

14th February 2020

New Drill Targets Defined & Further Gold Drill Results – Split Rocks WA

- **Major targeting exercise on the north eastern portion of Zenith's 100% owned Split Rocks project outlines 12 high-quality gold drill targets that warrant testing;**
- **Results from recent program of RC drilling confirm further bedrock gold mineralisation beneath the Dulcie Heap Leach Gold Operation (DHLGO);**
- **Drilling confirms continuity of the gold mineralisation with results up to 1m @ 5.68g/t Au with associated quartz veining and alteration within all 3 new holes drilled at the Dulcie Target (refer to full results in Table 1). Gold mineralised structure tested by Zenith drilling only over 100m of strike to date remains open to the south. This extension is only 1 of 12 drill targets that warrant follow-up;**
- **Future drilling will now focus on these 12 high-quality gold targets within Zenith's extensive landholdings. Planning for a larger scale program of aircore drilling to test these targets is in progress.**

Zenith Minerals Limited ("Zenith" or "the Company") is pleased to report that a major targeting exercise has identified 12 high-quality gold drill targets that warrant testing at its 100% owned Split Rocks project in Western Australia. In addition, gold results have now been received from a follow-up drill program (3 RC drill holes). The drilling was designed to follow-up significant bedrock gold mineralisation identified in Zenith's maiden 16-hole RC drilling program completed in September - October 2019 that successfully confirmed bedrock gold targets beneath the currently operating Dulcie Heap Leach Gold Operation (DHLGO) - held by a 3rd party*.

* Zenith announced on the 21st March 2019 the execution of 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 Forrestania 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. 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).

New Drill Targets

A major targeting exercise by the Company's geological team over the past 6 months has culminated in identifying 12 high-quality gold drill targets in the north eastern sector of the Company's 100% owned Split Rocks project (Figure 2). The study involved integrating geological, geophysical and geochemical data sets from Zenith's exploration activities as well as historic exploration programs that were generally conducted more than 20 years ago

Corporate Details

ASX: ZNC

Issued Shares (ZNC)	243.4M
Unlisted options	5.6M
Mkt. Cap. (\$0.05)	A\$13M
Cash (31 st Dec 19)	A\$1.6M
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%
J P Morgan	6.1%
Nada Granich	5.5%
Miquilini	4.4%
Abingdon	4.2%

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

W: www.zenithminerals.com.au





when the gold price was significantly lower than today.

Zenith's targeting study has identified several, large, high-order geochemical anomalies (defined by historic auger sampling max value 300ppb Au and a mix of Zenith & historic shallow RAB & aircore drilling) that have never been or were poorly drill tested. The anomalies are in several cases coincident with major fault structures and geological contacts that contain significant gold mineralisation along strike. These 8 targets require first pass aircore drill testing, whilst a further 4 targets (12 in total) require follow-up RC drilling to test poorly explored open-ended gold zones such as 2m @ 6.5 g/t Au (eoh).

Planning for a larger scale program of aircore drilling to test these targets is in progress.

