

Important Disclosure

This report has been commissioned by the company and as such a share price target and rating are not provided by GMR. All comments and forecasts are independent of the company and rely on GMR's analysis and forecasts.

Recommendation**Not Applicable**

Price: A\$0.10

Target Price: Not Applicable

M'cap: US\$211M

Ordinary Shares: 2,457M Basic
2,649M Diluted

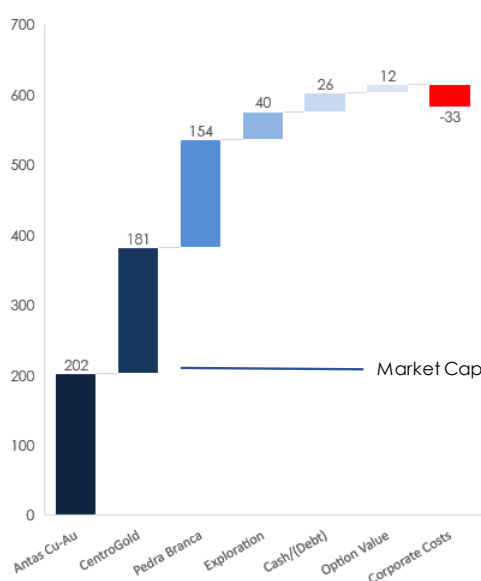
Share Price Performance

Share prices as at 14/9/2017.

Avanco Resources (AVB:ASX)**Growing Junior Copper-Gold Producer**

ASX-listed Avanco Resource is an emerging northern Brazil regional play, focussing on copper and gold. The company currently produces copper and minor gold from the Antas mine, with the Pedra Branca copper project and CentroGold project expected in coming years, the latter adding to commodity diversification. This is a commissioned report.

1. The Antas mine is already producing (16kt Cu, 13koz Au for 2018E). Pedra Branca (25kt, 16koz) is expected for late 2020, however the market may be underestimating the technical risks for Avanco going underground.
2. GMR values CentroGold at a high US\$181M and with low capex, high return and ease of mining may be AVB's next project – investors are likely underestimating the value for this project, with little information yet from AVB although a Scoping Study is due in the months ahead.
3. AVB has US\$26M in cash, no debt and generates positive cashflow. GMR values the company at US\$584M (unrisked) assuming the successful development of projects, versus the market cap of US\$211M.

Fig 1: Avanco Resources Asset Values NPV₁₀ (US\$M)

Source: Global Mining Research. Project values for CentroGold and Pedra Branca unrisked.

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Fig 2: Avanco Resources Production and EBIT History and Forecast 2016A – 2023E (kt, US\$M)

	2016A	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Copper (kt)	8.0	11.8	13.0	24.3	114.7	140.3	143.7	139.7
Gold (koz)	11.2	14.6	16.2	16.2	20.4	35.5	41.9	39.6
Copper Equiv (kt)	12.8	16.9	18.8	21.0	42.9	63.1	70.1	67.1
Sales Rev	49.6	81.3	95.2	119.5	260.3	379.2	423.4	410.1
EBITDA	15.6	26.1	39.0	54.8	111.2	168.0	190.3	181.0
EBIT	4.2	11.2	21.9	34.9	86.9	134.8	150.1	142.7
Net Profit	-2.7	5.3	15.3	22.8	57.2	92.7	103.8	98.7
Net Cash/(Debt)	22.9	30.2	35.1	-23.9	-50.0	53.8	140.2	174.6

Source: Global Mining Research. Net Cash/(Debt) excludes BlackRock royalty liability.

Summary

GMR recently spent a week visiting Avanco's operations.

The existing mine Antas was delivered quickly. This is expected to be followed by CentroGold and Pedra Branca.

AVB's market cap reflects only the Antas mine, on GMR's estimates, due to several issues.

Unusually for a junior with a new mine, Avanco has not debt and cash in the bank.

GMR expects a solid flow of news in the coming months.

Encouraging Site Visit

Avanco is a junior miner with modest copper production to date. GMR visited the operations in northern Brazil in August 2017, seeing the Antas mine as well as spending two days at the CentroGold project. Regional and near-mine exploration upside at the three sites was widely reviewed with AVB geologists.

Young Company Delivered Antas Quickly

Despite the limitations, the US\$60M Antas copper-gold project was delivered in just 9 months after construction started to production of first copper concentrate.

Major Developments at Pedra Branca and CentroGold

Financial markets are expecting Pedra Branca copper-gold as the next project, however the lower capex and technically less challenging CentroGold suggests to GMR the latter should be developed first.

Large Discount to NPV

While most juniors trade under valuations, AVB trades at a 60%+ discount to GMR's NPV₁₀. This is partly due to a difficult shareholding structure impacting liquidity, partly on market fears of an equity raising to fund upcoming projects and partly on the market's lack of understanding of CentroGold.

Backed By Major Investors

Key shareholders include Appian Natural Resources Fund with 18%, Greenstone Resources LP 17%, BlackRock World Mining 13% and Glencore 8%, with the rest predominantly held by retail investors and management.

Strong Balance Sheet

Relative to its size, Avanco has a strong balance sheet with no debt and US\$26M (A\$33M) in cash.

New Equity Not Required

Pedra Branca's capex of ~US\$140M and CentroGold's capex of ~US\$90M (both GMR estimates) should be financed from cash flows and debt. Equity is not required depending on project sequencing and metal prices. That said, the issue of new equity would be potentially beneficial if it was directed to new institutional investors resulting in an increase in the free float.

Key Near Term Milestones

Q2 2017 – PFS for Pedra Branca released
 Q3/Q4 2017 – updated Resources and Reserves for Antas
 Q4 2017 – Maiden JORC Resource for Chega Tudo deposit at CentroGold
 Q4 2017 – Scoping Study for CentroGold
 Q1/Q2 2018 – updated PFS for Pedra Branca released
 Q1/Q2 2018 – updated Scoping Study for CentroGold

Project Advancement

Management are making good progress in defining the merits of both projects, in GMR's view. However, it looks likely that a six month period should be anticipated before the outcome of drilling and various studies are available to support any decision to increase or shift project focus. GMR expects more visible advancement of the projects from mid and late next year and investors should not be surprised if the much-anticipated Pedra Branca is pushed back to make way for CentroGold first.

Mine and Projects Overview

Two Attractive Projects – Which Gets Developed First?

Fig 3: Avanco Asset Location in Brazil



Source: Avanco Limited

Avanco owns 100% of one existing mine and two small but economically-attractive projects in northern Brazil, in the adjacent states of Pará and Maranhão.

Avanco owns 100% of the existing Antas copper-gold mine. Profitable but short mine life.

Antas Copper-Gold Mine:

- Ownership 100%
- Location – Carajas region, Pará state, northern Brazil
- Mine Type – open cut, milling and copper flotation to produce conc
- Annual Production – 16,200t copper and 13,000oz gold, 2018E
- Capex US\$60M historical spend
- Mine life – reserves end Q4/2020, GMR expects extension to Q4/2023

Avanco is moving to 100% ownership of the CentroGold project – small production but good grade and reasonable mine life.

CentroGold Project:

- Ownership 100% (rights being acquired from Jaguar Mining)
- Location - Maranhão state, northern Brazil
- Status – Scoping Study although NI 43-101 completed by Jaguar Mining
- Mine Type – open cut, free milling/non-refractory, standard gold circuit
- Annual Production – 112,400oz, GMR projection
- Capex US\$90M, GMR estimate
- First planned production Q4/2019, GMR projection, 10 year life

Avanco owns 100% of the Pedra Branca copper project – larger than Antas and with a reasonable mine life.

Pedra Branca Copper-Gold Project:

- Ownership 100%
- Location – Carajas region, Pará state, northern Brazil
- Status – Scoping Study and Pre-Feasibility Study completed, new Reserves with PFS Update and then DFS Q1/Q2 2018
- Mine Type – underground, milling and copper flotation to produce conc
- Annual Production – 25,650t copper and 18,200oz gold, at peak 2023E
- Capex US\$158M PFS study, under review, GMR estimate US\$140M
- First planned production Q4/2020, 9 year life on reserves, GMR 11 years.

Fig 4: Avanco Resources Mine and Projects Summary (US\$M)

	Antas Copper-Gold Mine	CentroGold Gold Project	Pedra Branca Copper-Gold Project
Mine Type	Open cut	Open cut	Underground
Main Product	Copper conc	Gold dore	Copper conc
Production Start	Q1 2016	Q4 2019	Q4 2020
Production End (E)	Q4 2023	Q2 2030	Q1 2032
Peak Output - Cu	16,200t	-	25,650t
- Au	13,000oz	112,400oz	18,200oz
Peak - EBIT	US\$42M	US\$52M	US\$62M
- EBITDA	US\$59M	US\$60M	US\$77M
Capex	US\$60M	US\$90M	US\$140M
NPV Current	US\$202M	US\$181M	US\$154M
IRR at Build	53.2%	50.5%	32.1%
Cash Costs - Cu Equiv	US\$1.47/lb	US\$1.80/lb	US\$1.65/lb
- Au Equiv	US\$637/oz	US\$781/oz	US\$715/oz

Source: Global Mining Research, after Avanco. Cash costs are on a co-product basis, include royalties and all costs to get to metal. Capex figures and mine life ends are GMR estimates.

Avanco looks to keep capex costs down and build quickly. Antas copper was built in 9 months.

Avanco successfully completed the Antas copper-gold mine in just 9 months after construction started, followed by a ramp up to 100% of planned capacity in 12 months. The company prides itself on keeping capital costs down, simplifying plant design, and where appropriate using second-hand equipment.

GMR expects this practice to continue with the Pedra Branca and CentroGold projects.

Pedra Branca capex estimates are being reviewed by Avanco in order to reduce them.

AVB has recently released a Pre-Feasibility Study on Pedra Branca with estimated capex of US\$158M. An Independent Review is in progress, and the early observations indicate that capex reductions can be made, such as delaying the paste fill plant, using second hand equipment in the plant and/or revising the underground mining sequencing. GMR expects capex to reduce to US\$140M, plus paste plant in year 3.

GMR estimates for CentroGold are based on a published 43-101 but are subject to revision.

Avanco has not yet released a Scoping Study on CentroGold. However, the former owner Jaguar Mining published a N.I. 43-101 on the project (previously known as the Gurupi Project) in January 2011.

GMR has used this as the basis of projections for the CentroGold project, but cautions that our numbers are best approximations until the DFS (Definitive Feasibility Study) estimates are released next year, and subject to change.

