

# ASX ANNOUNCEMENT

31 October 2012

## AVALON MINERALS LTD SEPTEMBER 2012 QUARTERLY REPORT

### HIGHLIGHTS

#### Viscaria Copper-Iron Ore Project, Sweden (Avalon - 100%)

- Avalon signs binding Heads of Agreement with Hannans to acquire the Discovery Zone copper-iron prospect in Sweden for A\$4M;
- Discovery Zone has a current JORC Inferred Mineral Resource of 10.9Mt @ 0.31% Cu, 38.7% Fe and 0.08g/t Au, reported above a 20% Fe cut-off;
- Scoping Study indicates the Discovery Zone has the potential to add up to US\$100M in NPV to the Viscaria Copper Project, by extending the proposed mine life to 9.5 years and bringing the overall project potential NPV to \$300M (at US\$3.25/lb Cu);
- Viscaria Copper Project Scoping Study confirms the technical and economic viability for a copper-magnetite mining operation at the Viscaria Project in Sweden, identifies a pathway to deliver significant growth to the value of the Viscaria project and validates the approach implemented by Avalon's new management team;
- Scoping Study Results indicate that a Base Case open pit mining scenario has a NPV of US\$61M (using US\$3.25/lb Cu - current Cu price is US\$3.69/lb) and will produce 9,400t of Cu and 382,000t of Fe per annum at a C1 cash cost (net of Fe credits) of US\$0.65/lb;
- Scoping Study outlines three value creation scenarios, Development Cases A, B and C, which by converting Exploration Targets to Mineral Resources have potential NPV's of US\$111M, US\$170M and US\$198M with predicted C1 cash costs of US\$0.47/lb, US\$1.03/lb and US\$1.03/lb respectively;
- A new revised Mineral Resource for the D Zone Prospect has delivered an increase of 24% in tonnage from approximately 12.5Mt to 15.5Mt;
- For JORC (2004) purposes the new revised D Zone Mineral Resource has been reported in terms of both iron and copper mineral resources separately:
  - 14.8Mt @ 25.8% Fe above a 15% Fe Mass Recovery cut-off grade
  - 5.4Mt @ 0.9% Cu above a 0.4% copper cut-off grade
- The new D Zone Mineral Resource is not closed off along strike in either direction, which means there is potential for it to be further increased, especially within areas that could be mined by open pit methods;
- The new D Zone Mineral Resource has higher copper grades at higher copper cut-off values and is getting thicker and higher grade at depth, all of which significantly increase its potential to be mined by underground methods as well as by open pit methods;

- A major drill program will commence in November 2012 designed to convert Exploration Targets to Mineral Resources to underpin delivery of the three Development Cases as outlined in the Scoping Study;
- Drilling completed at the A and D Zone prospects earlier in 2012 showed that the copper and copper-magnetite mineralisation extends beyond the current Mineral Resource boundaries, therefore demonstrating that extending the existing Mineral Resources is possible;
- Assay results from the fourth and final drill hole testing for extensions of high-grade copper mineralisation at the A and D Zone Mineral Resources on the Viscaria Project received;
- Drill hole VDD0129, drilled at the D Zone Prospect, intersected a thick copper-iron intersection (88.3m @ 0.4% Cu and 21.9% Fe) containing two higher grade copper intersections as follows:
  - 17.0m of 1.3% Cu and 23.3% Fe (1.6% CuEq\*) from 300.0m (down hole width) including 9.0m @ 1.8% Cu and 23.0% Fe (2.1% CuEq\*)
  - 16.3m of 0.5% Cu and 24.4% Fe (0.9% CuEq\*) from 229.7m (down hole width) including 5.0m @ 1.0% Cu and 30.6% Fe (1.5% CuEq\*)
- All drill holes were drilled outside of the currently defined Mineral Resources at the A and D Zone prospects;
- The success of all the drill holes from the four hole initial drill program for 2012 has shown that high grade shoots of copper mineralisation, within broad zones of copper, extend to significant depth and Avalon has been able to successfully target these high grade shoots of copper.

### Corporate

- July 2012 Placement completed to raise \$3.6M (before costs) to advance the Viscaria Project;
- 2012 Annual Report completed and copies despatched;
- General Meeting held 8 October 2012, with the 2 resolutions approved by shareholders;
- Cash position of the Company at the end of the quarter was \$2.39M.

The Company has had a busy quarter and into October 2012, with the signing of a heads of agreement to acquire a new prospect in Sweden (Discovery Zone), the delivery of the Scoping Study for the Viscaria Copper-Iron Project, a new revised Mineral Resource for D Zone at Viscaria and the completion of and receipt of all results from an initial drill program commenced in March 2012.

### **HEADS OF AGREEMENT – Discovery Zone Prospect (HOA)**

On 16 October 2012, the Company signed a legally binding Heads of Agreement (**HOA**) with ASX listed company, Hannans Reward Limited (**Hannans**). Under the HOA, Avalon has agreed to buy Hannans' Discovery Zone and Tributary Zone prospects (which are currently 100% owned by Hannans subsidiary, Kiruna Iron AB), as well as the exploration area surrounding the Discovery Zone located in the Kiruna district of Sweden (**Discovery Prospect**) for A\$4 million.

The acquisition is conditional upon the completion of legal and technical due diligence by Avalon on the Discovery Zone Prospect, to the satisfaction of Avalon by 23 November 2012 (**Condition Precedent**). If the Condition Precedent is not satisfied, the HOA will terminate and the acquisition will not proceed.

Under the HOA, Avalon will be required to make the following payments to Hannans:

- a non-refundable cash deposit of A\$100,000 when the Condition Precedent is satisfied (**First Payment**);
- a non-refundable cash payment of A\$300,000 when a formal sale and purchase agreement for the acquisition is executed by Avalon and Hannans. This formal agreement is required to be signed within 30 days of the First Payment unless otherwise agreed by the parties and will be consistent with the terms set out in the HOA and will contain customary terms and conditions for a transaction of this nature;
- A\$1,600,000 when written notification from the Mining Inspectorate of Sweden is received, noting that the Mining Inspectorate of Sweden formally approves the complete transfer or assignment of the Discovery Zone Prospect to Avalon on conditions (if any) acceptable to Avalon; and
- A\$2,000,000 when Avalon receives full, unencumbered title to the Discovery Prospect. Up to A\$1,000,000 of this final payment may, at Avalon's sole and absolute discretion, be paid by Avalon issuing Hannans or its nominee up to A\$1,000,000 worth of Avalon shares.

The HOA also allows Avalon to take over responsibility for an existing Net Smelter Royalty of 1.5% for the Discovery Zone Prospect.

### **Discovery Zone Prospect**

The Discovery Zone Prospect is located approximately 6km southwest of Kiruna and approximately 10km from Avalon's Viscaria Project (Figures 1 and 2). It is a copper-gold-iron discovery originally made by Anglo American Exploration BV & Rio Tinto in 1999. The Discovery Zone Prospect has a current JORC Inferred Mineral Resource of 10.9Mt @ 0.31% Cu, 38.7% Fe and 0.08g/t Au, reported above a 20% Fe cut-off. The orebody is currently open at depth.

The Discovery Zone Prospect's proximity to Avalon's Viscaria Project makes it an ideal acquisition and fits with the expansion strategy for the Company. Initial investigations suggest the Discovery Zone Prospect is similar in mineralogy to Avalon's D Zone at the Viscaria Copper Project (Figures 3 and 4). Consequently, Avalon believes that it will be possible to process the Discovery Zone mineralisation through the same processing plant, which is being planned to process the ore from Avalon's existing D Zone Mineral Resource.

A high level Scoping Study review of the potential economics of using mineralisation from the Discovery Zone Prospect, as additional feed for the planned Viscaria Processing plant, has suggested that the value addition to an expanded Viscaria Project could potentially be as much as \$100M.

This value addition could be created, provided that the following parameters were achieved from the Discovery Zone:

- 70% of the current Discovery Zone Mineral Resource was able to be mined using open pit methods
- Mine Life of 3 years
- Annual production from Discovery Zone will be 2.6Mtpa
- Strip ratio of an open pit at Discovery Zone will be similar to the planned strip ratio for the D Zone Mineral Resource (3.4)
- Recoveries of Cu and Fe for Discovery Zone will be similar to those achieved on the metallurgical test work completed for D Zone, being 76% of Fe and 90% of Cu
- Cu price US\$3.25/lb and Fe pellet price US\$150/t

The potential value addition to the overall Viscaria Project, through the acquisition of the Discovery Zone, is an order of magnitude estimate using the publically available information. During the due diligence process for Discovery Zone, Avalon's consultants will refine their economic assessment of the Discovery Zone and if the parameters detailed above for Discovery Zone significantly change, then the value addition to the Viscaria Project could be materially affected.

Avalon will now commence a 40-day due diligence period, which will conclude on 23 November 2012. The due diligence process on the Discovery Zone must be completed to Avalon's absolute satisfaction and will focus on the good standing of the tenement containing the Discovery Zone, confirming the Mineral Resource and further investigating the economics of an open pit operation, trucking Discovery Zone ore to Viscaria and processing the ore through the planned Viscaria processing plant.

## **VISCARIA COPPER IRON PROJECT**

### **SCOPING STUDY**

On 16 October 2012, the Company announced the results of a Scoping Study completed on the Viscaria Project by Xstract Mining Consultants (Xstract).

The Scoping Study assessed a Base Case open pit mining scenario which uses the Mineral Resources currently defined on the Viscaria Project, as well as three Development Cases to convert existing Exploration Targets into Mineral Resources through an extensional drill program. The economic assessments used price assumptions of US\$3.25/lb copper and US\$150/t magnetite (the current copper price is US\$3.51/lb).

A comparison of the Base and Development Cases is given in Table 1.

#### **Base Case open pit mining scenario**

The Base Case open pit mining scenario assessed the viability and potential value of the currently defined Mineral Resources on the Viscaria Project.

The current Mineral Resources on the Viscaria Project are defined in Table 2.

The existing Mineral Resources were subjected to open pit optimisations using the parameters outlined in Table 3.

Using these parameters, several open pit shells were generated along the near-surface trends of the A Zone, B Zone and D Zone Mineral Resources (Figure 5).

During this exercise it was established that only the D Zone Pit and the A Zone Pit-A significantly contributed to the project NPV and therefore, only these prospects were included in the Base Case open pit mining scenario. Figure 5 and Table 4 show the production profile developed for the Base Case scenario.