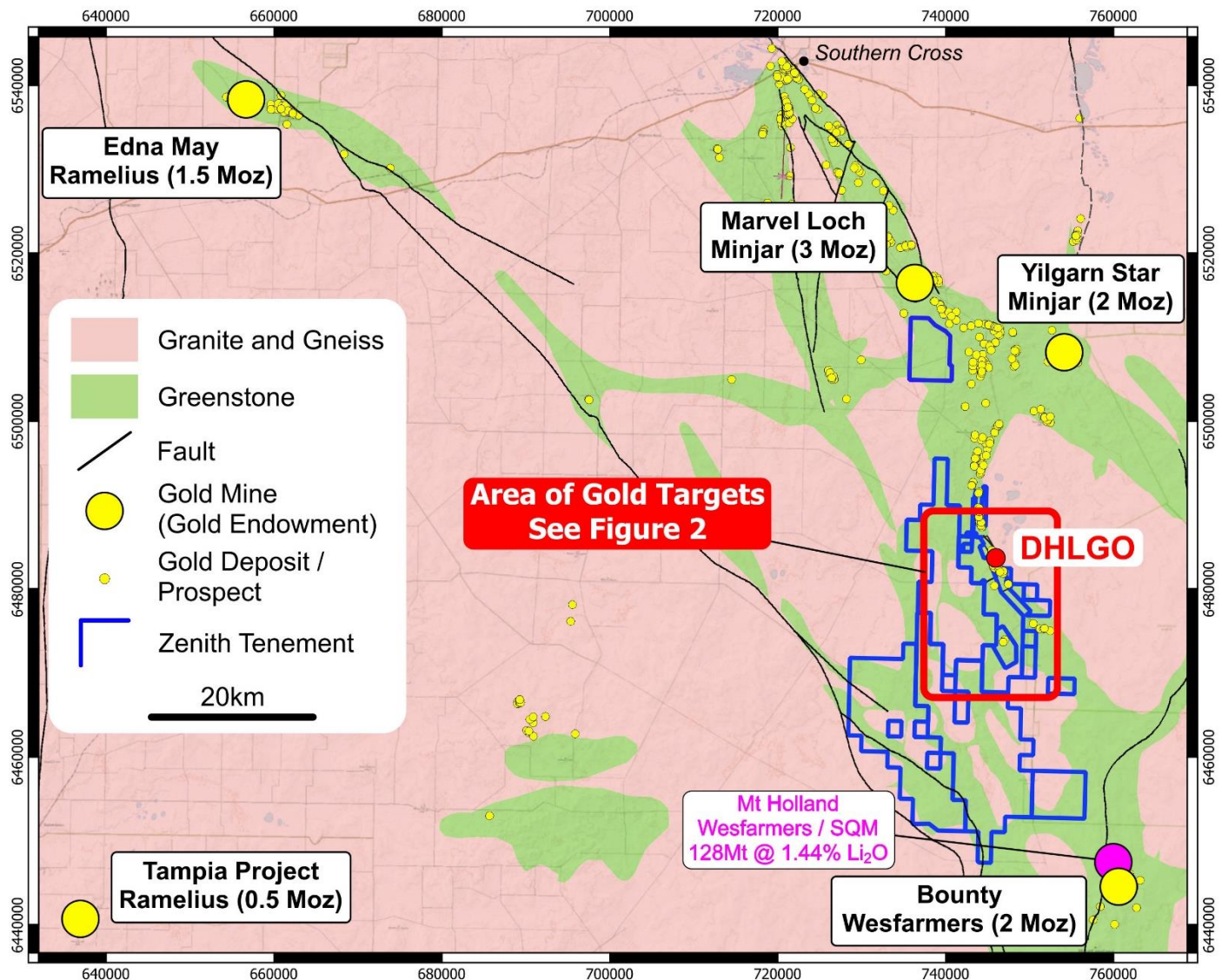


Figure 1- Split Rocks Project Location Map Showing Zenith tenements, DHLGO Prospect and Regional Gold Endowment

Dulcie Drilling Results

As previously reported gold mineralisation (>0.5 g/t Au) was successfully intersected in 12 of Zenith's initial 16 wide spaced drill holes (ASX release 28th October 2019 and 24th January 2020). Significant results from that initial campaign included:

- ZDRC022: 11m @ 2.08 g/t Au from 59m depth, incl. 6m @ 3.32 g/t Au and
- ZDRC017: 4m @ 2.05 g/t Au from 30 m depth,
- ZDRC020: 5m @ 3.23 g/t Au from 8m depth,
- ZDRC021: 5m @ 2.04 g/t Au from 34m depth incl. 2m @ 3.94 g/t Au,

