

# COPPER IN SWEDEN BUILDING A EUROPEAN COPPER PRODUCER

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#### DISCLAIMER

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# AVALON MINERALS – THE INVESTMENT CASE

UNDERVALUED	Low Market Capitalisation, low Enterprise Value, low \$/lb resources
ASSET	100% ownership of a High Quality Copper Asset
	Near Term Development, Significant Upside, Affordable Capex, Expandable, Infrastructure in place
TEAM	Discovery, Mining, Finance, Track Record of Delivery
CORPORATE	Tidy structure, good funding position, strong shareholder support



# **CORPORATE**

TICKER	ASX:AVI
SHARE PRICE*	\$0.03
SHARES ON ISSUE	228,319,478
MARKET CAP	~\$6.8M
CASH#	~\$3.4M
52 WEEK TRADING	\$0.02 - \$0.15
BROKER	Morgans Stockbroking
COVERAGE	Morgans Stockbroking Breakaway Research
CORPORATE ADVISORY	Viaticus Capital

As at 22.05.15 - 30 day VWAP \* Current unaudited #

Top 10 shareholders hold 65% of shares on issue Top 10 comprise institutions and high net worth individuals

Board and management hold 3.3% and have participated in recent placements
European and UK shareholders total 39%

#### SUBSTANTIAL SHAREHOLDERS

NAME	%
Valbonne II	12.02%
Tan Sri Abu Sahid Bin Mohamed	9.80%
Marilei International	8.09%
Phoenix Copper Ltd (ASX:PNX)	5.65%



### COPPER – OPEN PIT & UNDERGROUND

Avalon aspires to be a long term 20,000 plus tonne per annum copper producer within 4 years

- Drilling Program and Scoping Study in progress
- Assessing an \$80M CAPEX, minimum 1.2Mt per annum plant, copper-only start up project
- Timing updated Scoping Study delivery Q4, 2015, decision to build 2017, copper production 2018
- Defined Mineral Resource contains Measured and Indicated grades of >1.2% Cu in the top 100m and >1.7% - 2.3% Cu in zones below 100m
- Recent exploration success delivered with VDD 183 & 185 of grades >1.7% Cu, which are outside the existing mineral resource
- The ongoing drilling program will focus around the areas of interpreted higher grades such as that seen in D Zone with VDD 183 & 185, and at A Zone, with the aim of expanding the resource estimates in these areas and represent low technical risk targets

## VISCARIA COPPER PROJECT UPSIDE

- Mine scale orebody extensions, low technical risk upside
- Exploration success within 5km; several targets defined and being tested,
- There is justification to be very bullish on the likelihood of success
- Regional exploration potential, large landholding, copper targets defined and some drilled





Setting up to drill NDD 001, Nihka Prospect

## NON-TECHNICAL RISK IS LOW

- 3 Exploitation Concessions approved covering the main areas of mineralisation at Viscaria
- Viscaria is in an area of 'National Interest for Minerals'
- Outstanding access to, and quality of, infrastructure, and low cost power
- Commitment to highest standards of stakeholder engagement and environmental management





