

17th June 2020

Significant Drill Results from Maiden Drill Program at Red Mountain Gold Project, QLD

Corporate Details

ASX: ZNC

Issued Shares (ZNC)	243.4M
Unlisted options	5.6M
Mkt. Cap. (\$0.08)	A\$20M
Cash (31 st Mar 19)	A\$1.28M
Debt	Nil

Directors

Mike Joyce:
Non-Exec Chairman

Michael Clifford:
Managing Director

Stan Macdonald:
Non-Exec Director

Julian Goldsworthy:
Non-Exec Director

Graham Riley:
Non-Exec Director

Peter Bird:
Non-Exec Director

Major Shareholders

Directors	~16%
HSBC Custody, Nom.	12%
J P Morgan	6.1%
Miquilini	4.4%
Abingdon	4.2%

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- ◆ Maiden 10 RC hole drill program completed at the 100% owned Red Mountain project has returned highly encouraging near surface high-grade gold results, including:
 - 14m @ 5.5 g/t Au incl 6m @ 12.3 g/t Au from surface
 - 5m @ 3.5 g/t Au incl 2m @ 8.0 g/t Au from 64 m depth
 - 12m @ 1.0 g/t Au from 42m depth incl 4m @ 2.1 g/t Au from 50 m depth, within broader mineralised interval of 56m @ 0.4 g/t Au from 6m depth.
- ◆ Drilling to date tests only ~250m of strike of a 1200m long high-order gold anomaly with surface soil values including: 2.2g/t Au, 1.6 g/t Au, 0.56g/t Au and 0.33 g/t Au and gold in rocks to 2.0 g/t Au & 114 g/t Ag. A substantial follow-up drill campaign is planned to commence in July.
- ◆ Gold mineralisation at Red Mountain is considered by Zenith to be analogous to known large scale commercial gold deposits in Queensland. Evidence includes a zoned system with geochemistry like that documented at third party owned Queensland gold mines such as Mt Wright and the nearby Mount Rawdon Gold Mine.
- ◆ The maiden drill program at Red Mountain is part of Zenith's strategy to focus on its 100% owned Australian projects. Initial field work has also been completed at the nearby Flanagans gold project in Queensland and planning is well underway for drilling to commence in early July at the Split Rocks project in Western Australia.
- ◆ The maiden drill program was designed to test several different geological units and IP geophysical responses. Key points from this drill program include:
 - Gold mineralisation occurs in sericite altered, pyritic and quartz veined granodiorite, and dolerite host rocks on the western margin of the newly recognised felsic volcanic breccia complex.
 - Gold mineralisation locally occurs coincident with IP geophysical chargeability highs providing Zenith with a tool to guide future follow-up drilling. IP chargeability anomaly extends for ~1500m around the volcanic breccia pipe margin.
- ◆ Multi-element analyses from drill samples are awaited and are expected to assist in refining more drill targets at Red Mountain.

Zenith Minerals Limited ("Zenith" or "the Company") is very pleased to advise that significant high-grade, near surface gold mineralisation has been intersected in the maiden drill program at the Company's 100% owned Red Mountain gold project in Queensland (Figure 1). The Red Mountain project is situated within ~100km of operating gold mines at Cracow and Mount Rawdon.

Zenith's Managing Director, Michael Clifford, commented "We are delighted to announce that high-grade near surface gold mineralisation has been intersected in the maiden drill program at Red Mountain. The target generated by Zenith's exploration team is panning out to have the hallmarks of a significant mineralised system and we are very excited about the project's upside".

