

18 July 2017

Avanco Resources Ltd (AVB) BUY Share Price: A\$0.10
Brazil site visit – the beginning of Chapter 2 Target Price: A\$0.16

AVB is in a fantastic position. It is a well-managed, consistent and reliable performer with a strong balance sheet; it has a very well run & cash generative copper operation at Antas, two robust growth projects, very prospective exploration tenure and a unique opportunity to leverage off its success to expand its portfolio in a world class mineral province. After the success at Antas, we see AVB at the start of a new chapter which is likely to deliver significant & low-cost growth through exploration & cheap acquisitions. Whilst we retain our current conservative outlook for Antas, Pedra Branca & CentroGold, AVB could be a significantly different company in 6-12 months' time. With a bullish copper view and potential to grow the business, we see this as a unique opportunity for investors & maintain the BUY. Price target unchanged at A\$0.16/sh (1xP/NPV).

Antas is the foundation upon which AVB can grow

- Simple open pit & flotation operation; CY17 guidance of 13.5-14kt Cu & 9.75-10.5koz Au looks conservative
- Exploration currently aimed at growing the mineral inventory to justify a longer mine life and/or lifting annual copper output; various options are possible
- Resource, reserve & revised LOM plan in 2H CY17
- Multiple satellite opportunities could support a much larger operation at Antas

Opportunities to optimise Pedra Branca East (PBE)

- PBE is a straight-forward underground Cu-Au pre-development project with robust economics, although the timeline to first production is comparatively long
- Drilling currently aiming to extend the orebody to the east which could improve mine design & economics
- Opportunities to fast-track production being evaluated

Progress being made at CentroGold

- Work to establish title, ownership, access and permitting constraints is making positive progress

Opportunity to leverage off success in Brazil

- Second largest land holder in Carajás; multiple organic and inorganic growth opportunities being evaluated

Price target A\$0.16/sh (1xP/NPV), unchanged

- Although we believe both Antas in-mine and near-mine opportunities will ultimately deliver increased copper production for AVB, we retain current forecasts
- NPV includes Antas & Pedra Branca only, A\$40m (1c/sh) nominal exploration value including CentroGold

Company Data

Shares – ordinary (M)	2,457
Market capitalisation (\$M)	\$245.7m
12 month low/high (\$)	\$0.048 / \$0.135
Average monthly turnover (\$M)	\$6m
GICS Industry	Materials / Metals & Mining

Financial Summary (fully diluted/normalised)

Year end June	2016A	2017F	2018F	2019F	2020F
Revenue (\$M)	59	97	93	98	213
Costs (\$M)	44	77	68	64	125
EBITDA (\$M)	16	20	25	34	88
NPAT (\$M)	-3	3	7	12	45
EPS (¢ps)	0	0	0.3	0.4	1.6
PER (x)	na	70	31	19	5
Cashflow (\$M)	12	26	27	33	80
CFPS (¢ps)	0.4	1.0	1.0	1.2	2.9
PCFPS (x)	18	8	8	7	3
Enterprise Value (\$M)	171	159	122	166	195
EV / EBITDA (x)	11	8	5	5	2
Dividends (¢ps)	0	0	0	0	0
Yield (%)	0	0	0	0	0

AVB – performance over one year (A¢/sh)



Disclosure and Disclaimer

This report must be read with the disclosure and disclaimer on the final page of this document.

Brett McKay
+61 2 9239 9605

Site visit to Antas & Pedra Branca

We recently visited AVB's Antas copper-gold operation and the nearby Pedra Branca (PB) copper-gold pre-development project in Brazil. Both these projects significantly benefit from a strong in-country management team which is at the core of AVB's success in Brazil. Following the commendable achievements at Antas, this management team is now in a position to leverage off this success and is striving to grow the business.

We identify five key areas of opportunity in the near term:

1. **Antas mine life extension** – identifying additional ore for processing at Antas is a high priority. Aggressive exploration is now underway which is aiming to both grow the Antas deposit, as well as evaluate nearby satellite opportunities to ensure the operation retains a minimum mine life around 6-7 years. Depending on results from current drilling, this will be addressed with an updated resource/reserve & revised LOM plan in 2H CY17.
2. **Antas expansion (Stage 1)** – following the successful increase in copper output from the original target of 12ktpa to 14ktpa in 2017, we see potential to further lift copper production to 16ktpa from CY18 onward. With sufficient installed processing capacity, this will likely come from deeper drilling success outlining the potential to deepen the existing open pit, as well as investigating the merits of an underground operation.
3. **Antas expansion (Stage 2)** – potential expansion of the processing plant to process ore from a satellite deposit/s within trucking distance of Antas. The Antas operation has retained the flexibility to accommodate a number of expansion options.
4. **Potential to build the portfolio of copper projects in the Carajás** – this initiative is assisted by the established footprint and success in Brazil, as well as the lack of competition in this world-class mineral province.
5. **Prioritisation, optimisation and delivery of existing projects in the portfolio** – AVB is now in the process of building its portfolio of assets to provide multiple options to grow both organically and potentially inorganically. Once this process is advanced over the coming months, assets will be prioritised based on quality and potential to add near-term value. Existing projects such as Pedra Branca and CentroGold are likely to be just two of the many options, in our view.

