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Caledonia Mining

A Golden Opportunity?

Caledonia Mining (Caledonia) is a gold mining company that produced 43,000 ounces (43koz) of gold from its mine in Zimbabwe in 2015 and is investing a total of over US\$50m from cash flow, with the aim of almost doubling production by 2021.

The company is a profitable gold producer that has been paying a quarterly dividend since the beginning of 2014. It has just increased its quarterly dividend by 22%, to an annualised US5.5c per share and, based on the current share price, the projected annual dividend yield for 2016 equates to 4.8%.

Caledonia is fully compliant with Zimbabwe's indigenisation laws, with a 49% interest in the 100-year-old Blanket mine, although it participates in the mine cash flow at the much higher level of 77% (see Appendix 1). It is currently embarking on a fully-funded expansion programme.

Caledonia's revenues and profits have been modelled based on a number of assumptions set out in Figure 19 on page 25. The figures derived from this model have been used to illustrate this note but they should not be relied on and there is no guarantee that these figures will prove to be correct.

One of the assumptions made is that, following Caledonia's planned investment in the Blanket mine, gold production will rise to 78koz a year. Based on this, and other assumptions, it is suggested that Caledonia's earnings per share (EPS) could increase to US25.8c in 2016 and US50.9c in 2017 and that this could support higher levels of dividend in those years.

The company's shares are highly leveraged to the gold price, having appreciated by 128% so far in 2016, well in excess of the 26% gain in the gold price over the same period.

As at 31 March 2016, the company held net cash of £6.6m, equivalent to 13p per share.

Listed	AIM, TSX
Ticker	CMCL LN, CAL CN
Base currency	GBP
Price (pence)	86.5
Daily volume (1-year avg)	36,950 shares
1-year high (pence)	90.0
1-year low (pence)	38.0
1-month performance	25.4%
3-month performance	32.1%
1-year performance	124.7%
Calendar YTD perf.	127.6%
2016 yield*	4.8%

^{*} Based on US5.5c dividend

Caledonia v AIM Basic Resources (rebased)

Time period: 27/07/2015 to 27/07/2016



Source: Bloomberg, Marten & Co

Net cash (US\$m)	8.8
NAV ¹⁵ %/share (pence)*	130.0
P/NAV	0.67
Market cap (GBP)	45.2m
Shares outstanding	52.2m

^{*} Based on the assumptions set out in Figure 19 on page 25



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Glossary of terms

A summary of some of the terms and abbreviations used in this note is provided here. Additional information on mining terms can be found in the glossary available at www.quoteddata.com – just type the relevant term in the search box.

AIC	All-in costs (see Appendix 2)
AISC	All-in sustaining costs (see Appendix 2)
Andesitic	A fine-grained type of rock formed when lava cools rapidly in air
Ball mill	A rotating horizontal cylinder in which ore is ground by steel balls
CIL	Carbon-in-leach – a process to extract gold from ground ore using a cyanide leach and absorption of gold onto carbon granules
Doré	Bullion bar produced at a mine smelter, usually about 90-95% gold and 5-10% silver
Elution	Recovery of the gold from the activated carbon into solution before zinc precipitation or electrowinning
Electrowinning	A process of recovering gold from solution by means of electrolytic chemical reaction, into a form that can be smelted easily into gold bars.
Felsic	A mineral or rock rich in silicates including feldspar and quartz
G&A	General and administrative costs
Greenstone	Metamorphosed volcanic rocks with a green hue that are important hosts of gold deposits
IFRS	International financial reporting standards
Leaching	Dissolving minerals – used as a way of separating the mineral from the ore
Mafic	A mineral or rock rich in magnesium and iron such as olivine and pyroxene. Mafic takes its name from Magnesium (Ma) and from Ferric (fic). Ultramafic rocks have low silica content and 90% plus mafic minerals
Orebody	A deposit of valuable minerals
Refractory	Resistant to heat – retaining strength at high temperatures
Reserve	Economically mineable part of a resource (see Appendix 3)
Resource	Gold deposit with estimated quantity and grade that gives it a reasonable prospect of being mined (see Appendix 3)
Stratigraphy	Chronological sequence of bedded rocks
Strike	Across the slope as opposed to "dip" which means down the slope
TSX	Toronto Stock Exchange
Winze	An internal shaft that is sunk downwards, connecting two levels in an underground mine



More information on Caledonia Mining can be found at the company's website:

www.caledoniamining.com

Caledonia acquired the mine in 2006 and in 2012 sold 51% for over US\$30m

Introduction

Caledonia is a gold mining company with an operating mine in the southern region of Zimbabwe. The mine produced 43koz of gold in 2015.

