



## Australian Securities Exchange Announcement

11 February 2015

### Successful Biogeochemistry Trial Completed on the Eyre Peninsula.

#### Summary

Adelaide Resources Limited ("ADN") has completed a successful research and development biogeochemistry sampling program on the company's Eyre Peninsula tenements. The program was designed to determine if analysis of eucalypt mallee leaves could be used to identify areas of known underlying gold mineralisation at the Baggy Green gold prospect on the Eyre Peninsula.

The results confirm that concentrations of gold, silver and some other metals in the leaves of eucalypts growing above sub-surface mineralisation are at anomalous levels. The trial results suggest that biogeochemistry shows promising potential for wider application across the Eyre Peninsula Project.

#### Introduction

The Eyre Peninsula Gold Project comprises 12 tenements that cover 4415 square kilometers on the northern Eyre Peninsula of South Australia (Figure 1).

The Project falls largely in the Central Gawler Gold Province, an arcuate belt lying on the southern and western margins of the extensive Gawler Range Volcanics. The Central Gawler Gold Province is host to the Tarcoola and Tunkillia gold deposits, and to numerous other prospects including Adelaide Resources' wholly owned Baggy Green, White Tank and Barns gold prospects.

In October 2013 a CSIRO team led by Dr. Mel Lintern reported on the use of biogeochemistry in mineral exploration, with the company's Barns gold prospect one of the sites investigated by the CSIRO study<sup>(1,2)</sup> (Figure 1).

Dr. Lintern's research confirmed that some species of eucalypts growing on top of mineral deposits transport gold from significant depths via the root system and precipitate it as tiny particles in the above ground foliage of the tree. It is then possible to sample leaf and twig material, determine its gold content, and delineate biogeochemical anomalies that may indicate the presence of buried mineralisation.

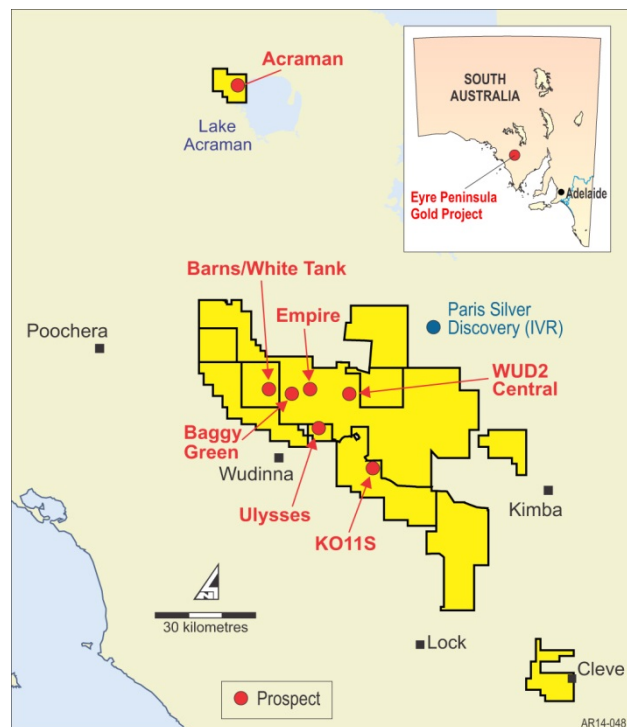


Figure 1: Eyre Peninsula Gold Project Location

The Baggy Green gold prospect is located about 5 kilometres east of Barns, and was discovered by the company in 2004 when drilling of a large calcrete soil gold geochemical anomaly revealed sub-surface mineralisation. Historic drill intersections at Baggy Green include 8 metres at 4.79g/t gold, 11 metres at 2.30g/t gold, and 24 metres at 2.33g/t gold.

Unlike the Barns prospect, which is located in cereal growing paddocks largely cleared of native vegetation, Baggy Green falls in a sand covered area that was deemed unsuitable for agricultural or pastoral use and retains its native vegetation cover. The sand covered area, including the Baggy Green gold prospect, now forms the Pinkawillinnie Conservation Park, a dual proclamation park where exploration and mining are permitted subject to meeting various environmental standards.

### Biogeochemical Sampling Program

Samples of eucalypt leaves were collected on a 400 metre by 50 metre grid over a 2.6 kilometre zone that includes two areas of drill confirmed sub-surface gold mineralisation at Baggy Green. The leaf samples were analysed for a suite of elements including gold and 32 other metals.

Figure 2 shows a plan of historical drillholes at Baggy Green, with areas of confirmed bedrock gold mineralisation outlined as red regions. Also shown are the locations of the biogeochemistry samples colour coded by gold grade, and an image of gold in the leaves.