We believe it's likely to be a combination of these factors which will deliver multiple opportunities for AVB to grow and add significant value over the coming 12-18 months. However, outside of M&A, we believe leveraging off the success at Antas provides the most compelling growth opportunity in the near-term; the advancement of access and permitting at CentroGold should also be well received and allow the market to start attributing some value to this quality gold asset.

Antas is where it's at, for now...

The Antas operation is simple and very well run. It is favourably located close to the mining town of Parauapebas (c.200k people) and leverages off Vale's extensive presence in the Carajás region as operators of large iron ore and copper assets. The Carajás is serviced by a regional airport, quality sealed roads, grid power and abundant mining services (eg. drilling contractors, plant hire, assay laboratories, explosive contractors etc). AVB has a strong local presence and reputation in the area. Of the c.300 employees at the Antas mine site, all live locally, around 75% are from Pará State, with only four expatriates (including the mining contractor).

Whilst currently producing a modest amount of copper, Antas has the potential to be a larger operation, given the right opportunity. AVB is currently focused on evaluating a number of options to deliver low-cost production and mine life growth at Antas. For the first time since 2012, AVB is reinvigorated exploration, with a two-pronged campaign aimed at (i) growing the Antas orebody and (ii) defining near-mine satellite deposits within existing tenure. Further, acquisition opportunities within trucking distance of Antas are being evaluated.

Open pit performing well

Open pit mining is performing well after making small but progressive improvements since starting up around 18 months ago. There have been no significant issues with the mining contractor (MACA) or productivity concerns relating to personnel or operating conditions. Depth of weathering is shallow, with mining occurring exclusively in fresh, hard rock. Wet season impacts are therefore minimal.

Mining continues to source ore from the Stage Two mining area, whilst stripping of Stage Three is ongoing (Figure 1). Stage Two is 50% complete, Stage Three is 20% complete, whilst mining in Stage One has finished. Final open pit dimensions are 650m long, 350m wide and 250m deep, with the mine life based on current reserve to CY21.

The 11:1 strip ratio for 2017 is above the 6.4:1 LOM average, however given AVB expense all mining costs, this is factored into CY17 cost guidance of US\$1.35-1.50/lb Cu.

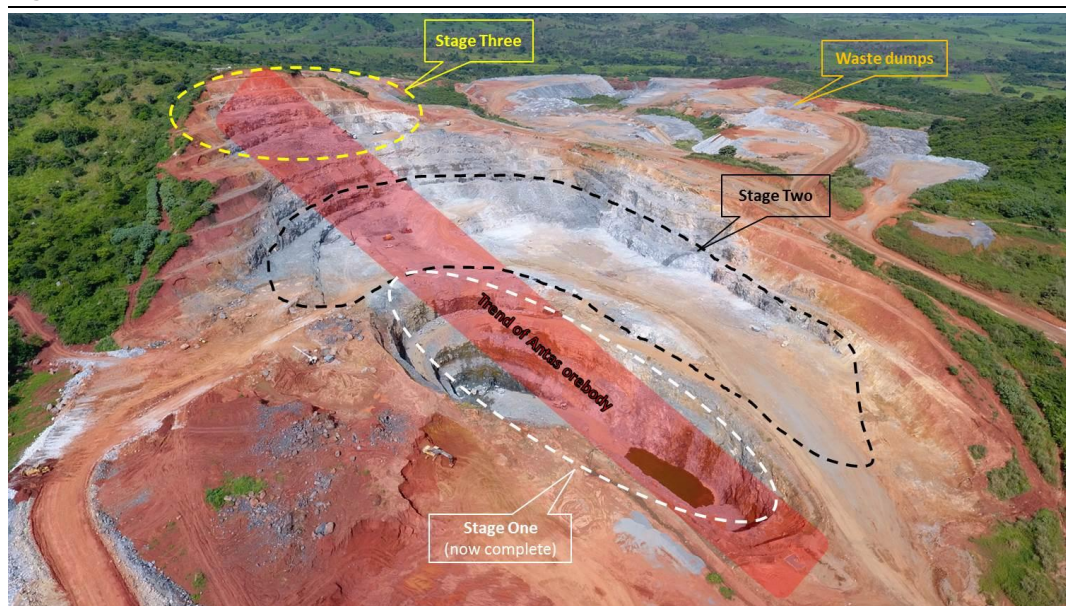
The open pit was initially designed to deliver 500ktpa of ore, driven by the original LOM plan which targeted 12ktpa Cu for 7 years. However, this increased to c.650kt to deliver CY17 guidance of 14kt Cu. A small fleet of 20t rigid-body trucks has been sourced from a local contractor to assist with these additional material movements, specifically waste mining in Stage Three. The standard fleet of six 40 tonne articulated trucks remain active in the Stage Two pit (Figure 2).