Competitive Analysis

Strengths

Strengths: Capable Board and management team that have developed one mine successfully hence the next two should be equally good.

- Cohesive and able management team and Board that have successfully developed the Antas copper-gold project on time and within budget.
- The Antas project was developed and to this day operates without a single Lost Time Injury event, reflecting the company's competencies.
- Avanco has both Portuguese-speaking Australians (many living in Brazil) and Brazilian nationals with the requisite professional backgrounds and abilities to continue to grow the company.
- One new copper-gold and one gold project already identified with both in the Scoping Study to DFS stage.
- Strong balance sheet with cash on hand, no debt and current cash generation ability – GMR does not expect Avanco to raise equity on current forecasts.
- The company enjoys some commodity diversification through the production of gold in addition to copper.
- Strong regional position in northern Brazil – second only to the much larger Vale

Weaknesses

Weaknesses: PE shareholders sometimes not a positive for small cap miners, lacking in underground mining experience, mining contractor arguably the wrong choice.

- The large ownership by PE groups is not necessarily a positive, as it can be drag on corporate development leading to share price underperformance – the lack of share liquidity dissuades incoming institutional investors.
- Outside of Australia, having a share price around A\$ 10¢ does not add to credibility, and AVB should consider a 10:1 consolidation in GMR's opinion.
- The company, in GMR's opinion, is spending too little on near-mine and regional exploration reflecting an overly-cautious stance, despite substantial cash flow – the correct conservative view some years ago, but no longer appropriate.
- GMR understands the underground mining method for Pedra Branca is being re-examined. Potentially a positive but a review at this stage post PFS highlights lack of competencies underground (Brazil also lacks UG knowledge); the mining contractor MACA also lacks experience and may be the wrong choice.

Opportunities

Opportunities: GMR sees significant exploration upside around both copper and gold projects, near mine and regional. Technical risks moved back if CentroGold is prioritised.

- AVB has ~1,800 sq km of leases in the prospective Carajas region, second only to Vale, which provides the opportunity for growth through exploration success.
- AVB has ~1,370 sq km of leases prospective for gold in Maranhão State granted or under application – GMR expects exploration success in coming years.
- Given Avanco's success to date it should be in a prime position to acquire other projects, if they become available, in the northern Brazilian region.
- The relatively short mine life at Antas could be extended if current highly-encouraging exploration results continue and add to reserves.
- Prioritisation of CentroGold ahead of Pedra Branca would minimise capex needs and delay the more technically challenging copper project.

Threats

Threats: debt financing not completed for Centro and PB, weak copper price may result in equity issues.

- Weak copper prices lowering cash generation may negatively affect current views that equity is not required for project development.
- Financing Pedra Branca and CentroGold remain uncertain and therefore a potential threat to the company if financing terms are onerous or if unavailable leading to an equity issue.
- Management team may be too stretched to develop both Pedra Branca and CentroGold projects in parallel.

Peer Analysis

Pedra Branca – Small But Valuable Tonnes

Globally, there are a number of copper projects targeting a moderate production rate of up to 40kt per year of copper production. Nine other key copper projects of this size are benchmarked to the Pedra Branca project in the figure below.

Pedra Branca is modestly endowed with in situ copper and gold, although GMR confidently expects this to rise with exploration success. Nevertheless, it falls somewhat short of being a world-class copper deposit.

Where Pedra Branca scores very well is in situ value per tonne, at US\$186/t (based on US\$3.00/lb copper and US\$1,300/oz gold).

Fig 5: Peer Comparison – Copper Projects and Mines Targeting up to 40ktpa of Copper

Copper Project	Black Butte	Copper Mountain	Florence	Gunnison	Monty	Nifty	North Met	Pedra Branca	Proyecto RioTinto	Van Dyke
Company	Sandfire (SFR)	Copper Mountain (CMMC)	Taseko (TKO)	Excelsior (MIN)	Talisman (TLM)	Metals X (MLX)	Polymet (PLM)	Avanco (AVB)	Atalaya Mining (AYM)	Copper Fox (CUU)
Capitalisation (US\$M)	794	147	441	181	40	402	196	206	291	59
Ownership	Tintina (63% SFR)	75% (25% Mitsubishi)	100%	100%	30% TLM / 70% SFR	100%	PLM (30% GLEN)	100%	100%	100%
Country	USA	Canada	USA	USA	Australia	Australia	USA	Brazil	Spain	USA
Stage	PEA Complete 2013	Production	Technical Study	Feasibility Complete 2017	Feasibility Complete 2018	Production	Defin. Feasibility Complete	PFS Complete	Production	PEA Complete 2015
Resource	18Mt @ 3.3% Cu	562Mt @ 0.3% Cu, 0.1g/t Au	822Mt @ 0.3% Cu	946Mt @ 0.3% Cu	1.1Mt @ 9.4% Cu, 1.6g/t Au	47.2Mt @ 1.5% Cu	581Mt @ 0.3% Cu	17.7Mt @ 2.4% Cu, 0.7g/t Au	216Mt @ 0.4% Cu	262Mt @ 0.3% Cu
Reserve	12Mt @ 3.1% Cu	146Mt @ 0.3% Cu, 0.1g/t Au	308Mt @ 0.4% Cu	698Mt @ 0.3% Cu	0.9Mt @ 8.7% Cu, 1.4g/t Au	9.8Mt @ 1.6% Cu	245Mt @ 0.3% Cu	-	153Mt @ 0.5% Cu	-
Copper in Resource (Mt)	0.60	1.69	2.66	2.54	0.10	0.71	1.89	0.43	0.86	0.65
Gold in Resource (Moz)	-	1.28	-	-	0.05	-	-	0.37	-	-
Notional In Situ Value* (US\$/t)	218	25	20	20	688	99	20	186	29	20
Mine Life	11	17	21	24	3	5	20	12	13	11
Project Description	Underground	Open Pit Cu-Au-Ag	In situ copper recovery	In situ copper recovery	VMS, Underground	Underground	Cu-Ni-PGM Open Pit	IOCG, Underground	VMS, Open Pit	In situ copper recovery
Target Production	2020	Producing	2020	2018	2018	Producing	2020	2020	Producing	NA
Capex (US\$M)	218	Na	200	47	55	Na	602	140	Na	204
Capital Intensity (US\$/milled tpd)	66061	Na	NA	Na	50188	Na	21090	42583	Na	Na
Capital Intensity (US\$/product t)	7267	Na	5442	4144	1719	Na	18428	5833	Na	7494
Annual Throughput (tpd)	3300	40000	-	-	1100	6800	28500	3300	26000	-
Annual Product (kt)	30	36	37	11	32	36	33	24	37	27
Cash Cost (US\$/lb)	1.21	1.54	1.10	0.66	1.17	1.89	0.06	1.65	1.78	0.60
Permitting	C&C Pending	Fully Permitted	Received UIC & APP Permits	Started UIC & APP Permits	Fully Permitted	Fully Permitted	Seeking Final ROD	Seeking Permits, Trial Mining granted	Fully Permitted	Seeking Pilot Permits

Source: Global Mining Research, company reports. In situ value per tonne based on US\$3.00/lb copper and US\$1,300/oz gold.

Antas and Pedra Branca Costs Good

Global Mining Research covers a little under 14Mt of world copper supply, although does not cover about 7Mt much of which is under state or Chinese company control. Much of the production not covered is likely to be higher cost.

To compare like-for-like across the copper sector GMR uses co-product cash costs to produce cash cost curves. Co-product cash cost curves produce flatter sloped curves than on a by-product basis and better adjust for what can be significant credits. Costs include all royalties.

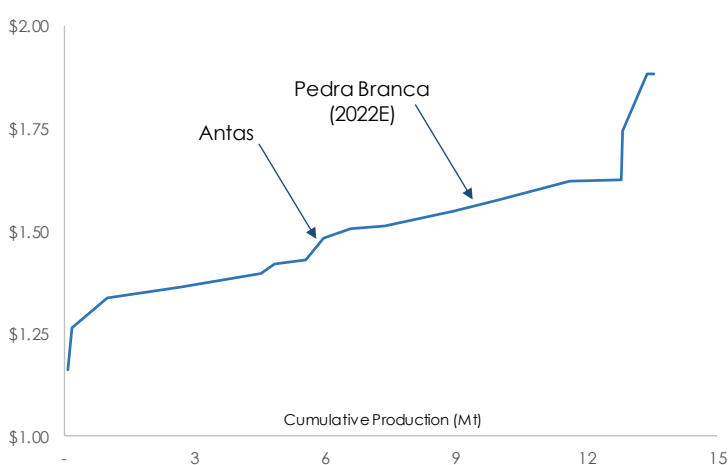
Antas cash costs at US\$1.47/lb is low cost, with Pedra Branco expected to be somewhat higher. At US\$718/oz CentroGold has reasonable costs for a gold mine, on GMR analysis.

The chart below comprises some 65 copper mines GMR models globally. Relative to the GMR universe, Antas at US\$1.47/lb is low cost with Pedra Branca forecast to be medium cost at US\$1.65/lb (based on 2022E year). Costs are not lower despite the good +2% copper head grades for both Antas and Pedra Branca. This is principally due to several reasons:

1. Both lack of economies of scale with milling rates around 1Mt per annum
2. Co-product credits are minimal with low levels of gold production
3. In addition to Brazilian federal royalties, both copper mines pay a 2% royalty on copper and 25% royalty on gold as part of the BlackRock funding deal.

Separately, CentroGold cash costs including royalty of US\$781/oz, or US\$799/oz AISC, as estimated by GMR are reasonably good for a gold mine.

Fig 6: GMR Universe World Copper Cash Cost Curve 2018E (US\$/lb)



Source: Global Mining Research

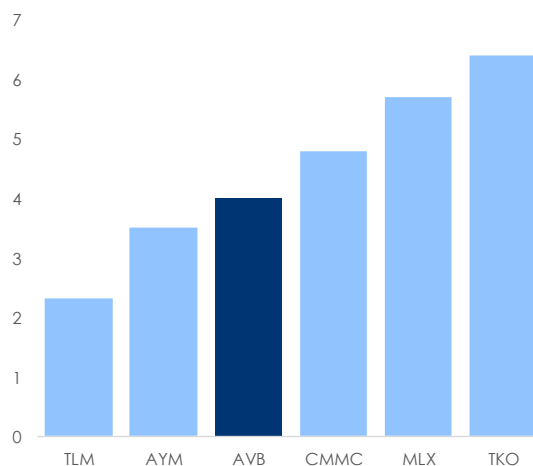
Avanco Relative to Small Cap Peers

The following figure benchmarks AVB to its relevant global peers (<US\$400M market cap) based on calendar 2019.

