



13th May 2019

New Lithium Pegmatites Identified at Split Rocks

- Highly encouraging initial reconnaissance surface sample results up to 0.39% Li₂O returned from pegmatite bodies on the recently optioned Dulcie Heap Leach Gold Operation tenure;
- The Company is continuing to explore its very strong ground position in the Forrestania lithium belt, adjacent to SQM-Kidman's Mt Holland/Earl Grey lithium deposit (Figures 1 & 2 below); and
- Zenith's proposed drill programs will test both pegmatite bodies identified in historical drilling, and surface lithium anomalies generated via the Company's work programs as well as bedrock gold targets.

Zenith Minerals Limited ("Zenith" or "the Company") is very pleased to announce that initial lithium reconnaissance surface sampling completed on the recently optioned Dulcie Heap Leach Gold Operation (DHLGO) project has returned highly encouraging lithium results up to 0.39% Li₂O.

Zenith has commenced an initial assessment of the lithium potential of the area in conjunction with its systematic screening of its large, 100% owned Split Rocks project landholdings (500 sqkm) in the Forrestania greenstone belt. This emerging lithium district is host to SQM-Kidman's Mt Holland/Earl Grey lithium deposit containing 189Mt @ 1.5% Li₂O (KDR:ASX Release 19th Mar 2018), with KDR the subject of an off-market takeover by Wesfarmers (ASX:WES) (Figures 1 & 2).

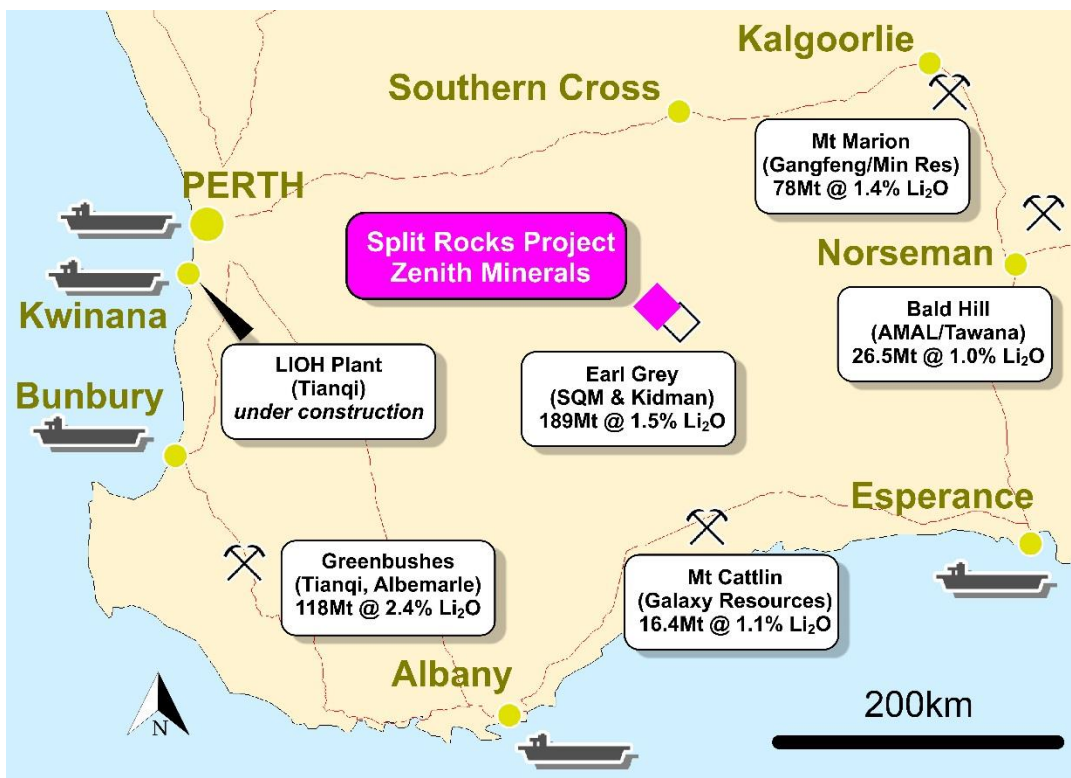


Figure 1- Split Rocks Project Location Map Showing Regional Lithium Projects

As previously announced (ASX Release 21st March 2019) Zenith executed an agreement that provides the Company with an exclusive right to explore for bedrock gold and lithium