Although the reserve at Antas has been conservatively calculated at a 0.65% Cu cut-off, the economic cut-off is actually 0.37% Cu based on the known cost of the operation. Mineralised waste is stockpiled down to a 0.3% Cu cut-off and is often used to blend down the high grade zones, ensuring a stable head grade into the processing plant.

Copper reconciliations have been very good to date, although gold is consistently reporting 40% above reserves. With 12-15 months of operating data now in-hand, AVB aim to incorporate some of this gold outperformance into the updated resource model as part of the revised LOM plan due in SepQ 17. Gold accounts for c.13% of annual revenues, although is subjected to the 25% Blackrock gross royalty.

Open pit walls are stable, with the fresh, competent rocks allowing for 80° wall angles, with 10m bench heights. Work areas are clear and clean, with no lost time injuries yet reported.

Figure 1: Aerial view of the Antas pit



Source: Company reports, Petra Capital

Figure 2: Active mining in Stage Two & cutting back on Stage Three at Antas



Source: Petra Capital

Processing plant is simple but effective

The chalcopyrite-dominated metallurgy at Antas allows for simple processing and production of a 27-28% Cu concentrate which is very clean and therefore highly sort after for blending, particularly with arsenic-rich concentrates out of Chile; AVB receive very favourable sales terms from its current customer. Concentrate is shipped in sealed shipping containers direct from site, each with a payload of 27 tonnes.

The plant design was well considered and the use of second-hand components and an in-house implementation team resulted in a low cost build and rapid ramp-up. From the start of earthworks to first concentrate production was just 9 months, with the plant achieving steady state throughput within one week of being switched on.

Whilst the process plant is relatively low-tech, the design allows for ease of use and requires just 12 operators across all the active work areas, including the power plant and concentrate shed. Plant performance is impressive, with recoveries typically at 97-98% for copper and 84-86% for gold. A project designed primarily to improve gold recovery up to c.90% is soon to begin. This will involve the installation of a series of cameras and associated monitoring software to further optimise flotation conditions in the rougher cell where the majority of the gold recovery occurs. The budget for this project is around US\$20,000.

Grind size is currently p80 106µm, although the ball mill is now operating in open circuit allowing for scats rejection. This has been a significant change and further reduced the ball mill load and re-line requirements. Scats are assaying <0.1% Cu and are therefore not being reintroduced to the plant, instead being used as a valuable source of benign aggregate for sheeting of roadways. This successful scat rejection results from the sharp contact and clean break achieved between chalcopyrite and host rocks.

Another innovative addition to the Antas plant is a slurry storage tank positioned between the ball mill and the flotation plant (Figure 4). This contains eight hours of plant feed which, along with a 500 KVA back-up generator, allows the back-end of the processing plant to continue operations in the event of a (infrequent) power outage. This tank also helps provide a consistent flow of feed to the plant, in addition to homogenising grade. The site sources its 2.5MW of power from the grid.

The tailings storage facility (TSF) is a typical valley-fill structure with the main containment wall 'keyed-in' to bedrock on each side of the valley (Figures 5 & 6). There is sufficient capacity for the remaining reserve at Antas, with another three lifts until final wall height is achieved; the next lift is due around August 2017. Additional storage capacity is likely to be needed in the event Antas is materially expanded beyond the current reserve; a neighbouring valley has been identified as potentially suitable for a second TSF, however this needs further work and permitting. The Antas TSF has passed all inspections, including detailed third party review following the Samarco incident in 2015. TSF licensing in Brazil is now separate to mine permitting.

Due to the low sulphide content in the Antas ore and the presence of carbonate, there is no potentially acid forming waste in the waste dumps and the TSF is completely inert. Process water is primarily sourced from the TSF.

The processing plant and associated infrastructure was designed with 800ktpa of nominal installed capacity. However, in order to deliver the original target of 12ktpa of Cu, only around 500ktpa of throughput was required. With a view to lifting this target beyond 12ktpa Cu, AVB tested throughput in DecQ 2016 when c.690ktpa of annual capacity was achieved without any problems (97% Cu recovery maintained). Work has now started on a revised open pit design which will allow the mine to deliver ore at the higher rate; this will be incorporated into a new LOM plan which will also factor in the depth extension of Antas into a larger open pit and potentially new underground operation.