# LOCATION



PROJECT SITE



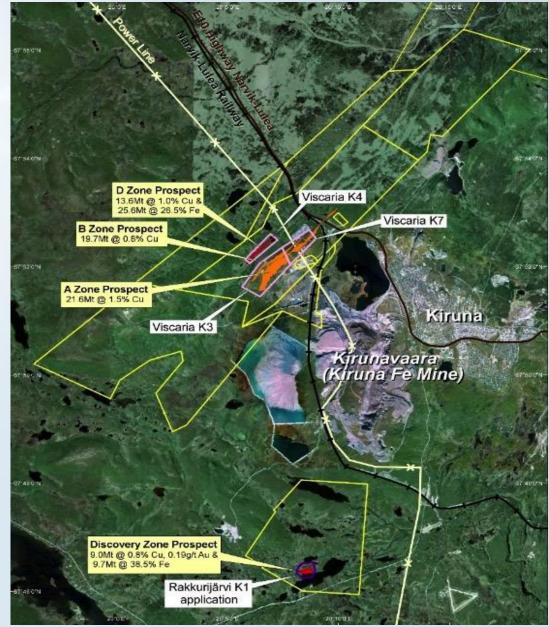
KIRUNA TOWN



KIRUNA RAIL

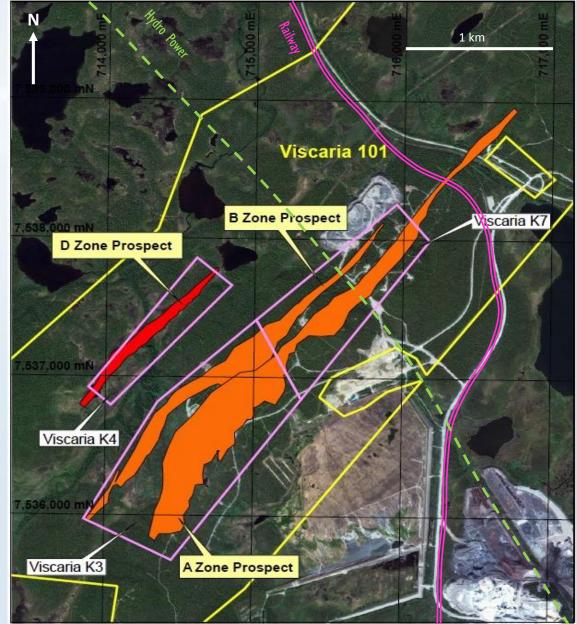


# LOCATION



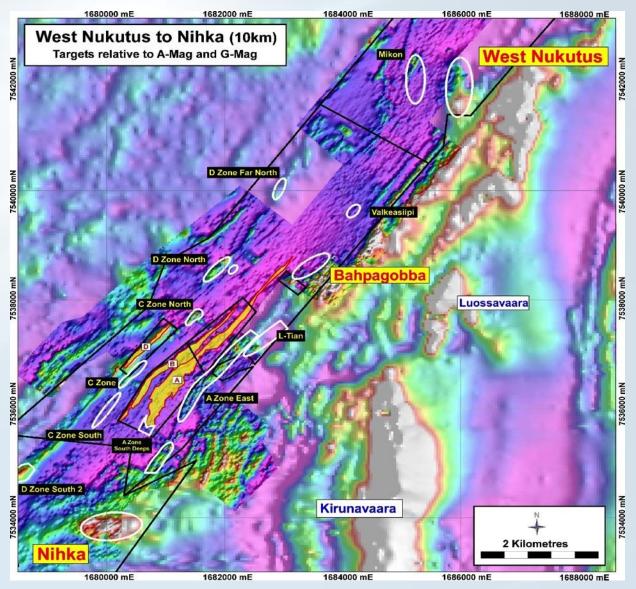


# LOCATION





### AND OUTSTANDING BELT SCALE EXPLORATION UPSIDE



#### SEVERAL TARGETS

#### **NIHKA**

- Iron oxide copper system
- Strong discrete magnetic anomaly with bedrock copper anomaly
- · One DDH just completed

#### **WEST NUKUTUS**

- Magnetic anomaly of similar magnitude and scale to D Zone
- The closest historic drill hole (150m to the east) intersected up to 0.3% Cu and 0.5g/t Au but did not intersect the magnetic body
- Bedrock drilling completed, assays pending

#### **BAHPAGOBBA**

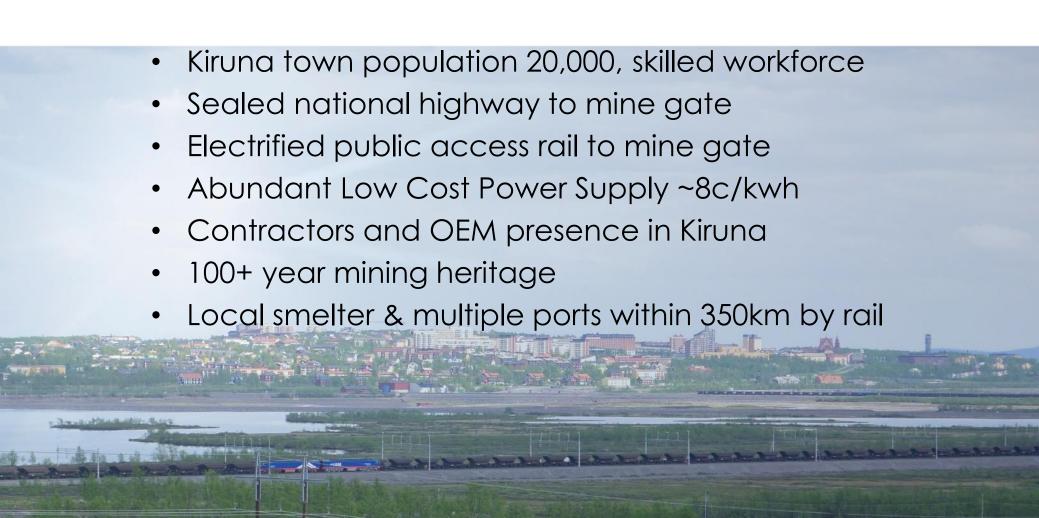
- EM anomaly along strike of A Zone with good copper intersections from historic drilling
- Best intersections: D2094: 7m @ 1% Cu from 123m; D2470: 1.5m @ 1.8% Cu from 60.5m

