone and laid directly on the ground in rows of 10. The drill cyclone and sample buckets are cleaned between rod-changes and after each hole to minimise down-hole and/or cross contamination.</p>
	<p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<p>No sample bias has been established.</p>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	<p>Geological logging of samples followed company and industry common practice. Qualitative logging of samples included (but not limited to); lithology, mineralogy, alteration, veining and weathering. Diamond core logging included additional fields such as structure and geotechnical parameters.</p> <p>Magnetic Susceptibility measurements were taken for each 1m RC sample and each 1m diamond core interval.</p> <p>For diamond core, information on structure type, dip, dip direction, texture, shape and fill material has been recorded in the logs. RQD data has been recorded on selected diamond holes. Handheld XRF analysis was completed at 50 cm and 1 m intervals on diamond core and for every metre for RC samples.</p>
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	<p>All logging is quantitative, based on visual field estimates. Systematic photography of the diamond core in the wet and dry form was completed.</p> <p>Chip trays with representative 1m RC samples were collected and photographed then stored for future reference.</p>
	<i>The total length and percentage of the relevant intersections logged</i>	<p>All diamond drill holes were logged in full.</p> <p>All RC chips samples were geologically logged by Impact's on-site geologist on a 1m basis, with digital capture in the field.</p> <p>Detailed diamond core logging, with digital capture was conducted for 100% of the core by Impact's on-site geologist.</p>
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	All core samples were sampled by half core. Selected intervals of quarter core will be selected for check assays if required.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	RC samples were split using a riffle splitter.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Company procedures were followed to ensure sub-sampling adequacy and consistency. These included (but were not limited to), daily work place inspections of sampling equipment and practices, as well as sub-sample duplicates ("field duplicates").
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	<p>Laboratory QC procedures for rock sample assays involve the use of internal certified reference material as assay standards, along with blanks, duplicates and replicates.</p> <p>The QC procedure for historical diamond and RC samples is unknown but is assumed to have been minimal; however, the impact of historical samples has been somewhat mitigated by recent drilling.</p>
	<i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i>	Sample duplicates from the historical drilling were taken from selected intervals and compared to the original assay. Quarter core was taken for diamond samples and riffle resplits for RC samples.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The samples sizes at Commonwealth are considered appropriate since gold has been identified as predominantly fine-grained by thin section analysis which would indicate the nugget effect is minimal.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<p>An industry standard fire assay technique for samples using lead collection with an Atomic Absorption Spectrometry (AAS) finish was used for gold and aqua regia digest for base metals and silver.</p> <p>The quality of historical drill sample assays is unknown; however it is reasonable to assume that core samples were representative of the mineralisation.</p>
	<i>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.</i>	No geophysical tools were used to determine material element concentrations. A handheld XRF was used for qualitative analysis only.
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	<p>For the rock chips, quality control procedures for assays were followed via internal laboratory protocols. Accuracy and precision are within acceptable limits.</p> <p>Reference standards and blanks are routinely inserted into every batch of samples at a rate of 1 in every 25 samples in the Impact drilling. Impact's inserted standards in general showed results within expected ranges. The calculated means for Lab standards are very close to expected for the majority of standards and are within industry expectations.</p> <p>Laboratory repeat checks and original samples correlated very well.</p> <p>There is minimal quality control of historical drill sample assays. Twin holes have been drilled to verify historical drilling.</p> <p>The QAQC results indicate that the assays used for resource estimation are a fair representation of the material that has been sampled.</p>
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant intersections from drilling have not been verified by independent or alternative companies or by Impact.
	<i>The use of twinned holes.</i>	Two twin diamond holes versus historic RC holes have been drilled at Commonwealth South and Main Shaft.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Primary assay data for rock chips has been entered into standard Excel templates for plotting in Mapinfo and Target. All historical drill data has been entered digitally by previous explorers and verified internally by Impact.
	<i>Discuss any adjustment to assay data.</i>	No significant adjustments have been required.
Location of data points	<i>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.</i>	Recent drill holes have been located by DGPS. Historical drill holes and mine shafts have been verified by DGPS.
	<i>Specification of the grid system used.</i>	The grid system for Commonwealth is MGA_GDA94, Zone 55.