AVB sits in the middle of the small cap base metal peers, based on 2019 forecast EV/EBITDA ratios. However it more attractive on 2020 projections.

Avanco is reasonably positioned to its peers, trading at 4.0x 2019E EV/EBITDA. However, it should be noted that for 2019 not all of Avanco's projects are in operation, and looking at 2020E GMR forecasts AVB's EV/EBITDA to fall to 2.2x.

Fig 7: Small Cap Base Metal Miners EV/EBITDA 2019E (x)



Source: Global Mining Research, Bloomberg (AYM, CMMC, TKO)

Project and Company Valuation

Solid NPVs and High IRRs

Fig 8: Avanco Resources Limited Valuation – NPV₁₀ (US\$M)

GMR values Avanco at US\$584M unrisked, based on \$3/lb copper and US\$1,300/oz gold.

	US\$M	US¢/Sh
Antas Copper-Gold Mine	202	0.08
Pedra Branca East	154	0.06
CentroGold Project	181	0.07
Exploration/Other	40	0.02
Option Value	15	0.01
Corporate Costs	-33	-0.01
Net Cash/(Debt)	26	0.01
TOTAL NPV	584	0.22

Source: Global Mining Research. Assumes no further equity raising. CentroGold value assumes 100% ownership. LT copper US\$3.00/lb, LT gold US\$1,300/oz.

Global Mining Research estimates a current valuation of the company at US\$584M, not adjusted for project risk. This is based on a value as at July 2017 using a 10% nominal discount rate with long run copper at US\$3.00/lb and long run gold at US\$1,300/oz. The value assumes 100% ownership of CentroGold.

As mentioned previously, under current forecasts for cash flows and debt burdens, GMR does not see AVB issuing more equity. As such, the US\$583M equates to US\$0.22/share (A\$0.28/share) fully diluted for all options currently on issue.

Fig 9: Avanco Resources NPV₁₀ Change Through Time 2016 – 2022E (US\$M)

GMR estimates the gross project NPVs increase to a maximum of US\$785M in 2021, but note this is measured before project debt.



Source: Global Mining Research. Project values are gross NPVs before associated debt.

The above figure shows the projects valuation changes with time, from a pre-capex spend to post-capex standpoint. Values are gross NPVs and exclude any associated debt.

Pedra Branca's underground production ramp is assumed by GMR at 15 months (with a change in mining method from the very slow sub-level open stoping in the PFS to something with a quicker ramp-up).

Financial markets are missing the value of CentroGold, in GMR's opinion.

It would appear to GMR that the financial markets have given CentroGold insufficient value, probably due to the lack of basic financial parameters by AVB ahead of the Scoping Study due later this year. GMR's assumptions rely on the former owner Jaguar's 43-101 review and considers likely mill size, capex and opex, plus the effect of BRL75M in tax losses.

Fig 10: Avanco Resources Gross Project NPV Through Time Start 2016 – Mid 2022 (US\$M)

	Start 2016	Mid 2016	Start 2017	Mid 2017	Start 2018	Mid 2018	Start 2019	Mid 2019	Start 2020	Mid 2020	Start 2021	Mid 2021	Start 2022	Mid 2022
CentroGold	157.1	164.8	172.8	181.3	198.5	213.4	234.3	272.0	310.7	323.9	309.1	294.4	278.8	262.3
Pedra Branca	133.5	140.0	146.9	154.0	161.6	175.0	189.1	221.8	256.0	305.0	352.5	353.8	352.6	342.9
Antas	179.1	199.4	201.3	201.6	196.5	186.3	175.5	159.8	143.3	133.6	123.0	103.8	83.2	61.1
TOTAL	469.8	504.2	521.0	536.9	556.6	574.7	598.9	653.6	710.0	762.5	784.6	752.0	714.6	666.3

Source: Global Mining Research

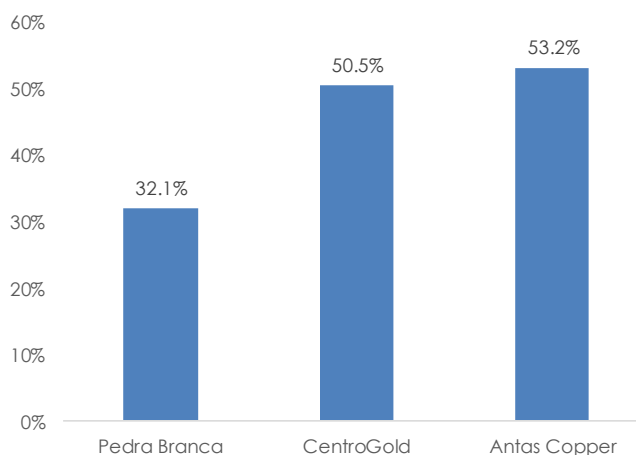
1. CentroGold is a very robust project and, at this point in time, is worth US\$181M which, significantly, is more than Pedra Branca.
2. As values change over time, by mid 2018 CentroGold is worth as much as Antas with the latter on the decline even with an assumed extra three years mine life over reserves.
3. By the start of 2021 Pedra Branca becomes the most valuable project with a NPV of US\$352M.
4. Over 2019 and 2020 the total gross value of the company grows quickly.
5. At peak, as at the start of 2021 AVB is worth a theoretical gross US\$785M (less debt and corporate costs).

The robustness of the projects is shown in the figure below which highlights the high IRRs of the three assets. The very strong IRRs are essentially due to very low capex levels, quick build timeframes and solid annual cash flows. This means quick payback periods in order to offset the somewhat short mine lives.

Avanco's projects show very high IRRs relative to industry standards, mostly due to low capex levels, quick build periods and high annual cash generation.

GMR estimates current (based as at July 2017) IRRs at 32.1% for Pedra Branca and 50.5% for CentroGold. For a like-for-like comparison, the base date has been rolled back to January 2015 for Antas, a time before major capex spend, which shows an IRR of 53.2%. IRRs are measured ungeared and after tax.

Fig 11: Avanco Resources Antas, Pedra Branca and CentroGold IRRs (%)



Source: Global Mining Research. IRRs for Pedra Branca and CentroGold as at July 2017. Antas IRR as at January 2015 at the start of major capex spend. IRRs are ungeared and after tax.

Earnings and Valuation Sensitivities

Profit Affected by Copper, Costs and Gold

Fig 12: Avanco Sensitivity to a 10% Change in Prices and Costs to NPAT (US\$M, %)

GMR's analysis is that Avanco's net profits are most sensitive to changes in the copper price, operating costs and gold price, in that order.

		2018E	2019E	2020E	2021E	2022E
Copper Price	US\$M	6.5	7.1	9.0	15.8	18.9
Operating Costs	US\$M	-3.0	-3.5	-8.8	-12.7	-14.1
Gold Price	US\$M	0.7	1.7	9.4	11.5	11.9
Copper Price	Δ %	42%	31%	16%	17%	18%
Operating Costs	Δ %	-19%	-15%	-15%	-14%	-14%
Gold Price	Δ %	4%	7%	16%	12%	11%

Source: Global Mining Research

Global Mining Research estimates that earnings over the next few years will be most strongly influenced by changes in the copper price. Depending on which year is chosen, a 10% change in the price of copper leads to net profits after tax changing by 16% to as much as 42% near term.

Operating costs are the next most significant to the company, with a 10% increase in US\$/t cash costs at the mines reducing net profits by -14% to -19%.

Finally, Avanco is sensitive to gold prices, with the sensitivity growing over time, in contrast to sensitivity to copper and opex which is reducing over time. A 10% increase in the price of gold results in a 4% to 11% increase in net profit, on GMR estimates.

NPV Also Sensitive to Copper, Costs and Gold

On GMR's analysis, Avanco's NPV is most sensitive to permanent changes in the copper price, with a 10% increase in copper over the life of the operations leading to a 19% increase in company valuation.

It is next most sensitive to changes in operating costs and the gold price, where a 10% move leads to a 13% shift in values.

For Avanco's NPV, GMR estimates that a 10% change in copper moves values by 19%, operating costs by 13%, gold also at 13% and the discount rate by 6%.

Somewhat surprisingly, the company is relative insensitive to changes in the discount rate, a one-year delay to both CentroGold and Pedra Branca projects, or to a 10% increase in total combined capex for the two projects. All three factors change values by under 10%.

Fig 13: Avanco Resources NPV Sensitivity Analysis, Ranked by Impact (%)

		Change %	Change US\$M
Copper Price	+ / - 10%	19%	108
Operating Costs	+ / - 10%	-13%	-78
Gold Price	+ / - 10%	13%	77
Discount Rate	+ / - 1%	6%	35
Project Delay	+ / - 1 Yr	-5%	-31
Project Capex	+ / - 10%	-3%	-20

Source: Global Mining Research

Cash Flows and Balance Sheet

Cash Flows Robust if Copper Price Stays Firm

As previously mentioned, GMR does not expect Avanco to resort to additional equity financing after the equity issues seen in 2015.

Avanco funded the Antas project without using the debt markets, at the cost of a substantial increase in shares outstanding.

It is highly unusual for a junior to have recently completed a mine yet be debt free. Avanco managed the Antas project without resorting to the debt markets, in part because of the timing of project financing was in late 2015 when the copper price was falling and banks were nervous about lending to mine projects.

While being debt free is a positive, it has come at the cost of a vast increase in issued shares in the last few years.

Avanco now well placed to seek debt for CentroGold and Pedra Branca, with cash flow from Antas acting as equity contribution.

The clean balance sheet however allows Avanco to apply to the banks for financing of CentroGold and Pedra Branca from the starting point of having a strong balance sheet and being already cash generative. This should ease its ability to raise corporate or project debt.

Depending on the exact timing and sequencing of the two projects and capex spend, GMR's forecasts are that cash from operations – acting as equity – will be enough with US\$90M in debt for funding needs.

The company may choose to sell-down its stake in the two projects – circumstances will dictate whether this makes sense or not.

Avanco can sell-off part of one or both of the projects to assist further in fund raising. In GMR's opinion that would be the wrong strategic course of action – unless a bigger prize was available in northern Brazil (e.g. an ex-Vale copper asset). Both projects are expected to be high return and high EBITDA/Sales revenue margin operations. As such, sale of part of the projects to others comes at a substantial long term cost.