The company's shares trade on the Toronto Stock Exchange (TSX) with the symbol CAL and on London's AIM with the symbol CMCL. Caledonia has 52.2m shares outstanding and a market capitalisation of £45.2m.

The company is registered in Jersey, having moved its domicile from Canada in Q1 16 to simplify the group structure and to reduce travel and compliance costs. One benefit for non-Canadian shareholders is that they will no longer have to pay withholding tax on dividends.

The company acquired the Blanket mine from Kinross Gold in 2006. In 2012, it sold a 51% interest in the mine to various local parties to comply with indigenisation law (designed to increase the participation of Black Zimbabweans in the local economy). Caledonia is able to participate in Blanket mine's cash flow at the much higher level of 77%, however, because of the way the indigenisation deal was facilitated. Caledonia is currently embarking on an expansion programme, which it is funding from current and future generated cash flow. Based on conversations with the company's management team, it is assumed that this will increase gold production to 78koz per year by 2021.

Caledonia paid dividends in Canadian dollars in 2014 and 2015 (when it was listed in Toronto). Based on the Canadian/US dollar exchange rates then, these were equivalent to US5.4c and US4.8c per share in 2014 and 2015 respectively. It has just increased its quarterly dividend by 22% to US1.375c per share (US5.5c per share annualised).

Investment case

Subjective analysis using a long-term gold price of US\$1,350/oz, leads to a NAV $^{15\%}$ (net asset value discounting projected cash flows at a rate of 15% per annum) for Caledonia's share of Blanket mine dividends of 95.2p per share and a NAV for the company of 130.0p per share, suggesting that Caledonia is currently trading in London at a discount of 33% to NAV.

Earnings should rise as production increases

Figure 1: Production and earnings projections based on assumptions

Year	Gold prod (koz)	All-in sustaining costs (US\$/oz)	Revenue (US\$m)	EBITDA (US\$m)	EBITDA margin (%)	EPS (USc)
2016	48	990	62.0	18.3	30%	25.8
2017	64	797	84.7	37.7	45%	50.9
2018	66	791	87.8	39.4	45%	33.0

Source: Marten & Co. Projections based on the assumptions set out in Figure 19 on page 25

Caledonia is a profitable gold producer. Earnings per share (EPS) in 2015, on a consolidated basis, were US8.9c and, based on the assumptions in Figure 19 on page 25, profits could increase substantially in coming years, as the company benefits from increased production and higher gold prices.



EPS projected to rise to US25.8c in 2016 and US50.9c in 2017

The model suggests consolidated EPS in 2016 could rise to US25.8c and in 2017 to US\$50.9c before higher depreciation, a result of the completion of the expansion project, bites into earnings in 2018. For details see Figure 24 on page 27.

NB it is important to consider these projections alongside the sensitivity analysis on pages 12 to 13 and the risk assessment on pages 35 to 36.

The dividend yield is high and could rise

Caledonia has been paying an annual dividend, on a quarterly basis, since the beginning of 2014. Until 2016, this was denominated in Canadian dollars.

Its dividend this year could be US5.5c per share, after the board increased the quarterly dividend by 22% in July, to US1.375c per share. Based on the current share price of 86.5p, this equates to a forecast dividend yield of 4.8%.

If cash flow increases, courtesy of increased production at the higher gold prices assumed in the model, the company could have the financial strength to increase dividends even before the capital expansion programme is completed. Thus, the model suggests the dividend could be US10c in 2017, rising to US15c per year thereafter (see Figure 24, page 27).

As at 31 March 2016, the company held net cash of US\$8.8m (£6.6m), equivalent to 13p per share.

Increasing production

Having increased gold production from 14koz, in 2010, to 43koz, in 2015 (see Figure 13, page 19), the company believes it can now almost double gold output again through the current capital investment programme (see pages 21 to 23 for details). The programme should enable Caledonia to open up the deeper areas of the mine that the company's analysis suggests will also be more productive.

After five years of a bear market, the gold price appears to be on an upward trend (see Figure 26, page 29). If this is sustained, the production increase is well-timed and could see shareholders benefitting from the increased margins that the higher prices, in combination with lower costs as a result of the increased production, could bring (see pages 29 to 32 for an explanation of gold price assumptions).