Criteria	JORC Code explanation	Commentary
	<i>Quality and adequacy of topographic control.</i>	<p>Standard government topographic maps have been used for topographic validation. The DGPS is considered sufficiently accurate for elevation data.</p> <p>For the diamond holes, down-hole single shot surveys were conducted by the drilling contractor. Surveys were conducted at 6m, 18, 30m and then approximately every 30m down-hole.</p> <p>For the RC drill holes, downhole dip surveys were taken at approximately 30m intervals and at the bottom of the hole.</p>
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	Drill spacing of drill holes ranges between 10 and 30 m which is considered adequate for Exploration Results.
	<i>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.</i>	Spacing of drill holes ranges between 10 m and 50 m on section and are considered adequate for Mineral Resource estimation procedures.
	<i>Whether sample compositing has been applied.</i>	Sample compositing has been applied for quoting drill composite results only.
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Drilling is oriented sub-perpendicular to the mineralised trend and stratigraphic contacts as determined by field data and cross section interpretation.
	<i>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.</i>	No significant sample bias has been identified from drilling due to the optimum drill orientation described above. Where present, sample bias will be reported.
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	For rock samples, chain of custody is managed by Impact Minerals Ltd. Samples for Commonwealth are delivered by Impact Minerals Ltd personnel to ALS in Orange, NSW or to SGS Perth for prep and assay. Whilst in storage, they are kept in a locked yard. Tracking sheets have been set up to track the progress of batches of samples. Security of historic drill samples is unknown however is considered immaterial.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	A review of the sampling techniques and data both of historic drill holes and of Impact's procedures has been completed by Optiro Consultants of Perth, WA.

## SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>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.</i>	The Commonwealth Project currently comprises 3 exploration licences covering 315 km <sup>2</sup> . The tenements are held 100% by Endeavour Minerals Pty Ltd, a subsidiary company of Impact Minerals Limited. No aboriginal sites or places have been declared or recorded in areas where Impact is currently exploring. There are no national parks over the license area.
	<i>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.</i>	The tenements are in good standing with no known impediments.
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	A total of 66 drillholes have been completed over 300 m strike between the Commonwealth main shaft and Commonwealth South by previous explorers to an average depth of 53 m.
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	The Commonwealth and Commonwealth South deposits are considered gold-rich volcanic hosted massive sulphide (VMS) deposits that occur at and below the contact with a porphyritic rhyolite and overlying volcanic sedimentary rocks. The mineralisation may have been overprinted by epithermal mineralisation.
<b>Drill hole Information</b>	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <ul style="list-style-type: none"> <li>• <i>easting and northing of the drill hole collar</i></li> <li>• <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>• <i>dip and azimuth of the hole</i></li> <li>• <i>down hole length and interception depth</i></li> <li>• <i>hole length.</i></li> </ul>	A tabulation of this information is considered not material for this inferred mineral resource.
<b>Data aggregation methods</b>	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	All reported assays have been length weighted. No top cuts have been applied in the reporting of the drill assays. A nominal cut-off of approximately 0.5 g/t Au has been applied.
	<i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	High grade massive sulphide intervals internal to broader zones of disseminated sulphide mineralisation are reported as included intervals.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	Gold equivalent values have been used in the long section and in the resource calculation. Australian metal prices used for the gold equivalent were \$1,580/oz gold, \$22/oz silver, \$2,740/t zinc, \$2,396/t lead and \$7,320/t copper. Given the high grade results, it is assumed that very high recoveries will be achieved. However no metallurgical studies have been completed to verify this. Such studies will be done as and when appropriate.



Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></p>	Historical drill holes to date have been sub-perpendicular to the mineralised trend and stratigraphy so intervals are close to true width or otherwise stated.
<b>Diagrams</b>	<p><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></p>	Refer to figures in body of text.
<b>Balanced reporting</b>	<p><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	All results reported are representative
<b>Other substantive exploration data</b>	<p><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></p>	Assessment of other substantive exploration data is not yet complete however, it is not considered material at this stage to a Mineral Resource Estimate.
<b>Further work</b>	<p><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive</i></p>	Follow up work programmes will be subject to interpretation of recent and historic results which is ongoing.

### SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<i>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.</i>	A visual comparison is completed between assay results and original logs (if hand drawn/logged) and detailed print outs and down hole logs for each hole. All errors are corrected.
	<i>Data validation procedures used.</i>	Impact's database has industry standard protocols to ensure that only valid data is accepted. For example, only geological codes that form part of the Impact logging code system can be accepted into the database.
<b>Site visits</b>	<p><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></p> <p><i>If no site visits have been undertaken indicate why this is the case.</i></p>	The geology competent person, Dr Mike Jones has been with Impact since its inception and is closely involved in the Commonwealth project. He was present during a significant part of the drill programme and helped supervise the geological interpretation of the deposit. The majority of the work was compiled by Mr Leo Horn who is also a Competent Person for the reporting of Exploration Results and has been responsible for all aspects of the exploration programmes at the Commonwealth Project. The Competent Person for the Mineral Resource estimate, Mr Ian Glacken, has not visited site.
<b>Geological interpretation</b>	<i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i>	There is a high level of confidence in the geological interpretation due to the historical operating experience and the readily identifiable stratigraphic control on mineralisation.  Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries. All wireframes are constructed to 0.5 g/t Au cut-off grades for shape consistency.
	<i>Nature of the data used and of any assumptions made.</i>	The mineralisation is generally quite consistent and drill intercepts clearly define the shape of the mineralised body with limited options for large scale alternate interpretations.
	<i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i>	The controls on and interpretation of mineralisation is relatively straightforward and no alternative interpretations have been considered.
	<i>The use of geology in guiding and controlling Mineral Resource estimation.</i>	Wireframes are used to constrain the estimation and are based on drill hole intercepts and geological boundaries.
	<i>The factors affecting continuity both of grade and geology.</i>	Wireframes are constructed to 0.5 g/t Au cut-off grade for shape consistency.
<b>Dimensions</b>	<i>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</i>	The mineral resource at Commonwealth comprises two main areas, being Main Shaft and Commonwealth South, which have a total strike length of 400 m and extend vertically for approximately 120 m below surface. Main Shaft has been historically mined from surface to 40 m below surface.

Criteria	JORC Code explanation	Commentary
<b>Estimation and modelling techniques</b>	<p><i>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.</i></p> <p><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></p>	<p>Grade estimation using Ordinary Kriging (OK) was completed using Datamine software for six elements; Au, Ag, Cu, Pb, Zn and As. Drill grid spacing was between 10 m and 30 m.</p> <p>Variogram orientations were largely controlled by the strike of mineralisation and downhole variography. Variograms for estimation were determined individually for each element.</p> <p>Other estimation parameters, such as search distance, minimum and maximum sample numbers was derived from KNA. Search distances varied depending on the element being estimated.</p> <p>There has been no previous resource estimation on the Commonwealth Project, hence no comparisons are available.</p> <p>The resource model has not been compared to any reconciliation data.</p>
	<p><i>The assumptions made regarding recovery of by-products.</i></p>	<p>No assumptions have been made regarding recovery of any by-products.</p>
	<p><i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></p>	<p>Arsenic was the only deleterious element estimated.</p>
	<p><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></p>	<p>The block model dimensions and parameters were based on the geological boundaries and average drill grid spacing. Sub-blocks were used to ensure that the block model honoured the domain geometries and volume. Block estimates were controlled by the original parent block dimensions.</p> <p>The individual parent block dimensions were 5 mE by 15 mN by 10 mRL, with sub-blocking allowed.</p> <p>Estimation into parent blocks used a discretisation of 5 (X points) by 10 (Y points) by 8 (Z points) to better represent estimated block volumes.</p>
	<p><i>Any assumptions behind modelling of selective mining units.</i></p>	<p>No selective mining units were modelled in this estimate. It is assumed that the SMU is equal to the block model parent cell or smaller.</p>
	<p><i>Any assumptions about correlation between variables.</i></p>	<p>Multi-element analysis was conducted on the composites. There was a strong correlation between silver and lead and between lead and zinc.</p>
	<p><i>Description of how the geological interpretation was used to control the resource estimates.</i></p>	<p>Drillhole sample data was flagged using domain codes generated from three dimensional mineralisation domains. Sample data was composited to a one metre downhole length.</p> <p>Mineralisation domains were treated as hard boundaries in the estimation process.</p>
	<p><i>Discussion of basis for using or not using grade cutting or capping.</i></p>	<p>Top cuts were established by investigating univariate statistics and histograms of sample values. A top cut level was selected if it affected outliers, reduced the sample variance and did not materially change the mean value.</p>