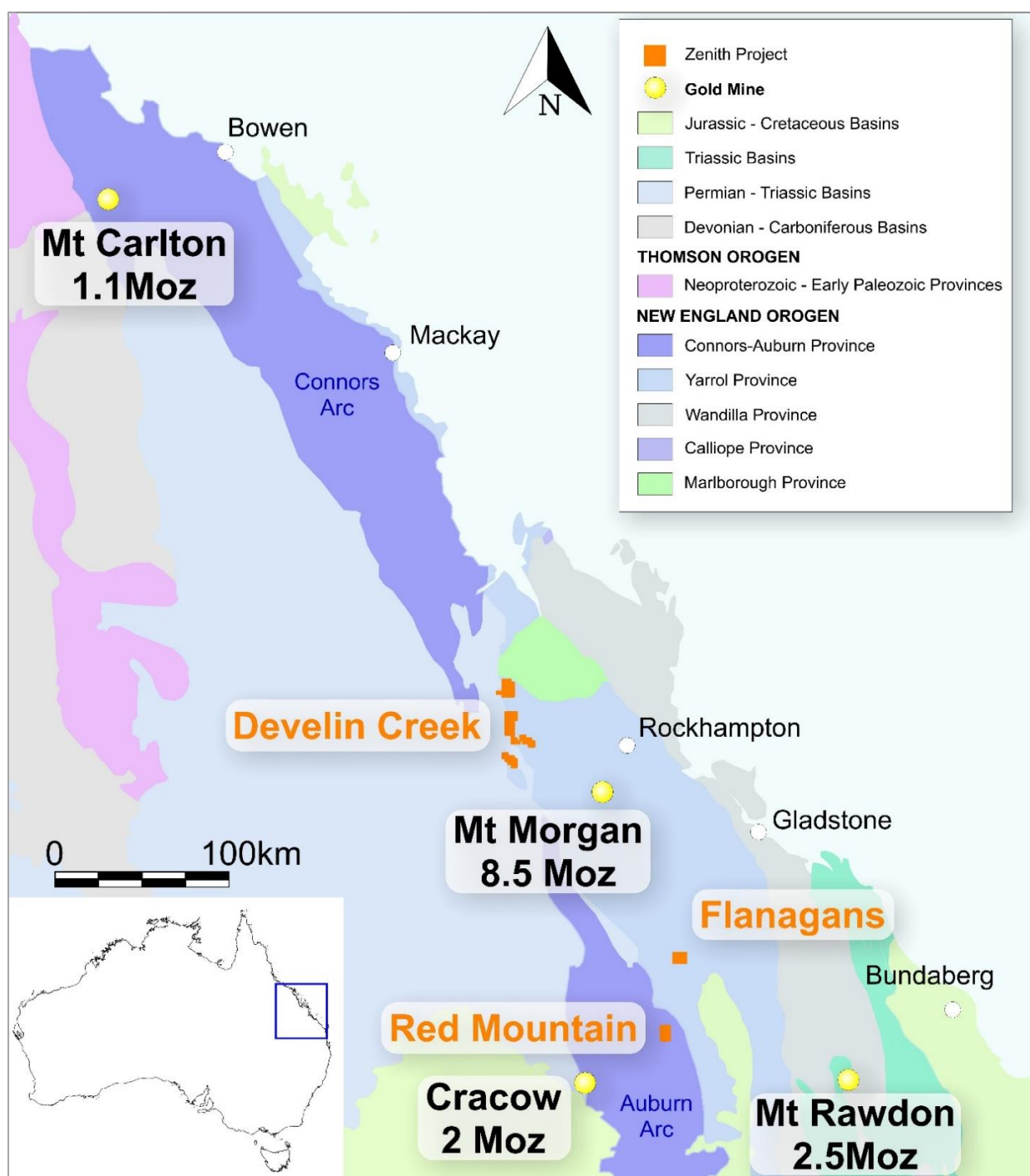


Figure 1: Red Mountain Project – Location Map

Zenith's maiden 10 RC hole drill program (780 metres) at the 100% owned Red Mountain project has returned near surface high-grade gold results (Figures 2 – 6 and Tables 1 and 2), including:

- 14m @ 5.5 g/t Au incl 6m @ 12.3 g/t Au from surface;
- 5m @ 3.5 g/t Au incl 2m @ 8.0 g/t Au from 64 m depth;
- 12m @ 1.0 g/t Au from 42m depth incl 4m @ 2.1 g/t Au from 50 m depth, within broader mineralised interval of 56m @ 0.4 g/t Au from 6m depth.



The intersections are down hole lengths as true widths are not known at this stage. The orientation of the mineralisation is unclear at this stage and therefore true widths are uncertain, however drill holes were designed and orientated to intersect geological contacts, mapped veins and structures and IP geophysical chargeability anomalies normal to strike and therefore are more likely than not equal to true widths, although further drilling will be required to confirm this.

This initial drill program is considered a significant success with highly encouraging gold results returned from only a portion of a larger target area. Drilling to date tests only 250m of strike of a 1200m long high-order gold anomaly with surface soil values including: 2.2g/t Au, 1.6 g/t Au, 0.56g/t Au and 0.33 g/t Au and gold in rocks to 2.0 g/t Au & 114 g/t Ag;

The maiden drill program was designed to test several different geological units and IP geophysical responses. Key points from this drill program include:

- Gold mineralisation occurs in sericite altered, pyritic and quartz veined granodiorite, and dolerite host rocks on the western margin of the newly recognised felsic volcanic breccia complex.
- Gold mineralisation locally occurs coincident with IP geophysical chargeability highs providing Zenith with a tool to guide future follow-up drilling. The IP chargeability anomaly extends for approximately 1500m around the volcanic breccia pipe margin and to date has only been tested by 2 drill holes.
- Mineralisation at Red Mountain is considered by Zenith to be analogous to known gold deposits in Queensland. Evidence includes a zoned system with geochemistry like that documented at third party owned Queensland gold deposits such as Mt Wright and the nearby Mount Rawdon Gold Mine.

Multi-element analyses from drill samples are awaited. The copper mineral bornite was visually identified in several drill chips, and since rock and soil samples contained highly elevated silver, these results, and assays for other pathfinder elements are expected to assist in refining drill targets at Red Mountain. Planning for a substantial follow-up drill program is in progress.

Table 1: Red Mountain Drill Collars

Hole_ID	Easting_GDA	Northing_GDA	RL	Depth	Azimuth	Dip
ZRMRC001	269197	7232594	300	79	270	-60
ZRMRC002	269195	7232546	300	75	270	-60
ZRMRC003	269160	7232542	300	75	90	-60
ZRMRC004	269153	7232600	300	75	90	-60
ZRMRC005	269175	7232751	300	73	90	-60
ZRMRC006	269231	7232750	300	97	90	-60
ZRMRC007	269225	7232825	300	73	270	-60
ZRMRC008	269230	7232555	300	79	90	-60
ZRMRC009	269394	7232273	300	64	130	-60
ZRMRC010	269394	7232273	300	90	90	-60

