

## QUARTERLY ACTIVITY REPORT FOR THE PERIOD ENDING 30<sup>th</sup> SEPTEMBER 2021

### Our Vision

Zenith has a vision to build a gold and base metals business with a team of proven project finders.

Focus is on 100% owned Zenith projects, whilst partners progress multiple additional opportunities using partner funds.

### **Corporate Details as at 30<sup>th</sup> Sep 2021**

Zenith Minerals Limited (ASX:ZNC)  
ABN:96 119 397 938

Issued Shares	323.1M
Unlisted options	15.7M
Mkt. Cap. (\$0.23)	A\$74.3M
Cash (30 <sup>th</sup> Sep 21)	A\$6.2M
Equities (30 <sup>th</sup> Sep 21)	A\$8.3M
Debt	Nil

### **Directors**

Peter Bird	Exec Chairman
Michael Clifford	CEO
Stan Macdonald	Non-Exec Director
Julian Goldsworthy	Non-Exec Director
Graham Riley	Non-Exec Director
Nic Ong	Co Sec
Nick Bishop	CFO

### **Major Shareholders**

Directors	~6.3%
HSBC Custody. Nom.	9.8%
Citicorp Nom.	7.6%
BNP Paribas Nom.	6.5%
Granich	3.8%

### **Contact Us**

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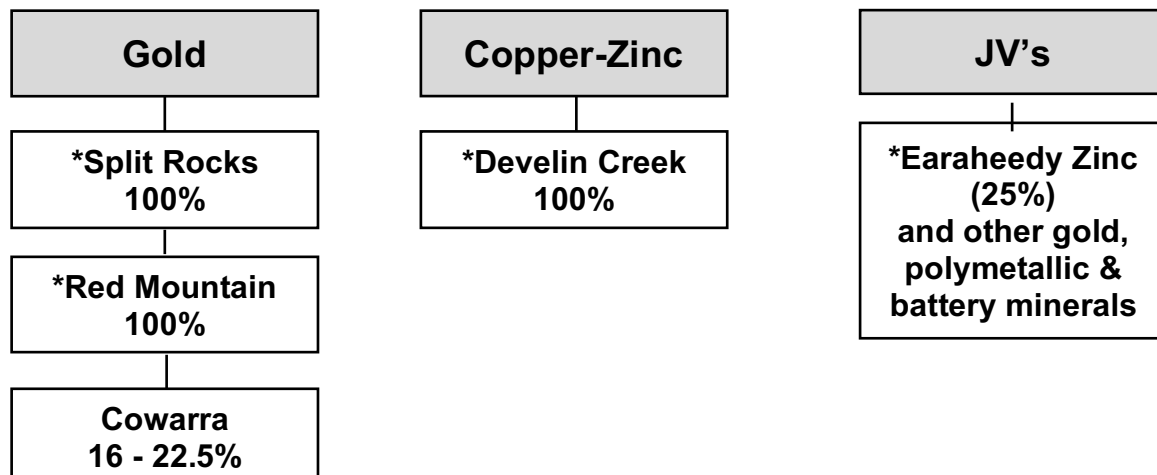
### **MULTIPLE DRILL RIGS OPERATING ACROSS GOLD & BASE METALS PROJECTS**

- Further high-grade zinc-lead drill results in larger mineralised footprint at Earaheedy Joint Venture (EJV) in Western Australia. Chinook Prospect increased in size by 44%, now extending over 4.1km x 1.9km.
- Results received for 9,000m of drilling, of 35,000m drilled to date at Chinook with a further 5,000m of drilling yet to be completed in the current program (ASX Release 18-Oct-21). Further high-grade Zn-Pb drill results, include:
  - 15m @ 4.02% Zn+Pb and 4.86g/t Ag
  - 11m @ 3.92% Zn+Pb and 4.23g/t Ag
  - 8m @ 5.20% Zn+Pb and 9.57 g/t Ag
- The EJV comprises Zenith and Rumble Resources Limited (ASX:RTR). Zenith holds a 25% free carried interest in the EJV until completion of a Bankable Feasibility Study. Both partners hold a pre-emptive right.
- Develin Creek Copper-Zinc Project Queensland (ZNC 100%) - Massive sulphides intersected at the Snook Prospect - the first of eight targets to be drill tested in the current program (ASX Release 7-Oct-21). Massive copper-zinc sulphides intersected in 2 holes over 2m to 3m wide intervals, copper and zinc confirmed in field with pXRF - laboratory assays are awaited.
- Split Rocks Gold Project Western Australia (ZNC 100%) - Major infill and extensional aircore (AC) drill program (approx. 150 additional holes) is now underway at Dulcie Far North, Dulcie North, Scott's Grey & Estrella prospects. Recent AC drilling (100-holes) confirmed and upgraded several targets with assay results (ASX Release 30-Sep-21) including:
  - Dulcie Far North: 4m @ 10.2 g/t Au (eoh) and 9m @ 1.8 g/t Au
  - Scott's Grey: 12m @ 1.7 g/t Au (eoh)
- Red Mountain Gold Project Queensland (ZNC 100%). Strong discrete copper-gold target in core of the breccia pipe to be drill tested (ASX Release 16-Aug-21).

### **CORPORATE**

- Cash balance of \$6.2M at the end of the quarter. Liquid investments held by Zenith worth approximately \$8.3M include 3.8 million ASX:RTR & 43.9 million LON:BHL shares.

*In line with its vision Zenith Minerals has an extensive project portfolio of gold and base metals broadly subdivided as follows:*



*\*Depicts active drilling and exploration during the quarter*

## CORE PROJECTS - HIGHLIGHTS

### *Develin Creek Copper-Zinc QLD (ZNC 100%)*

**Multi-rig drill campaign underway testing 8 targets and existing resource area**



**Massive Copper-Zinc Sulphide Drill Chips Snook Prospect (ZSRC017 47 – 48m)**

Massive sulphides have been intersected at the Snook Prospect - the first of eight targets to be drill tested. This is part of the current multi-rig drill program underway at the Develin Creek copper-zinc massive sulphide project in Queensland (ASX Release 7-Oct-21).

- Near surface, massive and semi-massive sulphides intersected in 4 drill holes, ranging in zones up to 22m thick (pyrite dominant).
- Massive copper-zinc sulphides intersected in 2 holes over 2m to 3m wide intervals, copper and zinc confirmed in field with pXRF - laboratory assays are awaited.
- Mineralisation remains open with the target sequence extending along strike for multiple kilometres north to south.
- The Company plans to undertake ground based electromagnetic surveying (EM) to assist with ongoing targeting.
- Drilling confirms a fertile VMS system is present at Snook. These systems tend to occur in clusters as has already been identified to the north at Sulphide City.

The current program of approximately 40 holes that will also assess the Sulphide City resource area where recent drilling returned strong massive copper-zinc sulphides in a twin hole program including (ASX Release 5-Jul-21). 34m @ 3.5% Cu+Zn, incl 10m @ 6.0% Cu+Zn, and 29m @ 3.5% Cu+Zn, incl 12.3m @ 6.7% Cu+Zn.

Metallurgical testwork is in progress on massive sulphide rich drill core taken during the recent diamond drilling program.

## Red Mountain Gold – QLD (ZNC 100%)

### High-Grade Western Gold Zone

Ongoing exploration activity at the 100% owned Red Mountain gold project located in Queensland (ASX Release 19-May-21) continues to provide highly encouraging high-grade gold drill assay results. Drilling to date has outlined a discrete sub-vertical high-grade gold zone (Western Zone) to a vertical depth of 200m, with the zone remaining open at depth.

### Copper-gold target in core of breccia

In addition to the high-grade gold zone on the northwest margin of the breccia pipe, recent modelling of geophysical data and integration of geological information defines a new drill target in the centre of the breccia system (ASX Release 16-Aug-21). A discrete strong magnetic core zone lies below the surface outcrop where rock chip results returned strongly anomalous assays including 0.3% Cu, associated with visible copper minerals. In addition, a strong induced polarisation (IP) chargeability anomaly encircles the breccia pipe and forms a 1200m long halo to the magnetic core (Figure 1) confirming potential for gold mineralisation to occur right around the circumference of the breccia pipe system.

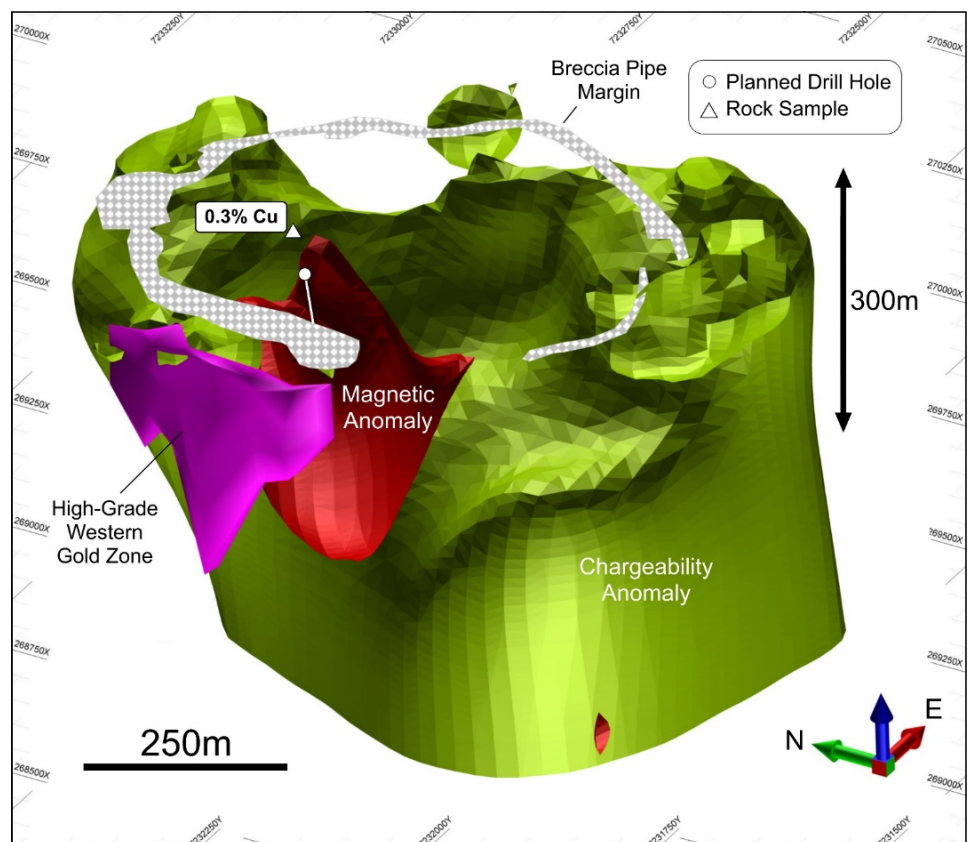


Figure 1: 3D View of New Copper-Gold Drill Target at Red Mountain (red) also Showing Extent of IP Chargeability Anomaly (green) closely related to the High-Grade Western Gold Zone (currently being drilled by ZNC)

### Planned Programs

The Company plans to drill test the magnetic core zone as part of the ongoing Red Mountain gold drilling campaign. Red Mountain is a maiden discovery by Zenith and is located within a very prospective and proven geological region. We anticipate that drilling campaigns at the Red Mountain Project will continue late into CY2021.

