

## AVANCO RESOURCES LIMITED (AVB)

### Pantera; not just a rock band

Avanco Resources Limited (AVB) has entered into an option agreement to acquire the Pantera Copper Project from Vale. The project is ~110km west of AVB's Pedra Branca Copper-Gold Project in the Carajás region of Brazil and 20km from Vale's Onça Puma Nickel Mine. Pantera is in its infancy with no JORC resource and only 19 holes drilled to date by Vale. However, given that the terms of the agreement hinge around the estimation of 400kt of contained Cu and the "acquisition price" has been calculated at US\$0.04/lb (excluding inferred resources) where AVB expects to pay between US\$20M – US\$35M, an exploration target of 300-450kt Cu seems reasonable. This is meaningful to AVB when you consider its current global resource is 645kt Cu inclusive of inferred ore. Previous drilling results indicate high-grade copper at depth and include: **26m @ 2.6% Cu** from 81m (incl. 10m @ 3.8% Cu), **15m @ 2.8% Cu** from 113m (incl. 6m @ 5.3% Cu), and **59m @ 1.4% Cu** from 173m (incl. 11m @ 3.6% Cu and 39m @ 2.1% Cu). The historic drilling has defined mineralisation over 1.5km. AVB has identified the potential for mineralisation to extend to beyond 4km of strike, which is currently open at depth. A 5,000m drill program will commence this quarter.

The terms of the transaction include: Payment of US\$500,000 to Vale upon signing the option (completed), and a further payment of US\$0.04/lb of contain copper up to 400kt and US\$0.06/lb thereafter based on a JORC (measured and indicated) resource defined by AVB within an agreed Historic Mineralised Zone as outlined by Vale's drilling. AVB must complete a 14,000m of drilling within 2 years and the Company will pay an NSR to Vale of 1% on copper, and a 1.5% NSR to BNDES (Brazilian Development Bank). Any copper defined outside the agreed Historic Mineralised Zone will attract no acquisition cost. Payments are capped at US\$3Mpa.

### FY17; cost blow out but production guidance met

AVB had a solid production year in which it beat its original guidance. However, costs blew out towards the end of the CY. The Company produced 14.1kt Cu and 11.4koz Au in CY17 at an AISC of US\$1.94/lb and C1 of US\$1.64/lb. A cost blow out in the DecQ has led to AISC at the upper end of guidance (US\$1.85-1.95/lb), which had been revised up from US\$1.65-1.80/lb. AVB attributes the cost increases to lower than forecast grades in the DecQ and plant maintenance, which has led to ROM depletion. AVB produced 3.3kt Cu (3.7kt Cu in SepQ) and 2.5kozAu (3.1koz Au in SepQ) in the DecQ for an AISC of US\$2.24/lb US\$1.78/lb in SepQ). Recoveries dipped to 97% and 81% for Cu and Au respectively, down from 98% and 84%. Concentrate sales of 7.64Mlb Cu and 2.3koz Au will generate a provisional sales revenue of US\$26.1 (excluding costs), up from the SepQ sales of US\$25.6M on account of the strong copper price.

### Maintain Speculative Buy

While our valuation has reduced to 16cps (from 17cps) on account of the poor quarterly cost performance, the Pantera acquisition is a positive one and allows us to add A\$30M to our nominal exploration valuation. Our price target is unchanged at 18cps with a spot price NAV of 19cps.

30 Jan 2018

Share Price	\$0.08
Valuation	\$0.16
Price Target (12 month)	\$0.18

#### Brief Business Description:

Cu-Au developer and explorer

#### Hartleys Brief Investment Conclusion

Brazilian Cu-Au miner, expected to produce ~14ktpa Cu & 10kozpa Au from Antas this year, with growth potential at Pedra Branca and further afield.

#### Chairman & MD

Vernon Tidy (Interim Chairman &amp; Non-Exec Director)

Tony Polglase (Managing Director)

#### Top Shareholders

Aprian Natural Resources Fund	18.5%
Greenstone	16.7%
Blackrock Group	12.9%
Glencore	8.3%

#### Company Address

Suite 3, 257 York Street  
 Subiaco, WA 6008

Issued Capital	2456.9m
- fully diluted	2648.9m

Market Cap	A\$206.4m
- fully diluted	A\$222.5m

Cash (31 Dec 17a)	A\$30.1m
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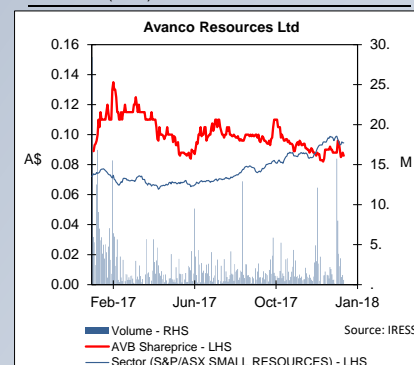
Debt	A\$0.0m
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EV	A\$176.3m
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EV/Resource lb	A\$0.12/oz
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Prelim. (A\$m)	CY16a	CY17e	CY18e
Prod (kt Cu)	10.3	13.6	14.3
Op Cash Flw	16.1	38.4	51.0
Norm NPAT	4.8	10.1	24.7
CF/Share (cps)	0.2	0.5	1.2
EPS (cps)	0.2	0.5	1.2
P/E	36.3	17.2	7.0