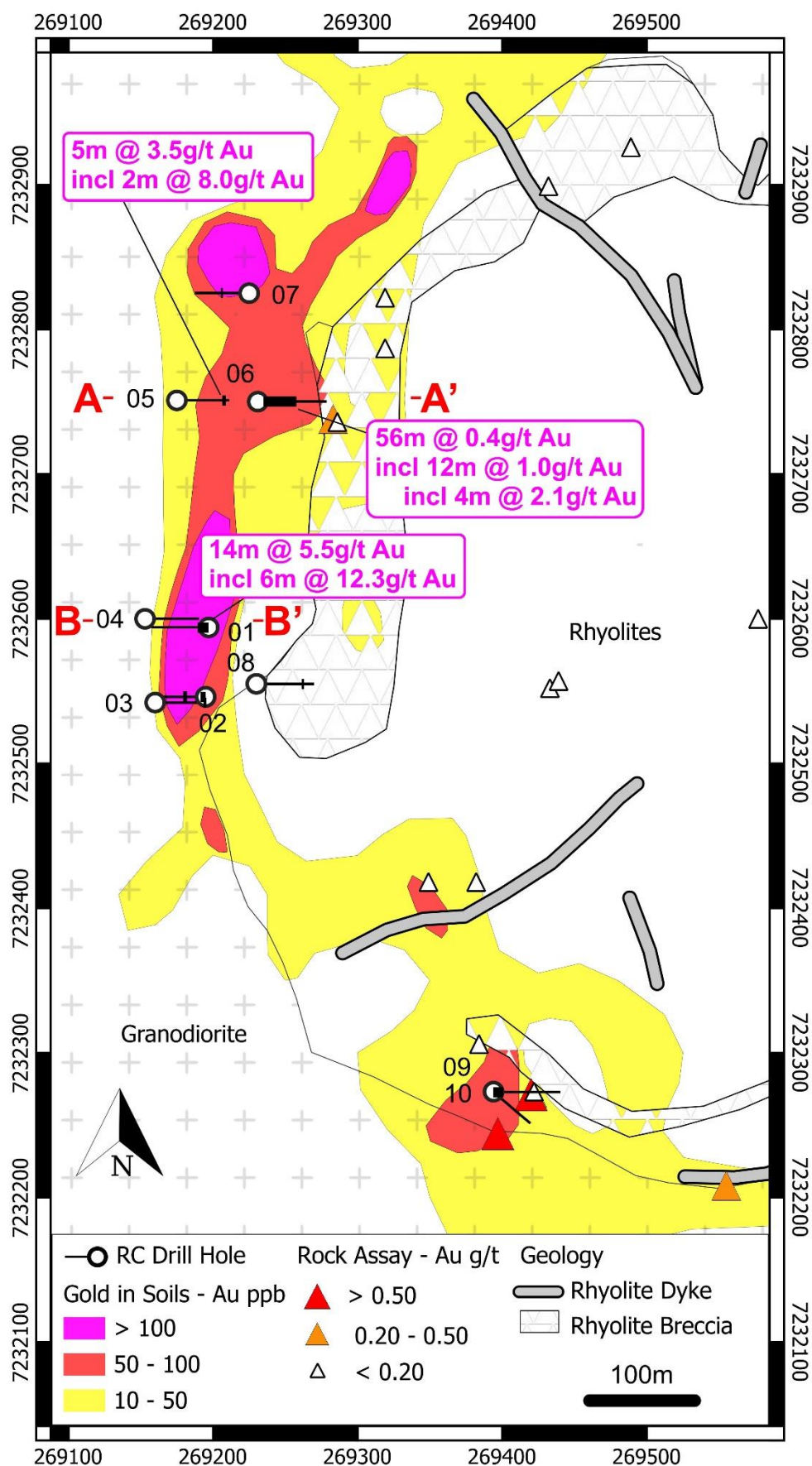


Figure 2: Red Mountain Plan with Significant Drill Results

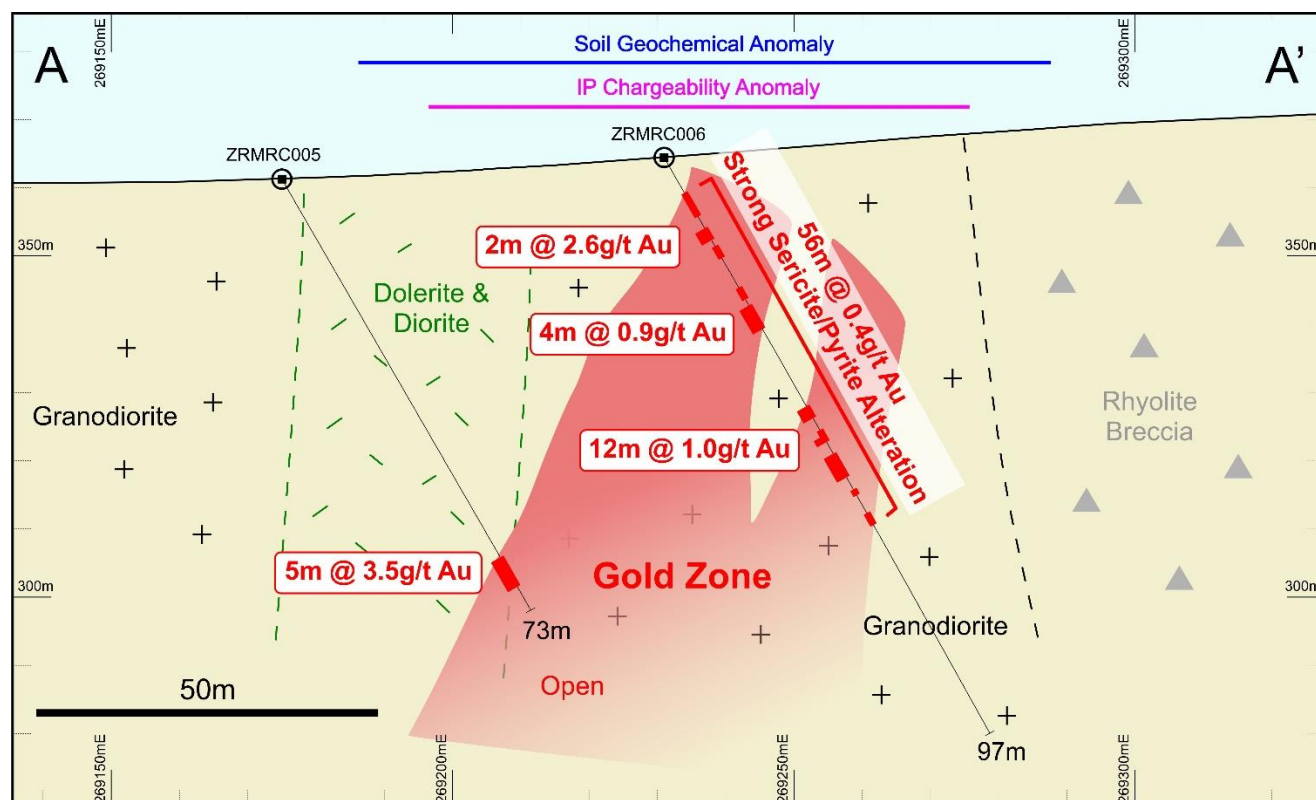


Figure 3: Red Mountain Cross Section (Holes ZRMRC005 & 006) with Significant Drill Results