#### D ZONE EXTENSIONS - NORTH AND SOUTH

- Drilling to south (VRC0079); 4m @ 0.6% Cu
- Drilling to north; 1m @ 2.4% Cu; 1m @ 1.6% Cu; 1m @ 1% Cu
- · Ground magnetics recently completed



# EXISTING LOCAL INFRASTRUCTURE



# A VERY HIGH QUALITY LEADERSHIP TEAM













Chairman <b>Graham Ascough</b>	Resources executive. Broad global experience with large companies and building juniors
CEO and Managing Director  Malcolm Norris	Geologist and Business Development. Track record of discovery and growth
General Manager Studies and Technical Services <b>Ray Robinson</b>	Mining Engineer. Has delivered many feasibility studies
CFO & Company Secretary  Gavin Leicht	Finance professional with significant experience in copper
General Manager - Geology  Dr. Bruce Rohrlach	Geologist who has played a key role in several significant discoveries and feasibility studies
Non-Executive Director  Crispin Henderson	Senior banking executive
Non-Executive Director <b>Don Hyma</b>	Senior project management executive across multiple commodities





### WHY SHOULD YOU OWN AVALON MINERALS?

- We hold 100% of a high quality asset
- We are in a low risk mining district
- We have Infrastructure and low cost hydro power
- Low sovereign risk
- There is a manageable path to production
- There is leverage to copper
- We will deliver exploration success in a low technical risk environment
- We are undervalued relative to our peers

**ASX:AVI** 







# WE ARE COPPER BULLS

Forecast consensus from the experts...

- More than half of a \$110 billion pipeline of copper and gold mines have been postponed or scrapped, Bloomberg, Jan 2015
- So by 2017–2018 we will face the consequence of a lack of new supply, which is demand outweighing supply." Hayward Securities, Oct 2014
- The global copper industry will need to add the equivalent of a new Escondida mine every 15 months over the next 10 years in order to meet global demand, Rio Tinto's (LON:RIO) copper boss Jean-Sébastien Jacques told FT.com
- ....Under these conditions (2018-2019), the LME 3-month price is projected to rally strongly to reach \$8,221/t (374c/lb)." CRU, Oct 2014
- Citigroup copper prices forecasts in cents/lb
   2017 = U\$\$3.72, 2018 = U\$\$3.81, 2019 = U\$\$3.76, 2020 = U\$\$3.75



### RESOURCE ESTIMATE SUMMARY

# COPPER FOCUS HIGHER GRADE SUBSETS OF ESTIMATED RESOURCES

A Zone Open Pit 4Mt @ 1.25% Cu Outlining A Zone Underground @ 2.5% Cu Outlining D Zone Underground @ 1.7% Cu Outlining D Zone Open Pit @ 0.7% Cu

#### **OVERALL RESOURCE**



680,000t or 1.5 Billion lbs Copper 9.1Mt Recoverable iron

2014 SCOPING STUDY OPEN PIT RESOURCE\*

32 Mt @ 0.7% Cu & 23% Fe<sup>1</sup>

16% Measured 51% Indicated 33% Inferred

215,000t or 471M lbs Copper 6Mt Recoverable iron



JORC Mineral Resource breakdown & JORC Competent Person Statement see slides 30-33 \*Represents the portion of the resource captured in open pit shells

