

# BRAMADEROS GOLD-COPPER PROJECT OUTSTANDING NEW OPPORTUNITY FOR AVALON



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# CORPORATE



TICKER	ASX:AVI Frankfurt:AL9			
SHARE PRICE*	A\$0.02			
SHARES ON ISSUE	650.8 million			
MARKET CAP	A\$13M			
CASH#	A\$1.6M			
52 WEEK TRADING	A\$0.012 - \$0.057			

As at 10.04.17 - 30 day VWAP \* As at 31.03.17 - unaudited #

Top 10 shareholders hold 50% of shares on issue

Board and management hold 3.2% and have participated in most placements

European and UK shareholders total 35%

#### SUBSTANTIAL SHAREHOLDERS

NAME	%
Valbonne II	10.0 %
Marilei International	6.5%
Potezna Gromadka	5.7%
Mr Mohd Faiq Abu Sahid	5.2%

# COPPER AND GOLD



- Viscaria Copper Project; PFS stage project with very compelling upside
   Enhanced value in an increasing copper price environment
- Southern Finland Gold Project; large land holding secures several gold prospects
   Satulinmäki project delivering strong gold results
- Bramaderos Gold and Copper-Gold Project; the future, significant upside,
   Discovery driven

### THE TEAM













Chairman Graham Ascough

Resources executive. Broad global experience with large companies and building juniors. Previously with Falconbridge-Noranda.

CEO and Managing Director Malcolm Norris

Geologist and Business Development. Track record of discovery and growth. Previously with WMC Resources, led team that discovered Tujuh Bukit porphyry Cu-Au in Indonesia with Intrepid Mines. Former CEO of SolGold and secured Cascabel Cu-Au project in Ecuador.

General Manager Studies and Technical Services **Ray Robinson**  Mining engineer with over 20 years operational, studies and construction experience in Australia, PNG, Laos, Argentina and Indonesia. Background with large, mid-tier and junior companies including PanAust, Intrepid Mines and Placer Dome. Delivered PEA, PFS and DFS level studies from 0.5Mtpa underground epithermal gold developments, 10Mtpa gold oxide heap leach projects to 40Mtpa copper-gold concentrator plants.

CFO & Company Secretary **Gavin Leicht** 

Finance professional with significant experience in developing and financing copper and gold projects through to production including marketing of copper concentrates. Previous senior management roles with General Motors, Rio Tinto and PanAust involving the management of Treasury as well as Joint Venture and government relationships.

General Manager - Geology **Dr. Bruce Rohrlach** 

Geologist who has played a key role in several significant discoveries and feasibility studies. Previously with WMC Resources and PhD on the Tampakan Cu-Au deposit, he was Chief Geologist that led the technical team that discovered Tujuh Bukit porphyry Cu-Au with Intrepid Mines. Former GM Exploration of SolGold (2012-2015) he led initial discovery of the Alpala porphyry Cu-Au system at Cascabel in Ecuador. Extensive international experience with both major and junior mining and exploration companies.

# BRAMADEROS Gold-Copper Opportunity, southern Ecuador - Background



#### Matching the team with the Opportunity:

- Avalon has signed a binding agreement to earn a majority interest in the highly prospective
   Bramaderos gold-copper concession, southern Ecuador, currently held by Cornerstone Capital Resources
- Acquisition and exploration strategy at Bramaderos being driven by the Avalon team who were responsible for the discoveries of the giant Tujuh Bukit<sup>1</sup> and Cascabel<sup>2</sup> copper-gold deposits
- The Avalon team has previously partnered with Cornerstone and the Bramaderos project presents an opportunity to repeat discovery successes and deliver exceptional shareholder returns

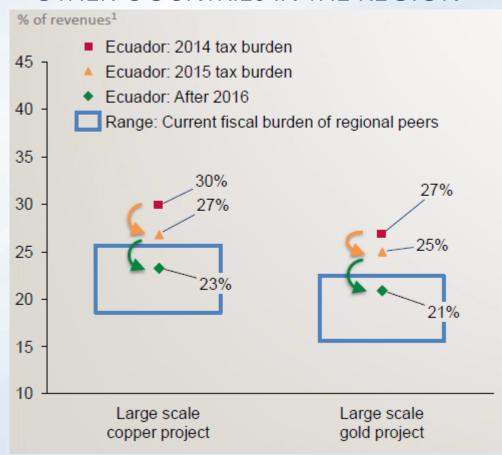
### Increase the probability of discovery Success:

- Bramaderos contains fertile mineralised systems with strong potential to host a world-class discovery
- Historical results from Bramaderos include wide intervals such as 260m at 0.6g/t Au and 0.14% Cu in diamond drilling and 42m at 3.7g/t Au in surface trenching
- Ecuador is host to world-class copper-gold deposits, in one of the most highly prospective belts for porphyry and epithermal copper-gold deposits

### **ABOUT ECUADOR**



# FISCAL STRUCTURE AS COMPARED TO OTHER COUNTRIES IN THE REGION\*



#### \*Regional peers - Chile, Peru, Brazil and Mexico (not Argentina)

#### A Good Place to Explore and Develop

- Ecuador has not seen the same level of mineral exploration as its neighbouring countries of Peru, Chile, Argentina and Colombia
- And yet it contains some of the most highly prospective terrains for copper and gold
- Ecuador excluded foreign investment but is now open and has seen a massive influx of companies including Newcrest, BHPB, Fortescue, Codelco and Hancock Prospecting
- Incoming President Moreno is pro-mining and provides continuity from president Correa

#### **Tax Structure**

- Wood Mackenzie engaged by the government of Ecuador to provide advice to deliver an equitable and competitive tax structure
- Ecuador now competitive with regional peers

