

16 December 2015

ASX ANNOUNCEMENT



REVISED ANNOUNCEMENT

VISCARIA COPPER PROJECT SCOPING STUDY JUSTIFIES CONTINUED DEVELOPMENT

Further to the Scoping Study announcement released on Monday 14 December 2015, please find attached revised announcement.

Updates have been made in accordance with ASX Listing Rule 5.16.4 which requires a cautionary statement to be proximate to, and with equal prominence to any production target where a proportion of this production target is based on inferred mineral resources.

The required cautionary statement, which was included in the cautionary statement on page 2 of the previous announcement, has therefore been moved to the highlights section of this revised announcement where the production target is first referred to.

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- The Scoping Study has determined that the Viscaria Copper Project demonstrates robust project fundamentals with low technical risk
- The purpose of the Scoping Study was to determine if a base-case, copper-only development scenario could be justified centred on mineral resources contained within the immediate Viscaria project development area
- The Scoping Study sees Viscaria positioned as a low capital intensity copper-only development scenario with production timed for consensus pricing upswing during 2018 and beyond
- Sufficient mining inventory has been defined that will justify a decision to mine in 2017 should the project metrics remain constant through feasibility study stages
- High mineral resource categorisation levels for mining inventory with 93% of material in the Measured and Indicated categories and 7% in Inferred
- Recent drilling activity at D Zone, and historical drilling at A Zone, has highlighted the capacity for the Viscaria mineral resource to deliver thickened shoots with higher grade at depth with significant scope to grow inventory and increase production rate through step-out drilling
- Project utilises existing high quality infrastructure in place for northern Sweden's mining industry, including hydroelectric power to site, local airport, accommodation and sealed highway to mine gate
- Simple chalcopyrite copper mineralogy with no penalty-level deleterious elements
- Base Case stand-alone 1.2 Mtpa plant processing material from three open pits and an underground operation
- Site infrastructure capital of US\$87m (A\$119m)
- Forecast estimated annual production of 12,000 tonnes per annum of copper in concentrate with LOM C1 cash cost of US\$1.86/lb (A\$2.54/lb) and All In Sustaining Cost (AISC) of US\$2.10/lb (A\$2.87/lb)
- Cautionary Statement - There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

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- **Resource development drilling is continuing, aimed at upgrading the resource categorisation at extensions to the deeper mineralisation at D Zone with the aim of extending the mine life beyond 10 years and increasing the proposed milling production rate**

Avalon Minerals Limited ('Avalon' or 'the Company') (ASX:AVI) is pleased to present the findings of the Viscaria Copper Project (VCP) Scoping Study. The Company is advancing the environmental permitting and continuing step-out drilling at the project and has considered it appropriate to update the market with the Scoping Study results.

The Scoping Study considered a Base Case development proposition involving standard industry technology partnered with infrastructure opportunities and local equipment manufacturer support not seen by any competitor. The Scoping Study has determined that the VCP demonstrates robust project fundamentals with low technical risk. It contemplates the concurrent development of three open pit mining operations at A Zone, B Zone and D Zone and an underground operation at D Zone all located within one kilometre of a central ore processing facility. The Base Case considers a 1.2 million tonne per year milling rate producing on average 12,000 tonnes per year of copper in concentrate.

Table 1 below describes a mining schedule based upon the Mineral Resources stated in Table 2. The mining schedule in Table 1 is derived from a mining inventory including Measured, Indicated and Inferred Resources. The life-of-mine mining inventory does not constitute an Ore Reserve. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

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Cautionary Statement

The Scoping Study referred to in this announcement is based on lower-level technical and economic assessments and is insufficient to support estimation of Ore Reserves, or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

The Scoping Study is preliminary in nature as its conclusions are drawn on Measured and Indicated Resource (93%) and Inferred Resource (7%) classification, according to JORC 2012 guidelines.

The stated production target is based on the Company's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met.

