# ASX ANNOUNCEMENT 16 JANUARY 2013



# RESULTS OF FIRST ASSAYS REVEAL +2% CuEq ZONES AT AVALON'S D ZONE PROSPECT

# Highlights

- Assays for the first five drill holes from the D Zone Prospect at Avalon's Viscaria Copper Project have been received;
- Best intersections include:
  - VDD0133: 13.4m @ 2.0% CuEq\*, including 6.1m @ 2.5% CuEq\*
  - VDD134: 12m @ 1.1% CuEq\*, including 5.7m @ 2.0% CuEq\*
  - VDD0137: 58.5m @ 0.5% CuEq\*, including 3.5m @ 2.1% CuEq\*
- All five drill holes completed to date have intersected copper and iron mineralised intervals from 12.0m to 58.5m down hole thickness;
- Each of these mineralised intersections have extended the known mineralisation at D Zone by at least 30m down dip, suggesting the drill program is on track to deliver "Development Case A" from the project's Scoping Study with the potential to add a further US\$50M to the NPV of D Zone;
- Drilling is ongoing and continuing to intersect similar mineralisation at D Zone, with further assay results to be announced within the next 2 weeks;
- Drill program will comprise ~25,000m of drilling, with the objective of extending the Mineral Resources at the A and D Zone prospects and delivering on the potential increases to the project NPV outlined in the Scoping Study.



Australian resources company Avalon Minerals Limited ('Avalon' or 'Company') (ASX: AVI) is pleased to announce the assay results for the first five drill holes from the D Zone Prospect, of the current drill program, on the Viscaria Copper Project ('Viscaria') in northern Sweden (Figure 1). This drill program will comprise approximately 25,000 metres of drilling, with the objective of extending the known Mineral Resources at the A and D Zone prospects and delivering on the potential increases to the project Net Present Value ('NPV') outlined in the Scoping Study (see ASX announcement 11 October 2012).

The Company's Managing Director Mr Jeremy Read said, "Drill results like 13.4m @ 2.0% CuEq\*, including 6.1m @ 2.5% CuEq\* from VDD0133 and 5.7m @ 2% CuEq from VDD0134 are extremely encouraging and indicate on these sections the copper grades are increasing with depth."

"All drill holes completed to date have intersected mineralised intervals from 12 metres to 58.5 metres down hole thickness and within these broad intervals, zones of high-grade copper occur. The results from these first five drill holes have extended the known mineralisation at least 30 metres further down dip and are consistent with previous drilling results in these areas."

"These initial results indicate that there is excellent potential for the D Zone Mineral Resource to be extended at depth and hence deliver on the first Development Case for Viscaria as outlined in the Scoping Study announced last October," he added.

## D Zone Prospect Extensional Drill Program

The objective of the D Zone Extensional Drill program is to fully define the copper-iron mineralisation, as the mineralisation is currently open along strike and at depth. Fully defining the mineralisation will allow optimisations to be completed on an expanded Mineral Resource, which will estimate the proportions of the D Zone mineralisation which will be able to be extracted using open pit and also potentially underground, mining methods.

The Viscaria Project Scoping Study (see ASX announcement, 11 October 2012) showed that extending the D Zone Mineral Resource 300 metres along strike and 35 metres down dip, will add US\$50M to the NPV of the D Zone Mineral Resource. Demonstrating that D Zone has the potential to be mined economically, using underground methods, has the potential to add a further US\$28M to the NPV of D Zone.

The results from the drill holes announced today indicate that on the sections containing drill holes VDD0133 and VDD0137, the grade of the mineralisation is increasing at depth (Figure 2). These two holes exceeded expectations due to the occurrence of mineralisation grading in excess of 2% CuEq\* over potentially mineable widths. Broad zones of copper-iron mineralisation were intersected in holes VDD0130, VDD0134 and VDD0136, which were similar in terms of the grade and thickness of the copper-iron mineralisation previously intersected on the sections containing these drill holes. Consequently, the drill results from these holes met expectations.