#### Infrastructure

- USD 40 billion invested in strategic sectors since 2007
- More than 2 GW of new hydroelectric capacity since 2014
- Continued investments in airport and ports

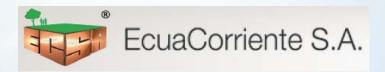
### INTERNATIONAL MINING DEVELOPMENT IN ECUADOR





#### Loma Larga (TSX)

- Underground gold producing 150,000 ounces pa LOM
- Dec 2014- commencement of Advanced Exploration phase
- 2016 PFS
- 2017 Progressing to Exploitation Phase



#### Mirador (unlisted)

- Large tonnage open pit 65,000 tpa copper LOM
- March 2012- commencement of Exploitation Phase
- 2015 Construction begins
- 2018 Production commences

# LUNDINGOLD

#### Fruta Del Norte (TSX)

- Underground gold operation producing 340,000 ounces pa LOM
- July 2016 commencement of Exploitation Phase
- October 2016 Environmental licence granted
- 2017 Construction begins
- 2020 Production commences



#### Rio Blanco (unlisted)

- December 2015- commencement of Exploitation Phase
- 2016 Construction begins
- 2017 Production commences

### AUSTRALIAN COMPANIES IN ECUADOR





- Ecuador is booming; very active exploration and development scene
- Avalon represents the only ASX listed junior to provide exposure to this potential



 2016 – secured 10% position in SolGold (owner of giant Cascabel copper-gold deposit) for \$23M outlay



85:15 JV



- SolGold is Brisbane based, AIM listed
- Secured Cascabel through JV with Cornerstone Capital Resources (TSXV:CGP)
- Cascabel discovered 2013
- Widely regarded as one of the top 5 undeveloped copper-gold deposits globally



- 2016 JV proposal over Cascabel rejected by SolGold
- 2017 actively seeking concessions including Llurimagua copper project

### HANCOCK PROSPECTING

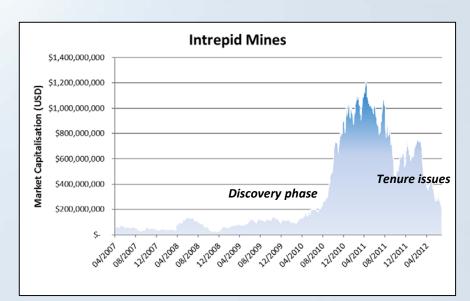


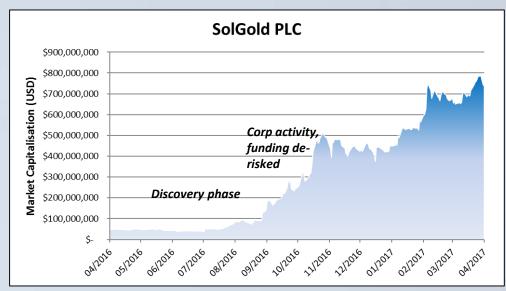
- Exploring for copper-gold opportunities
- The only non-Australian exploration address for the companies

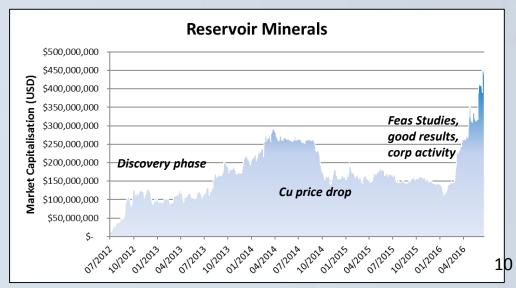
### VALUE GROWTH THROUGH DISCOVERY



- Shareholder value growth delivered through discovery, and sustained by delivering a clear pathway to development
- Ecuador delivers on these requirements
- The Avalon team have been involved in discoveries with Intrepid Mines and SolGold







### BRAMADEROS – LOCATION AND INFRASTRUCTURE



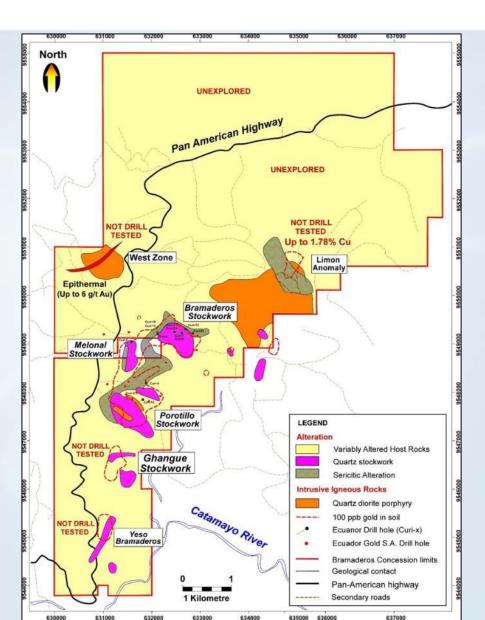




- Area amenable to development
- The Project is accessible by vehicle from Loja, a 2.5 hour drive along the sealed Pan-American highway which passes through the western portion of the Project.
- Loja is serviced by daily flights (45 minutes) from the capital city of Quito.
- A hydro power line (110V and 220V) passes through the Property area.
- Unskilled labour is available locally. Water supply is good in the vicinity of the main rivers such as the Rio Playas but is variable to poor elsewhere.

### BRAMADEROS – DISCOVERY FOCUS





- The Bramaderos property measures 11km from north to south, and is 7km at its widest point. Within that area several discrete areas of mineralisation, alteration, brecciation and quartz veining occur.
- Several areas are considered to be highly prospective
- Real opportunity for early stage development options followed by larger porphyry goldcopper opportunity
- Exploration drilling targets can be defined quickly; with permitting, drilling can be expected to start in late 2017
- Significant low cost value add exploration to be completed prior to drilling to prioritise multiple targets across the project area

## BRAMADEROS - previous work and results



#### UNDP-Spanish aid mission (1970-1984).

1970: Cu-Pb-Zn-Mo stream sediment anomalies coincide with alteration zones at Rio Playas.