<sup>1</sup>beneficiates to 69% Fe

# RECENT DRILLING ANNOUNCEMENTS

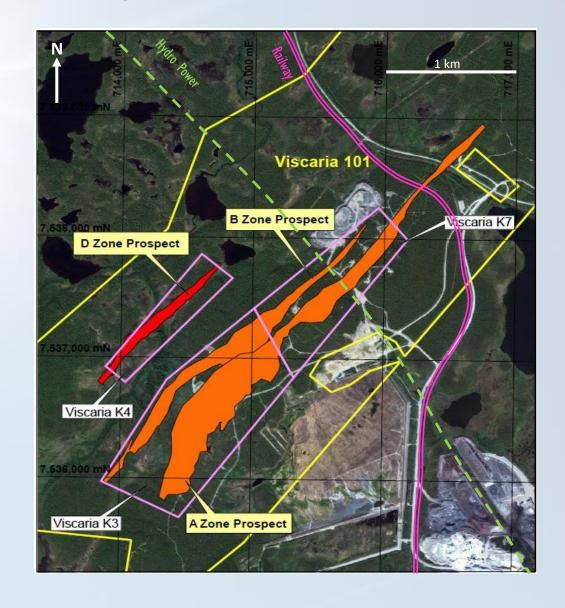
HOLE NUMBER	PROJECT	PROSPECT	Easting (mE)	Northing (mN)	EOH (m)	Collar RL (m) (d	Dip degrees)	Azimuth (degrees)	Date of ASX announced results
VDD0180	VISCARIA	D-Zone	1,680,952	7,537,425	65.2	509	-55	135	18-Nov-14
VDD0181	VISCARIA	D-Zone	1,680,251	7,536,816	122.1	516	-50	135	18-Nov-14
VDD0182	VISCARIA	A-Zone	1,680,848	7,536,264	174.8	524	-55	315	12-Jan-15
VDD0183	VISCARIA	D-Zone	1,680,552	7,537,487	621.6	513	-55	136	11-May-15
VDD0184	VISCARIA	D-Zone	1,680,395	7,537,286	72.7	511	-55	133	abandoned hole
VDD0185	VISCARIA	D-Zone	1,680,395	7,537,286	479.7	511	-55	133	3-Jun-15
VDD0186	VISCARIA	D-Zone	1,680,986	7,537,063	563.2	536	-55	309	assays pending
VDD0187	VISCARIA	D-Zone	1,681,165	7,537,243	ongoing	526	-56	316	drilling in progress
NDD001	NIHKA	Nihka	1,679,708	7,534,050	326.5	545	-60	180	assays pending