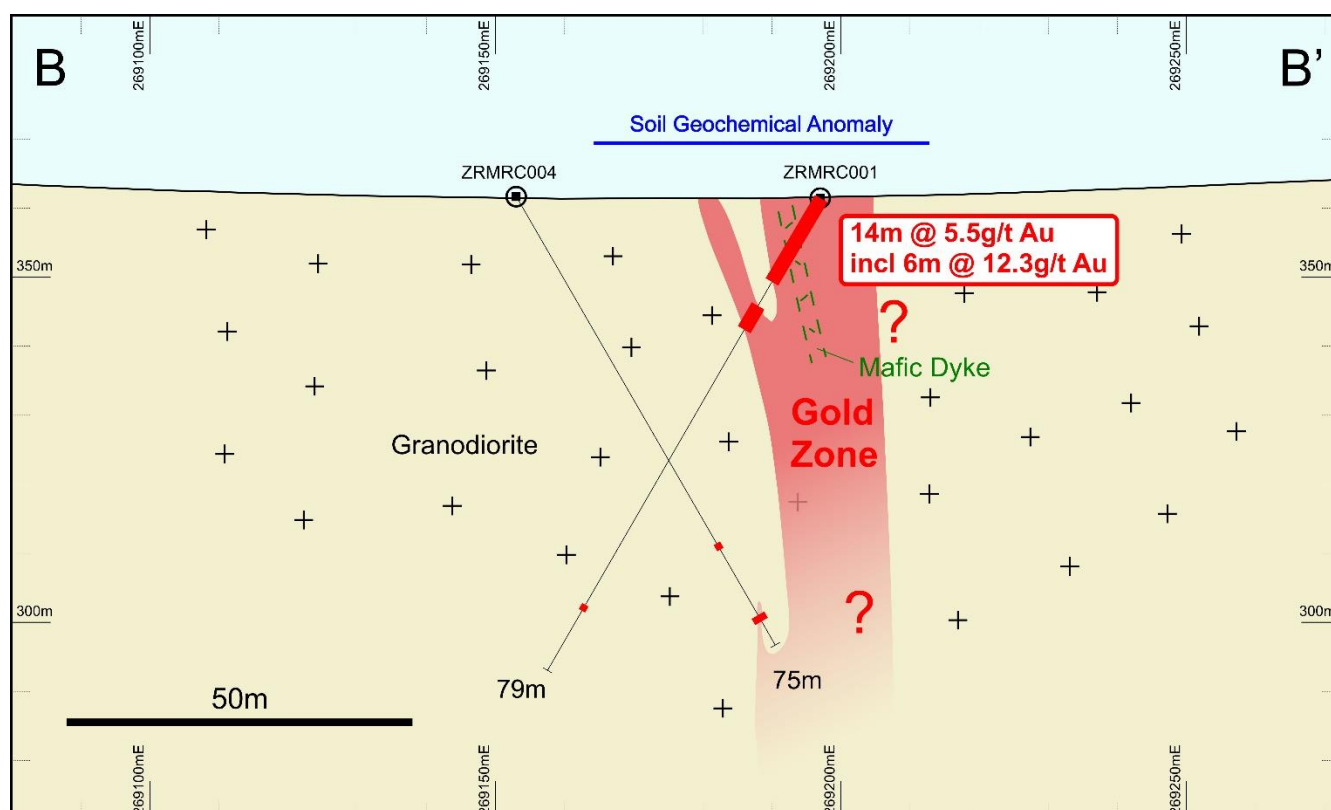


Figure 4: Red Mountain Cross Section (Holes ZRMRC001 & 004) with Significant Drill Results