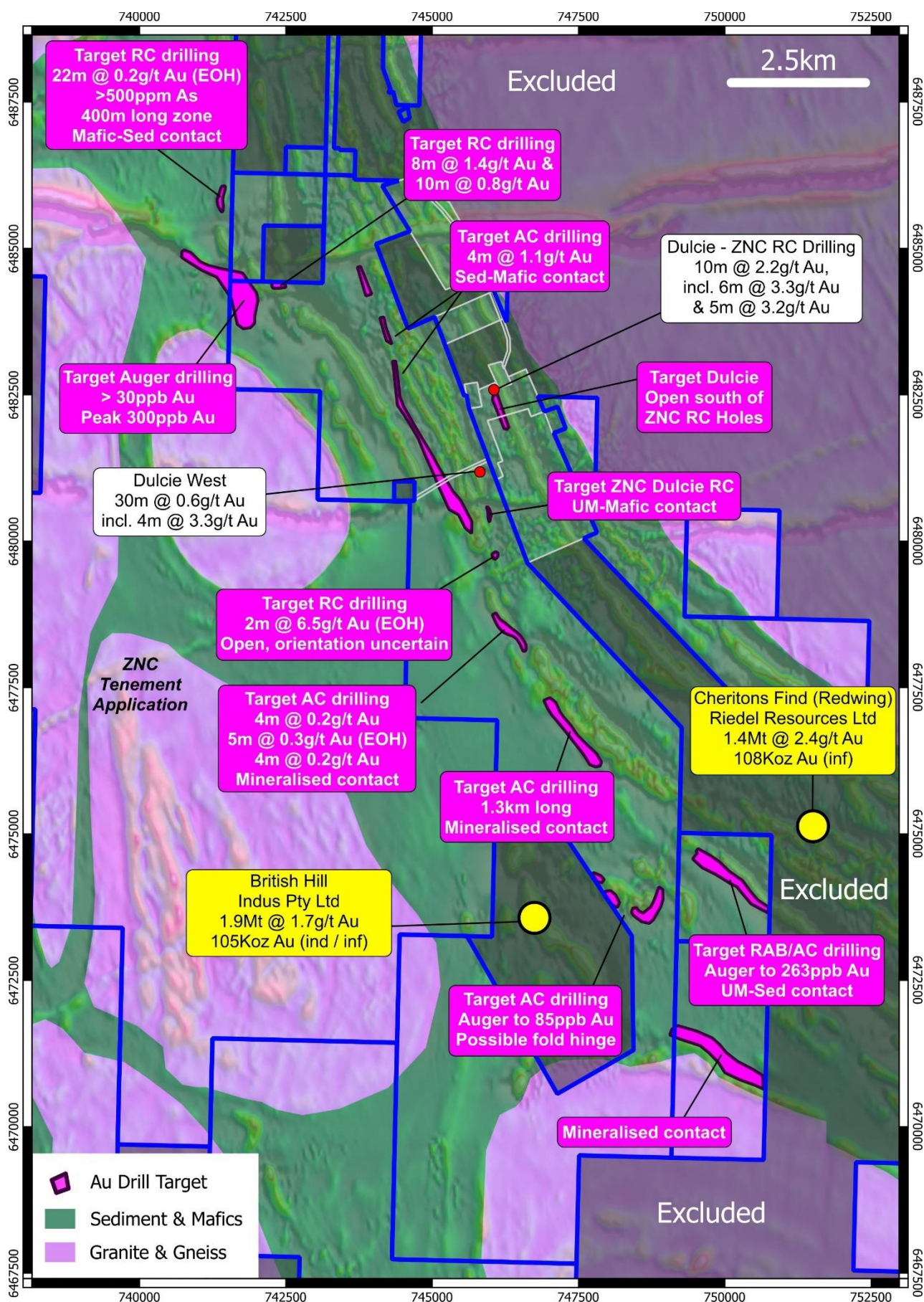


Figure 2: Split Rocks Gold Targets for Future Drill Testing



New drill results demonstrate that the gold mineralised structure remains open along strike, particularly to the south (Figure 2 & 3):

- **ZDRC023: 1m @ 2.02 g/t Au from 36 m depth and 1m @ 1.95 g/t Au from 103m;**
- **ZDRC024: 1m @ 5.68 g/t Au from 99m depth; and**
- **ZDRC025: 1m @ 2.86 g/t Au from 82m depth.**

Gold mineralisation intersected to date and reported here-in is interpreted to be close to true width intersections. Mineralisation is hosted within quartz veined and sericite altered mafic volcanic rocks and remains open and untested along strike with evidence of multiple stacked lodes.

Drilling so far has only tested 100m of strike potential of the gold mineralised structure. No further work is currently warranted chasing the existing gold shoot. Future drilling will now focus on the along strike potential particularly to the south of the DHLGO gold zone as well as the numerous high-quality gold targets within Zenith's extensive, 100% owned Split Rocks landholdings (Figure 3).