VDD 186; 530m down hole; chalcopyrite in altered basalt

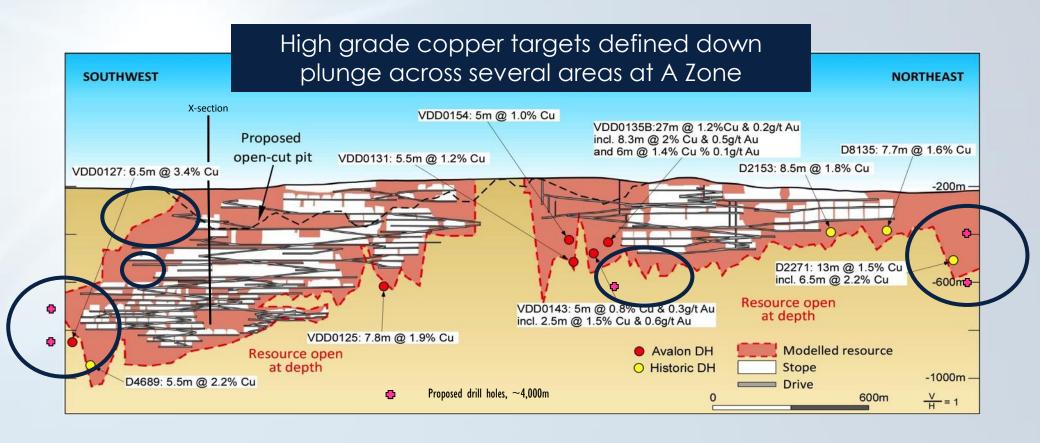


# **DEPOSIT DETAILS**





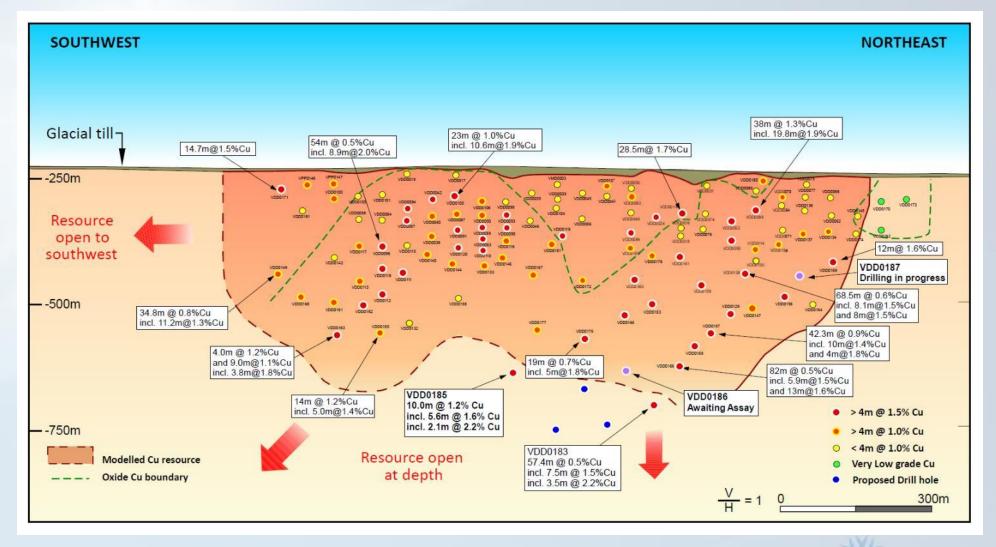
# A ZONE LONG SECTION



- Previously mined by Outokumpu 15 years of production to 1997 12.5Mt of 2.3% Cu at 850,000tpa, producing a concentrate of 26% Cu, 2% Zn & 0.5g/t Au
- (43Mlb (19.5kt) pa Cu metal in concentrate)
- Pre-mined endowment of A Zone only is estimated to have been ~40-45Mt @ ~1.5 – 2.5% Cu