#### VDD0133: Central D Zone (Figure 3)

Drill hole VDD0133 intersected 13.4m @ 2.0% CuEq\*, including a very high grade interval of 6.1m @ 2.5% CuEq\*. This drill hole extended the known mineralisation from previous Avalon drill holes VDD0110, VDD0063, VDD0089, VDD0090 and VDD0106 by approximately 50 metres down dip and therefore, could potentially result in a significant increase of the D Zone Mineral Resource (Table 2).

By comparing the previous drill hole intersections from top to bottom and then VDD0130, it is apparent that the copper grade is increasing with depth in this area. This observation is common throughout the D Zone Prospect and often the thickness and/or copper grade of this mineralisation zone continues to increase with depth. The results of the previously announced Viscaria Project Scoping Study indicate that the high copper grades in this area could potentially be economically mined by underground methods (Development Case C), especially if the copper grade continues to increase with depth.

### VDD0130: Northeastern D Zone (Figure 4)

Drill hole VDD0130 intersected 35.9m @ 0.5% CuEq\* and 12.1m @ 0.3% Cu. The upper mineralised intersection extended the known mineralisation from previous Avalon drill holes VDD0114, VDD0088 and VDD0085 by approximately 30 metres down dip and therefore, could potentially result in an increase of the D Zone Mineral Resource. The results of the previously announced Viscaria Project Scoping Study indicate that this broad, shallow mineralised intersection has the scope to increase the tonnes of mineralisation which could be extractable using open pit methods at D Zone (Development Case A).

The second intersection in VDD0130 is a newly discovered mineralisation zone that needs to be followed up with further drilling, in order to understand if it increases in copper grade laterally or vertically.

#### VDD0136: Northeastern D Zone (Figure 5)

Drill hole VDD0136 was drilled 100 metres to the northeast of VDD0130 and intersected 56m @ 0.5% CuEq\* from only 38 metres down hole. This drill hole extended the known mineralisation from previous Avalon drill holes VDD0077 and VDD0075 by approximately 30 metres down dip and therefore, could potentially result in an increase of the D Zone Mineral Resource. Also, the results of the previously announced Viscaria Project Scoping Study indicate that this broad, shallow mineralised intersection has the potential to increase the tonnes of mineralisation which could be extractable using open pit methods at D Zone (Development Case A).

#### VDD0137: Northeastern D Zone (Figure 5)

Drill hole VDD0137 was drilled under VDD0136 and intersected 58.5m @ 0.5% CuEq\* including a high-grade interval of 3.5m @ 2.2% CuEq\*. This drill hole extends the known mineralisation from VDD0136 by approximately 30 metres down dip and therefore, could potentially result in an increase of the D Zone Mineral Resource. Also, the results of the previously announced Viscaria Project Scoping Study indicate that this broad, shallow mineralised intersection has the potential to increase the tonnes of mineralisation which could be extractable using open pit methods at D Zone (Development Case A).



What is also apparent from the drilling results shown on this section (Figure 5) is that high grade copper appears to be starting to accumulate on the footwall side of the mineralisation zone at depth. This observation is common throughout the D Zone Prospect and often the thickness and/or copper grade of this mineralisation zone continues to increase with depth.

#### VDD0134: Northeastern D Zone (Figure 6)

Drill hole VDD0134 was drilled 50 metres to the northeast of VDD0136 and VDD0137, and intersected 12m @ 1.1% CuEq\*, including a high-grade interval of 5.7m @ 2.0% CuEq\*. This drill hole extended the known mineralisation from previous Avalon drill holes VDD0062, VDD0068 and VDD0060 by approximately 30 metres down dip and therefore, could potentially result in an increase of the D Zone Mineral Resource. Also, the results of the previously announced Viscaria Project Scoping Study indicate that the thickness and grade of this relatively shallow mineralised intersection has the potential to increase the tonnes of mineralisation, which could be extractable using open pit methods at D Zone (Development Case A).

