## ASX ANNOUNCEMENT 13 MARCH 2013



# AVALON'S D ZONE CONTINUES TO IMPRESS AS DRILLING INTERSECTS THICK AND HIGH GRADE COPPER AND IRON MINERALISATION

### **Highlights**

- Assays results from D Zone at Viscaria Project have been received, with all six drill holes intersecting copper and iron mineralisation;
- Best intersections include:
  - VDD0153: 10.7m @ 2.1% CuEq\* and 3.8m @ 1.9% CuEq\*, within a larger mineralisation zone of 44.0m @ 0.9% CuEq\*;
  - VDD0157: 10.0m @ 1.9% CuEq\*, within a larger mineralisation zone of 42.3m @ 1.2% CuEq\*;
  - VDD0155: 14.0m @ 1.6% CuEq\*, within a larger mineralisation zone of 23.0m @ 1.2% CuEq\*;
  - VDD0151: 4.2m @ 2.5% CuEq\*, within a larger mineralisation zone of 18.4m @ 0.9% CuEq\*;
  - VDD0156: 10.8m @ 1.5% CuEq\*, within a larger mineralisation zone of 54.1m @ 0.6% CuEq\*.
- Area of known mineralisation has been extended between 30m and 150m down dip and up to 100m along strike;
- Drilling at D Zone continues to extend the two relatively thick, high grade copper-iron plunging zones defined by previous drilling;
- Avalon on track to define increases to the D Zone Mineral Resource.

Australian resources company Avalon Minerals Limited ('Avalon' or 'Company') (ASX: AVI) is pleased to release assay results for six drill holes from the D Zone Prospect on the Viscaria Project ('Viscaria'), in northern Sweden (Figure 1).

All six holes intersected thick high grade copper and iron mineralisation, and the area of known mineralisation has been extended between 30m and 150m down dip and up to 100m along strike. The drill program comprises approximately 25,000 metres, 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's Net Present Value (NPV), outlined in the Scoping Study (see ASX announcement 11 October 2012).



Managing Director Mr Jeremy Read said, "The drilling at D Zone continues to deliver very promising results as we are continually extending the known mineralisation and defining multiple zones of thicker and higher grade mineralisation. The two relatively thick, moderately plunging, high grade copper-iron mineralisation zones discovered at D Zone are continuing at depth with the grades of the copper-iron mineralisation improving at depth."

"The continued success of the D Zone resource extension drill program indicates that there is excellent potential for the D Zone Mineral Resource to be significantly extended at depth. This should then enhance the economics of the D Zone Mineral Resource and deliver the Development Cases A and C for D Zone, which has the potential to add \$78M to the project's NPV, increasing it to \$126M." he added.

#### D Zone Mineral Resource Extension Drill Program

Of the six drill holes announced today, three were drilled in the northeast of the D Zone Prospect (VDD0153, VDD0157 and VDD0156), while three were drilled in the southwest of the D Zone Prospect (VDD0152, VDD0155 and VDD0151). As discussed in previous announcements, this drilling was designed to follow up on excellent previous drill intersections that appear to delineate two southwest plunging, relatively thick, high grade copper-iron mineralisation zones in these areas.

The success of VDD0153, VDD00157 and VDD0156 follows the success of previously announced drill holes VDD0141, VDD0134, VDD0138, VDD0147 and VDD0150 in the northeast of the D Zone Prospect. The success of these drill holes further delineates a relatively thick, moderately plunging, high grade copper-iron mineralisation zone by extending it at least a further 100m along strike and at least 100m further down dip.

Supplementary drilling in this area is necessary to fully define the lateral and depth extent of this high grade mineralisation zone and this will be a major focus of upcoming drill holes. However, currently there is no indication that this mineralisation is diminishing at depth. In fact, the mineralisation actually appears to be improving in copper grade at depth.