1970-1984: Detailed geochemistry (soils) and 4 drill holes.

#### Ecuanor S.A. (1999-2002)

Mapping, stream sediment and soil surveys (103 line km at 400x100m and 100x100m),

Rockchip samples (700), ground magnetics (>40 line km), IP (17 line km) and diamond drilling (13 holes; 3252m).

- Bramaderos 9 holes (Total 2,212m)
- Melonal 2 holes (Total 300m)
- Porotillo 2 holes (Total 731m)

Ecuanor estimated a non-JORC compliant gold Inferred Resource

Drill holes yielded values up to 0.18% Cu and 1.13 g/t Au.

#### Ecuador Gold S.A. (2004-2007)

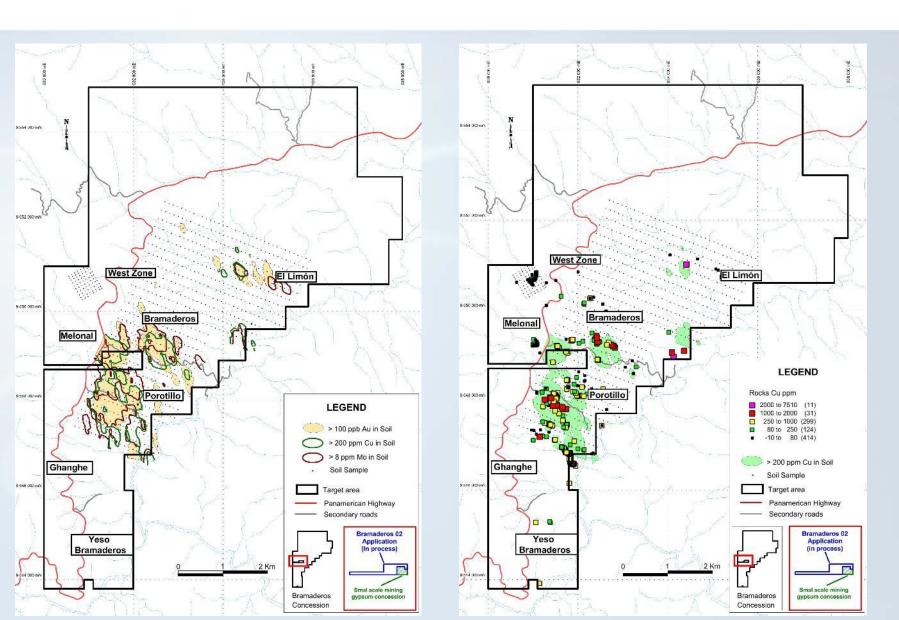
Mapping, trenching, geochemistry, geophysics and drilling 22 holes (7174m).

#### Andean Gold (2007-2008)

Mapping, grid soil sampling, trenching, IP and ground magnetics.

# BRAMADEROS - Project Geology and Targets





#### Phase 1 compilation of data

- Large (>2km) coincident geochemical anomalies in areas of alteration
- Significant areas still to be properly explored
- Drilling of targets in late 2017

### VISCARIA COPPER PROJECT



- √ High quality copper project with increasing copper prices
- ✓ PFS stage copper development opportunity in a mining district
- ✓ Development permitting in progress
- √ Exceptional exploration upside



