



28<sup>th</sup> October 2019

## Significant Gold Drill Results Confirmed and Upgraded by 1m Resamples at Split Rocks - WA

- Initial RC drilling program returned significant bedrock gold mineralisation at Split Rocks, with gold mineralisation (>0.5 g/t Au) intersected in 12 of 16 wide spaced drill holes;
- Final 1m resample results confirm and upgrade the initial preliminary 4-metre composite sampling results, previously reported to ASX on 21 October 2019.
- New 1m-results from 3 separate drill areas over 2.6km of strike, include:
  - 10m @ 2.20 g/t Au from 60m including 6m @ 3.32 g/t Au in ZDRC022 (abandoned before ultimate target depth due to water),
  - 5m @ 3.23 g/t Au from 8m plus 4m @ 1.48 g/t Au from 44m and 1m @ 3.79 g/t Au from 124m in ZDRC020,
  - 5m @ 2.04 g/t Au from 34m incl 2m @ 3.94 g/t Au plus 2m @ 0.89 g/t Au from 75m in ZDRC021, and
  - 2m @ 2.56 g/t Au from 32m and 3m @ 0.57 g/t Au from 38m (hole abandoned in old underground workings) in ZDRC017.
- Although several holes were abandoned prematurely due to historic workings and water, the drill program has successfully confirmed the presence of significant bedrock gold mineralisation below the widespread gold in surface laterite. A follow-up drill program will be designed shortly; and
- Dual purpose program provided an initial wide spaced drill test of bedrock gold targets and lithium pegmatite bodies identified in the historical drilling in this highly prospective Forresteria lithium belt.

Zenith Minerals Limited ("Zenith" or "the Company") is pleased to report final 1m assay results from a 16-hole RC drilling program at its Split Rocks project in Western Australia. This initial program of approximately 2000m successfully confirmed bedrock gold targets beneath the currently operating Dulcie Heap Leach Gold Project (DHLGO) - held by a 3<sup>rd</sup> party. Zenith announced on the 21<sup>st</sup> March 2019 an option agreement with the owners of the DHLGO whereby the Company has an exclusive right to explore for bedrock gold mineralisation beneath the large laterite rich gold cap currently being mined and treated on leases located contiguous with Zenith's Split Rocks project licences, located in the Forresteria greenstone belt, Western Australia (Figure 1).

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 (Figure 2). 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 @ 2.20g/t Au**, presenting several high-priority target zones for follow-up by Zenith. Historic holes were drilled either vertical or at -60° east. Assuming moderate west dipping gold mineralisation then the 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.

Most historic drill holes have only focused on the near surface laterite rich gold zone with the average drill hole depth for the project area only 19.7m (1,777 historic shallow holes).

### Corporate Details

ASX: ZNC

Issued Shares (ZNC)	212.8M
Unlisted options	4.15M
Mkt. Cap. (\$0.06)	A\$13M
Cash (30 <sup>th</sup> Sept 19)	A\$0.64M
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.	13.4%
J P Morgan	6.8%
Nada Granich	5.4%
Miquilini	4.3%
Abingdon	4.1%

### Contact Details

Level 2/33 Ord Street  
West Perth, WA, 6005

Mail: PO Box 1426  
West Perth, WA, 6872  
T: +61 8 9226 1110

E: [info@zenithminerals.com.au](mailto:info@zenithminerals.com.au)

W: [www.zenithminerals.com.au](http://www.zenithminerals.com.au)





Gold mineralisation (>0.5 g/t Au) was successfully intersected in 12 of Zenith's initial 16 wide spaced drill holes, with final 1m resample results just received confirming and upgrading the initial preliminary 4-metre composite sampling results that were reported to the ASX on the 21<sup>st</sup> October 2019. Better results from the 1m re-samples include: **10m @ 2.20 g/t Au from 60m including 6m @ 3.32 g/t Au in ZDRC022 (abandoned before ultimate target depth due to water)**, **5m @ 3.23 g/t Au from 8m plus 4m @ 1.48 g/t Au from 44m and 1m @ 3.79 g/t Au from 124m in ZDRC020**, **5m @ 2.04 g/t Au from 34m including 2m @ 3.94 g/t Au plus 2m @ 0.89 g/t Au from 75m in ZDRC021**, and **2m @ 2.56 g/t Au from 32m and 3m @ 0.57 g/t Au from 38m (hole abandoned in old underground workings) in ZDRC017**.