	Mt	Cu (%)	Au (g/t)
Resources (CentroGold)	31.5	-	1.8
Resources (Carajás)	33.2	2.0	0.5
Reserves (Total)	3.0	2.6	0.6



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## SUMMARY MODEL

Avanco Resources Ltd						Share Price		30 January 2018					
AVB						\$0.084		Speculative Buy					
Key Market Information						Company Information							
Share Price						\$0.084							
Market Capitalisation - ordinary						A\$206m							
Net Cash						A\$30m							
Market Capitalisation - fully diluted						A\$223m							
EV						A\$253m							
Issued Capital						2456.9m							
Options						192.0							
Issued Capital (fully diluted inc. all options)						2648.9m							
Issued Capital (fully diluted inc. all options and new capital)						3584.9m							
Valuation						\$0.16							
12month price target						\$0.18							
P&L	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Net Revenue	A\$m	66.2	122.0	139.8	221.4	422.9							
Total Costs	A\$m	-55.6	-90.1	-87.6	-130.0	-236.7							
EBITDA	A\$m	10.6	31.9	52.3	91.4	186.2							
- margin		16%	26%	37%	41%	44%							
Depreciation/Amort	A\$m	0.0	-20.4	-23.4	-32.1	-47.0							
EBIT	A\$m	10.6	11.5	28.9	59.4	139.3							
Net Interest	A\$m	-4.9	0.6	0.6	-5.8	-10.8							
Norm. Pre-Tax Profit	A\$m	5.7	12.0	29.4	53.6	128.4							
Reported Tax Expense	A\$m	0.0	0.0	0.0	-3.0	-20.5							
Normalised NPAT	A\$m	4.8	10.1	24.7	45.0	107.9							
Abnormal Items	A\$m	0.9	1.9	4.7	5.6	0.0							
Reported Profit	A\$m	5.7	12.0	29.4	50.6	107.9							
Minority	A\$m	0	0	0	0	0							
Profit Attrib	A\$m	5.7	12.0	29.4	50.6	107.9							
Balance Sheet	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Cash	A\$m	30.5	47.4	15.1	156.9	152.2							
Other Current Assets	A\$m	22.4	10.0	11.5	18.2	34.8							
Total Current Assets	A\$m	53.0	57.5	26.6	175.1	187.0							
Property, Plant & Equip.	A\$m	81.5	67.0	101.5	211.0	309.4							
Exploration	A\$m	28.3	43.9	69.3	83.3	97.3							
Investments/other	A\$m	2.9	2.9	2.9	2.9	2.9							
Tot Non-Curr. Assets	A\$m	112.7	113.8	173.7	297.2	409.6							
Total Assets	A\$m	165.7	171.3	200.3	472.3	596.6							
Short Term Borrowings	A\$m	6.5	6.5	6.5	6.5	6.5							
Other	A\$m	17.4	10.9	10.5	14.2	23.0							
Total Curr. Liabilities	A\$m	23.8	17.4	17.0	20.7	29.4							
Long Term Borrowings	A\$m	-	-	-	158.1	126.5							
Other	A\$m	23.8	23.8	23.8	23.8	23.8							
Total Non-Curr. Liabil.	A\$m	23.8	23.8	23.8	181.9	150.3							
Total Liabilities	A\$m	47.7	41.2	40.8	202.6	179.7							
Net Assets	A\$m	118.0	130.0	159.5	269.7	416.9							
Net Debt	A\$m	-24.0	-40.9	-8.6	7.7	-19.3							
Cashflow	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Operating Cashflow	A\$m	16.5	37.8	50.4	88.4	178.4							
Income Tax Paid	A\$m	0.0	0.0	0.0	-3.0	-20.5							
Interest & Other	A\$m	-0.4	0.6	0.6	-5.8	-10.8							
Operating Activities	A\$m	16.1	38.4	51.0	79.7	147.1							
Property, Plant & Equip.	A\$m	0.0	-3.3	-45.0	-137.7	-141.4							
Exploration and Devel.	A\$m	-4.2	-15.6	-25.4	-14.0	-14.0							
Other	A\$m	-26.3	-2.6	-12.9	-3.9	-3.9							
Investment Activities	A\$m	-30.6	-21.5	-83.3	-155.6	-159.4							
Net Borrowings	A\$m	0.0	0.0	0.0	158.1	-31.6							
Equity or "fbc capital"	A\$m	0.0	0.0	0.0	59.6	39.3							
Dividends Paid	A\$m	0.0	0.0	0.0	0.0	0.0							
Financing Activities	A\$m	3.2	0.0	0.0	217.7	7.6							
Net Cashflow	A\$m	-11.2	16.9	-32.3	141.8	-4.7							
Shares	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Ordinary Shares - End	m	2457	2457	2457	2458	2458							
Ordinary Shares - Weighted	m	2461	2457	2457	2457	2458							
Divided Shares - Weighted	m	2461	2457	2457	2457	2458							
Ratio Analysis	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Cashflow Per Share	A\$/cps	0.7	1.6	2.1	3.2	6.0							
Cashflow Multiple	x	12.8	5.4	4.0	2.6	0.0							
Earnings Per Share	A\$/cps	0.2	0.5	1.2	2.1	4.4							
Price to Earnings Ratio	x	36.3	17.2	7.0	4.1	0.0							
Dividends Per Share	AUD	0.0	0.0	0.0	0.0	0.0							
Dividend Yield	%	0.0%	0.0%	0.0%	0.0%	0.0%							
Net Debt / Net Debt + Equity	%	-26%	-46%	-6%	3%	-5%							
Interest Cover	X	2.2	na	na	10.3	12.9							
Return on Equity	%	4%	8%	15%	17%	26%							
Directors	Company Information												
Vernon Tidy (Interim Chairman & Non-Exec Director)													
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Top Shareholders	m shares %												
Appian Natural Resources Fund													
