Large-Scale Gold Potential Confirmed at Tarmoola

Extensive gold and pathfinder anomalies defined on Great Boulder’s tenements in the world-class Leonora gold district

- Highly encouraging results from recent auger geochemistry programme at Great Boulder’s Tarmoola gold project
- Multiple kilometre-scale gold and pathfinder anomalies delineated
- Anomalies occur along granite-greenstone contact and interpreted structures consistent with the regional trend which hosts several world-class gold deposits
- Gravity survey scheduled for early February to define priority targets ahead of planned drill testing in late Q1

Great Boulder Resources (ASX: GBR) is pleased to announce that it has significantly enhanced the exploration potential of its Tarmoola gold project, 40km north-west of Leonora and 10km west of Saracen’s King of the Hills gold mine, after receiving highly encouraging results from a recently completed auger geochemistry programme.

The Tarmoola project sits within a large regional arsenic soil anomaly that hosts several significant gold mines operated by Gold Fields, St Barbara and Saracen (Figure 1).
The detailed geochemistry programme has confirmed and defined the same anomalous trend from the regional data, while also identifying several new anomalies along the interpreted granite-greenstone contact and other structural trends.

A total of 983 auger samples were taken covering 149km² (14.4Ha) of the Tarmoola project, testing for gold and pathfinder soil anomalies that would indicate the presence of a gold bearing hydrothermal system.

The gold and pathfinder assemblage is consistent with intrusion related gold deposits and shows similarities to Saracen’s neighboring King of the Hills and Thunderbox mines, where gold-pyrite mineralisation typically occurs around the margins of the intrusions.

In the soil profile, pyrite is unstable and oxidizes which dissolves and removes Sulphur, however many trace (pathfinder) elements do not dissolve and remain in the soil. In similar intrusion-related gold systems, the trace elements in the pyrite are typically Bi and Te, +/-Mo and often zoned with As occurring a little further from the intrusion. Therefore in the soils, we can use these metals as a proxy for gold-bearing ore-stage pyrite.

In addition to gold mineralisation along the intrusion margin, gold bearing quartz vein arrays may also be present in the surrounding mafic and ultra-mafic rocks, such as at Mt Stirling, Marionette and Victory.

The results of the auger geochemistry show strong and coincident gold-arsenic-bismuth-tellurium anomalies with silver also along the contact margin over several kilometres. In order to better understand the significance of these geochemical anomalies, Great Boulder has re-processed 100m flight line airborne magnetic data over Tarmoola and the surrounding area and deposits, combined with field mapping and previous drilling data to produce an updated geological and structural model (Figure 3).

The Company has also commissioned a ground-based gravity survey to cover its entire Tarmoola project. Gravity has been successfully used to delineate similar intrusion-related orebodies given the significant density difference between the intrusion (granite) and host rock (mafic/ultramafic).

The gravity survey is expected to commence at the beginning of February with all results expected to be processed by the end of February.
Figure 5. Selected Geochemical Anomalies
Great Boulder Managing Director Stefan Murphy said the Company was excited by the emerging potential of the Tarmoola project, which had all the hallmarks of a large-scale greenfields gold opportunity.

"Tarmoola has always been a very attractive project given its regional setting and scale potential, given its location in the heart of the world-class Leonora-Agnew gold belt which hosts several multi-million ounce deposits," Mr Murphy said.

"Early work had identified the granite-greenstone contact to be much more extensive than previously thought, which has now been confirmed by this geochemical program. The pathfinder assemblage is very important as it provides a strong indicator that we have all the ingredients required for a hydrothermal gold system at Tarmoola.

"In particular, we are very encouraged that the anomalies identified occur along the granite-greenstone contact, but become much more pronounced along specific structural corridors.

"Re-processed magnetic data shows the granite to consist of multiple phases rather than a single, uniform intrusion. Structures at the contact of these different granite intrusions and along the granite-greenstone contacts - particularly where there is a northeast orientation, appear to show the strongest gold and pathfinder geochemical response.

"In addition, the north-east trending structures are much more pervasive than previously identified. At other deposits in the region we have seen that similar north-east structures intersecting the dominant north-west greenstone belt are important ore controls.

"Given the size of the Tarmoola project and the number of targets already generated, a gravity survey will be undertaken next month to assist in defining the key granite-greenstone contacts which are known to be the most prospective for intrusion-related gold deposits.

"Combining the geochemical, gravity and magnetic data sets will enable us to rank these targets and prioritise drilling, which we intend to commence as soon as possible following receipt of the gravity data and necessary exploration approvals."