**Table 1: Comparison of the Base and Development Cases**

Scenario	Base Case	Devt Case A	Devt Case B	Devt Case C
<b>Tonnage and Grade</b>	11.0 Mt @ 0.50% Cu 22.2% Fe	15.5 Mt @ 0.46% Cu 23.1% Fe	18.5 Mt @ 0.80% Cu 19.4% Fe	20.2 Mt @ 0.86% Cu 20.0% Fe
<b>Optimum Mining Rate</b>	2.1 Mtpa	3.0 Mtpa	3.3 Mtpa	3.1 Mtpa
<b>Mine Life</b>	5.5 years	5.3 years	5.6 years	5.6 years
<b>Pre-Production Capex</b>	USD 144 M	USD 179 M	USD 201 M	USD 212 M
<b>Life-of-Mine Capex</b>	USD 155 M	USD 194 M	USD 315 M	USD 350 M
<b>C1 Cash Cost (net of Fe Credits)</b>	US\$0.65/lb	US\$0.47/lb	US\$1.03/lb	US\$1.03/lb
<b>NPV<sub>10% REAL</sub></b>	USD 61 M	USD 111 M	USD 170 M	USD 198 M
<b>NPV at Prices + 10%</b>	USD 114 M	USD 186 M	USD 272 M	USD 312 M
<b>NPV at Prices - 10%</b>	USD 8 M	USD 37 M	USD 68 M	USD 84 M

**Table 2: Currently Defined Mineral Resources on the Viscaria Project**

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

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

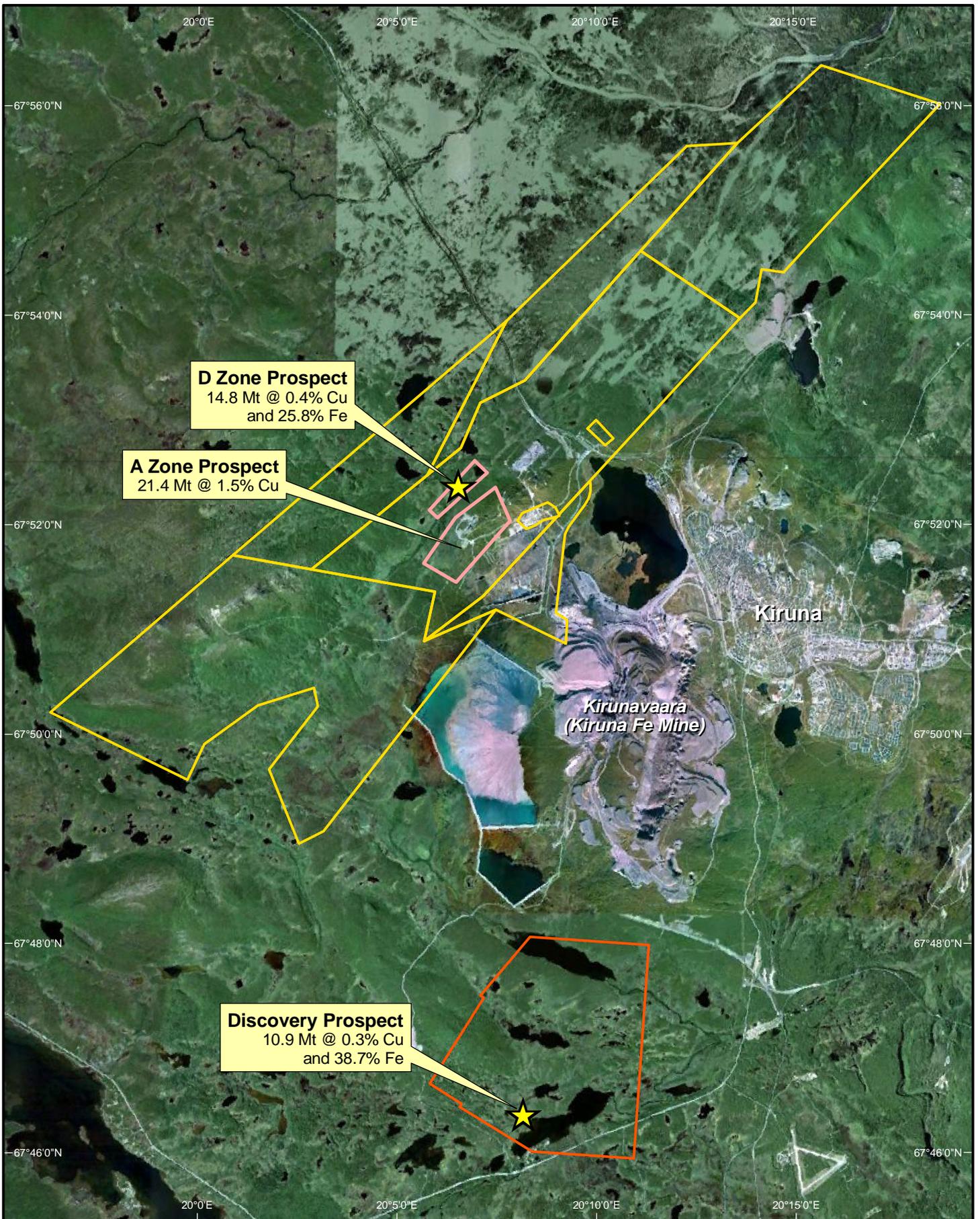
\* 2011 Mineral Resources for A Zone and B Zone are reported above a cut-off grade of 0.4% Cu.

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

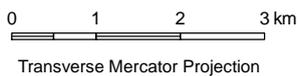
\*\*\* 2012 Iron Mineral Resource for D Zone above a cut-off grade of 15% Fe Mass Recovery.

**Table 3: Pit optimisation parameters**

Parameter	Unit	Value	Comments
Overall pit slope angle	Degrees	55	
Copper Price	USD/t	USD7,165	USD3.25/lb Cu
Magnetite Price	USD/t	USD150	Assumed price at end of slurry pipe
Mining Cost (ore)	USD/t	USD4.55	
Mining Cost (waste)	USD/t	USD4.55	
Mining Recovery	%	95%	
Mining Dilution	%	5%	
Metallurgical Recovery	% Cu	90%	
	% Fe	76%	
Concentrate Grade	% Cu	25%	
	% Fe	69%	
Processing Costs	USD/t ore	USD12.04	
Admin Costs	USD/t ore	USD3.08	
Payable Copper	% Cu contained	98%	
Payable Magnetite	% Fe contained	98%	



★ Copper-Magnetite resource



**Viscaria Project**

- Exploration Tenure
- Exploitation Concession

**Discovery Prospect**

- Exploration Tenure



**AVALON**  
MINERALS LTD

65 Park Road  
Milton QLD 4064  
Tel +61 7 3368 9888  
Fax +61 7 3368 9899

Prepared: QH Date: 11.10.2012

Revised: Drwg: AV-001

**VISCARIA PROJECT, SWEDEN  
LOCATION OF DISCOVERY PROSPECT**

**FIGURE 1**

Figure 2 – Viscaria Project Location



**Figure 3**

Core sample from drill hole RAK04006 of the Discovery Prospect, showing massive, brecciated magnetite (iron mineralisation) with chalcopyrite infill (copper mineralisation).



**Figure 3**

Core sample from drill hole VDD0128 of the D Zone prospect at Avalon's Viscaria Project, showing massive magnetite (iron mineralisation) with chalcopyrite (copper mineralisation). This sample of core is from the interval 216m to 224m which contained 1.5% Cu and 33% Fe over the 8 metres



Figure 4: Site overview showing pit optimisation shells

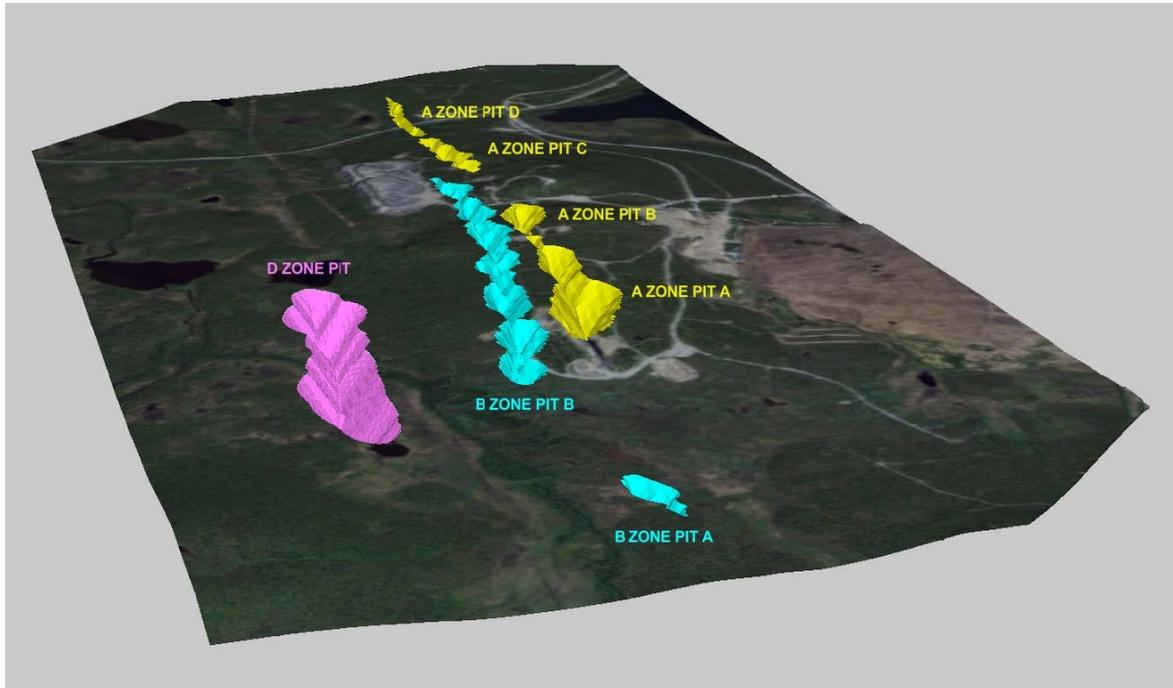
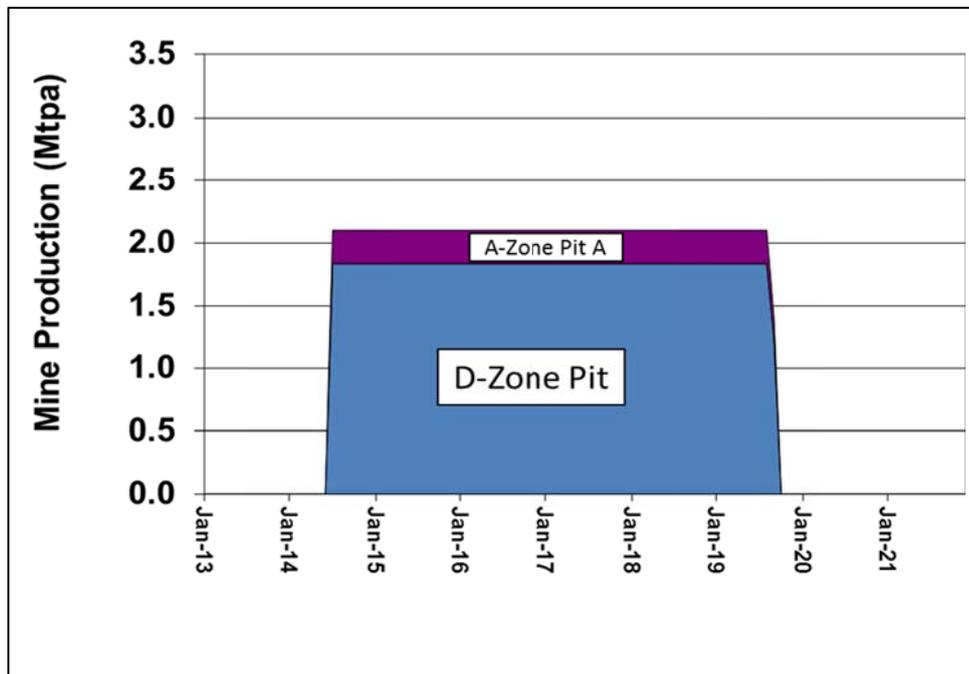


Figure 5: Base Case production profile



**Table 4: Base Case production summary**

Year	Tonnes Mined (kt)	% Cu	% Fe	Copper Conc Produced (kDMT)	Contained Copper (kt)	Magnetite Conc Produced (kDMT)	Contained Iron (kt)
2013							
2014	1,050	0.50	22.2	18.9	4.7	274	190
2015	2,100	0.50	22.2	37.7	9.4	549	382
2016	2,100	0.50	22.2	37.7	9.4	549	382
2017	2,100	0.50	22.2	37.7	9.4	549	382
2018	2,100	0.50	22.2	37.7	9.4	549	382
2019	1,518	0.50	22.2	27.3	6.8	396	275
2020							
<b>Total</b>	<b>10,968</b>	<b>0.5</b>	<b>22.2</b>	<b>197</b>	<b>49</b>	<b>2,865</b>	<b>1,991</b>

A summary of the economic assessment of the Base Case open pit mining scenario is displayed in Table 5.