453.3 18.5													
Greenstone													
409.9 16.7													
Blackrock Group													
317.4 12.9													
Glencore													
203.1 8.3													
Reserves & Resources	Mt Cu (%) Au (g/t) Cu (kt) Au (koz)												
TOTAL RESERVES	3.0 2.64 0.58 80.4 56.5												
TOTAL RESOURCES	33.2 1.95 0.49 645 506												
Antas North	5.5 2.4 0.5 133 84												
Measured	2.0 3.42 0.8 67 48												
Indicated	1.6 2.23 0.4 36 22												
Inferred	1.9 1.59 0.2 30 14												
Pedra Branca East	10.5 2.8 0.7 289 221												
Measured	2.0 2.7 0.7 53 43												
Indicated	5.7 2.8 0.7 161 123												
Inferred	2.8 2.7 0.6 75 55												
Antas South	10.1 0.8 0.2 85 65												
Pedra Branca West	7.2 1.9 0.6 138 136												
CentroGold	31.5 - 1.8 - 1,863												
Indicated	21.1 - 1.7 - 1,190												
Inferred	10.4 - 2.0 - 673												
Production Summary - Antas North	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Mill Throughput	Mt	0.5	0.7	0.7	0.7	0.7							
Mined grade	%	2.17	1.61	2.20	2.20	2.20							
Copper (payable)	(kt)	10.3	13.6	14.3	14.3	14.3							
Gold (payable)	(koz)	7.4	10.8	10.6	10.6	10.6							
Copper Equiv (payable)	(kt)	11.6	15.2	15.8	16.0	15.9							
Mine Life	yr	9.25	8.25	7.25	6.25	5.25							
Production Summary - Pedra Branca East	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Mill Throughput	Mt	0.0	0.0	0.0	0.0	0.7							
Mined grade	%	0.0	0.0	0.0	0.0	2.2							
Copper (payable)	(kt)	0.0	0.0	0.0	0.0	13.3							
Gold (payable)	(koz)	0.0	0.0	0.0	0.0	10.6							
Copper Equiv (payable)	(kt)	0.0	0.0	0.0	0.0	14.9							
Mine Life	yr	-	11.50	10.75	9.75	8.75							
Costs	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Cost per milled tonne	\$/t	118.4	115.9	102.6	95.4	85.6							
EBITDA / tonne milled ore	\$/t	20.8	45.0	74.6	130.6	135.9							
C1: Operating Cash Cost = (a)	\$/lb Eq	2.07	2.29	2.04	3.16	3.00							
(a) + Royalty = (b)	\$/lb Eq	1.55	1.78	1.59	2.40	2.30							
C2: (a) + depreciation & amortisation = (c)	\$/lb Eq	2.37	2.62	2.39	3.62	3.45							
(a) + actual cash for development = (d)	\$/lb Eq	2.07	3.63	3.52	5.17	4.52							
C3: (c) + Royalty	\$/lb Eq	2.44	3.31	3.64	4.04	3.45							
(d) + Royalty	\$/lb Eq	2.37	3.96	3.86	5.63	4.98							
C1: Operating Cash Cost = (a)	\$/lb Eq	2.74	3.64	3.99	4.50	3.91							
Total operating costs (AISC)	\$/lb Eq	3.03	3.58	3.58	3.14	2.69							
AISC (net of credits)	US\$/lb Eq	2.27	2.78	2.78	2.39	2.06							
AISC (net of credits)	US\$/lb	2.26	2.27	2.27	2.34	1.98							
Price Assumptions	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
AUDUSD	A\$/US\$	0.75	0.78	0.78	0.76	0.77							
US\$/BRL	US\$/BRL	3.33	3.20	3.40	3.63	3.78							
Copper	US\$/lb	2.28	2.71	3.00	2.75	2.75							
Gold	US\$/oz	1255	1263	1303	1313	1250							
Hedging	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20							
Hedges maturing?	No	No	Yes	No	No	No							
Sensitivity Analysis	Valuation FY17 NPAT												
Base Case	0.16 12.0												
Spot Prices	0.19 (17.3%) 29.0 (141.5%)												
Spot USD/AUD 0.81, Copper \$3.19/lb, Gold \$1,340/oz													
AUDUSD +/-10%	0.12 / 0.21 (-26.9% / 31.1%) 4.0 / 21.9 (-67.1% / 82.0%)												
Copper +/-10%	0.20 / 0.11 (24.9% / -27.8%) 21.9 / 2.1 (82.4% / -82.4%)												
Production +/-10%	0.16 / 0.16 (0.0% / 0.0%) 12.0 / 12.0 (0.0% / 0.0%)												
Operating Costs +/-10%	0.13 / 0.19 (-18.8% / 18.2%) 4.3 / 19.7 (-64.0% / 64.0%)												
Share Price Valuation (NAV)	Risked Est. A\$m Est. A\$/share												
100% Pedra Branca (pre-tax NAV at disc. rate of 12%)	139 0.04												
100% Antas (pre-tax NAV at disc. rate of 8%)	202 0.06												
100% CentroGold (pre-tax NAV at disc. rate of 14%)	175 0.05												
Other Exploration	120 0.03												
Forwards	0 0.00												
Corporate Overheads	-17 0.00												
Net Cash (Debt)	30 0.01												
Tax (NPV future liability)	-89 -0.02												
Options & Other Equity	17 0.00												
Hedging	-2 0.00												
Total	575.9 0.16												
Analyst: Paul Howard													
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"fbc capital" could be equity or debt. Our valuation is risk-adjusted for how this may be obtained.													
Sources: IRESS, Company Information, Hartleys Research													
Last Updated: 30/01/2018													