Figure 3: ROM pad, crushers & coarse ore stockpile



Source: Petra Capital

Figure 4: Ball mill and slurry storage tank



Source: Petra Capital

Figure 5: Processing plant and TSF



Source: Company reports

Figure 6: TSF, site offices & surrounding farmland



Source: Petra Capital

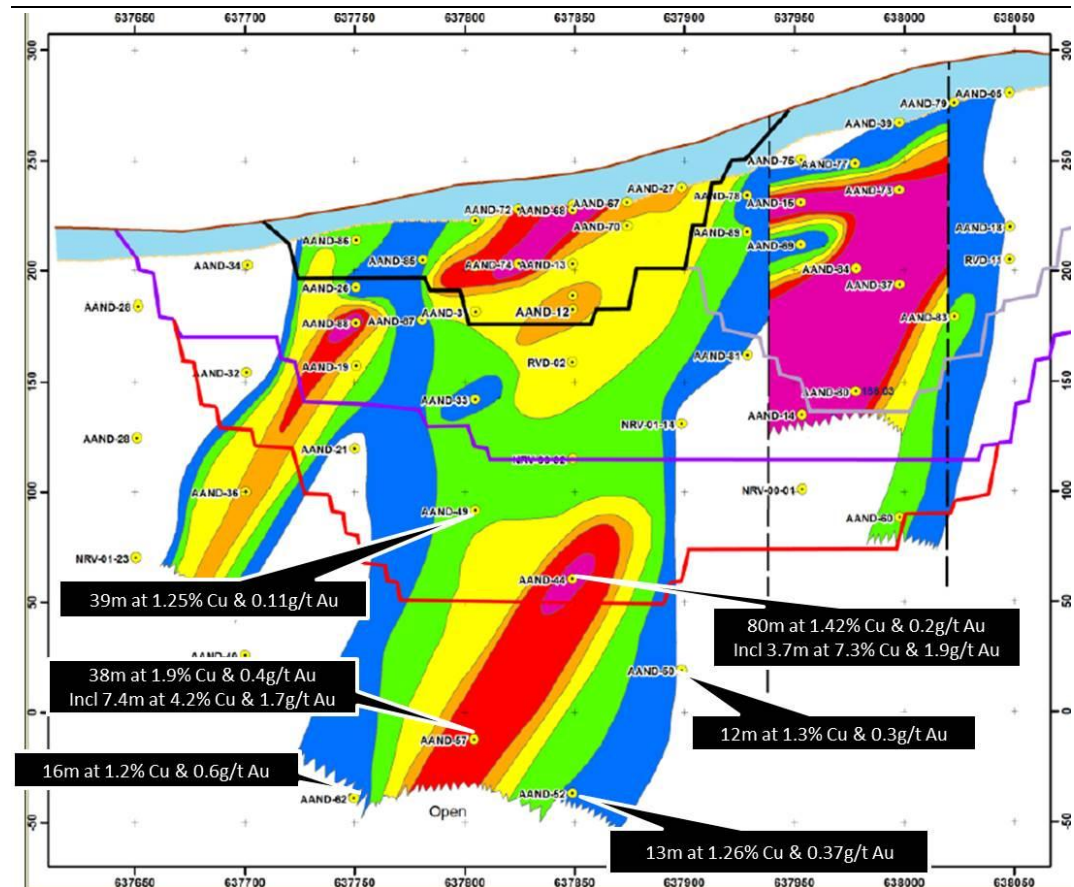
Building out the Antas opportunity

The original Antas LOM plan was back calculated to deliver a predetermined outcome suited to the Antas orebody and market conditions at the time; this being 12ktpa Cu for 7 years. Consequently, the bare minimum was spent when implementing this plan, including the reserve drill-out and the cost-conscious approach to building the plant. With stable operations now achieved for the last 12 months and positive cash flow, AVB is now in a position to optimise the entire Antas operation. This is the first time since 2012 that opportunities outside of this predetermined mine plan have been investigated. Given the sunk capital and operating footprint now established at Antas, any new discovery doesn't need to be particularly high grade to warrant development.

The first and most important aspect of Antas requiring attention is the extension of mine life at a production rate somewhere between 14-16ktpa Cu. Knowing the mine and the plant are capable of delivering around 16ktpa Cu (DecQ 2016), drilling is aiming to extend the orebody at depth to enable a larger open pit to be designed. Previous limited drilling (four holes) demonstrated the continuity of Antas at depth (eg. 80m at 1.42% Cu), with two rigs now aiming to better define the depth potential. We believe there is a strong chance of drilling success which will drive a larger open pit and longer mine life; this is not yet factored into our forecasts.