The intersection in hole ZDRC022 is particularly noteworthy as this hole was a redrill of hole ZDRC017, which was abandoned at 32m depth in mineralisation having hit a cavity that is likely old underground workings. Additionally, drill holes ZDRC022 & ZDRC018 did not reach their respective ultimate target depths to test the BIF – shear intersection due to high water ingress.

In addition, surface sampling by Zenith returned high lithium values up to 0.39% Li<sub>2</sub>O returned from a small pegmatite outcropping beneath the surface laterite as announced to the ASX on the 13<sup>th</sup> May 2019. Two holes were drilled to provide an initial first pass assessment of this lithium target. A relatively thin pegmatite was intersected with assays for lithium and associated elements to come.

The area drill tested is located immediately east of Zenith's Dulcie lithium target, where drilling by Zenith has confirmed thick pegmatite bodies (up to 79m downhole widths) – containing broad anomalous levels of lithium throughout 79m @ 284ppm Li<sub>2</sub>O with a peak value of 1m @ 1072ppm Li<sub>2</sub>O.

Zenith has been systematically exploring its 100% owned Split Rocks project with landholdings of approximately 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% Li<sub>2</sub>O (KDR:ASX Release 19<sup>th</sup> Mar 2018).

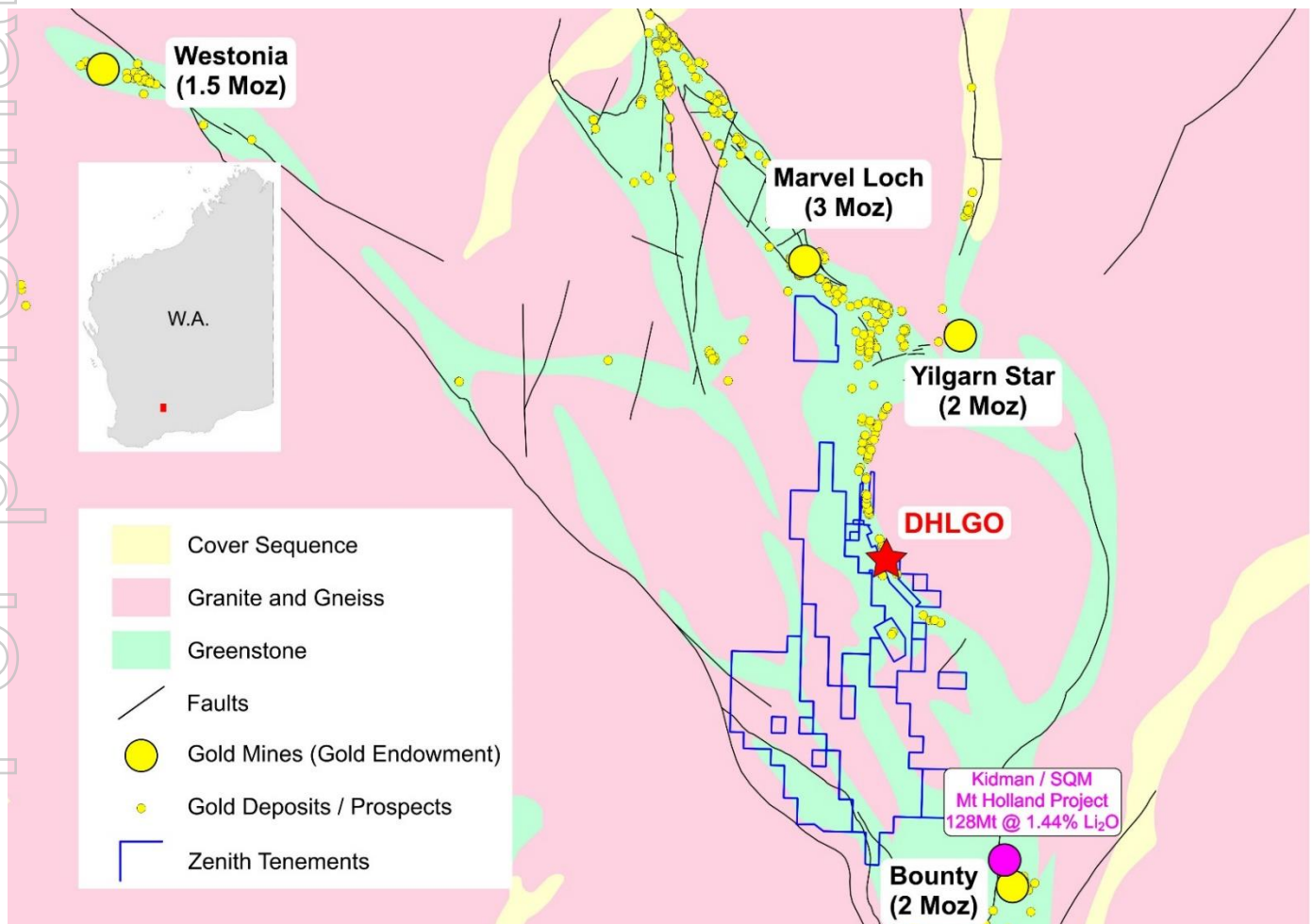


Figure 1- DHLGO Prospect and Split Rocks Project Location Map Showing Regional Gold Endowment

