\$0.10

\$0.16

\$0.18

2456 9m



### **AVANCO RESOURCES LIMITED (AVB)**

### Hartleys Site Visit

We recently attended an in-depth, 5 day site visit to AVB's three assets in Brazil. Although ASX listed, AVB is very much a Brazilian company with virtually all its executive team located in-country and speaking the language. It has a very good understanding of the social, mining and political landscape in Brazil and has a proven track record of getting projects into production.

### **Antas**

The Antas mine in the Carajás region, which has been operational for the past 18 months, boasts an impressively tidy and well laid out 700ktpa plant. Open pit operations appear to be running well with Australian contractor MACA undertaking the mining works, guided by a close knit AVB management team, consisting of both expat and Brazilian professionals. Antas remains open at depth, where opportunities are currently being tested to extend the reserve below the current pit design. The operation remains on target to meet annual guidance of 13.5-14.0kt Cu at cash cost US\$1.35-US\$1.50/lb.

### Pedra Branca

AVB released a PFS for the nearby Pedra Branca East deposit and is currently crunching the numbers to optimize, refine and deliver an updated study by year end. Pedra Branca East is larger than Antas and could yield 24kt Cu and 16koz Au per annum. It can be enhanced by the adjacent Pedra Branca West deposit, which is smaller and structurally complex. The challenge for AVB is that the deposit will be mined as an underground operation, an area not currently in AVB or MACA's remit.

### CentroGold

The CentroGold project, in the adjacent northern State of Maranhão has been acquired from TSX listed Jaguar Mining (JAG) who, like previous owners such as Kinross, were weighing up the economics of a large tonnage, low grade operation. AVB is seeking to extract the higher grade portions in a smaller scale open pit operation (~2Mtpa) and is applying its Brazilian knowhow to advance its social licence to operate. CentroGold currently has a 1.3Moz resource over the Blanket and Contact zones of the Cipoeiro deposit and a maiden Chega Tudo resource is expected to be released by the end of October 2017. We see opportunity for a multimillion ounce operation with the inclusion of the likes of the Chega Tudo, Mandiocal and Sequeiro prospects on the adjacent shear zone. At present, two drill rigs are on site undertaking infill and met drilling with a Scoping Study due out by December. We would like to see a third rig assess opportunities at the sparsely drilled prospects on the parallel shear zone to Cipoeiro, where we believe numerous opportunities lie. CentroGold is shaping up to be a very good asset for AVB. We suspect it has crept in front of Pedra Branca in terms of priority.

### Increased Price Target, Maintain Speculative Buy

AVB's strengths are its technical abilities and Brazilian knowhow, two key elements for future success at the projects we visited. We have updated our model and brought the timing forward on CentroGold as guided. Subsequently, we maintain our Speculative Buy recommendation with an increased price target of 18cps (from 16cps), NAV of 16cps (from 15cps) and spot NAV of 20cps. A positive resolution in the CentroGold licensing issue could see us move to a Buy recommendation.

## 17 Oct 2017 Share Price

**Brief Business Description:** 

Cu-Au developer and explorer

Price Target (12 month)

#### 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 & Non-Exec Director) Tony Polglase (Managing Director)

#### Top Shareholders

Appian 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

	2	2648.9m
	AS	\$240.8m
	AS	\$259.6m
	A	\\$33.5m
		A\$0.0m
	AS	\$207.3m
	A\$	0.15/oz
CY16a		0.15/oz <b>CY18e</b>
<b>CY16a</b> 10.3		
	CY17e	<b>CY18e</b> 14.3
10.3	<b>CY17e</b> 14.0	<b>CY18e</b> 14.3 46.8
10.3 16.1	14.0 44.4	CY18e 14.3 46.8
10.3 16.1 4.8	14.0 44.4 15.8	CY18e 14.3 46.8 22.2
		AS AS