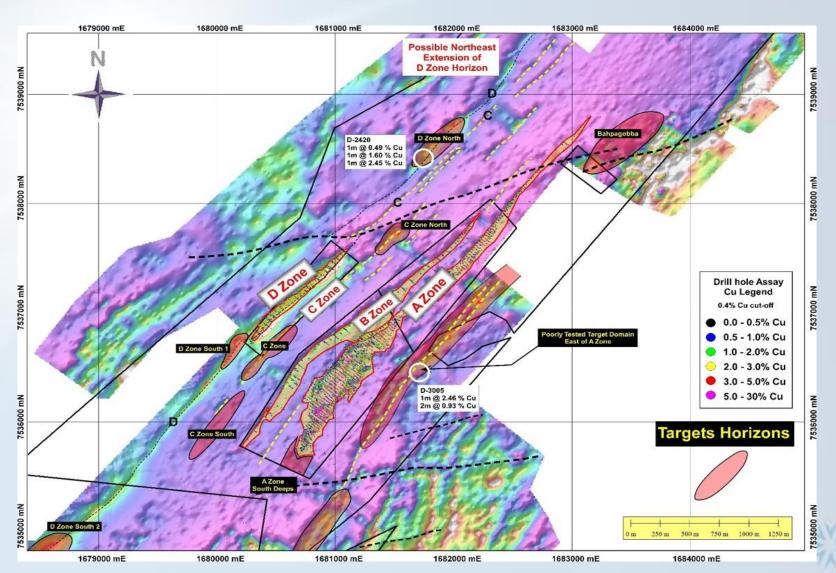


# D ZONE LONG SECTION



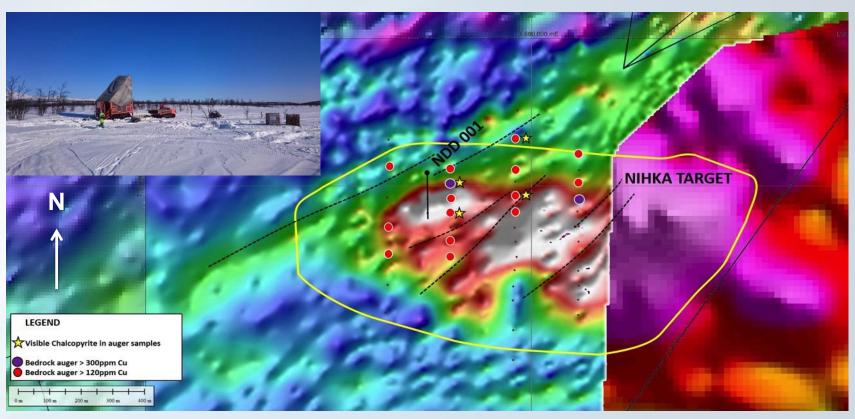


## OUTSTANDING NEAR MINE EXPLORATION UPSIDE





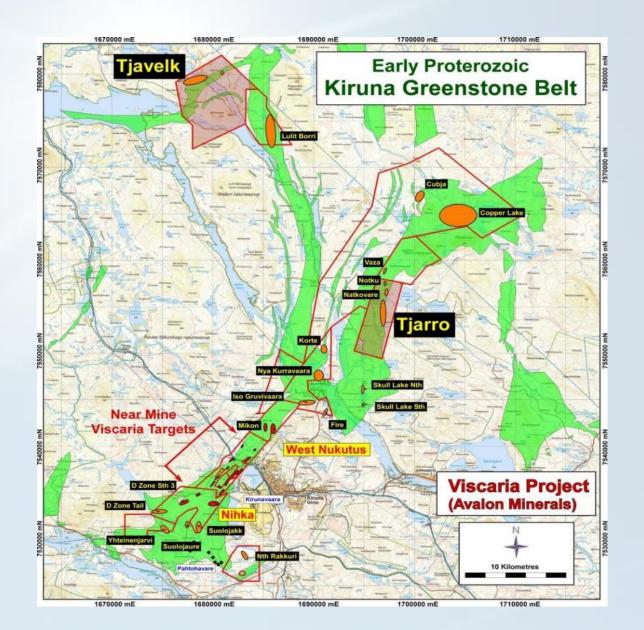
### NIHKA - BELT SCALE EXPLORATION UPSIDE



- A large magnetic anomaly in a structurally complex domain
- No previous exploration
- Recent auger drilling defined copper anomalism in bedrock
- Diamond drill hole NDD 001 completed and intersected an altered iron oxide copper system with trace levels of chalcopyrite (assays pending)
- Next phase of drilling being planned



### AND OUTSTANDING BELT SCALE EXPLORATION UPSIDE



### SEVERAL TARGETS

#### **TJAVELK**

- Significant EM responses
- Modelled geophysics
- Drill targets defined

#### **TJARRO**

- Previous drilling; SGU, LKAB, Outokumpu
- 15m at 1.34% Cu
- 3.6m at 1.63% Cu, 1.23g/t Au and 4.75g/t Ag
- Copper-gold opportunity
- Early days



## PEER GROUP COMPARISON

# AVALON MINERALS IS CONSIDERED TO BE HEAVILY DISCOUNTED RELATIVE TO ITS PEERS

- LOW Capital Intensity, forecast at 5,500 \$/t
- LOW Cost/lb copper production
   <\$2.00/lb forecast for copper only project</li>
- LOW Valuation EV/Resource lb of Copper very low at <0.1c/lb</li>