Further, the Company cautions that there is no certainty that the forecast financial information derived from production targets will be realised. All material assumptions underpinning the production targets and forecast financial information derived from the production targets are set out in this announcement

The estimated mineral resources underpinning the Scoping Study production targets have been prepared by competent persons in accordance with the current JORC Code 2012 Edition and the current ASX Listing Rules.



Table 1 – Viscaria Copper Project Scoping Study Base Case Scorecard and Material Assumptions

Parameter	Amount	
Mineral Resource*	Tonnes (Mt)	Grade (% Cu)
A Zone	21.6	1.5
B Zone	19.7	0.8
D Zone Open Pit	3.1	0.8
D Zone Underground	8.0	1.4
Total	52.4	1.2
Mining inventory	Tonnes (Mt)	Grade (% Cu)
A Zone Open Pit	2.6	1.3
B Zone Open Pit	2.0	0.7
D Zone Open Pit	1.6	0.9
D Zone Underground	3.8	1.5
Total	10.0	1.2
Strip ratio (LOM)	5.8	
Process plant	Crush, grind and copper flotation plant, 1.2Mtpa throughput capacity	
Recovery rates	90.2%	
Copper Production		
LOM	107kt	
Average per annum	12kt	
Mine life	Minimum eight years, mineralisation is open at depth and along strike	
Development capital		
Site Infrastructure	US\$87m (A\$119m)	
Underground	US\$15m (A\$20m)	
Sustaining capital (LOM)		
Site Infrastructure	US\$10.6m (A\$14m)	
Underground	US\$20.0m (A\$27m)	
Cash operating cost		
LOM C1	US\$1.86/lb (A\$2.54/lb)	
LOM AISC	US\$2.10/lb (A\$2.87/lb)	
Copper price	US\$3.25/lb (A\$4.45/lb)	
Exchange rate		
AUD : USD	0.73	
USD : SEK	8.22	
USD : Euro	0.93	
NPV pre-tax (7%)	US\$74m (A\$102m)	
IRR pre-tax (%)	22%	
Payback period	3.7 years	
Capital intensity	US\$7,335/t cu p.a. (A\$10,048/t cu p.a.)	

Environmental permitting activities have commenced and a definitive feasibility study is aimed for completion by H2 2017 with a decision to mine at the end of CY2017. Additional step-out drilling will continue at D Zone underground to target additional resources to increase the production rate to 2.0 million tonnes per annum or over 20,000 tonnes of copper per annum. A resource update will occur at the completion of this drilling, together with an update to the Scoping Study.

Table 2 below is a summary of the VCP Mineral Resources. See ASX announcement 1 July 2014 for A Zone and B Zone and ASX announcement 30 November 2015 for D Zone for full technical descriptions and requisite disclosures.

Table 2 – Viscaria Copper Project Mineral Resource Estimates Summary

Resource Area	Location	Classification	Tonnes (Mt)	Cu Grade (%)	Contained Cu (kt)
A Zone	Open Pit	Measured	14.44	1.7	240.0
		Indicated	4.69	1.2	57.2
		Inferred	2.48	1.0	25.5
		Subtotal	21.61	1.5	322.7
B Zone	Open Pit	Measured	0.12	1.3	1.6
		Indicated	4.12	0.7	29.7
		Inferred	15.41	0.8	118.7
		Subtotal	19.65	0.8	149.0
D Zone	Open Pit	Indicated	3.11	0.81	25.2
		Inferred	0.01	0.32	0.02
		Subtotal	3.11	0.81	25.2
	Underground	Indicated	7.26	1.37	99.8
Inferred		0.78	1.57	12.2	
Subtotal		8.03	1.39	111.9	
Overall Cu		Total	52.4	1.2	608.9

The Project

The Viscaria Copper Project (VCP) is located approximately five kilometres west of the mining city of Kiruna (Figure 1 below). The city is traversed by the sealed national E10 highway which runs northwest through northern Sweden from Luleå, Sweden (340 kilometres) to Narvik, Norway (170 kilometres). Both Luleå and Narvik have harbours suitable for export of copper concentrate. Additionally, a Boliden Group copper smelter is also located in northern Sweden as a potential copper concentrate customer.