#### **Development Case A open pit mining scenario**

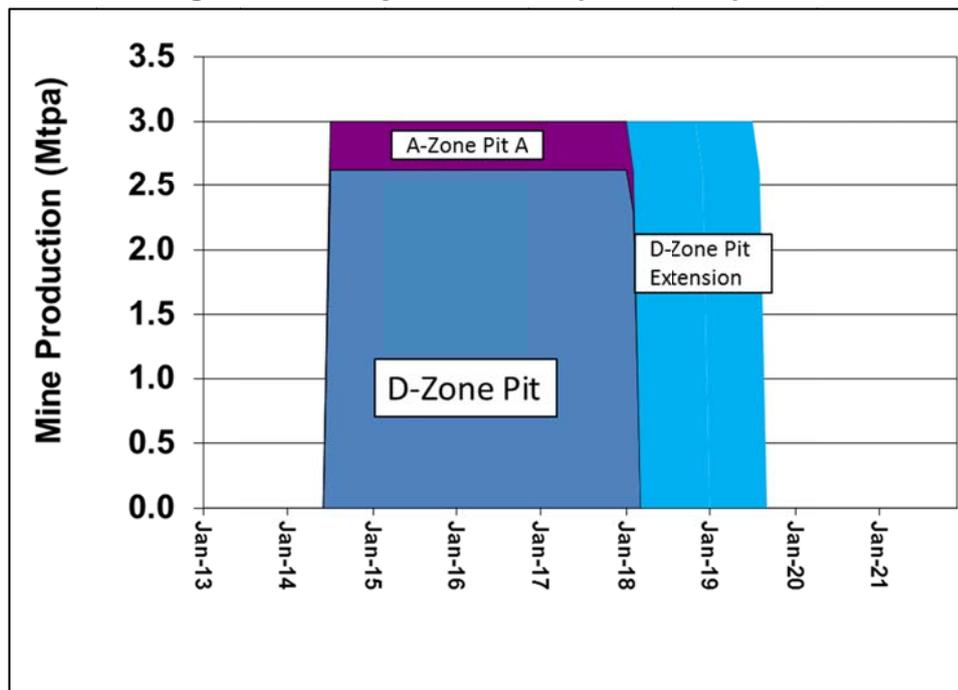
The first value creation scenario assessed was Development Case A, which includes the Base Case open pits, as well as an exploration target of extending the D Zone Mineral Resource 300m along strike and 35m in depth. It must be noted that this exploration target is conceptual in nature as there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

This exploration target is interpreted to be relatively low exploration risk because the D Zone mineralisation is open along strike and is getting higher grade and thicker at depth (see announcement to ASX on 29 August 2012). Figure 6 and Table 6 show the production profile developed for this scenario.

**Table 5: Summary of the economic assessment of the Base Case mining scenario**

Base Case	D Zone Open Pit and A Zone Open Pit-A		
Tonnage and Grade	11.0 Mt @ 0.50% Cu 22.2% Fe		
Optimum Mining Rate	2.1 Mtpa		
Mine Life	5.5 years		
Pre-Production Capex	USD 144 M	Includes \$18.3M pre-strip	
Life-of-Mine Capex	USD 155 M	Excludes closure costs	
C1 Cash Cost (net of Fe Credits)	US\$0.65/lb		
NPV <sub>10% REAL</sub>	USD 61 M	USD3.25/lb Cu	USD150/t Magnetite
NPV +	USD 114 M	Prices + 10%	
NPV -	USD 8 M	Prices – 10%	

**Figure 6: Development Case A production profile**



**Table 6: Development Case A production summary**

Year	Tonnes Mined (kt)	% Cu	% Fe	Copper Conc Produced (kDMT)	Contained Copper (kt)	Magnetite Conc Produced (kDMT)	Contained Iron (kt)
2013							
2014	1,500	0.50	22.2	26.9	6.7	392	272
2015	3,000	0.50	22.2	53.9	13.5	784	585
2016	3,000	0.50	22.2	53.9	13.5	784	585
2017	3,000	0.50	22.2	53.9	13.5	784	585
2018	3,000	0.40	24.9	43.0	10.8	896	623
2019	1,968	0.38	25.4	26.9	6.7	602	418
2020							
<b>Total</b>	<b>15,468</b>	<b>0.5</b>	<b>23.1</b>	<b>259</b>	<b>65</b>	<b>4,241</b>	<b>2,947</b>

A summary of the economic assessment of the Development Case A open pit mining scenario is displayed in Table 7.

**Table 7: Summary of the economic assessment of the Development Case A mining scenario**

Development Case A	Base Case + Exploration Target extend D Zone 300m along strike and 35m deeper at similar grades	
Tonnage and Grade	15.5 Mt @ 0.46% Cu 23.1% Fe	
Optimum Mining Rate	3.0 Mtpa	
Mine Life	5.3 years	
Pre-Production Capex	USD 179 M	Includes \$26.1M pre-strip
Life-of-Mine Capex	USD 194 M	Excludes closure costs
C1 Cash Cost (net of Fe Credits)	US\$0.47/lb	
NPV <sub>10% REAL</sub>	USD 111 M	USD3.25/lb Cu USD150/t Magnetite
NPV +	USD 186 M	Prices + 10%
NPV -	USD 37 M	Prices – 10%

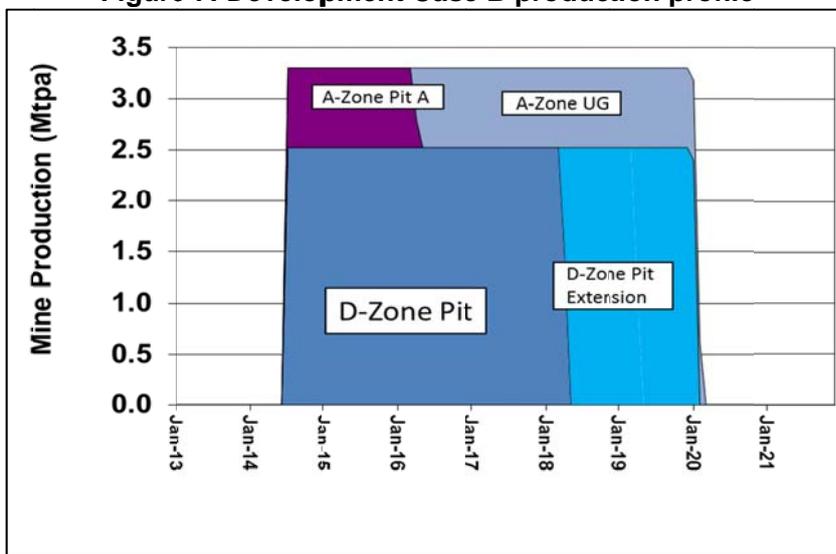
### Development Case B open pit/underground mining scenario

The second value creation scenario assessed is Development Case B, which includes the previously described Development Case A with the addition of an exploration target of 3.0Mt @ 2.5% Cu from the A Zone prospect area that could be mined by underground methods. It must be noted that this exploration target is conceptual in nature as there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

This exploration target is interpreted to have moderate exploration risk as its size and grade are relatively high. However, historically when the A Zone mineralisation was being mined the average grade of ore mined was 2.5% copper and Avalon’s initial assessment of the A Zone prospect indicates that there is sufficient scope for a resource of approximately 3.0Mt to be delineated.

Figure 7 and Table 8 show the production profile developed for this scenario.

**Figure 7: Development Case B production profile**



**Table 8: Development Case B production summary**

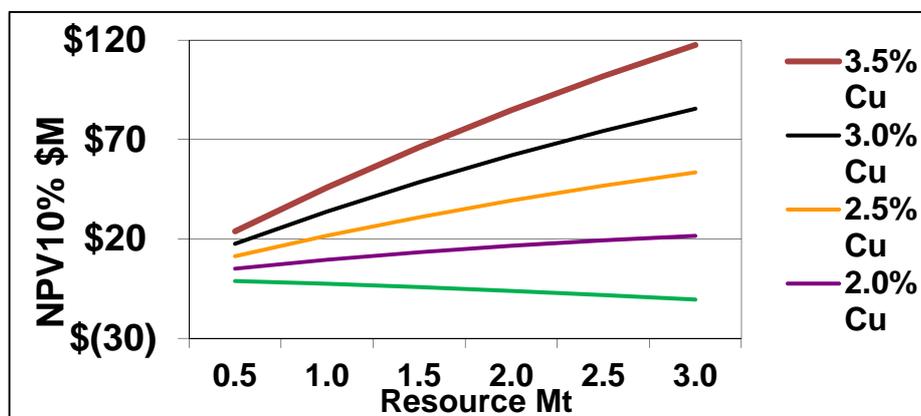
Year	Tonnes Mined (kt)	% Cu	% Fe	Copper Conc Produced (kDMT)	Contained Copper (kt)	Magnetite Conc Produced (kDMT)	Contained Iron (kt)
2013							
2014	1,650	0.60	19.4	35.9	9.0	366	254
2015	3,300	0.60	19.4	71.8	17.9	732	509
2016	3,300	0.81	19.4	95.9	24.0	732	509
2017	3,300	0.88	19.4	104.6	26.2	732	509
2018	3,300	0.88	19.4	104.7	26.2	732	509
2019	3,300	0.88	19.4	104.7	26.2	731	508
2020							
<b>Total</b>	<b>18,468</b>	<b>0.8</b>	<b>19.4</b>	<b>529</b>	<b>132</b>	<b>4,091</b>	<b>2,843</b>

A summary of the economic assessment of the Development Case B open pit/underground mining scenario is displayed in Table 9. Figure 8 displays the impact of various tonnages and grades for the A Zone Underground exploration target on the overall project NPV. This figure indicates that from the A Zone underground a minimum of 2.0Mt @ 2% Cu is needed to positively impact the overall Viscaria Project NPV.