Fig 14: Avanco Resources Limited Projected Balance Sheet (US\$M)

	2016A	2017E	2018E	2019E	2020E	2021E	2022E	2023E
CASH FLOWS FROM OPERATING ACTIVITIES								
Receipts From Customers	51.9	81.3	95.2	119.5	260.3	379.2	423.4	410.1
Payments To Suppliers	-39.9	-55.0	-56.2	-64.7	-149.1	-211.2	-233.1	-229.1
Dividends Received	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0
Net Interest Paid and Other Revenue	0.4	-2.0	0.0	-2.3	-5.2	-2.3	-1.7	-1.7
Income Tax Paid/Refunded	0.0	-3.9	-6.6	-9.8	-24.5	-39.7	-44.5	-42.3
Other (including royalties)	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0
Total Cash Provided by Operating Activities	12.3	20.5	32.4	42.7	81.4	126.0	146.1	141.0
CASH FLOWS FROM INVESTING ACTIVITIES								
Acquisition of Property, Plant and Equip.	-22.9	-13.1	-27.6	-101.7	-107.5	-22.2	-22.8	-32.9
Disposal of Property Plant and Equip.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exploration/R & D Expenditure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Cash Used in Development Activities	-22.9	-13.1	-27.6	-101.7	-107.5	-22.2	-22.8	-32.9
CASH FLOWS FROM FINANCING ACTIVITIES								
Proceeds From Borrowings	4.0	0.0	0.0	45.0	45.0	0.0	0.0	0.0
Repayment of Borrowings	-1.6	0.0	0.0	0.0	0.0	-45.0	-45.0	0.0
Dividends Paid and Return of Capital	0.0	0.0	0.0	0.0	0.0	0.0	-36.9	-73.7
Cash Proceeds From Issues of Shares etc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Cash Used in Financing Activities	1.7	0.0	0.0	45.0	45.0	-45.0	-81.9	-73.7
NET INCREASE IN CASH HELD	-8.8	7.4	4.8	-14.0	18.9	58.8	41.4	34.4
Cash At Beginning of Year	31.7	22.9	30.2	35.1	21.1	40.0	98.8	140.2
Cash At End of Year	22.9	30.2	35.1	21.1	40.0	98.8	140.2	174.6

Source: Global Mining Research

Balance Sheet – Debt Required Near Term

GMR's forecasts for Avanco's Balance Sheet follows on from its Cash Flow Statement and need for debt and equity.

GMR forecasts debt to peak at US\$90M by end 2020, possibly higher intra-year.

Debt is expected to peak at US\$90M as at the end of 2020, with possibly more intra-year. Low copper prices under say US\$2.50/lb would probably need either the projects to be clearly separated time-wise (with GMR preferring the lower cost CentroGold project first) and/or additional equity.

On current GMR forecasts, Net Debt/Equity is expected to rise to 18% as at the end of 2019 and 26% as at the end of 2020. Net Debt/EBITDA is projected at under 1x by GMR, at 0.4x forecast for 2019 and 0.4x for 2020. The latter year is helped by expected positive EBITDA from CentroGold, and hence the debt servicing ratio approximately stays the same from 2019.

Fig 15: Avanco Resources Limited Projected Balance Sheet (US\$M)

	2016A	2017E	2018E	2019E	2020E	2021E	2022E	2023E
CURRENT ASSETS								
Cash and Bullion	22.9	30.2	35.1	21.1	40.0	98.8	140.2	174.6
Receivables	7.8	7.8	7.8	7.8	7.8	7.8	7.8	12.8
Inventories	9.0	9.0	9.0	9.0	9.0	9.0	9.0	19.0
Debtors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39.7	47.1	51.9	37.9	56.9	115.6	157.0	206.4
NON-CURRENT ASSETS								
Receivables	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Assets	61.1	59.0	69.5	151.3	234.6	223.5	206.1	200.8
Inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intangibles	21.2	21.2	21.2	21.2	21.2	21.2	21.2	31.2
	84.5	82.4	92.9	174.7	258.0	246.9	229.5	234.2
TOTAL ASSETS	124.1	129.5	144.8	212.6	314.8	362.6	386.5	440.5
CURRENT LIABILITIES								
Borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Creditors	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
Other	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Provisions	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
NON-CURRENT LIABILITIES								
Borrowings	0.0	0.0	0.0	45.0	90.0	45.0	0.0	0.0
Other	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
Provisions	7.7	7.7	7.7	7.7	7.7	7.7	15.7	15.7
	17.8	17.8	17.8	62.8	107.8	62.8	25.8	25.8
TOTAL LIABILITIES	35.7	35.7	35.7	80.7	125.7	80.7	43.7	43.7
SHAREHOLDERS EQUITY								
Capital Stock	88.4	93.8	109.1	131.9	189.1	281.9	342.8	396.8
Minority Interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shareholders Equity	88.4	93.8	109.1	131.9	189.1	281.9	342.8	396.8

Source: Global Mining Research

Capital Structure

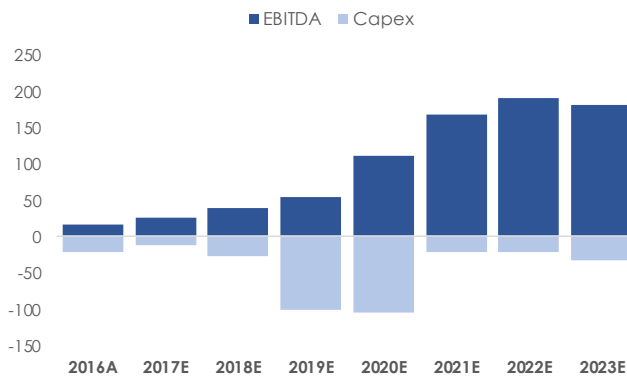
AVB has 2,457M shares on issue plus 192M options issued to Directors and management exercisable at A\$0.10 each.

Avanco has a substantial 2,457M shares on issue and 192M options, the latter issued to Directors and management and exercisable at A\$0.10 each. (GMR has not assumed options are exercised in terms of cash flow, although per share figures are diluted). Key shareholders include Appian Natural Resources Fund with 18%, Greenstone Resources LP 17%, BlackRock World Mining 13% and Glencore 8%.

Key Financial Assumptions

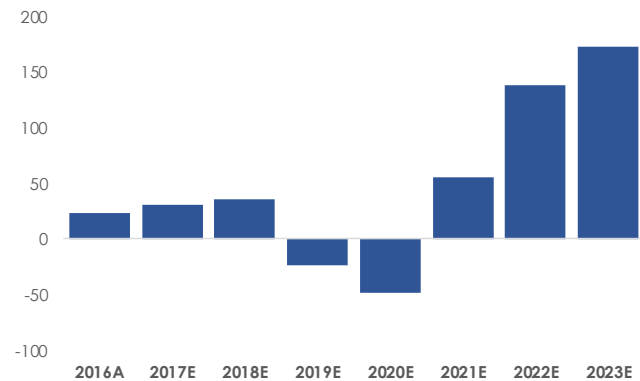
The following charts highlights GMR's key financial assumptions for Avanco:

Fig 16: Avanco – EBITDA & Capex Profile (US\$M)



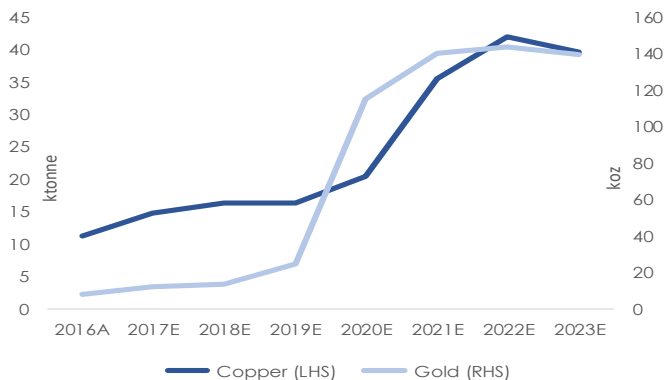
Source: Global Mining Research

Fig 17: Avanco – Net Cash / (Debt) (US\$M)



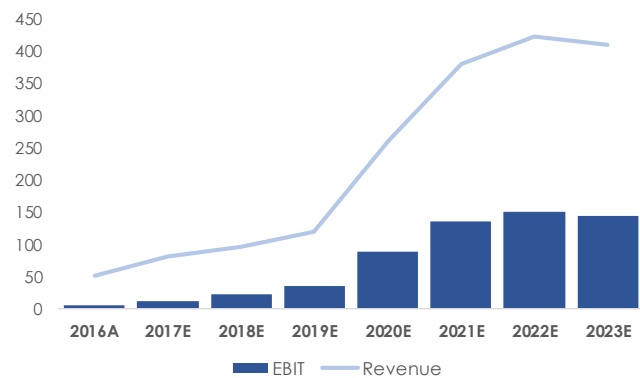
Source: Global Mining Research

Fig 18: Avanco – Total Copper and Gold Production (kt, koz)



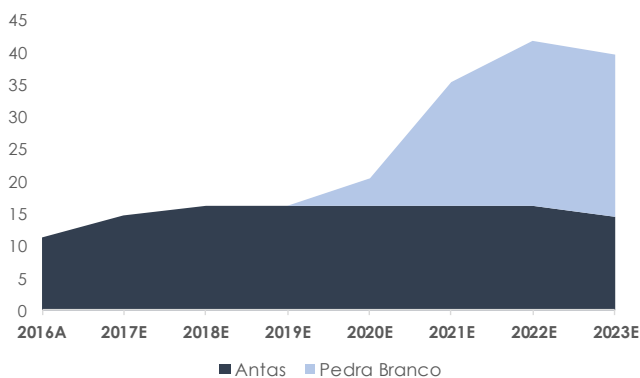
Source: Global Mining Research

Fig 19: Avanco – Sales Revenue and EBIT (US\$M)



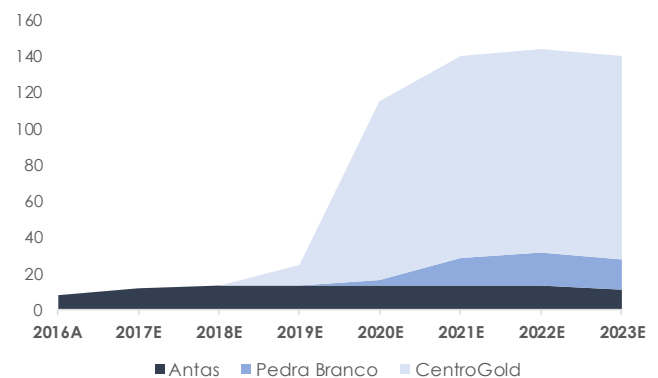
Source: Global Mining Research

Fig 20: Avanco – Copper Production by Mine (kt)