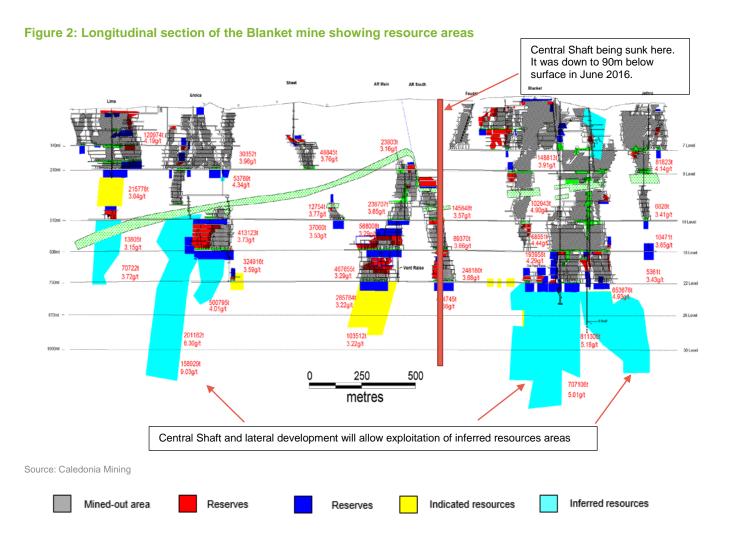
The expansion project is designed to allow development and exploitation of inferred resources (based on sampling) below the 750m level. Although these inferred resources have lower confidence than **reserves**, they appear to show a higher grade and the mine has a 100-year record of converting resources to reserves. It is assumed that 75% of inferred resources are mined.

In July 2015, Blanket mine completed a tramming loop (a rail-based transportation system) on the main haulage level, which has improved logistics and expanded capacity. The impact of this is apparent from the increased tonnes milled over the past three quarters, from 104 kt, in Q1 15, to 114 kt, in Q1 16, and an 8% increase in gold production, despite a slight fall in the quantity of gold produced from the ore mined (the "grade").

At the current share price and quarterly dividend rate, the forecast dividend yield in 2016 is 4.8%

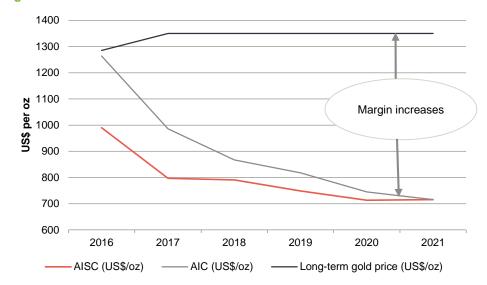
The company hopes to increase gold production to almost 80koz/y

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Costs declining; margin increasing

Figure 3: Forecast AISC and AIC



Source: Caledonia Mining, Marten & Co



Increasing production should lead to a reduction in operating costs

If gold production increases, a downward trend in unit costs would be expected as fixed costs are distributed over a greater number of ounces and mining becomes more efficient.

Figure 3 shows the model's projections for all-in sustaining costs (AISC) and all-in costs (AIC) and the predicted corresponding increase in margin.

Based on the 2015 gold mining industry cost curve (see Figure 13), such an improvement would propel Caledonia into the top quartile of gold producers, ranked low to high by cost of production.

Tight capital structure

The company is funding the expansion from cash flows generated from mining high-confidence reserves and resources in the upper levels of the mine

The total capital spending for the expansion programme to the assumed level of 78koz (see Figure 21, page 26) is estimated to be in the region of US\$51m (US\$13.5m was spent on the programme in 2015, in addition to sustaining capital of US\$4.7m) and the company expects to be able to fund all this capital expenditure from its projected future cash flows.

The company plans to spend the bulk of the remaining capital in 2016 and 2017 while mining "Measured and Indicated" resources above the 750m level, with only a very small percentage of production coming from lower-confidence inferred resources. This provides some comfort that the required cash flow should be available to fund the expansion.

Commonly, companies would look to the capital or equity markets to fund such a large expansion project. Caledonia is listed in London and Toronto, the two largest centres for mining finance in the world. However, Caledonia has not sought debt funding through any of the resource banks in London or Toronto, although it is possible that there were few banks willing to do business with a company with its sole asset in Zimbabwe.

The other alternative was to issue more shares. The company has not looked to raise equity financing either, which could be seen as positive given this would probably have diluted existing shareholders' interests in the company significantly.

The company has only 52m shares issued

Thus, the number of shares outstanding remains at 52.2m.

Supportive partners

Whatever one thinks about the ethics of the Zimbabwe government's imposition of a law requiring companies to allow indigenous groups to participate to the extent of 51% in any gold mining operations, it was a significant corporate upheaval to have to deal with four years ago.