Kiruna is connected to the national railway network which carries daily passenger trains and iron ore trains to both Luleå and Narvik (Figure 2). Other infrastructure in Kiruna include an airport, hydropower grid electricity and a waste-to-energy power station for residential and industrial heating.

VCP is divided into three deposits: A Zone, B Zone and D Zone (Figure 3). A Zone is a copper-rich deposit with minor concentrations of zinc and gold that was mined by Outokumpu OYJ between 1983 and 1997. Underground mining methods were utilised to produce approximately 13 million tonnes of ore with an average diluted grade of 2.3% copper. B Zone is interpreted to be a second lens of the A Zone

mineralisation and had minor amounts of extraction during the Outokumpu era. D Zone is a copper and iron deposit directly adjacent to A Zone and B Zone and has not been previously mined.

All three deposits remain open at depth. The exploration upside is considered to be very strong as has been demonstrated in recent drilling results. Resource development drilling is continuing, aimed at upgrading the resource categorisation at extensions to the deeper mineralisation at D Zone with the aim of extending the mine life beyond 10 years and increasing the proposed milling production rate.

The planned mine is based on a 1.2Mtpa combined open-pit and underground operation. Over the life of mine, the three open pits will contribute approximately 75% of the mill feed combined (or 800,000 tonne per year) with 25% contributed from underground sources (or 400,000 tonnes per year).

The open pit mines will be conventional truck and shovel operations. The life-of-mine strip ratio based on the current plan is 5.8:1. No pre-stripping of any of the deposits is required. The equipment fleet will consist of 92-tonne dump trucks and 100 tonne excavators and an associated ancillary fleet. The resource model has been diluted at 3% and a mining recovery factor of 97% applied.

Underground mining methods are sublevel-retreat benching with a top-down sequence for the upper levels where grades are lower (~1.4% copper) and lodes are thinner (~6.0m), and bottom-up with rock fill for the main lode at depth where the grade is higher (~1.7%) and lode is thicker (>8.5m). The equipment fleet will be conventional electric-over-hydraulic jumbos, longhole rigs, diesel loaders, diesel haul trucks and an associated ancillary fleet. Sustaining capital includes planning for decline, level accesses and ventilation circuit development. Dilution has been applied at 0.5m on the hangingwall and 0.25m on the footwall. Mining recovery has been applied at 85% for the upper levels where pillars are required as part of the mining method and 95% for the lower levels where backfill is included. The mine plan requires that the decline is developed as soon as possible to access the bottom of the main lode and this is accounted for in the pre-development and sustaining capital cost estimates.

The processing circuit is crushing and grinding followed by copper flotation and concentrate filtering. There is little other copper mineralogy other than chalcopyrite. The orebodies contain low levels of pyrite and pyrrhotite. There are no by-products or deleterious elements. The overall copper recovery is 90.2%. Higher recoveries are envisaged at the completion of the next stage of metallurgical testwork when additional cleaner testwork is expected to deliver superior results.

The project development will require a tap-off and substation from the existing high-voltage powerline. No accommodation construction is required for operations or construction due to the proximity of Kiruna city. Water supply will be sourced from the dewatering of the mining operations. No major access road is required due to the proximity to the national E10 highway, however, a site access bridge will be required over a railway line.

A tailings technology option study will be conducted as part of the prefeasibility study. This will assess the merits of unthickened, thickened and filtered tailings in a low power cost environment. The scoping study has utilised a thickened tails scenario.

For the purposes of the scoping study, sale of the copper concentrate to a local Scandinavian smelter has been assumed.

Figure 3 illustrates the traverse of the high-voltage power-line with existing hydropower supply capacity through the project site. A new electrified rail line diversion (completed 2013) is shown in purple, which was required as a re-route around the caving zone initiated by the latest lift of LKAB's underground operations. The location (and potential availability for future use) of the former Outokumpu tailings storage facility and former plant site are also indicated.

