

February 2015

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Company Information

ASX Code	AVI
Share Price	A\$0.028
Ord Shares	144.7m
Options & Performance Rights	7.2m
Market Cap (FD)	A\$4.28m
Cash (December 31, 2014)	A\$1.80m
Total Debt	A\$0.00m
Enterprise Value	A\$2.48m

Directors & Management

Non-Exec Chairman	Graham Ascough
CEO & Managing Director	Malcolm Norris
Non-Exec Director	Crispin Henderson
Non-Exec Director	Don Hyma
Non-Exec Director	Paul Niardone
GM – Studies and Technical Services	Ray Robinson

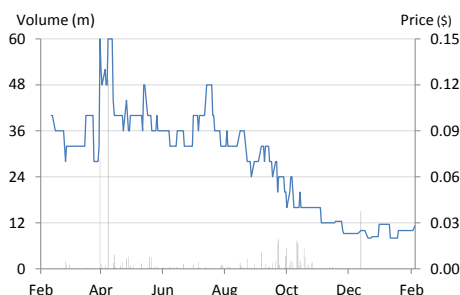
Company Details

Address	65 Park Road Milton QLD 4064
Phone	+617 3368 9888
Web	www.avalonminerals.com.au

Significant Shareholders

Tan Sri Abu Sahid Bin Mohamed	15.45%
Phoenix Copper Limited	8.64%
Dato Lim Heng Suan	6.84%
Tan Sri Datuk Ta Kin Yan	6.50%
Marilei International	5.16%
Valbonne II	5.14%

1 Year Price Chart



Source: IRESS, adjusted for share consolidation

Avalon Minerals Limited (AVI)

Dirt Cheap Dirt

Company Update

Recommendation: Speculative **BUY**

Key Points

- **Opportunity for a low capex, high grade copper start-up operation in a well proven world class mining district**
- **Simple mining and beneficiation using off the shelf methods**
- **Produces readily marketable, high quality concentrates**
- **Excellent infrastructure, including transport (road, rail and ports) and cheap power**
- **Board and Management with extensive technical and operational experience**
- **Key European investors in register**
- **Indicative risked base case valuation of \$0.52/share @ US\$3/lb Cu**

Since our September 2014 initiation report, market conditions have led the Board and Management to review plans for the Viscaria Copper-Iron Project in Sweden, with a low capex, high grade copper start-up operation now being planned, in lieu of that presented in the 2014 revised Scoping Study.

The project has sufficient resources to subsequently upgrade this to a longer term, high throughput Cu/Fe operation with appreciable blue sky. We see potential resource additions coming from expansions to the known mineralisation and the good chance for regional exploration success.

The Company is clearly highly discounted by the market, despite having a high quality asset in a proven mining jurisdiction well served by infrastructure. As such we maintain our SPECULATIVE BUY rating, with a revised base case medium term price target of \$0.52/share (using a forecast copper price of US\$3/lb) – this target is \$0.23/share using spot copper prices (US\$2.60/lb), still an appreciable premium to the current share price.

Key price movers will include progress on funding and permitting.

Company Overview

Avalon is an ASX-listed minerals developer with its key project being the Viscaria Copper-Iron Project in the Kiruna mining district of northern Sweden. The Company is working towards development of the project, with a DFS expected to be completed by late 2016, and first production, of between 10,000tpa and 15,000tpa of copper in 2018, potentially to coincide with forecast improvements in copper prices.

In addition to the core project, which is comprised of four mineralised zones, a number of district and regional exploration licences are held, with these having excellent prospectivity, as evidenced by historic drill results that have not been followed up.



Company Update and Investment Thesis

Near Term, Low Capex Development

Looking at a low capex, high grade copper only start-up operation

In response to current market conditions and commodities prices, Avalon Minerals Limited (ASX: AVI, “Avalon” or “the Company”) is currently investigating options for a staged development of its Viscaria Copper-Iron Project in northern Sweden, as an alternative to the scenario presented in the 2014 Scoping Study.

The proposed operation includes a first stage, relatively low capex high grade copper only operation, with a later expansion to a larger copper and magnetite operation.

Later expansion to a higher throughput copper and iron operation

Planned operations include both open cut and underground mines, with exploitation concessions now granted over all of the three start-up zones.

The company envisages an initial 5 year, ~1mtpa operation, with capex in the order of US\$100m, expanded to a 2.5 to 3.5mtpa operation from year six which will require an estimated extra US\$130m in capex, which includes the magnetic separation plant. There is also potential for a copper oxide circuit to be included, to treat shallow high grade oxide ores.

A Simple and Quality Project

Quality project, simple operations, to produce quality end products

Viscaria is a quality copper project, with the resources to support a viable, medium to long term operation. Orebody geometries are ideal for mining, and flotation of the copper ore produces a clean, ready marketable 25% copper concentrate, as evidenced by historic operations on the site and metallurgical testwork completed by Avalon. There is no rocket science involved in developing and operating Viscaria – all operations will involve well tried and proven industry standard processes.

Preliminary metallurgical testwork on oxide copper mineralisation has indicated that this will be amenable to standard solvent extraction electrowin (“SXEW”) processing.

Further down the track, the potential magnetite product is a premium 69-70% concentrate, again readily marketable, and will be produced by a standard magnetic separation circuit.

Large Resource Base

Sufficient resources to support a medium to long term operation

Current copper resources stand at 63.86Mt @ 1.05% copper, with a magnetite resource of 35.3Mt at 29.1% iron and a mass recovery of 37.1%. Resources are included in two copper only (A and B Zones) and two copper-iron (D and Discovery Zones) orebodies.

The overall resources include higher grade zones that the Company will be looking at extracting early in the proposed operation to maximise cash flow and minimise payback times.

Excellent Blue Sky

Blue sky is considered excellent, with the potential to increase the known resources, as well as new discoveries

There is significant blue sky at Viscaria and regional targets. At Viscaria this includes the potential for expansions of the known resources, with areas still remaining open at depth and along strike. There is also potential for incremental revenue increases from gold, particularly from the Discovery zone, but also from A Zone, where drilling has intersected up to 0.6g/t in one area.

Historic drilling over regional targets has returned very encouraging intersections that are yet to be followed up – these are considered priority exploration targets.



Recent Drilling Results

Positive results from recent drilling

The blue sky potential has been supported by the results of recent drilling, which has identified new footwall and hanging wall zones of mineralisation in A Zone, not previously included in resource estimates, and excellent shallow oxide copper intersections at D Zone.

Robust Economics

Potentially robust operation at forecast metals prices

Resources realised from this blue sky will only help the economics of the project. The delineation of additional mineralised zones at Area A will reduce strip ratios, and the addition of resources should enable a longer term or larger throughput project to be developed, thus taking advantage of economies of scale.