### Drilling to continue in CY 2021

## **Split Rocks Gold Project – WA (ZNC 100%)**

**New 150-hole aircore drill program underway to test multiple gold zones outlined in the earlier drill program of 100 holes**



A major infill and extensional aircore (AC) drill program (approx. 150 additional holes) is now underway at Dulcie Far North, Dulcie North, Scott's Grey & Estrella prospects, key targets within the Split Rocks gold project in Western Australia (ASX Release 4-Oct-21).

Recent AC drilling (also comprising 100-holes) confirmed and upgraded several targets with assay results (ASX Release 30-Sep-21) including:

Dulcie Far North:

- 4m @ 10.2 g/t Au (eoh), incl 2m @ 19.8 g/t Au (eoh)
- 9m @ 1.8 g/t Au incl 2m @ 6.2 g/t Au
- 8m @ 1.1 g/t Au incl 2m @ 3.2 g/t Au, and
- 8m @ 1.1 g/t Au incl 2m @ 2.0 g/t Au

Scott's Grey:

- 12m @ 1.7 g/t Au (eoh) incl. 1m @ 7.1 g/t Au and 5m @ 2.1 g/t Au
- 2m @ 7.6 g/t Au followed by a 3m mine working and another 2m @ 2.4 g/t Au, total width 7m

Dulcie North:

- 8m @ 1.2 g/t Au and 2m @ 3.7 g/t Au
- 5m @ 1.0 g/t Au

*Note Zenith retains gold rights at Dulcie Far North, Dulcie North, Dulcie Laterite Pit Zone and Scott's Grey below 6m, subject to the Dulcie option agreement (ASX Release 21-Mar-19).*

**RC drilling planned**

### **Planned Programs**

A further 7 of the 18 targets generated by Zenith extending over 18km of strike are yet to have first pass drill testing.

Infill and extensional aircore drilling is now underway at Dulcie Far North to be followed by RC drilling on the significant near surface gold results at the 4 Dulcie targets, Dulcie Laterite Pit, Dulcie North, Dulcie Far North & Water Bore are planned.

**Ongoing geochemical assessment program**

Systematic surface geochemical programs to assess lithium potential are ongoing at Split Rocks.



# EARAHEEDY ZINC

**Major zinc discovery continuing to expand**

**Target is very large, near surface open pit zinc-lead-silver mineralisation**

Following the announcement in mid-April of a major zinc-lead discovery at Earaheedy in Western Australia - first phase follow-up drilling part of an ongoing 40,000m drill campaign, has now expanded the footprint of zinc mineralisation at the Chinook prospect to over 4.1km x 1.9km (44% increase over the previously announced expansion), remaining open in all directions.

Results received and compiled for 51 RC holes (7,826m) and 2 sonic holes totalling 9,000m of 35,000m drilled to date at Chinook.

Further high-grade Zn-Pb drill results were detailed in ASX Release 18-Oct-21 and are shown in Figure 2 below. Results include:

- 15m @ 4.02% Zn+Pb and 4.86g/t Ag
- 11m @ 3.92% Zn+Pb and 4.23g/t Ag
- 8m @ 5.20% Zn+Pb and 9.57 g/t Ag

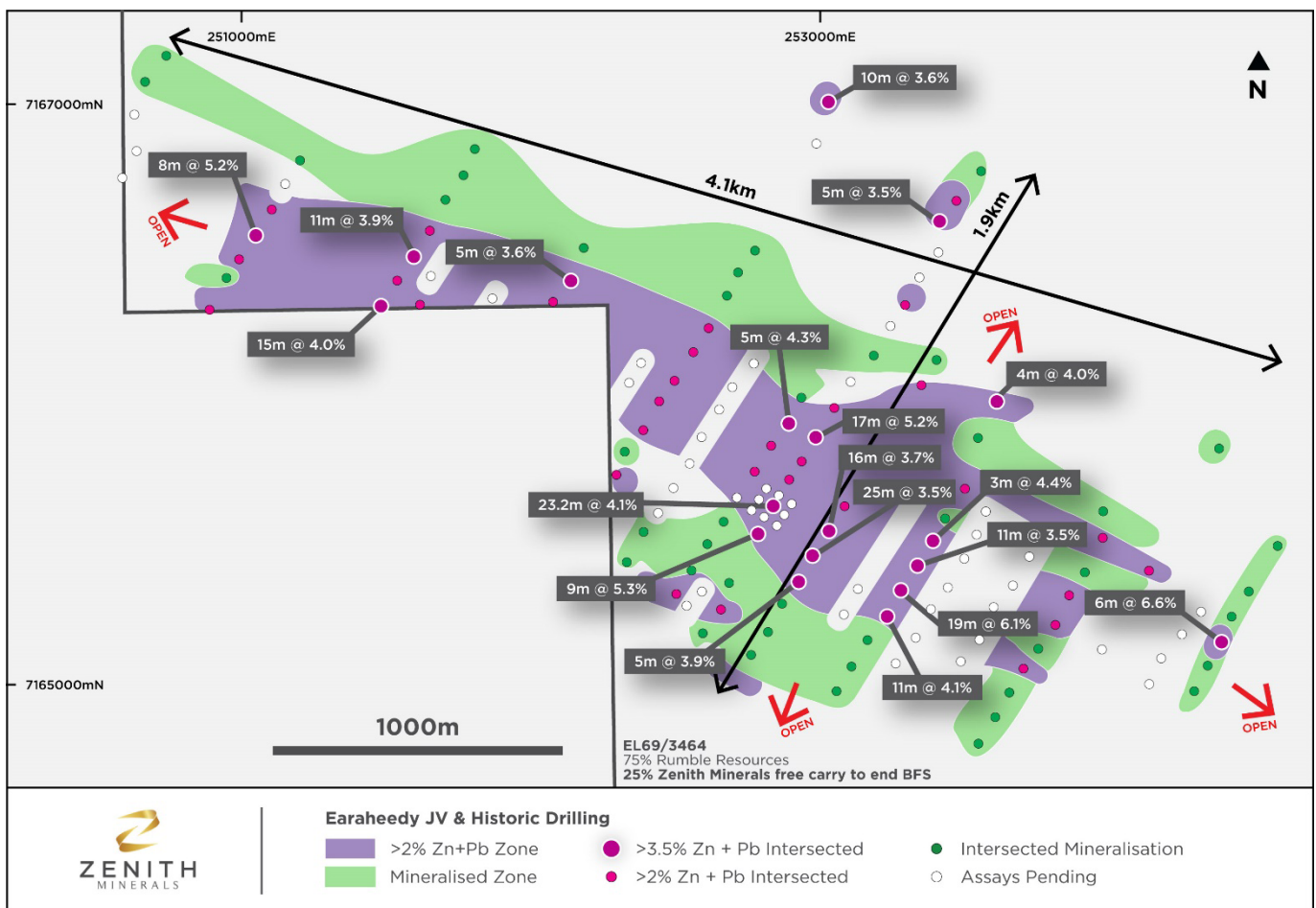


Figure 2: Chinook Prospect Significant Zn-Pb Drilling Results

**Multi-rig 40,000m drill program is underway**

**ZNC has 25% interest that is free carried to end BFS and pre-emptive right**

Sonic twin drill holes confirm high-grade Zn-Pb mineralisation intersected in RC drilling, including 19m @ 6.10% Zn+Pb (true width).

Navajoh & Magazine Prospects - drilling continuing with aim to define mineralisation limits.

New styles of Zn-Pb mineralisation confirmed over multiple prospective mineralised horizons.

**Discovery to be fast tracked via an extensive accelerated exploration program, underpinned by partners (RTR) \$40M capital raise**

Planned 40,000m drill program likely to be expanded due to increase in the size of the mineralised footprint.

The Earacheedy zinc project is a Joint Venture between Zenith and Rumble Resources Limited (ASX:RTR). Zenith holds a 25% free carried interest until completion of a Bankable Feasibility Study. Both partners hold a pre-emptive right.

The exploration program is to be solely funded by project partner Rumble using funds from a \$40m capital raising announced by RTR on the 28-April-21.

## CORPORATE

### Project Generation

The Company continues to actively assess potential new projects to add to the existing strong project pipeline. The focus remains on gold and base metals particularly copper. Non-core projects will be rationalised based on commodity type, relative merit, and geographical location. To extract as much value as possible some projects are outsourced to dedicated third party management teams.

### Capital

As at 30-Sep-21 the Company had \$6.2M cash. Liquid investments held by Zenith worth approximately \$8.3M include 3.8 million ASX:RTR & 43.9 million LON:BHL shares received as part of project based transactions.

On the 5-Aug-21 the Company announced the completion of a capital raising of \$6M before costs via the issue of 27,906,977 ordinary shares to institutional and sophisticated investors. The Company has sufficient funds to continue with its budgeted activities on its very active wholly owned projects. The Joint Venture and Partner Projects such as the Earacheedy JV are funded by their respective partners.

At section 6.1 of the Appendix 5B, the payments to Directors of the Company for the quarter ended 30-Sep-2021 were for gross wages, fees and superannuation.