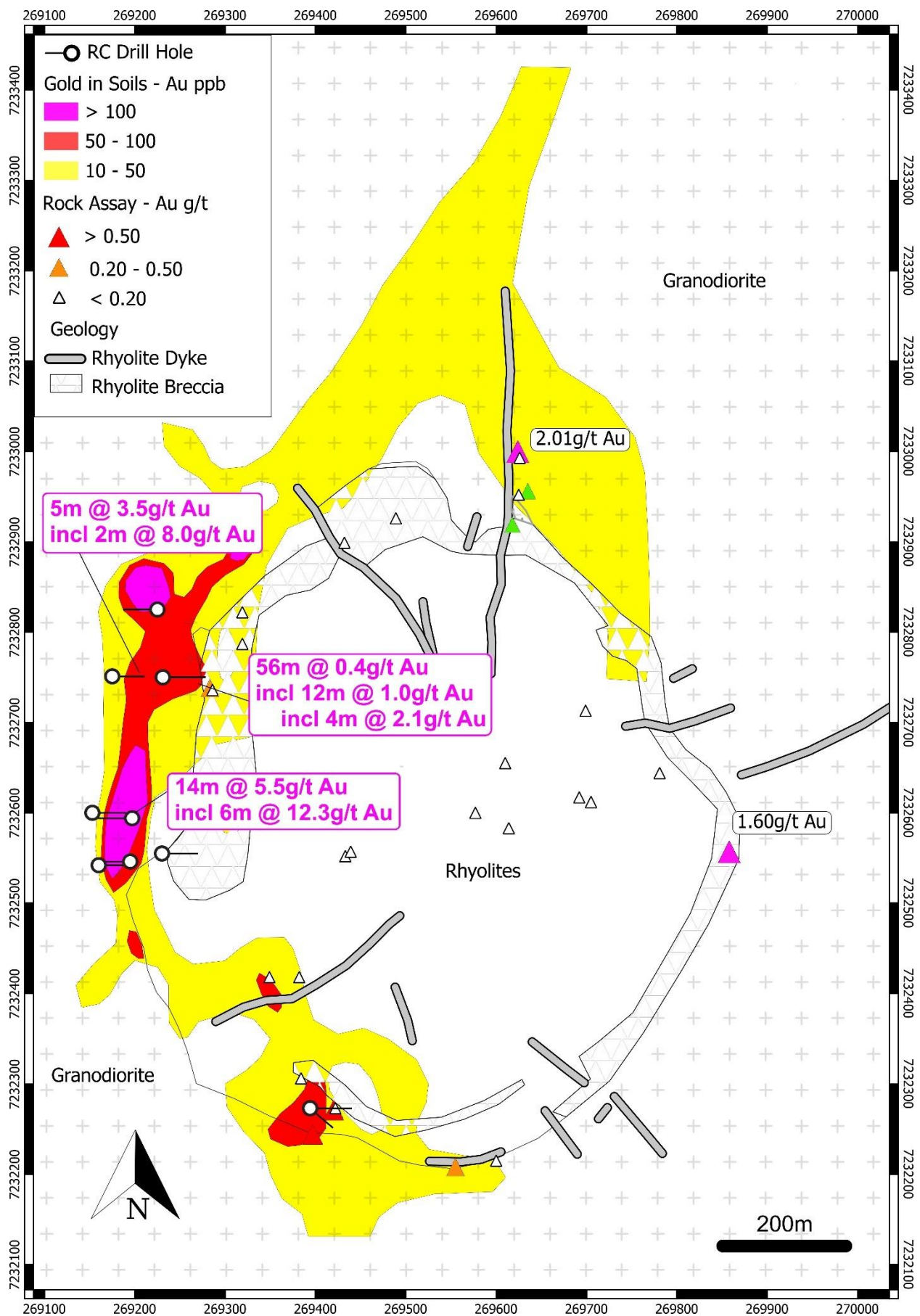


Figure 5: Red Mountain Plan Showing Geochemical Anomaly Target Zone

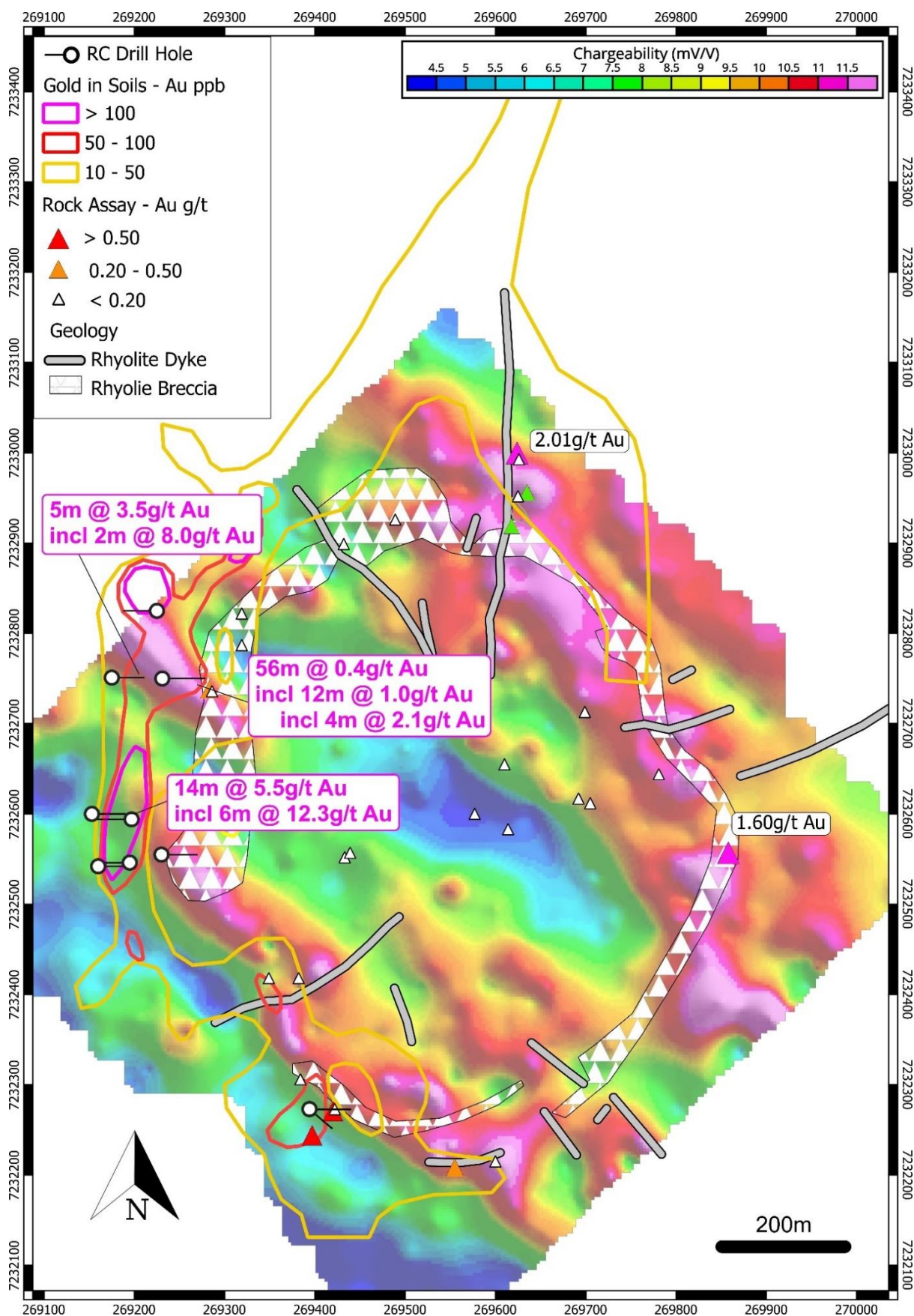


Figure 6: Red Mountain Plan Showing IP Geophysical Target Red & Pink Zones
(Underlying image of gradient array IP chargeability anomalies red zones >10Mv/v)