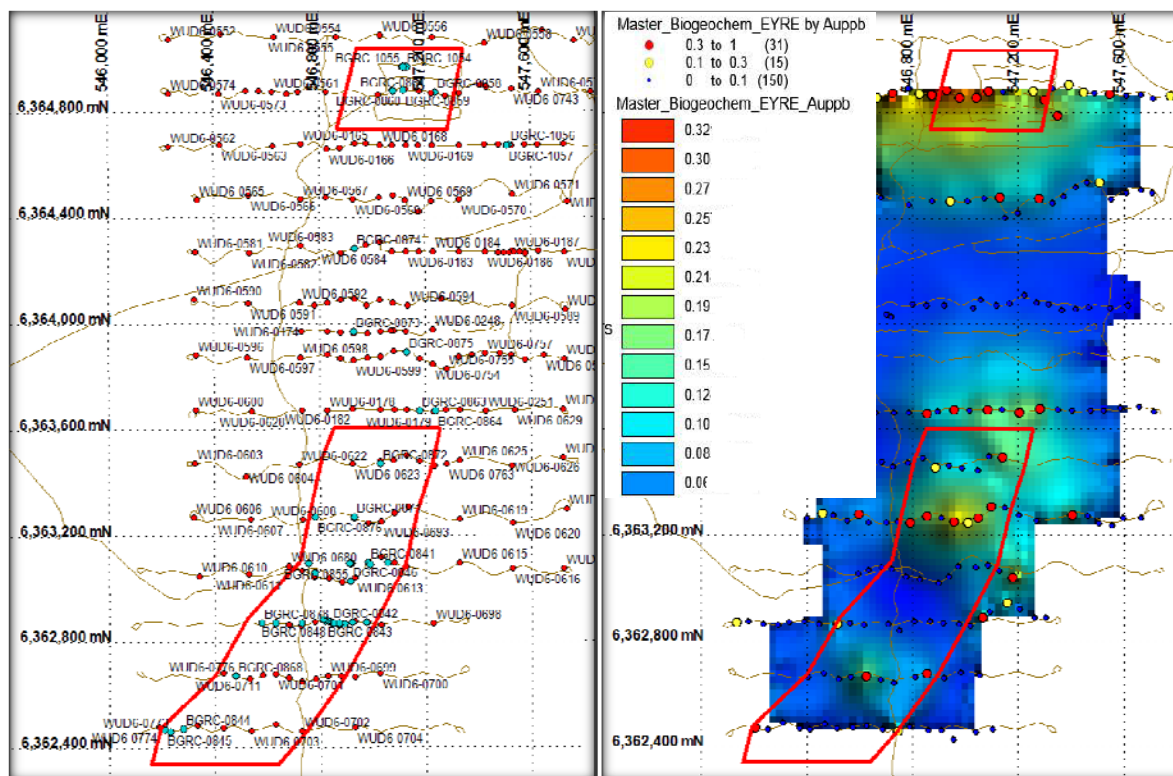


Figure 2: Baggy Green Gold Prospect: Left plan shows historic drillhole locations and zones of known underlying gold mineralisation (red regions). Right plan shows biogeochemical sampling sites (colour coded dots) on imaged gold in eucalypt leaves.

Assays confirm that eucalypt leaves from trees growing above both the southern and northern zones of known mineralisation contain anomalous levels of gold. The results also reveal the biogeochemical gold anomaly associated with the northern zone of bedrock mineralisation extends further to the west than the known extent of sub-surface mineralisation, suggesting further investigation in this area may be warranted.

Figure 3 shows that silver concentrations in eucalypt leaves closely mimic gold, presenting corroborative support for the gold results. Anomalous silver biogeochemical results also extend further west than the known extent of sub-surface mineralisation in the northern zone. Other metals including antimony, cadmium, sulphur and zinc are also semi-coincident with the known bedrock mineralised zones.