Similar to the previous section 50 metres to the southwest, the drilling results shown on this section (Figure 6) also indicate that high-grade copper is accumulating on the footwall side of the mineralisation zone at depth. On this section, the copper grade of this mineralisation zone increases with depth from 6m @ 1.6% CuEq\* in VDD0062 to 5.72m @ 2% CuEq\* in VDD0134.

Drilling is continuing and further geochemical results should be available with the next two weeks.

The details of the geochemical assay data for these drill holes are shown in Table 1.



#### Table 1

Hole	Prospect	Easting (RT90, m)	Northing (RT90, m)	Azi. (°)	Dip (°)	From (down hole m)	To (down hole m)	Interval Width (down hole m)	% Cu	% Fe	% CuEq	End of Hole (m)
VDD00130	D Zone	1,680,842	7,537,502	130	-55	198.10	234.00	35.90	0.14	25.2	0.5	
						and						324
						280.00	292.10	12.10	0.3	-	0.3	
VDD00133	D Zone	1,680,427	7,537,145	130	-55	227.66	241.10	13.44	1.5	32.5	2.0	270
	D Zone	1,680,989	7,537,586	130	-55	135.60	149.00	13.40	0.6	24.1	1.0	
VDD00134						including					195	
						143.28	149.00	5.72	1.53	32.5	2.0	
VDD00136	D Zone	1,680,988	7,537,520	130	-55	38.00	94.00	56.00	0.12	21.5	0.5	135
VDD00137	D Zone	1,680,964	7,537,539	130	-55	93.00	151.50	58.50	0.22	18.9	0.5	
						including						180
						148.00	151.50	3.50	1.8	26.1	2.2	

### \*Copper Equivalent Formula

%  $\dot{\text{CuEq}} = \% \dot{\text{Cu}} + ((\%\text{Fe x Fe price US}/\text{tonne x Fe recovery})/(\text{Cu price US}/\text{tonne x Cu recovery}))$  $\dot{\text{Cu price US}/\text{tonne}} = \$7,163.00 \text{ (US}\$3.25/\text{Ib)}$ 

Cu Recovery = 90%

Fe price US\$/tonne = \$144.93 (calculated from US\$100 Net Price per tonne of magnetite concentrate containing 69% Fe)

Fe Recovery = 70%

Results from extensive metallurgical test work completed by Avalon indicate that both copper (Cu) and iron (Fe) have a reasonable potential to be recovered from the D Zone Mineral Resource contained within the Viscaria Project.



Table 2: Currently Defined Mineral Resources on the Viscaria Project

Resource Name	Classification	Tonnes (t)	Cu Grade (%)	Cu Metal (t)	
	Measured	14,439,000	1.66	239,000	
A 7*	Indicated	4,690,000	1.22	57,000	
A Zone*	Inferred	2,480,000	1.03	26,000	
	Subtotal	21,609,000	1.49	322,000	
	Measured	123,000	1.33	2,000	
D 7*	Indicated	4,118,000	0.72	30,000	
B Zone*	Inferred	15,410,000	0.77	118,000	
	Subtotal	19,650,000	0.76	150,000	
6.7	Indicated**	3,500,000 0.94		32,900	
D Zone	Inferred**	1,870,000	0.80	14,960	
Cu Resource	Subtotal	5,370,000	0.89	47,860	
Overall Cu	Total	46,629,000	1.01	519,860	

Resource Name	Classification	Tonnes (t) Fe Grade (%)		Fe Mass Recovery (%)	Fe Metal (t)	
D Zone	Indicated***	9,470,000	25.90	31.3	2,964,110	
Fe Resource	Inferred***	5,320,000	25.60	30.8	1,638,560	
Overall Fe	Total	14,790,000	25.80	31.1	4,602,670	

<sup>\* 2011</sup> Mineral Resources for A Zone and B Zone are reported above a cut-off grade of 0.4% Cu.