## VALUATION

We have updated our model from quarterly actuals and adjusted our forecasts. Our sum of parts valuation for AVB assumes Antas is at full plant capacity (0.7Mtpa), CentroGold commences production in CY19 and Pedra Branca moves into production in early-CY20. We model a nominal exploration value (A\$30M) for the recent Pantera acquisition. We model Antas out to mid-CY25 (8 years remaining) and assume additional resource tonnes convert, and are included in the mining inventory. We have adjusted our Cu recoveries to 97% going forward and await the release of an updated Antas mine plan this quarter.

We model a staged 9.5 years at Pedra Branca, and see potential upside at both projects. With the inclusion of Chega Tudo, we model CentroGold as a 10 year, 2Mtpa operation at a head-grade of 1.8g/t. CentroGold is somewhat risked as licensing issues currently remain unresolved but a clear pathway to resolution is apparent and would be a catalyst for an upgrade to a Buy recommendation. We model a nominal A\$120m (\$0.03/share) for exploration upside. We have added A\$30M as consideration for the recent Pantera acquisition and will look to evaluate this as further information is released. We believe AVB is well positioned for brownfield exploration success at both projects and more regionally. We assume the 192M options @ 10c are exercised in June 2018 (150M) and December 2019 (42M).

*Hartleys models Antas to 2025, CentroGold to 2029 & Pedra Branca to 2029*

*Hartleys sum of parts valuation for AVB has increased to A\$0.16/share*

**Fig. 1: Hartleys Sum of Parts Valuation for AVB**

Share Price Valuation (NAV)	Risked Est. A\$m	Est. A\$/share
100% Pedra Branca (pre-tax NAV at disc. rate of 12%)	139	0.04
100% Antas (pre-tax NAV at disc. rate of 8%)	202	0.06
100% CentroGold (pre-tax NAV at disc. rate of 14%)	175	0.05
Other Exploration	120	0.03
Forwards	0	0.00
Corporate Overheads	-17	0.00
Net Cash (Debt)	30	0.01
Tax (NPV future liability)	-89	-0.02
Options & Other Equity	17	0.00
Hedging	-2	0.00
<b>Total</b>	<b>575.8</b>	<b>0.16</b>