The four holes previous completed below the current pit design demonstrate mineralisation continues at depth (Figure 7). As is typical with Antas, the deposit can be 'bulked out' to 20-40m widths at 2.0-2.5% Cu grades suitable for open pit mining. However, there are narrower, high grade zones also present, with the deeper holes reporting results such as 7.4m at 4.2% Cu and 3.7m at 7.3% Cu. Deeper drilling is currently underway with the aim to extend this high grade zone to determine if an underground mine could be developed as a secondary source of ore in addition to the open pit. The competent ground conditions, evident in both the ore zone and wallrocks of the open pit, appear very favourable for underground mining.

Figure 7: Antas long section showing three stage open pit and historical deep drill holes



Source: Company reports, Petra Capital

Antas near-mine exploration potential remains significant

The Antas regional exploration program is largely focused on targets within c.5km of the Antas operation. This district is considered highly prospective for Antas-style IOCG deposits, with a renewed exploration effort aiming to add to the multiple targets already identified and in the process of being tested.

AVB is taking a simple approach to exploring, which appears well suited to IOCG terrains. It has recognised two distinct types of IOCG mineralisation in the Carajás, each with a unique signature. Whilst Antas has the traits of a small tonnage, high grade deposit, AVB believe there is opportunity to identify both Antas-style orebodies, as well as the larger tonnage, lower grade copper-gold deposits which are also present in the Carajás.

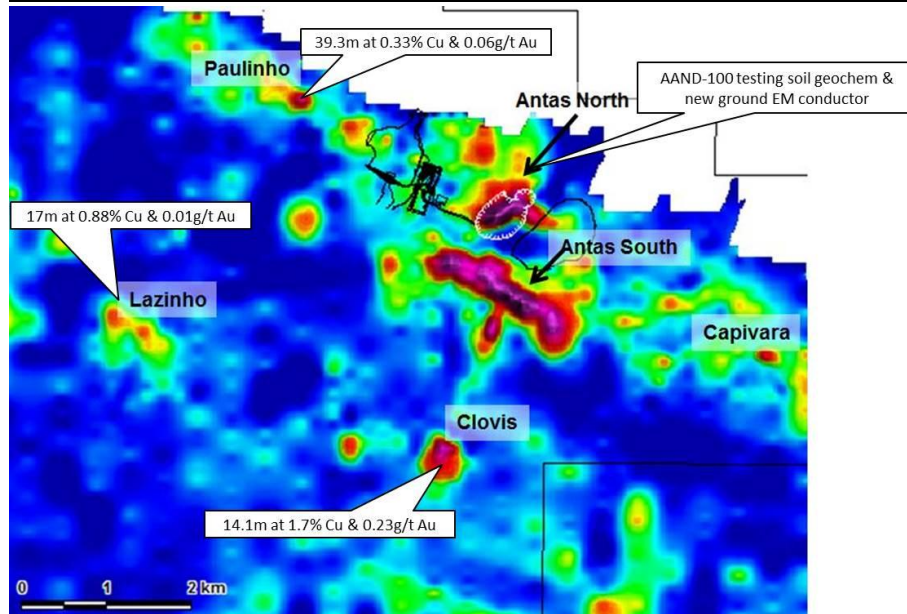
Exploration typically uses a combination of soil geochemistry, mapping and ground EM to define targets, with follow-up drill testing of all reasonable opportunities. Historical VTEM has also been used, where available.

Historical prospects such as Clovis, Lazinho and Paulinho have been defined through soil geochemistry and/or previous drilling, with AVB now in the process of completing a ground EM program to help define the best drill targets within these prospects (Figure 8). Further work will be completed at Antas South at a later date, with higher grade sulphide zones the key target beneath the thick saprolitic oxide blanket.

The approach to exploration is proving successful so far, with two EM conductors identified 400m to the north of the Antas pit (Figure 9). The first hole drilled to test this target intersecting an 80m (downhole) mineralised zone with variable amounts of chalcopyrite and higher gold tenor (Figure 10); the best assay result was toward the bottom of the hole with 8.6m at 1.3% Cu & 1.4g/t Au from 75.5m. Additional drilling is underway in this area to assist interpretation and determine if this is a significant new discovery. Not only is this validation of a simple exploration technique, the identification of a new, broad zone of copper-bearing mineralisation so close to Antas gives an indication of the overall prospectivity of the region for both near-surface and unrecognised/blind discoveries. Further drill results are expected over the coming weeks.