**Table 9: Summary of the economic assessment of the Development Case B mining scenario**

Development Case B	Devt Case A + Exploration target of 3.0 Mt @ 2.5% Cu from A Zone Underground	
Tonnage and Grade	18.5 Mt @ 0.80% Cu 19.4% Fe	
Optimum Mining Rate	3.3 Mtpa	
Mine Life	5.6 years	
Pre-Production Capex	USD 201 M	Includes \$33.7 M pre-strip
Life-of-Mine Capex	USD 315 M	Excludes closure costs
C1 Cash Cost (net of Fe Credits)	US\$1.03/lb	
NPV <sub>10% REAL</sub>	USD 170 M	USD3.25/lb Cu    USD150/t Magnetite
NPV +	USD 272 M	Prices + 10%
NPV -	USD 68 M	Prices – 10%

**Figure 8: Impact of the additional material at various grades and tonnages from the A Zone UG**



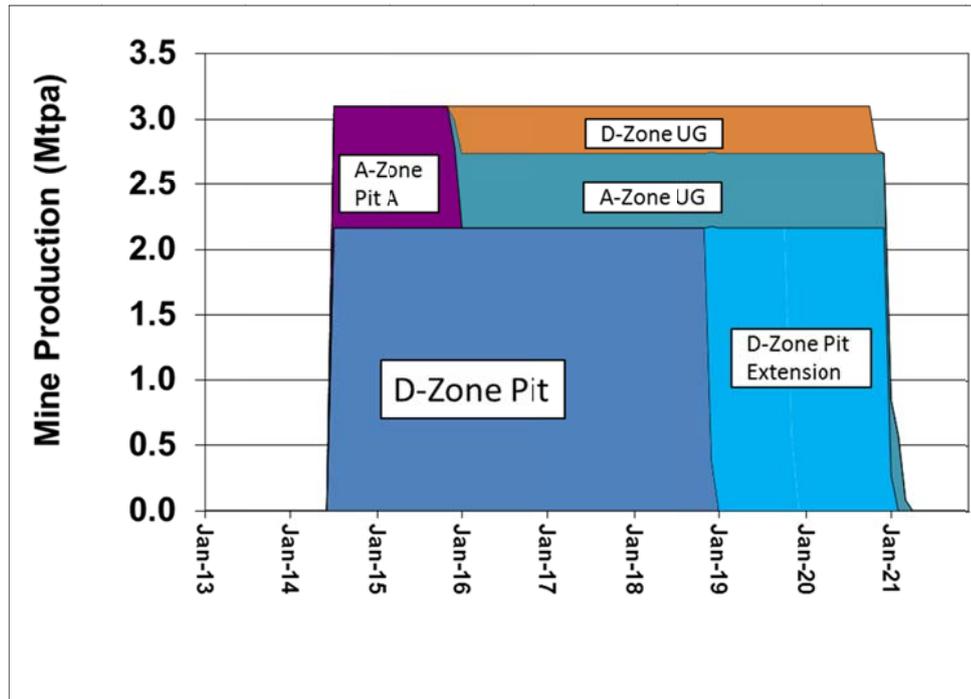
**Development Case C open pit/underground mining scenario**

The third value creation scenario assessed is Development Case C, which includes Development Case B with the addition of an exploration target of 1.75Mt @ 1.6% Cu from the D Zone prospect area that could be mined by underground methods. It must be noted that this exploration target is conceptual in nature as

there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

Similar to Development Case A, this exploration target is interpreted to be relatively low exploration risk because the D Zone mineralisation is getting higher grade and thicker at depth. Figure 9 and Table 10 show the production profile developed for this scenario.

**Figure 9: Development Case C production profile**



**Table 10: Development Case C production summary**

Year	Tonnes Mined (kt)	% Cu	% Fe	Copper Conc Produced (kDMT)	Contained Copper (kt)	Magnetite Conc Produced (kDMT)	Contained Iron (kt)
2013							
2014	1550	0.67	17.7	37.2	9.3	308	214
2015	3100	0.67	17.8	75.2	18.8	619	430
2016	3100	0.92	20.8	102.2	25.5	746	519
2017	3100	0.92	20.8	102.2	25.5	746	519
2018	3100	0.91	20.8	102.1	25.5	746	519
2019	3100	0.92	20.8	102.2	25.5	746	519
2020	3042	0.90	20.7	98.8	24.7	728	518
2021	126	2.12	4.6	9.6	2.4	5	3
<b>Total</b>	<b>20,218</b>	<b>0.9</b>	<b>20.0</b>	<b>629</b>	<b>157</b>	<b>4,643</b>	<b>3,227</b>

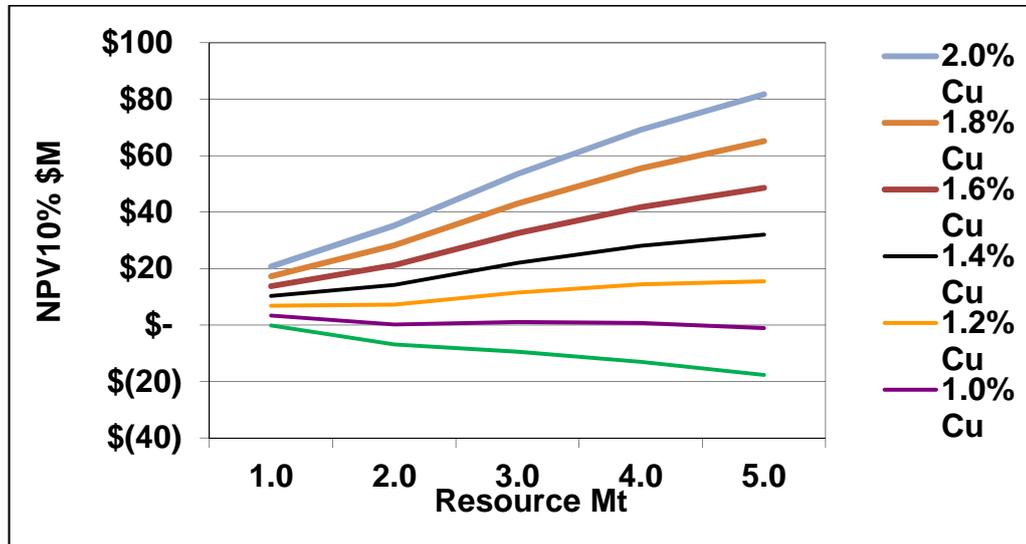
A summary of the economic assessment of the Development Case C open pit/underground mining scenario is displayed in Table 11. Figure 10 displays the impact of various tonnages and grades for the D Zone

Underground exploration target on the overall project NPV. This figure indicates that from the D Zone underground, a minimum of 1.75Mt @ 1.6% Cu is needed to positively impact the overall Viscaria Project NPV.

**Table 11: Summary of the economic assessment of the Development Case C mining scenario**

<b>Development Case C</b>	<b>Dev't Case B + Exploration Target of 1.75 Mt @ 1.6% Cu from D Zone Underground</b>	
<b>Tonnage and Grade</b>	<b>20.2 Mt @ 0.86% Cu 20.0% Fe</b>	
<b>Optimum Mining Rate</b>	<b>3.1 Mtpa</b>	
<b>Mine Life</b>	<b>5.6 years</b>	
<b>Pre-Production Capex</b>	<b>USD 212 M</b>	<b>Includes \$34.6 M pre-strip</b>
<b>Life-of-Mine Capex</b>	<b>USD 350 M</b>	<b>Excludes closure costs</b>
<b>C1 Cash Cost (net of Fe Credits)</b>	<b>US\$1.03/lb</b>	
<b>NPV<sub>10% REAL</sub></b>	<b>USD 198 M</b>	<b>USD3.25/lb Cu USD150/t Magnetite</b>
<b>NPV +</b>	<b>USD 312 M</b>	<b>Prices + 10%</b>
<b>NPV -</b>	<b>USD 84 M</b>	<b>Prices – 10%</b>

**Figure 10: Impact of the additional material at various grades and tonnages from the D Zone UG**



### Cost and Revenue Assumptions

The capital costs used in each of the mining scenarios have been summarised in Table 12, the operating costs assumptions in Table 13 and the revenue assumptions in Table 14. Copper cash operating costs for each mining scenario in comparison to other copper producers is displayed in Figure 11.

The C1 copper cash operating costs, net of iron credits, for the Base Case and Development Case A open pit mining scenarios are predicted to be in the lower quartile of copper producers, while the Development Case B and Development Case C open pit/underground mining scenarios have C1 copper cash operating costs that are intermediate in comparison.

### Future Resource Definition Program

The Scoping Study results show that the conversion of the exploration targets assessed in Development Case A, B and C to Mineral Resources has the potential to grow the NPV of the Viscaria Project significantly from USD\$61M to USD\$198M using a copper price of US\$3.25/lb.

Therefore, over the next six months Avalon plans to complete an extensive resource definition drill program focussed on assessing the potential of these exploration targets to deliver the tonnage and grade assumed in various Development Cases detailed in the Scoping Study. Drilling conducted earlier in 2012 and reported to the ASX between March–July 2012, demonstrated that the existing copper and copper-magnetite mineralisation extends beyond the current boundaries of the A and D Zone Mineral Resources. This drilling proved the concept that it is probable that the A and D Zone Mineral Resources will be able to be extended.

Given the Company management team’s past record with Discovery Metals Limited and Meridian Minerals Limited for increasing project Mineral Resources and creating value, Avalon has the expertise to execute this strategy and significantly increase the value of the Viscaria Project.

**Table 12: Capital Cost assumptions**

Item	Base Case USD M	Dev't Case A USD M	Dev't Case B USD M	Dev't Case C USD M	Comments
Process Plant	111.7	138.3	146.5	141.1	Scalable on production capacity
Pit D site establishment	2.5	2.5	2.5	2.5	Includes provision of site services and access roads
Pit A site establishment	1.7	1.7	1.7	1.7	
Underground Mine Establishment, De-watering & Rehabilitation	-	-	56.0	56.0	
New Underground Development	-	-	45.0	82.5	
Studies and Test work	5.0	5.0	5.0	5.0	
Pre-Strip	18.3	26.1	33.7	34.6	
Tailings Storage Facility	5.0	5.0	5.0	5.0	
Replacement Capital	11.0	15.5	19.7	22.1	
Closure Costs	-	-	-	-	Not Included
<b>Total</b>	<b>155</b>	<b>194</b>	<b>315</b>	<b>350</b>	

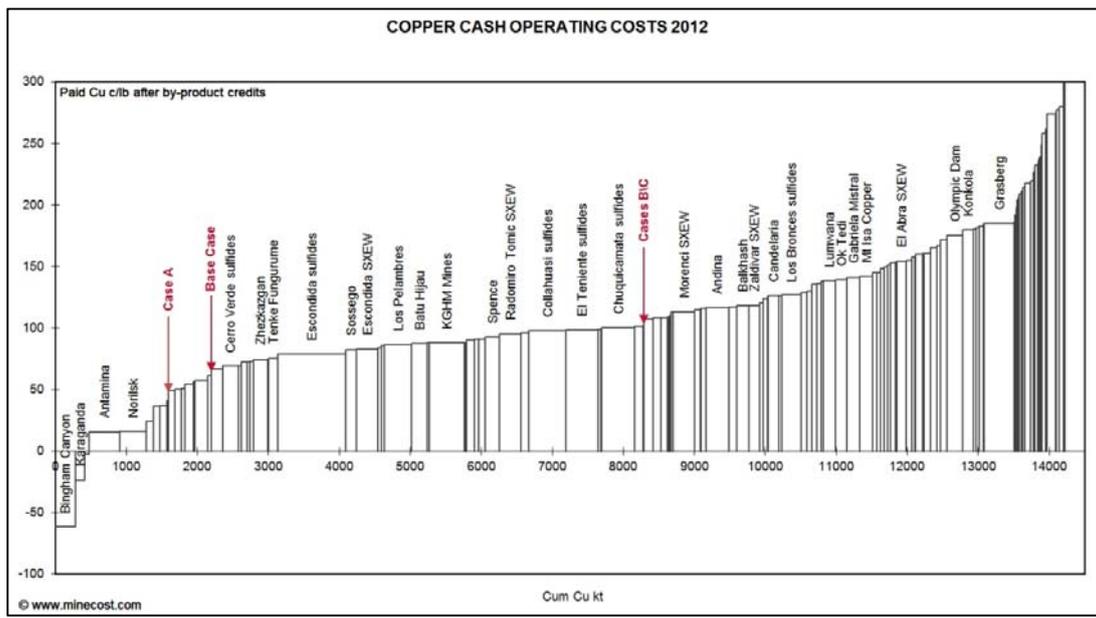
**Table 13: Operating Cost assumptions**