### COVID-19

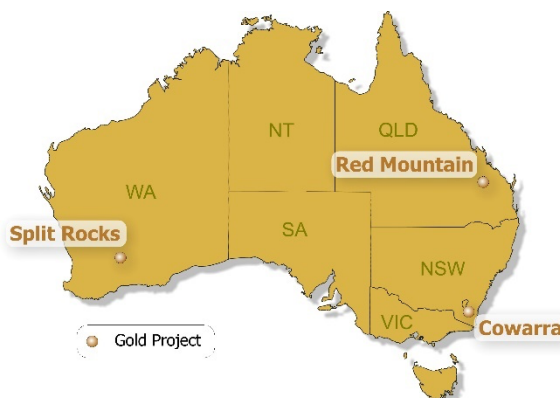
In relation to COVID-19 Zenith's Board is mindful of the significant impact the virus is having on the community and is continuing to assess the potential risks associated with its activities. Zenith's projects are in remote country areas or on grazing properties where Zenith's crew are geographically isolated. The Company continues to act on advice provided by the Federal and State Governments with the health and safety of Zenith's crew, contractors, and local stakeholders a priority. Zenith has in place a COVID-19 site health management plan and requires that all its field crews comply with the requirements of that plan. In addition, the Company is managing projects across state borders and is ensuring it complies with both Federal and State based travel and border restrictions by employing, where available local staff and using locally based contractors, consultants.

## BACKGROUND ON CORE PROJECTS

**The Company is focused on exploration & evaluation of 3 gold projects and 2 base metal projects in Australia.**



Project highlights and activities for the quarter for Develin Creek, Earraheedy, Split Rocks and Red Mountain Projects are included in the preceding section of this report.



## DEVELIN CREEK COPPER- ZINC PROJECT – Queensland (Zenith 100%)

### Develin Creek Project Background

The Develin Creek project contains a VMS copper-zinc deposit with an Inferred Mineral Resource (JORC 2012) of: 2.57Mt @ 1.76% copper, 2.01% zinc, 0.24g/t gold and 9.6g/t silver (2.62% CuEq) released to ASX on 15-Feb-2015.

A program of 3 diamond drill holes at the Sulphide City resource area by the Company confirmed high-grade copper and zinc zones (Figure 1) with associated gold and silver in massive sulphides (ASX Release 5-Jul-21). Results include:

- ZDCDD002 - 29m @ 2.3% Cu, 1.2% Zn, 0.3 g/t Au & 4.2 g/t Ag incl. 12.3m @ 4.2% Cu, 2.5% Zn, 0.6 g/t Au & 7.3 g/t Ag
- ZDCDD003 - 34m @ 2.0% Cu, 1.5% Zn, 0.2 g/t Au & 4.9 g/t Ag incl. 10m @ 3.9% Cu, 0.4% Zn, 0.3 g/t Au & 6.9 g/t Ag.

Results point towards a potential increase in copper grade within the higher-grade portions of the existing Inferred Mineral Resource although additional drilling is required to see if this trend can be extrapolated throughout the deposit. New diamond drill holes also define discrete zones of high-grade zinc within the copper rich intervals noted above. These zones were not identified in the historic resource drilling, and include:

- ZDCDD002 - 4m @ 4.7% Cu, 6.1% Zn, 1.2 g/t Au & 9.8 g/t Ag
- ZDCDD003 - 10m @ 1.8% Cu, 4.2% Zn, 0.2 g/t Au & 5.4 g/t Ag

RC drilling is in progress and combined with the 3 diamond drill holes will form part of a broader plan to build upon this JORC resource and add others to the Develin Creek copper-zinc volcanogenic massive sulphide (VMS) inventory. The Company holds exploration permits that cover the highly prospective host rocks over 50km north – south (refer to inset on Figure 3).

Zenith's technical team outlined the Snook target located 30km south of the existing JORC resources. An initial maiden drill test of 7 shallow RC holes has been a success, with hole ZSRC001 intersecting 3m of massive and semi-massive sulphides close to surface, at a depth of only 20m downhole. This zone returned: 3m @ 1.57% Cu, 1.07% Zn, 0.37% Pb, 43 g/t Ag and 0.2g/t Au, including 2m of massive sulphide grading: 1.95% Cu, 1.34% Zn, 0.48% Pb, 55 g/t Ag and 0.3g/t Au, within a broader interval of disseminated and stockwork sulphides assaying 12m @ 0.81% Cu, 0.56% Zn, 0.19% Pb, 22g/t Ag & 0.1 g/t Au (see ASX Release 7-Dec-20).

Massive and semi-massive sulphides were intersected in 4 follow-up drill holes, ranging in zones up to 22m thick that are dominated by massive to semi-massive pyrite but with generally an upper 1m to 3m massive copper-zinc sulphide zone (Figures 3 – 4) as announced in ASX release 7-Oct-21. Massive copper-zinc sulphides were intersected in 2 holes (ZSRC014 and ZSRC017) over widths of 2m to 3m intervals with the copper and zinc contents confirmed in field using a portable x-ray fluorescence analyser (pXRF).

Copper-zinc sulphide mineralisation remains open with the target sequence extending along strike to the north and south for multiple kilometres. The Company plans to undertake ground based electromagnetic surveying (EM) to assist with targeting prior to additional drill follow-up.

Drilling to date confirms a fertile VMS system is present and requires additional testing. VMS deposits are known to occur in clusters. The recognition of massive sulphides at Snook some 30km south of the known resource area confirms the highly prospective nature of Zenith's tenure at Develin Creek.

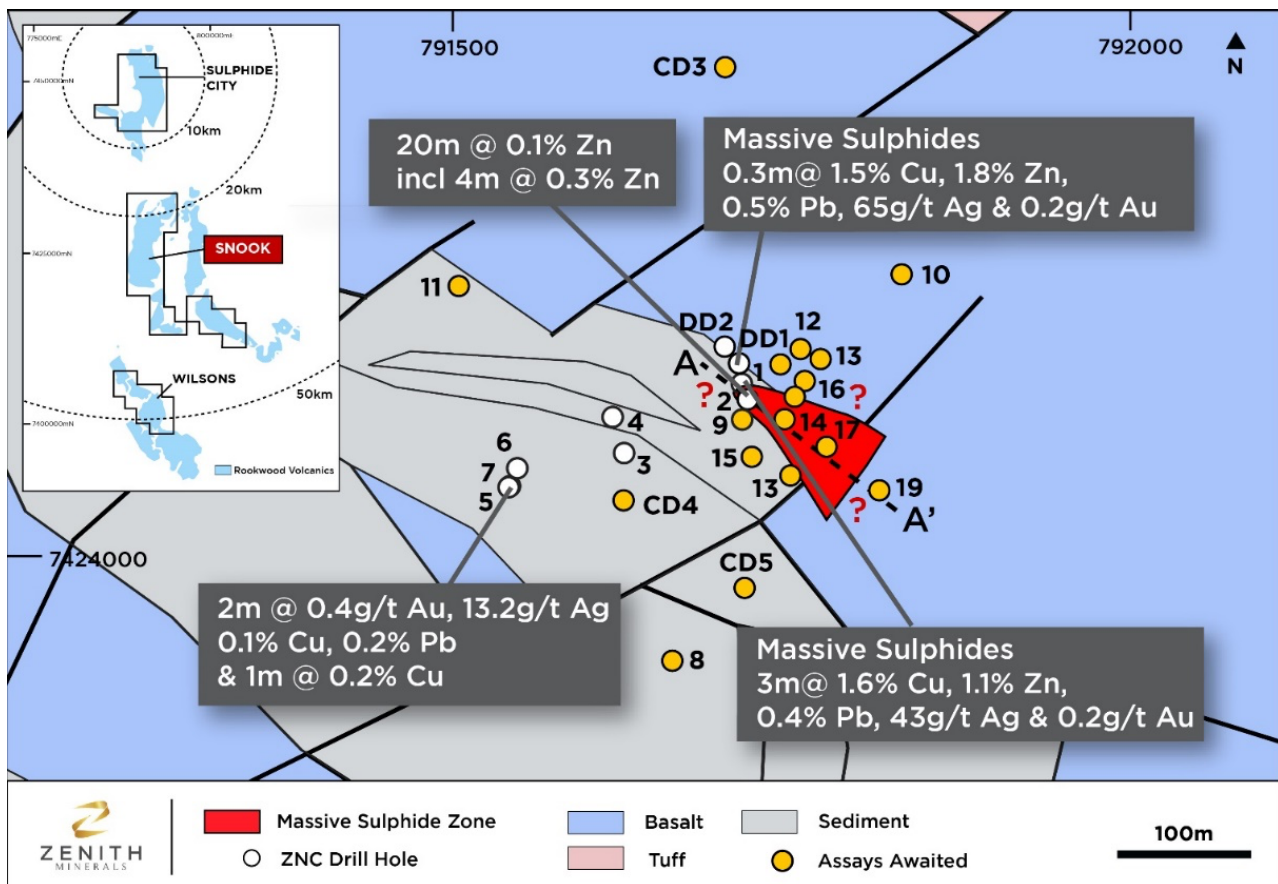


Figure 3: Snook Prospect Geology and Drill Location Map - Showing New Massive Sulphide Zone