Corporate Details

ASX: ZNC

Issued Shares (ZNC)	212.8M
Unlisted options	4.15M
Mkt. Cap. (\$0.05)	A\$11M
Cash (31 st Mar 19)	A\$1.1 M
Debt	Nil

Directors

Michael Clifford:
Managing Director

Mike Joyce:
Non-Exec Chairman

Stan Macdonald:
Non-Exec Director

Julian Goldsworthy:
Non-Exec Director

Graham Riley:
Non-Exec Director

Major Shareholders

HSBC Custody. Nom.	12.2%
Nada Granich	5.4%
J P Morgan	4.8%
Miquilini	4.3%
Abingdon	4.1%

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mineralisation beneath the large laterite rich gold cap currently being mined and treated on leases located contiguous with Zenith's Split Rocks project licences (Figure 2).

In addition, to the high-grade gold targets, several historic exploration drill holes intersected pegmatite bodies that were never analysed for lithium.

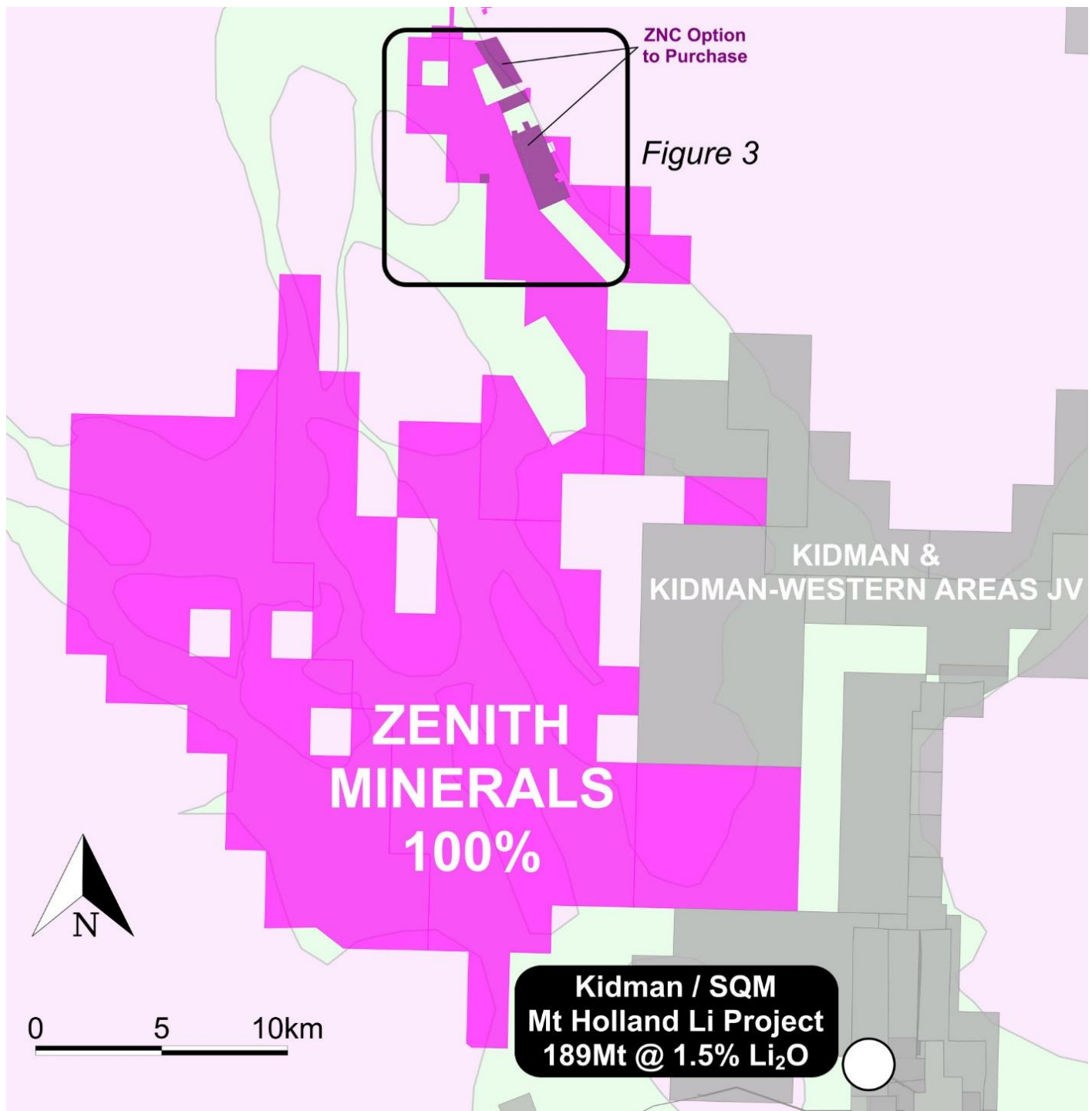


Figure 2- Split Rocks Project – Location and Tenure Relative to Kidman/SQM Mt Holland Lithium Project



The DHLGO ground is located immediately east of Zenith's Dulcie lithium target, where aircore and RC drilling has confirmed thick pegmatite bodies (up to 79m downhole widths) containing broad anomalous levels of lithium throughout 79m @ 284ppm Li_2O with a peak value of 1m @ 1072ppm Li_2O (Figures 3).

Zenith's proposed drill programs will test both pegmatite bodies identified in historical drilling, surface lithium anomalies generated via the Company's work programs as well as bedrock gold targets.