Parameter	Unit	Value	Comments
Mining Cost (ore)	USD/t	USD4.55	
Mining Cost (waste)	USD/t	USD4.55	
Processing Costs	USD/t ore	USD12.04	Variable – assumes 40% fixed costs and 12.04/t @ 1.5Mtpa
Admin Costs	USD/t ore	USD3.08	
Copper Conc. Transport	USD/DMT conc	15.75	Assumes local smelter
Magnetite Conc. Transport	USD/DMT conc	1.50	Assumes slurry pipe to LKAB

**Table 14: Revenue assumptions**

Parameter	Unit	Value	Comments
Overall pit slope angle	Degrees	55	
Copper Price	USD/t	USD7,165	\$3.25/lb Cu
Magnetite Price	USD/t	USD150	For 69% Fe magnetite pellets
Mining Recovery	%	95%	
Mining Dilution	%	5%	
Metallurgical Recovery	% Cu	90%	
	% Fe	76%	
Concentrate Grade	% Cu	25%	
	% Fe	69%	
Payable Copper	% Cu contained	98%	
Payable Magnetite	% Fe contained	98%	
Copper Conc. Treatment charge	c/lb Cu	45	
Copper Conc. Refining charge	c/lb Cu	4.5	
	USD/dmt	28	
	%	0.75	

**Figure 11: Copper Cash Operating Costs for each mining scenario in comparison to other copper producers**



## New Resource for D Zone

On 2 October 2012, the Company announced a new revised Mineral Resource at the D Zone Prospect on the Viscaria Project in northern Sweden (Figures 2 and 12). For JORC (2004) purposes the new revised D Zone Mineral Resource has been reported in terms of both iron and copper mineral resources separately (See Tables 15 and 16):

- 14.8Mt @ 25.8% Fe at a cut-off above a 15% Fe Mass Recovery grade, and is classified as 9.5Mt @ 25.9% Fe Indicated and 5.3Mt @ 25.6% Fe Inferred according to the guidelines of the JORC Code (2004);
- 5.4Mt @ 0.9% Cu above a 0.4% copper cut-off grade, and is classified as being 3.5Mt @ 0.9% Cu Indicated and 1.9Mt @ 0.8% Cu Inferred according to the guidelines of the JORC Code (2004);

The Mineral Resource reported for the Viscaria D Zone deposit is in accordance with the guidelines of the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2004). Note that the total Indicated and Inferred Mineral Resource reported for the Copper (Table 17) and for above 15% Fe Mass Recovery (Table 18) are not mutually exclusive; the Mineral Resource for above 15% Fe Mass Recovery excludes 0.72 million tonnes at 0.77% Cu above a cut-off grade of 0.4% Cu.

**Table 15: D Zone Mineral Resource for Copper reported above a 0.4% Cu cut-off grade**

Mineral Resource Category	TONNES (Mt)	Cu (%)	Copper Metal (t)
Indicated	3.5	0.9	33,000
Inferred	1.9	0.8	15,000
<b>Indicated + Inferred</b>	<b>5.4</b>	<b>0.9</b>	<b>48,000</b>

**Table 16: D Zone Mineral Resource for Iron reported above a 15% Mass Recovery cut-off grade**

Mineral Resource Category	TONNES (Mt)	Fe Mass Recovery (%)	Fe (%)	Recovered Iron (Mt)
Indicated	9.5	31.3	25.9	3.0
Inferred	5.3	30.8	25.6	1.6
<b>Indicated + Inferred</b>	<b>14.8</b>	<b>31.1</b>	<b>25.8</b>	<b>4.6</b>

## Geological setting of the D Zone Deposit

The Viscaria D Zone deposit consists of a northeast-southwest oriented, magnetite ± chalcopyrite ± pyrite mineralised lens that steeply dips to the northwest. In the hanging wall of the mineralised lens is a sequence of rheologically strong mafic intrusive/extrusive rocks and in the footwall is a sequence of rheologically weak tuffaceous siltstones. This rheological difference has caused strain from a regional deformation/metamorphic event to be partitioned at this geological boundary, resulting in intense shearing. The shear zones appear to completely envelop the mineralised lens and therefore, it is probable that additional mineralised lenses could have been sheared away (boundinaged), representing further exploration targets.

The magnetite-rich mineralised lens appears to be fine-grained around the margins where it is in contact with the enveloping shear zones and semi-massive to massive towards the core of the lens. It is interpreted that the fine-grained nature of the magnetite around the margins of the mineralised lens is the result of deformational recrystallisation controlled by the ductile shear zones. Chalcopyrite is closely associated with pyrite and most often occurs as veinlets cross-cutting the semi-massive to massive magnetite mineralisation and is also commonly observed to be coating the individual magnetite grains.

The entire rock package is overprinted by an upper greenschist facies alteration assemblage of chlorite + talc + carbonate + tremolite ± scapolite ± biotite ± quartz, which is interpreted to be related to both the regional deformation/metamorphic event and a later, overprinting hydrothermal skarn alteration associated with the chalcopyrite and pyrite mineralisation. The skarn hydrothermal alteration and associated chalcopyrite and pyrite mineralisation appear to be most intense within the enveloping shear zones and therefore, it is interpreted that these structures have focused the chalcopyrite and pyrite mineralising event.

It has also been observed that the chalcopyrite and pyrite has predominantly precipitated directly onto the magnetite mineralisation. On the small scale this relationship is displayed by chalcopyrite and pyrite mineralisation coating individual magnetite grains. While on the large scale, this relationship is displayed by the chalcopyrite and pyrite mineralisation being concentrated along the outer margin of the overall magnetite mineralised lens, resulting in the best copper grades around the margins with decreasing copper grade towards the core. This observation is interpreted to indicate that a copper and sulphur rich hydrothermal fluid came into contact with the magnetite mineralised lens (focused by the enveloping shear zones) and that the oxidised chemistry of the magnetite then caused copper and sulphur to be precipitated.

As drilling of the D Zone mineral deposit has progressed it has been shown that the overall geometry of the mineralised zone is getting thicker and higher grade with depth. This observation suggests the possibility that the copper mineralisation associated with the D Zone mineral deposit could extend and even get better at depth. Supporting this interpretation is the observation that chalcopyrite and pyrite mineralisation is related to a later, overprinting hydrothermal alteration event. It is interpreted that this hot, copper and sulphur enriched fluid would have most likely been transported up from a deeper, hotter zone within this orogenic belt and therefore the best copper sulphide mineralisation should be associated with the magnetite mineralised lens at depth where it first came into contact with the magnetite. Therefore, it is interpreted that the exploration potential to increase the mineral resource for the D Zone mineral deposit at depth is high.

### **Drilling**

The D Zone Prospect area contains 202 drill holes totalling 21,983 metres of which 170 holes fall within the area for resource evaluation. Drill holes are supported by detailed collar records as well as downhole surveys and some quality assurance and quality control (QAQC) data.

The Viscaria D Zone deposit has been drilled on northwest-southeast sections spaced approximately 50 metres apart along the strike of mineralisation extending 1,150 metres. There are generally between five and eight drillholes per section, spaced approximately 25 metres across strike. The majority of the holes are drilled at an approximate angle of 60° from the horizontal at an azimuth of 135° (90° in local mine grid) in order to intersect the plane of mineralisation at a high angle. Xstract has reviewed all data provided by Avalon and confirms that the information used for modelling is of sufficient quality to support a Mineral Resource for public reporting purposes.

### **Mineral Resource Interpretation**

The mineralised zone of the Viscaria D Zone deposit has been interpreted on 50 metre sections coincident with drilling. Mineralisation is generally dipping between 70° and 85° to the northwest, and has been intersected from the base of till and extends in places to around 350 metres below surface.

Mineralisation is tightly constrained within 19 copper and 4 iron zones comprising high and low grade domains.

The 3D geological interpretation of the copper mineralisation is based primarily on cut-off grades in the drillhole data. Boundaries for low grade copper were generated where the copper grade was above 0.2% Cu, with high grade copper domains being created where grade was above 0.8% Cu over at least a 2 metre width down hole. Copper grades also exist outside of these domains and within the iron domains.

The iron interpretations were created by Avalon using a combination of grades and lithological units. The high grade iron follows the boundary of the ironstone along strike, and extends away from the boundary where the composited grade was greater than 25% Fe. Low grade iron is based on grades of <20% Fe and generally form a shell around the high grade iron domains. Very low grade areas were also interpreted where Fe < 10%, and are commonly found to the west of the low grade domains. There is also one further iron domain occurring in the upper shear zone, where the zone outlines an area of 10% to 20% Fe.

### **Mineral Resource Estimation Methods**

Ordinary Kriging (OK) was used to estimate copper and iron into block models of the mineralisation wireframes/domains. The block model parent cells have dimensions of 5 mE by 20 mN by 10 m Elevation, with sub-celling used to accurately represent the geometry and volume of the mineralisation models. The estimation parameters were optimised based on the drillhole data spacing and the models of grade continuity produced by a variography study of copper and iron.

Dry bulk density data provided by Avalon was used to determine dry bulk density factors for estimating material tonnages. A relationship between iron grade and bulk density was derived and the resultant regression formula was applied across the model to determine dry bulk density. Where no iron grade was calculated in the model, a dry bulk density value of 2.9g/m<sup>3</sup> was applied.

The Fe Mass Recovery (%) values within the block model were calculated from total Fe (%) estimates using a regression formula. The regression formula was determined by carrying out a regression analysis between Fe Mass Recovery (%) and total Fe (%) results from Davis Tube Recovery (DTR) test work.

### **Comparison with previously reported D Zone Mineral Resource**

The previous D Zone Mineral Resource as announced in November 2011 is displayed in Table 17, while the new revised D Zone Mineral Resource described in similar terms is display in Table 18. The overall tonnage of the new revised mineral resource is approximately 15.5 million tonnes, compared to approximately 12.5 million tonnes in the previous D Zone Mineral Resource as announced in November 2011. This represents an increase of 3 million tonnes or 24%.

The increased tonnage in the main portion of the mineral resource that is above a 15% Fe Mass Recovery has been achieved with a minor increase in iron grade but also a minor decrease in copper grade. However, while the overall copper grade has decreased, the copper grade of the D Zone Mineral Resource at higher copper grade cut-off values has increased as shown in the grade tonnage data displayed in Tables 19 to 22 as well as Figures 13 and 14. This increase in the copper grade also increases the potential for the D Zone deposit to be mined by underground methods as well as open pit methods.

**Table 17: Previous 2011 D Zone block model reporting**

Reporting Criteria	Cut-off	Tonnes	Cu%	Fe%	Fe Mass Rec%
Above 15% Fe mass recovery	15.0	11,942,000	0.6	24.1	35.6
Copper above 0.4% Cu in remaining blocks	0.4	585,000	0.9	17.1	8.1

**Table 18: New 2012 D Zone block model reporting**

Reporting Criteria	Cut-off	Tonnes	Cu%	Fe%	Fe Mass Rec%
Above 15% Fe mass recovery	15.0	14,782,370	0.4	25.8	31.1
Copper above 0.4% Cu in remaining blocks	0.4	715,288	0.8	4.6	4.5

#### **Future Mineral Resource Extension Plans**

Geological analysis of the D Zone Mineral Resource indicates that it is not closed off in either direction along strike or at depth. In fact, the deposit appears to be getting thicker and higher in copper and iron grades at depth (Figure 15). This observation indicates that there is potential for the D Zone Mineral Resource to be further increased in areas that could be mined by open pit as well as underground mining methods. This potential will drive a significant drill program to increase the D Zone Mineral Resource on the Viscaria Project to be completed between November 2012 and May 2013.