Our base case analysis indicates an already reasonably robust overall project at forecast copper prices in the order of US\$3.00 to \$3.25/lb, and current iron ore prices for phase 2.

Ready Access To Infrastructure and Services

Adjacent to high quality infrastructure – in an established mining area

One key advantage is the ready availability of all infrastructure. Viscaria is located adjacent to rail (with spare capacity, and which connects to ports) and cheap hydro-electric grid power, thus reducing capital and operating expenditure. Being located in a current mining area means that the project will have ready access to mining services and a skilled workforce.

Existing Underground Development at the A Zone

Existing underground access should help project economics and development

Proposed underground operations at the A Zone should be simplified due to the presence of existing underground development remaining from the previous Outokumpu operation. Although dewatering will be required the Company sees no significant risks with this, with, amongst others, the water being clean, and posing no environmental issues.

The proximity of the proposed A Zone and D Zone underground operations may allow direct underground access to D Zone from A Zone, thus obviating the requirement for a new decline.

Exploitation Leases Granted

Key areas now covered by exploitation licences – next step is operational and environmental permitting

With the recent granting of Mining Exploitation Concession (“MEC”) K7, A, B and D Zones are all now covered under long term exploitation concessions. The granting of these concessions is a precursor to consideration of the Environmental Impact Assessment (“EIA”) and development permits, which we understand should take about a year to assess once lodged.

The application for the MEC over the Discovery Zone is still under consideration by the authorities, with ongoing stakeholder engagement.

Mining Friendly Jurisdiction

Sweden ranked 1st in the 2013 Fraser Institute survey

Sweden is a mining friendly jurisdiction, having recently been ranked at number one in the Fraser Institute’s 2013 survey of mining companies. The country has a well-developed, clear and rigorous legal framework for mining projects, with clear steps to development. World-class operations include LKAB’s iron ore operations and Boliden’s Aitik Copper Mine.

In addition Sweden has a low company tax rate of 22% (although a VAT of 25%), and an annual fee of 0.2% of the average value of the minerals mined, of which 0.15% goes to the landowners and 0.05% goes to the state for R&D in mineral resources.



Corporate Activity

Key investors include two European funds

Recent additions to significant shareholders include two European investment funds – Valbonne II and Marilei International, which should support the European focus of Avalon, and help in raising capital for development and the ongoing project studies.

Other activities include a 10 for 1 share consolidation in November 2014, and fundraising and Research and Development (“R and D”) rebate returns leaving the coffers reasonably healthy at A\$1.8m as of the end of 2014.

Operational management team has been strengthened

The management team has been strengthened by the appointment of Ray Robinson as General Manager – Studies and Technical Services. Ray has had extensive experience in a wide range of commodities and locations, and in delivering Feasibility Studies and development projects on time and on budget.

Aware of the need to maximise money in the ground, the Company is also in the process of moving office to help cut administration overheads.

Project and Company Valuation

Risked Company valuation of A\$0.52/share

Our indicative base case project valuation of \$0.52/share is as follows. This is based on the conceptual 5+8 year scenario as mentioned above and a copper price of \$3.00/lb, and does not take into account any future capital raisings.

The Viscaria project is sensitive to metals prices, and the Australian dollar valuation to exchange rates. For example, a copper price of US\$3.50/lb, all other things being equal, results in a risked per share valuation of A\$0.88; using the current spot price of US\$2.60/lb gives A\$0.23/share, however still at an appreciable premium to the current share price.

There is a discussion of metals prices and a sensitivity analysis later in this report.

Viscaria Base Case Pre-Tax, Pre-Financing Valuation

Component Valuations - DCF	NPV (US\$m)	NPV (A\$m)	Risk Multiplier	Risk (A\$m)	Risk /Share	Method
Viscaria Pre Tax Cash Flow – 5 + 8 year	\$166 m	\$213 m	34%	\$73 m	\$0.50	DCF, 10% DR
Gold Upside	\$14 m	\$18 m	20%	\$4 m	\$0.02	DCF, 10% DR
Extra Mine Life - 5 Years	\$79 m	\$101 m	10%	\$10 m	\$0.07	DCF, 10% DR
Consolidated Project DCF	\$259 m	\$333 m	26%	\$86 m	\$0.60	
Discovery Zone Liability	-\$2.3 m	-\$3 m	100%	-\$3 m	-\$0.02	Current
Head Office Administration	-\$8.1 m	-\$10 m	100%	-\$10 m	-\$0.07	DCF, 10% DR
Cash (est)	\$1.4 m	\$2 m	100%	\$2 m	\$0.01	Current
Company Valuation	\$250 m	\$321 m	23%	\$75 m	\$0.52	
Prices	Prices	AUDUSD	0.78	Cu Price	\$3.00/lb	Fe Price FOB

Source: Breakaway Analysis

Avalon Minerals Peer Group

Unique in potentially producing both copper and magnetite concentrates

Avalon is unique amongst ASX-listed companies in having the potential to produce both a copper and magnetite concentrate from the same operation. There are no identical peers, however we note two other ASX listed companies operating in northern Scandinavia with iron and/or copper and/or gold projects – Northern Iron (ASX: NFE), producing iron ore in Norway, and Hannans Reward (ASX: HNR), with Cu/Fe/Au assets near Kiruna. Talga Resources (ASX: TLG) also have Cu/Au assets, however as they are divesting these assets to concentrate efforts on their graphite projects we have not



Peer comparison based on current metals prices and exchange rate

Avalon has a relatively high IGV/tonne, but low EV/t

considered them further.

The table below lists a number of ASX-listed developers and producers, with broadly similar in-ground values ("IGV") per resource tonne. Given the different resource mixes, we have calculated a copper equivalent grade, using current metal prices of US\$5,692/t copper, US\$1235/oz gold and a US\$70/tonne 62% CFR iron fines price.

We have used an exchange rate of 1 AUD = 0.78 USD.

The table compares the enterprise value ("EV") with the IGV, to elucidate relative valuations between the companies. What has to be noted is that this is an indicative comparison only – a number of factors will affect the metrics, and care needs to be taken in drawing comparisons.

Equivalent grades are based on overall resources for all company projects, not just the relevant company's "key" project, and doesn't take account of potential recoveries.

What are noticeable here are the values for Avalon – the Company has the fourth highest IGV/t and third lowest EV/t figures for the peer group.

Also noticeable is the order of magnitude jump in EV/IGV from the bottom four to the companies nearer production.