**PROJECT SITE** 



PUBLIC ACCESS ELECTRIC RAIL



KIRUNA TOWN

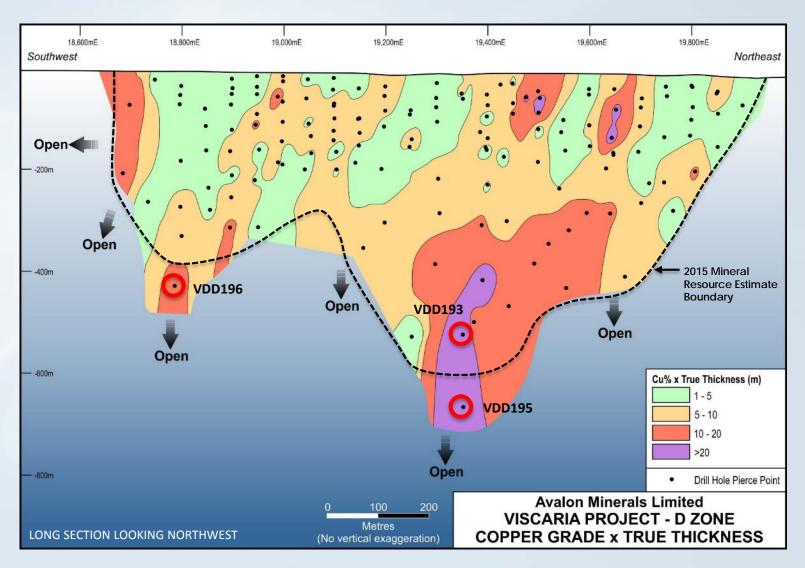


LOW COST HYDRO POWER



### VISCARIA COPPER PROJECT - D Zone





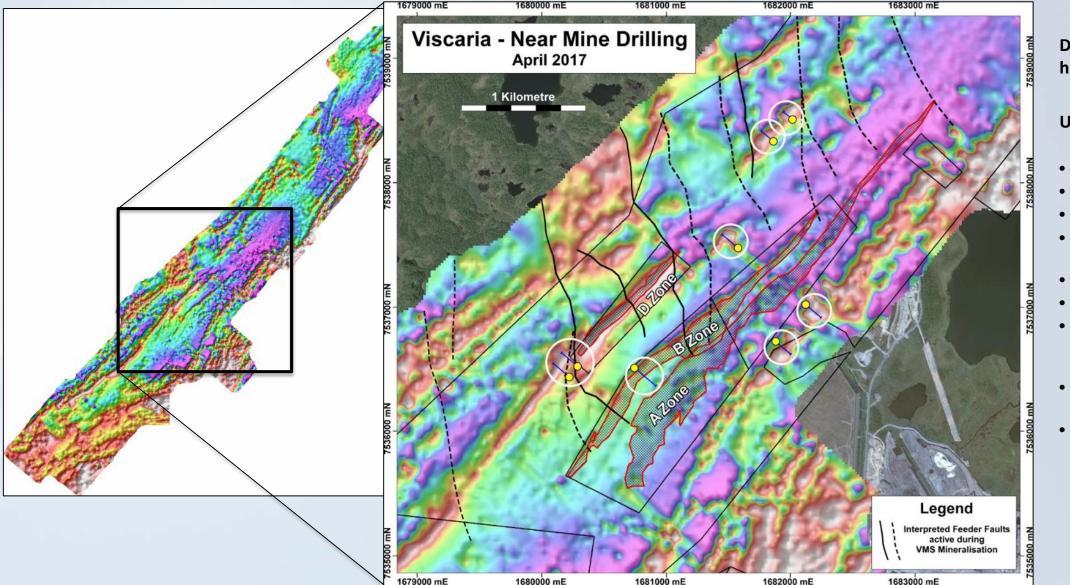
 VDD 193, the deepest hole in the North Shoot resource area, intersected

26.7m at 2.6% Cu; including 6.6m at 3.5% Cu; and 5.2m at 2.9% Cu, and 6.9m at 2.6% Cu

- VDD 195 was drilled below VDD 193, outside the resource boundary in the North Shoot, and intersected
  - 21.5m at 1.5% Cu, including 3m at 2.3% Cu, and 9.9m at 2.2% Cu
- Similarly, strong results from VDD 196, drilled outside of the resource boundary in the South Shoot, intersected 13.8m @ 1.4% Cu, including
   5.3m @ 2% Cu
- ... and geophysical modelling of the host magnetite indicates that this copper orebody will grow (see Appendix) ......
- Mineral Resource estimate 52.4Mt at 1.2% Cu 65% Measured and Indicated (Refer Annual Report released 16 August 2016, Mineral Resource Estimate table and the Competent Persons Statement at the end of this presentation)
- A Zone previously mined as underground mine by Outokumpu in 1985-97. Mined 12Mt at 2.3% Cu

### VISCARIA COPPER PROJECT – NEAR MINE TARGETS





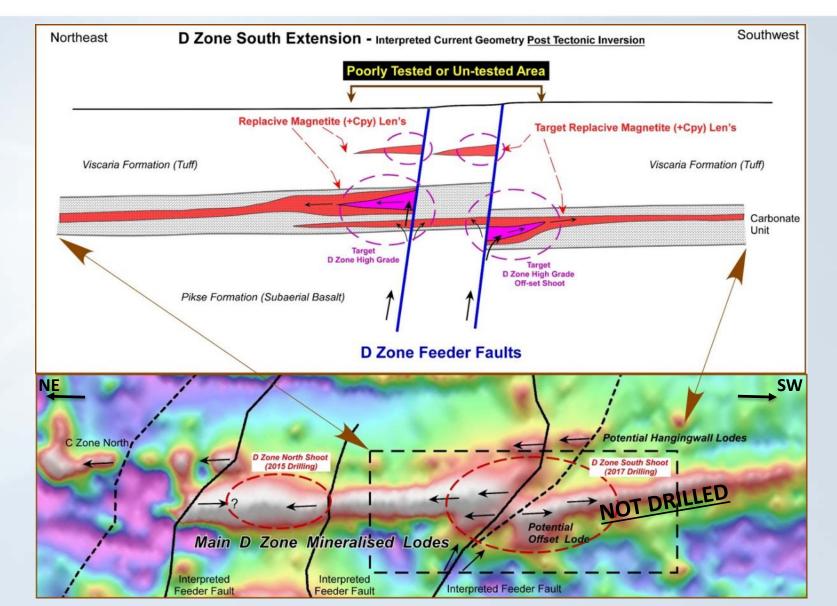
# Drilling underway on highlighted holes

#### **Upside includes**

- D Zone at depth
- A Zone at depth
- B Zone sparsely drilled
- Copper between A and B Zones
- C Zone magnetic targets
- A Zone east
- Along strike D Zone horizon, both north and south
- Along strike another A Zone, mainly north
- Nihka, Bahpagobba, West Nukutus, Suolojakk hydrothermal coppergold

### VISCARIA COPPER PROJECT – NEAR MINE TARGETS

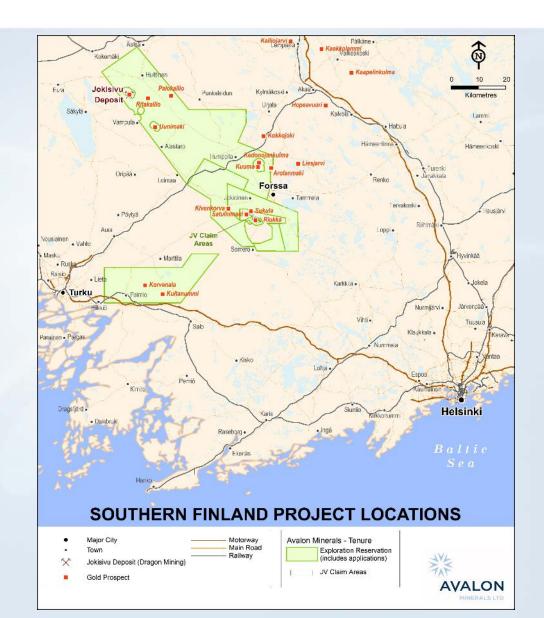




D Zone mineralisation model opens immediate targets near D Zone and 6km strike extent of highly prospective magnetic anomalies