Caledonia took the bull by the horns and immediately instituted an innovative mechanism and structure that complies fully with the legislation but, importantly, allows the company to retain a majority share of cash flow (77%) from Blanket mine.

Caledonia receives the "lion's share" of Blanket dividends

Under the deal, it sold 41% and donated 10% of the equity of Blanket gold mine to various groups, advancing loans to the new shareholders to allow them to make the investment. Until such groups have fully repaid the loans, Caledonia receives the "lion's share" of free cash flow, which is distributed to it as dividends.

The management board of Blanket mine, which comprises representatives from Caledonia and the respective individual indigenous partners (see page 14), agreed in



2015 to suspend dividends and to redirect cash flow to the expansion programme. The majority shareholding group could have been excused for taking a shorter-term view by preferring to continue to draw dividends. However, it supported the investment in production expansion that will ultimately create more value for all shareholders. It is apparent that the company receives broad support from the local community as well.

The indigenisation legislation can be particularly onerous and off-putting for international investors, but a positive for Caledonia's shareholders is that unless the Zimbabwean government takes the extreme step of nationalising the gold mines which could severely and irreparably damage the country's future - there is little likelihood of any future ownership shocks.

Resource expansion potential

The company believes that the potential for finding additional resources at the Blanket minesite to extend the life of the mine is very good.

Once the mine completes access to these potential additional resources, through a new shaft and lateral development, the company will be able to investigate the deeper areas of the mine where limited drilling has intersected very promising grades and widths of the orebodies.

Immediately to the south of the Blanket mine, along strike, a private company is mining at the Vubachikwe mine down to depths of 1,500m below surface. Although at this mine the orebodies are lower in the stratigraphic column (in the lower mafics as opposed to the upper mafics at Blanket mine), the experience at the neighbouring property gives reason for optimism in finding new resources at depth.

Outside the Blanket mine claim areas, the company has late-stage exploration projects at GG and Mascot. Although both have identified resources within truckable distance from the Blanket mine mill, and thus could in theory be developed as a source of ore to complement Blanket mine feed, their metallurgy may render them uneconomic.

The mineralisation at these late-stage projects is refractory, which means that it may be difficult to extract the gold values without pre-treatment prior to leaching. Caledonia plans to build a US\$1.1m pilot plant to test recoveries and will consider pre-treatment methods, such as biological leaching or pressure oxidation. The mine's management may, however, decide to feed the ore straight into the Blanket mine plant, accepting that recoveries may be very low.

Thus, at this stage, value has not been placed on the satellite prospects.

Caledonia has opportunities to increase its resources and production within Zimbabwe

However, Caledonia appears to be in a strong position to be a vehicle for consolidation in the Zimbabwean gold mining industry. The country's greenstone belts are geologically very prospective, but are being exploited in less-than-optimal fashion by many small, and often artisanal, mining companies which are undercapitalised and lack the capability and wherewithal to develop deposits to their full potential.

Valuation

A model has been used to value Caledonia on a sum-of-the-parts NAV basis through a discounted cash flow analysis, taking into account the after-tax net present value (NPV) of the future dividend stream from Blanket mine at a discount rate of 15%. This approach leads to a NPV^{15%} for Caledonia's share of Blanket mine dividends of 95.2p



per share and a NAV for the company of 130.0p per share, suggesting that Caledonia is currently trading in London at a discount of 33% to that NAV.

Blanket mine dividends are defined as free cash flow (i.e. after all expenses and capital) and it is assumed that 100% is paid out each year to the shareholders from the second half of 2016 onwards. In 2015, and the first half of 2016, Blanket mine management suspended dividend payments to fund the capital expansion programme.

Despite only holding a 49% equity interest in the Blanket mine, through the mechanics of the indigenisation process completed four years ago, Caledonia actually receives over 77% of the dividend flow from the mine while the loans Caledonia made to the other shareholders are being repaid. For a fuller explanation of this see Appendix 1 (page 38).

According to the model, Caledonia's effective interest in Blanket mine will remain at the 77% level for the planned life of mine (LOM).

Projected production rates are based on exploitation of reserves and resources from existing infrastructure above the 750m level in the current mine plan, as well as inferred resources below the 750m level. Resources from satellite deposits have not been considered.

The company receives a management fee from Blanket mine of US\$4m per year in addition to dividends

The valuation also includes the NPV of the fixed annual management fee (US\$4m), which Blanket mine pays to Caledonia's South African subsidiary company before dividends are paid.