**Background**

**Location**

The Tarmoola project is located approximately 40 km NW of Leonora and in close proximity to Saracen Mineral Holdings’ operating King of the Hills (10km east) and Thunderbox (30km north) gold mines. Tarmoola is accessed from Leonora by the sealed Goldfields Highway to the unsealed Agnew Road and station tracks.

**Ownership**

The Tarmoola project consists of two exploration and 19 prospecting licence. GBR has executed a JV agreement with EGMC to earn a 75% interest in the Tarmoola project by funding a $1,400,000 exploration program over five years. Once this expenditure commitment has been met by GBR, EGMC will have the right to contribute 25% of all future expenditure or choose to convert to a 2% Net Smelter Royalty (NSR). Should EGMC choose to convert its remaining interest into a 2% NSR then GBR will have a 100% interest in the project.
Geological Setting

Tarmoola is located within the Sons of Gwalia Domain of the Leonora greenstone belt which is composed of high magnesium basalt, with lesser komatiite, peridotite and interflow sedimentary units. A kilometre-scale internal biotite-hornblende granitoid (Robbie’s Well Pluton) intrudes the central portion of the project area. Several historical gold deposits are located in the thermal aureole of this pluton (e.g. Diorite King, Victory and Mount Stirling).

Gold deposits located east of the GBR leases show a close spatial association with diorite-trondhjemite intrusive bodies. These intrusions contain sufficient potassium-bearing minerals to support a potassium radiometric anomaly where residual soil material is preserved at the surface as found at King of the Hills, Victory, Diorite King and Mt Stirling.

Regional soil sampling by the Geological Survey of Western Australia has defined a kilometre-scale arsenic corridor which transects the northeast half of the GBR tenement package. GBR has since completed a detailed auger geochemical programme over Tarmoola, excluding the areas of excessive transported cover to the south of the project. The arsenic anomaly to the north east has now been better defined as with several other gold and pathfinder anomalies along the granite-greenstone contact and interpreted structures from re-processed airborne magnetic data.

Previous Exploration Activity

Only limited exploration has been completed to date by previous explorers over the Tarmoola Project.

St Barbara Limited conducted a small, focused aircore drilling program at their Marionette prospect along part of the eastern margin of the Robbie’s Well Pluton. This drilling identified elevated arsenic, antimony, tungsten and tellurium values, all well-known gold pathfinder elements. Rock chip sampling by GBR identified elevated arsenic, antimony, bismuth, tungsten and tellurium in surface exposures towards the southern end of the drilled area, with one rock chip sample returning 0.4 g/t Au (from a quartz-carbonate vein associated with albitised felsic porphyry).

Saracen Metals Pty Limited compiled results from previous-explorers drilling on the northern Exploration License near Randle’s Find. This work identified gold and arsenic anomalism (Au to 462ppb-EOH and As to 160ppm) in a poorly-tested sequence of mafic volcanic and intrusive rocks. These anomalies have not been followed-up with further drilling.

Discrete, focused and very limited soil sampling by T.E. Johnston & Associates Pty Ltd identified two gold-arsenic anomalous zones along the eastern margin of the Robbie’s Well Pluton with peak values of 18ppb Au, 98ppm As in the northern soil anomaly and 22ppb Au in the southern soil anomaly. Johnston’s northern soil anomaly lies approximately 1km west of the gold pathfinder anomaly defined by St Barbara Limited drilling and GBR rock chip sampling near Marionette. Johnston’s southern soil anomaly is located approximately 4 km south of St Barbara’s drilling. Reconnaissance rock chip sampling by GBR along trend from Johnston’s southern soil anomaly identified a compelling gold pathfinder (bismuth, tellurium, tungsten) anomaly returning a peak gold value of 5.14g/t Au. A rock chip sample taken near the centre of Johnston’s southern soil anomaly returned highly anomalous gold pathfinder (bismuth, molybdenum and tellurium) results.

Regional soil sampling was completed by Jubilee Mines NL along the Hill Bore mafic-ultramafic trend on the western side of the Robbie’s Well Pluton within the southwestern part of E37/1242. Jubilee identified an apparently strike-continuous gold-in-soil anomaly with a peak value of 135ppb Au that extends at low level over a 2 km strike length that remains open to the south. Jubilee’s gold-in-soil anomaly coincides with unusual hill surrounded by recent alluvial channel and lake-margin deposits including evaporitic dunes and kopai. The gold-in-soil anomaly disappears under Recent transported cover north and south of the hill. This soil anomaly has yet to be followed-up by drilling.
Competent Person’s Statement

Exploration information in this Announcement is based upon work undertaken by Mrs Melanie Leighton whom is a Member of the Australasian Institute of Geoscientists (AIG). Mrs Melanie Leighton has sufficient experience that is relevant to the style of mineralisation and type of deposit 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’ (JORC Code). Mrs Melanie Leighton is a non-executive director of Great Boulder and consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

Forward Looking Statements

This Announcement is provided on the basis that neither the Company nor its representatives make any warranty (express or implied) as to the accuracy, reliability, relevance or completeness of the material contained in the Announcement and nothing contained in the Announcement is, or may be relied upon as a promise, representation or warranty, whether as to the past or the future. The Company hereby excludes all warranties that can be excluded by law. The Announcement contains material which is predictive in nature and may be affected by inaccurate assumptions or by known and unknown risks and uncertainties, and may differ materially from results ultimately achieved.