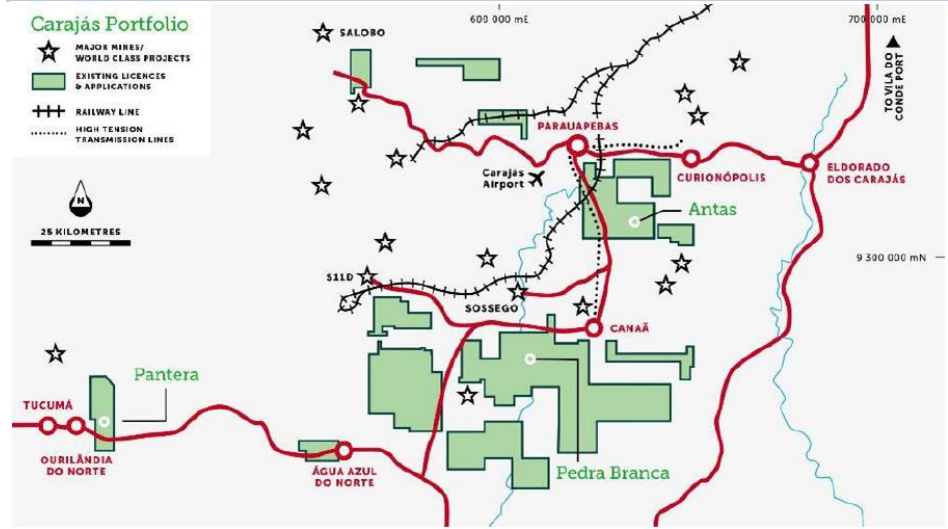
Source: Hartleys Estimates

**Fig. 2: Earnings Changes**

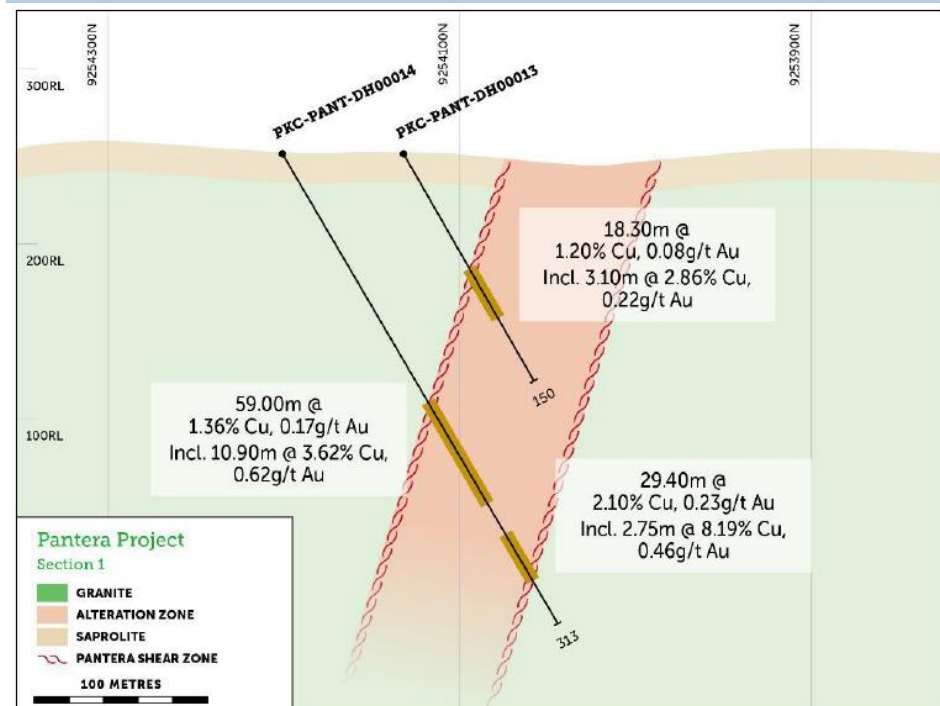
	Unit	31 Dec 16				31 Dec 17				31 Dec 18			
		Actual	Old	New	% diff	Old	New	% diff		Old	New	% diff	
Cu Production (payable)	kt	10.3	14.0	13.6	-2.8%	14.3	14.3	0.0%					
Au Production (payable)	koz	7.4	11.1	10.8	-3.0%	10.8	10.6	-1.2%					
Cash costs (C1)	A\$/lb Eq	2.07	2.18	2.29	5.2%	2.01	2.04	1.3%					
Total operating costs (AISC)	\$A/lb Eq	3.03	3.45	3.58	3.6%	3.50	3.58	2.4%					
<b>Net Revenue</b>	<b>A\$m</b>	<b>66.2</b>	<b>130.6</b>	<b>122.0</b>	<b>-6.6%</b>	<b>140.1</b>	<b>139.8</b>	<b>-0.2%</b>					
<b>Total Costs</b>	<b>A\$m</b>	<b>-55.6</b>	<b>-88.7</b>	<b>-90.1</b>	<b>1.6%</b>	<b>-86.8</b>	<b>-87.6</b>	<b>0.9%</b>					
EBITDA	A\$m	10.6	41.9	31.9	-23.9%	53.3	52.3	-1.9%					
- margin		16%	32%	26%	-18.6%	38%	37%	-1.7%					
Depreciation/Amort	A\$m	0.0	-20.2	-20.4	0.9%	-21.8	-23.4	7.5%					
<b>EBIT</b>	<b>A\$m</b>	<b>10.6</b>	<b>21.7</b>	<b>11.5</b>	<b>-47.1%</b>	<b>31.5</b>	<b>28.9</b>	<b>-8.4%</b>					
Net Interest	A\$m	-4.9	0.6	0.6	0.0%	-5.8	0.6	-109.7%					
<b>Norm. Pre-Tax Profit</b>	<b>A\$m</b>	<b>5.7</b>	<b>22.2</b>	<b>12.0</b>	<b>-46.0%</b>	<b>25.7</b>	<b>29.4</b>	<b>14.3%</b>					
Norm. Tax Expense	A\$m	-0.9	-3.6	-1.9	-46.0%	-4.1	-4.7	14.3%					
- rate		16.0%	16%	16.0%	0.0%	16.0%	16.0%	0.0%					
Reported Tax Expense	A\$m	0.0	0.0	0.0	n/a	0.0	0.0	n/a					
<b>Normalised NPAT</b>	<b>A\$m</b>	<b>4.8</b>	<b>18.7</b>	<b>10.1</b>	<b>-46.0%</b>	<b>21.6</b>	<b>24.7</b>	<b>14.3%</b>					
Abnormal Items	A\$m	0.9	3.6	1.9	-46.0%	4.1	4.7	14.3%					
Reported Profit	A\$m	5.7	22.2	12.0	-46.0%	25.7	29.4	14.3%					
Minority	A\$m	0	0	0	n/a	0	0	n/a					
<b>Profit Attrib</b>	<b>A\$m</b>	<b>5.7</b>	<b>22.2</b>	<b>12.0</b>	<b>-46.0%</b>	<b>25.7</b>	<b>29.4</b>	<b>14.3%</b>					
capex + exploration	A\$m	-4.2	-18.5	-18.9	2.4%	-68.4	-70.4	3.0%					
Net Debt	A\$m	-24.0	-53.2	-40.9	-23.0%	-90.8	-8.6	-90.5%					
Dividends Per Share	cps	-	-	-	n/a	-	-	n/a					