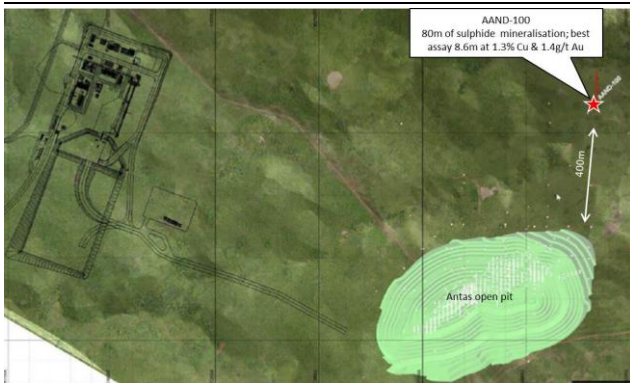
Ground EM is currently underway at the Lazinho prospect with Clovis and Paulinho to follow (Figure 8). Diamond drilling will then be used to test any identified conductors. Given encouraging first-pass results from reconnaissance drilling by previous explorers (as noted on Figure 8), we believe there is opportunity to define smaller tonnages of modest grade which could be cost effectively developed as satellite operations to Antas. Additional ore could underpin either a longer mine life at Antas and/or an expansion. The magnitude of any mine life and/or expansion will be determined by the significance of any new discovery.

Figure 8: Exploration targets with 5km of Antas, including historic drill intersections



Source: Company reports, Petra Capital

Figure 9: Location of AAND-100 at Antas



Source: Company reports, Petra Capital

Figure 10: AAND-100 mineralised drill core



Source: Petra Capital

A new discovery can drive a low-cost expansion at Antas

The Antas processing plant has been designed to accommodate multiple expansion options. As it currently stands, the open pit is the primary constraint on mill throughput, however the addition of ore from a larger open pit and/or satellite deposit could underpin an expansion and potentially drive higher copper output. The scope of an expansion would ultimately depend on the size and scale of a new discovery, although it appears anything up to a doubling of plant capacity could be straightforward at Antas.

With installed crushing capacity close to double the current requirements and ample spare capacity in the backend of the plant, the addition of a second ball mill could be lift throughput to c.1.0-1.2Mtpa, in our view. With sufficient room adjacent to the existing ball mill, the installation and tie-in of a second mill could be achieved cheaply and with minimal disruption. We believe copper output could lift to 20-25ktpa if the current 2.1-2.2% Cu head grade is maintained. Capex would depend on the origin of the mill, although AVB would likely target a second-hand option to reduce costs and lead time. We think this expansion option is likely to be considered if a small deposit of similar grade to Antas is identified within trucking distance.

A larger scale expansion would require the duplication of the current plant. This could deliver 1.5-1.6Mtpa of throughput capacity, with copper output potentially lifting to 30-35kt at a 2.1-2.2% Cu head grade. This option would likely be implemented if a slightly larger deposit of moderate grade is discovered close to Antas. Again, there is sufficient room adjacent to the existing plant to install the required comminution, flotation and filtration components.

Pedra Branca continues to be de-risked

AVB recently delivered a robust pre-feasibility study on a 1.2Mtpa standalone underground development at Pedra Branca East (PBE) to deliver 24ktpa Cu and 16kozpa Au for 10 years. This also follows the recent completion of a box cut and underground portal in preparation for the start of decline development in CY18. Drilling and study work is continuing, with drill results from the eastern extension of the deposit expected over coming months, followed by the DFS in Q1 CY18. Drilling of geotechnical and metallurgical holes will also begin shortly.

The current construction and development timeline guides to full scale production being achieved in 2H CY20. This appears to be an overly conservative timeline when comparing to similar developments in Australia, in our view. However, this is likely to be driven by the expected underground development rate being well below that achieved by Australian peers; this includes a 6 month allowance for training of mining contractors by experienced AVB personnel prior to full operations being handed over for contract mining.

Pedra Branca is located on 500Ha of relatively flat, open farm land which is 100% owned by AVB. Exploration efforts are supported by a site office, as well as a larger regional exploration office and accommodation in the nearby town of Canaã.