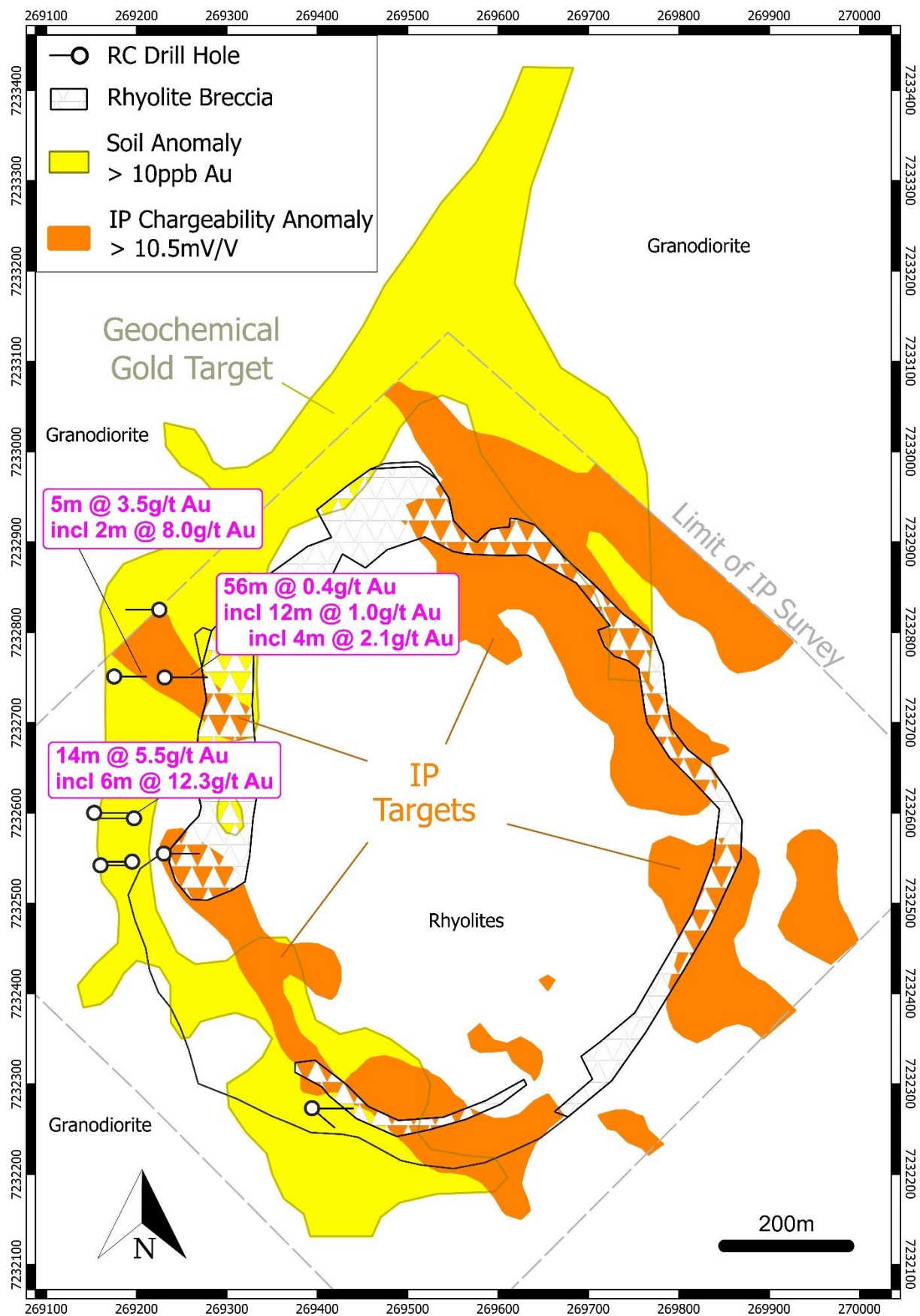


Figure 7: Red Mountain Plan Showing Drill Targets for Follow-up Testing



Table 2: Red Mountain Significant Drill Results- Summary

Hole_ID	From (m)	To (m)	Interval (m)	Grade (g/t Au)	Comments
ZRMRC001	0	14	14	5.5	2m and 4m composite samples, 1m re-split results awaited
incl	0	6	6	12.3	
ZRMRC002	0	6	6	0.6	2m and 4m composite samples 1m re-split results awaited
and	26	30	4	0.7	4m composite sample, 1m re-split results awaited
ZRMRC003	67	68	1	0.8	
ZRMRC004				NSR	
ZRMRC005	64	69	5	3.5	
incl	64	66	2	8.0	
ZRMRC006	12	14	2	2.6	
and	25	29	4	0.9	4m composite sample, 1m re-split results awaited
and	42	54	12	1.0	
incl	42	44	2	1.2	
and incl	47	48	1	0.6	
and incl	50	54	4	2.1	
incl	50	51	1	6.0	
and incl	53	54	1	2.0	
ZRMRC007	36	37	1	0.8	
ZRMRC008	64	65	1	0.4	
ZRMRC009				NSR	
ZRMRC010				NSR	

1m samples unless specified. High-grade intersections are length weighted average grades with minimum cut -off grade of 1.0g/t Au and no internal dilution, whilst lower grade intersections are length weighted average grades with minimum cut-off grade of 0.4g/t Au and maximum internal dilution of 3m.

Background on Red Mountain

A zone of surface gold and silver mineralisation was been discovered by Zenith at Red Mountain in a previously unrecognised felsic volcanic breccia complex comprising flow banded rhyolite radial dykes, rhyolite ring breccia as well as granite and gabbro breccias, first identified by Zenith's field team during initial sampling which returned rock chip results up to 0.69 g/t gold and 114g/t silver.

Further field work by Zenith to follow-up these results returned highly encouraging gold and silver rock chip sample results up to 2.01 g/t gold and 52.5 g/t silver about 800 metres north of the best results from initial sampling. In addition, systematic geochemical sampling outlined a large 2km by 1.5km zoned soil anomaly with peak soil gold result of 2.2 g/t Au, refer to ZNC ASX release 24 Sep 2019.

A geophysical survey completed at Red Mountain defined multiple medium strength chargeability (10mv/v) anomalies, likely to be caused by the presence of sub-surface disseminated sulphides or clay alteration zones, coincident with the margins of the felsic volcanic breccia complex as announced to the ASX on 25 Oct 2019.

An infill geochemical program completed to define the limits of the high-grade western gold zone outlined a robust drill target. High-grade soil results from the follow-up sampling up to 1300ppb Au (1.3 g/t Au) supported previous results of 2210 ppb Au (2.2g/t Au) 1600ppb Au, 550ppb Au and 320ppb Au define a 450m x 50m



>100ppb Au gold soil anomaly, with the southern end of the anomaly grading >500ppb (0.5 g/t Au) over 150m of strike (ZNC ASX release 25th Nov 2019).

The high-grade surface gold results form a core to a much larger zone of gold anomalism (>10ppb Au) extending over an area 1200m x 150m on the western margin of the Red Mountain felsic volcanic breccia system (Figure 8).

The Red Mountain project is located between two gold mines Cracow (Evolution Mining Limited (ASX:EVN) divesting to Aeris Resources Limited (ASX:AUR)) and Mount Rawdon (ASX:EVN) (Figure 1). Cracow is a low sulphidation epithermal gold deposit whilst Mount Rawdon is described in the literature as an epizonal intrusion-related gold deposit (Howard, 2015).