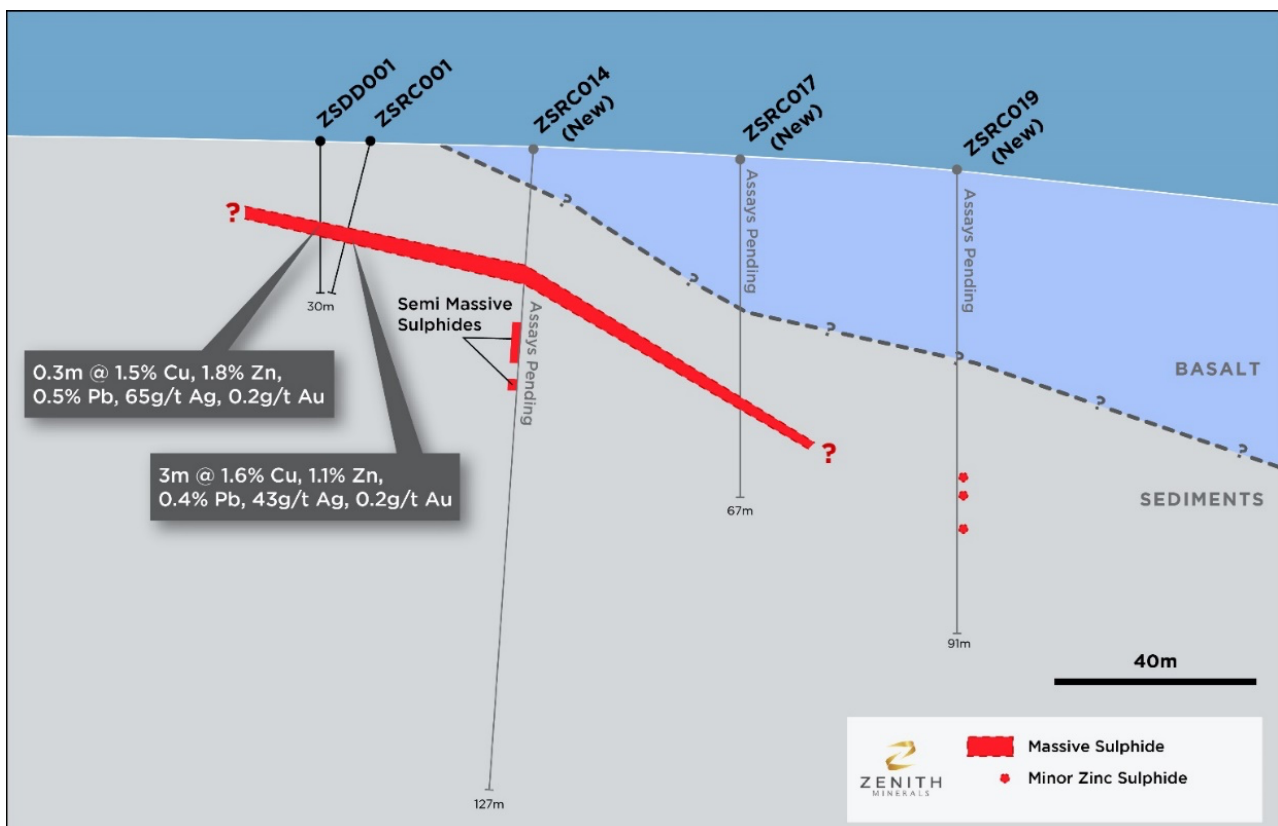


Figure 4: Snook Prospect Long Section - Showing New Massive Sulphide Zone



## RED MOUNTAIN GOLD-SILVER PROJECT – Queensland (Zenith 100%)

### Background on Red Mountain Gold Project

A zone of surface gold and silver mineralisation was discovered by Zenith at Red Mountain in SE Queensland, in a previously unrecognised felsic volcanic breccia complex comprising rhyolite radial dykes, rhyolite ring breccia as well as granite and gabbro breccias, first identified by Zenith's field team.

Highly encouraging gold and silver rock chip sample results up to 2.01 g/t gold and 52.5 g/t silver are supported by systematic geochemical sampling that 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-19.

Ongoing exploration activity at the 100% owned Red Mountain gold project located in Queensland (see ASX release 19-May-21) continues to provide highly encouraging high-grade gold drill assay results.

Results from the four most recent holes (ZRMDD045 and ZRMDD047 - ZRMDD049) show gold mineralisation continues to the northeast. Due to a correction in the hole azimuths (magnetic north to true north for all drilling to date on this project) these series of four holes were closer to previous drilling than originally designed. The new drill hole intersections are therefore not material step-outs but are reported here for completeness. Better results include: ZRMDD047: 1m @ 2.1 g/t Au, 1m @ 4.9 g/t Au, 1m @ 2.6 g/t Au, 1m @ 3.6 g/t Au, 1m @ 1.8 g/t Au and 1m @ 1.9 g/t Au and ZRMDD048: 1m @ 3.4 g/t Au and 1m @ 2.5 g/t Au (refer Tables 1 & 2) and Figures 5 and 6. Results demonstrate that gold mineralisation continues north-easterly but occurs as a series of splays with multiple gold mineralised intersections over a broad zone.

Drilling to date has outlined a discrete sub-vertical high-grade gold zone (Western Zone) to a vertical depth of 200m, with the zone remaining open at depth below hole ZRMDD044 where a wide zone of gold (88m @ 0.3 g/t Au from 223m to 311m) was intersected associated with rhyolite dykes.

Results are in addition to those previously announced for the Red Mountain project – Western Zone (ASX Releases 3-Aug-20 & 13-Oct-20, 9-Nov-20, 21-Jan-21, 13-May-21), including:

- 13m @ 8.0 g/t Au from surface, incl. 6m @ 16.7 g/t Au
- 15m @ 3.5 g/t Au, incl. 2m @ 22.4 g/t Au
- 12m @ 4.9 g/t Au, incl. 6m @ 9.4 g/t Au
- 5m @ 10.4 g/t Au, incl 1m @ 49.9 g/t Au
- 5m @ 3.5 g/t Au & 54.3 g/t Ag
- 10m @ 2.7 g/t Au from surface, incl. 4m @ 4.9 g/t Au
- 7m @ 4.4 g/t Au

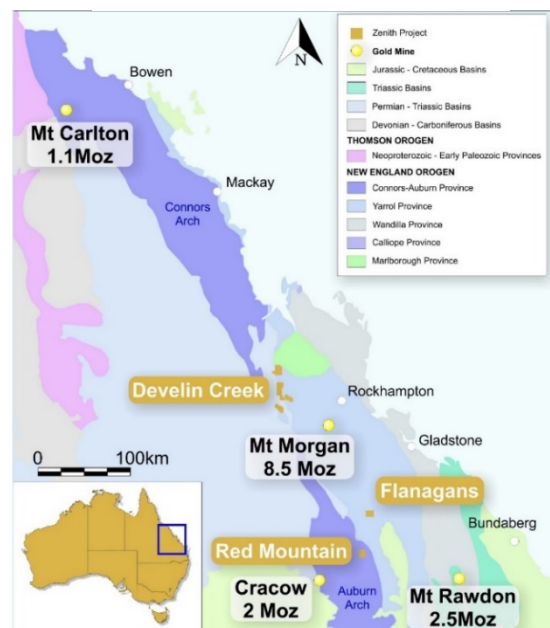
Strong silver (Ag) grades associated with gold mineralisation, include: 15m @ 0.4 g/t Au with 20.4 g/t Ag and 4m @ 0.5 g/t Au with 82.0 g/t Ag, 5m @ 3.5 g/t Au with 54.3 g/t Ag and 5m @ 0.3 g/t Au with 30.6 g/t Ag.

The Western Zone forms a NE plunging zone ~250m long on the northeast margin of the Red Mountain breccia pipe. High-grade gold mineralisation is associated with a stockwork of base metal (sphalerite-galena) stringer veins in altered diorite, granodiorite and granite on the margin of a rhyolite breccia.

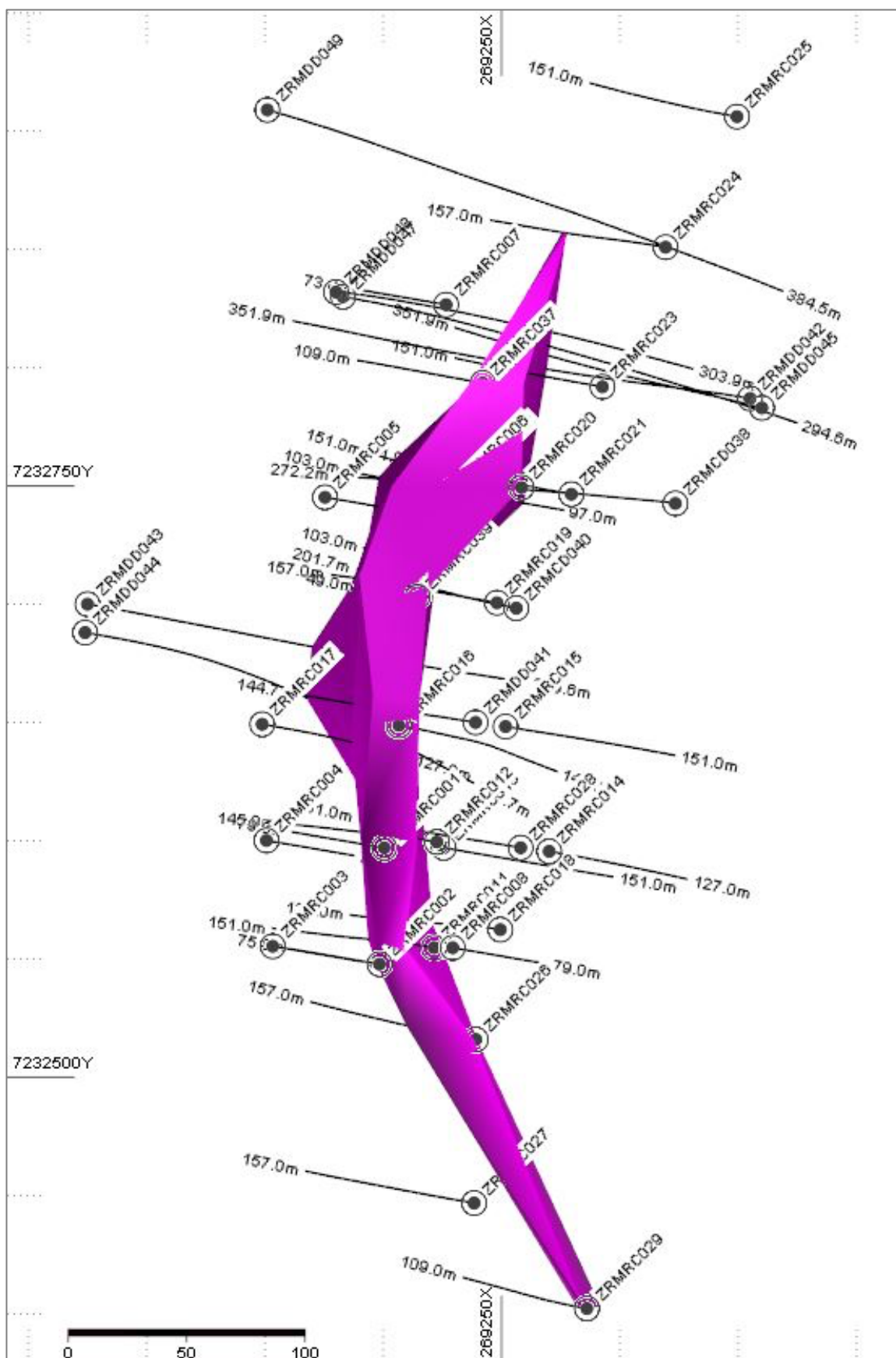
The Red Mountain project is located between two gold mines Cracow (Aeris Resources Limited (ASX:AUR) and Mount Rawdon (ASX:EVN). Cracow is a low-sulphidation epithermal gold deposit whilst Mount Rawdon is described in the literature as an epizonal intrusion-related gold deposit.

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 which is located 65km east of Charters Towers and the nearby Mount Rawdon Gold Mine. The Mt Wright gold deposit was exploited by Resolute Mining Limited as an underground operation, with mineralisation having a strike length of only 200m but vertical extent of over 1.2km.