### SOUTHERN FINLAND GOLD PROJECT





- 2,400km² held under 100% held Exploration Reservation, and a JV with Nortec Minerals (AVI holds 51%)
- Supported by infrastructure
- Can operate all year round
- Historical exploration by the Finnish Geological Survey has identified multiple gold occurrences; but there has only been very minor exploration
- Initial drilling by Avalon delivered excellent results from Satulinmäki including visible gold
- Satulinmäki drilling includes 147.0m at 0.8 g/t gold from 73m in SMDD007,
  - Including 23.5m at 3.3g/t from 143m
    - including 9.0m at 7.3 g/t from 147m
- Regional opportunities include

Korvenala – 10 shallow holes; 5.5m at 1g/t gold

Kultanummi - 31 shallow holes; 1 to 6m intervals up to 10g/t gold

**Kivenkorva** – 3 shallow holes; up to 16.6g/t gold in surface sampling

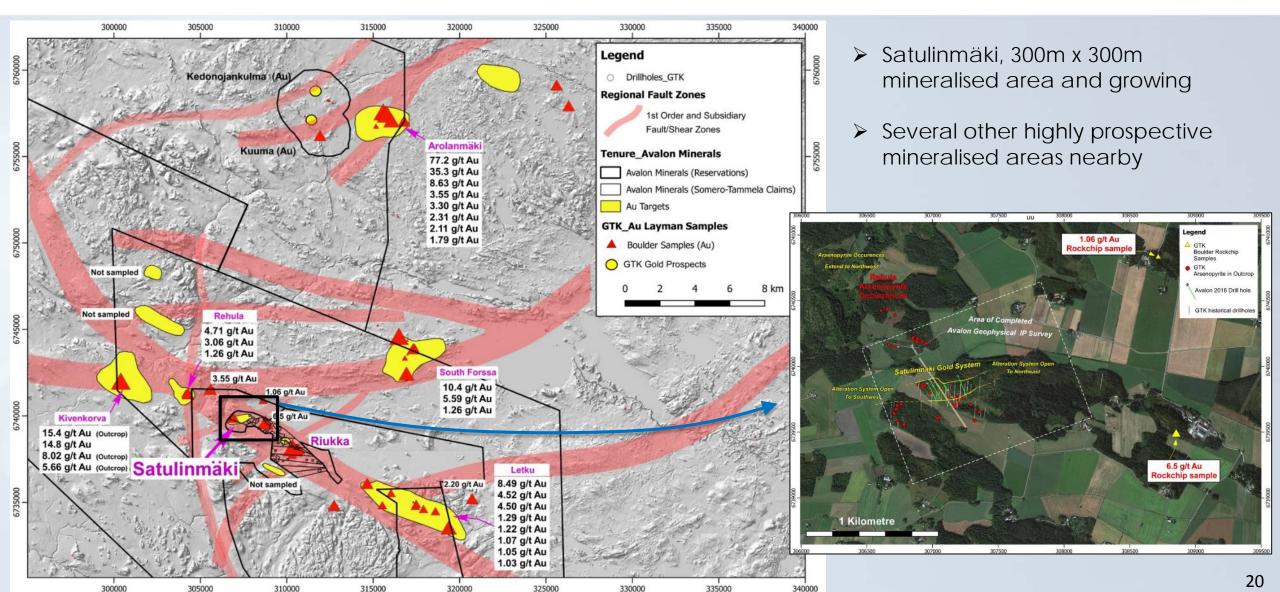
Sukula – 4 shallow holes; 1m at 1.7g/t gold

Ritakallio – 15 shallow holes; 4.7m at 1.7g/t gold

Palokallio - 18 shallow holes; 1.0m at 41.8g/t gold

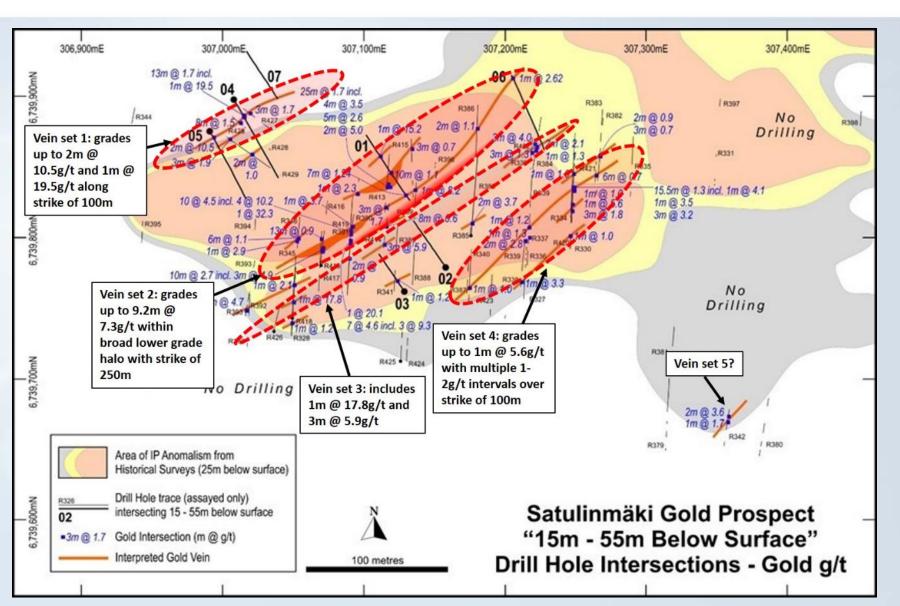
### SOUTHERN FINLAND GOLD PROJECT





### SATULINMÄKI GOLD





- Image slice at 15 55m below surface
- Satulinmäki SMDD007 drilling includes 147.0m at 0.8 g/t gold from 73m,
  - Including 23.5m at 3.3g/t from 143m
    - including 9.0m at 7.3
       g/t from 147m
- At 120m depth, this image would show intersections from only 5 holes and include:
  - 9.2m at 7.3g/t gold
  - 4.0m at 2.2g/t gold
  - 9.0m at 1.6g/t gold