Avalon Minerals Peer Comparison

Company	Location	Last Price AUD	EV Diluted (\$m)	Equity Resource (Kt)	CuEq Grade (%)	IGV/t resource	EV/t Resource	EV/IGV	Key Project Stage	Metals (all resources)
Tiger Resources	DRC	\$0.078	\$247.3	49,000	1.38%	\$101	\$5.05	5.01%	Production	Cu, Co
Finders Resources	Indonesia	\$0.130	\$85.5	14,515	1.77%	\$129	\$5.89	4.57%	Production, Expansion	Cu, Au, Ag
Hillgrove Resources	South Australia	\$0.335	\$57.3	31,290	0.93%	\$68	\$1.83	2.71%	Production	Cu, Au, Ag
Avanco Resources	Brazil	\$0.069	\$100.9	63,280	1.49%	\$109	\$1.59	1.47%	Development	Cu, Au
Hot Chili	Chile	\$0.125	\$48.6	189,730	0.55%	\$40	\$0.26	0.64%	DFS	Cu, Au, Mo
Northern Iron	Norway	\$0.021	\$88.6	475,000	0.60%	\$44	\$0.19	0.43%	Production	Fe
Altona Mining	Queensland	\$0.100	\$6.3	265,800	0.60%	\$44	\$0.02	0.05%	DFS	Cu, Au
Avalon Minerals	Sweden	\$0.028	\$2.5	63,860	1.08%	\$79	\$0.04	0.05%	PFS	Cu, Au, Fe
Rex Minerals	South Australia	\$0.097	\$8.0	337,000	1.00%	\$73	\$0.02	0.03%	DFS	Cu, Au, Fe
Hannans Reward	Sweden	\$0.004	\$2.3	398,300	0.78%	\$57	\$0.01	0.01%	Scoping	Cu, Au, Fe

Source: IRESS, Company reports, Breakaway analysis

Notes:

Altona Mining – EV adjusted for \$A80m capital return

Avalon Resources – Total resource includes an estimation from combining Discovery and D Zone iron and copper resources

Risks

As in any resources stock there are a number of risks involved, with what we consider key risks discussed below.

Short term funding is critical

- **Funding** – Short term funding is a critical risk for progressing Viscaria – there is an expected \$3 million payment to Hannans Reward for the Discovery Zone deposit due on approval of the MEC. Timing of this approval is very difficult to determine and could be months or considerably longer. In addition the Company expects that it will require around \$18 million over the next few years to progress to completion of permitting and a decision to mine. Current capital markets are making funding difficult, and any equity issue would be highly dilutive around the current share price.
- **Permitting** - Permitting is a key risk for any resources project. In our view, the main consideration at Viscaria will be in the timeframe, rather than on whether



Risks include permitting, mainly with relation to timeframes

the project will be permitted or not. Sweden does have a clear but very rigorous permitting process, with the distinct potential for appeals against pro-development decisions. This risk, particularly the timing aspect, is being sensibly managed by the Company, who are being conservative on development timelines, and also being cognizant of dealing with all stakeholders in a fair and timely manner. The recent granting of MEC K7 helps mitigate this risk. In addition all resources are located in an area of “National Interest for Mining”, which will be viewed favourably in the permitting process.

- **Development** – There are a number of risks involved in taking a project from scoping through development to operation, although in the case of Avalon this is well down the track. These include cost blowouts and plants not performing as designed. Given that the proposed operation uses off the shelf technology does help mitigate these risks.
- **Operating Costs** – Given that Viscaria has a relatively low in-ground metal value (our base case valuation indicates life of mine revenues of ~US\$79/tonne of ore mined) the project is sensitive to any adverse changes in operating costs. Costs will need to be managed in any future operation; however given the well understood style of operation we expect no major surprises in the quantum of estimated costs.
- **Price and Market Risk** – This is a key risk for any resources project, and one which companies have little or no control over. This is particularly topical for Avalon, with the recent dramatic falls in the iron ore price and market conditions in general leading to a change of strategy. Current copper price behaviour is also cause for concern; however forecasters do have it recovering in time for the proposed commencement of production. Current resource markets will also not aid in raising capital.

A key risk is metals prices – the project is highly geared to these



Project Review and Valuation

Introduction

Key Project is the Viscaria Copper-Iron Project in Sweden

This is adjacent to LKAB's Kiruna operations

Avalon's key project is the Viscaria Copper-Iron Project in northern Sweden, for which the Company is working towards first production in 2018, initially with a copper only operation.

The project, located adjacent to LKAB's Kiruna Iron Mine is ideally situated with respect to infrastructure, and has the potential to produce a clean marketable copper concentrate and a high quality magnetite iron fines product.

The LKAB Kiruna operations include the world's largest underground iron ore mine, a concentration plant and pelletising facilities. LKAB produced 23.1Mt of blast furnace and direct reduction pellets, and 2.1Mt of magnetite fines concentrate in 2013 from Kiruna and its other operations at Malmberget and Svappavaara. LKAB rail product 170km to Narvik (~20Mtpa) and 250km to Lulea on the Gulf of Bothnia (~5Mtpa).

Project Location Map



Source: Avalon Minerals

Viscaria Copper-Iron Project (AVI 100%)

Introduction and Tenure

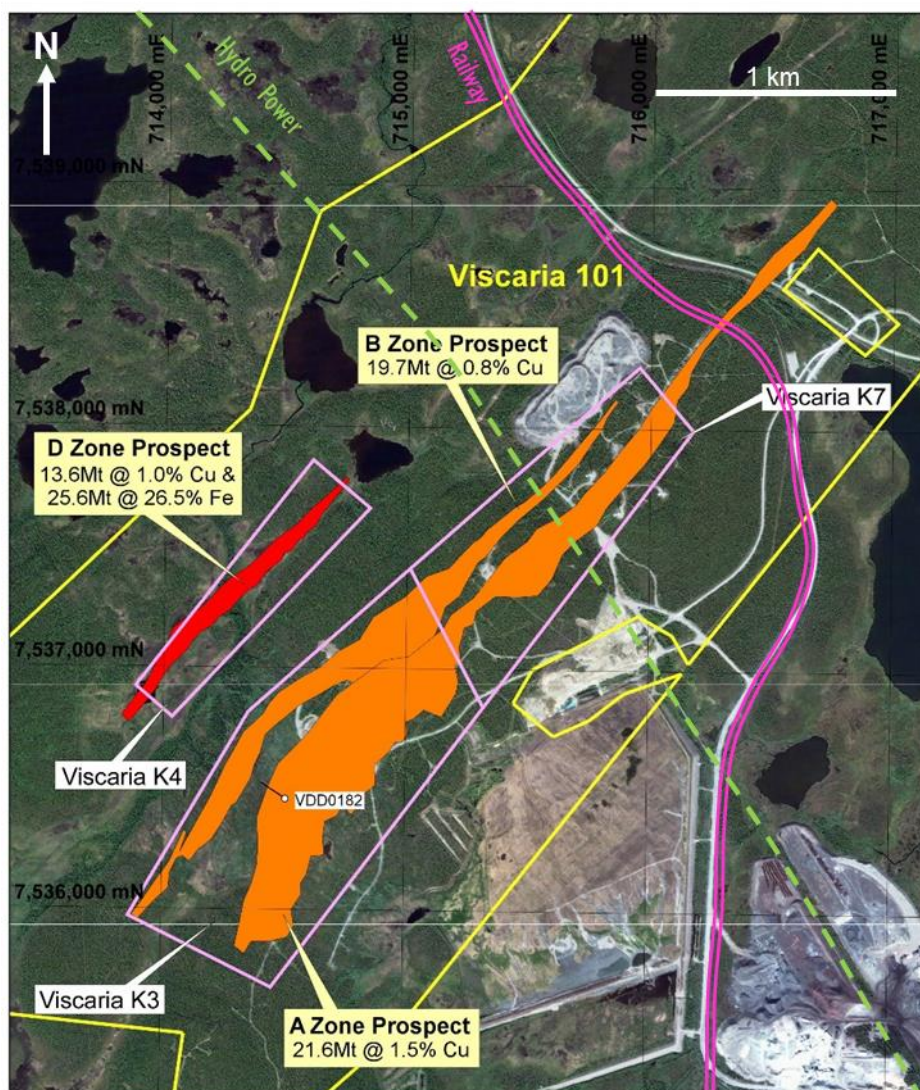
Viscaria comprises four defined resources and a large area of exploration tenements