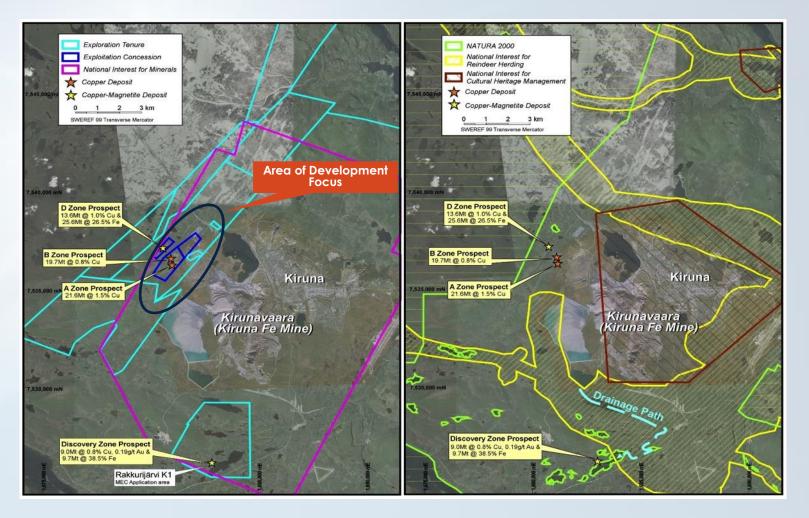
# PEER GROUP COMPARISON

COMPANY	CODE	SHARE PRICE (A\$)	SHARES ON ISSUE	Cu RESOURCES (M+I+I)	lbs Cu	M. CAP (A\$)	A\$ CASH (& RECEIV- ABLES)	A\$ DEBT	EV	EV/LB CU IN RESOURCE	COUNTRY	STAGE	CAPITAL INTENSITY
Avaion Minerals	ASX: AVI	\$0.030	228,319,478	63.86mt @ 1.05% Cu	1,475,166,000	\$6,849,584	\$3,800,000	\$0	\$3,049,584	\$0.0021	Sweden	in SS	5,500
Intrepid Mines	ASX:IAU	\$0.150	369,869,196	34.7mt @ 2.29% Cu	1,748,186,000	\$55,480,379	\$69,555,130	\$0	-\$14,074,751	-\$0.0081	Zambia	in DFS	12,000
Avanco Resources	ASX:AVB	\$0.080	1,661,675,855	63.28mt @ 1.26% Cu, 0.33g/t Au	1,754,121,600	\$132,934,068	\$15,800,000	\$0	\$117,134,068	\$0.0668	Brazil	in DFS	5,833
KGL Resources	ASX:KGL	\$0.140	140,240,563	25.3mt @ 1.1% Cu, 25.8g/t Ag	612,260,000	\$19,633,679	\$7,589,000	\$0	\$12,044,679	\$0.0197	Australia	In PFS	12,000
Altona Mining	ASX:AOH	\$0.105	534,678,592	129.1mt @ 0.53% Cu, 0.1g/t Au	1,504,800,000	\$56,141,252	\$47,565,000	\$0	\$8,576,252	\$0.0057	Australia	in DFS	6,753
Rex Minerals	ASX:RXM	\$0.125	220,519,784	337mt @ 0.6% Cu, 0.14g/t Au	4,448,400,000	\$27,564,973	\$12,748,000	\$0	\$14,816,973	\$0.0033	Australia	In EFS	n/a
Kombat Copper	TSX-V:KBT	\$0.090	114,782,047	1.73mt @ 1.93% Cu, 16g/t Ag	72,182,000	\$10,330,384	\$2,000,000	\$0	\$8,330,384	\$0.1154	Namibia	Past Producer	
Tintina Resources	TSX-V:TAU	\$0.060	222,492,510	18mt @ 3.3% Cu	1,173,920,000	\$13,349,551	\$7,400,000	\$0	\$5,949,551	\$0.0051	US, Montana	PEA completed	
Constantine Metal Resources	TSX-V:CEM	\$0.140	116,352,665	4.75mt @ 1.84% Ou, 4.57% Zn	192,280,000	\$16,289,373	\$1,000,000	\$0	\$15,289,373	\$0.0795	US, Alaska		
PRODUCERS				Cu Production - tonnes/yr	CI cost US\$/fb							UNDER GROUND GRADE	OPEN CUT GRADE
Hillgrove Resources	ASX:HGO	\$0.270	147,711,123	20,700	\$1.97	\$39,882,003	\$8,800,000	\$18M	\$49,082,003		Australia		0.70%
Straits Resources	ASX:SRQ	\$0.011	1,217,730,293	27,000	\$1.70	\$13,395,033	\$19,400,000	\$120M	\$113,995,033		Australia	1.90%	
Rambier Metals and Mining	AIM/TSX- :RMM/ RAB	\$0.200	144,168,228	6,000	\$2.00	\$28,833,646	\$4,500,000	\$0	\$24,333,646		Canada	3.70%	



## STAKEHOLDER MANAGEMENT

- Proposed development area is in a window surrounded by multiple land use areas
- The key issues are (1) a strong mining heritage, (2) reindeer herding, (3) Natura 2000, and (4) recreation





### PLANNING TO DELIVER



#### TARGET TIME FRAMES

- Investigating options to shorten timeframe to decision to build
- Construction 2017
- Cu production 2018; expansion potential 2020



# VALUE GROWTH DRIVERS

CURRENT	NEAR TERM (within 12 months)	LONGER TERM
Manage appropriate funding position	Define optimised path	Secure Environmental Permit and all development approvals
Environmental and Social Impact Assessment (ESIA) in progress	De-risk project through PFS initiation	Secure funding for development
Drilling at D and A zones	Complete required ESIA to allow for full permitting	Commence construction
Drill test Near Mine targets	Key project enabling agreements in place	New opportunity search
Strengthen stakeholder engagement and align with development plans	Potential for AIM listing	
Update Resource estimate	Deliver exploration success track record	
Update Scoping Study		***

**AVALON** 

# RESOURCE ESTIMATE SUMMARY

Currently Defined Mineral Resource for Copper reported on the Viscaria Project above a 0.4% Cu cut-off.