\*\* 2012 Copper Mineral Resource for D Zone above a cut-off grade of 0.4% Cu.

#### **ABOUT AVALON**

Avalon is an ASX listed mineral exploration company with high quality assets in Sweden, one of the leading metal producing countries in the European Union.

Avalon's flagship asset is the Viscaria Copper-Magnetite Project located 1,200km north of Stockholm where the Company has delineated a global resource of 66.2 million tonnes of mineralisation, containing 51,000 tonnes of copper and 2.4 million tonnes of iron.

The Viscaria Project is surrounded by established infrastructure, lying immediately adjacent to LKAB's Kirunavaara Iron Ore operation and in close proximity to high-capacity rail and ports.

<sup>\*\*\* 2012</sup> Iron Mineral Resource for D Zone above a cut-off grade of 15% Fe Mass Recovery.



#### **ABOUT SWEDEN**

Sweden has a 1,000 year mining history, is a leading producer of base metals (copper, zinc, lead) and precious metals (gold and silver) and is the largest producer of iron ore in the European Union.

There are excellent discovery opportunities, with much of the country underexplored by modern standards. Furthermore, Sweden possesses a world-class geological database and favourable minerals legislation, is politically and economically stable and has mining know-how, highly trained personnel and excellent infrastructure.

## For further information please visit www.avalonminerals.com.au or contact:

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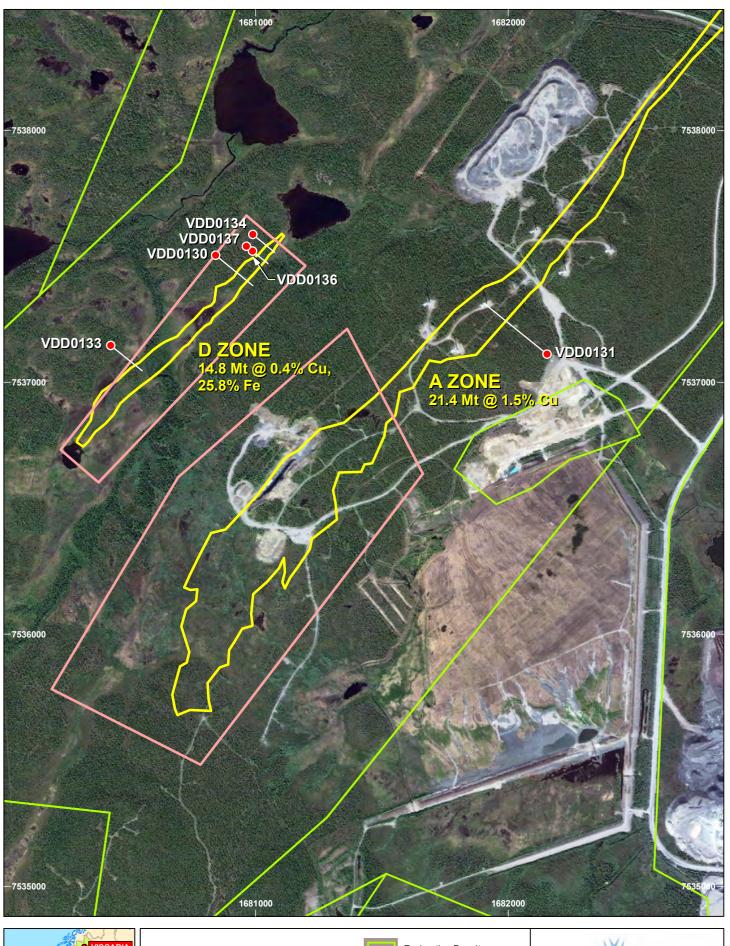
#### **Competent Persons Statement**

The information in this report that relates to Mineral Resources and Exploration Targets is based upon information reviewed by Mr Jeremy Read BSc (Hons) who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Read 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Read consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