### AVALON - PLANNED WORK AND NEWS FLOW



### □ Viscaria Copper Project

- Drilling on multiple near mine targets in progress results delivered April through June
- Goal is to demonstrate significant upside to the belt

### **☐** Southern Finland Gold Project

- Satulinmäki IP geophysics completed results delivered in April
- Drilling expected in May
- Goal is to establish continuity of mineralisation and consider development options

#### □ Bramaderos

- Ongoing historical data compilation strong news flow as multiple targets mature
- Operational considerations for early stage development targets
- Field programs to strengthen targets geochemistry, geophysics, geology
- Drilling to commence as soon as drill permits received

# COMPETENT PERSONS STATEMENT



#### **Competent Persons Statement**

The information in this report that relates to exploration results and exploration targets and 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.

Refer to Annual Report released 16 August 2016 for the Competent Persons Statement in relation to the estimates of mineral resources. The Company confirms that it is not aware of any new information or data that materially affects the information and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The information in this report that relates to the updated D Zone Mineral Resource estimate is based on the information compiled by Chris Grove who is a Member of the Australasian Institute of Mining and Metallurgy and is a full time employee of Measured Group Pty Ltd. Measured Group is an independent mining consultancy who have been engaged by Avalon Minerals Limited to perform geological consulting on a fee for service basis. Mr Grove 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 Grove consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

# **APPENDICES**





# Bramaderos - Agreement terms



	erstone Bramaderos Terms - summary only				
to earn 51%	US\$50,000 payment on signing LOI				
	spend US\$1,500,000 on project within 12 months of receiving drill permit (expected in about Q4 2017)				
	spend an additional US\$1,900,000 on project by 3rd anniversary of signing the LOI				
to earn 70%	90 days from earning 51% to elect to go to stage 2 earn-in.				
	Within 3 years from earning 51%; time frame extendable by mutual agreement:				
	- fund exploration to completion of feasibility study, maintaining minimum statutory expenditure requirements				
	- deliver feasibility study to standard required to comply with NI 43-101				
	- pay either US\$250,000 or US\$1/ounce of gold equivalent in Measured and Indicated Resources in the feasibility study				
to earn 80%	provide 100% of costs to achieve commercial production				
(Cornerstone's share of these costs treated as an advance which accrues interest of Prime + 2% until repayment)					
	or, arrange project financing sufficient to achieve commercial production				
Avalon to mana	age technical aspects of exploration and Cornerstone to implement program up to 51% ownership				
Beyond 51% Av	ralon takes on full management				
Manager has th	ne right to charge a fee of 10% on all project costs, in addition to charging for employee's time (included in stage 1 commitments)				
Standard dilution	on clauses with 1.5% NSR royalty if interest falls to 10% or lower. Buy back for 1% for min US\$3.5m				
2% NSR royalty	to Sierra Minera with US\$50,000 annual advance payments commencing on anniversary of FS				
Half can be bou	ight out for US\$3m.				