Source: Hartleys Estimates

*FY17 actuals will be released during this coming quarter and will be updated in our next note*

**Fig. 3: Location of the Pantera Copper Project**

Source: Avanco Resources

**Fig. 4: Cross Section from historic drilling at Pantera**

Source: Avanco Resources

Pantera is located  
~110km west of Pedra  
Branca

Vale has completed  
19 drill holes at  
Pantera



## ONGOING DRILLING SUCCESS

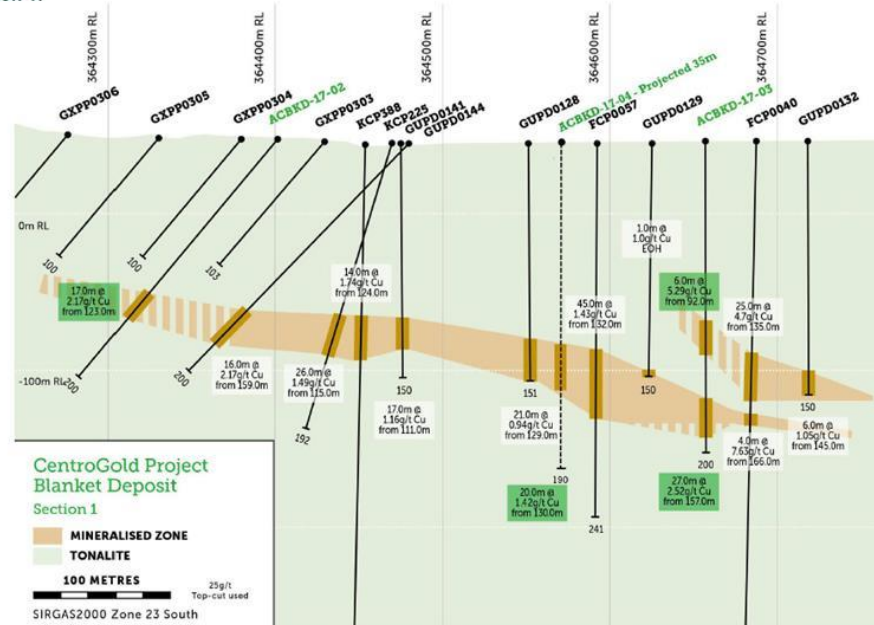
During the DecQ, AVB released the results of infill drilling at CentroGold and near-mine drilling at Antas.

At CentroGold, the results confirm continuity of grade at the Blanket Zone and include: **51m @ 4.3g/t Au** from 95m (incl. 12.3m @ 13.7g/t Au), **17m @ 2.2g/t Au** from 123m, **6m @ 5.3g/t Au** from 92m and **27m 2.5g/t Au** from 157m. Drilling is focussed on upgrading the resource classification at CentroGold ahead of the Scoping Study, which is due to be released in the MarQ CY18. Four drill rigs are on site and have since turned their attention to the adjacent Contact Zone with results due imminently.