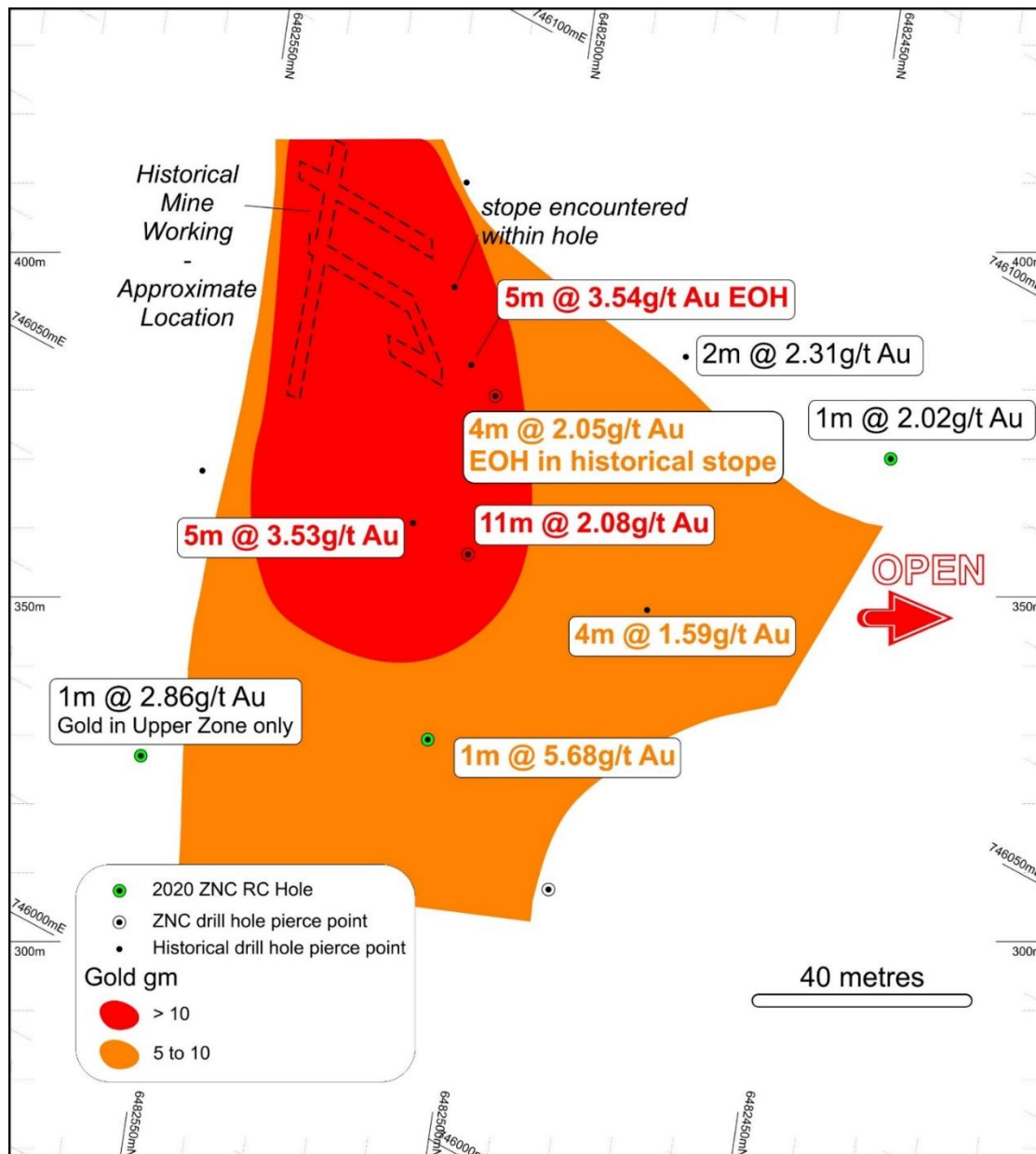


Figure 3: DHLGO – Lower Zone - Longitudinal Projection of Gold Metal Content (gm = gram * metres)