The Red Mountain host rocks, alteration and geochemical association are interpreted as having similarities to that at the nearby operating Mt Rawdon gold mine based on comparison to research published by Evolution Mining geologist Howard (2015) (Figure 9). The similarity is encouraging and provides Zenith with a geological model to assist in targeting gold and silver mineralisation at Red Mountain.

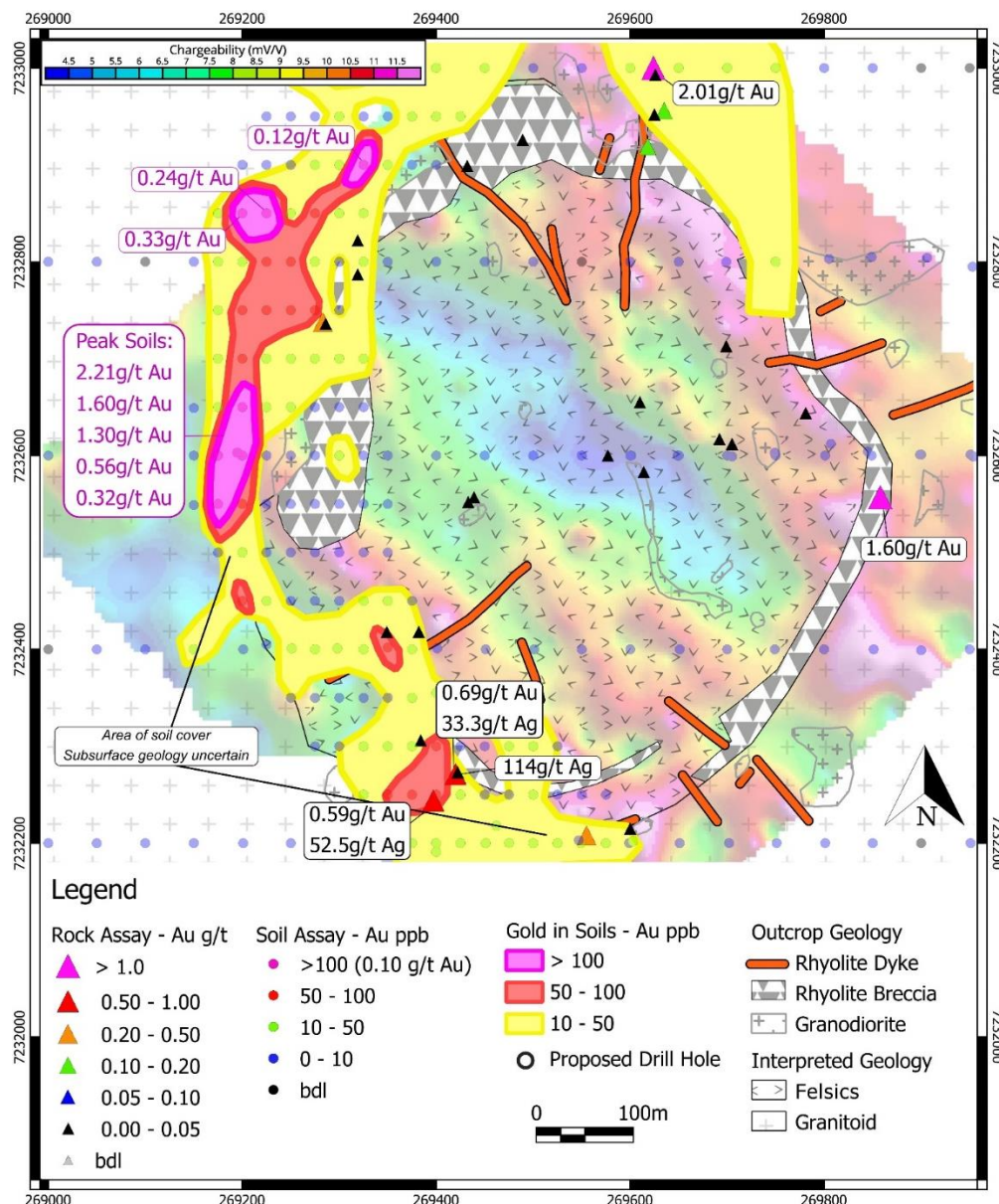


Figure 8: Red Mountain Project Gold Target with Geochemical Results

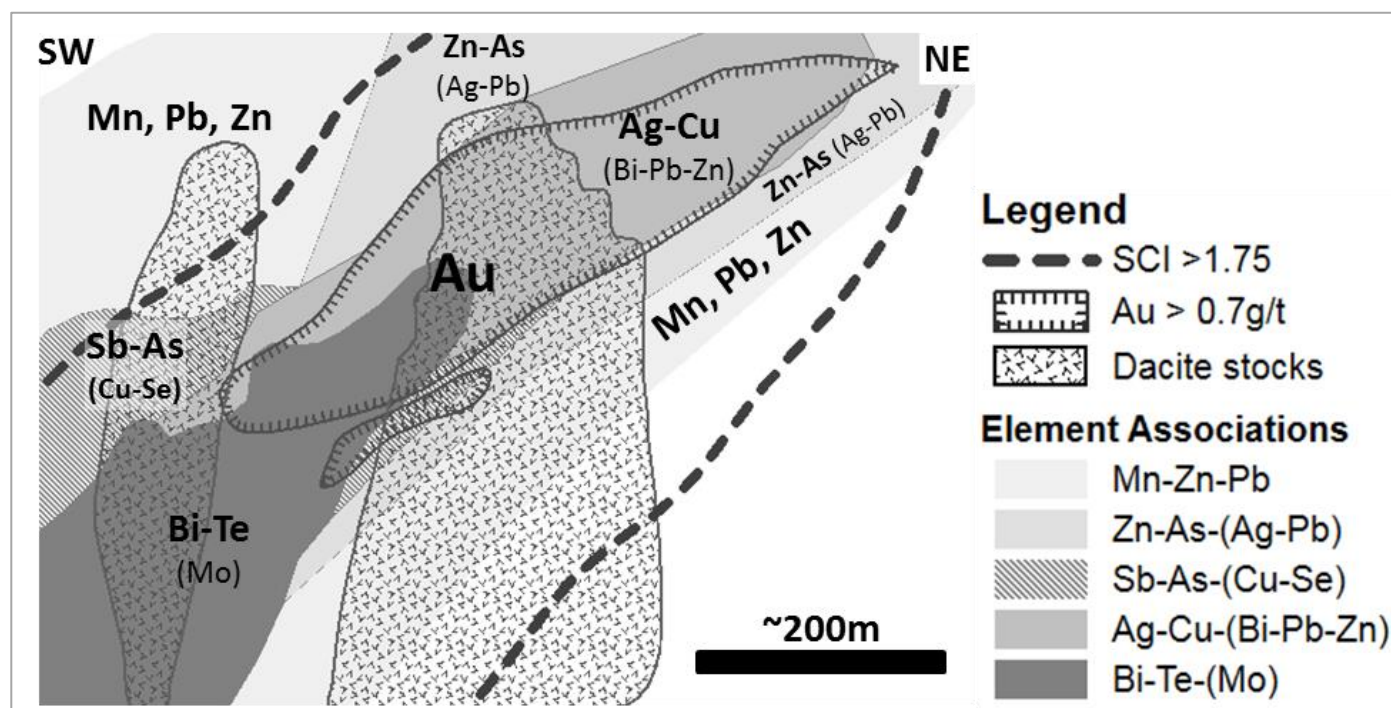


Figure 9: Simplified cross section through the Mount Rawdon gold deposit looking NE showing the zonation of pathfinder element associations (from Howard, 2015)

References

Howard., N. 2015: Geochemistry and Hydrothermal Alteration at the Mount Rawdon Gold Deposit. In Mineral Exploration of the Tasmanides www.smedg.org.au

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.

Authorised for release by the Zenith Minerals Limited Board of Directors – 17th June 2020

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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>	10 reverse circulation drill holes totalling 780m.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	1m drill samples collected via a cyclone were split through riffle splitter. Routine sampling on 4m composites via spear sampling of the 1m riffle split samples. Selected 1m intervals were assayed as 1m samples based on visual logging of alteration and sulphide content.
	<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 1 m to 4m samples from which 2 to 3 kg was pulverised to produce a 30 g charge for fire assay
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
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Drill chips were sieved and logged by a qualified geologist on site, data recorded in field on paper logs and transferred to digital database
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Drilling produced generally dry samples with excellent recoveries, all 1m samples were riffle split on site and selected interval were 4m composite sampled using a spear from the 1m riffle splits to ensure a representative sample was collected for assay
	<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>	No indications of sample bias based on results to date



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>	Drill chips were sieved and logged by a qualified geologist on site. No reporting of resources.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Drill chips logging is qualitative. Representative chip samples collected and stored in 20 compartment plastic chip trays and photographed.
	<i>The total length and percentage of the relevant intersections logged.</i>	All intervals logged and sampled
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>	Samples riffle split
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Samples were analysed at ALS Laboratories in Brisbane, the samples were crushed, pulverised and assayed by gold using fire assay
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	~2 to 3kg of drill sample was crushed and 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>	1m resampling of selected mineralised 2 and 4m composites to be completed
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Each sample was 2kg to 3kg in weight which is appropriate to test for the grain size of material.
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>	The samples were crushed and assayed for gold using fire assay, which is considered a near total technique
	<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>	No geophysical tools used this sampling program
	<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>	Certified reference material and blanks was included in each sample batch and appropriate levels of precision and accuracy
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Company personnel have observed the assayed samples
	<i>The use of twinned holes.</i>	No twinning



	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Field data were all recorded in field note books 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 56