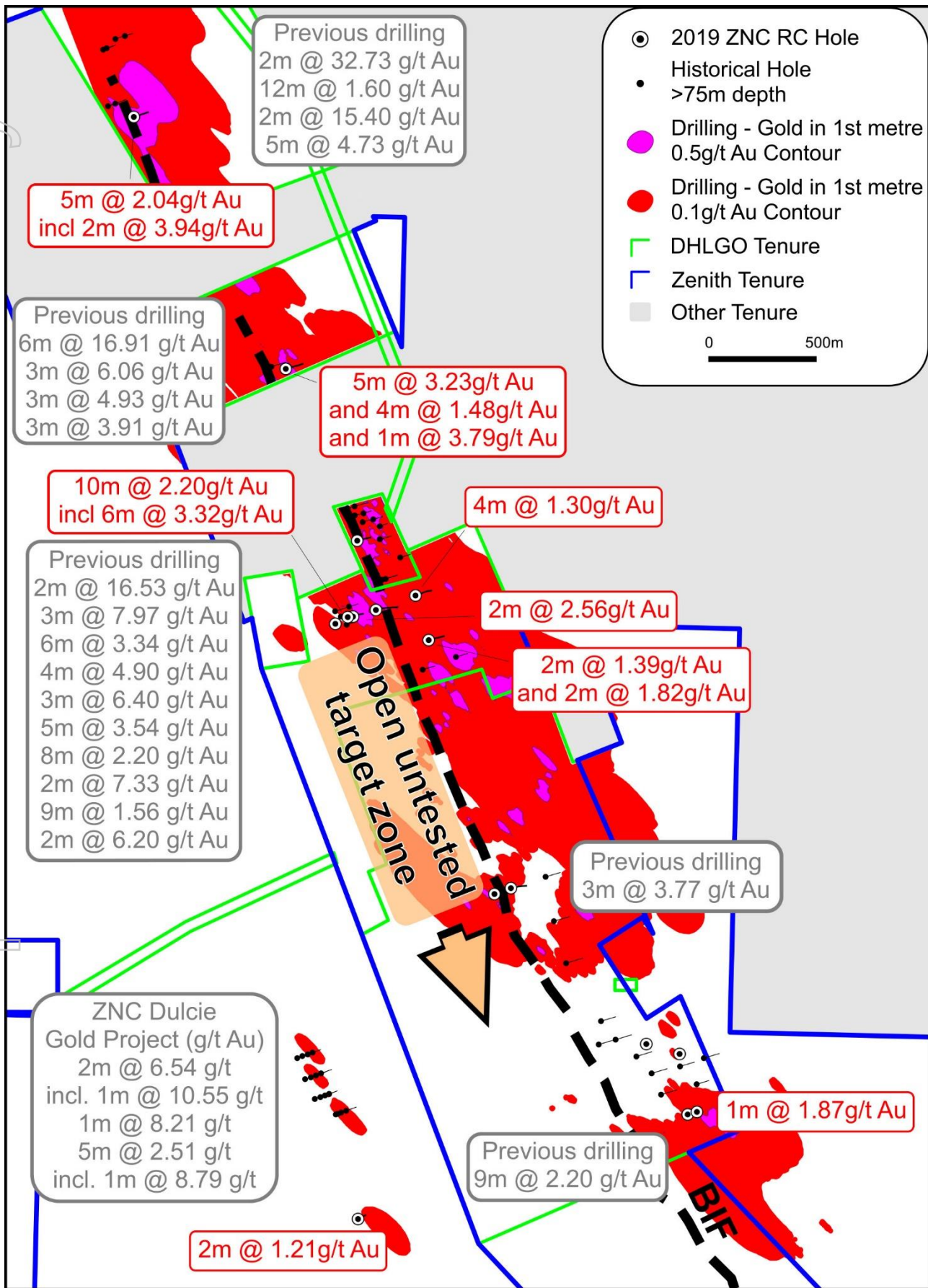


Figure 2- DHLGO Prospect -Plan Showing Significant Zenith Drill Results and Historic Gold Drill Intersections

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**Table 1: DHLGO Significant Gold Results (lower cut-off grade 0.5 g/t Au and maximum 3m internal dilution)**

HOLEID	Final 1m Re-samples Results				Preliminary 4m Composite Results (Now superseded by 1m results)
	from (m)	to (m)	length (m)	Au	
ZDRC007	59	60	1	0.84	
and	81	83	2	1.21	Previously 4m @ 1.05 (80-84m)
ZDRC008	38	39	1	0.57	
ZDRC009	30	31	1	0.55	
ZDRC010				NSV	
ZDRC011	21	22	1	1.87	Previously 10m @ 0.71 (20-30m) Incl 4m @ 1.22 (20-24m)
and	28	29	1	0.50	
ZDRC012				NSV	
ZDRC013	4	6	2	0.88	Previously 4m @ 0.53 (4-8m)
and	97	98	1	0.55	
and	156	157	1	0.61	Previously 4m @ 0.56 (156-160m)
ZDRC014	30	36	6	0.75	Previously 4m @ 0.97 (32-36m)
incl	30	32	2	0.79	
and incl	34	36	2	1.39	Previously 4m @ 0.97 (32-36m)