# Bramaderos - previous work and results



#### West Zone Breccia – trenching results

46.0 m @ 0.72 g/t Au

66.0 m @ 0.85 g/t Au 36.0 m @ 0.84 g/t Au

18.0 m @ 1.35 g/t Au

72.0 m @ 0.63 g/t Au

**Trench Results** 

WZ-TR2

WZ-TR5

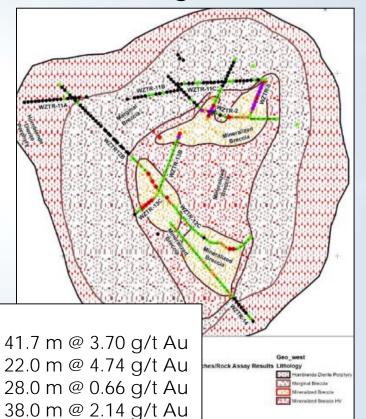
WZTR-10A WZTR-13A

WZTR-12B WZTR-12 C

WZTR-13B

WZTR-13C

WZTR-14



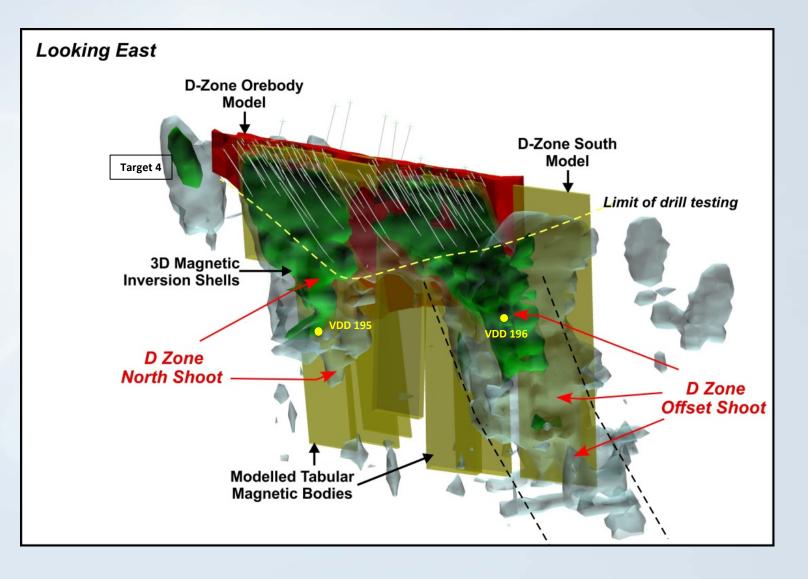
### Bramaderos - drilling results

Ecuanor - 1999 - 2002

Drill Hole	Prospect	Dip/Azimuth	EOH depth (m)	Gold (g/t)	Copper (%)	Notes
CURI_01	Bramaderos	45/102	193	0.52	0.07	entire hole sampled, no individual assays
CURI_02	Bramaderos	45/330	100	0.29	0.055	
CURI_03	Bramaderos	44/236	257	0.57	0.14	54m @ 1.07g/t Au from 67m and 26m @ 0.8g/t from 231m
CURI_04	Melonal	60/	147	0.17	0.045	
CURI_05	Porotillo	70/180	263	0.3		24m @ 12g/t from 6m
CURI_06	Melonal	52/	153	0.28	0.07	
CURI_07	Bramaderos	70/204	90	0.35	0.08	hole abandoned, broken ground
CURI_08	Bramaderos	45/204	40	0.23	0.04	hole abandoned, broken ground
CURI_09	Bramaderos	55/230	452	0.23	0.07	
CURI_10	Bramaderos	59/288	194	0.08	tr	leached altered zone?
CURI_11	Bramaderos	57/015	458	0.2	0.065	a 2.5g/t sample was cut to 0.5g/t
CURI_12	Porotillo	57/240	468	0.07		
CURI_13	Bramaderos	59/216	428	0.4	0.1	102m @ 0.57g/t from 216m

# VISCARIA COPPER PROJECT - D Zone

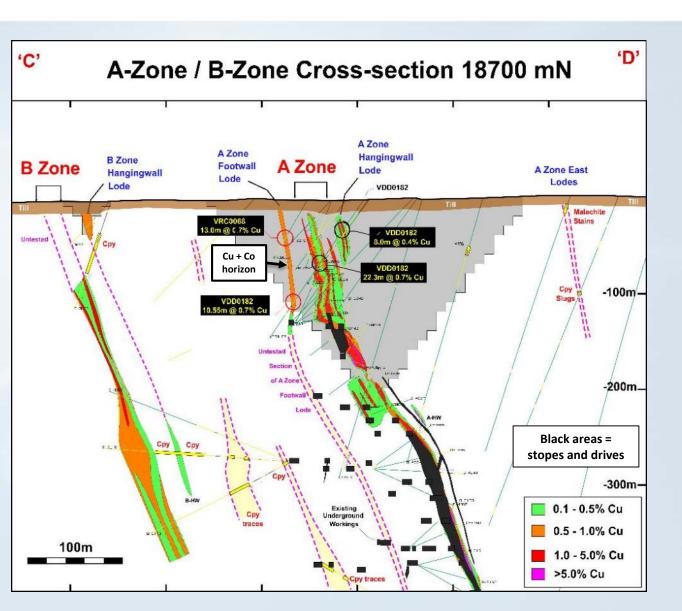




- An incredibly compelling upside opportunity
- D Zone copper host is 50-70% magnetite – simple process to model host to deliver orebody geometry
- 3-D and plate modelling of magnetic data demonstrates very clearly that the orebody is significantly larger than currently drilled
- And we have demonstrated in our 2015 results that we know where to drill

# VISCARIA COPPER PROJECT – A & B ZONES

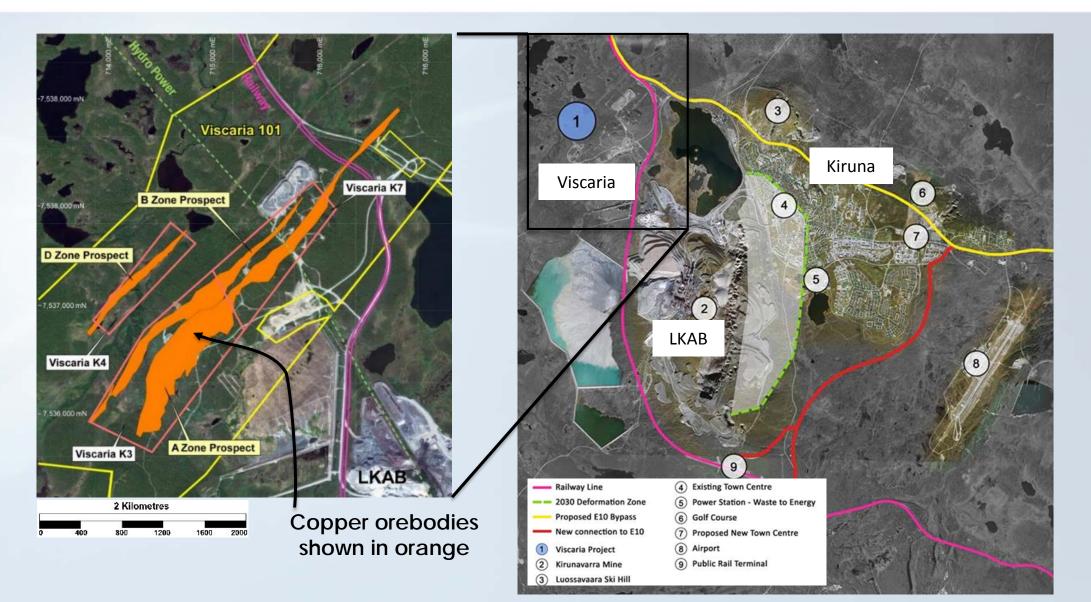




- A & B Zones will deliver more copper
- There is potential for more copper within the open pit development scenario than the historical mineral resource estimate suggests
- This is confirmed by Avalon drilling from 2014 (VDD 182) and detailed reviews of historical drill holes
- Multiple mineralised horizons defined
- Previous owner often did not assay mineralised zones that were visually assessed to be <2% copper (underground grade, now captured in open pit)
- Very limited drilling between A and B Zones, but copper has been reported in drill logs
- B Zone drilling is sparse, significant opportunities within the horizon
- None of the potential high grade underground at A Zone has been considered in any development scenario
- Some domains in A Zone and B Zone are elevated in gold and some in cobalt.