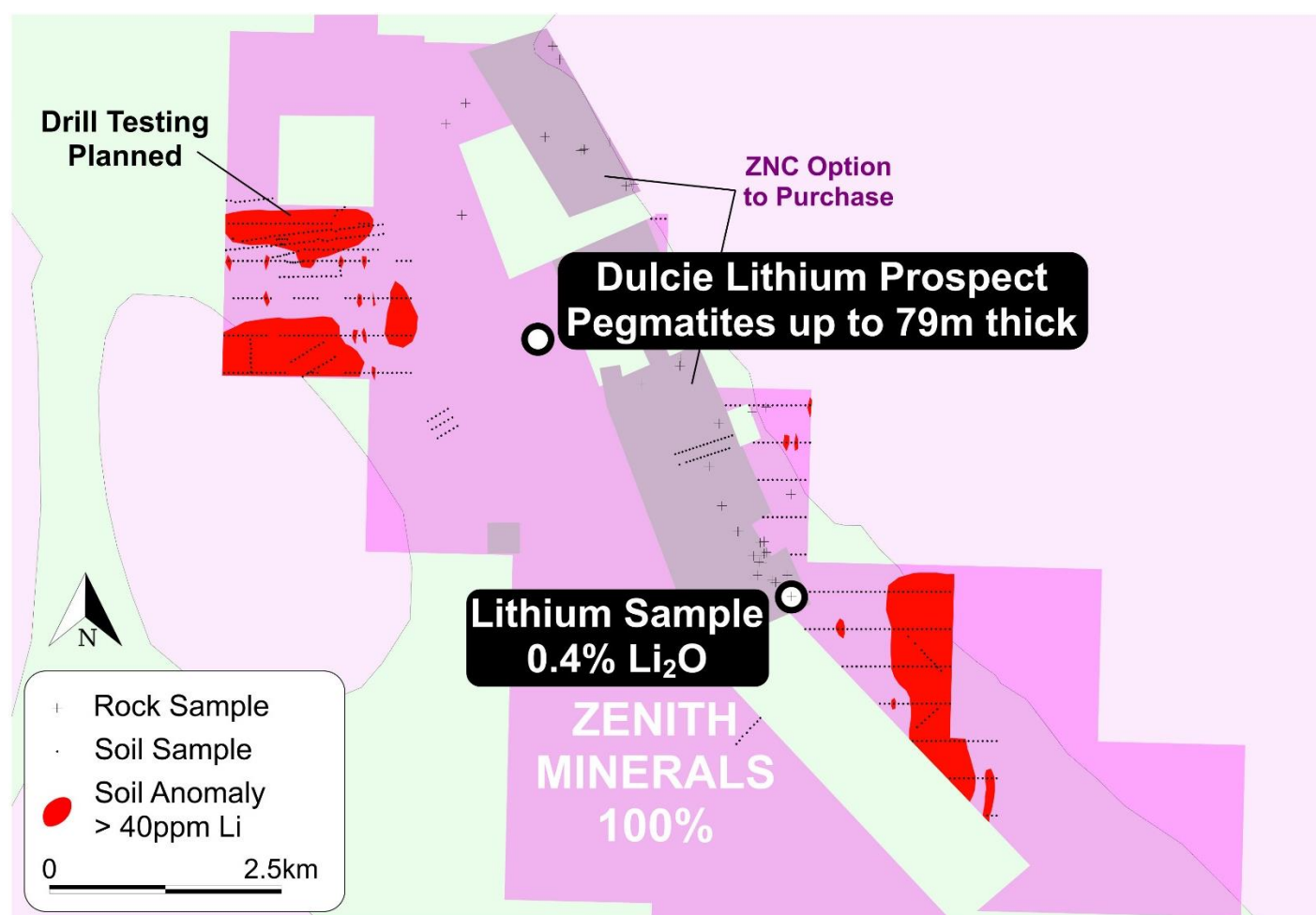


Figure 3 – Split Rocks (NE Sector) Lithium Prospects & Anomalies

Lithium Sampling Details

Initial reconnaissance sampling entailed the collection of 40 samples of selected intervals of historic RAB, Aircore, RC as well as surface rock sampling. The strongly anomalous sample identified in the text of this release is a surface rock sample from a small exposure of pegmatite, possibly exposed in a historic mine working. Lithium target sought is spodumene bearing lithium pegmatite. The lithium anomalous sample is rich in mica and not necessarily indicative of spodumene bearing pegmatite at surface but the high lithium content (0.39% Li_2O) along with anomalous Cs (106ppm), Rb (2270ppm) and Ta (35ppm) is encouraging as these levels commonly occur in evolved pegmatites capable of forming spodumene mineralisation. The sample is considered representative of the interval sampled. A lower cut-off of 0.1% Li_2O was used for reporting of anomalous samples referred to in text of this report. All sample locations shown on Figure 3 and further details are provided in JORC Tables appended to this report.

DHLGO – High-Grade Gold Potential

As announced to the ASX (21st March 2019) a detailed review by Zenith's geological team of historical exploration reports on the area of the DHLGO leases highlight that high-grade gold mineralisation is predominantly hosted by moderately



west dipping BIF units (Figures 2 & 3). High-grade historic drill results include: **6.0m @ 16.91 g/t Au, 2.0m @ 32.73 g/t Au, 2.0m @ 16.5 g/t Au, 2.0m @ 15.40 g/t Au, 5.0m @ 4.73 g/t Au, 4.0m @ 4.90 g/t Au and 9.0m @ 2.10g/t Au**, presenting several high-priority target zones for follow-up by Zenith.

Of note, most historic drill holes have failed to adequately test Zenith's high-priority BIF target zone, where the shallow, wide, west dipping mineralised structures (with results such as: 32m @ 0.6 g/t Au and 57m @ 0.28g/t Au) intersect the north-south moderately west dipping preferred host rock BIF units. Most of the historic exploration drill holes have been collared to test the main laterite gold zone and are too far east of the target BIF host unit to be an effective test. In addition, most historic drill holes have only focused on the near surface laterite rich gold zone with only 38 holes of a total of 1,777 being drilled deeper than 75m (Figures 2 - 6). The average drill hole depth for the project area is only 19.7m.