Mt Cu (%) Au (g/t) Resources 33.2 1.95 0.49 Reserves (Total) 3.0 2.64 0.58



Paul How ard Resources Analyst Ph: +61 8 9268 3045

E: paul.how ard@hartleys.com.au

# **SUMMARY MODEL**

AVB						e Price \$0.098						Speculat	ive [
(ey Market Information Share Price						\$0.098	Directors Vernon Tidy (Interim Chairman & Non-Exec	Director)				n pany Info te 3, 257 Y	
Market Capitalisation - ordina	ry					A\$241m	Tony Polglase (Managing Director)	Bii ootoi j			Ou.	Subiaco,	
let Cash						A\$33m	Luis Ferraz (Non-Exec Director)					+61 8 9	
Narket Capitalisation - fully di	luted					A\$260m A\$293m	Paul Chapman (Non-Exec Director)					+61 8 9	200 1
V ssued Capital						2456.9m	Luis Azevedo (Executive Director) Simon Mottram (Executive Director)				www av	ancoresou	rces
Options						192.0	Cirror Wota arr (Exceditive Director)				www.av	ancorcsou	1003.
sued Capital (fully diluted in	c. all options	3)				2648.9m	Top Shareholders				ņ	shares	
ssued Capital (fully diluted in	<ul><li>c. all options</li></ul>	and new ca	apital)			3544.6m	Appian Natural Resources Fund					453.3	
/aluation						\$0.16	Greenstone Blackrock Group					409.9 317.4	
2month price target						\$0.16 <b>\$0.18</b>	Glencore					203.1	
zinonin prioo targot						<b>40110</b>	Reserves & Resources		Mt	Cu (%)	Au (g/t)	Cu (kt)	Au (l
%L	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	TOTAL RESERVES		3.0	2.64	0.58	80.4	
let Revenue	A\$m	66.2	125.2	140.0	231.5	441.9	TOTAL RESOURCES		33.2 5.5	1.95 2.4	0.49	645 133	
otal Costs BITDA	A\$m A\$m	<b>-55.6</b> 10.6	<b>-86.8</b> 38.4	<b>-86.0</b> 53.9	<b>-129.0</b> 102.5	<b>-236.2</b> 205.7	Antas North Measured		2.0	3.42	0.8	67	
· margin	Дфін	16%	31%	39%	44%	47%	Indicated		1.6	2.23	0.6	36	
Depreciation/Amort	A\$m	0.0	-20.2	-21.8	-29.2	-43.4	Inferred		1.9	1.59	0.2	30	
BIT	A\$m	10.6	18.2	32.1	73.3	162.3	Pedra Branca East		10.5	2.8	0.7	289	
let Interest	A\$m	-4.9	0.6	-5.7	-10.8	-8.3	Measured		2.0	2.7	0.7	53	
lorm. Pre-Tax Profit	A\$m	5.7	18.8	26.4	62.5	154.0	Indicated		5.7	2.8	0.7	161	
Reported Tax Expense	A\$m <b>A\$m</b>	0.0 <b>4.8</b>	0.0 <b>15.8</b>	0.0 <b>22.2</b>	-5.0 <b>52.5</b>	-24.6 <b>129.3</b>	Inferred Antas South		2.8 10.1	0.8	0.6	75 85	
bnormal Items	A\$m	0.9	3.0	4.2	5.0	0.0	Pedra Branca West		7.2	1.9	0.2	138	
Reported Profit	A\$m	5.7	18.8	26.4	57.5	129.3	CentrolGold Resource (Inferred)		20.2	-	2.0	-	1,
finority	A\$m	0	0	0	0	0	·		·				
