29 November 2011

# VISCARIA RESOURCE UPDATE

## **Highlights**

- New Mineral Resource estimates completed by CSA for the Viscaria Project
- Combined copper Mineral Resource of 53.8 Mt at 1.0% Cu for 541,200 tonnes of copper metal
- D Zone Iron Ore and Copper Resource of 11.9 Mt at 24.1% Fe and 0.55% Cu an increase of 33% from the previous estimate
- Estimated Fe concentrate resource of 4.3 Mt at 68.3% Fe and 1.0% SiO2
- Measured and Indicated Resources increased to 58% of Mineral Resource.

Avalon Minerals Ltd (ASX: **AVI**; "Avalon" or "the Company") is pleased to announce that following the drilling programs conducted over the 2010 and 2011 drilling season, CSA Global Pty Ltd (CSA) has completed the update of the Mineral Resource estimate for the Viscaria A Zone Copper, B Zone Copper and D Zone Copper and Iron deposits.

Avalon Minerals Managing Director Mr Andrew Munckton said that he was pleased with the results advising: "The highlights of the resource update include a larger resource for the D Zone and the overall increase in the quality and the classification of the Mineral Resources. However, the Increase in Mineral Resources at D Zone needed to be balanced by the reduction in the average grade of the Mineral Resource estimate for A Zone."

The summary of the Mineral Resource estimate is set out in Tables 1, 2, 3 and 4 below.

### Table 1 - A Zone Copper

ASX Code: AVI

Shares on Issue: ~239 million

2011 Mineral Resources Grade Tonnage Reported above a Cut off Grade of 0.4% Cu										
Deposit	Category	Tonnes	Grade (Ag ppm)	Grade (Au ppm)	Copper Metal (T)					
A Zone	Measured	14,440,000	1.66	0.32	6.16	na	239,000			
	Indicated	4,690,000	1.22	0.21	3.48	na	57,000			
	Meas + Ind	19,130,000	1.55	0.29	5.51	0.00	296,000			
	Inferred	2,480,000	1.03	0.22	2.23	na	25,500			
	Total	21,610,000	1.49	0.28	5.13	0.00	321,500			

Note: insufficient assays were available from historical drilling to estimate Au grades reliably.



Table 2 - B Zone Copper

2011 Mineral Resources
Grade Tonnage Reported above a Cut off Grade of 0.4% Cu

Deposit	Category	Tonnes	Grade (Cu%)	Grade (Zn%)	Grade (Ag ppm)	Grade (Au ppm)	Copper Metal (T)
B Zone	Measured	120,000	1.33	0.04	0.00	0.00	1,600
	Indicated	4,120,000	0.72	0.08	0.00	0.02	29,600
	Meas + Ind	4,240,000	0.74	0.08	0.00	0.02	31,200
	Inferred	15,410,000	0.77	0.09	0.33	0.02	118,000
	Total	19,650,000	0.76	0.09	0.26	0.02	149,200

**Table 3 - D Zone Copper Only** 

2011 Mineral Resources
Grade Tonnage Reported above 0.4% Cu but below a Cut off Grade of 15% Mass Recovery

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Deposit	Category	Tonnes	Cu (%)	Fe (%)	Mass_Rec Fe_Cone (%)		SiO2_Conc (%)	Copper Metal (T)		
D Zone	Measured	24,000	0.64	15.93	9.26	48.79	3.06	200		
	Indicated	321,000	0.81	12.00	11.02	44.04	2.15	2,600		
	Meas + Ind	345,000	0.79	12.27	10.90	44.38	2.21	2,800		
	Inferred	240,000	0.96	24.27	4.04	12.45	0.78	2,300		
	Total	585,000	0.86	17.12	8.13	32.43	1.66	5,100		

Table 4 - D Zone Iron and Copper

2011 Mineral Resources Grade Tonnage Reported above a Cut off Grade of 15% Mass Recovery

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Deposit	Category	Tonnes	Cu (%)	Fe (%)	Mass_Rec (%)	Fe_Conc (%)	SiO2_Con c (%)	Copper Metal (T)
D Zone	Measure d	1,379,000	0.48	23.13	34.28	69.92	1.10	6,700
	Indicated	6,103,000	0.60	24.82	35.43	67.98	0.97	36,700
	Meas + Ind	7,482,000	0.58	24.51	35.22	68.34	0.99	43,400
	Inferred	4,460,000	0.49	23.52	36.34	68.14	0.95	22,000
	Total	11,942,000	0.55	24.10	35.56	68.29	0.98	65,400

Note: rounding errors may occur



The combined Mineral Resources from all zones total 53.8 million tonnes at 1.0% Cu for 541,200 tonnes of contained copper. The resource also contains 4.3 million tonnes of recoverable magnetite concentrate grading on average 69.3% Fe and 1.0% SiO2

A comparison with the previous Mineral Resource estimate for all three zones of mineralisation is summarised in Tables 5, 6 and 7 below.