*Red Mountain – Location Map*







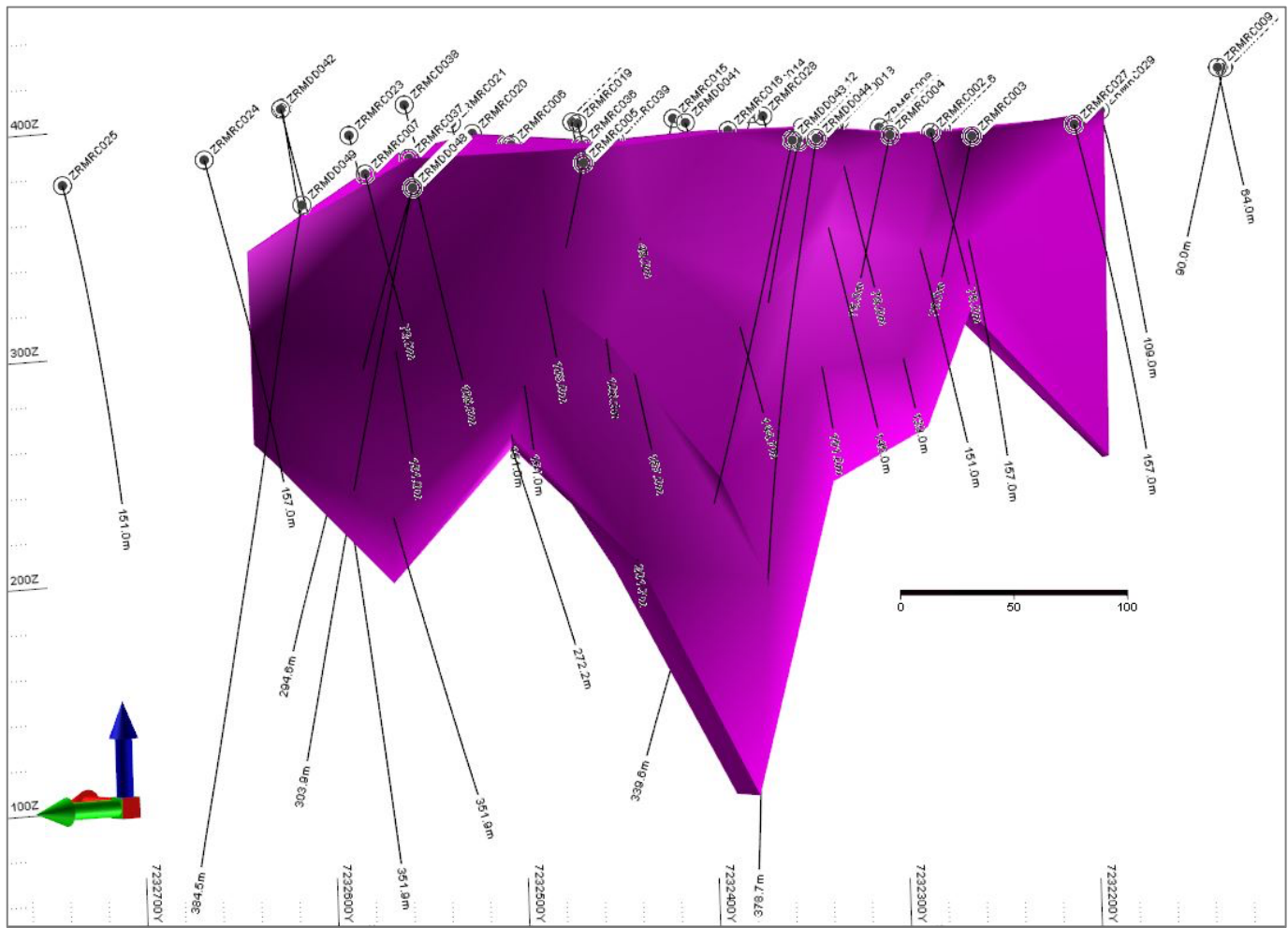


Figure 6: Long Section Showing Red Mountain Western High-Grade Gold Zone and Drill Hole Locations

Table 1 – Red Mountain Gold Drill Results

Hole	1m Samples					Comments
	From (m)	To (m)	Interval (m)	Au Grade (g/t)	Ag Grade (g/t)	
ZRMDD045	155	157	2	1.9	1.7	
	171	172	1	0.5	1.1	
	178	178.4	0.4	1.3	8.4	
ZRMDD047	85	88	3	0.8	Ag Assays Awaited	
incl	85	86	1	2.1		
	120	121	1	4.9		
	128	131	3	1.2		
incl	128	129	1	2.6		
	142	143	1	3.6		
	148	149	1	0.5		
	161	162	1	0.5		
	170	173	3	0.8		
incl	170	171	1	1.8		
	180	184	4	0.8		
incl	180	181	1	1.9		
ZRMDD048	112	113	1	0.5		

Hole	1m Samples					Comments
	From (m)	To (m)	Interval (m)	Au Grade (g/t)	Ag Grade (g/t)	
	183	184	1	3.4		
	196	197	1	2.5		
	201	202	1	0.8		
	210	211	1	0.4		
ZRMDD049	226	227	1	0.5		
	243	244	1	0.4		

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 4m. High-grade silver with low gold reported above 30 g/t Ag cut-off grade.

### Planned Program

Gold mineralisation (Western High-Grade Zone) remains open vertically below the current drilling and will be the focus of further planned step-out testing along with drill testing of the copper-gold core target discussed in the highlights section of this report.

## SPLIT ROCKS GOLD PROJECT – Western Australia (Zenith 100%)

### Background on Split Rocks Project - Gold

Zenith's Split Rocks project is located within the Southern Cross region in the Forrestania greenstone belt, approximately halfway between Perth and Kalgoorlie. Several very large current and formerly operated gold mines located north and south along strike from Zenith's project area attest to the regional gold endowment of this area (Figure 7).

A major targeting exercise by the Company's geological team identified 18 high-quality gold drill targets in the north-eastern sector of the Company's 100% owned Split Rocks project (Figures 7 & 8). First pass testing of 11 of those 18 targets has been completed to date.

During the quarter 100 AC holes totalling 4,732m were completed at the Split Rocks projects targets returning further strong gold results (Figure 8) (ASX Release 30-Sep-21) including:

#### Dulcie Far North:

- 4m @ 10.2 g/t Au (eoh), incl 2m @ 19.8 g/t Au (eoh)
- 9m @ 1.8 g/t Au incl 2m @ 6.2 g/t Au
- 8m @ 1.1 g/t Au incl 2m @ 3.2 g/t Au, and
- 8m @ 1.1 g/t Au incl 2m @ 2.0 g/t Au

#### Scott's Grey:

- 12m @ 1.7 g/t Au (eoh) incl. 1m @ 7.1 g/t Au and 5m @ 2.1 g/t Au
- 2m @ 7.6 g/t Au followed by a 3m mine working and another 2m @ 2.4 g/t Au, total width 7m

#### Dulcie North:

- 8m @ 1.2 g/t Au and 2m @ 3.7 g/t Au
- 5m @ 1.0 g/t Au

A major infill and extensional aircore (AC) drill program (approx. 150 additional holes) is now underway at Dulcie Far North, Dulcie North, Scott's Grey & Estrella prospects, key targets within the Split Rocks gold project in Western Australia (ASX Release 4-Oct-21).

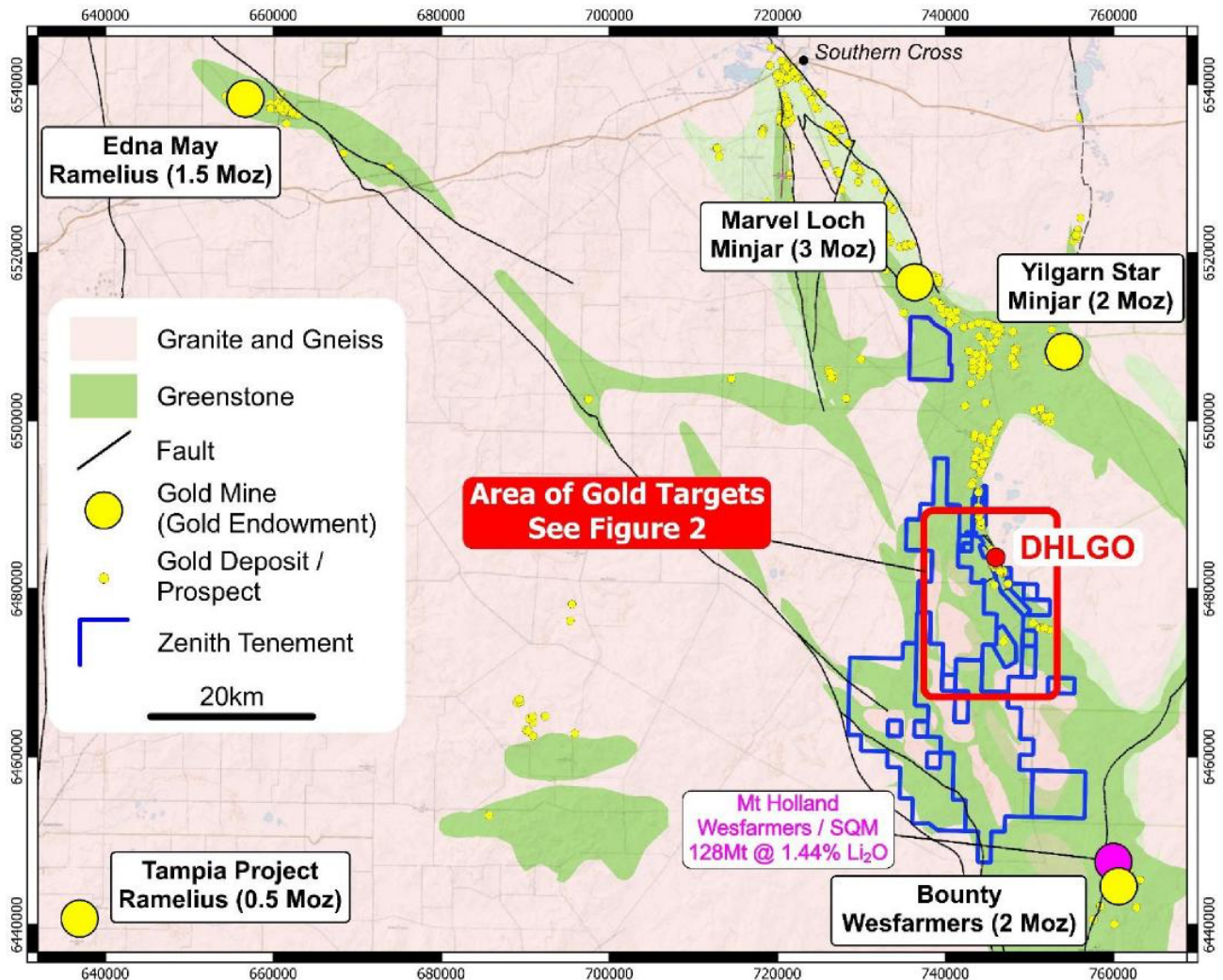


Figure 7: Split Rocks Project Location Map Showing Zenith tenements, DHLGO Prospect and Regional Gold Endowment

*\*The Company has an exclusive right to explore the DHLGO project 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.*

Note: Zenith retains gold rights at Dulcie Far North, Dulcie North, Dulcie Laterite Pit Zone and Scott's Grey below 6m, subject to the Dulcie option agreement (ASX Release 21-Mar-19).