The success of VDD0152, VDD0155 and VDD0151, follows the success of previously announced drill holes in the southwest of the D Zone Prospect. The success of these drill holes indicates that the second relatively thick, moderately plunging, high grade copperiron mineralisation zone extends approximately a further 100m along strike and at least 100m further down dip.

The details of the geochemical assay data for these drill holes are shown in Table 1 with the location of each hole outlined in Figure 2.

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



#### VDD0153: Northeast D Zone (Figure 3)

Drill hole VDD0153 intersected 44.0m @ 0.9% CuEq\* from 288.0m down hole, including a high grade interval of 10.67m @ 2.1% CuEq\* and 5.0m @ 1.5% CuEq\*. This drill hole was completed more than 150m down dip of VDD0024. Therefore, the success of VDD0153 could potentially result in a significant increase to the D Zone Mineral Resource.

The results of the previously announced Viscaria Project Scoping Study indicate that the mineralised intersections from VDD0153, especially 10.67m @ 2.1% CuEq\* from 288m down hole has the potential to increase the tonnes of mineralisation which could be extractable using underground mining methods at D Zone (Development Case C).

#### VDD0157: Northeast D Zone (Figure 4)

Drill hole VDD0157 intersected 42.29m @ 1.2% CuEq\* from 363.71m down hole, including 10m @ 1.9% CuEq\* from 366m down hole and 4m @ 2.3% CuEq\* from 382m down hole. It was drilled approximately 80 metres down dip of VDD0138.

The results of the previously announced Viscaria Project Scoping Study indicate that the mineralised intersections from VDD0157, especially 10.0m @ 1.9% CuEq\* from 366m down hole and 4m @ 2.3% CuEq\* from 382m down hole, has the potential to increase the tonnes of mineralisation which could be extractable using underground mining methods at D Zone (Development Case C).

#### VDD0156: Northeast D Zone (Figure 5)

Drill hole VDD0156 intersected 54.12m @ 0.6% CuEq\* from 249.38m down hole, including 10.8m @ 1.5% CuEq\*. It was drilled over 100m down dip of drill hole VDD0139.

#### VDD0152: Southwest D Zone (Figure 6)

Drill hole VDD0152 intersected two mineralised zones: the first was 17m @ 0.8% CuEq\* from 297m down hole including 4m @ 1.4% CuEq\* from 297m down hole; the second was 26m @ 0.8% Cu from 327m down hole, including 4m @ 2.0% CuEq\* from 347m down hole. It was drilled 50 metres down dip of drill hole VDD0113.

#### VDD0155: Southwest D Zone (Figure 7)

Drill hole VDD0155 intersected 23m @ 1.2% CuEq\* from 376m down hole, including 14m @ 1.6% CuEq\*. This mineralised intersection extends the known mineralisation over 80m down dip from previous drill hole VDD0112 and therefore, could potentially result in a significant increase of the D Zone Mineral Resource.

#### VDD0151: Southwest D Zone (Figure 8)

Drill hole VDD0151 intersected 18.35 @ 0.9% CuEq\* from 297.0m down hole, including 4.2m @ 2.5% CuEq\*. This mineralised intersection extends the known mineralisation over 30m down dip from previous drill hole VDD0119 and therefore, could potentially result in a increase of the D Zone Mineral Resource.



Table 1: Drill hole details and assays results.