Source: Global Mining Research

Fig 21: Avanco – Gold Production by Mine (koz)



Source: Global Mining Research

Antas Copper-Gold Mine

In Production and Generating Cash

Antas Copper-Gold Mine:

Ownership - 100%

Location – Carajas region, Pará state, northern Brazil

Status – operational, first production Q1 2016

Mine Type – open cut, milling and copper flotation to produce conc

Mill Size – 800kt per annum (easily increased to 1Mt+) for 16,200t copper and 13,000oz gold, 2018E GMR projection

Capex - US\$60M historical total spend (US\$46M construction capex)

NPV₁₀ – US\$202M GMR estimate

Mine life – reserves finish Q4/2020, GMR expects 2.2Mt ore addition, mine life to Q4/2023

Resources – 15.54Mt at 1.39% Cu and 0.30g/t Au, Antas North and Antas South

Reserves – 3.04Mt at 2.64% Cu and 0.58g/t Au Proved and Probable (update due shortly)

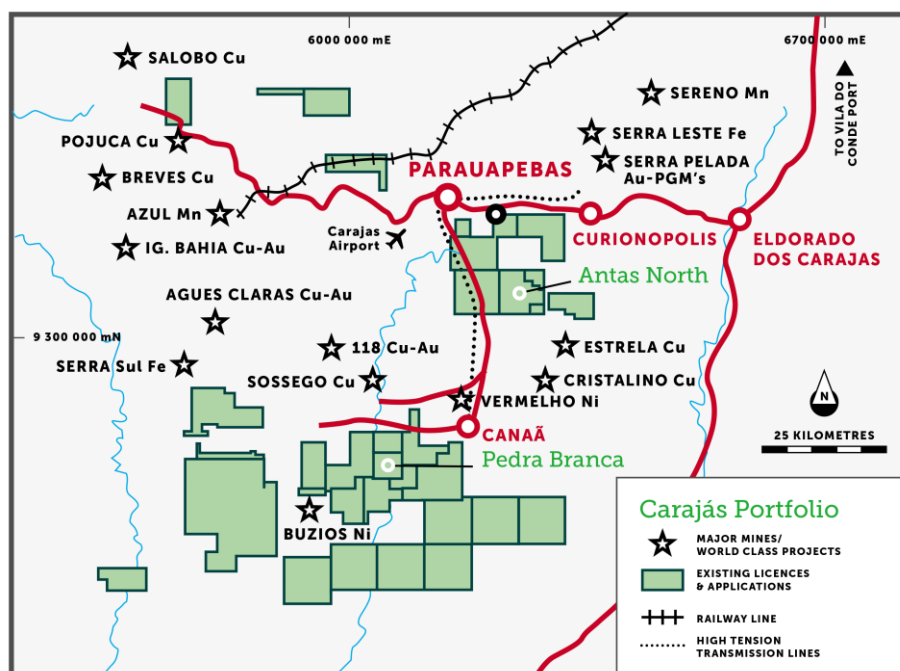
Greatest risk – finding additional ore to extend mine life

Antas is a modestly-sized copper mine with a high economic return due to low capex and good cash costs.

Avanco discovered the Antas project in 2008-2009 following lease acquisition in 2007 and an exploration programme that commenced in early 2008. Initial work focussed on oxide deposits in the region with the attention later moving to the grater sulphide ore potential. Site work commenced in May 2015, civils in June 2015 and with production of first concentrate in March 2016. The project was completed under budget and within the original timeframe estimated.

GMR visited the mine and mill site in August 2017, viewing operations as well as discussing project issues and opportunities with local management and nearby and more regional exploration targets and drill results with the company's geologists.

Fig 22: Antas Copper-Gold Mine Location, Carajas Region, Pará State, Brazil



Source: Avanco Resources

Access and Location

Antas is located in the Carajas mineral province of Brazil, an area more commonly associated with iron ore production by Vale, although the area is home to two of its copper mines, Salobo and Sossego.

Antas is located just south of the mining town of Parauapebas and served by the airport at Carajas. The site is well served by existing sealed roads and highways with all local access roads necessary for the project already constructed.

Labour, Power and Water

All facilities are already in place. Most of the water used falls in the wet season (November to May) and is stored in local dams. High voltage power has been connected to the mine. Labour is sourced from local mining towns including Parauapebas.

Permitting and Licenses

GMR is not aware of any licensing issues with all necessary permits in place.

Geology and Resources

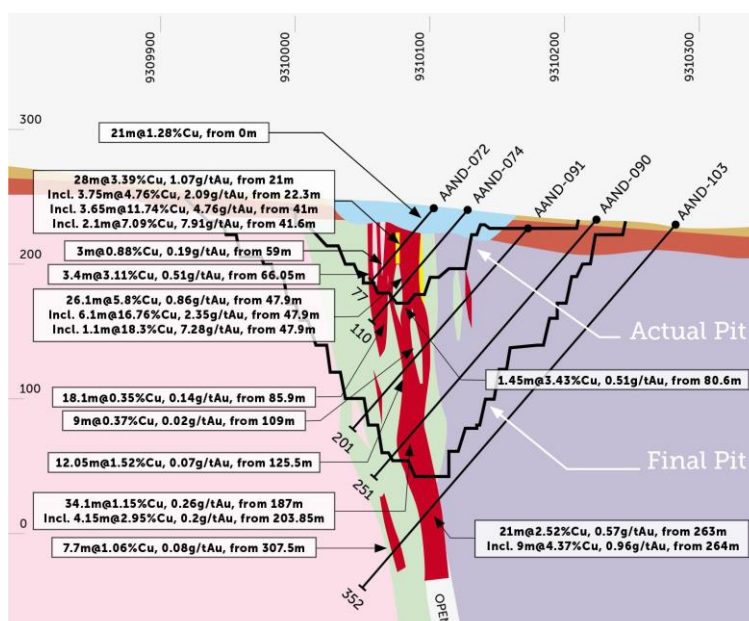
Antas is an Iron Oxide Copper Gold (IOCG) deposit

Antas is set to close in late 2020 on existing Reserves, however GMR expects more tonnes at lower grade to be added, extending life.

Measured, Indicated and Inferred Resources are some 15.54Mt at 1.39% Cu and 0.30g/t Au. This is for both Antas North and Antas South, with Antas North the smaller and higher grade of the two, holding Resources of 5.46Mt at 2.43% Cu and 0.48g/t Au. Reserves are currently 3.04Mt at 2.64% Cu and 0.58g/t Au Proved and Probable however an update is due in the coming months, reflecting mine depletion offset by exploration success.

Exploration has been ongoing with the company disclosing to the market considerable success. Ahead of the updated resource and reserve figures due in the months ahead, GMR expects an additional three years mine life with the treatment of an extra 2.2Mt of ore with grades 2.0%-2.2% Cu. In addition to the near-mine exploration upside, there are also several prospects within trucking distance of the mill.

Fig 23: Antas Copper-Gold Mine Cross Section Line 637825E (depth in metres)



Source: Avanco Resources

Mining and Processing

Antas is a simple open pit and copper sulphide processing operation, producing copper-gold concentrates which are trucked from the site in containers. Much of the mining is run by publicly-listed Australian mining contractor MACA.

At the time of GMR's site visit, mining and mill operations were functioning well. However, it was clear that the mill is somewhat short of ore, with maintenance and reliability issues with the contractors's (MACA's) blast hole drill rigs a cause for slight concern.

GMR understands an additional rig is due on site in the months ahead.

It is possible that the mill runs at 800kt of ore per annum for the coming years (or even above this), but more cautiously GMR has assumed 760kt.

Fig 24: Antas Copper-Gold Mine Summary 2016A – 2023E (kt, %, US\$M)

	2016A	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Ore Milled (kt)	0.51	0.71	0.76	0.76	0.76	0.76	0.76	0.68
Cu Grade (%)	2.3%	2.1%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Copper (kt)	11.2	14.6	16.2	16.2	16.2	16.2	16.2	14.5
Gold (koz)	8.0	11.8	13.0	13.0	13.0	13.0	13.0	10.8
Copper Equiv (kt)	12.8	16.9	18.8	18.8	18.8	18.8	18.8	16.6
Sales Rev	49.6	81.3	95.2	105.1	106.3	107.9	109.5	98.3
EBITDA	20.9	30.9	44.2	54.2	55.4	56.9	59.1	52.8
EBIT	9.5	15.8	27.1	37.3	38.5	40.0	42.3	37.8
Capex	22.9	5.1	2.0	2.0	17.0	2.0	2.0	2.0

Source: Global Mining Research

Fig 25: Antas Open Cut Mining Operations August 2017



Source: Global Mining Research

Fig 26: Antas Open Cut Mining Operations August 2017



Source: Global Mining Research

Fig 27: Antas Flotation Operations August 2017



Source: Global Mining Research

Fig 28: Antas Crushing/Grinding Operations August 2017



Source: Global Mining Research

Avanco pays to BlackRock a 2% royalty on all metals from projects it held as of 2013, plus a 25% royalty on gold from the Antas and Pedra Branca mines only.

BlackRock Royalty

In order to obtain start-up capital, Avanco entered into a royalty agreement with BlackRock in 2014.

BlackRock paid US\$12M to Avanco for the royalty. The royalty applies to Antas, Pedra Branca and in fact any mine development on leases pegged by Avanco as at October 2013. The royalty is listed as a liability in the Balance Sheet.

Avanco pays to BlackRock:

- 25% of the NSR of revenue derived from gold from Antas and Pedra Branca
- 2% of all other metals, principally copper, of the NSR revenue of the mines in the designated lease areas
- TC/RC and transport and refining charges are deductible allowances
- The royalty is for the life of mine(s)

As the CentroGold project was acquired after the set date and not within the designated leases, it does not pay the BlackRock royalty (and in any case the higher gold royalty specifically applies to two mines only).