*Drilling at CentroGold will aid the Scoping Study, which is due for release in the MarQ CY18.*

**Fig. 5: CentroGold Blanket deposit cross section9**

Section 1:



Source: Avanco Resources

*An updated Antas reserve and mine plan will be released in the MarQ CY18.*

Diamond drilling at the Azevedo prospect, 400m from the Antas pit returned: **18m @ 1.9% Cu & 0.4g/t Au** from 117m (incl. 2.2m @ 8.9% Cu & 1.9g/t Au), **19.1m @ 1.8% Cu & 0.3g/t Au** from 23m and **4.5m @ 1.5% Cu** from 47m. The encouraging results will be followed up by AVB's in-house DHEM team to gain further understanding of the prospect and to generate additional targets. One of the three recent holes failed to intersect mineralisation, which AVB puts down to the plunging nature of the orebody. These key observations will assist with future targeting. AVB is also undertaking a grade control program and intends to release an updated Antas reserve and optimised mine plan in the MarQ CY18.

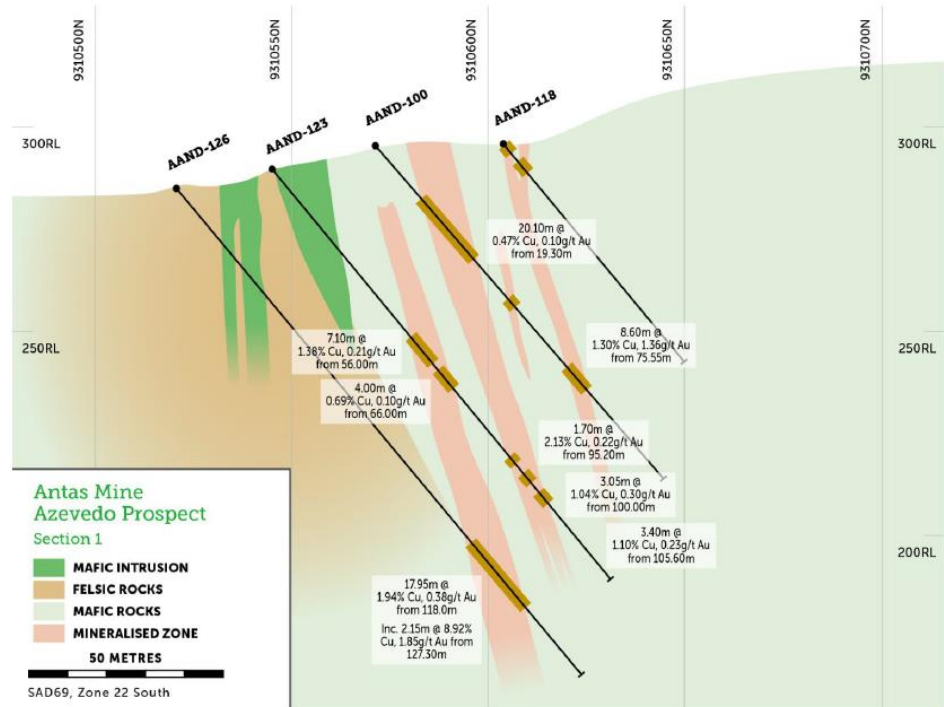
**Fig. 6:** Recent drill intercepts from near-mine drilling at Antas



Mineralisation at the Azevedo is open at depth and comprises a series of stacked lenses.

Source: Avanco Resources

**Fig. 7:** Cross Section from the Azevedo Prospect at Antas



Source: Avanco Resources

## PRICE TARGET

Our price target for AVB is \$0.18 and assumes Antas is at full plant capacity (0.7Mtpa) as at SepQ CY17, CentroGold gets permitted and commences in CY19, and that Pedra Branca gets approved and moves into production in 2020. Both copper projects combined will see AVB take steps towards becoming a mid-tier copper producer with a relatively large, long life copper mining business. The CentroGold asset offers very good gold exposure and sees AVB as somewhat diversified. Further discoveries, mine extensions and/or optimisation of Pedra Branca West will see AVB reach its 50ktpa Cu and 35kozpa Au target. Our price target includes weighting for the base case at consensus and spot prices, a weighting for the net cash backing and an upside scenario where an additional 5 years is added to the Antas mine life and Pedra Branca West is included in the mine plan.