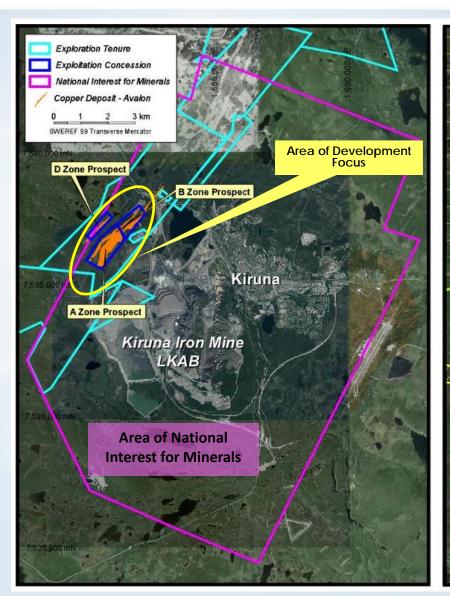
# **OUTSTANDING LOCATION**

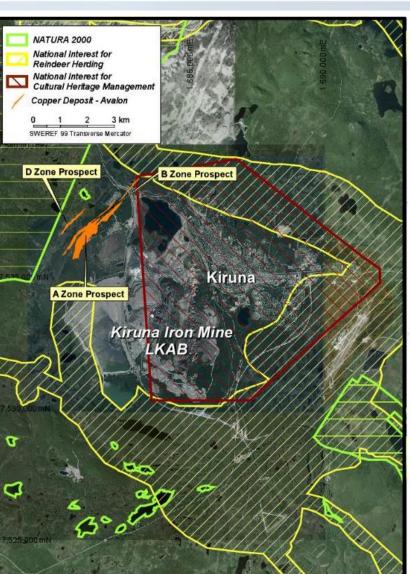




# PERMITTING







- 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

### VISCARIA COPPER PROJECT – RESOURCE STATEMENT



Resource Area	Classification	Tonnes (Mt)	Cu Grade (%)	Contained Cu (kt)
A 7	Measured	14.44	1.7	240.0
	Indicated	4.69	1.2	57.2
A Zone	Inferred	2.48	1	25.5
	Subtotal	21.61	1.5	322.7
	Measured	0.12	1.3	1.6
P. Zono	Indicated	4.12	0.7	29.7
B Zone	Inferred	15.41	0.8	118.7
	Subtotal	19.65	0.8	149.0
	Indicated	3.11	0.81	25.2
	Inferred	0.01	0.32	0.02
D Zono	Subtotal (open pit)	3.11	0.81	25.2
D Zone	Indicated	7.26	1.37	99.8
	Inferred	0.78	1.57	12.2
	Subtotal (underground)	8.03	1.39	111.9
Overall Cu	Overall Cu Total		1.2	608.9

## VISCARIA COPPER PROJECT – SCOPING STUDY RESULTS

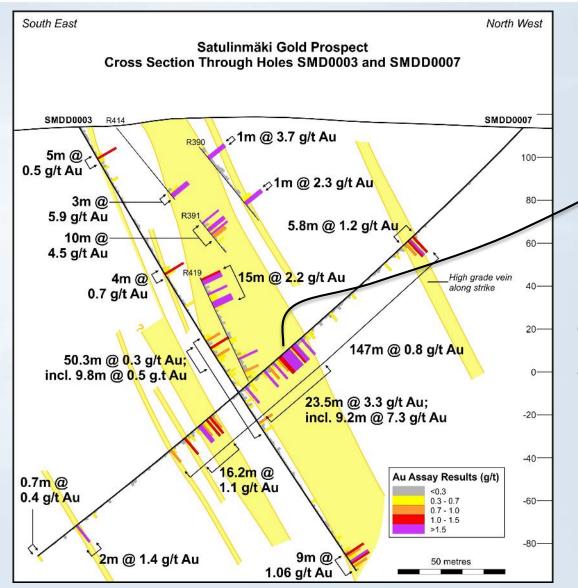


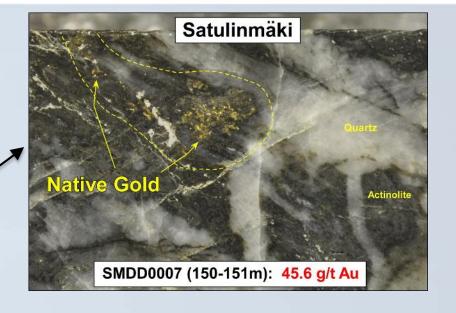
#### See ASX announcements

- 18<sup>th</sup> December 2015 "Viscaria Copper Project Scoping Study"
- 5<sup>th</sup> April 2016 "Investor Update and Presentation"

# SATULINMÄKI GOLD







- Quote a set of results
- Satulinmäki drilling includes 147.0m at 0.8 g/t gold from 73m in SMDD007,
  - Including 23.5m at 3.3g/t from 143m
    - including 9.0m at 7.3 g/t from 147m