rofit Attrib	A\$m	5.7	18.8	26.4	57.5	129.3	Production Summary - Antas North	Unit	Dec 16	Dec 17	Dec 18	Dec 19	De
N-1 01 1	116-24	D: . 40	D 47	D: : 40	D 40	D 00	Mill Throughput	Mt %	0.5 2.17	0.7 2.18	0.7 2.20	0.7 2.20	
Salance Sheet Sash	Unit A\$m	Dec 16 30.5	Dec 17 56.0	Dec 18 252.1	Dec 19 153.9	Dec 20 172.1	Mined grade Copper	% (kt)	10.3	14.0	14.3	14.3	
Other Current Assets	A\$m	22.4	10.3	11.5	19.0	36.3	Gold	(koz)	7.4	10.8	10.8	10.8	
otal Current Assets	A\$m	53.0	66.3	263.6	172.9	208.4	Copper Equiv	(kt)	11.6	15.6	15.8	16.0	
roperty, Plant & Equip.	A\$m	81.5	64.7	87.9	196.2	293.9	Mine Life	yr	9.25	8.25	7.25	6.25	
xploration	A\$m	28.3	43.8	67.3	79.3	91.3	Production Summary - Pedra Branca E		Dec 16	Dec 17	Dec 18	Dec 19	De
nvestments/other	A\$m	2.9	2.9	2.9	2.9	2.9	Mill Throughput	Mt	0.0	0.0	0.0	0.0	
ot Non-Curr. Assets	A\$m	112.7	111.5	158.1	278.4 451.3	388.1 596.6	Mined grade	% (kt)	0.0	0.0	0.0	0.0	
otal Assets	A\$m	165.7	177.7	421.6	451.3	596.6	Copper Gold	(koz)	0.0	0.0	0.0	0.0	
Short Term Borrow ings	A\$m	6.5	6.5	6.5	6.5	6.5	Copper Equiv	(kt)	0.0	0.0	0.0	0.0	
Other	A\$m	17.4	10.6	10.4	14.1	22.9	Mine Life	ỳr ′		11.50	10.75	9.75	
otal Curr. Liabilities	A\$m	23.8	17.1	16.9	20.6	29.4	Costs	Unit	Dec 16	Dec 17	Dec 18	Dec 19	De
ong Term Borrowings	A\$m			157.6	126.1	94.6	Cost per milled tonne	\$A/t Eq	118.4	102.1	100.3	93.3	
Other Total Non-Curr. Liabil.	A\$m <b>A\$m</b>	23.8 <b>23.8</b>	23.8 <b>23.8</b>	23.8 <b>181.5</b>	23.8 <b>149.9</b>	23.8 <b>118.4</b>	EBITDA / tonne milled ore C1: Operating Cash Cost = (a)	\$A/t Eq \$A/lb Eq	20.8 2.07	55.7 2.13	77.1 1.99	146.4 3.11	15
otal Liabilities	A\$III	47.7	40.9	198.3	170.5	147.8	C1. Operating Cash Cost = (a)	US\$/lb Eq	1.55	1.66	1.55	2.37	2
let Assets	A\$m	118.0	136.8	223.3	280.8	448.8	(a) + Royalty = (b)	\$A/lb Eq	2.37	2.45	2.34	3.59	3
let Debt	A\$m	-24.0	-49.5	-87.9	-21.3	-71.0	C2: (a) + depreciation & amortisation = (c)	\$A/lb Eq	2.07	3.42	3.37	4.94	4
							(a) + actual cash for development = (d)	\$A/lb Eq	2.44	3.12	3.47	3.86	3
ashflow	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	C3: (c) + Royalty	\$A/lb Eq	2.37	3.74	3.71	5.42	4
Operating Cashflow	A\$m	16.5	43.8	52.5	98.6	197.2	(d) + Royalty	\$A/lb Eq	2.74	3.45	3.82	4.34	
ncome Tax Paid nterest & Other	A\$m A\$m	0.0 -0.4	0.0 0.6	0.0 -5.7	-5.0 -10.8	-24.6 -8.3	Total operating costs (AISC)	\$A/lb Eq US\$/lb Eq	3.03 2.27	3.39 2.64	3.48 2.70	3.04 2.31	- :
perating Activities	A\$m	16.1	44.4	46.8	82.9	164.3	AISC (net of credits)	US\$/Ib	2.26	2.13	2.18	2.25	