CentroGold Project

Small But High Return Gold Project

CentroGold Project:

Ownership – right to acquire 100% from Jaguar Mining for ~US\$8M

Location - Maranhão state, northern Brazil

Status – Scoping Study although NI 43-101 completed by Jaguar Mining in 2011

Mine Type – open cut, free milling/non-refractory, moderate hardness ore, standard gold circuit

Mill Size – 2.0Mt per annum for 112,400oz, GMR projection

Capex - US\$90M GMR estimate

NPV₁₀ – US\$181M GMR estimate

First planned production - Q4/2019 GMR projection

Mine life - 10 to 11 years

Resources – 20.2Mt at 2.0g/t for 1.286Moz; Jaguar published 88.6Mt at 1.1g/t for 3.13Moz (M+I+I)

Reserves – nil by Avanco; Jaguar 64.93Mt at 1.14g/t for 2.377Moz in its NI 43-101

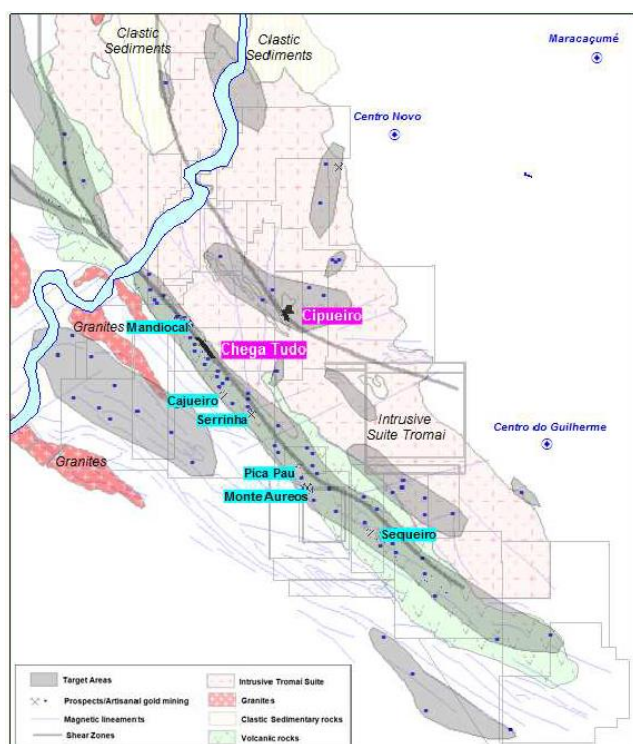
Greatest risk – regulatory and surface rights

By reducing mill size and high grading the deposit, CentroGold should offer a high return relative to previous owner's plans.

Avanco in 2016 entered into an agreement with former owner Jaguar Mining to acquire 100% of the former Gurupi project. Avanco has renamed it CentroGold after the nearby town of Centro Novo do Maranhão. Total cost of the acquisition is ~US\$8M plus an ongoing production royalty.

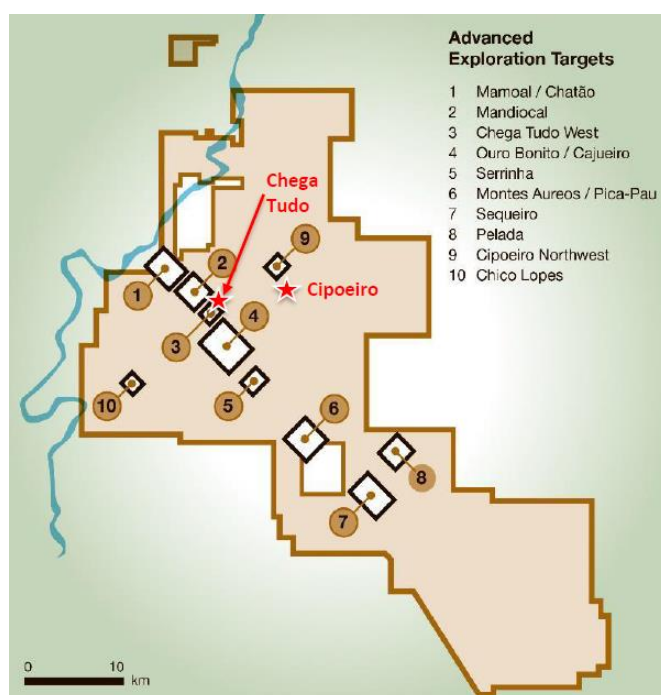
GMR spent two days visiting the project site and nearby exploration targets in August 2017, viewing outcrops and the core shed as well as discussing project issues and opportunities with local management and geologists.

Fig 29: Regional Geology Maranhão – Pará States Border



Source: Avanco Resources

Fig 30: Avanco Exploration Leases Showing Targets



Source: Avanco Resources

Access and Location

The project location is roughly halfway between the cities of Belem and São Luis in far northern Brazil. The drive to Belem takes approximately 5.5 hours.

Modern single or multi-lane highways serve the region, although final access to the project site is by one or two-lane gravel roads in moderate condition. Some of these will need to be upgraded by Avanco in order to deliver workers and equipment to site.

Avanco expects to build a simple gravel airstrip near one of the local towns in order to reduce commuting time for fly-in/fly-out workers.

The project site and surrounding region is lightly to moderately vegetated, mostly cleared for cattle, with flat-lying to lightly hilly ground.

Labour, Power and Water

The local towns of Centro Novo do Maranhão and Chegu Tudo house some 20,000 inhabitants which are expected to provide the bulk of the unskilled to semi-skilled workers. Skilled and professional staff are expected to be drawn from the remainder of Brazil.

High rainfall over the wet season (November to May) will provide the majority of the process water required. For emergency use, a water pipeline from the nearby Gurupi River is to be built.

High voltage power lines were visible in the region to GMR, however Avanco will need to run ~40km of high voltage line to the project site, across flat to lightly undulating ground.

Permitting and Licenses

Jaguar failed to advance the project in part because of financial issues with that company some years ago, and partly because of issues over surface access rights. It is a condition of Brazilian mining licenses that surface landholder agreement is negotiated prior to the award of the license.

Avanco is overcoming the issues by approaching the challenges differently. As mentioned, management are nearly all Brazilian nationals or Australians fluent in Portuguese. Avanco's legal counsel has a proven track record in resolving such issues which are not uncommon in the north of Brazil.

Greatest risk to the project remains surface land rights and access. Avanco is in negotiation with the government authority INCRA to resettle some people.

After reaching preliminary agreements with the local government administration and local artisanal miners (*garimpeiros*) the major challenge remains agreement with the Brazilian government authority INCRA. This holds land for the benefit of rural peoples, with leases covering part of the project site. Avanco is in negotiations with INCRA and is hopeful of a resolution this year based on land-swaps, facilitating project development. This is arguably the key project risk.

Geology and Resources

To date Avanco has identified JORC – compliant Indicated and Inferred Resources of 20.2Mt at 2.0g/t for 1.286Moz. GMR expects this to grow as drilling advances, with two rigs due on site in coming months.

The 20.2Mt relate to the Blanket Zone and higher- grade Contact Zone. It is likely that an early Scoping Study will need to utilise the lower grade Blanket Zone first in any model, as currently higher-grade Contact Zone ore is classified predominantly in the Inferred Category.

Any later revision following infill drilling and an upgrade to resource classification at the Contact Zone is likely to have a profound impact on any economic model and conceptual mine plan, as the higher grade Contact Zone material can then be scheduled to be mined first.

Prior to a published DFS there are no Reserves estimates completed by Avanco. Jaguar calculated pit optimised reserves of 64.93Mt at 1.14g/t for 2.377Moz in its NI 43-101 in 2011. This was part of its broader 3.14Moz in Resources.

Jaguar located most of the resources at the main orebody at Cipoeiro (two zones, the Contact zone and Blanket zone) and at Chegu Tudo. Avanco has identified 10 prospective nearby targets that could be processed by the mill at CentroGold. Most of these are in fact historic garimpeiros workings, some with very sizable open cuts seen by GMR.

Mining and Processing

The CentroGold project is to be a conventional gold mine and mill. GMR projects a 2.0Mt mill commencing operations in Q4/2019 after a short build timeframe (although note development sequencing is subject to concrete pours before the 2018/2019 wet season).

Ore is free milling with moderate-to-high hardness. Partly drawing on the 43-101 study published and partly on observations made on site, GMR expects head grades of 1.9g/t with 92% recoveries based on met testing to date, for 112,400oz annually.

Essentially, Avanco is planning a smaller tonnage/higher grade operation than envisaged by Jaguar, better suiting its ability to finance the project.

Production Costs

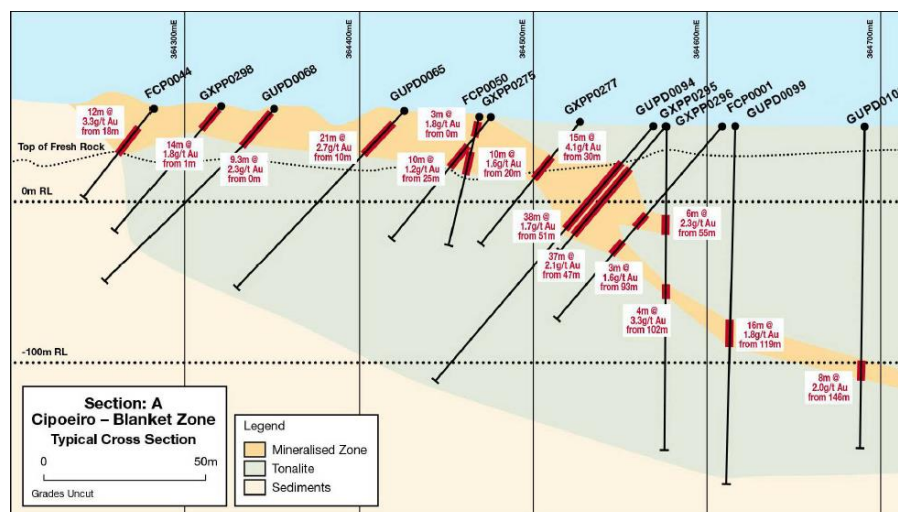
GMR provisional estimate cash cost US\$781/oz or US\$887/oz over the LOM including build capex.

GMR estimates cash costs for the first full year of production at US\$781/oz, including royalties.

This increases to US\$799/oz on an AISC basis, including royalties and stay-in-business capex.

Including the project capex to build the mine and purchase price, over the life of the mine the total cash costs equate to US\$887/oz of gold produced.