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)			
VDD0151	D Zone	1,680,566	7,537,221	134.4	-55.5	159.85	178.2	18.35	0.5	21.1	0.9				
							including				204				
						174.00	178.20	4.20	1.9	38.6	2.5				
									<u> </u>						
VDD0152	D Zone	1,680,214	7,536,999	134.4	-53	297.00	314.00	17.00	0.5	24.2	0.8				
							including								
						297.00	301.00	4.00	1.1	18.6	1.4	1			
							•	•	-	-		369			
						327.00	353.00	26.00	0.4	27.5	0.8				
								including				] ]			
						343.00	347.00	4.00	1.4	37.0	2.0				
			•	•		•	•	•	-	-					
	D Zone	1,680,658	7,537,405	134.6	-55.7	288.00	332.00	44.00	0.6	21.3	0.9				
VDD0153								includin	g						
						298.00	303.00	5.00	1.0	20.6	1.3				
						also including					375				
						320.25	330.92	10.67	1.6	33.9	2.1				
						349.25	353.00	3.75	1.7	16.2	1.9				
	D Zone	1,680,222	7,537,057	136.5	-56.3	376.00	399.00	23.00	0.9	21.1	1.2				
VDD0155								including				402			
						380.00	394.00	14.00	1.2	24.8	1.6				
VDD0156	D Zone	1,680,873	7,537,556	135.7	-57	249.38	303.50	54.12	0.2	25.3	0.6				
							including								
						292.70	303.50	10.80	1.0	30.7	1.5	375			
							including								
						298.00	302.00	4.00	1.8	29.7	2.2				
			•	•		•	•	•	-	-					
VDD0157	D Zone	1,680,747	7,537,492	134.4	-56.2	363.71	406.00	42.29	0.9	21.2	1.2				
								includin	g						
						366.00	376.00	10.00	1.4	31.6	1.9	420			
								Also includ	ding			_			
						382.00	386.00	4.00	1.8	36.0	2.3				

#### \*Copper Equivalent Formula

% CuEq = % Cu + ((%Fe x Fe price US\$/tonne x Fe recovery)/(Cu price US\$/tonne x Cu recovery)) Cu price US\$/tonne = \$7,163.00 (US\$3.25/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 Minerals Limited 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.

Posource Name	Classification	Tonnes (t)	Cu Grade (%)	Cu Metal	
Resource Name				(t)	
	Measured	14,439,000	1.66	239,000	
A Zone*	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	
B Zone*	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	
D 7000	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.

#### **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-Iron 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> Copper Mineral Resource for D Zone above a cut-off grade of 0.4% Cu.

<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.

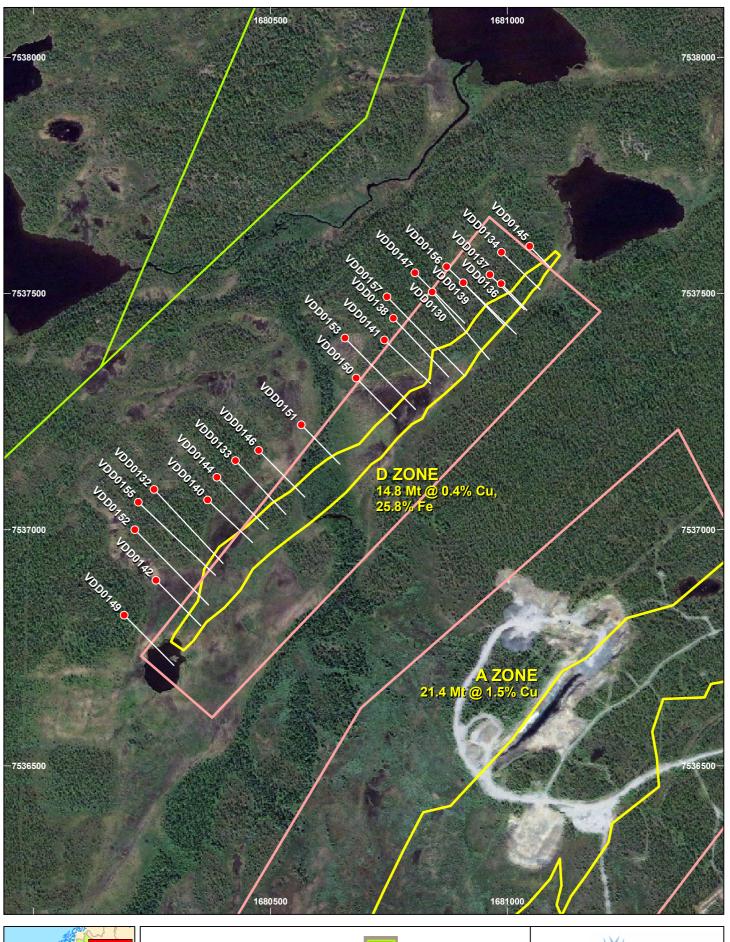
The Mineral Resource estimate for the D Zone Prospect was compiled and prepared by Stefan Mujdrica (MAusIMM) of Xstract Mining Consultants who is a Competent Person as defined by the Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2004 Edition and who consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