<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>	Drill holes shown in Figures2 to 7 and Table 2
	<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>	The data alone will not be used to estimate mineral resource or ore reserve
	<i>Whether sample compositing has been applied.</i>	Results are reported as length weighted average composites at a minimum cut-off grade of xx g/t Au (refer to Table 1)
<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>	Orientation of mineralisation is unsure at this stage and therefore true widths are uncertain, however drill holes were designed and orientated to intersect geological contacts, mapped veins and structures and IP geophysical chargeability anomalies normal to strike and therefore are more likely than not to represent near true widths
	<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>	As above
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Samples were kept in numbered and secured bags until delivered to the laboratory
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Sampling techniques are consistent with industry standards



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>	The Red Mountain Project is located within the 100% Zenith owned exploration permit for minerals EPM 26384. The project is located within private grazing properties.
	<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>	All tenements are 100% held by Zenith and are in good standing with no known impediment to future granting of a mining lease.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	South Pine Mines Pty Ltd undertook regional scale reconnaissance rock chip sampling and a systematic stream sediment sampling program focused around the Rossmore silver occurrence from 1981 to 1982. Several companies held the ground in the following decades focusing on the porphyry copper / epithermal potential of the area with Archer Resources Limited the only company to have reported on ground exploration activity on the area of interest being reported herewith by Zenith. Anomalous silver and gold in soils was reported by Archer Resources Limited which has subsequently been confirmed by Zenith.
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	Based on the initial site visit and preliminary evidence the geological setting and geochemical association at Red Mountain is indicative of an epizonal intrusion related gold deposit like the Mt Rawdon gold mine.
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 Table 1 in text
	<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>	No high-grade cutting
	<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</i>	High-grade intersections are length weighted average grades with minimum cut -off grade of 1.0g/t Au and no internal dilution, whilst lower grade intersections are length weighted average grades



	<i>such aggregations should be shown in detail.</i>	with minimum cut-off grade of 0.4g/t Au and maximum internal dilution of 3m.
<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>	Refer below
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	The intersections are down hole lengths as, true widths are not known at this stage. The orientation of mineralisation is unsure at this stage and therefore true widths are uncertain, however drill holes were designed and orientated to intersect geological contacts, mapped veins and structures and IP geophysical chargeability anomalies normal to strike and therefore are more likely than not are close to true widths, although further drilling will be required to confirm this.
	<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>	As above
<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 descriptions and diagrams in body of text
<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 descriptions and diagrams in body of text
<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 drill planning in progress. Multi-element assays in progress, multi-spectral analysis of drill chips 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>	Refer to figures in body of report.