### Background on Split Rocks Project - Lithium

In addition to the gold targeting exercise, Zenith has also been systematically exploring its 100% owned Split Rocks project with landholdings of approximately 600 sqkm in the Forrestania greenstone belt for lithium. 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-Mar-2018).

### Planned Programs

A further 7 of the 18 targets generated by Zenith extending over 18km of strike are yet to have first pass drill testing.

Infill and extensional aircore drilling is now required at Dulcie Far North to be followed by RC drilling on the significant near surface gold results at the 4 Dulcie targets, Dulcie Laterite Pit, Dulcie North, Dulcie Far North & Water Bore are planned.

In addition, systematic surface geochemical programs to assess lithium potential are ongoing at Split Rocks.



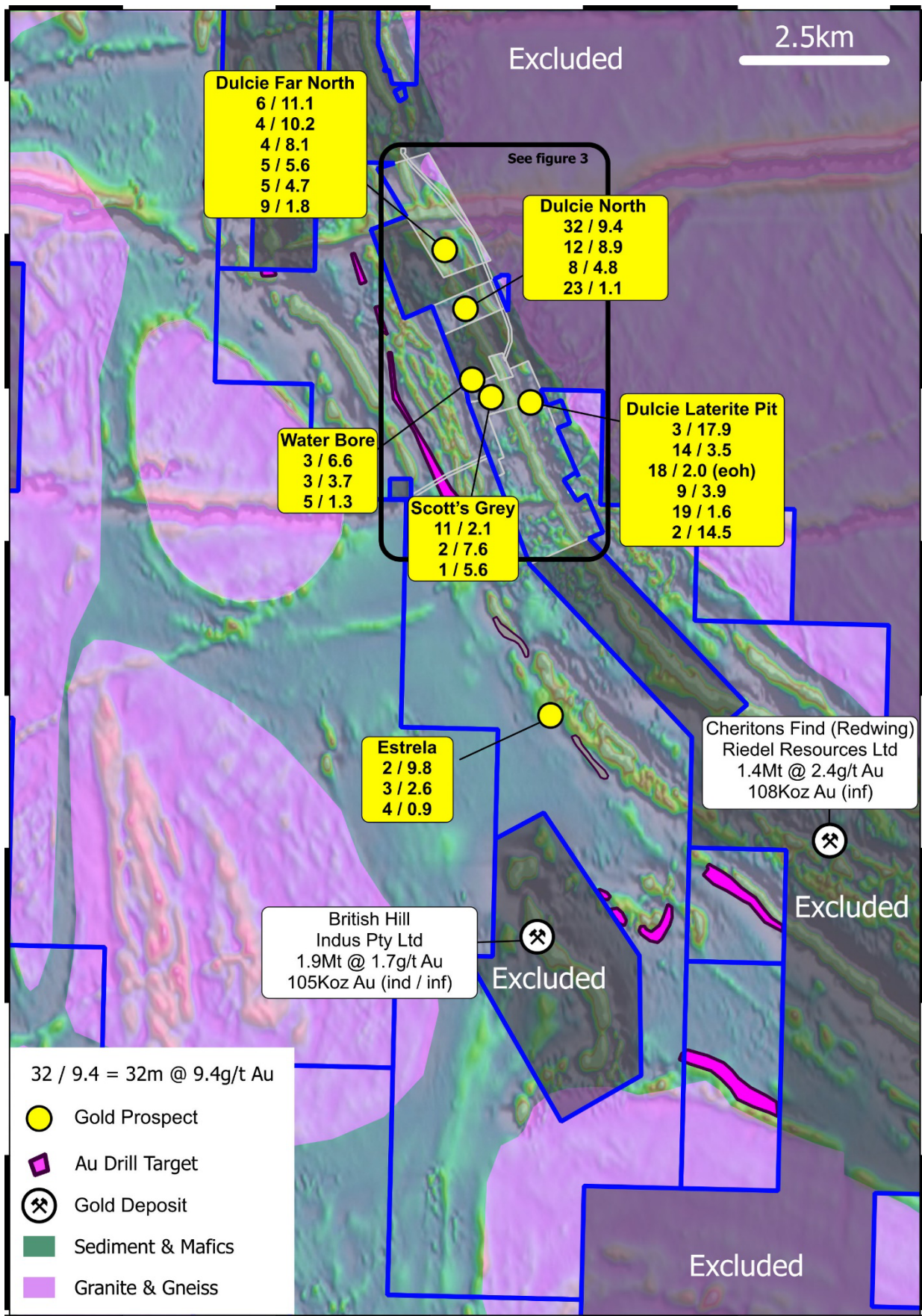


Figure 8: Split Rocks Project Gold Targets and Significant RC - Aircore Drill Results (yellow captions) showing gold drill targets, and areas of Planned Drilling



## JACKADGERY GOLD PROJECT – New South Wales (Zenith earning 90%)

The Company is currently reviewing the Jackadgery project, in particular assessing how the project fits within its environmental and community principals.

## PARTNERED PROJECTS

The Company has continued to implement its strategy of being an exploration project generator. Projects are either advanced by the Company's experienced team applying innovative exploration techniques or by partners which have the technical and financial capability, depending on how the Board believes shareholders' best interests are served.

Current joint ventures where partners are funding exploration include:

- Earraheedy Zinc – Australia (Rumble ASX:RTR)
- Kavaklitepe Gold - Turkey (Teck affiliate)

Increased Spending  
Increasing Chance of Success  
Sharing Risk



## EARAHEEDY ZINC PROJECT – WA (Zenith 25% free carry to end BFS, ASX: RTR 75%)

### Activities During the Quarter

Results received and compiled for 51 RC holes (7,826m) and 2 sonic holes totalling 9000m of 35,000m drilled to date at Chinook as detailed in the highlights sections of this report.

### Earraheedy Project Background

The Earraheedy project is located approximately 110km north of Wiluna, Western Australia. The project area covers the inferred unconformity contact between the overlying Frere Iron Formation and underlying Yelma Formation of the Palaeoproterozoic Earraheedy Basin. Zn-Pb-Ag mineralisation occurs at two prospects located approximately 10km apart, Chinook and Magazine. Mineralisation is hosted within near flat lying siltstone, shale, marl and minor sandstone.

The new drilling results have allowed the RTR team to formulate an initial interpretation of a new sedimentary exhalative (SEDEX) variant geological model for the Earraheedy project. SEDEX deposits are host to some of the largest zinc accumulations worldwide. The revised model will greatly assist in the exploration and deposit delineation process moving forward.

### Exploration Target

RTR's Zn-Pb Exploration Target for the Earraheedy Project is between 100 to 120 million tonnes at a grade ranging between 3.5% Zn-Pb to 4.5% Zn-Pb. The Exploration Target is at a shallow depth (80m), and over 40kms of prospective strike (completely open) has been defined within the Earraheedy Project (RTR ASX Release 8-Jul-21).

*The potential quantity and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. The Exploration Target, being conceptual in nature, takes no account of geological complexity, possible mining method or metallurgical recovery factors.*

The Exploration Target has been estimated to provide an assessment of the potential for large-scale Zn-Pb deposits within the Earraheedy Project. The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code.

Earraheedy Zn-Pb Project – Exploration Target		
Range	Tonnes	Grade
High	120,000,000	4.5% Zn+Pb
Low	100,000,000	3.5% Zn+Pb

Table 1: Near Surface Exploration target surface to 100 metres vertical depth

The Exploration Target is based on the current geological understanding of the mineralisation geometry, continuity of mineralisation and regional geology. This understanding is provided by an extensive drill hole database, regional mapping, coupled with understanding of the host stratigraphic sequence and a feasibility study completed at the nearby Paroo Pb deposit. Included in the data on which this exploration target has been prepared is recent RC drilling of 17 holes for approximately 2,500m (RC/Diamond) (assays returned for 4 and 13 holes assays pending), 30 holes for 2,690m (three RC stages), 33 holes for 3,593m recently completed and diamond drilling of 4 holes for 1,199.8m completed by Rumble along with 64 historic RC drill holes completed within the project area (E69/3464) by previous explorers (refer historical exploration results in previous RTR ASX announcements dated 5-Feb-19 and 12-Oct-17, 23-January-20 which continue to apply and have not materially changed).

Some of the considerations in respect of the estimation of the exploration target include:

- Drilling results have demonstrated strong continuity of shallow, flat lying mineralisation
- Over 40km's of prospective strike and open
- Minimum 600m of width (based on shallow 7.5° and shallow depth to 120m, based on drilling results.
- True width (thickness) of mineralisation up to 52 metres received in drilling results, and
- Specific gravity (SG) of 2.5 (world average SG of sandstone – not accounting for metal).

RTR intends to test the Exploration Target with drilling that is expected to extend over a 12-month period. Grade ranges have been either estimated or assigned from lower and upper grades of mineralisation received in drilling results. A classification is not applicable for an Exploration Target.

### Earaheedy Joint Venture

Zenith Minerals Ltd (ASX: ZNC) owns a 25% free carried interest in the EJV whilst Rumble owns 75%. The project area (E69/3464) covers the inferred unconformity contact between the overlying Frere Iron Formation and underlying Yelma Formation of the Palaeoproterozoic Earraheedy Basin.

In April 2021 the EJV partners each announced a major Zinc-Lead Discovery with 'Tier 1' potential at the Earraheedy Project (refer ASX Release 19-Apr-21) and followed this up announcing a Large Sedex Style System Emerging at the Earraheedy Project (ASX Release 25-May-21). There are 2 main prospects within the EJV, Chinook and Magazine which lie 12km apart. Within the broader region, Zenith in its own right controls 100km of prospective mineralised strike which also has the potential to contain multiple large tonnage Zn – Pb deposits (Figure 9).