Resource Name	Classification	Tonnes (Million Tonnes)	Cu Grade (%)	Cu Metal (t)
	Measured	14.44	1.7	240,000
A 7	Indicated	4.69	1.2	57,200
A Zone	Inferred	2.48	1.0	25,500
	Subtotal	21.61	1.5	322,700
	Measured	0.12	1.3	1,600
	Indicated	4.12	0.7	29,700
B Zone	Inferred	15.41	0.8	118,700
	Subtotal	19.65	0.8	149,000
	Measured	1.0	1.25	12,000
D Zone Cu	Indicated	4.2	1.02	43,000
Resource	Inferred	8.5	0.96	81,000
	Subtotal	13.6	1.00	136,000
	Indicated	2.8	0.89	25,000
Discovery Zone Cu Resource	Inferred	6.1	0.75	46,000
Cu Resource	Subtotal	8.9	0.80	71,000
Overall Cu	Total	63.86	1.05	680,000



## RESOURCE ESTIMATE SUMMARY

Currently Defined Mineral resource for iron reported on the Viscaria Project above a 15% Mass Recovery cut-off

Resource Name	Classification	Tonnes (Million Tonnes)	Fe Grade (%)	Mass Recovery (%)	Estimated recoverable iron (Million Tonnes)
	Measured	2.0	28.7	35.1	0.5
D Zone	Indicated	9.7	27.2	33.1	2.2
Fe Resource	Inferred	13.9	25.7	31.0	3.0
	Subtotal	25.6	26.5	32.1	5.7
	Indicated	3.0	40.6	53.2	1.1
Discovery Zone Fe Resource	Inferred	6.7	37.7	49.0	2.3
	Subtotal	9.7	38.5	50.3	3.4
Overall Fe	Total	35.3	29.8	37.1	9.1



### RESOURCE ESTIMATE SUMMARY - NOTES

- The A, B D and Discovery Zone Mineral Resources were prepared and first disclosed under the JORC Code 2004. They have been updated since to comply with the JORC Code (2012).
- All Copper Mineral Resource estimates are reported above a block cut-off Grade of 0.4% Cu.
- All Iron Mineral Resource estimates are reported above a block cut-off of 15% Mass Recovery.
- Estimated recoverable iron is based on Davis Tube Recovery test work at a 75 micron grind size. Estimated recoverable iron is tonnes x mass recovery % x Fe % in concentrate (69% Fe).
- Total D Zone Measured, Indicated and Inferred Mineral Resource reported for Copper above a cut-off grade of 0.4% Cu and Iron above 15% Mass Recovery are broadly spatially coincident. However, they are modelled and reported separately to avoid mixing geological domains.
- Total Discovery Zone Indicated and Inferred Mineral Resource reported for Copper-Gold above 0.4% Cu cut-off and for Iron above 15% Mass Recovery are broadly spatially coincident. However, they are modelled and reported separately to avoid mixing geological domains.
- Any discrepancies in the sums and weighted averages are introduced by rounding.



### COMPETENT PERSONS STATEMENT

#### **Competent Persons Statement**

The information in this report that relates to the 2014 Scoping Study is based upon information compiled by, or under the supervision of Manish Garg B.Eng. (Hons.), Master of Applied Finance, MAuslMM, MAICD; Tim Horsley B.Sc. (Hons) (Mining Engineering), MAuslMM; and Trevor Ellice B.Sc. (Hons), M.Sc. (Geology), MAuslMM. Mr. Garg, Mr. Horsley, and Mr. Ellice have sufficient technical and techno-economic assessment experience, which is relevant to the activity that they are undertaking, to qualify as an Experts as defined in the 2005 Edition of the "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports" (VALMIN Code).

The information in this report that relates to the A Zone and B Zone Mineral Resources are based on the information compiled by Dr Bielin Shi who is a Member of the Institute of Mining and Metallurgy and is a full time employee of CSA Global Pty Ltd (CSA). CSA are an independent mining consultancy who have been engaged by Avalon Minerals Limited to perform geological consulting on a fee for service basis. Dr Bielin Shi has sufficient experience that is relevant to the style of mineralisation being considered and to the activity being undertaken to qualify as a competent person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Shi consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the D Zone and Discovery Zone Mineral Resources are based on the information compiled by Trevor Ellice who is a Member of the Institute of Mining and Metallurgy and is a full time employee of Salva Resources Pty Ltd ("HDR | Salva"). HDR | Salva is an independent mining consultancy engaged by Avalon Minerals Limited to perform geological consulting on a fee for service basis. Mr Ellice has sufficient experience that is relevant to the style of mineralisation being considered and to the activity being undertaken to qualify as a competent person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ellice consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to exploration results is based upon information reviewed by Mr Malcolm Norris who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Norris 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 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Norris consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