Criteria	JORC Code explanation	Commentary
	<p><i>The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.</i></p>	<p>Model validation was carried out using visual comparisons between composites and estimated blocks, checks for negative or absent grades, and statistical comparison against the input drillhole data and graphical profile (swath) plots.</p>
<p><b>Moisture</b></p>	<p><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></p>	<p>Tonnages are estimated on a dry basis.</p>
<p><b>Cut-off parameters</b></p>	<p><i>The basis of the adopted cut-off grade(s) or quality parameters applied</i></p>	<p>The mineralisation is modelled to a nominal wireframe cut-off grade of 0.5 g/t Au with a minimum width of 1 m to encapsulate the entire mineralised body. The edges of the resource shapes may be narrower than potential minimum mining widths, which suggest that a small proportion of the shape is unlikely to be mineable; however the inclusion of these zones adds to the orebody continuity and the ore/waste discrimination of the Reserve process.</p>
<p><b>Mining factors or assumptions</b></p>	<p><i>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.</i></p>	<p>No minimum mining assumptions were made during the resource wire framing or estimation process. Mining parameters, including minimum width assumptions, will be applied during the conversion to Ore Reserves.</p>
<p><b>Metallurgical factors or assumptions</b></p>	<p><i>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.</i></p>	<p>No metallurgical factors or assumptions are made during the resource estimation process as this will be addressed during conversion to Ore Reserve. The resource block model has been populated with multi-element data which is required for the metallurgical analysis during the Ore Reserve process.</p>

Criteria	JORC Code explanation	Commentary
<b>Environmental factors or assumptions</b>	<i>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</i>	The Commonwealth Project is a historic brown-fields mine with a 20 year operating history. No environmental factors or assumptions are made during the resource estimation process.
<b>Bulk density</b>	<i>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.</i>	Bulk density (specific gravity) measurements are taken using conventional weight in air vs weight in water methodology.
	<i>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,</i>	All drill core within the mineralisation is in fresh rock and solid, so no coatings are applied to reduce water penetration.
	<i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i>	A zinc grade vs. density regression formula was used to assign specific gravity (SG) values to the block model. The regression formula of "SG = (0.0815*Zn%)+2.67" was used.
<b>Classification</b>	<i>The basis for the classification of the Mineral Resources into varying confidence categories</i>	Classification of the resource models is based primarily on drill density and geological understanding, in conjunction with increased confidence from areas of historic mining.
	<i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i>	The classification takes into account the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.
	<i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i>	The classification reflects the view of the Competent Person.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of Mineral Resource estimates.</i>	This is the maiden Mineral Resource estimate, therefore no audits or reviews have been carried out.



Criteria	JORC Code explanation	Commentary
<b>Discussion of relative accuracy/confidence</b>	<i>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</i>	<p>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. The statement relates to global estimates of tonnes and grade.</p>
	<i>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</i>	<p>The estimate is considered to be relevant to a global estimation of tonnage and grade.</p>
	<i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available</i>	<p>The resulting estimates are supported by limited historical production.</p>