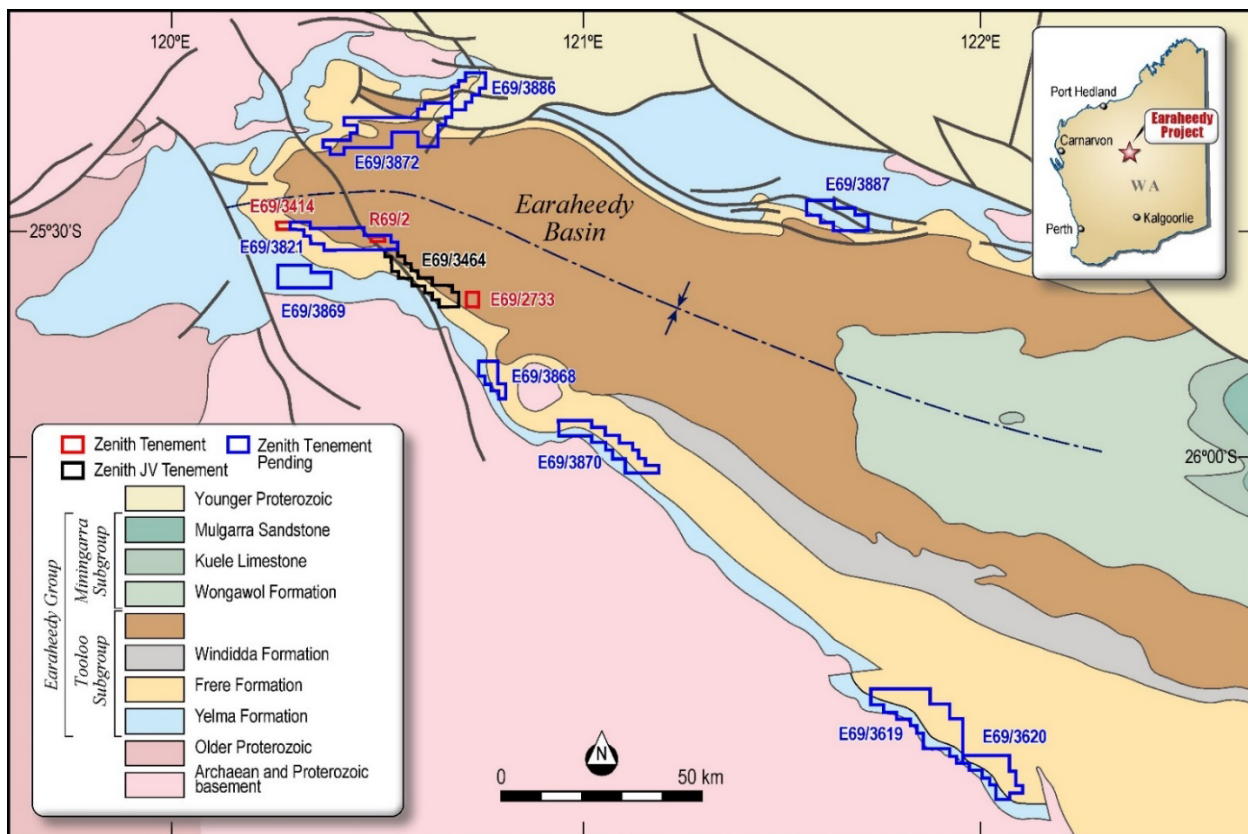


Figure 9: Earraheedy Project Location (black - EJV, red – ZNC 100% granted, blue – ZNC100% applications)

## COWARRA GOLD PROJECT – New South Wales (Zenith earning up to 22.5%)

The Cowarra gold project is located between Canberra and Cooma and consists of one granted exploration licence and comprises multiple gold zones hosted in Lachlan Orogenic Belt sedimentary rocks associated with gold mineralised strike extensive shear zones. Host rocks and structural setting like that of some of the major Victorian gold deposits. Zenith has an option to provide staged funding to the Cowarra Project owner Oxley Resources Limited. On 24-Sep-21 the Company has completed Stage 1 investment of \$140k into Oxley. Zenith's initial investment of up to \$210k in two stages will see it earn up to 22.5% equity in Oxley (ASX Release 13-May-21).

Previous drilling results from the Cowarra-Victoria gold deposit include:

- 35m @ 2.3 g/t Au from 23m depth in CRC001
- 15m @ 4.2 g/t Au from 57m depth in CRC022

A walk-up staged drill program is planned to test the Victoria gold deposit for both open-pit and underground potential. Initial program of 7 x 100m depth holes to validate previous work and to define a shallow gold mineral resource. In addition, there is significant upside below the existing shallowly drilled prospects and targets.

Multiple regional prospects and targets extend for over 8km of strike around the Victoria gold deposit with rock chip sampling up to 23 g/t Au and previous drill results providing significant project upside, including:

- Democrat Prospect
  - 4m @ 10.5 g/t Au in CRC029
  - 12m @ 1.9 g/t Au in CRC013
- Ambassador Prospect
  - 8.1m @ 4.3 g/t Au in 10CWD-A1
  - 1m @ 12.0 g/t Au & 5m @ 3.0 g/t Au in CWD101
- Vanderbilt Prospect
  - 5m @ 4.2 g/t Au in CRC014

JMT Target – 75 rock samples over 1km of strike, average 6.1 g/t Au, no drilling to date.

Cowarra gold project on NSW State Lands set aside for minerals, permitting for drilling is well advanced, with drilling anticipated to commence in the third quarter of 2021.

The Cowarra gold project was previously mined by BHP in the 1930's and later Horizon Pacific in the 1980's with average run-of mine grades between 6 – 8 g/t Au with gold recovered by an industry standard carbon in leach (CIL) on site processing plant.

Gold mineralisation at Cowarra extends over some 8km within the granted EL with soil and rock chip anomalies requiring follow-up (Figure 10).

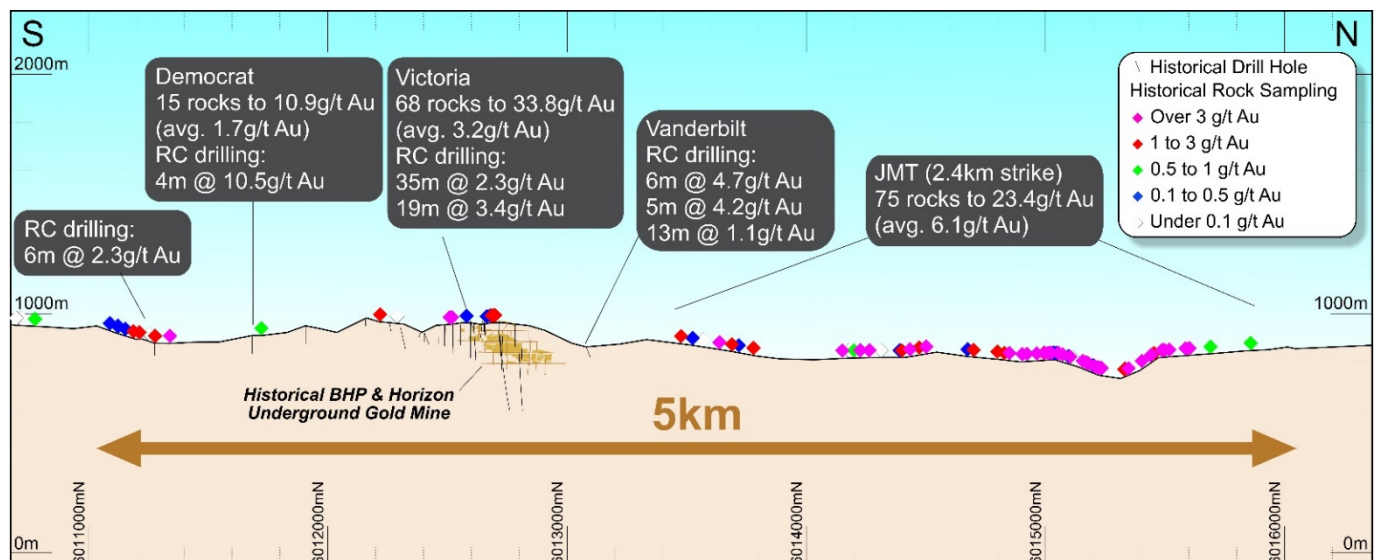


Figure 10: Long Section of the Cowarra Gold Project – Democrat Prospect to JMT Prospect through Victoria Mine with Significant Drill and Rock Sample Gold Results (see Figure 2 for location of prospects)

## **FLANAGANS GOLD PROJECT – Queensland (Zenith 100%)**

The Company announced that it has signed a binding heads of agreement with unrelated unlisted public company Bindi Metals Limited (Bindi) for the sale of the non-core Flanagans copper-gold tenement in Queensland for \$450,000 (ASX Release 23-Jun-21).

The sale is conditional on the successful listing via an initial public offering (IPO) of Bindi on the Australian Securities Exchange (ASX) before 28 February 2022 (previously 31-Dec-21, \$10k paid for 2-month extension) and other regulatory approvals. Upon completion Zenith will receive \$190,000 cash and IPO shares valued at \$250,000. Shares to be issued to Zenith are likely to be subject to escrow.

## **KAVAKLITEPE GOLD PROJECT – TURKEY (ZENITH ~20%)**

The Company is seeking to divest its share of the Kavaklitepe gold project.

### **Background on Kavaklitepe Gold Project**

Exploration and evaluation of the Kavaklitepe gold project is managed by Teck Anadolu Madencilik Sanayi v. Ticaret A.S. ("Teck"), a Turkish affiliate of Teck Resources Limited. Drilling to date on two prospect areas has returned encouraging results. Kuzey Zone drill intersections include:

- 20m @ 15.6 g/t Au,
- 16m @ 4.7 g/t Au,
- 21m @ 3.29 g/t Au,
- 14m @ 6.09 g/t Au,
- 16m @ 4.7 g/t, and
- 7.8m @ 7.3g/t gold,

whilst continuous surface rock chip results include:

- 54.0m @ 3.33 g/t gold,
- 10m @ 12.2 g/t Au,
- 44m @ 3.37 g/t Au,
- 15m @ 10.10 g/t Au and 6.5m @ 5.18 g/t Au.

In addition, Discovery Zone drill results include: 8.0m @ 1.20 g/t Au and 8.0m @ 1.26 g/t Au.

## **VIVASH GORGE IRON PROJECT – WA (ZENITH 100%)**

The Company is reviewing the potential of this project and has identified a new high-grade near surface iron ore target.