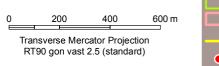


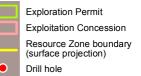
RUSSIA Narvik Kiruna Viscaria Cu-Fe Project Kiruna Fe Mine Malmberget Fe Mine Aitik Cu Mine Lulea **FINLAND** Skelleftea Ronnskar Cu-Pb smelter Kokkola Zn smelter **Umea** Ostersund **SWEDEN** Pori **Harjavalta** Cu smelter Cu refinery Gavle Falun o lelsinki In smelter Oslo Karistad Stockholm Mariestad Nykoping Goteborg Jonkoping LATVIA Halmstad Kalmar **Kristianstad** LITHUANIA

Figure 1 - Project Location









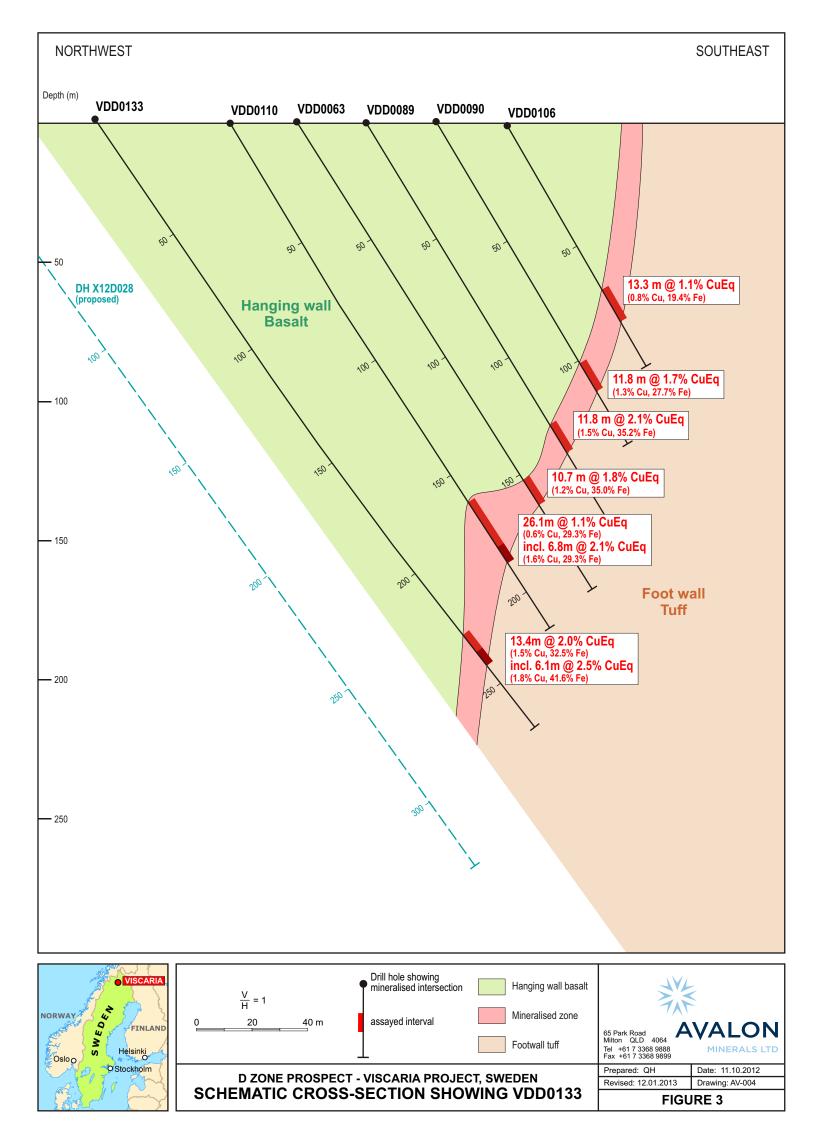
VISCARIA PROJECT, SWEDEN
LOCATION OF DRILL HOLES

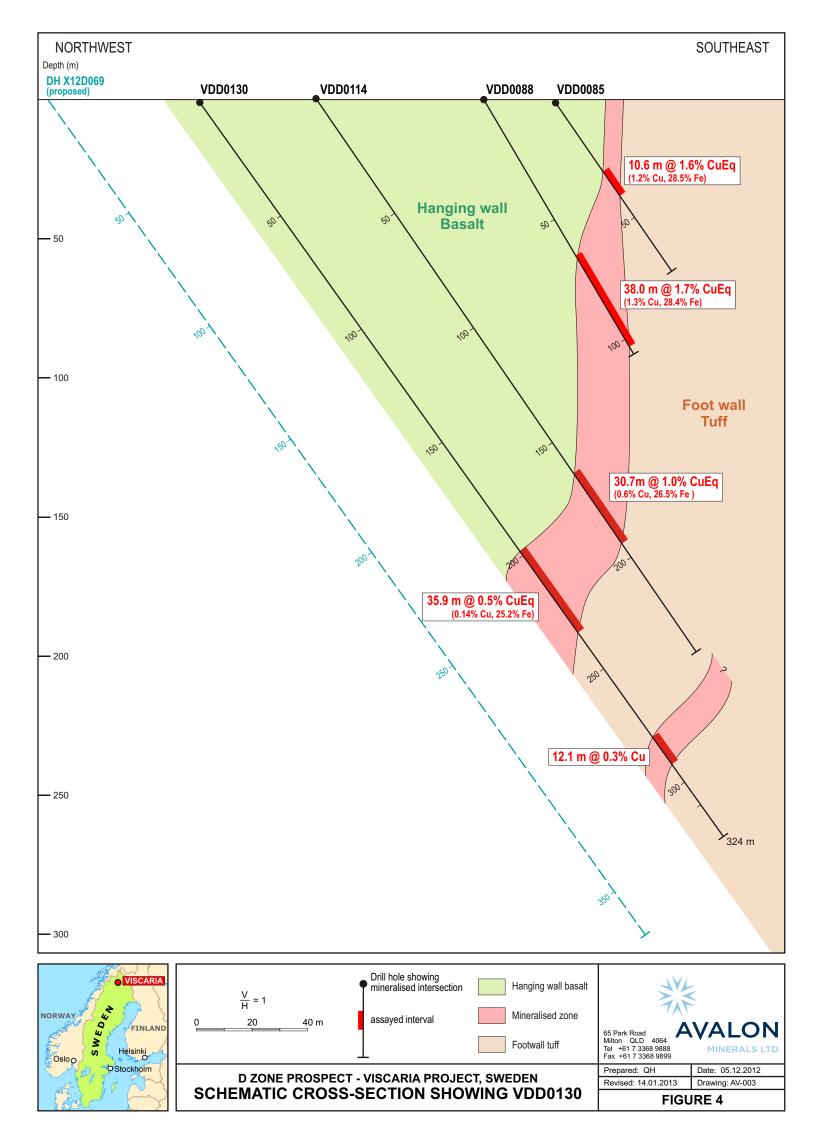


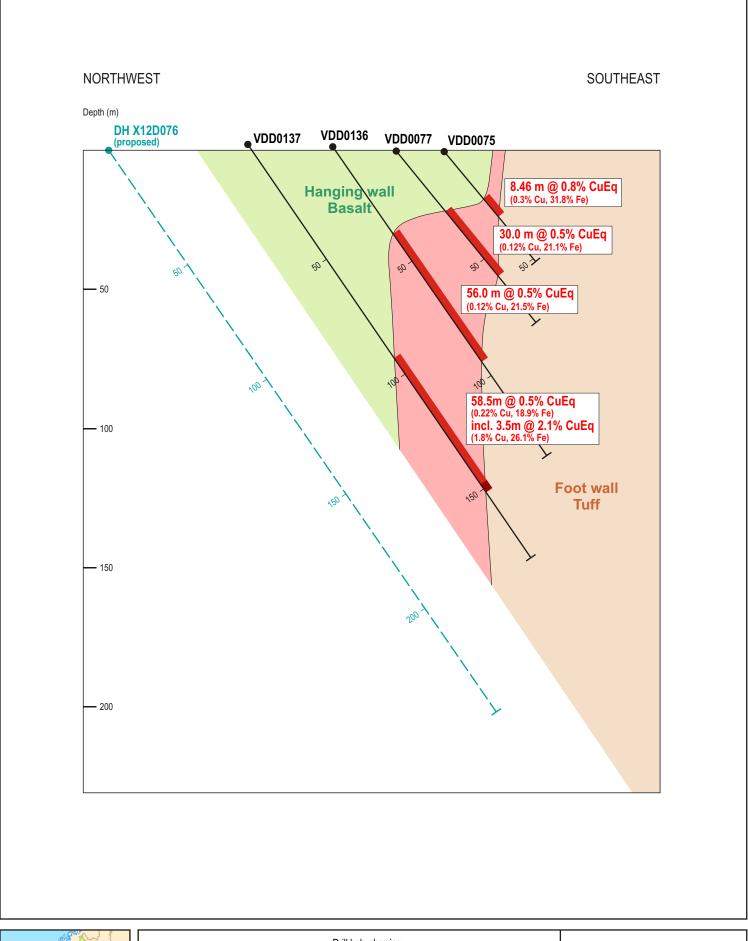
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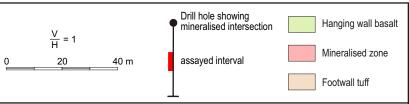
FIGURE 2











D ZONE PROSPECT - VISCARIA PROJECT, SWEDEN SCHEMATIC CROSS-SECTION SHOWING VDD0136 & VDD0137