The Scoping Study results were compiled and prepared by Tim Horsley (MAusIMM) of Xstract Mining Consultants who is a Competent Person as defined by the Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2004 Edition and who consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

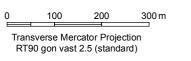


RUSSIA Narvik Kiruna Viscaria Cu-Fe Project Kiruna Fe Mine Malmberget Fe Mine Aitik Cu Mine Lulea **FINLAND** Skelleftea Ronnskar Cu-Pb smelter Kokkola Zn smelter **Umea** Ostersund **SWEDEN** Pori **Harjavalta** Cu smelter Cu refinery Gavle Falun o lelsinki In smelter Oslo Karistad Stockholm Mariestad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

Figure 1 - Project Location









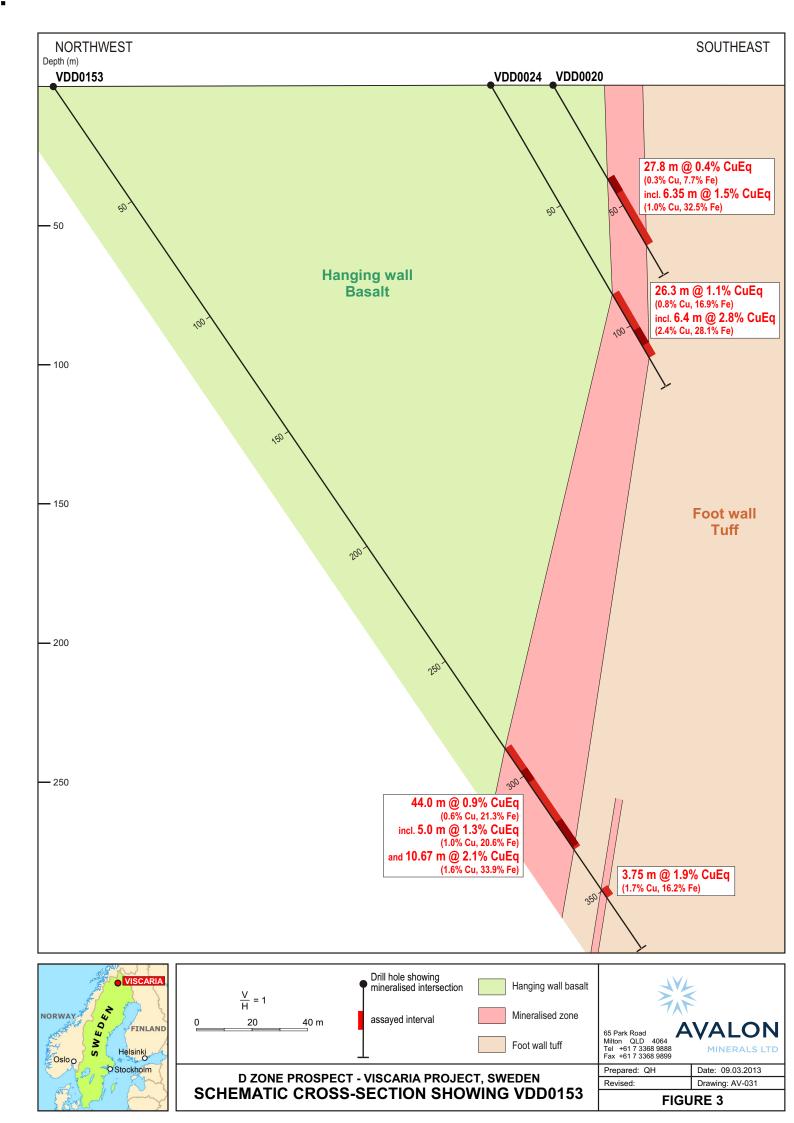
D ZONE PROSPECT - VISCARIA PROJECT, SWEDEN LOCATION OF DRILL HOLES

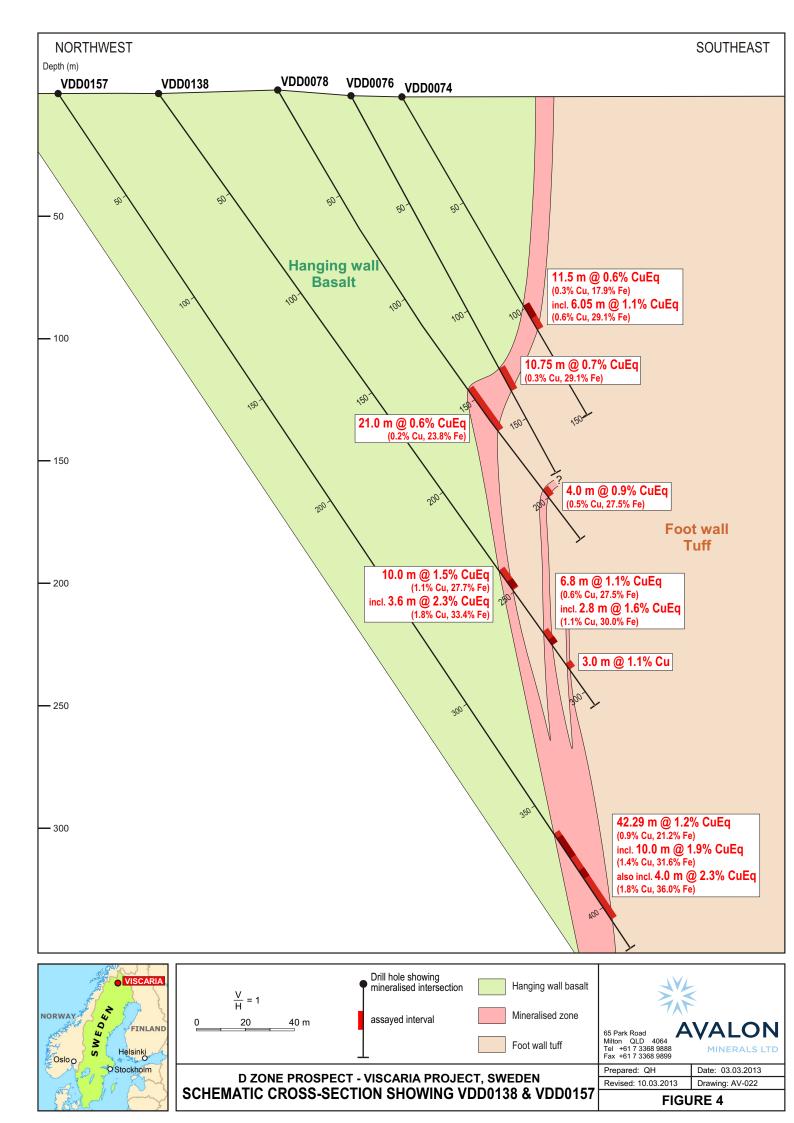


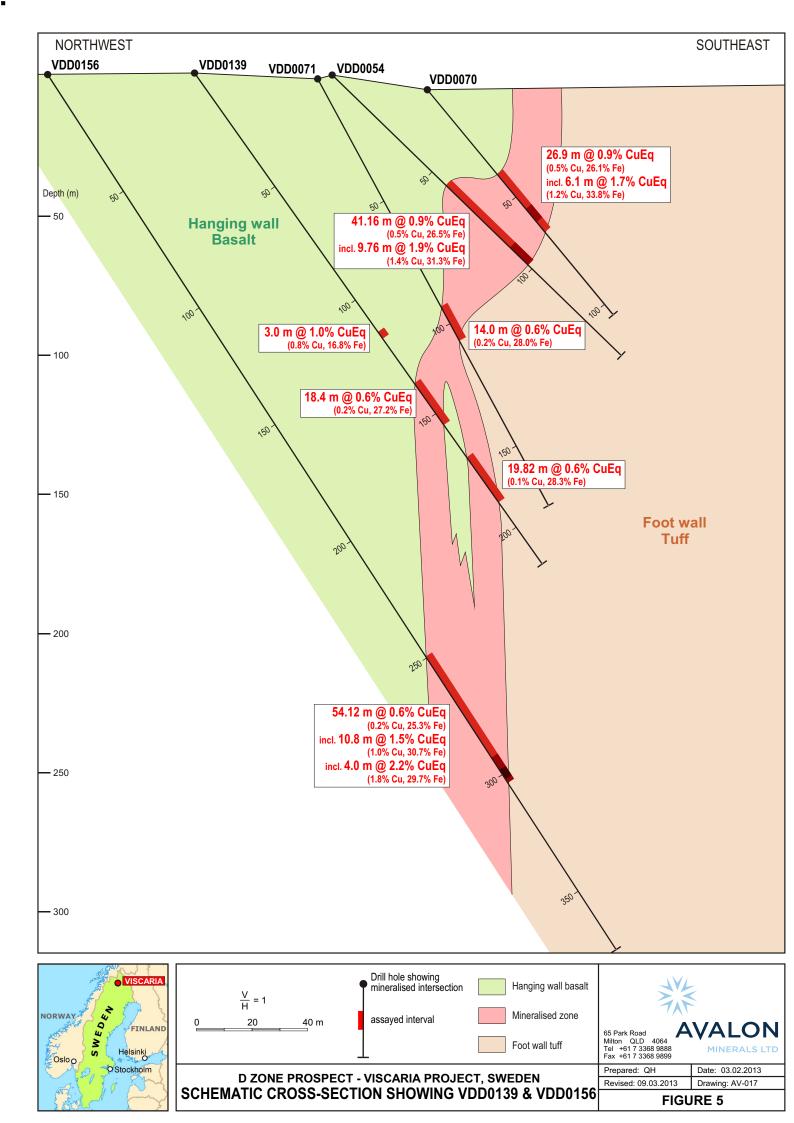
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 Date: 03.03.2013