## **WARATAH WELL LITHIUM-TANTALUM PROJECT – WA (Zenith 100%)**

The Company has reassessed the potential of the project for lithium-tantalum mineralisation and is well advanced towards drill testing. A further release detailing the lithium targets will be made once drilling commences, anticipated to be early December 2021. A suitable drill contractor has been secured for the planned work program.

## **INVESTMENTS**

The Company holds investments in various listed entities because of project-based transactions. These include:

- Bradda Head Holdings Limited (LON:BRAD) 43.9M shares – refer to ASX Release 20-Jul-21 for details
- Rumble Resources Limited (ASX:RTR) 3.8M shares
- American Rare Earths Limited (ASX:ARR) 2.5M shares
- NickelX Limited (ASX:NKL) 0.5M shares

## SUMMARY OF EXPLORATION EXPENDITURE

In accordance with Listing Rule 5.3.1, the Company reports that there was \$708k exploration expenditure incurred during the September quarter.

## NEW OPPORTUNITIES

The Company advises that it is currently in ongoing and incomplete negotiations in connection with several potential project acquisitions and disposals. This remains an essential generative value process. Project generation is a core skill of the Company. This work has included:

- Assessment of various 3<sup>rd</sup> party gold properties in Australia.
- Potential divestment of the Kavaklitepe gold project in Turkey.
- Potential divestment of the Vivash Gorge iron ore project in Western Australia.

The Company will provide appropriate disclosure should negotiations and agreements be completed, and new tenure granted.

## TENEMENT INTERESTS

Changes in tenements	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	E77/2615	Relinquished	100%	nil
Interests in mining tenements and petroleum tenements acquired or increased	--	--	--	--

## COMPETENT PERSONS STATEMENTS

*The information in this report that relates to Zenith Exploration Results and Exploration Targets is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith. 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.*

*The information in this Report that relates to in-situ Mineral Resources at the Develin Creek project is based on information compiled by Ms Fleur Muller an employee of Geostat Services Pty Ltd. Ms Muller takes overall responsibility for the Report. She is a Member of the AusIMM and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity she is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2012 Edition). Ms Muller consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.*

Authorised for release by the Zenith Minerals Limited Board of Directors

28<sup>th</sup> October 2021

For further information contact:

**Zenith Minerals Limited**

Director - Mick Clifford

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

Phone +61 8 9226 1110



## 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>	Assays received for 40 reverse circulation drill holes, 2 diamond core tails and 8 diamond drill holes.
	<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.  Diamond core was routinely sampled on 1m intervals with selected intervals sampled based on geological observations at intervals no less than 0.3m.
	<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.  Diamond core drilling was used to obtain samples ranging from 0.3m to 1.7m. After cutting with a diamond saw, ½ core samples produced 3 to 5 kg which 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 and HQ diamond tails on holes ZRMCD038 and ZRMCD040.  ZRMCD038 pre-collar to 90m and DD tail to 272.2m ZRMCD040 pre-collar to 70m and DD tail to 201.7m  Diamond drilling from surface for holes ZRMDD041-048
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Diamond core was orientated whilst RC 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>	RC 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.  Diamond core was cut on site and ½ core was submitted for analysis.

	<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.  Screen fire assays of intervals with visible gold are pending.
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 core and 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.  Drill core logging is qualitative, all core has been 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>	Core is ½ core, core is cut by diamond saw
	<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 and silver by ICP-AES.
	<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>	RC drilling results incorporates 1m resamples of 4m composite intervals. No field duplicates yet taken for diamond core
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Each sample was 2kg to 5kg in weight which is appropriate to test for the grain size of material.  Visible gold was logged to 1mm in size in drill hole ZRMDD040. On receipt and reconciliation of assay results these observations were confirmed to be true. The presence of visible gold indicates that coarse gold is present within the Red Mountain mineralised system.  Screen fire assays have been submitted for analysis of intervals that were logged as obtaining visible gold – assay results are pending.
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 laptops and sample record books and then entered into a database
	<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>	Collar locations up to hole 040 are based on Trimble R10-2 GNSS Rover DGPS coordinates +/-25mm accuracy. Holes 040 onwards GPS +/-5m accuracy. DGSP surveying planned.
	<i>Specification of the grid system used.</i>	The grid system used to compile data was MGA94 Zone 56
Location of data points - continued	<i>Quality and adequacy of topographic control.</i>	Topography control is +/- 25mm.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	Drill holes shown in Figures 5 to 6 and Tables 1.
	<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 0.4 g/t Au or if silver only 30g/t Ag (refer to Table 1). Over range >100g/t Ag re-assayed using a 4-acid digest ICP-AES.
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>	Orientation of mineralisation based on 2 x orientated drill holes, indicates two main mineralised veins sets: moderate to steep southwest and shallow south dipping. The shallow dipping veins were less frequently measured in orientated drill core (~7 veins) versus >30 steep veins, this may be due to an orientation bias. Further drilling is required to confirm that drilling achieves unbiased sampling. Drill hole ZRMDD043 indicates gold mineralisation dip is rolling from step east to steep west.
	<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
Sample security	<i>The measures taken to ensure sample security.</i>	Samples were kept in numbered and secured bags until delivered to the laboratory

Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling techniques are consistent with industry standards
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## 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.	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.																																								
	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.	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	Acknowledgment and appraisal of exploration by other parties.	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	Deposit type, geological setting and style of mineralisation.	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	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:	<table><tr><th>Hole_ID</th><th>Type</th><th>Easting</th><th>Northing</th><th>RL</th><th>Depth</th><th>Azi</th><th>Dip</th></tr><tr><td>ZRMDD045</td><td>DD</td><td>269360</td><td>7232783</td><td>426</td><td>351.9</td><td>284.75</td><td>-67</td></tr><tr><td>ZRMDD047</td><td>DD</td><td>269183</td><td>7232830</td><td>402</td><td>294.6</td><td>99.75</td><td>-50</td></tr><tr><td>ZRMDD048</td><td>DD</td><td>269180</td><td>7232832</td><td>402</td><td>303.9</td><td>94.75</td><td>-62</td></tr><tr><td>ZRMDD049</td><td>DD</td><td>269151</td><td>7232909</td><td>401</td><td>384.5</td><td>105.75</td><td>-56</td></tr></table>	Hole_ID	Type	Easting	Northing	RL	Depth	Azi	Dip	ZRMDD045	DD	269360	7232783	426	351.9	284.75	-67	ZRMDD047	DD	269183	7232830	402	294.6	99.75	-50	ZRMDD048	DD	269180	7232832	402	303.9	94.75	-62	ZRMDD049	DD	269151	7232909	401	384.5	105.75	-56
	Hole_ID		Type	Easting	Northing	RL	Depth	Azi	Dip																																	
	ZRMDD045		DD	269360	7232783	426	351.9	284.75	-67																																	
	ZRMDD047		DD	269183	7232830	402	294.6	99.75	-50																																	
	ZRMDD048		DD	269180	7232832	402	303.9	94.75	-62																																	
	ZRMDD049		DD	269151	7232909	401	384.5	105.75	-56																																	
	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.																																										
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.																																										
Data aggregation methods	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.	No high-grade cutting																																								
	Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should	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>be stated and some typical examples of such aggregations should be shown in detail.</i>	with minimum cut-off grade of 0.4g/t Au and maximum internal dilution of 4m.
<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>	Orientation of mineralisation based on 4 x orientated drill holes, indicates two main mineralised veins sets: moderate to steep southwest and shallow south dipping. The shallow dipping veins were less frequently measured in orientated drill core (~7 veins) versus >30 steep veins, this may be due to an orientation bias. Further drilling is required to confirm that drilling achieves unbiased sampling.  Overall gold mineralised envelopes are interpreted as north-south with steep east dips near surface rolling to steep west with depth.
	<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 of this report.
<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>	Soil geochemical coverage currently being extended.
	<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.



## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Zenith Minerals Limited

ABN

96 119 397 938

Quarter ended ("current quarter")

30 September 2021

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1.</b>	<b>Cash flows from operating activities</b>		
1.1	Receipts from customers	22	22
1.2	Payments for		
	(a) exploration & evaluation (see Note to 1.2(a))	(708)	(708)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(235)	(235)
	(e) administration and corporate costs	(308)	(308)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	1	1
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (GST)	(21)	(21)
<b>1.9</b>	<b>Net cash from / (used in) operating activities</b>	<b>(1,249)</b>	<b>(1,249)</b>
Note to 1.2(a) – For the quarter ended 30 September 2021, \$708 (rounded \$A'000) of the exploration & evaluation expenditure at 1.2(a) has been capitalised and its inclusion at 1.2(a) is to maintain consistency with Zenith Minerals Limited reporting in its Financial Report pursuant to the Australian Accounting Standard AASB 6 and AASB 107.			
<b>2.</b>	<b>Cash flows from investing activities</b>		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation	-	-
	(e) investments	(140)	(140)
	(f) other non-current assets	-	-

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	48	48
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>(92)</b>	<b>(92)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	6,000	6,000
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(348)	(348)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other – Repayment of lease liability	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>5,652</b>	<b>5,692</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	1,847	1,847
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,249)	(1,249)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(92)	(92)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	5,652	5,652

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	<b>Cash and cash equivalents at end of period</b>	<b>6,158</b>	<b>6,158</b>

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	6,143	1,832
5.2	Call deposits	15	15
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>6,158</b>	<b>1,847</b>

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	177
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<p><i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i></p> <p><i>Director fees and salaries \$176,839</i></p>		

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. <b>Financing facilities</b> <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	15	-
7.4	<b>Total financing facilities</b>	15	-
7.5	<b>Unused financing facilities available at quarter end</b>		15
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.  Credit Card Facility with ANZ Bank which is secured by a term deposit with a right of set off to the total limit of the credit card facility.		

8. <b>Estimated cash available for future operating activities</b>		<b>\$A'000</b>
8.1	Net cash from / (used in) operating activities (item 1.9)	(1,249)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	0
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(1,249)
8.4	Cash and cash equivalents at quarter end (item 4.6)	6,158
8.5	Unused finance facilities available at quarter end (item 7.5)	15
8.6	Total available funding (item 8.4 + item 8.5)	6,173
8.7	<b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	5
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>		
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
	Answer: N/A	
8.8.2	Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
	Answer: N/A	

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: N/A

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

## Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 28 October 2021.....

Authorised by: **By the Board**.....  
(Name of body or officer authorising release – see note 4)

## Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.