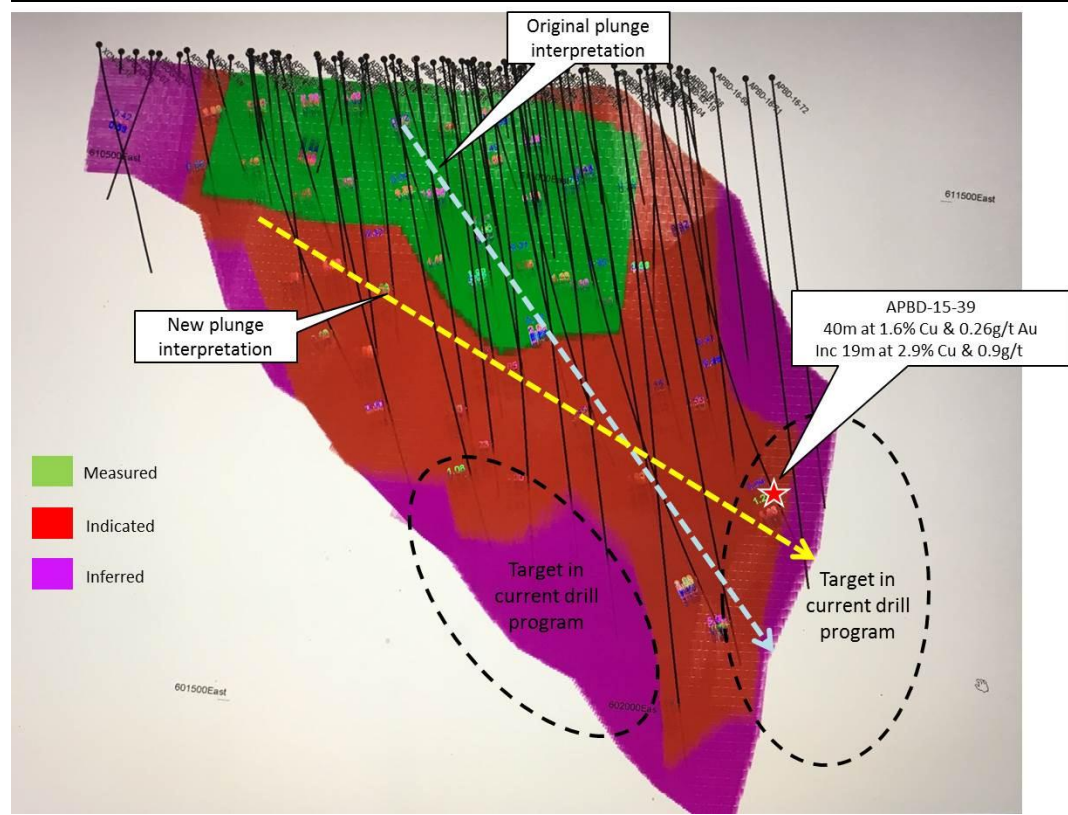
Drilling has recently re-started at PBE with the aim of upgrading areas of inferred resource along the deeper western margin of the orebody, as well as extending mineralisation to the east along a shallower plunge interpretation (Figures 11 & 12). This shallower plunge concept is supported by one of the eastern-most drill holes which intersected 40m at 1.6% Cu & 0.26g/t Au including the high grade hanging wall zone of 19m at 2.9% Cu & 0.9g/t Au.

Results of this drilling will be used in final mine designs which aim to extend the length of level development in the central parts of the mine, with less decline development required to chase the shorter strike length in the deeper parts of the mine.

More work to do at Pedra Branca West (PBW)

Less is known about the adjacent Pedra Branca West deposit. Previous drilling largely focused on the near-surface extent of mineralisation which is hosted in a series of narrow structures than fan-out in a 'horse tail' pattern as approach the surface. Whilst this near-surface zone is unlikely to be open-pittable, previous drilling has extended the mineralisation to depth where it appears to converge. Further drilling is now required to determine if a coherent high grade orebody, similar to PBE, can be defined from around 300m vertical depth. If so, we believe there is an opportunity to develop a second mine at PBW via a 300-350m long decline linked to PBE. This integrates well with the overall development plan at Pedra Branca, given PBE is the most advanced and will be developed first, with a second decline to push across to PBW after the operation is established. Whilst it remains early days, AVB continue to target an additional 10ktpa Cu once PBW is in production.

Figure 11: Pedra Branca East resource categories and target areas for current drill program



Source: Company data, Petra Capital

Figure 12: Diamond drilling at Petra Branca



Source: Petra Capital

Figure 13: Typical Cu-Au mineralisation at Pedra Branca



Source: Petra Capital

Conclusion

AVB is in a strong position, with a quality, reliable operating asset at Antas, multiple near-mine exploration opportunities which will likely help Antas grow and two quality predevelopment projects in Pedra Branca and CentroGold. This outlines a strong organic development pipeline. It has an excellent track record in project delivery and clearly understands what's required to not only build a project in Brazil but expand its portfolio with a view to developing and operating multiple mines. Excluding any incremental growth which may be added at Antas, it has the team and balance sheet to successfully develop a further two to three small-mid sized standalone projects over the coming years, in our view. Any larger opportunities could be considered under alternate structures such as joint ventures or partial asset ownership.

The Carajás is a highly prospective region for small, medium and large scale copper-gold deposits. Tenement ownership continues to be dominated by Vale with a number of large scale iron ore and copper operations, as well as multiple smaller-scale projects which are unlikely to be attractive development opportunities for a company that size. AVB has the second largest tenement ownership behind Vale and, with a strong in-country management team and impressive track record, we suggest AVB is the natural owner of some of these smaller assets. This places AVB in a unique position to introduce low-cost inorganic growth options via an acquisition, or series of acquisitions. This strategy has the potential to be game changing for AVB.