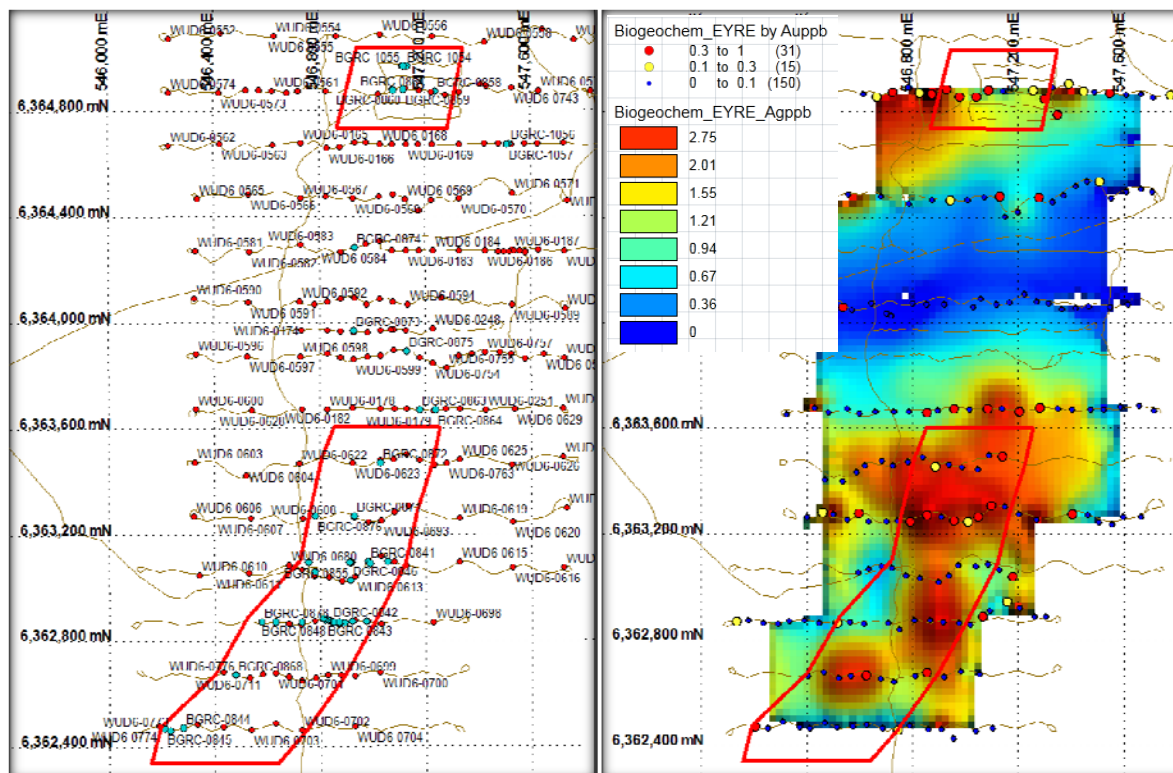


Figure 3: Baggy Green Gold Prospect: Left plan shows historic drillhole locations and zones of known underlying gold mineralisation (red boxes). Right plan shows biogeochemical sampling sites (dots) on imaged silver in mallee leaves.

## Conclusions

The results of the trial survey suggest that the biogeochemical method shows promising potential for wider application across the Eyre Peninsula Project. A large area exists on the Project where native eucalypt vegetation has not been cleared for agricultural purposes and where previous calcrete geochemistry is considered unlikely to have been effective due to lack of the required carbonate media in the soil profile. Biogeochemical sampling may present an effective exploration tool for exploring this area in the future and further low cost studies to advance the method are being considered.

**Chris Drown**  
Managing Director

Enquiries should be directed to Chris Drown. Ph (08) 8271 0600 or 0427 770 653.

## Competent Person Statement and JORC 2012 compliance statements

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mark Manly a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Manly is a full time employee of the Company. Mr Manly has sufficient experience that is relevant to the 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Manly consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

- (1) See "Natural gold particles in Eucalyptus leaves and their relevance to exploration for buried gold deposits" in Nature Communication, Oct 22<sup>nd</sup>, 2013.
- (2) See ADN's ASX release dated 29 October 2013 titled "Gold in Trees" – Biogeochemical Exploration on Eyre Peninsula.

## 1 JORC CODE, 2012 EDITION – TABLE 1

### 1.1 Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>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 hand held XRF instruments, etc) These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Samples of Mallee Gum leaves were collected from trees on a 400m by 50m grid over a 2.6km north south trend at the Baggy Green gold prospect.</li> <li>Samples were predominantly of leaves and stems only, not sticks, twigs, nuts or flowers.</li> <li>Samples were collected from the ground to about 3m height.</li> </ul>
Drilling Techniques	<ul style="list-style-type: none"> <li>Drill type (air 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 orientated and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>No new drilling results are included in this report.</li> </ul>
Drill Sample Recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the sample.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may</li> </ul>	<ul style="list-style-type: none"> <li>No new drilling results are included in this report.</li> </ul>