poruting riotivitios	7.4	10.1		10.0	02.0	101.0	Price Assumptions	Unit	Dec 16	Dec 17	Dec 18	Dec 19	De
roperty, Plant & Equip.	A\$m	0.0	-3.4	-45.0	-137.5	-141.2	AUDUSD	A\$/US\$	0.75	0.78	0.78	0.76	0.7
xploration and Devel.	A\$m	-4.2	-15.5	-23.4	-12.0	-12.0	USDBRL	US\$/BRL	3.33	3.20	3.40	3.63	3.
Other nvestment Activities	A\$m	-26.3	0.0	0.0	0.0	0.0	Copper	US\$/lb	2.28	2.71 1263	3.00	2.75	2.7
ivestment Activities	A\$m	-30.6	-18.9	-68.4	-149.5	-153.2	Gold Hedging	US\$/oz	1255 Dec 16	Dec 17	1303 Dec 18	1313 Dec 19	De
et Borrowings	A\$m	0.0	0.0	157.6	-31.5	-31.5	Hedges maturing?		No.	No	Yes	No	N
quity or "tbc capital"	A\$m	0.0	0.0	60.1	0.0	38.6	Sensitivity Analysis						
lividends Paid	A\$m	0.0	0.0	0.0	0.0	0.0			Valuation		F	Y17 NPAT	
inancing Activities	A\$m	3.2	0.0	217.7	-31.5	7.1	Base Case		0.16			18.8	
let Cashflow	A\$m	-11.2	25.4	196.1	-98.2	18.3	Spot Prices Spot USD/AUD 0.79, Copper \$3.23/lb, Gold	\$1.206/oz	0.20 (20.9%	)	38	.6 (105.4%	)
iet Casillow	Афііі	-11.2	23.4	190.1	-90.2	10.3	AUDUSD +/10%		0.21 (-26.6%	/ 30 6%)	10 4 / 20	0 (-44 5% /	54.4
hares	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	Copper +/10%		0.12 (24.8% /				
Ordinary Shares - End	m	2457	2457	2458	2458	2458	Production +/10%	0.16	/ 0.16 (0.0% /	0.0%)	18.8 / 18	8.8 (0.0% /	0.0%
Ordinary Shares - Weighted	m	2461	2457	2457	2458	2458	Operating Costs +/10%	0.13 /	0.19 (-18.1%				
iluted Shares - Weighted	m	2461	2457	2457	2458	2458	Share Price Valuation (NAV)	-1( 100()		Risked E	st. A\$m	Est.	A\$/s
atio Analysis	Unit	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	100% Pedra Branca (pre-tax NAV at disc. 100% Antas (pre-tax NAV at disc. rate of 8				127 233		
ashflow Per Share	A\$ cps	0.7	1.8	1.9	3.4	6.7	100% Antas (pre-tax NAV at disc. rate of a				197		
ashflow Multiple	Х	15.0	5.4	5.2	2.9	0.0	Other Exploration	- 3 //0/			90		
arnings Per Share	A\$ cps	0.2	0.8	1.1	2.3	5.3	Forw ards				0		
rice to Earnings Ratio	X	42.4	12.8	9.1	4.2	0.0	Corporate Overheads				-17		
lividends Per Share	AUD	0.0	0.0	0.0	0.0	0.0	Net Cash (Debt)				33		
ividend Yield	%	0.0%	0.0%	0.0%	0.0%	0.0%	Tax (NPV future liability)				-102		
et Debt / Net Debt + Equity terest Cover	% X	-26% 2.2	-57% na	-65% 5.6	-8% 6.8	-19% 19.6	Options & Other Equity Hedging				17 -2		
eturn on Equity	%	4%	12%	10%	19%	29%	Total				577.2		
L I B III I													
nalyst: Paul Howard 31 8 9268 3045													