Overall, the success at Antas and strong in-country management team has allowed AVB to develop a strong presence in the Carajás. We believe this gives AVB multiple options to grow, with development of Pedra Branca and CentroGold offering organic growth, whilst being favourably positioning to benefit from any asset divestments in order to introduce inorganic growth. Whilst it's too early to conceptualise what AVB might look like in 12-18 months, we remain confident that sensible, logical and cost-conscious decisions will be made for the benefit of shareholders.

Summary of changes

No changes have been made to our previous forecasts. We continue to model reserves at Antas and the mining inventory as stated in the recent PFS for Pedra Branca. We include a nominal A\$40m (A\$0.01/sh) of exploration value, including CentroGold.

Figure 1: Summary of changes

		CY17e			CY18e			CY19e		
		New	Old	% var	New	Old	% var	New	Old	% var
Revenue	US\$m	97	97	0%	93	93	0%	98	98	0%
EBITDA	US\$m	20	20	0%	25	25	0%	34	34	0%
EBIT	US\$m	3	3	0%	7	7	0%	15	15	0%
NPAT	US\$m	3	3	0%	7	7	0%	12	12	0%
EPS	USc/sh	0.11	0.11	0%	0.26	0.26	0%	0.43	0.43	0%
DPS	USc/sh	0.00	0.00	na	0.00	0.00	na	0.00	0.00	na
NPV/sh	A\$/sh	0.16	0.16	0%						
Price target	A\$/sh	0.16	0.16	0%						
Antas										
Copper	kt	14.6	14.6	0%	14.6	14.6	0%	15.0	15.0	0%
Gold	koz	11.5	11.5	0%	10.5	10.5	0%	10.5	10.5	0%
C1 costs	US\$/lb	1.36	1.36	0%	1.29	1.29	0%	1.12	1.12	0%
AISC	US\$/lb	1.80	1.80	0%	1.86	1.86	0%	1.73	1.73	0%
Pedra Branca										
Copper		0.0	0.0	na	0.0	0.0	na	0.0	0.0	na
Gold	koz	0.0	0.0	na	0.00	0.00	na	0.00	0.00	na
C1 costs	US\$/lb	0.00	0.00	na	0.00	0.00	na	0.00	0.00	na
AISC	US\$/lb	0.00	0.00	na	0.00	0.00	na	0.00	0.00	na

Source: Company reports, Petra Capital



Petra Capital
Level 17, 14 Martin Place, Sydney NSW 2000

ABN 95 110 952 782
ACN 110 952 782
AFSL 317 944

Director:	George Marias	+61 (0)2 9239 9601	gmarias@petracapital.com.au
Research (Resources):	Brett McKay	+61 (0)2 9239 9605	bmckay@petracapital.com.au
Research (Resources):	Matthew Schembri	+61 (0)2 9239 9630	mschembri@petracapital.com.au
Research (Industrials):	Nick Berry	+61 (0)2 9239 9634	nberry@petracapital.com.au
Research (Industrials):	Killian Murphy	+61 (0)2 9239 9607	kmurphy@petracapital.com.au
Research (Industrials):	Daniel Porter	+61 (0)2 9239 9625	dporter@petracapital.com.au
Research (Property):	Jonathan Kriska	+61 (0)2 9239 9633	jkriska@petracapital.com.au
Sales:	Frank Barila	+61 (0)2 9239 9603	fbarila@petracapital.com.au
Sales:	Vincent Pisani	+61 (0)2 9239 9617	vpisani@petracapital.com.au
Sales:	Michael Vincent	+61 (0)2 9239 9620	mvincent@petracapital.com.au
Sales:	Colin Redmond	+61 (0)2 9239 9613	credmond@petracapital.com.au
Sales:	Iain Gow	+61 (0)2 9239 9608	igow@petracapital.com.au
Sales:	Peter Veldhuizen	+61 (0)2 9239 9609	pveldhuizen@petracapital.com.au
Sales:	Vince Barila	+61 (0)2 9239 9627	vbarila@petracapital.com.au
Corporate (ECM):	Conrad Anderson	+61 (0)2 9239 9610	canderson@petracapital.com.au
Corporate (ECM):	David Wallis	+61 (0)2 9239 9622	dwallis@petracapital.com.au
Administration:	Krystle Garven	+61 (0)2 9239 9635	kgarven@petracapital.com.au
Administration:	Samantha Tingley	+61 (0)2 9239 9636	stingley@petracapital.com.au
Administration:	Silvia Fratta Pasini	+61 (0)2 9239 9621	spasini@petracapital.com.au
Administration:	Larissa Falvo	+61 (0)2 9239 9611	lfalvo@petracapital.com.au
Legal & Compliance:	Stephen Newton	+61 (0)2 9239 9612	snewton@petracapital.com.au
Financials:	Tony Christelis	+61 (0)2 9239 9615	tchristelis@petracapital.com.au

Disclosure

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