and	96	97	1	0.53	
and	106	108	2	1.82	
and	117	118	1	0.55	
and	122	124	2	0.96	
ZDRC015	88	89	1	0.51	Previously 4m @ 0.50 (88-92m)
and	108	112	4	1.30	Previously 4m @ 0.57 (108-112m)
ZDRC016	156	158	2	0.76	
and	193	194	1	0.59	
and	200	205	5	0.85	Previously 4m @ 0.74 (200-204m)
incl	202	203	1	1.98	
and	208	209	1	0.64	
ZDRC017	32	34	2	2.56	Previously 4m @ 1.27 (32-36m)
and	38	41	3	0.57	
ZDRC018	115	117	2	0.98	Previously 4m @ 0.80 (116-120m)
ZDRC019				NSV	Previously 4m @ 0.84 (76-80m)
ZDRC020	0	1	1	0.87	
and	8	13	5	3.23	Previously 8m @ 1.41 (8-16m)
and	22	23	1	0.53	
and	44	48	4	1.48	Previously 4m @ 1.66 (44-48m)
and	124	125	1	3.79	
and	169	170	1	0.71	
ZDRC021	34	39	5	2.04	Previously 8m @ 1.08 (32-40m)
incl	35	37	2	3.94	
and	75	77	2	0.89	Previously 8m @ 0.68 (72-80m)
ZDRC022	60	70	10	2.20	Previously 12m @ 1.97 (60-72m) incl 8m @ 2.72 (60-68m)
incl	60	66	6	3.32	
and	80	81	1	1.00	