Page 2 of 10

### **VALUATION**

We have updated our model and brought the timing forward on CentroGold to 2H19 as guided in the recent acquisition announcement. Our sum of parts valuation for AVB also assumes Antas is now at full plant capacity (0.7Mtpa) and Pedra Branca moves into production in early-CY20. We model Antas out to mid-CY25 (8.75yrs remaining) and assume additional resource tonnes convert, and are included in the mining inventory. We model a staged 9.5 years at Pedra Branca, and see potential upside at both projects. We have modelled CentroGold as a 8 year, 2Mtpa operation, which adds 6cps to AVB's NAV. CentroGold is somewhat risked as licensing issues currently remain unresolved but a clear pathway to resolution is apparent and will be a catalyst for an upgrade to a Buy recommendation. We model a nominal \$90m (\$0.03/share) for exploration upside and will revisit this valuation pending the results on the ongoing exploration efforts close to Antas and CentroGold. 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 2027 & Pedra Branca to 2029

> Hartleys Sum of Parts Valuation for AVB Fig. 1: Share Price Valuation (NAV) Risked Est. A\$m Est. A\$/share 100% Pedra Branca (pre-tax NAV at disc. rate of 12%) 0.04 100% Antas (pre-tax NAV at disc. rate of 8%) 233 0.07 100% CentroGold (pre-tax NAV at disc. rate of 14%) 197 0.06 0.03 Other Exploration 90 Forw ards 0 0.00 Corporate Overheads -17 0.00 Net Cash (Debt) 33 0.01 Tax (NPV future liability) -102 -0.03 Options & Other Equity 17 0.00 Hedging 0.00 577.2 0.16 Total

Hartleys sum of parts valuation for AVB is A\$0.16/share

Source: Hartleys Estimates

Fig. 2: Earnings Changes								
	Unit	31 Dec 16	3	1 Dec 17		3	1 Dec 18	
		Actual	Old	New	% diff	Old	New	% diff
Cu Production	kt	10.3	14.0	14.0	0.0%	14.3	14.3	0.0%
Au Production	koz	7.4	10.8	10.8	0.0%	10.8	10.8	0.0%
Cash costs (C1)	A\$/lb Eq	2.07	2.18	2.13	-2.5%	2.05	1.99	-2.7%
Total operating costs (AISC)	\$A/lb Eq	3.03	3.48	3.39	-2.5%	3.58	3.48	-2.7%
Net Revenue	A\$m	66.2	128.7	125.2	-2.7%	144.6	140.0	-3.2%
Total Costs	A\$m	-55.6	-89.1	-86.8	-2.5%	-88.6	-86.0	-2.9%
EBITDA	A\$m	10.6	39.7	38.4	-3.2%	56.0	53.9	-3.7%
- margin		16%	31%	31%	-0.5%	39%	39%	-0.5%
Depreciation/Amort	A\$m	0.0	-20.2	-20.2	-0.2%	-23.9	-21.8	-8.6%
EBIT	A\$m	10.6	19.5	18.2	-6.4%	32.2	32.1	-0.1%
Net Interest	A\$m	-4.9	0.6	0.6	0.0%	-5.7	-5.7	0.1%
Norm. Pre-Tax Profit	A\$m	5.7	20.0	18.8	-6.2%	26.4	26.4	-0.1%
Norm. Tax Expense	A\$m	-0.9	-3.2	-3.0	-6.2%	-4.2	-4.2	-0.1%
- 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
Normalised NPAT	A\$m	4.8	16.8	15.8	-6.2%	22.2	22.2	-0.1%
Abnormal Items	A\$m	0.9	3.2	3.0	-6.2%	4.2	4.2	-0.1%
Reported Profit	A\$m	5.7	20.0	18.8	-6.2%	26.4	26.4	-0.1%
Minority	A\$m	0	0	0	n/a	0	0	n/a
Profit Attrib	A\$m	5.7	20.0	18.8	-6.2%	26.4	26.4	-0.1%
capex + exploration	A\$m	-4.2	-19.4	-18.9	-2.6%	-30.2	-68.4	126.8%
Net Debt	A\$m	-24.0	-50.2	-49.5	-1.3%	-129.0	-87.9	-31.8%
Dividends Per Share	cps	-	-	-	n/a	-	-	n/a

Source: Hartleys Estimates

### ACCELERATING CENTROGOLD

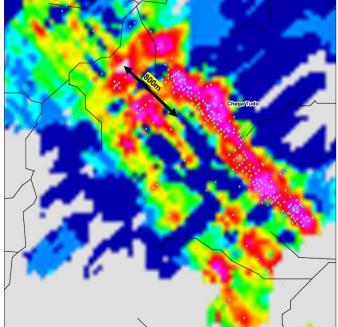
AVB recently announced that it is accelerating its 100% acquisition of the CentroGold Project. The Company will pay US\$9M for the Project (US\$2M on signing, US\$2M within 60 days, and an additional US\$5M in 10 monthly payments of US\$500K, following completion of permitting). A Scoping Study will be finalised by end of 2017 with a DFS targeting completion in 1H18. AVB believes there is potential for 100Kozpa Au from operations commencing in 2H19. The project is subject to licensing issues, which AVB is working to resolve through engagement with the local community and government.