The Viscaria Project comprises four defined resources; A, B and D Zones are located on granted Mineral Exploitation Concessions ("MEC"); and the Discovery Zone is currently on an Exploration Permit. The Discovery Zone resource is currently being acquired from Hannans Reward (ASX: HNR), with a final A\$3 million payment due on grant of an MEC that is currently under application, with grant expected in late 2015.

Granted MEC's include Viscaria K3, Viscaria K4 and Viscaria K7, which cover the A, B and D Zones. K3 and K4 expire on 16/1/2037, K7, which was granted subsequent to our last note, on 27th November 2014.



Viscaria Project Area



Source: Avalon Minerals

The Discovery Zone is covered by MEC application Rakkurijarvi K1, with additional factors, including stakeholder engagement relating to reindeer herding activities and its location adjacent to an EU NATURA 2000 environmental area being considered in this application. The Company expects a decision on the application in H2 2015.

In addition thirteen exploration permits are held 100% by Avalon, and a fourteenth was included as part of the Discovery Zone acquisition from HNR.

Previous Mining

Previous mining on the A Zone

Outokumpu mined the A Zone from 1982 to 1997, extracting 12.5Mt @ 2.3% Cu from an underground operation, and producing 19.5ktpa of copper in concentrate.

Strategy and Timeframe

Revised strategy, with an aim to make a decision to mine and commence construction by 2017.

Subsequent to our September 2014 initiation note, market conditions have led the company to investigate different production strategies than those presented in the revised Scoping Study, with this work currently underway.

A planned timeframe and budget is presented in the figure below, This envisages completion of studies and permitting by the end of 2016, with first copper production in 2018. Estimated costs to a decision to proceed are A\$18 million, plus corporate costs of A\$2.6 million.



Viscaria Timeline and Budget

	2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stakeholder Engagement												
Stakeholder plans, forums, reviews												
Studies & Exploration												
Drilling, Studies and Exploration												
Scoping and Pre-Feasibility Studies												
Feasibility Study												
Permitting												
EIA Preparation												
EIA Review leading to Approval												
Funding												
Drilling and Studies - \$8 mill												
Drilling and Studies - \$7 mill												
Discovery Acquisition - \$3 mill												
Corporate - \$2.6 mill (\$1.3 mill/yr)												

Source: Avalon Minerals

As part of the current project studies, alternative production scenarios are being considered, with the preferred option being a relatively low capex, high grade copper only start-up, with later expansions to copper production, and, depending upon metals prices, production of magnetite fines.

A potential production scenario is given below – this is as we have used in our indicative modelling:

Avalon is investigating alternative production scenarios, with the preferred being a high grade Cu, low grade capex start-up, followed by an expansion to produce both Cu and Fe

- Stage 1 – 5 years - ~1mtpa, underground and open cut mining, producing ~13,000t of copper in concentrate per annum, capex in the order of US\$100 to US\$120 million. Includes sulphide and possibly oxide copper production
- Stage 2 – 8 years+ - 2.5 to 3.5mtpa, underground and open cut mining, copper (around 20,000tpa) and iron (around 950kt of magnetite concentrate per year, dependent upon market conditions). Expansion capex in the order of US\$100 to US\$120 million, including a magnetite plant
- Blue sky – dependent upon discoveries.

Viscaria Pipeline

	Scale	Development Opportunity	Products
Pipeline	~1 mtpa	A Zone Open Pit (1.25% Cu)	Cu concentrate
		A Zone Underground (2.5% Cu)	Cu concentrate
		D Zone Underground (1.7% Cu)	Cu concentrate
		D Zone Copper Oxide (1.2% Cu)	Cu cathode
	2.5 to 3.5 mtpa	D Zone Open Pit	Cu + Fe
		B Zone Open Pit	Cu
		Discovery Zone Open Pit	Cu + Fe
		D Zone Underground	Cu + Fe
	2.5 to 3.5 mtpa	'Near Mine' Exploration Success	
		Nihka	Cu + Fe
		West Nukutus	Cu + Fe
		Bahpagobba	Cu
	Regional Exploration	L-Tjarn	Cu
		Tjarro	Cu
		Tjavelk	Cu

Source: Avalon Minerals

Geology and Mineralisation

Mineralisation is hosted in Paleoproterozoic (2.2-2.0Ga) units of the Kiruna Greenstone Group, which comprises an up to 4km thick series of mid-ocean ridge type basalts ("MORB"), felsic tuff and graphitic sediments.

Mineralisation at the A and B zones has been interpreted as volcanic-hosted-massive sulphide ("VMS") in style, forming NE striking, steeply east dipping tabular stratiform

The mineralisation includes VHMS copper and exhalative oxide facies iron mineralisation.

The two styles overprint at the D and Discovery Zones

lenses up to 20m thick, comprised largely of pyrite and chalcopyrite. These have been attenuated by subsequent shearing. Similar mineralisation is also seen at the D Zone and Discovery Zone, however here it is overprinting what is interpreted as earlier oxide-facies iron mineralisation, giving iron rich and copper rich zones.