**Table 5 - A Zone Comparison** 

Category	2011 CSA M	lineral Re	esources	_	alon Min sources		Comparison		
	Ore Tonnes	Grade (Cu%)	Copper Metal (T)	Ore Tonnes	Grade (Cu%)	Copper Metal (T)	Ore Tonnes	Grade (Cu%)	Copper Metal (T)
Measured	14,440,000	1.66	239,000	6,700,000	2.47	165,000	116%	-33%	45%
Indicated	4,690,000	1.22	57,000	4,100,000	1.76	72,000	14%	-31%	-21%
Meas + Ind	19,130,000	1.55	296,000	10,800,000	2.20	237,000	77%	-30%	24%
Inferred	2,480,000	1.03	25,500	6,500,000	1.24	81,000	-62%	-17%	-68%
Total	21,610,000	1.49	321,500	17,300,000	1.84	318,000	25%	-19%	1%

### Table 6 - B Zone Comparison

Category	2011 CSA Mineral Resources			2010 CSA M	lineral Re	esources	Comparison		
	Tonnes	Grade (Cu%)	Copper Metal (T)	Tonnes	Grade (Cu%)	Copper Metal (T)	Tonnes	Grade (Cu%)	Copper Metal (T)
Measured	120,000	1.33	1,600						
Indicated	4,120,000	0.72	29,600						
Meas + Ind	4,240,000	0.74	31,200						
Inferred	15,410,000	0.77	118,000	25,388,000	0.76	192,949			
Total	19,650,000	0.76	149,200	25,388,000	0.76	192,949	-23%	0%	-23%



Table 7 - D Zone Copper and Iron Comparison

Category	2011 CSA Mineral Resources			2010 CSA Mineral Resources			Comparison		
	Tonnes	Grade (Cu%)	Grade (Fe%)	Tonnes	Grade (Cu%)	Grade (Fe%)	Tonnes	Grade (Cu%)	Grade (Fe%)
Measured	1,379,000	0.48	23.13						
Indicated	6,103,000	0.60	24.82						
Meas + Ind	7,482,000	0.58	24.51						
Inferred	4,460,000	0.49	23.52	8,960,000	0.55	27.0			
Total	11,942,000	0.55	24.10	8,960,000	0.55	27.0	33%	0%	-10%

Avalon's Managing Director Andrew Munckton provided the following comments on the Resource upgrade following the 2010 and 2011 drilling programs:

"Overall, the work completed during our drilling programs in 2010 and 2011 which resulted in this Mineral Resource upgrade was very pleasing. The program in the last year was the first modern exploration work that has investigated the D Zone and B Zone mineralisation in some detail. Some limited drilling and a reinterpretation of the A Zone mineralisation was also undertaken in the program.

Our work was the first in the modern era to incorporate QAQC, downhole deviation and downhole geophysics as routine elements of a resource drilling program. The additional data has increased confidence in and reliability of the Resources estimated."

Analysis on a deposit by deposit basis shows:

- A Zone Estimate based on 3,276 diamond and 11 RC drill holes with the vast majority of drilling being historical (pre 1997) drilling. Ore grade mineralisation is a combination of chalcopyrite and lesser sphalerite in massive sulphide surrounded by disseminated, lower grade chalcopyrite mineralisation. The modelling of the mineralisation required a restricted influence of the higher grade massive sulphide core of the ore body coupled with re-wireframing of the low grade mineralisation halo. This has resulted in an increased tonnage at a lower average grade of mineralisation above the selected 0.4% Cu Cut-off Grade.
- B Zone Estimate is based on 191 diamond and 54 RC drill holes. Additional drilling, use of sulphur
  grade in addition to copper grade and down hole geophysics for mineralisation definition has resulted
  in improved confidence in the estimate with reduced tonnage and similar copper grade to previous
  estimates.
- **D Zone** The first comprehensive estimate based on 276 diamond and 36 RC drill holes was completed for both copper only mineralisation and the separate copper plus magnetite mineralisation. Additional drilling has defined the ore on nominal 50m x 30m spacing to approximately 180m below surface. The resource classification was aided by the comprehensive QAQC data set, survey and downhole deviation and geophysical data. The increase in Mineral Resources is driven by the generally wider zones of mineralisation encountered in the northern shoot and southern shoot of the deposit. The deposit contains two mineralisation styles where copper sulphide is present in association with magnetite and also as a separate copper only mineralisation. Separate estimates for each mineralisation style are provided.



The models provided by CSA will form the basis of the ongoing assessment of the project with Whittle optimisation, mine design and Ore Reserve estimation now able to commence.

The updated Mineral Resources will provide the foundation to re visit the Base Case and Development Case scenarios which were presented as part of the Viscaria Pre-Feasibility Study in October 2010. The Company is running several scenarios using the latest information including a number of new options designed to investigate opportunities for improving the value of the project by reducing the Capital cost and Operating cost of the project with different processing plant configurations and annual production rates.

In the meantime, the Company continues its consultation with the Kiruna Kommun, other interested parties and Government departments in connection with its Environmental Impact Study which is progressing through the Swedish Environmental Court approvals process.

#### Competent Person's Statement

The information in this report that relates to Mineral Resources and exploration targets is based upon information reviewed by Mr Andrew Munckton BSc (Mining Geology) who is a Member of the Australasian Institute of Mining and Metallurgy.

Mr Munckton 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 Munckton 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 A, B and D Zones has been 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.

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On behalf of:

Mr Andrew Munckton Managing Director and CEO Avalon Minerals Limited Mobile: +61 0435 635 598