The Announcement contains “forward-looking statements”. All statements other than those of historical facts included in the Announcement are forward-looking statements including estimates of Mineral Resources. However, forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, copper, gold and other metals price volatility, currency fluctuations, increased production costs and variances in ore grade recovery rates from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. The Company does not undertake any obligation to release publicly any revisions to any “forward-looking statement” to reflect events or circumstances after the date of the Announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. All persons should consider seeking appropriate professional advice in reviewing the Announcement and all other information with respect to the Company and evaluating the business, financial performance and operations of the Company. Neither the provision of the Announcement nor any information contained in the Announcement or subsequently communicated to any person in connection with the Announcement is, or should be taken as, constituting the giving of investment advice to any person.

### Appendix- JORC Code, 2012 Edition Table 1

The following table relates to activities undertaken at the Tarmoola project.

#### Section 1 Sampling Techniques and Data

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

<table>
<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sampling techniques</strong></td>
<td>- 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.</td>
<td>Soil auger samples were taken from (where available) ferruginous horizon spoils, with auger hole depths between 0.5 and 1.5m. Each sample was approximately 500gs of material. The samples were pulverised at the laboratory, with a 50g sample analysed by industry standard fire assay with atomic absorption, and also multi element analysis via 4 acid digest followed by mass spectroscopy. The sampling techniques used are deemed appropriate for the style of exploration.</td>
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<td>- Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td>
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<td>- Aspects of the determination of mineralisation that are Material to the Public Report.</td>
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<td>- In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</td>
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<tr>
<td><strong>Drilling techniques</strong></td>
<td>- Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</td>
<td>Auger drilling, with end of holes spoils sampled.</td>
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<tr>
<td><strong>Drill sample recovery</strong></td>
<td>- Method of recording and assessing core and chip sample recoveries and results assessed.</td>
<td>There were no significant issues with sample recovery or condition noted during the auger programme. No quantitative analysis of samples weights, sample condition, recovery or repeatability has been undertaken.</td>
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<td>- Measures taken to maximise sample recovery and ensure representative nature of the samples.</td>
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<td>- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to...</td>
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</tbody>
</table>
preferential loss/gain of fine/coarse material.

Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

No geological logging was undertaken. Depth, spoils colour and comments on end of hole conditions were noted by the contractor.

Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- 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.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

Field samples were scoop samples of end of hole spoils.

All samples were submitted to ALS Minerals (Kalgoorlie) for analyses. The sample preparation included:
- Samples were weighed and pulverised such that a minimum of 85% passed 75um (as per ALS standards).
- Analysis was undertaken for gold using, 50g charge for fire assay and ICP-AES (ALS method; Au-ICP22), and also a 4 acid digest and ICP-MS (ALS method; MS-ME61) for the multi elements.

Sample collection and size are deemed appropriate for the style of exploration.

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.
- For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
- Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

All samples were assayed by industry standard methods through commercial laboratories in Australia (ALS Minerals, Kalgoorlie).

Typical analysis methods used;
- Analysis was undertaken for gold using, 50g charge for fire assay and ICP-AES (ALS method; Au-ICP22), and also a 4 acid digest and ICP-MS (ALS method; MS-ME61) for the multi elements.

33 routine “standard” (mineralised pulp) Certified Reference Material (CRM) were inserted by the auger contractor. No material issues were noted.

The analytical laboratories provided their own routine quality controls within their own practices. No significant issues were noted.
Results from CRM (standards and blanks) gives confidence in the accuracy and precision of the assay data returned from ALS.

### Verification of sampling and assaying

- The verification of significant intersections by either independent or alternative company personnel.
- The use of twinned holes.
- Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.
- Discuss any adjustment to assay data.

No verification of sampling and assaying has been undertaken in the drilling programme.

Great Boulder has strict procedures for data capture, flow and data storage, and validation.

Limited adjustments were made to returned assay data; values returned lower than detection level were set to the methodology’s detection level, and this was flagged by code in the database.

### 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 used in Mineral Resource estimation.
- Specification of the grid system used.
- Quality and adequacy of topographic control.