**Table 2: Drill Collar Locations**

HOLEID	Easting	Northing	Dip (deg)	Azimuth (deg)	Depth (m)
ZDRC007	746069	6479744	-60	68	88
ZDRC008	747393	6480544	-90	0	60
ZDRC009	747545	6480498	-90	0	60
ZDRC010	747582	6480221	-72	72	48
ZDRC011	747625	6480233	-60	252	30
ZDRC012	746772	6481258	-60	73.5	150
ZDRC013	746697	6481231	-60	73.5	180
ZDRC014	746395	6482395	-60	71	150
ZDRC015	746335	6482599	-60	73.5	162
ZDRC016	746154	6482533	-60	73.5	210
ZDRC017	746049	6482502	-60	74	42
ZDRC018	745968	6482469	-60	73.5	150
ZDRC019	746068	6482850	-70	71	175
ZDRC020	745741	6483637	60	71	175
ZDRC021	745044	6484792	-60	71	150
ZDRC022	746025	6482500	-60	74	144

### **Option Agreement - Summary of Key Terms**

Zenith announced on the 21<sup>st</sup> March 2019 that it 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.

Zenith may at its sole election exercise the option through the payment of a 2% NSR royalty payable on any future bedrock gold production from the DHLGO project area.

DHLGO owners may at their election purchase any new laterite hosted surface gold mineralisation (gold above 6m below surface) defined by Zenith on E77/2388 or from within the DHLGO area for \$20.00/oz Au subject to a rise and fall formula linked to various cost and revenue factors including but not limited to gold, diesel and cyanide prices. Various other industry standard terms and conditions.

### **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.*

**28<sup>th</sup> October 2019**

### **For further information contact:**

#### **Zenith Minerals Limited**

Directors Michael Clifford or Mike Joyce

E: [mick@zenithminerals.com.au](mailto:mick@zenithminerals.com.au)

Phone +61 8 9226 1110

### **Media and Broker Enquiries**

Andrew Rowell

E: [arowell@canningspurple.com.au](mailto:arowell@canningspurple.com.au)

Phone +61 8 6314 6300



## 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>	4m composite and 1m reverse circulation drill samples were collected at depths ranging from 0 to 210m depth.  Samples were collected via a cyclone.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Samples are considered to be 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>	Reverse circulation drilling was used to obtain 4 m composite and 1m samples from which 2 kg was pulverised with analysis for gold by 50g fire assay with AAS finish
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>	Reverse circulation face sample bit
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Selected samples were weighed in the field and using an estimated bulk density calculated weights were compared against weighed samples to check against visual estimates of recovery.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Reverse circulation face sample bit ensured good recoveries through-out the drill program, holes that ended in high-water ingress were terminated to ensure adequate sample recovery.
	<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>	Acceptable overall sample recoveries through-out drill program no bias likely.



<p>Logging</p>	<p>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.</p>	<p>All drill samples were logged by a qualified geologist and descriptions recorded in a digital data base.</p>
	<p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</p>	<p>Qualitative logging, representative sample retained for each drill metre.</p>
	<p>The total length and percentage of the relevant intersections logged.</p>	<p>100%</p>
<p>Sub-sampling techniques and sample preparation</p>	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p>	<p>No core</p>
	<p>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</p>	<p>Rotary splitter for each 1m sample and 4m composite sample.</p>
	<p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p>	<p>Samples were analysed at Nagrom Laboratories in Perth, 2 kg was pulverised and a representative subsample was analysed for gold by 50g fire assay with AAS finish.</p>
	<p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p>	<p>~200g of sample was pulverised and a sub-sample was taken in the laboratory and analysed.</p>
<p>Sub-sampling techniques and sample preparation - continued</p>	<p>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.</p>	<p>Duplicate samples were taken in the field and analysed as part of the QA/QC process</p>
	<p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p>	<p>Each sample was approximately 2kg in weight which is appropriate to test for the grain size of material sampled.</p>
<p>Quality of assay data and laboratory tests</p>	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p>	<p>Samples were analysed at Nagrom Laboratories in Perth, 2 kg was pulverised and a representative subsample was analysed for gold by 50g fire assay with AAS finish.</p>
	<p>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.</p>	<p>Magnetic susceptibility readings were taken for each one metre sample.</p>
	<p>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.</p>	<p>Blanks, certified reference material for lithium, and duplicate samples were included in the analytical batches and indicate acceptable levels of accuracy and precision.</p>
<p>Verification of sampling and assaying</p>	<p>The verification of significant intersections by either independent or alternative company personnel.</p>	<p>At least 2 Zenith company personnel have been to the prospect area and observed samples and representative drill chip samples</p>