Fig 31: CentroGold Cipoeiro Deposit Blanket Zone Section



Source: Avanco Resources

Fig 32: CentroGold Project Summary 2016A – 2023E (kt, %, US\$M)

	2016A	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Ore Milled (kt)	0.00	0.00	0.00	0.20	1.75	2.00	2.00	2.00
Au Grade (g/t)	0.00	0.00	1.90	1.90	1.90	1.90	1.90	1.90
Copper (kt)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gold (koz)	0.0	0.0	0.0	11.2	98.3	112.4	112.4	112.4
Copper Equiv (kt)	0.0	0.0	0.0	2.2	19.3	22.1	22.1	22.1
Sales Rev	0.0	0.0	0.0	14.5	127.1	145.9	146.7	147.4
EBITDA	0.0	0.0	0.0	5.8	51.0	59.0	59.4	59.7
EBIT	0.0	0.0	0.0	2.8	43.7	50.7	51.0	51.3
Capex	0.0	8.0	15.0	55.0	20.0	2.0	2.0	2.0

Source: Global Mining Research

Fig 33: CentroGold Showing Flat/Undulating Terrain August 2017



Source: Global Mining Research

Fig 34: CentroGold Typical Artisanal Workings August 2017



Source: Global Mining Research

Fig 35: CentroGold Visible Gold in Outcrop August 2017



Source: Global Mining Research

Fig 36: CentroGold Waste Rock Location August 2017



Source: Global Mining Research

Pedra Banca East Copper Project

Small But Profitable Copper Project

Pedra Branca Copper-Gold Project:

Ownership - 100%

Location – Carajas region, Pará state, northern Brazil

Status –Pre-Feasibility Study completed, under revision with Definitive Feasibility Study due in 2018. Box cut completed and decline commenced.

Mine Type – underground mining of copper-gold sulphide ores, milling and copper flotation to produce conc

Mill size – 1.2Mt per annum mill for 25,650t copper and 18,200oz gold, at peak 2023E

Capex - US\$158M PFS study, under revision, GMR estimate US\$140M with paste plant delayed to year 3 or 4

NPV₁₀ – US\$154M GMR estimate

First planned production - Q4/2020,

Mine life – 9 year life on reserves, 11 years GMR estimate

Resources – 17.67Mt at 2.44% Cu and 0.65g/t Au

Reserves – Nil currently; the PFS assumed 10.9Mt treated over LOM at 2.06% Cu and 0.49g/t Au

Greatest risk – underground mining competency in Brazil

Pedra Branco shows positive economics in the recently-published PFS. GMR estimates a US\$154M value.

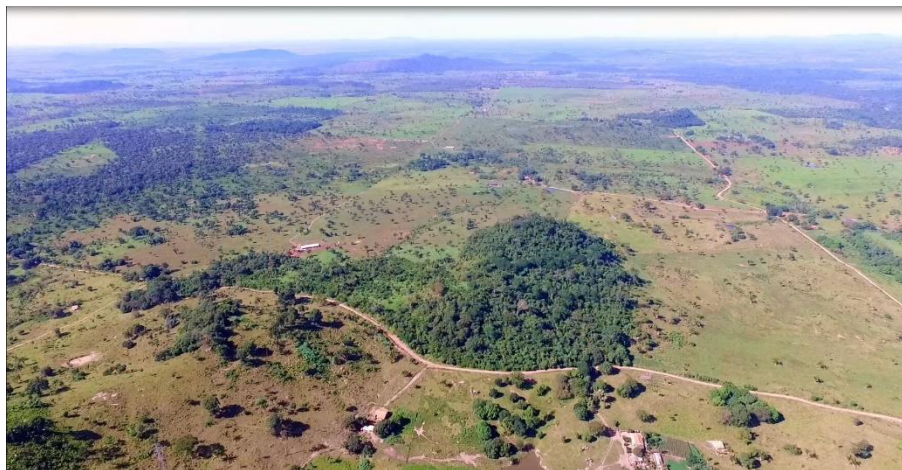
Avanco acquired the Pedra Branca project in 2012 from Xstrata (now Glencore) in exchange for issuing shares to the seller.

At the time of the site visit in August 2017, work on the shallow decline had briefly stopped and the operations site was not visited by GMR. However, the project status was discussed with Avanco management and an overview of the mine and near-mine exploration upside was reviewed with company geologists.

Access and Location

Pedra Branca is located in the Carajas region of Brazil, an area more commonly associated with iron ore production by Vale, although the area is home to two of its copper mines, Salobo and Sossego. The project is located just south of the mining town of Parauapebas and served by the airport at Carajas.

Fig 37: Pedra Branca Site Aerial Photograph



Source: Avanco Resources

The site is well served by existing sealed roads and highways with all local access roads necessary for the project already constructed. Pedra Branca is some 40km (direct) south of the existing Antas mine. Pedra Branca is located in flat terrain, mostly cleared for cattle grazing.

Labour, Power and Water

Most of the water used falls in the wet season (November to May) and is to be stored in local dams or the tails dam. High voltage power is available close to the site.

Labour is sourced from local mining towns including Canaã dos Carajás which is 20km to the east or the nearby village of Feitosa.

Permitting and Licenses

Pedra Branca is located within Exploration License 850318/00. The Final Exploration Report and Preliminary Economic Assessment have been approved by the DNPM (department of mines).

Avanco has received a trial mining permit which grants approval for the commencement of underground development works when the Company is ready. The Company expects to be granted the full Environmental License in 2018 and construction permit in 2019, after which the construction of the plant can begin.

Geology and Resources

As with Antas, Pedra Branca is an Iron Oxide Copper Gold (IOCG) deposit.

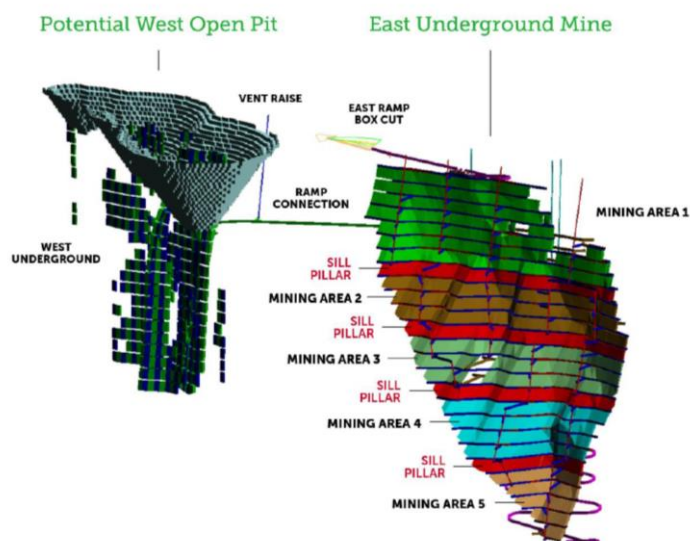
Measured, Indicated and Inferred Resources are 17.67Mt grading 2.44% Cu and 0.65g/t Au.

Reserves are currently not available prior to the completion of the Definitive Feasibility Study. Assuming some additional ore from nearby prospects, GMR assumes the milling of 13.7Mt over the life of mine.

Ground conditions are noted as favourable, with mineralisation hosted in granites. The orebody is steeply dipping with average widths of ~15m.

Not all the permits required for the mine start are completed, although there is no reason that GMR is aware of that they will not be.

Fig 38: Pedra Branca 3-D Diagrammatic Underground Mine Plan Representation



Source: Avanco Resources

Mining and Processing

The Pedra Branca project is a conventional mine treating copper-gold sulphide ore, then milling and flotation to produce copper-gold concentrates for sale.

Pedra Branca should benefit from the experience Avanco gained with its first copper project, Antas. The difference with the next copper project is that mining is underground, not open cut, using sub level open stoping.

Sub level open stoping (also known as long hole stoping) has numerous advantages where the country rock is competent, including mining of nearly all the ore with minimal dilution.

Sub level open stoping has several attractions but is capex-heavy and with slow ramp up (27 months). Alternative underground methods are being examined.

Sub level open stoping's greatest disadvantage is that it is usually characterised by slow initial production, due to a lack of draw-points. Avanco, with the SLOS, expects a 27 month ramp-up. It also tends to be capex-heavy as a mining method.

GMR understands Avanco is already examining opportunities to reduce capex above and below ground as part of current studies. Timing of an update and the style of mining to be adopted are unknown at the time of writing. In our view Avanco should investigate initiating mining with another mining method, possibly then transition to SLOS after start-up if conditions warrant that move.

Scheduling of the underground development to deliver first ore to surface is driven by the construction and commissioning of the plant. The plant timeline is dependent upon the grant of a Construction Permit (expected in 2019 but delays are not unknown in northern Brazil).

With the retirement of Chairman Colin Jones, GMR considers the company now probably lacks underground experience, although he will apparently be available as a consultant.

Avanco forecast total mining and processing costs of US\$52/t which has been adopted by GMR. Copper grades vary over the life of the project, commencing at 2.2%-2.3% Cu and diminishing to 1.9% Cu later, for a life of mine 2.06% Cu. Gold grades commence at 0.6g/t Au and fall to 0.4g/t Au over time.

GMR expects 95% metallurgical recovery for copper and 86% for gold.

Fig 39: Pedra Branca Copper-Gold Mine Summary 2016A – 2023E (kt, %, US\$M)

	2016A	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Ore Milled (kt)	0.00	0.00	0.00	0.00	0.20	0.90	1.20	1.20
Cu Grade (%)	2.0%	2.0%	2.0%	2.0%	2.2%	2.3%	2.3%	2.2%
Copper (kt)	0.0	0.0	0.0	0.0	4.2	19.3	25.7	25.1
Gold (koz)	0.0	0.0	0.0	0.0	3.3	14.9	18.2	16.6
Copper Equiv (kt)	0.0	0.0	0.0	0.0	4.8	22.2	29.2	28.3
Sales Rev	0.0	0.0	0.0	0.0	26.9	125.3	167.2	164.4
EBITDA	0.0	0.0	0.0	0.0	9.9	57.3	77.0	73.7
EBIT	0.0	0.0	0.0	0.0	9.9	49.3	62.0	58.7
Capex	0.0	0.0	10.6	44.7	69.5	18.2	18.8	28.9

Source: Global Mining Research

Board and Key Management

Board of Directors

Colin Jones (Non-Executive Chairman) (Retired) – Portuguese-speaking UK and Australian citizen, Mr Jones lives in Brazil. He is a mining engineer with experience in coal in the UK, nickel in Brazil and copper mining in South Africa, mostly with Rio Tinto. Mr Jones has experience in underground mining and block caving.

Vern Tidy (Senior Non-Executive Director, Interim Chairman) – An Australian citizen, with experience in finance and audit. Mr Tidy previously worked with Ernst & Young where he led the Perth office group on mining.

Tony Polglase (Chief Executive Officer) – Mr Polglase is a Portuguese-speaking Australian citizen and was appointed CEO approximately 10 years ago. He has 30 years' experience as a mining and electrical engineer in a wide array of commodities and countries including having worked with Rio Tinto. Mr Polglase lives in Brazil.