12-month price target  
of \$0.18

**Fig. 8: AVB price target methodology**

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case	60%	\$0.16	\$0.19
NPV at spot commodity and fx prices	20%	\$0.19	\$0.21
Net cash backing	10%	\$0.01	\$0.01
NPV upside (5 yrs added to Antas + Pedra Branca West)	10%	\$0.19	\$0.23
<b>Risk weighted composite</b>		<b>\$0.15</b>	
<b>12 Months Price Target</b>		<b>\$0.18</b>	
Shareprice - Last		\$0.084	
<b>12 mth total return (% to 12mth target )</b>		<b>115%</b>	

Source: Hartleys Estimates

## RISKS

**Fig. 9: Key assumptions and risks for valuation**

Assumption	Risk of not realising assumption	Risk to valuation if assumption is incorrect	Comment
0.7Mtpa Antas, 1.2Mtpa Pedra Branca & 2Mtpa CentroGold	Moderate	Meaningful	AVB is highly leveraged to the success of the Antas Copper project. We model a 0.7Mtpa 'starter' project followed by a 1.2Mtpa project at Pedra Branca. Meanwhile, we model CentroGold commencing operations in CY19. If either project varies from our modelled scenarios our valuation will be at risk to the downside
Model parameters	Moderate	Meaningful	We have made a number of large assumptions in our valuation of AVB, changes in these assumptions can change our valuation to both the upside and downside.
Exploration potential	Moderate	Meaningful	We assume exploration upside at all projects and throughout the region. We believe this assumption is reasonable given the geological prospectively of the world class Carajás province.
Funding	Moderate	High	We model Pedra Branca to be funded with new conventional debt (70%) and equity (30%), and CentroGold to be funded with 60% debt and 40% equity. We believe this assumption is acceptable given the Antas 'starter' project is fully funded.

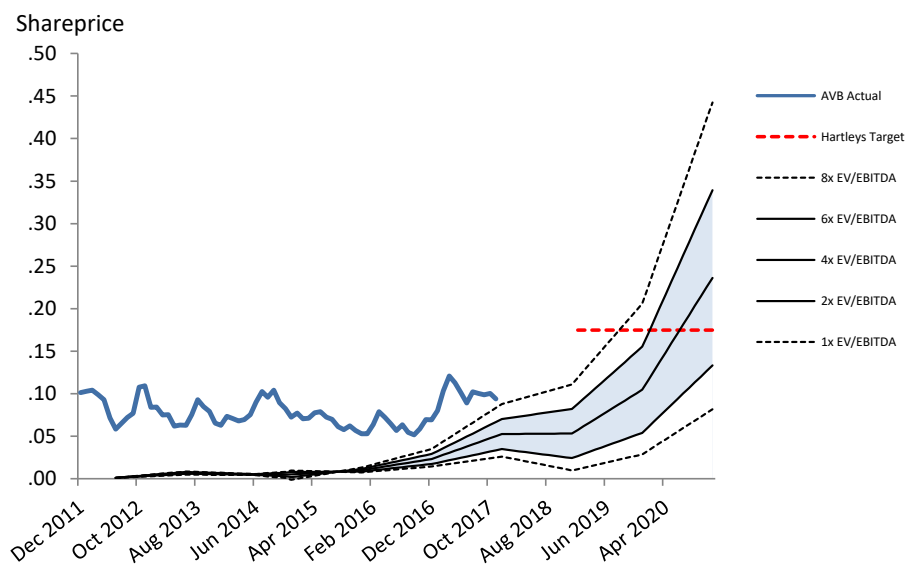
Conclusion

At this early stage we have made significant assumptions but believe these are achievable.

Source: Hartleys Research

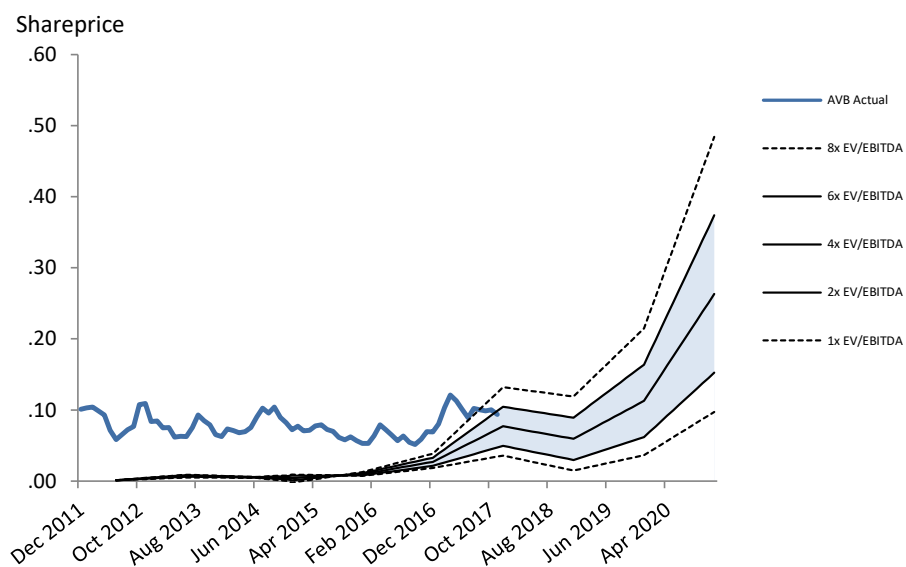
## EV/EBITDA BANDS

**Fig. 10:** Using Hartleys base case commodity forecasts



Source: Hartleys Estimates, IRESS

**Fig. 11:** Using spot commodity prices



Source: Hartleys Estimates, IRESS



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Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

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