**Table 19: New 2012 D Zone block model  
Cu grade tonnage data**

CUTOFF (Cu %)	TONNES	Cu (%)
<b>0.01</b>	<b>23,473,041</b>	<b>0.30</b>
0.2	7,855,613	0.71
0.3	6,918,914	0.77
0.4	5,369,376	0.89
0.5	3,864,745	1.07
0.6	2,794,312	1.27
0.7	2,258,371	1.41
0.8	1,961,557	1.51
0.9	1,821,664	1.56
1	1,693,233	1.61
1.1	1,601,581	1.64
1.2	1,497,056	1.68
1.3	1,364,524	1.72
1.4	1,240,267	1.76
1.5	1,026,711	1.82
1.6	865,673	1.87
1.7	594,389	1.97
1.8	399,844	2.08
2	189,036	2.30

**Table 20: Previous 2011 D Zone block  
model Cu Grade tonnage data**

CUTOFF (Cu %)	TONNES	Cu (%)
<b>0.01</b>	<b>13,620,465</b>	<b>0.54</b>
0.2	9,126,718	0.75
0.3	7,818,777	0.83
0.4	6,796,709	0.90
0.5	6,001,320	0.96
0.6	5,202,480	1.03
0.7	4,307,293	1.10
0.8	3,533,253	1.18
0.9	2,782,843	1.27
1	2,165,254	1.36
1.1	1,666,173	1.46
1.2	1,281,447	1.55
1.3	986,860	1.64
1.4	740,885	1.74
1.5	552,218	1.84
1.6	405,429	1.94
1.7	298,171	2.05
1.8	223,869	2.15
2	126,033	2.35

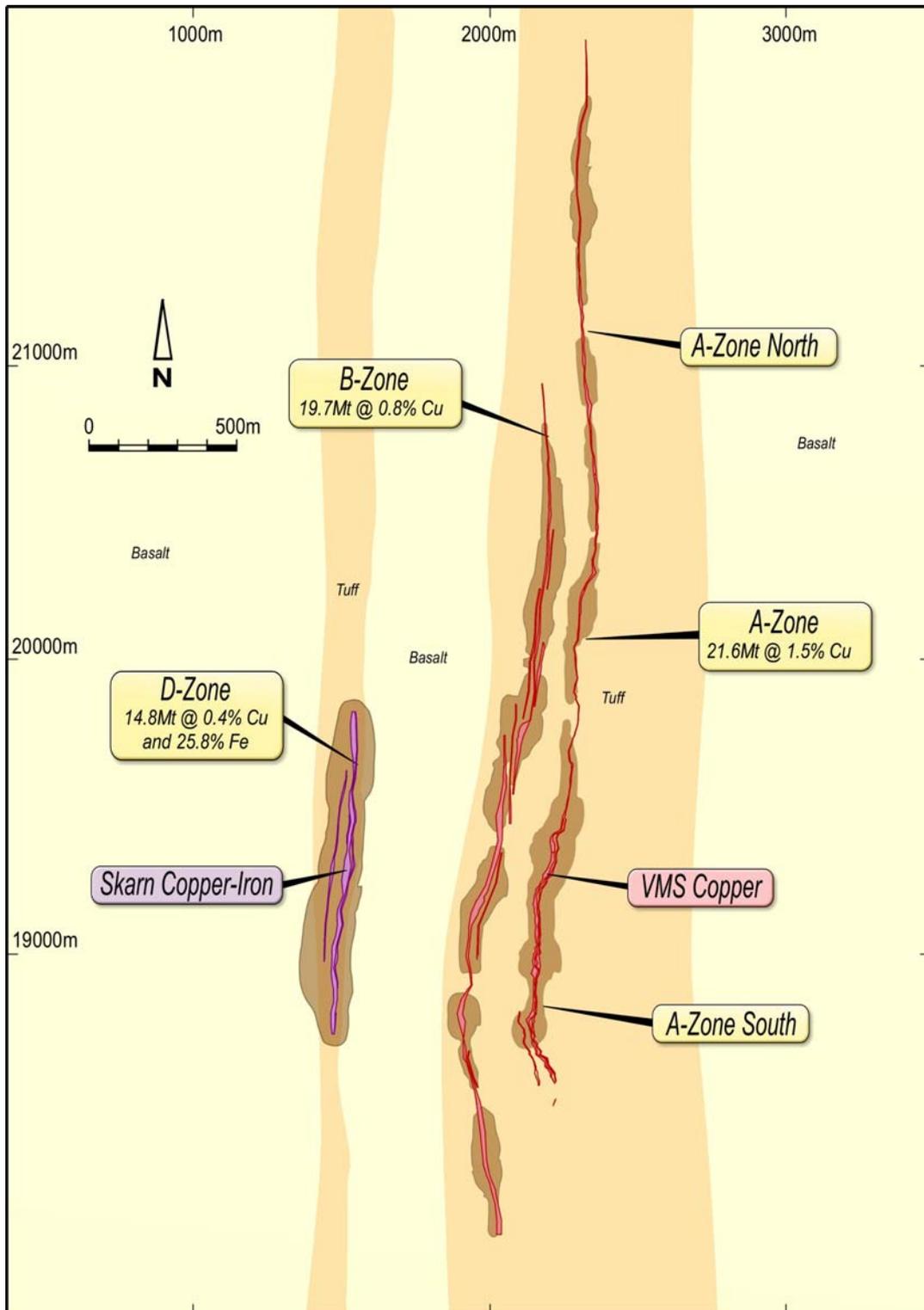
**Table 21: New 2012 D Zone block model Fe  
Mass Recovery grade tonnage data**

CUTOFF (Fe Mass Rec %)	TONNES	Fe Mass Rec (%)
0.01	23,034,209	23.45
3	22,999,683	23.48
5	22,878,271	23.58
10	17,904,543	27.85
15	14,782,370	31.10
20	11,888,004	34.40
25	9,927,468	36.76
30	8,008,711	38.97
35	5,683,490	41.56
40	3,107,036	44.89

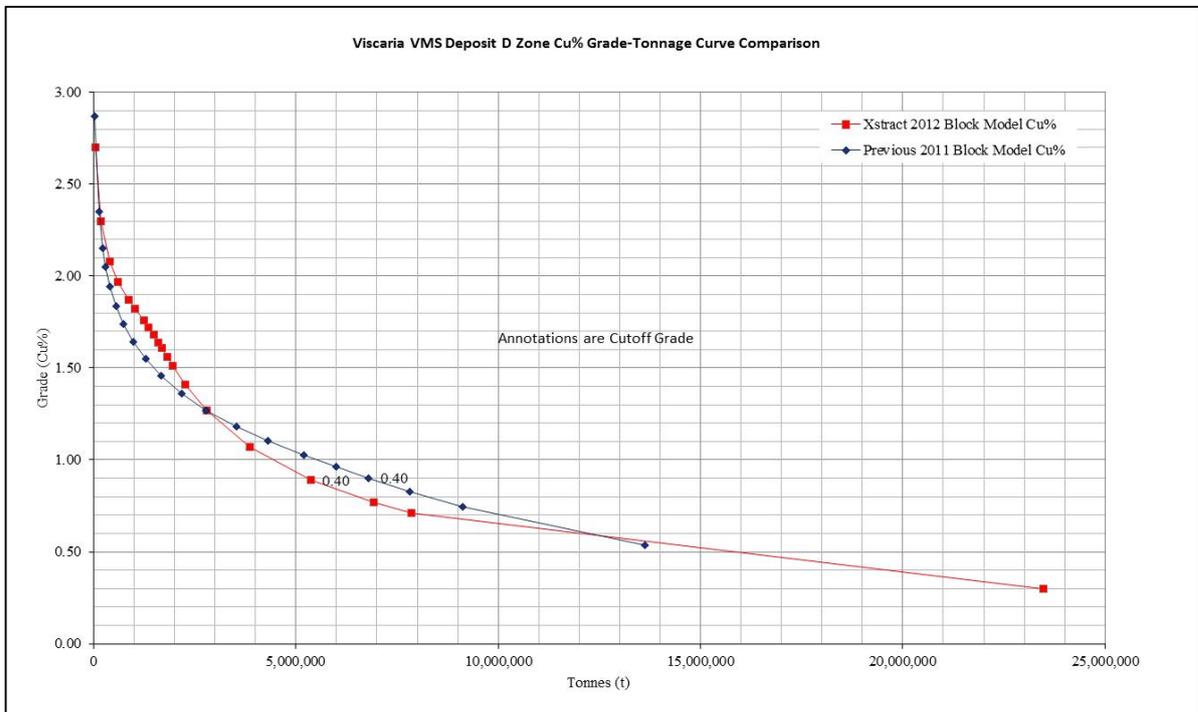
**Table 22: Previous 2011 D Zone block  
model Fe Mass Recovery grade tonnage  
data**

CUTOFF (Fe Mass Rec %)	TONNES	Fe Mass Rec (%)
0.01	13,581,595	27.10
3	13,229,218	27.77
5	12,927,931	28.33
10	12,113,250	29.73
15	11,134,400	31.22
20	9,766,400	33.11
25	7,851,395	35.67
30	5,536,795	39.08
35	3,542,748	42.86
40	2,117,520	46.54

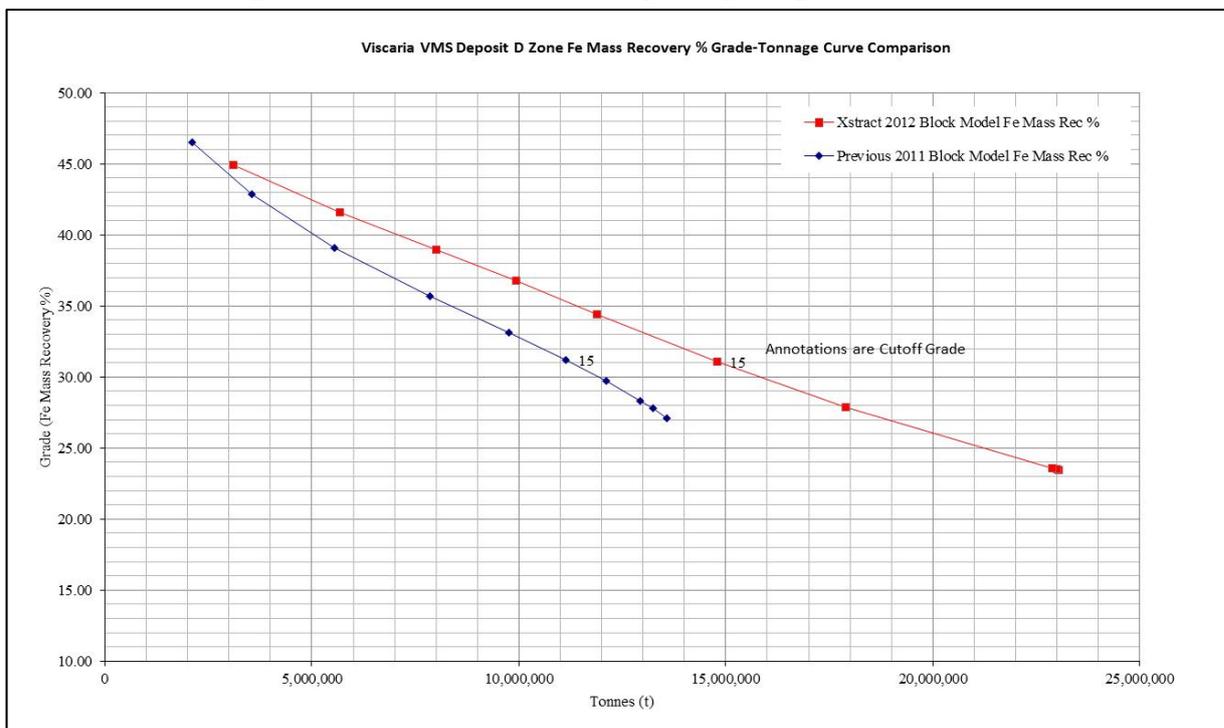
Figure 12 – Location of D Zone Mineral Resource, in relation to the A Zone and B Zone Mineral Resources (in mine grid)