	<i>The use of twinned holes.</i>	Nil
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Field data were all recorded on paper logs and sample record books and then entered into a database
	<i>Discuss any adjustment to assay data.</i>	No adjustments were made.
<i>Location of data points</i>	<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>	Sample location is based on GPS coordinates +/-5m accuracy.
	<i>Specification of the grid system used.</i>	The grid system used to compile data was MGA94 Zone 50
<i>Location of data points – continued</i>	<i>Quality and adequacy of topographic control.</i>	Topography control is +/- 10m.
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	16 drill holes refer to Figures 2 & 3 and Table 1 in ASX Release 21 Oct 2019 for collar coordinates and drill spacing.
	<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>	There is insufficient information to calculate a mineral resource
	<i>Whether sample compositing has been applied.</i>	Simple weight average mathematical compositing applied
<i>Orientation of data in relation to geological structure</i>	<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>	All Zenith drilling is -60 degrees east and is close to representing true width thickness of the west dipping gold mineralisation, based on the current geological interpretation. Further drilling is required to confirm this 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 bias based on current interpretation.
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	All samples were taken by Zenith personnel on site and retained in a secure location until delivered directly to the laboratory by Zenith personnel.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	The sampling techniques and data have been reviewed by two company personnel who are qualified as Competent Persons





## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<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>	Zenith announced on the 21 <sup>st</sup> March 2019 that it 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.  Zenith may at its sole election exercise the option through the payment of a 2% NSR royalty payable on any future bedrock gold production from the DHLGO project area.  The project is located predominantly in 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>	Tenements are mining leases and prospecting leases, current heap leach operation is active, no known impediments to obtain a licence to operate.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Refer to ASX release 21 <sup>st</sup> March 2019.
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.
Drill hole information	<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>	Refer to Figures 1 & 2 and Tables 1 & 2 and descriptions in body of text of this ASX release and to Figures 1,2 & 3 and Table 1 and descriptions in body of text of ZNC ASX Release 21 Oct 2019
	<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>	
	<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>	
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>	Simple arithmetic weight averaging with minimum lower cut-off grade of 0.5g/t Au and maximum 3m internal dilution.
	<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</i>	As above and included in Tables



	<i>and some typical examples of such aggregations should be shown in detail.</i>	
<i>Data aggregation methods - continued</i>	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalents used.
<i>Relationship between mineralisation widths and intercept lengths</i>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	All Zenith drilling is angled -60 degrees east and based on current interpretation is thought to be representing true width thickness of the west dipping gold mineralised zones however further drilling is required to confirm this interpretation.
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	As above
	<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>	Mineralised intervals reported are down-hole lengths but are believed to be close to true thickness
<i>Diagrams</i>	<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 1 & 2 and Tables 1 & 2 and descriptions in body of text of this ASX release and to Figures 1,2 & 3 and Table 1 and descriptions in body of text of ZNC ASX Release 21 Oct 2019
<i>Balanced reporting</i>	<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 1 & 2 and Tables 1 & 2 and descriptions in body of text of this ASX release and to Figures 1,2 & 3 and Table 1 and descriptions in body of text of ZNC ASX Release 21 Oct 2019
<i>Other substantive exploration data</i>	<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>	No other meaningful or material exploration data to be reported at this stage.
<i>Further work</i>	<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>	Follow-up drilling to be planned.
	<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>	Follow-up drilling to be planned.