Luiz Ferraz (Non-Executive Director) – is a Brazilian national, specialising in resource finance. Mr Ferraz was formerly the CFO and CEO of the Paranapanema Copper Smelter and Operations Manager at Banco Bandeirantes.

Paul Chapman (Non-Executive Director) – is an Australian citizen, active as a resource sector entrepreneur. Mr Chapman's background includes work in commercial management roles with WMC and Alcoa.

Luis Azevedo – (Executive, Legal) – Mr Azevedo is a Brazilian citizen and specialises in Brazilian resources law and regulation. He has 35 years' experience in the field of law but is a geologist by background.

Simon Mottram – (Executive, Exploration Head) – Mr Mottram is a Portuguese-speaking Australian citizen, and spends most of his time in Brazil. He is an exploration geologist by background with over 40 years' experience.

Senior Management

Many of the Directors of the Board, as seen above, are full-time executives with Avanco, although the company has a majority independent Board. In addition to the above are:

Scott Funston – (Chief Financial Officer) – Mr Funston is an Australian citizen and is a qualified Chartered Accountant and Company Secretary. He has more than 15 years' experience in accounting and/or the mining industry.

Nicholas Bias – (Head of Corporate Affairs) – Mr Bias is a UK citizen with experience in corporate affairs and investor relations. Mr Bias previously worked with Glencore, Aquarius Platinum and LionOre.

Otávio Monteiro – (General Manager, Antas Mine) – Mr Monteiro is a Brazilian citizen and is a qualified chemical engineer with 25 years' experience. He was appointed GM of the Antas mine in early 2016.

Jailson Araujo – (General Manager CentroGold Project) – Mr Araujo is a Brazilian citizen with extensive exploration experience. He has been with Avanco since 2011 and has 25 years' experience, mostly in Brazil.

Owen Hatton – (Consultant Geologist) – Dr Hatton is a Spanish- and Portuguese-speaking Australian citizen with 17 years' experience, mostly in south American nations.

Fig 40: Financial Summary

Avanco Resources Limited

As at 17-Sep-17

Recommendation

Not Applic.

Analysts:
Tony Robson

Share Price (US\$)

\$0.08

Share Price (A\$)

\$0.10

Model Derived
Target Value (US\$)
NPV (US\$)

Not Applic.
\$0.22

Model Derived
Target Value (A\$)
NPV (A\$)

Not Applic.
\$0.28

Ordinary Shares (M)
Options + Notes (M)

2,457.0
192.0

Market Cap (US\$M) -Diluted

\$211

Market Cap (A\$M)

\$265 Diluted

PRICE ASSUMPTIONS

(Dec Year End)

2016A

2017E

2018E

2019E

2020E

2021E

Exchange Rate

A\$/US\$

0.74

0.75

0.76

0.78

0.78

0.78

Exchange Rate

BRL/US\$

3.49

3.19

3.10

3.00

3.00

3.00

Copper

US\$/lb

2.21

2.61

2.75

3.00

3.03

3.08

Gold

US\$/oz

1,249

1,251

1,275

1,300

1,305

1,311

Molybdenum

US\$/lb

6.38

7.01

8.00

10.00

11.12

11.29

FINANCIAL SUMMARY

(Dec Year End)

2016A

2017E

2018E

2019E

2020E

2021E

NPAT (Adj.)

(US\$M)

-2.7

5.3

15.3

22.8

57.2

92.7

EPS

(cpts)

-0.1

0.2

0.6

0.9

2.2

3.5

PER

(x)

na

39.6

13.8

9.3

3.7

2.3

EPS Growth

(%)

>100.0

>100.0

>100.0

48.5

>100.0

62.0

Attributable EBITDA

(US\$M)

15.6

26.1

39.0

54.8

111.2

168.0

EBITDA per Share

(cpts)

0.0

0.0

0.0

0.0

0.0

0.1

EV/EBITDA

(x)

11.1

6.3

4.1

4.0

2.2

0.8

Dividend

(cpts)

0.0

0.0

0.0

0.0

0.0

0.0

Yield

(%)

0.0

0.0

0.0

0.0

0.0

0.0

P/FCF

(x)

NM

28.6

43.7

NM

NM

2.0

FCF Yield

(%)

NM

3.5

2.3

NM

NM

49.1

PROFIT AND LOSS STATEMENT - US\$M

(Dec Year End)

2016A

2017E

2018E

2019E

2020E

2021E

Sales Revenue

59.2

95.3

111.1

134.5

279.7

414.4

Other Revenue

-9.7

-14.0

-15.9

-15.0

-19.4

-35.3

Operating Costs

24.4

43.5

42.7

49.9

124.7

179.6

Gross Operating Profit

25.2

37.9

52.5

69.6

135.6

199.6

Depreciation

11.4

15.1

17.1

19.9

24.2

33.2

Exploration and Royalties

5.3

7.0

8.3

9.5

17.2

26.4

Corporate and Other

4.2

4.6

5.2

5.2

7.2

5.2

EBIT

4.2

11.2

21.9

34.9

86.9

134.8

Less Net Interest Expense

3.2

2.0

0.0

2.3

5.2

2.3

Pre-Tax Profits

1.0

9.2

21.9

32.5

81.8

132.5

Less Tax

3.7

3.9

6.6

9.8

24.5

39.7

Less Minorities

-2.7

5.3

15.3

22.8

57.2

92.7

Less Pref Dividends

0.0

0.0

0.0

0.0

0.0

0.0

NPAT (Adj.)

0.0

0.0

0.0

0.0

0.0

0.0

Net Abnormals

0.0

0.0

0.0

0.0

0.0

0.0

Reported Profit

-2.7

5.3

15.3

22.8

57.2

92.7

DIVISIONAL VALUATION

NPV US\$M

202

154

181

40

15

-33

26

584

0.22

Copper Reserves

Copper Resources

GMR Guesstimate

Attributable

Contained

Metal

(Mt)

(Years)

2

16

10

Attributable

Contained

Gold

(Moz)

(Years)

0

11

10

Gold Reserves

Gold Resources

GMR Guesstimate

0.06

1.81

1.53

0

11

10

CASH FLOW ANALYSIS - US\$M

(Dec Year End)

2016A

2017E

2018E

2019E

2020E

2021E

Cash Flows From Operating Activities

Receipts From Customers

51.9

81.3

95.2

119.5

260.3

379.2

Payments To Suppliers

(39.9)

(55.0)

(56.2)

(64.7)

(149.1)

(211.2)

Net Interest

0.4

(2.0)

0.0

(2.3)

(5.2)

(2.3)

Tax and Other

0.0

(3.9)

(6.6)

(9.8)

(24.5)

(39.7)

Cash Flows From Investing Activities

Acq.of Property, Plant and Equip.

(22.9)

(13.1)

(27.6)

(101.7)

(107.5)

(22.2)

Exploration Expenditure

0.0

0.0

0.0

0.0

0.0

0.0

Other

0.0

0.0

0.0

0.0

0.0

0.0

Cash Flows From Financing Activities

Net Change in Borrowings

2.4

0.0

0.0

45.0

45.0

(45.0)

Dividends Paid

0.0

0.0

0.0

0.0

0.0

0.0

Other

(0.7)

0.0

0.0

0.0

0.0

0.0

Net Increase In Cash Held

(8.8)

7.4

4.8

(14.0)

18.9

58.8

Cash At End of Year

22.9

30.2

35.1

21.1

40.0

98.8

BALANCE SHEET ANALYSIS - US\$M

(Dec Year End)

2016A

2017E

2018E

2019E

2020E

2021E

Current Assets

Cash and Liquids

22.9

30.2

35.1

21.1

40.0

98.8

Other

16.8

16.8

16.8

16.8

16.8

16.8

Non-Current Assets

Investments

0.0

0.0

0.0

0.0

0.0

0.0

Fixed Assets

61.1

59.0

69.5

151.3

234.6

223.5

Other

23.4

23.4

23.4

23.4

23.4

23.4

Current Liabilities

Borrowings

0.0

0.0

0.0

0.0

0.0

0.0

Creditors

10.4

10.4

10.4

10.4

10.4

10.4

Other

7.5

7.5

7.5

7.5

7.5

7.5

Non-Current Liabilities

Borrowings

0.0

0.0

0.0

45.0

90.0

45.0

Other

17.8

17.8

17.8

17.8

17.8

17.8

Minority Interest

88

94

109

132

189

282

SHAREHOLDERS FUNDS

Net Cash/(Net Debt)

23

30

35

(24)

(50)

54

Net Debt/Equity %

-25.9%

-32.3%

-32.1%

18.1%

26.4%

-19.1%

DIVISIONAL EARNINGS (EBIT) - US\$M

(Dec Year End)

2016A

2017E

2018E

2019E

2020E

2021E

Antas

9.5

15.8

27.1

37.3

38.5

40.0

Pedra Branca

0.0

0.0

0.0

0.0

9.9

49.3

CentroGold

0.0

0.0

0.0

2.8

43.7

50.7

EBIT before eliminations

9.5

15.8

27.1

40.1

92.1

140.0

PROJECT/DIVISION

2016A

2017E

2018E

2019E

2020E

2021E

Copper Production (100%)

Antas

kt

11.2

14.6

16.2

16.2

16.2

16.2

Pedra Branca

0.0

0.0

0.0

0.0

4.2

19.3

Total

11.2

14.6

16.2

16.2

20.4

35.5

Gold Production (100%)

Antas

Koz

8.0

11.8

13.0

13.0

13.0

13.0

Pedra Branca

0.0

0.0

0.0

0.0

3.3

14.9

CentroGold

0.0

0.0

0.0

11.2

98.3

112.4

Total

8.0

11.8

13.0

24.3

114.7

140.3

Cu Cash Cost (Co-Prod US\$/lb incl royalties)

1.33

1.60

1.48

1.47

1.55

1.57

Source: Global Mining Research

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The Net Present Value (NPV) of a company is based on a discounted cash flow analysis using a 10% nominal discount rate unless stated otherwise. The NPV consists of a value for each project or mine together with the net cash position, hedge books and options/warrants on a fully diluted basis.

The Target Price considers both the short-term market parameters and the longer-term cash flow captured by NPV of the stock. The short-term calculation consists of the three-year relative average EV/EBITDA ratio adjusted for mine life and growth. The longer-term calculation considers the NPV adjusted for the market capitalisation of the stock. The Target Price is the average of the short-term and longer-term valuation adjusted for perceived risk and is based on a 12 month view.

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