In the late 70's and early 80's, parcels of land surrounding what is now CentroGold, were leased by INCRA (The Brazilian National Institute for Colonisation and Agrarian Reform) to the local people under the condition that they would farm the land. The parcels of land have subsequently been on-sold over the years, but were not actually the holder's assets to sell. Issues now exist with licensing of the CentroGold Project as AVB has to compensate the original recipients of the land parcels, and not the current holders who have essentially acquired the land illegally. AVB is actively engaging with the 80 households located within the project area, and will seek to relocate and offer employment opportunities even though all but 3 houses are illegally situated. It also has to deal with numerous Garimpeiros (artisanal miners), but will offer alternative locations for them to exploit the saprolite. Given the tough work conditions, one can expect many Garimpos to seek more stable employment with AVB, which will also be tabled.

CentroGold currently has a 1.3Moz resource over the Blanket and Contact zones of the Cipoeiro deposit. We see opportunity for a multimillion ounce operation with the inclusion of the likes of the Chega Tudo, Mandiocal and Sequeiro prospects on the adjacent shear zone. Two drill rigs are on site undertaking infill and met drilling to augment a Scoping Study for Cipoeiro, due out by the end of the year. We would like to see a third rig assess opportunities at the sparsely drilled prospects

on the parallel shear zone, where we believe numerous opportunities lie.

Fig. 3: Large soil anomaly over Chega Tudo at CentroGold

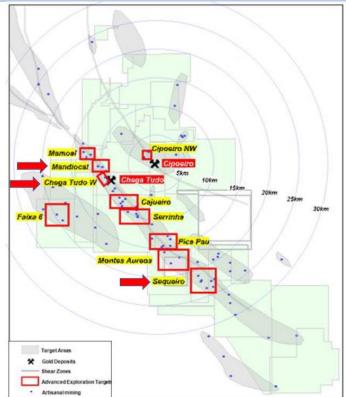


Source: Avanco Resources

AVB is actively engaging with the local community and government to work through licensing issues, which may delay CentroGold's development.

A maiden resource is due to be released for Chega Tudo before the end of October 2017.

Fig. 4: Numerous potential targets at CentroGold



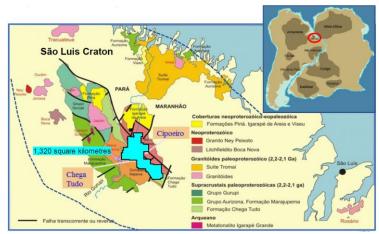
At CentroGold, we see opportunity for a multimillion ounce operation with the inclusion of the likes of the Chega Tudo, Mandiocal and Sequeiro prospects on the adjacent shear zone to Cipoeiro

Source: Avanco Resources

Fig. 5: CentrolGold is within the Sao Luis Craton



CentrolGold lies within the Sao Luis Craton, a fragment of the wellendowed Birimian terrane of the West African Craton.



Source: Avanco Resources

The box cut at Pedra Branca

### PEDRA BRANCA

Fig. 6:

The Pedra Branca East boxcut has already been established to show the Company's intent in developing the underground. Full scale mining will not commence until early 2019 at best as the mine still requires full approval. AVB is currently optimising the Pedra Branca PFS, and hopes to release an update by the end of the year.

The Pedra Branca
East box cut has been
established ahead of
schedule, while AVB
crunch the numbers to
optimise the PFS.