Resources and Reserves

JORC 2012 compliant resources are given below. Given the nature of the mineralisation, iron and copper resources at D Zone and Discovery, although partially overlapping, have been estimated separately.

Resources are robust, with 60% of the copper and 42% of the iron resources in the Measured and Indicated categories.

JORC 2012 Viscaria Copper Resources – 0.4% Copper Cut-off

Resource	Classification	Tonnage (t)	Cu Grade (%)	Cu Metal (t)
A Zone Copper	Measured	14,439,000	1.70	240,000
	Indicated	4,690,000	1.20	57,200
	Inferred	2,480,000	1.00	25,500
	Subtotal	21,609,000	1.50	322,700
B Zone Copper	Measured	123,000	1.30	1,600
	Indicated	4,118,000	0.70	29,700
	Inferred	15,410,000	0.80	118,700
	Subtotal	19,651,000	0.80	149,000
D Zone Copper	Measured	1,000,000	1.25	12,000
	Indicated	4,200,000	1.02	43,000
	Inferred	8,500,000	0.96	81,000
	Subtotal	13,600,000	1.00	136,000
Discovery Zone Copper	Indicated	2,800,000	0.89	25,000
	Inferred	6,100,000	0.75	46,000
	Subtotal	9,000,000	0.80	71,000
Overall Cu	Measured	15,562,000	1.63	253,600
	Indicated	15,808,000	0.98	154,900
	Inferred	32,490,000	0.83	271,200
	Total	63,860,000	1.05	680,000

Source: Avalon Minerals

JORC 2012 Viscaria Iron Resources – 15% Mass Recovery Cut-off

Resource	Classification	Tonnage (t)	Fe Grade (%)	Mass Recovery (%)	Estimated Recoverable Iron (t)
D Zone Fe Resources	Measured	2,000,000	28.7	35.1	500,000
	Indicated	9,700,000	27.2	33.1	2,200,000
	Inferred	13,900,000	25.7	31	3,000,000
	Subtotal	25,600,000	26.5	32.1	5,700,000
Discovery Zone Fe Resources	Indicated	3,000,000	40.6	53.2	1,100,000
	Inferred	6,700,000	37.7	49	2,300,000
	Subtotal	9,700,000	38.5	50.3	3,400,000
Total Fe Resources	Measured	2,000,000	28.7	35.1	500,000
	Indicated	12,700,000	30.4	37.8	3,300,000
	Inferred	20,600,000	29.6	36.9	5,300,000
	Total	35,300,000	29.8	37.1	9,100,000

Source: Avalon Minerals

Recently updated resources include 63.9Mt @ 1.05% copper

Iron resources include 35.3Mt @ 29.8% Fe, with a mass recovery of 37.1%. Tonnages overlap those of the copper resource



In-pit resources as used in the Scoping Study include 31.9Mt @ 0.67% Cu, 23% Fe. Current studies are looking at higher grade subsets of these resources

In addition, the Discovery Zone resource estimate contains 0.19g/t gold – this gives potential value upside.

The previously completed Scoping Study was based in in-pit resources of 32Mt @ 0.7% Cu and 23% Fe, a subset of the overall resources.

As part of the current studies, Avalon is looking at zones of higher grade mineralisation within the overall resources to comprise the phase 1 mining inventory. These potentially include:

- A Zone Open Pit – 4mt @ 1.25% Cu
- A Zone Underground – 2.5% Cu
- D Zone Underground – 1.7% Cu

We have used these grades in our modelling.

Metallurgy and Mining

Mining is by conventional means.

Mining will be by conventional open cut and underground methods, with orebody geometry providing no issues.

Testwork to date indicates clean, ready marketable products

Testwork, and historic operations, indicate simple metallurgy to produce quality, readily marketable copper concentrates (flotation) with premium magnetite concentrates (LIMS). There are a number of options for tailings storage, including utilising the existing facility (although ongoing monitoring liabilities will pass to Avalon), building a new facility of using closed open pits.

Infrastructure

Viscaria is located adjacent to existing infrastructure

A key positive of Viscaria is that it is exceptionally well-served by infrastructure. The project is located near the town of Kiruna, which has a population of 20,000 and a strong mining heritage. Mining has been carried out in the district since the late 1800's, and thus there is access to a skilled workforce

Power and Water

Low cost grid power is available

The Viscaria-Kiruna area is well served by power, with availability on the Swedish national grid. Power generation is hydro-electric, and hence power is relatively cheap at around US\$0.08/kWh.

Water is readily available, as evidenced by the Kiruna Mine, which has a positive water balance.

Road, Rail and Port

Adjacent to public access rail, which is currently used by LKAB

Kiruna is well served by electric rail, being connected to the ports of Narvik (170km) and Lulea (340km) by publically accessible rail, which is owned and operated by Trafikverket, the Swedish Transport Administration. Currently, LKAB rails pellets and concentrate to both Narvik (20Mtpa) and Lulea (5Mtpa). The rail has a 30t axle limit – LKAB currently rail using 68 wagon, 6,800t payload train sets.

Both ports are operating bulk commodity export ports, with the capacity to handle projected products from Viscaria.

Boliden's Rönnskär copper smelter at Skelleftehamn is likewise easily accessible, being 350km by electric rail from Viscaria – this is a possible customer for copper concentrates.

The area is connected to the rest of the country by the sealed national highway network.



Permitting

It is expected that permitting will be the constraining factor on any project development.

Key permits include:

- Drilling permits – metallurgical, geotechnical and resource upgrade drilling
- Environmental Permit - including baseline studies underway, expected submission late 2015, with an expected 12 month processing period

Permitting forms the main time constraint on progress – Sweden has a well-established and clear legal framework for mining projects however this does take time to work through with potential for delays

Although there is a clear permitting process associated with the well-developed mining and environmental legal framework these do take time, and, in the case of the Environmental Permit, require extensive public consultation.

A number of issues are involved, including reindeer herding areas, EU NATURA 2000 areas (particularly in the case of the Discovery Zone MEC application) and recreational issues. However, on the other hand the strong mining heritage is a definite positive, and all resources are located within an area of “National Interest For Mining”, which will be viewed favourably in the permitting process.

Potential NATURA 2000 issues relate to Lake Rakkurijarvi adjacent to the Discovery Zone. The lake however is part of the runoff system for the LKAB Kiruna Mine, and hence our view is that this is a mitigating factor, and effective and appropriate environmental planning and management will allow granting of the MEC.

The Company is working its way through the permitting process, and engaging closely with all stakeholders. There is the potential for delays in the permitting process, including due to appeals by stakeholders against decisions made in favour of the planned operations.