As studies and development progress, significant focus will be applied to alternative project execution models, alongside the traditional EPCM/EPC approaches. This may include, amongst others, turn-key solutions for the processing plant implementation, contracted crushing operations and modularisation of the flotation and concentrate filter plant with the potential for lease financing.

Next Steps

For 2016, Avalon will focus on bringing additional mining inventory from step-out drilling at D Zone at depth. This strategy has already met with success following the announcement of results from hole VDD195. The definition of additional shoots averaging >2.0% copper will significantly contribute to enhanced economics for the project. An outline of the proposed extensional drilling areas is shown in Figure 4 below.

The aim of the step-out drilling is to target additional resources to increase the production rate to 2.0 million tonnes per annum or over 20,000 tonnes of copper per annum.

Environmental Impact Assessment activities will increase in 2016 in order for an environmental permit to be granted, with the project to be construction ready in 2017.





Figure 1: Location of Viscaria Copper Project





Figure 2: Location map of Kiruna, Sweden



- | | |
|-----------------------|---------------------------------|
| Railway Line | Existing Town Centre |
| 2030 Deformation Zone | Power Station - Waste to Energy |
| Proposed E10 Bypass | Golf Course |
| New connection to E10 | Proposed New Town Centre |
| Viscaria Project | Airport |
| Kirunavarra Mine | Public Rail Terminal |
| Luossavaara Ski Hill | |