Holes were drilled either vertical or at -60° east and assuming moderate west dipping gold mineralisation then intersection widths will be close to true widths, however there is insufficient drill density to be confident that all gold zones are dipping west and therefore caution must be applied regarding the widths of reported gold zones.

Planned follow up drilling by Zenith will provide an initial test of several of the higher-grade bedrock. Drill holes are planned on lines nominally 200m apart.

Option Agreement - Summary of Key Terms

Zenith has a 2-year option to explore for bedrock gold (any gold 6 metres below surface) and lithium mineralisation on tenements covering the operating Dulcie Heap Leach Gold Project (DHLGO) in exchange for surface laterite gold rights on Zenith's adjoining exploration licence E77/2388, as announced to the ASX (21st March 2019).

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith Minerals Limited. Mr Clifford has sufficient experience which 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'. Mr Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

13th May 2019

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JORC Tables

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<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>	Rock chip and grab samples of selected historic drill hole spoil and bag samples.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Samples are representative of the intervals sampled.
	<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>	In several instances, the historic drill spoil samples are poorly persevered with some downhole intervals unable to be accurately identified. The samples are considered of an initial reconnaissance nature and are not a definitive test of the pegmatite intervals drilled by historic exploration activity. The strongly anomalous sample identified in the text of this release is a surface rock sample from a small exposure of pegmatite, possibly a historic mine working. The sample is considered representative of the interval sampled.
Drilling techniques	<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>	40 samples of selected intervals of historic RAB, Aircore, RC as well as surface rock sampling.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Drill chip recoveries are not documented in historical reports. Appropriate controls will be put in place in future infill drilling programmes. With the exception of some RC drill holes completed by Crusader Resources that had some wet samples that were reported as having poor recoveries (a68752) it is assumed based on observations made of the relict samples left at surface that most samples have been drilled dry and that acceptable recoveries have been achieved.



	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	As above.
	<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>	As above.
Logging	<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>	Samples were logged by a qualified geologist.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Qualitative logging.
	<i>The total length and percentage of the relevant intersections logged.</i>	All intersections were logged.
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No core
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	Different methods were used. When reported, generally 1m samples from cyclones were riffle split and composited to final sample. Samples were generally dry.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Samples were crushed and pulverised to 80% passing 75um, a 25g sub-sample was then analysed.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Standard industry laboratory procedures in place following pulverising of the sample material (80% passing 75um).
Sub-sampling techniques and sample preparation - continued	<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>	A field duplicate of the high-grade lithium rock chip sample returned lower but still anomalous results of 0.07% Li ₂ O.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Sample sizes are following industry standards and are therefore considered appropriate.
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>	Samples analysed at SGS Perth WA by method IMS90Q. Sodium peroxide fusion followed by ICPMS.
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model,</i>	No geophysical tools used.



	<i>reading times, calibrations factors applied and their derivation, etc.</i>	
	<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>	The QA/QC controls included one blank and one lithium standard for the batch of 40 samples
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Two Zenith staff members were present during sampling.
	<i>The use of twinned holes.</i>	No specific twin hole drilled but thirteen successive drilling campaigns by seven different companies analysed by at least six separate laboratories have confirmed the presence of bedrock gold mineralisation.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Field data were recorded on paper logs.
	<i>Discuss any adjustment to assay data.</i>	No adjustments were made.
Location of data points	<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>	Original drill collar locations based on compass and tape surveys or GPS depending on year of drilling. Selected drill hole collar locations have been verified in the field using GPS with +/- 3m accuracy. Some more recent drilling surveyed using a carrier-phase enhancement GPS (a85232).
	<i>Specification of the grid system used.</i>	The grid system used to compile data was MGA94 Zone 50
Location of data points – continued	<i>Quality and adequacy of topographic control.</i>	Topography control is +/- 5m.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	Samples of reconnaissance nature only and spacing of samples highly variable – refer to Figure 3.
	<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>	Further drilling would be required to estimate a Mineral Resource (JORC 2012)
	<i>Whether sample compositing has been applied.</i>	No composites
Orientation of data in relation to geological structure	<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>	Drill holes are generally inclined 60° to the east-northeast (original local grid east) which is adequate to test interpreted structure shallow dipping to the southwest. Exposure of pegmatite at surface is