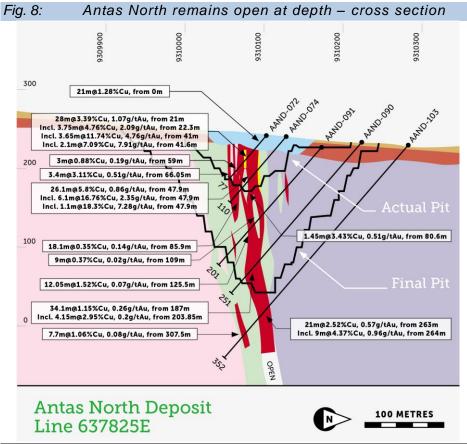
Source: Hartleys Site Visit



state, 18 months after first production.

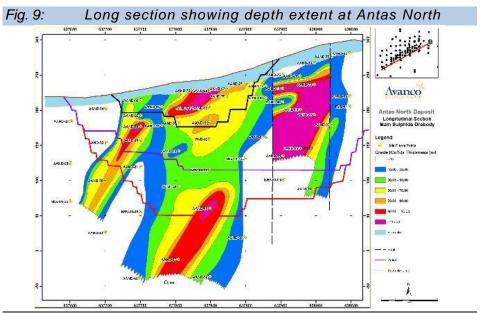
Antas is now operating at steady

Source: Hartleys Site Visit



A 5,000m infill and extensional drilling program aims to upgrade resource and reserves at Antas. 1Mt of additional reserve is being targeted and is expected to be released by the end of CY17.

Source: Avanco Resources



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, and that Pedra Branca gets approved and moves into production in 2020. Both projects combined will see AVB take steps towards becoming a mid-tier copper producer with a relatively large, long life copper mining business. Further discoveries, mine extensions and/or optimisation of Pedra Branca West will see AVB reach its 50ktpa Cu and 35kozpa Au target. We also include CentroGold and assume production commences in the latter part of CY19 but this is risked on account of the existing licensing issues. 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. 10: 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%	\$0.20	\$0.22
Net cash backing	10%	\$0.01	\$0.01
NPV upside (5 yrs added to Antas + Pedra Branca West)	10%	\$0.19	\$0.22
Risk weighted composite		\$0.16	
12 Months Price Target		\$0.18	
Shareprice - Last		\$0.098	
12 mth total return (% to 12mth target )		86%	

Source: Hartleys Estimates

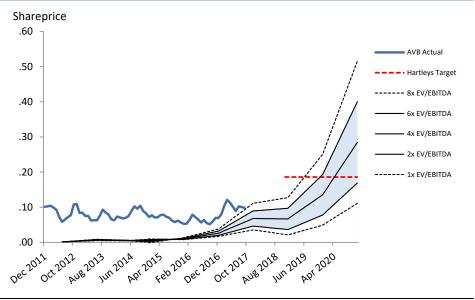
### **RISKS**

	mptions and risks		
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 w	ve have made significa	nnt assumptions but believe these are achievable.

Source: Hartleys Research

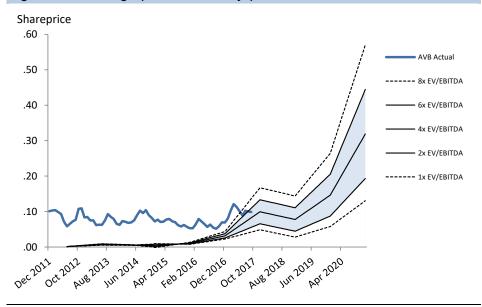
### **EV/EBITDA BANDS**

Fig. 12: Using Hartleys base case commodity forecasts



Source: Hartleys Estimates, IRESS

Fig. 13: Using spot commodity prices



Source: Hartleys Estimates, IRESS

## HARTLEYS CORPORATE DIRECTORY

### Research

Trent Barnett	Head of Research	+61 8 9268 3052
Mike Millikan	Resources Analyst	+61 8 9268 2805
John Macdonald	Resources Analyst	+61 8 9268 3020
Paul Howard	Resources Analyst	+61 8 9268 3045
Aiden Bradley	Research Analyst	+61 8 9268 2876
Michael Scantlebury	Junior Analyst	+61 8 9268 2837
Janine Bell	Research Assistant	+61 8 9268 2831