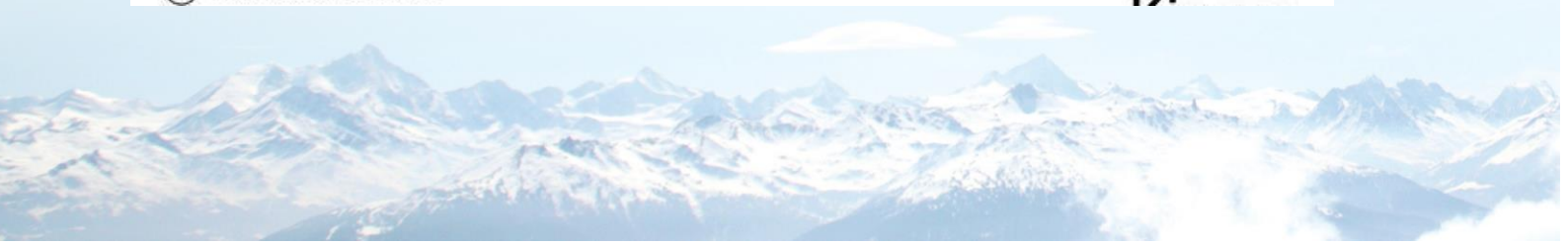




Figure 3: Location map of Viscaria Copper Project

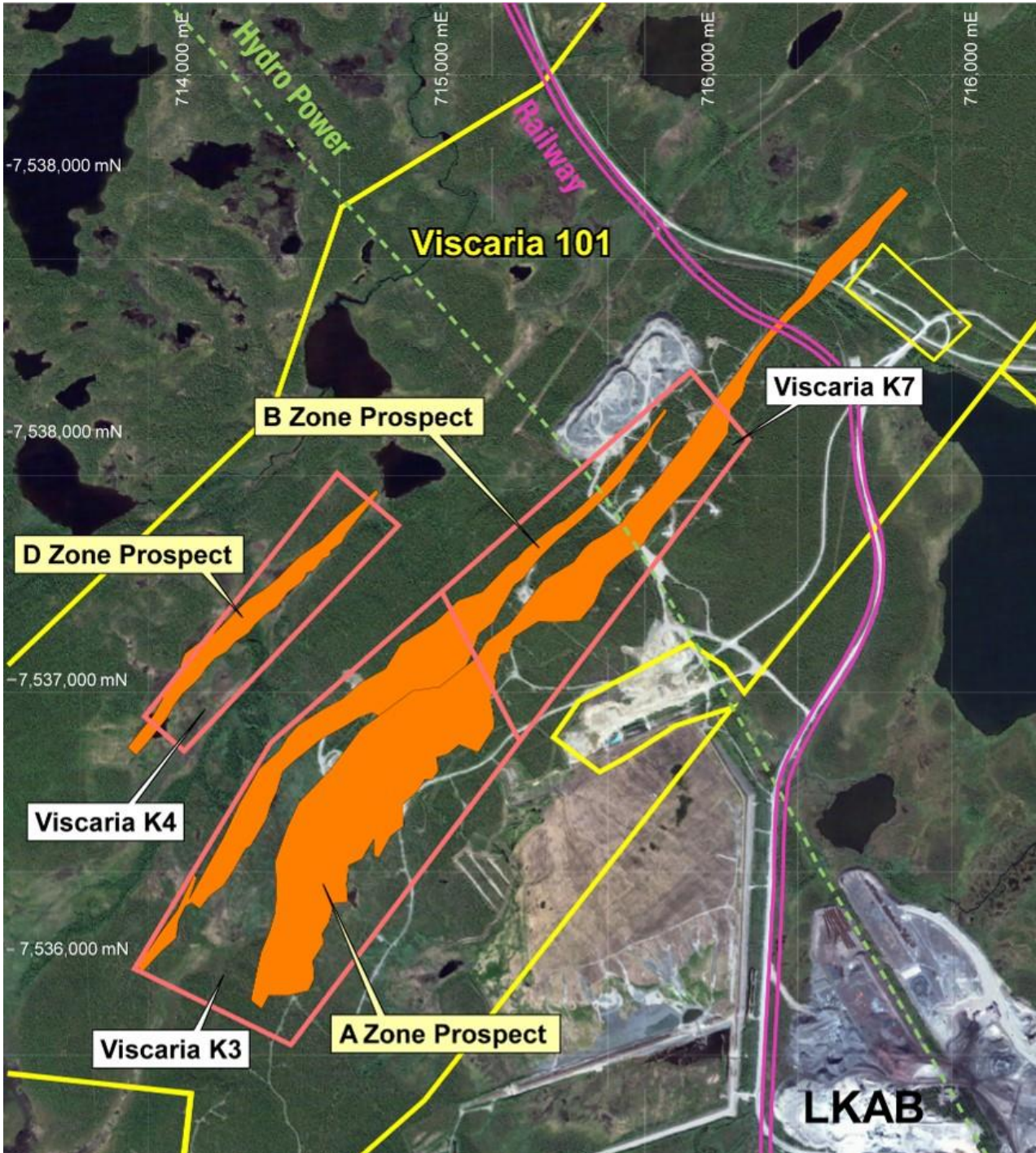
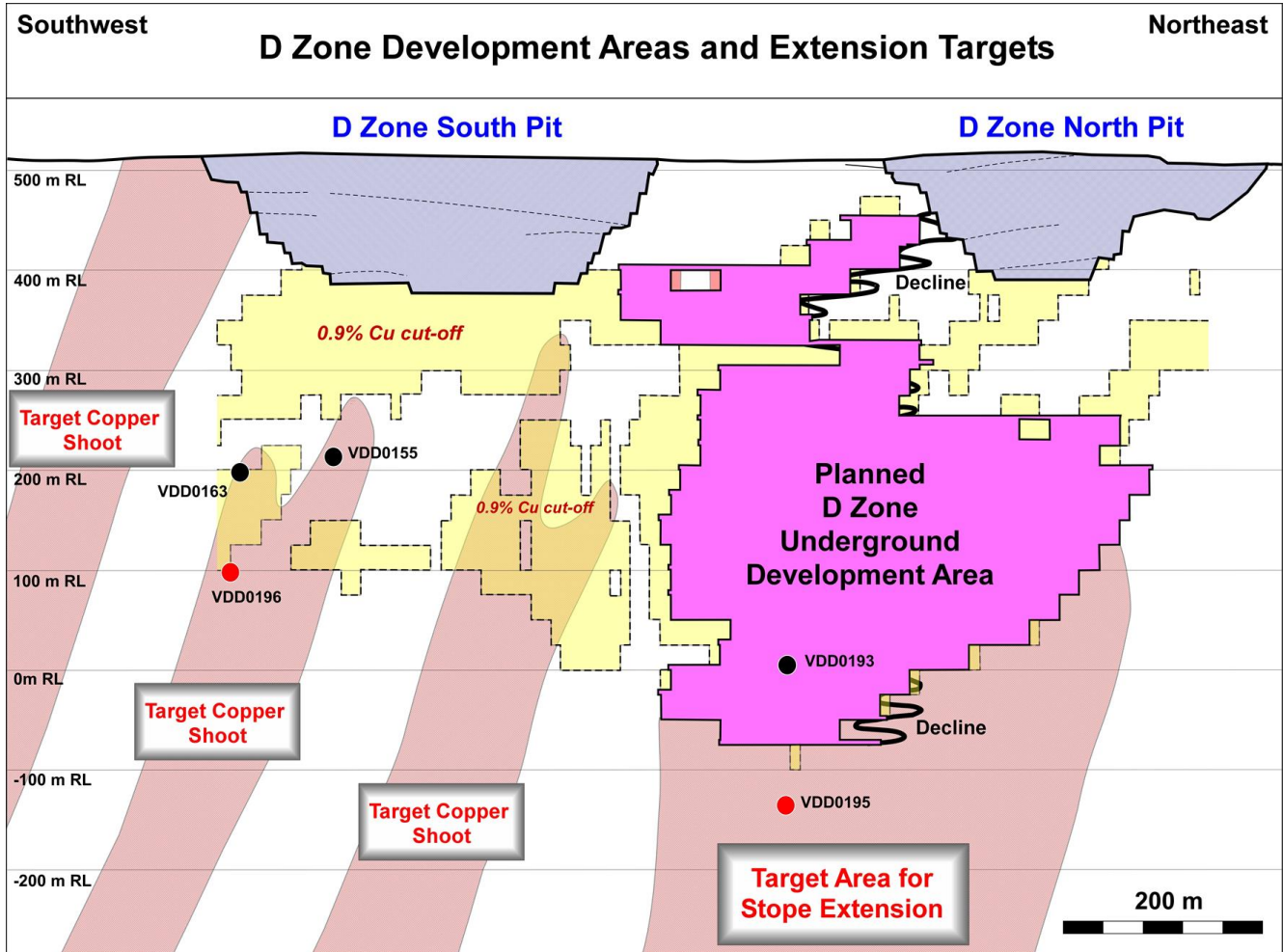




Figure 4: D Zone extensional and target shoot drilling areas



Competent Persons Statement

The information in this report that relates to exploration results is based upon information reviewed by Mr Malcolm Norris who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Norris is a full-time employee of Avalon Minerals Ltd and 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 Norris 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 the A Zone and B Zone Mineral Resources are based on the information compiled by Dr Bielin Shi who is a Member of the Institute of Mining and Metallurgy and is a full time employee of CSA Global Pty Ltd (CSA). CSA are an independent mining consultancy who have been engaged by Avalon Minerals Limited to perform geological consulting on a fee for service basis. Dr Bielin Shi has sufficient experience that is relevant to the style of mineralisation being considered and to the activity being undertaken 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. Dr Shi consents to the inclusion in this 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 the D Zone Mineral Resource estimate is based on the information compiled by Chris Grove who is a Member of the Australasian Institute of Mining and Metallurgy and is a full time employee of Measured Group Pty Ltd. Measured Group is an independent mining consultancy who have been engaged by Avalon Minerals Limited to perform geological consulting on a fee for service basis. Mr Grove has sufficient experience that is relevant to the style of mineralisation being considered and to the activity being undertaken 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 Grove consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

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