Blue Sky and Recent Drilling

There is considerable blue sky potential at Viscaria –including extensions to the current resources and the scope for further discoveries in the Company’s tenement holdings. This includes down dip and along strike potential, particularly in the A and D Zones.

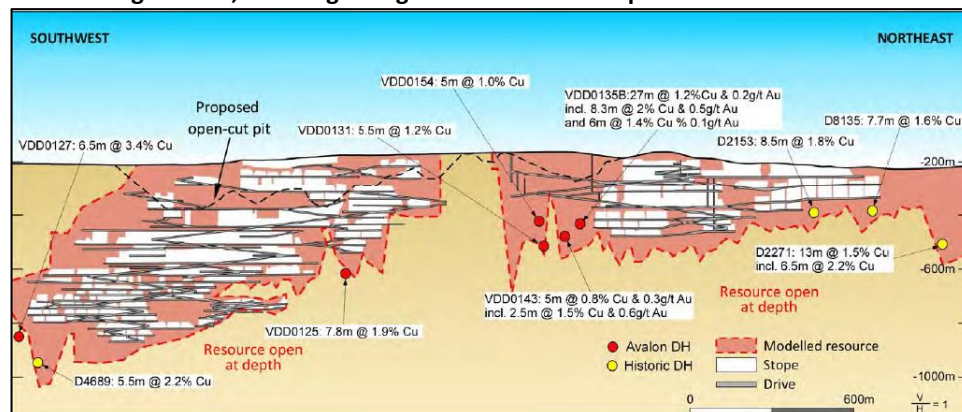
Other upside includes the potential to treat D Zone oxide resources through low opex leaching and to extend oxide resources – the D Zone resource is open to the south.

Historic exploration in the Company’s tenements has resulted in a number of geophysical targets and drillhole intersections that require follow up – targets include near mine (within 15km of the proposed operation) and in the broader tenement area.

A Zone

As shown in the long section below there is down dip and along strike potential here – **the current resource is largely limited by drilling, and not geology.**

A Zone Long Section, Showing Along Strike and Down-dip Potential



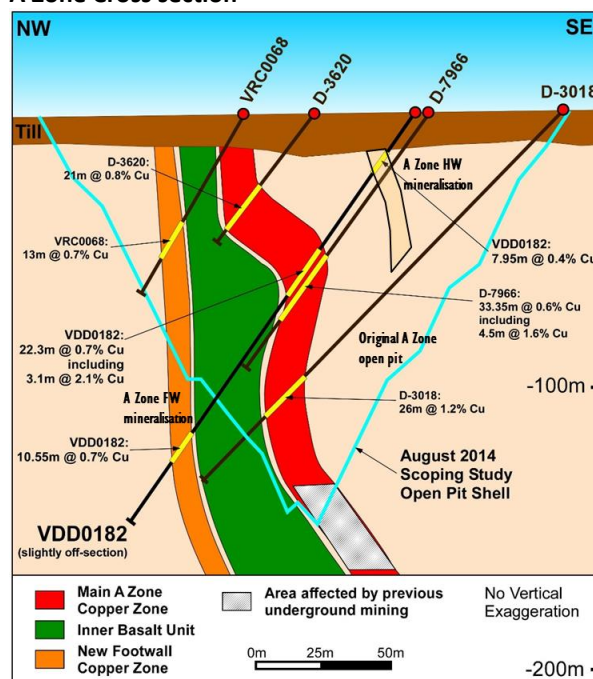
Source: Avalon Minerals



Recent drilling at the A zone (hole VDD0182) identified hanging and footwall zones, not previously included in resources, as shown in the figure below.

A Zone Cross section

Intersection of new hanging wall and footwall zones at the A Zone



Source: Avalon Minerals

This hole was drilled to twin historic hole D-7966 to validate the historic assay data, gather geotechnical data for the proposed open pit and to test for the existence of the hanging and footwall zones.

The results of the drilling are very encouraging, with the need now for further drilling to define a resource for these zones.

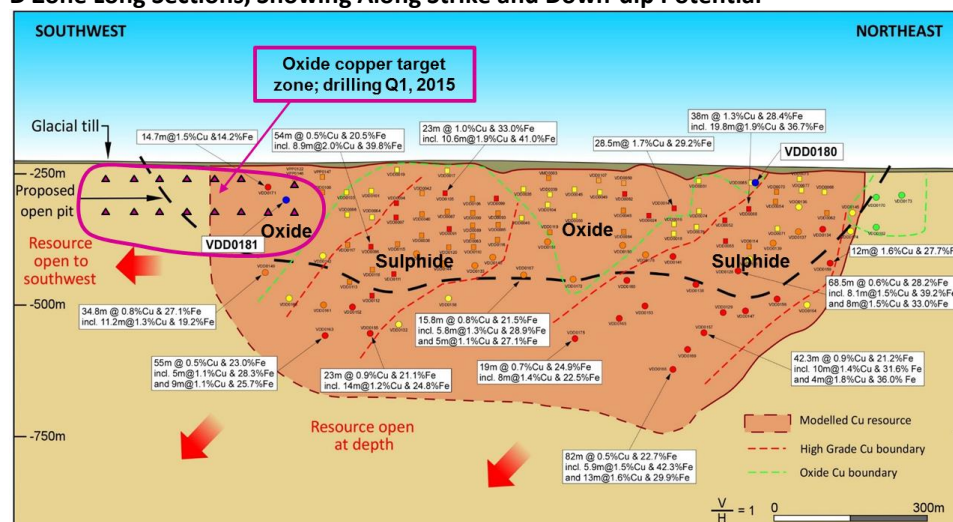
D Zone

Good resource expansion potential at D Zone, as well as potential for oxide results with recent drillholes returning good oxide copper grades

Resource expansion potential also exists at D Zone, as shown below. Again the current resource is limited by drilling and not geology, with two main shoots being defined to date, both of which have significant widths of mineralisation.

Also of interest is the oxide copper potential – recent drilling results included a shallow intersection of 5.6m @ 1.6% Cu in a broader intersection of 15.55m @ 0.4% Cu in hole VDD182.