### **Corporate Finance**

Dale Bryan	Director & Head of	+61 8 9268 2829
	Corp Fin.	
Richard Simpson	Director	+61 8 9268 2824
Ben Crossing	Director	+61 8 9268 3047
Ben Wale	Associate Director	+61 8 9268 3055
Stephen Kite	Associate Director	+61 8 9268 3050
Scott Weir	Associate Director	+61 8 9268 2821
Scott Stephens	Associate Director	+61 8 9268 2819
Rhys Simpson	Manager	+61 8 9268 2851

### **Registered Office**

### Level 6, 141 St Georges TcePostal Address:

PerthWA 6000 **GPO Box 2777** Australia Perth WA 6001 PH:+61 8 9268 2888 FX: +61 8 9268 2800 www.hartleys.com.au info@hartleys.com.au Note: personal email addresses of company employees are

structured in the following

manner:firstname.lastname@hartleys.com.au

### **Hartleys Recommendation Categories**

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 / It is anticipated to be unlikely that there will be gains over Take profits 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 Share price could be volatile. While it is anticipated that, Buy 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.

### **Institutional Sales**

Carrick Ryan	+61 8 9268 2864
Justin Stewart	+61 8 9268 3062
Simon van den Berg	+61 8 9268 2867
Chris Chong	+61 8 9268 2817
Digby Gilmour	+61 8 9268 2814
Tia Hall	+61 8 9268 3053

Wealth Management	
Nicola Bond	+61 8 9268 2840
Bradley Booth	+61 8 9268 2873
Adrian Brant	+61 8 9268 3065
Nathan Bray	+61 8 9268 2874
Sven Burrell	+61 8 9268 2847
Simon Casey	+61 8 9268 2875
Tony Chien	+61 8 9268 2850
Tim Cottee	+61 8 9268 3064
David Cross	+61 8 9268 2860
Nicholas Draper	+61 8 9268 2883
John Featherby	+61 8 9268 2811
Ben Fleay	+61 8 9268 2844
James Gatti	+61 8 9268 3025
John Goodlad	+61 8 9268 2890
Andrew Gribble	+61 8 9268 2842
David Hainsworth	+61 8 9268 3040
Rebecca Hardy	+61 8 9268 2841
Neil Inglis	+61 8 9268 2894
Murray Jacob	+61 8 9268 2892
Gavin Lehmann	+61 8 9268 2895
Shane Lehmann	+61 8 9268 2897
Steven Loxley	+61 8 9268 2857
Andrew Macnaughtan	+61 8 9268 2898
Scott Metcalf	+61 8 9268 2807
David Michael	+61 8 9268 2835
Jamie Moullin	+61 8 9268 2856
Chris Munro	+61 8 9268 2858
Michael Munro	+61 8 9268 2820
lan Parker	+61 8 9268 2810
Matthew Parker	+61 8 9268 2826
Charlie Ransom	+61 8 9268 2868
Mark Sandford	+61 8 9268 3066
David Smyth	+61 8 9268 2839
Greg Soudure	+61 8 9268 2834
Sonya Soudure	+61 8 9268 2865
Dirk Vanderstruyf	+61 8 9268 2855
Samuel Williams	+61 8 9268 3041
Jayme Walsh	+61 8 9268 2828

### Disclaimer/Disclosure

The author of this publication, Hartleys Limited ABN 33 104 195 057 ("Hartleys"), its Directors and their Associates from time to time may hold shares in the security/securities mentioned in this Research document and therefore may benefit from any increase in the price of those securities. Hartleys and its Advisers may earn brokerage, fees, commissions, other benefits or advantages as a result of a transaction arising from any advice mentioned in publications to clients.

Any financial product advice contained in this document is unsolicited general information only. Do not act on this advice without first consulting your investment adviser to determine whether the advice is appropriate for your investment objectives, financial situation and particular needs. Hartleys believes that any information or advice (including any financial product advice) contained in this document is accurate when issued. Hartleys however, does not warrant its accuracy or reliability. Hartleys, its officers, agents and employees exclude all liability whatsoever, in negligence or otherwise, for any loss or damage relating to this document to the full extent permitted by law.

The analyst travelled to site at the expense of AVB, with all associated costs being covered by AVB.