	<i>have occurred due to preferential loss/gain of coarse/fine material.</i>	
<i>Logging</i>	<ul style="list-style-type: none"> <li>• <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></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No new drilling results are included in this report.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples.</i></li> <li>• <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></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples were collected from the ground to about 3m height.</li> <li>• Samples of about 100-300 grams were collected and put in calico bags.</li> <li>• Samples and standards were dispatched to Intertek for mastication, digestion and geochemical analysis.</li> <li>• Duplicate analyses indicate acceptable analytical accuracy for FPXRF samples.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and mode, reading times, calibration factors applied and their derivation, etc.</i></li> <li>• <i>Nature and 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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The foliage was separated from twigs, before being milled in a Retsch Mill, then 0.5g of the pulp is digested using a modified aqua regia digest and analysed by ICP-OES and ICP-MS.</li> <li>• As multi-element analyses are the most useful for biogeochemical interpretation, a suite of elements are analysed including gold to 0.2ppb and 32 other elements in a suite (Ag, Al, As, Be, Bi, Cd, Ce, Co, Cr, Cu, Fe, Ga, Hg, In, La, Mo, Ni, Pb, Pd, Pt, Re, S, Sb, Sn, Ta, Te, Th, Tl, U, V, W and Zn).</li> <li>• QAQC data includes standards and duplicates introduced at a ratio of 1 QAQC sample for every 50 survey samples.</li> <li>• No calibration factors have been applied to results reported.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage</i></li> </ul>	<ul style="list-style-type: none"> <li>• No new drilling results are included in this report.</li> </ul>

	<p><i>(physical or electronic) protocols.</i></p> <ul style="list-style-type: none"> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Biogeochemical sample location points are collected using a Trimble Juno 3D GPS with autonomous accuracy of +/- 5 meters.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results</i></li> <li>• <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 classification applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Biogeochemical samples were taken at 50m intervals on lines spaced at 400 metres.</li> <li>• Infill lines were done at 50m intervals on lines 200m apart.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <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></li> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• Sample lines oriented east west. Line and sample spacing are adequate to define broad geochemical anomalies of any orientation with confidence.</li> <li>• The lines were undertaken over known mineralisation defined by historic drilling</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Pulps of samples collected are stored at Intertek Perth.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Baggy Green prospect was drill tested prior to this biogeochemical sampling program. The results of this program are confirmed by the drilling and thus indicate that the method could be used to locate sub-surface gold mineralisation.</li> </ul>

## 1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section may apply to this section)

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>Type, reference name/number, location and ownership including agreements of material issues with third parties such as joint ventures, overriding royalties, native titles interests, historical sites, wilderness or national park and environmental settings.</i></li> <li>• <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The area the subject of this report falls within EL 5120, which is 100% owned by Peninsular Resources limited, a wholly owned subsidiary of Adelaide Resources Limited.</li> <li>• Newcrest Mining Limited retains a 1.5% NSR on all minerals.</li> <li>• Underlying land title is subject to two native title claims Barngarla (SC96/4), Gawler Ranges (SC97/7). Agreements (Part 9B and ILUA) have been reached with NT claimants.</li> <li>• Significant areas in Pinkawillinie Cons. Park, Gawler Ranges Nat.Park, Gawler Ranges Cons. Res. PEPR required to conduct</li> </ul>

		<p>on ground exploration.</p> <ul style="list-style-type: none"> <li>• EL 5120 is in good standing.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>• Acknowledgement and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• The general area the subject of this report has been explored in the past by various companies including Western Mining Corporation, CRAE, North Broken Hill, BHP Minerals and Carpentaria Exploration. No drilling was undertaken at Baggy Green prior to Adelaide Resources.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• The Baggy Green and Barns prospects are considered to be fracture controlled gold deposits hosted by igneous rocks related to the 1590Ma Hiltaba/GRV tectono-thermal event.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>• 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: <ul style="list-style-type: none"> <li>○ Easting and northing of the drill collar</li> <li>○ Elevation or RL (Reduced Level – elevation above sea level in meters) of the drill collar.</li> <li>○ Dip and azimuth of the hole.</li> <li>○ Down hole length and interception depth.</li> <li>○ Hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the axis 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.</li> </ul>	<ul style="list-style-type: none"> <li>• A plan showing the collar locations of historic drillholes is included in Figure 2 and Figure 3 in the report.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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 some detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• No data aggregation methods have been employed.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• 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').</li> </ul>	<ul style="list-style-type: none"> <li>• No new drilling results are included in this report.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and</li> </ul>	<ul style="list-style-type: none"> <li>• Plans detailing location,</li> </ul>

	<i>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>	geochemical, and historical drilling is included in the report.
<i>Balanced Reporting</i>	<ul style="list-style-type: none"> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• All biogeochemical data were gridded and contoured.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <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, ground water, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The report includes a plan detailing the location of previous exploration drilling at Baggy Green. There is no data considered material that has not been reported.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (e.g. tests of lateral extensions or depth extensions or large scale step-out drilling).</i></li> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• Further research into biogeochemical sampling is proposed.</li> </ul>