D Zone Long Sections, Showing Along Strike and Down-dip Potential



Source: Avalon Minerals

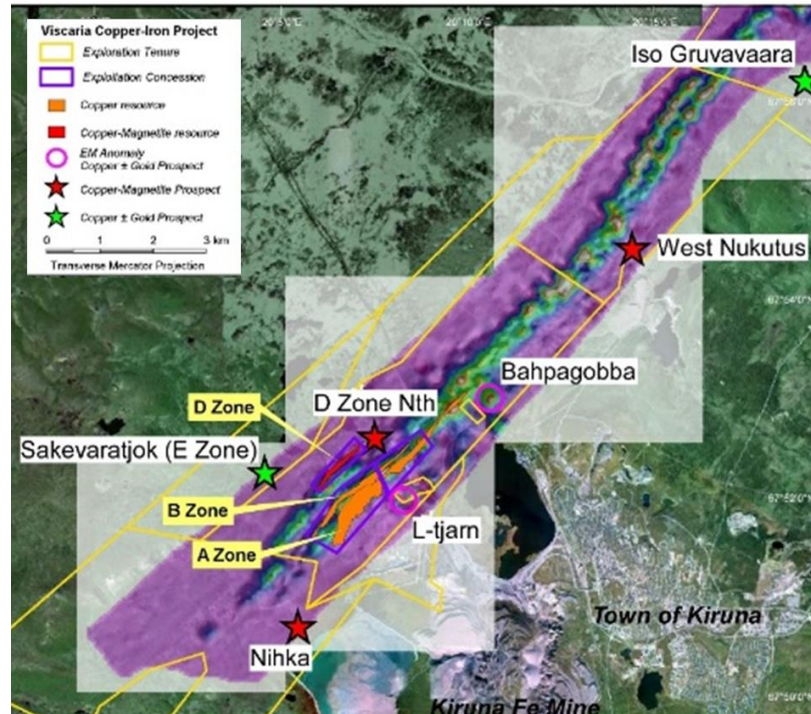


Regional Exploration

Avalon has a large exploration tenement holding throughout the district, with results to date indicating a number of prospective copper targets. A number of these are located in the same belt as Viscaria, as shown in the figure below.

Viscaria Belt Prospects

Historic exploration has outlined targets requiring follow up



Source: Avalon Minerals

These targets include:

- Iso Gruvavaara – historic workings, and rock chips to 1g/t Au and 0.9% Cu
- West Nukutus – magnetic anomaly similar to D Zone, the nearest drill hold (150m to the east of the magnetic body) intersected up to 0.3% Cu and 0.5g/t Au
- Bahpagobba – EM anomaly along strike of A Zone, with intersections up to 7m @ 1% Cu and 1.5m @ 1.8% Cu
- Nihka – strong discrete magnetic anomaly, similar to but larger than D Zone anomaly.

Regionally there are a number of other targets, including Tjarro, some 23km to the north-east of Kiruna, with historic drill intersections of up to 15m @ 1.3% Cu.

The Company is currently carrying out further work on these targets, including geophysical modelling and drill planning, with some drilling planned for 2015.

Project and Company Valuation

We have undertaken a DCF valuation of Viscaria

We have updated our DCF valuation of the Viscaria Project to reflect the potential change in operations due to changing metals markets.

Given this is now based on a conceptual operation plan, rather than on a finalised independent study, it should be treated as indicative only. We are however confident that inputs are reasonable.

Results of our valuation are presented below. This is on a pre-tax, ungeared basis, using a copper price of US\$3/lb, an FOB iron ore price of US\$53/t, and an AUD: USD exchange rate of 0.78.



Viscaria Base Case Pre-Tax, Pre-Financing Valuation

Component Valuations - DCF	NPV (US\$m)	NPV (A\$m)	Risk Multiplier	Risk (A\$m)	Risk /Share	Method
Viscaria Pre Tax Cash Flow – 5 + 8 year	\$166 m	\$213 m	34%	\$73 m	\$0.50	DCF10
Gold Upside	\$14 m	\$18 m	20%	\$4 m	\$0.02	DCF10
Extra Mine Life - 5 Years	\$79 m	\$101 m	10%	\$10 m	\$0.07	DCF10
Consolidated Project DCF	\$259 m	\$333 m	26%	\$86 m	\$0.60	
Discovery Zone Liability	-\$2.3 m	-\$3 m	100%	-\$3 m	-\$0.02	Current
Head Office Administration	-\$8.1 m	-\$10 m	100%	-\$10 m	-\$0.07	DCF10
Cash (est)	\$1.4 m	\$2 m	100%	\$2 m	\$0.01	Current
Company Valuation	\$250 m	\$321 m	23%	\$75 m	\$0.52	
Prices	AUDUSD	0.78	Cu Price	\$3.00/lb	Fe Price FOB	\$53/t con

Source: Breakaway Analysis

Base case pre-tax, pre-financing valuation of \$US166m, with \$83m in upside potential

DCF Model Parameters and Outcomes – 100% basis, Pre-Tax, Pre-Financing – \$US

Parameter	Result	Notes
PRODUCTION PARAMETERS		
Total Mined	29Mt	Includes 4.4Mt underground and 24.6Mt open cut
LOM	13 years	5 years phase 1 Cu, 8 years phase 2 Cu/Fe
Mining Rate Phase 1	1 mtpa	5 years at 1.57% Cu
Mining Rate Phase 2	3 mtpa	8 years at 0.88% Cu, 25.6% Fe
LOM Head Grade	1.01% Cu 22% Fe	Weighted average over 13 years
Metallurgical Recovery	85% - Cu 85% - Fe	Cu – Company figures Fe – variable in scoping – metallurgy indicates up to 88%
LOM Concentrate Production	992kt Cu 7,554kt Fe	25% copper con, 69% iron magnetite con
Base Case Metals Prices	Cu - \$3/lb Fe Con \$53/t FOB	Magnetite concentrate price is based on NFE's FOB price, approximately a 25% discount to 62% CFE prices
Strip Ratio	4.5:1	Weighted average of four open pits
OVERALL FINANCIALS – UNGEARED, 100% BASIS – \$US		
LOM Revenue	\$2,000m	Split 80:20 copper: iron
Peak EBITDA	\$83 m	
Total FCF	\$555 m	
IRR	28%	
UNIT FINANCIALS (All Figures in \$US)		
Opex/tonne of ore	\$40	\$3/tonne ore mining, \$3/tonne waste mining, \$3.00/ROM tonne G & A, \$8.00 LOM ROM tonne processing Copper con transport – \$12/tonne Magnetite con transport to port - \$15/tonne Copper TC - \$80/tonne, RC - \$0.08/lb
Royalties and Taxes/t ore	\$1	A, B, D Zones – 1% NSR Royalty Discovery Zone – 1.5% NSR Royalty
LOM Capex/t ore	\$8	Based on estimate of \$US100 million initial capex, US\$120 million expansion capex in year 5
Sustaining Capex/t ore	\$1	\$36m – 2% of revenue
Total Cost/t ore	\$50	
Revenue/t ore	\$69	Based on copper price of \$3/lb, Magnetite fines price of \$53/tonne FOB
Margin/t ore	\$19	
Copper cash cost of production	\$1.42/lb	After magnetite credits

Source: Avalon Minerals, Breakaway analysis



Upside includes gold

Gold Upside

The Scoping Study did not allow for recovery of gold from the Discovery Zone, which contains 0.19g/t. We have modelled the potential upside, based on a recovery of 85%, reporting to the copper concentrate. Our figures indicate that this adds \$14 million to the NPV.