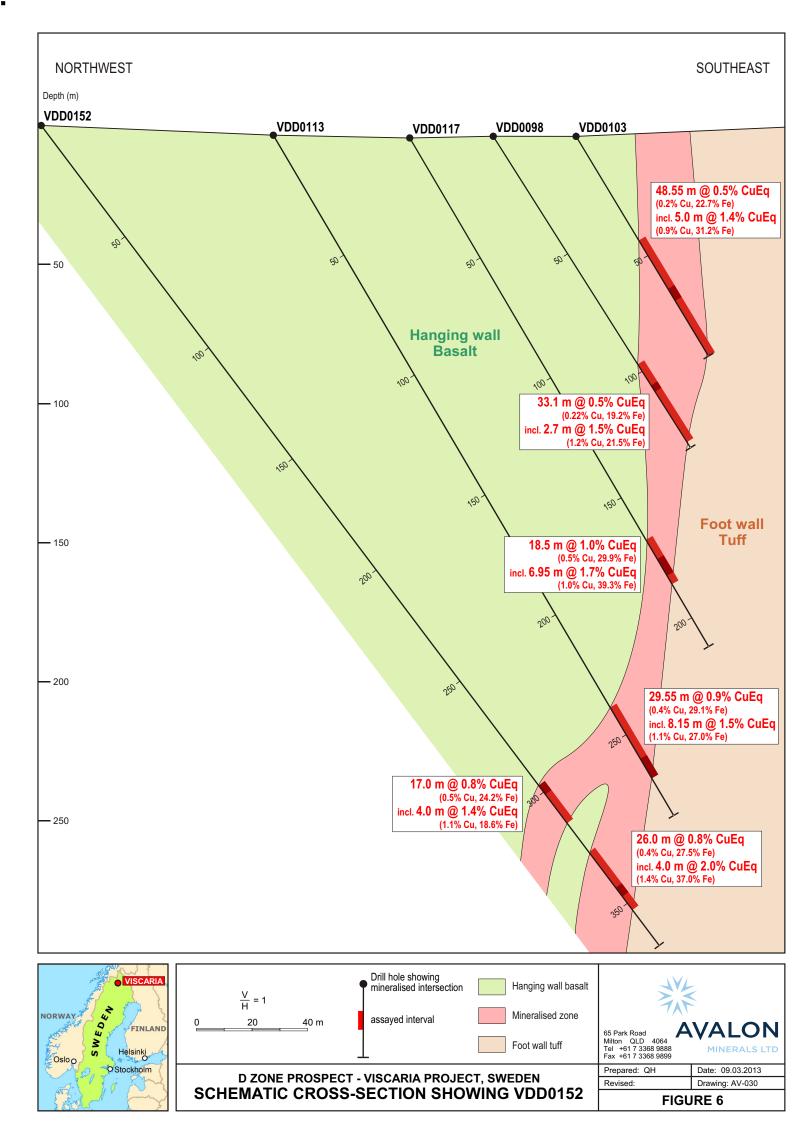
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 Drwg: AV-028