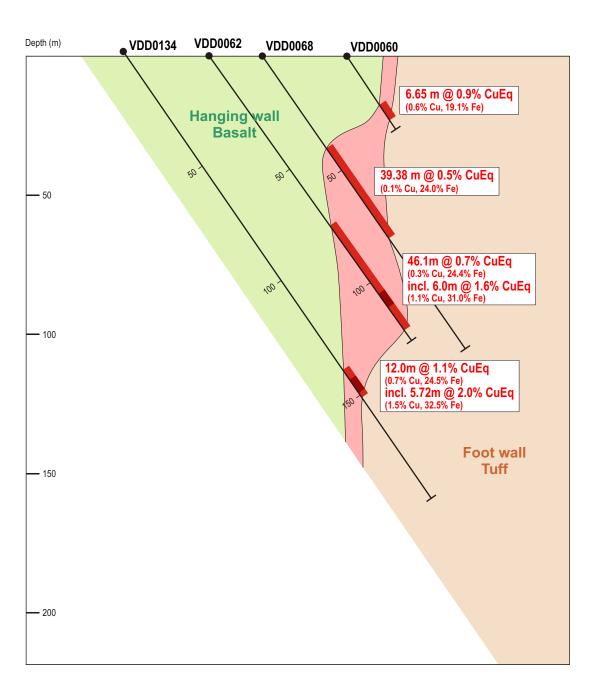


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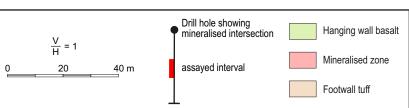
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 Drawing: AV-006

FIGURE 5

NORTHWEST SOUTHEAST







D ZONE PROSPECT - VISCARIA PROJECT, SWEDEN SCHEMATIC CROSS-SECTION SHOWING VDD0134



 Prepared: QH
 Date: 12.01.2013

 Revised: 14.01.2013
 Drawing: AV-005

FIGURE 6