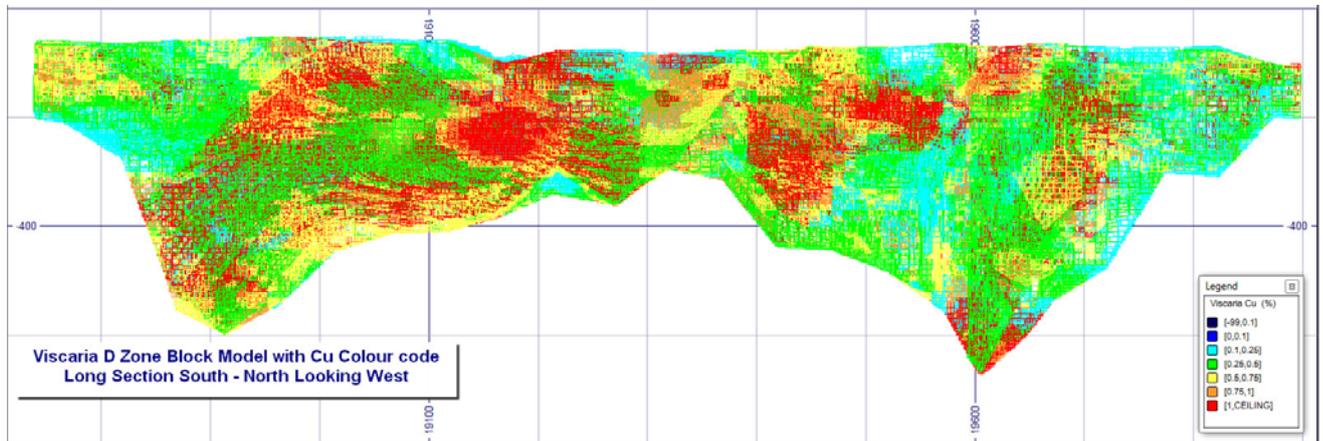
**Figure 13: Grade tonnage chart for copper comparing Xstract 2012 block model vs 2011 block model**



**Figure 14: Grade tonnage chart for Fe Mass Recovery comparing Xstract 2012 vs 2011 block models**



**Figure 15 – Long sectional view of the D Zone Mineral resource displaying the distribution of copper grade**



## **Exploration**

### **Drilling**

The 2000m drilling program (commenced in March 2012) was completed in the July quarter, with the results of the final fourth hole announced to ASX on 29 August 2012.

The program's objective was the testing of extensions to high grade copper mineralisation at the A and D Zone Mineral Resources. The program was divided between drilling at the southern section of A Zone targeting the plunging high-grade copper shoots 600m below the surface and stepping out >60m beneath the high grade shoots of D Zone, at the 200-300m depth interval.

All four holes VDD0125, VDD0127, VDD0128 and VDD0129 (VDD0126 was abandoned due to drilling issues) intersected significant intervals of copper mineralisation. The success of the completed drill program indicates that Avalon's exploration team now has a good understanding of the controls on the higher-grade copper mineralisation at Viscaria.

### **Details of Drill Hole VDD0129**

Drill hole VDD0129 intersected copper-iron mineralisation over a broad 88.3m (down hole width) interval from a depth of 229.7m. The mineralisation is hosted in an interlayered sequence of tuffaceous, volcanic sediments and dolerites. The chalcopyrite (copper sulphide mineralisation) is characterised by disseminations, stringers and veins and is associated with skarn-like alteration. The magnetite (iron oxide mineralisation) is characterised by fine to coarse grained disseminations that increase in abundance to massive magnetite in some zones.

The mineralisation has two dominant copper enriched zones. The first copper zone extends 16.3m down hole from 229.7m and returned an intersection of 0.5% Cu and 24.4% Fe, which is 0.9% CuEq\*. Within this interval occurs a higher grade copper mineralisation intersection of 5.0m @ 1.0% Cu and 30.6% Fe, which is 1.5% CuEq\*.

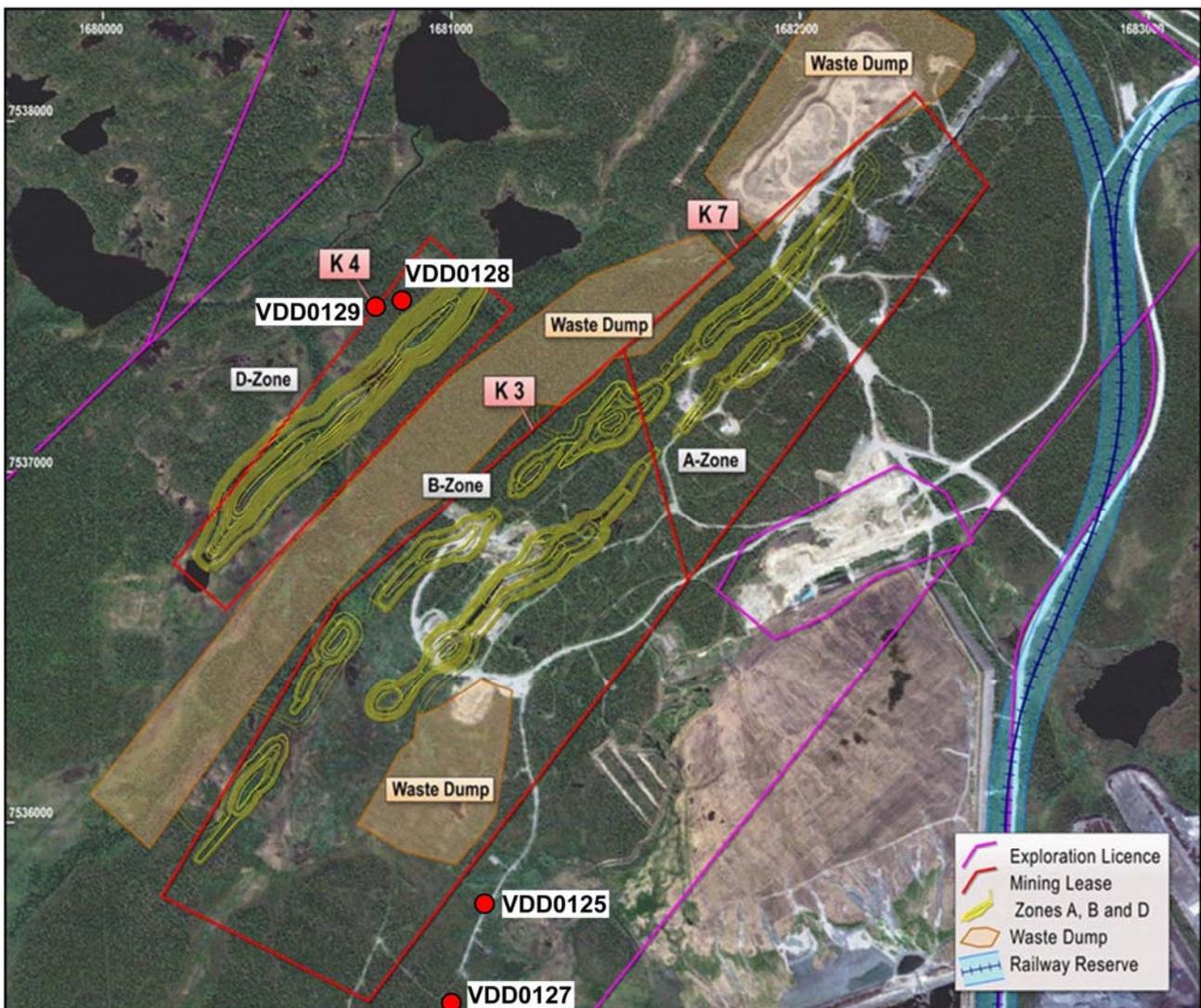
The second copper zone extends 17.0m down hole from 300.0m and returned an intersection of 1.3% Cu and 23.3% Fe, which is 1.6% CuEq\*. Within this interval occurs an even higher grade copper mineralisation intersection of 9.0m @ 1.8% Cu and 23.0% Fe, which is 2.1% CuEq\*.

The survey details of drill hole VDD0129 are given in Table 23, with the drill hole location shown in Figures 16 and 17.

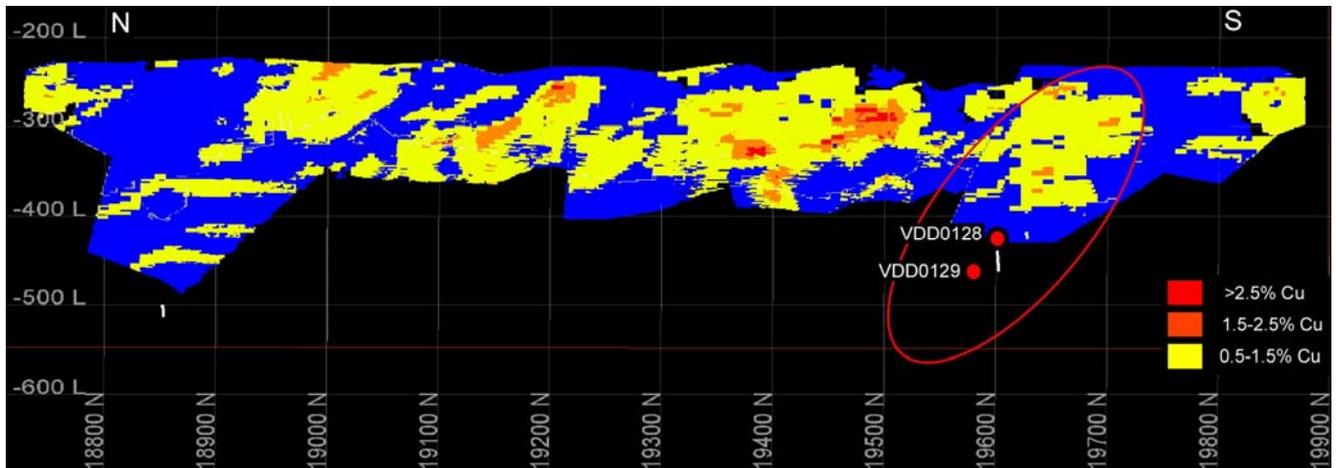
**Table 23**

Hole	Easting (RT90)	Northing (RT90)	RL (m)	Azimuth (degrees)	Inclination (degrees)	From (down hole m)	To (down hole m)	Intersection Width (down hole m)	End of Hole(m)
VDD00129	1,680,822	7,537,463	510.8	134.215	-60	266.3	327.6	61.3	348

**Figure 16 – Location of Drill Hole VDD0129, as well as previously announced holes VDD0125, VDD0127 and VDD0128**



**Figure 17 – Long sectional view of the D Zone Mineral resource displaying the distribution of copper grade (Mineral Resource not updated with the results from VDD0128 and VDD129. Surface RL = -230m to -250m).**



### **Bankable Feasibility Study**

The BFS of the Viscaria Copper Iron Project commenced in October 2010 remains suspended pending further review and analysis of the project economics.