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

	Final 1m Re-samples Results				
HOLEID	from (m)	to (m)	length (m)	Au	
ZDRC007	59	60	1	0.84	Previously reported
and	81	83	2	1.21	
ZDRC008	38	39	1	0.57	
ZDRC009	30	31	1	0.55	
ZDRC010				NSV	
ZDRC011	21	22	1	1.87	
and	28	29	1	0.50	
ZDRC012				NSV	
ZDRC013	4	6	2	0.88	
and	97	98	1	0.55	
and	156	157	1	0.61	
ZDRC014	30	36	6	0.75	
incl	30	32	2	0.79	
and incl	34	36	2	1.39	
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	
and	108	112	4	1.30	
ZDRC016	156	158	2	0.76	
and	193	194	1	0.59	
and	200	205	5	0.85	
incl	202	203	1	1.98	
and	208	209	1	0.64	
ZDRC017	30	34	4	2.05	
and	38	41	3	0.57	
ZDRC018	115	117	2	0.98	
ZDRC019				NSV	
ZDRC020	0	1	1	0.87	
and	8	13	5	3.23	
and	22	23	1	0.53	
and	44	48	4	1.48	
and	124	125	1	3.79	
and	169	170	1	0.71	
ZDRC021	34	39	5	2.04	
incl	35	37	2	3.94	
and	75	77	2	0.89	
ZDRC022	59	70	11	2.08	
incl	60	66	6	3.32	
and	80	81	1	1.00	



HOLEID	Easting	Northing	Dip (deg)	Azimuth (deg)	Hole Depth (m)	From (m)	To (m)	length (m)	Gold (g/t)	
ZDRC023	746054	6482434	-60	74	138	36	37	1m	2.02	New Results
					and	103	104	1m	1.95	
ZDRC024	745986	6482503	-60	74	138	54	55	1m	0.71	
					and	82	83	1m	0.62	
					and	99	100	1m	5.68	
ZDRC025	745957	6482540	-60	74	140	82	83	1m	2.86	

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% Li₂O (KDR:ASX Release 19th Mar 2018).

Option Agreement - Summary of Key Terms

Zenith announced on the 21st 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.

14th February 2020

Authorised for release by the Zenith Minerals Limited Board of Directors

For further information contact:

Zenith Minerals Limited
 Directors Michael Clifford or Mike Joyce
 E: mick@zenithminerals.com.au
 Phone +61 8 9226 1110

Media and Broker Enquiries
 Andrew Rowell
 E: 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.



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>	All drill samples were logged by a qualified geologist and descriptions recorded in a digital data base.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Qualitative logging, representative sample retained for each drill metre.
	<i>The total length and percentage of the relevant intersections logged.</i>	100%
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>	Rotary splitter for each 1m sample and 4m composite sample.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	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.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	~200g of sample was pulverised and a sub-sample was taken in the laboratory and analysed.
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>	Duplicate samples were taken in the field and analysed as part of the QA/QC process
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Each sample was approximately 2kg in weight which is appropriate to test for the grain size of material sampled.
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 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.
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	Magnetic susceptibility readings were taken for each one metre sample.
	<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>	Blanks, certified reference material for lithium, and duplicate samples were included in the analytical batches and indicate acceptable levels of accuracy and precision.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	At least 2 Zenith company personnel have been to the prospect area and observed samples and representative drill chip samples



	<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>	19 drill holes in to total refer to Figure 2 and Table 1 of this ASX release and to previous ASX Releases 21 Oct 2019 and 24 th Jan 2020.
	<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	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.	Zenith announced on the 21 st 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.
	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.	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	Acknowledgment and appraisal of exploration by other parties.	Refer to ASX release 21 st March 2019.
Geology	Deposit type, geological setting and style of mineralisation.	Archean mesothermal lode gold mineralisation hosted within banded iron formation (BIF) and mafic rock types.
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:	Refer to Figures 1 & 2 and Table 1 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
	o easting and northing of the drill hole collar	
	o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	o dip and azimuth of the hole	
	o down hole length and interception depth	
	o hole length.	
Data aggregation methods	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.	
	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.	Simple arithmetic weight averaging with minimum lower cut-off grade of 0.5g/t Au and maximum 3m internal dilution.
	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	As above and included in Tables



	<i>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 Table 1 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 Table 1 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. Refer to Figure 3.