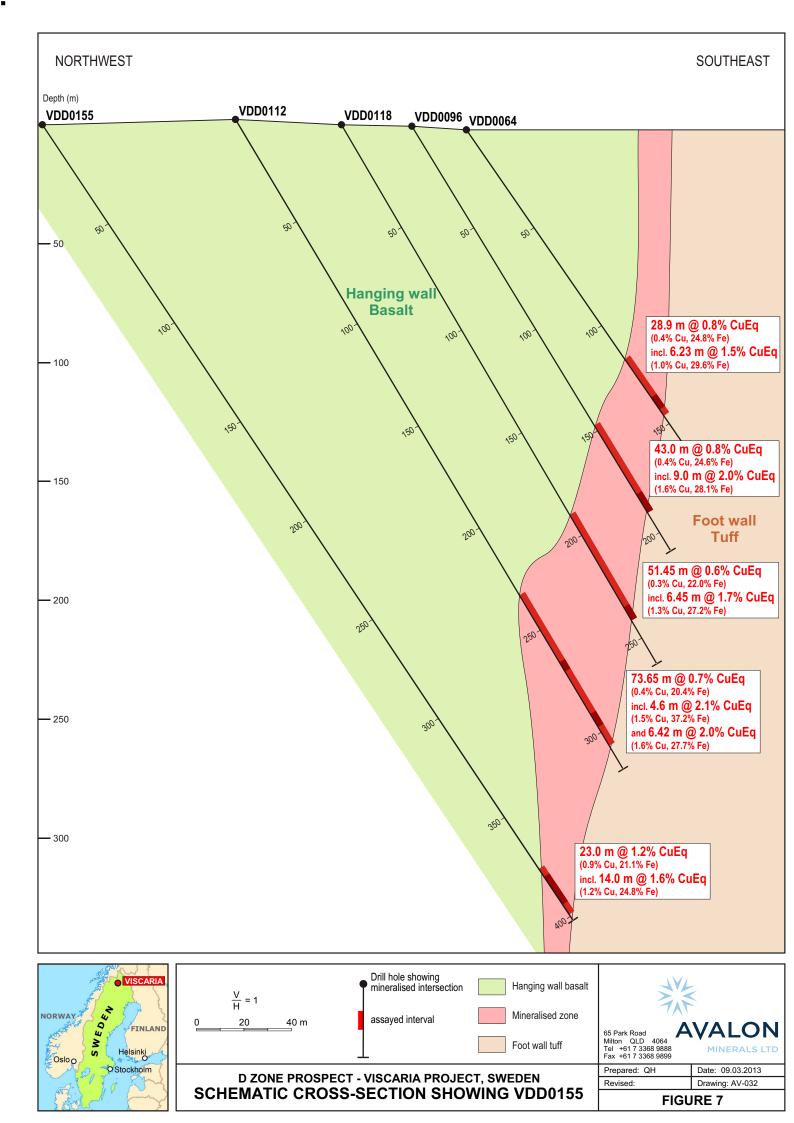
FIGURE 2

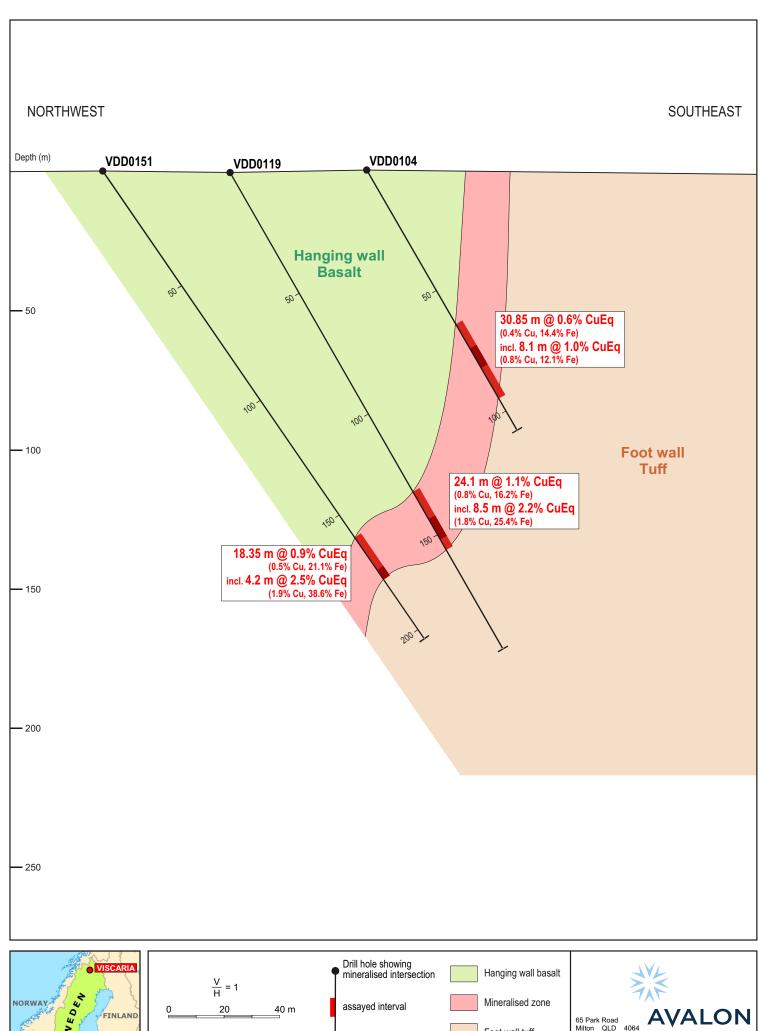




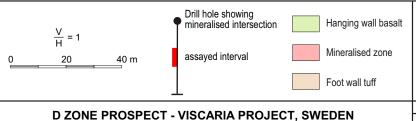












Prepared: QH **SCHEMATIC CROSS-SECTION SHOWING VDD0151** 

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Drawing: AV-029 Revised:

FIGURE 8