Sample locations were set out using a hand held GPS.

The MGA94 UTM zone 51 coordinate system was used for all undertakings.

### Data spacing and distribution

- Data spacing for reporting of Exploration Results.
- Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
- Whether sample compositing has been applied.

The auger samples were spaced 200m along east-west lines that were 800m apart. The programme covered approximately two thirds of the project tenements, and was deemed appropriate for the style of exploration.

The spacing and location of data is currently only being considered for exploration purposes.

### 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.
- 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.

East-west auger sample lines where chose to nominally cut perpendicular to approximate regional structure and lithology where practical and where known or interpreted.

Considering the nature of exploration and potential mineralisation styles at the project, the sampling orientations is deemed to be representative for exploration reporting purposes.

### Sample security

- The measures taken to ensure sample security.

Great Boulder has strict chain of custody procedures that are adhered to for drill samples. All samples for each batch have the sample submission number/ticket inserted into each bulk polyweave sample bag with the id number clearly visible. The sample bag is stapled together such that no sample material can spill out and
no one can tamper with the sample once it leaves the company’s custody.

**Audits or reviews**
- The results of any audits or reviews of sampling techniques and data.
  - None completed.

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**Section 2 Reporting of Exploration Results**

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

<table>
<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral tenement and land tenure status</td>
<td>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.</td>
<td>Great Boulder Resource Ltd (GBR) is comprised of several projects with associated tenements; Tarmoola Project tenements and details; Exploration licences E37/1241, E37/1242, and prospecting licences P37/8667, P37/8668, P37/8669, P37/8670, P37/8671, P37/8672, P37/7673, P37/8674, P37/8675, P37/8676, P37/8677, P37/8678, P37/8679, P37/8680, P37/8681, P37/8682, P37/8683, P37/8684, P37/8685 where, GBR has executed a JV agreement to earn 75% interest through exploration expenditure of $1,400,000 AUD over five years. Following satisfaction of the minimum expenditure commitment by GBR, EGMC (current tenement owner) will have the right to contribute to expenditure in the project at its 25% interest level or choose to convert to a 2% Net Smelter Royalty (NSR). Should EGMC choose to convert its remaining interest into a 2% NSR, then GBR will have a 100% interest in the project.</td>
</tr>
<tr>
<td>Exploration done by other parties</td>
<td>Acknowledgment and appraisal of exploration by other parties.</td>
<td>Previous explorers included:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– 1990’s - 2000’s. Saracen Metals Pty Ltd compiled results from previous explorers drilling on the northern ELs near Randle’s Find.</td>
</tr>
<tr>
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<td></td>
<td>– 2000’s. Jubilee Mines NL conducted soil sampling on the western side of the Robbie’s Well Pluton. Agnew Gold Mining Company Pty Ltd (Goldfield) undertook limited drilling on the northern portions of project, as well as soil sampling.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– 2010-2011 T.E Johnston &amp; Associated Pty Ltd conducted limited soil along the eastern margin of Robbie’s Well Pluton.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– 2011. St Barbara Ltd conducted a small, focused aircore drilling along the eastern margin of the Robbie’s Well Pluton.</td>
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<tr>
<td></td>
<td></td>
<td>– Regional soil sampling has been undertaken by the Geological Survey of WA.</td>
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</tbody>
</table>
### Geology

- **Deposit type, geological setting and style of mineralisation.**

  Greenstone sequences with a km-scale internal granitoid and a number of discrete dioritic to tonalitic stocks known to be associated with regional gold mineralisation (e.g. Tarmoola/King of the Hills)

  The project contains the northern extension to the regional granite-greenstone terrain contact with a similar geological setting as Tarmoola/King of the Hills and Gwalia.

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### 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.

  **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.**

  The location and context of the auger sampling is provided in grid images in the main report body.

  No other drilling results are reported.

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### Data aggregation methods

- **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.**

  No individual results from the auger soil programme are 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.**

  **The assumptions used for any reporting of metal equivalent values should be clearly stated.**

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### Relationship between mineralisation widths and

- **These relationships are particularly important in the reporting of Exploration Results.**

  No mineralisation widths are reported.
**intercept lengths**

- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.

- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).

**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. Refer to figures in announcement.

**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. Contours in diagrams are provided to define areas of relative “moderate” and “high” anomalous element areas.

**Other substantive exploration data**

- Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. Great Boulder recently re-proceeded open source magnetic data. This was used to assist the reinterpretation of the underlying project geology. Refer to document for images and context.

**Further work**

- The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).

- Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. Potential work across the project may include detailed geological mapping and surface sampling, further ground or airborne geophysics as well as confirmatory, exploratory or follow-up drilling.