### **Approvals**

#### **a) MEC**

The Mining Exploitation Concession (MEC) for the Viscaria project was submitted to the Bergsstaten (Mines Department) in April 2010 and was significantly amended in early 2011 following submissions from the city of Kiruna. The Bergsstaten has advised it has approved the MEC for Viscaria in two licences; Viscaria K3 and Viscaria K4. The two MEC's granted cover the D zone and the southern area of the A Zone and B Zone mining areas.

A third MEC application (Viscaria K7) remains under consideration by Bergsstaten pending an amendment to the Kiruna town planning act to allow for the grant of a mining lease which includes the power generation windmills and a power line affected by the northern parts of A Zone and B Zone.

The granting of the MEC is a precursor to consideration by the regulator of the Environmental Impact Assessment and permits access to the historical underground mining openings to check present day geotechnical conditions and groundwater levels.

#### **b) Environment Impact Assessment**

The Environment Impact Assessment (EIA) was submitted to the Environmental Court of Sweden (ECS) in April 2011. Following the suspension of the BFS, the Company sought suspension of consideration of the EIA by the ECS for up to 12 months to reduce expenditure. A response from the ECS to the request is yet to be received.

### **ADAK Copper-Zinc Project**

The Adak project has been written off as the tenements were unable to be sold.

## **CORPORATE**

### **Placement**

During the quarter, the Placement (announced 6 July 2012) to raise \$3.6M (before costs) at a price of 9 cents per share to support the continued exploration and development of the Viscaria Copper Project in northern Sweden was completed. Proceeds from the equity raising will be used to advance the Viscaria Project in Sweden including the commencement of a regional exploration program; completing a scoping study to determine the economics of an open pit and underground mining operation; completion of planning for a major resource extension drill program; and replenishment of Avalon's working capital.

### **Issue of Options and Performance Rights**

During the quarter, 12,200,000 options and 40,000,000 performance rights as approved by shareholders were issued to key management personnel. The options were issued for 1 cent payable up front, with an exercise price of 5 cents each, expiry 30 September 2015. The performance rights will convert to shares at such time as each of the tranche vesting conditions are met.

### **General Meeting – 8 October 2012**

On 8 October 2012, a general meeting was held to consider 2 resolutions, including ratification of a previous share issue and approval to issue up to 70M additional shares. All resolutions were passed by shareholders.

### **Cash Resources**

As at 30 September 2012, the Consolidated Entity had cash reserves of \$2.39M.

### **Shareholder Information**

At 30 September 2012, the Company had 330,852,797 fully paid ordinary shares on issue and approximately 980 shareholders.

**For further information please visit [www.avalonminerals.com.au](http://www.avalonminerals.com.au) or contact:**

Mr Jeremy Read  
Managing Director  
Avalon Minerals Limited  
Office: 07 3368 9888  
Mob: 0409 484 322

#### **\*Copper Equivalent Formula**

$\% \text{CuEq} = \% \text{Cu} + ((\% \text{Fe} \times \text{Fe price US\$/tonne} \times \text{Fe recovery}) / (\text{Cu price US\$/tonne} \times \text{Cu recovery}))$

Cu price US\$/tonne = \$7,163.00 (US\$3.25/lb)

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 mineral resource contained within the Viscaria Project.

#### **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 Mineral Resource estimate for A and B Zones was compiled and prepared by Dr Bielin Shi (MAusIMM, MAIG) of CSA Global Pty. Ltd. 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.

The mineral resource estimate for the Discovery and Tributary Zones is effective from 13 January 2012 and has been prepared by Mr Thomas Lindholm, MSc of GeoVista AB, Luleå, Sweden acting as an independent "Competent Person". Mr Lindholm is a Fellow of the Australasian Institute of Mining and Metallurgy (Member 230476). Mineral resources of the Rakkuri iron deposits have been prepared and categorised for reporting purposes by Mr Lindholm, following the guidelines of the JORC Code. Mr Lindholm is qualified to be a Competent Person as defined by the JORC Code on the basis of training and experience in the exploration, mining and estimation of mineral resources of gold, base metal and iron deposits.

**The Base Case** includes material from Inferred Mineral Resources and therefore, exploration drilling and re-estimation may result in changes to the economically minable portion of the Mineral Resources.

**Development Cases A, B and C** includes material that has not yet been discovered or defined and is considered an exploration target.

#### **JORC – Exploration Targets**

It is common practice for a company to comment on and discuss its exploration in terms of target size and type. The information relating to exploration targets should not be misunderstood or misconstrued as an estimate of Mineral Resources or Ore Reserves. Hence the terms Resource(s) or Reserve(s) have not been used in this context. The potential quantity and grade is conceptual in nature, since there has been insufficient work completed to define them beyond exploration targets and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

## **Company Directory**

**AVALON MINERALS LIMITED**  
**ABN 68 123 184 412**

**Web site:** [www.avalonminerals.com.au](http://www.avalonminerals.com.au)

**Email:** [info@avalonminerals.com.au](mailto:info@avalonminerals.com.au)

### **Stock Exchange Listing**

Australian Stock Exchange – ASX Code: AVI

### **Investor Information Contacts:**

Mr Jeremy Read - Managing Director  
Avalon Minerals Limited  
Tel: 07 3368 9888  
Mob: 0409 484 322  
Em: [jeremy.read@avalonminerals.com.au](mailto:jeremy.read@avalonminerals.com.au)

Mr James Harris  
Professional Public Relations  
Tel: 08 9388 0944  
Mob: 0400 296 547  
Em: [james.harris@ppr.com.au](mailto:james.harris@ppr.com.au)

### **Shareholder Enquiries:**

Share registry matters should be directed to:

Computershare Investor Services  
Phone: 1300 850 505  
Website: [computershare.com.au](http://computershare.com.au)

### **Registered Office:**

Level One  
65 Park Road  
Milton Queensland 4064  
Phone: 07 3368 9888  
Fax: 07 3368 9899

### **Issued capital:**

Ordinary shares: 330,852,797 (AVI)

### **Directors:**

Tan Sri Abu Sahid Bin Mohamed – Chairman  
Jeremy Read – Managing Director  
Dato Philip Siew – Deputy Chairman  
Paul Niardone – Non-Executive Director  
Edward Siew – Non-Executive Director  
Mr Gary Goh – Non-Executive Director

### **Company Secretary:**

Roslynn Shand

# Appendix 5B

## Mining exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10

Name of entity

Avalon Minerals Limited

ABN

68 123 184 412

Quarter ended ("current quarter")

30 September 2012

### Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (3 months) \$A'000
1.1 Receipts from product sales and related debtors	-	-
1.2 Payments for (a) exploration & evaluation	(1,381)	(1,381)
(b) development	-	-
(c) production	-	-
(d) administration	(505)	(505)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	7	7
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other (provide details if material)	-	-
<b>Net Operating Cash Flows</b>	<b>(1,879)</b>	<b>(1,879)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of:		
(a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	(125)	(125)
1.9 Proceeds from sale of:		
(a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other (provide details if material)	-	-
<b>Net investing cash flows</b>	<b>(125)</b>	<b>(125)</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(2,004)</b>	<b>(2,004)</b>

+ See chapter 19 for defined terms.

**Appendix 5B**  
**Mining exploration entity quarterly report**

1.13	Total operating and investing cash flows (brought forward)	(2,004)	(2,004)
	<b>Cash flows related to financing activities</b>		
1.14	Proceeds from issues of shares, options, etc.	3,771	3,771
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Capital raising costs	(114)	(114)
	<b>Net financing cash flows</b>	<b>3,657</b>	<b>3,657</b>
	<b>Net increase (decrease) in cash held</b>	<b>1,653</b>	<b>1,653</b>
1.20	Cash at beginning of quarter/year to date	740	740
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	<b>Cash at end of quarter</b>	<b>2,393</b>	<b>2,393</b>

**Payments to directors of the entity and associates of the directors**  
**Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	132
1.24	Aggregate amount of loans to the parties included in item 1.10	-
1.25	Explanation necessary for an understanding of the transactions	
	Director's remuneration.	132

**Non-cash financing and investing activities**

- 2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

Nil
-----

- 2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

Nil
-----

+ See chapter 19 for defined terms.

### Financing facilities available

Add notes as necessary for an understanding of the position.

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities	-	-
3.2 Credit standby arrangements	-	-

### Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	(3,174)
4.2 Development	-
4.3 Production	-
4.4 Administration	(640)
<b>Total</b>	<b>(3,814)</b>

### Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.	Current quarter \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank	2,393	740
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Total: cash at end of quarter (item 1.22)</b>	<b>2,393</b>	<b>740</b>

### Changes in interests in mining tenements

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1 Interests in mining tenements relinquished, reduced or lapsed	Adak nr 1		100%	Nil
	Adak nr 2		100%	Nil
	Branntorsk Nr 101		100%	Nil
	Domarselnaset Nr 101		100%	Nil
6.2 Interests in mining tenements acquired or increased	Nil			

+ See chapter 19 for defined terms.

**Appendix 5B**  
**Mining exploration entity quarterly report**

**Issued and quoted securities at end of current quarter**

*Description includes rate of interest and any redemption or conversion rights together with prices and dates.*

	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1 <b>Preference securities</b> <i>(description)</i>	-	-	-	-
7.2 Changes during quarter	-	-	-	-
7.3 <b>+Ordinary securities</b>	330,852,797	330,852,797		
7.4 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs	39,979,195	39,979,195	\$0.09	\$0.09
7.5 <b>+Convertible debt securities</b> <i>(description)</i>	-	-	-	-
7.6 Changes during quarter	-	-	-	-
7.7 <b>Options</b> <i>(description and conversion factor)</i>	500,000 1,000,000 500,000 300,000 6,000,000 20,000,000 40,000,000	Nil Nil Nil Nil Nil Nil Nil	<i>Exercise price</i> 30 cents 40 cents 30 cents 40 cents 5 cents 5 cents Nil	<i>Expiry date</i> 31/01/2013 31/01/2014 1/07/2014 27/04/2015 30/09/2015 30/09/2015 5/06/2019
7.8 Issued during quarter <b>Options</b> <b>Performance Rights</b> (subject to vesting conditions)	20,000,000 40,000,000	Nil Nil	5 cents Nil	30/09/2015 5/06/2019
7.9 Exercised during quarter	-	-	-	-
7.10 Expired during quarter	-	-	-	-
7.11 <b>Debentures</b> <i>(totals only)</i>	-	-		
7.12 <b>Unsecured notes</b> <i>(totals only)</i>	-	-		

+ See chapter 19 for defined terms.

## Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 5).
- 2 This statement does give a true and fair view of the matters disclosed.



Sign here: .....  
(Company Secretary)

Date: 31 October 2012

Print name: Ros Shand

## Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities.** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 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.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Financial Reporting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

== == == == ==

---

+ See chapter 19 for defined terms.