		insufficient to determine its orientation, thickness or extent
	<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>	Unable to determine if samples are biased.
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Industry standards have been used.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Data reviewed by 2 x Zenith geologists.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<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>	M77/1246, M77/1250, M77/581, P77/4368, P77/4032 and P77/4102 are held by Highscore Pty Ltd and Richard Read & Associates Pty Ltd. The DHLGO is located on vacant crown land.
	<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>	A licence to operate a heap leach gold mine already exists for the mining leases listed above. Tenements are in good standing with no known impediment to future granting of additional mining leases. A mining lease application has recently been submitted over P77/4032.
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	A total of 1,777 holes for 35,063m has been drilled to date on the project area, with an average drill hole depth of 19.7m. The focus of historic exploration has been the near-surface gold rich laterite deposits currently being exploited by the DHLGO. Only 38 holes have been drilled to depths greater than 75m. CUR* RAB holes were drilled by Thames Mining NL in 1985 & 1986 (a18004 & 19521). CURC* RC holes were drilled by Thames Mining NL in 1986 (a19554). PR-* RAB holes were drilled by Gwalia Minerals NL in 1988 (a37134). dac* aircore holes were drilled by Aztec Mining Ltd in 1992 (a37803). P7SRC* RC holes were drilled by Gasgoyne Gold Mines in 1995-96 (a49187). DHRC* RC holes were drilled by Sons of Gwalia Ltd in 1996 (a52864). PSA* aircore holes were drilled by Sons of Gwalia Ltd in 1996-97 (a53374). PDR* RAB holes were drilled by Sons of Gwalia Ltd in 1998 (a58137 & a62999). LDRC* RC holes were drilled by Crusader Holdings NL in 2004



		(a68752). DLRC* RC holes were drilled by Southern Cross Goldfields Ltd in 2009-2010 (a85232 & a88742).
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	Archean mesothermal lode gold mineralisation hosted within banded iron formation (BIF) and mafic rock types. Lithium target sought is spodumene bearing lithium pegmatite. The lithium anomalous sample is rich in mica and not necessarily indicative of spodumene bearing pegmatite at surface but the high lithium content (0.39%Li ₂ O) along with anomalous Cs (106ppm), Rb (2270ppm) and Ta (35ppm) is encouraging as these levels commonly occur in evolved pegmatites capable of forming spodumene mineralisation.
Drill hole Information	<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"> <i>o easting and northing of the drill hole collar</i> <i>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> <i>o dip and azimuth of the hole</i> <i>o down hole length and interception depth</i> <i>o hole length.</i> <p><i>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.</i></p>	Refer to Figure 3 for location of samples
Data aggregation methods	<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>	A lower cut-off of 0.1% Li ₂ O was used for reporting of anomalous samples referred to in text of this report. All sample locations shown on Figure 3.
	<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>	No internal dilution.
Data aggregation methods - continued	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalents used.
Relationship between mineralisation	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	Drill holes are generally inclined 60° , the orientation, extent and thickness of pegmatite is not defined



widths and intercept lengths	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	Drill hole widths not reported
	<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>	Drill hole widths not reported
Diagrams	<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>	Refer to figures in body of text
Balanced reporting	<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>	Refer to figures in body of text
Other substantive exploration data	<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>	Sampling reported is initial, reconnaissance sampling of pegmatite bodies exposed at surface and in historic drilling. No other meaningful & material data to report at this stage.
Further work	<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>	Drilling is required to assess pegmatite orientation, thickness, extent mineralogy and lithium contents
	<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>	See figures in body of text.