There is also potential gold upside at A Zone, where drilling indicates there are areas with gold mineralisation, which require further analysis and follow-up.

We have included 5 years additional mine life

Additional Mine Life

Our estimate for additional mine life is based on five years extra life at the year 13 free cash flow. As discussed earlier additional mine life could come from new discoveries and extensions to the known resources.

Metals Pricing and Exchange Rates

Given current market conditions, it is harder than usual to comfortably forecast metals prices, especially bulks. We have included an iron/copper price sensitivity table for the base case 13 year Viscaria operation below.

FOB iron ore price based on 75% of the current quoted 62% CFR price – based on Northern Iron's revenues

Project is sensitive to metals prices

Viscaria Base Case Project – Metals Prices Sensitivity Matrix – \$US – 10% DR

		Magnetite Concentrate Price - FOB				
Copper Price	USD	\$50.00/t	\$60.00/t	\$70.00/t	\$80.00/t	\$90.00/t
	\$2.50/lb	\$47	\$73	\$100	\$126	\$152
	\$2.75/lb	\$103	\$130	\$156	\$182	\$209
	\$3.00/lb	\$160	\$186	\$212	\$239	\$265
	\$3.25/lb	\$216	\$242	\$269	\$295	\$321
	\$3.50/lb	\$273	\$299	\$325	\$351	\$378
	\$3.75/lb	\$329	\$355	\$382	\$408	\$434

Source: Breakaway Analysis

We have based our iron ore price on that received by Northern Iron (ASX: NFE), which ships a 68-69% magnetite out of the port of Kirkenes, adjacent to its Sydvaranger Iron Project in northern Norway. In the December 2014 quarter Northern Iron shipped 552dmt of product to Tata and ArcelorMittal at a realised price of US\$56/tonne FOB. This price approximates 75% of the quoted 62% fines CFR price for the period, as it did for the three preceding quarters. We have used a base of US\$70/t CFR, which results in a US\$53/t FOB price for Avalon.

Our copper base case is US\$3.00/lb – this is 20% higher than the current price, however, a number of analysts and forecasters do see recovery to above US\$3.00/lb over the next few years, with some forecasting prices of up to US\$3.75/lb.

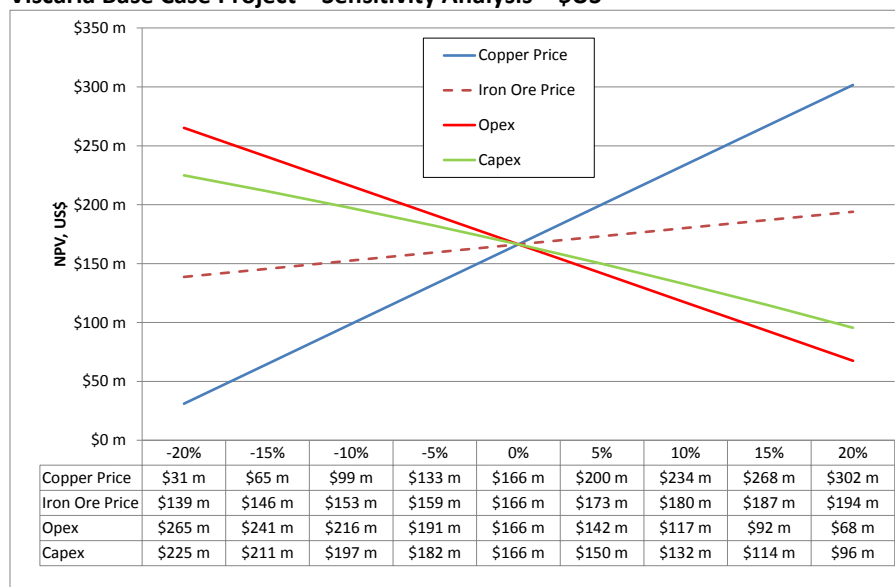
We have only considered the AUD/USD exchange rate in our modelling, where it is used to convert the USD DCF modelling results to AUD values and hence share prices. Our DCF modelling of Viscaria is all in USD – we have not considered the USD/SRK rate in our modelling. Given recent behaviour however, there could be potential upside with continuing falls in the Kroner against the US dollar.

General Sensitivity

The graph below presents the base case project sensitivity to a number of factors. As can be seen the project is moderately sensitive to all factors, however still retains a positive NPV with 20% adverse changes to our base case inputs.



Viscaria Base Case Project – Sensitivity Analysis – \$US



Source: Breakaway Analysis

Breakaway's View

Quality project, severely discounted by the market

In Viscaria, Avalon has what we still consider a quality, and more crucially, overlooked project – to us this appears to be severely discounted. It is located in a known mining district with well-established infrastructure. Vitally, for possible future magnetite concentrate production there is ready access to rail and bulk commodities export ports.

Viscaria is largely de-risked technically

Technically, we consider Viscaria to be largely de-risked, with simple and well proven mining and treatment methods. There is also good scope to increase resources, and hence extend the potential life of mine. As we have said, technically the project is not rocket science.

Key risks include metals prices

Key risks include metals prices – the recent dramatic falls in iron prices has led to a reappraisal of strategy, with an initial copper only project now being envisaged. Viability will now hang on the copper prices – copper has also seen recent dramatic falls, however most forecasters expect it to pick up to above US\$3/lb over the next few years.

Our modelling indicates that the project is sensitive to commodity prices; in our view the operating cost inputs are reasonable.

Funding is critical

Funding over the next few years is critical, and is a key risk for the Company – it is estimated that direct expenditure of around A\$18 million will be required to progress the project through to a decision to mine, including a A\$3 million liability to Hannans Reward on granting of the Discovery Zone MEC. Having major European investors now on the register may help in providing finance for upcoming activities.

Seems to have flown under the radar

This project and Company seems to have flown under the radar for some time – this, and past corporate issues have resulted in a depressed share price since mid-2013. This combined with the more general market malaise has meant that Avalon has not been able to get any traction in the market.

Management responding pro-actively to market conditions

We see the experienced Board and Management responding pro-actively to changing market conditions, with shareholders' interests foremost in mind.

We rate Avalon as a medium to long term SPECULATIVE BUY

Given the above we rate Avalon as a medium to long term **SPECULATIVE BUY**. We view the Company as significantly undervalued – even using highly risked project valuations, with key price drivers will include funding and material progress on project studies and permitting.



Analyst Verification

We, Grant Craighead and Mark Gordon, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

Disclosure

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Avalon Minerals and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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