As at 31 March 2016, the company had US\$13.5m gross cash, held with a bank in Canada, and an overdraft with a Zimbabwean bank for US\$4.7m. Net cash is therefore US\$8.8m.

It is noted that since the beginning of 2016, with the gold price rising over 20%, a number of gold mining companies, particularly on the TSX, are starting to trade at multiples to NAV. A conservative stance has been taken to further reflect political risk associated with Zimbabwe and a multiple has not been applied to Caledonia's NAV.

The valuation is summarised in the table below.

Figure 4: Base case valuation model for Caledonia

	US\$m	£m	Pence per share
NPV ^{15%} Blanket mine dividends	64.6	49.7	95.2
NPV ^{15%} Blanket mine management fee	14.8	11.4	21.8
Net cash (31 March 2016)	8.8	6.8	13.0
NAV	88.2	67.9	130.0

Source: Marten & Co £/US\$ exchange rate = 1.30

Comparative valuation

It is usually instructive to gain a comparative valuation of a company by considering the value the market places on similar companies in terms of enterprise value per resource ounce of gold (EV/oz).

Caledonia has few comparable peers, in terms of size and type of gold production and the fact that it is a single asset mining company, listed on major resource exchanges. Comparison with Zimbabwean gold producers is difficult as most of the gold companies



are only listed on the Zimbabwe Stock Exchange or are privately held and so there is insufficient data to perform a full analysis. However, ASA Resource Group is a Zimbabwean gold producer that can be used as a comparison as data is available on the company

A list of some of the African gold companies has been compiled to give an idea of relative rating in terms of EV/oz.

Figure 5: Comparative valuation for selected African gold producers

Company	M&I* resources (Moz)	Mkt cap (US\$M)	Enterprise value (US\$M)	EV/oz	Country
ASA Resource	2.3	16.5	31.3	14	Zimbabwe
Asanko Gold	7.9	829.5	882.5	112	Ghana
Pan African Resources	22.7	543.1	558.4	25	South Africa
Shanta Gold	0.9	55.0	89.9	103	Tanzania
Caledonia Mining	0.6	58.4	49.6	78	Zimbabwe

Source: Marten and Co, * measured and indicated (see Appendix 3 on page 40)

ASA Resource Group (formerly Mwana Africa) is listed in London and produces around 60koz/y of gold from its 85%-owned, Freda Rebecca gold mine, in Zimbabwe. The company also produces nickel from another Zimbabwean mine. Freda Rebecca has higher costs than Blanket mine as it is lower grade.

Shanta Gold is another gold producer that bears some comparison with Caledonia, as it has a similar gold output to Blanket mine and has one operating asset. However, it mines high-grade gold by open-pit methods and is thus low cost, which accounts for its relatively high valuation.

Looking at a wider universe of gold producers on the TSX, most are currently trading at 1x NAV (against 0.65 x NAV for Caledonia) and very few pay a dividend (against Caledonia's forecast 2016 dividend yield of 4.8%).

Sensitivity analysis

A 15% discount rate has been used in the base case modelling but, for comparison, NAV values at other discount rates are shown below.

Figure 6: Sensitivity of NAV to various discount rates

Discount rate	NAV (pence per share)
8%	154.3
10%	146.6
12%	139.5
15%	130.0
18%	121.6
20%	116.5

Source: Marten & Co

Even at an extreme discount rate of 20%, the model suggests that Caledonia still offers good value.

The project has been stress-tested against volatility in the gold price, which is the most critical variable as far as profitability is concerned and is also extremely pertinent given the recent surge in gold prices.



180 160 161.2 142.6 140 130.0 NAV15% (pence /share) 105.5 100 80 68.3 60 40 20 0 1,000 1.100 1,200 1,300 1.400 1,500 Gold price (US\$/oz)

Figure 7: Caledonia NAV at various gold prices

Source: Marten & Co

With the 24% increase in the gold price so far this year, Caledonia shares have demonstrated clear leverage by posting an even more dramatic appreciation of 128%.

At a gold price of US\$1,500/oz, Caledonia's NAV could double

As the chart shows, if the bull market takes off and the gold price rallies to the long-term, LOM average of US\$1,500/oz, the shares could more than double again.

Clearly there is some downside risk and a 26% fall in the gold price to US\$1,000/oz would lead to a 20% decline in the shares from current levels.

Blanket mine

Location

The Blanket mine is located 150km from Bulawayo and approximately 15km from the town of Gwanda, in Matabeleland South, Zimbabwe.

Access is by way of a 15km tarred road from Gwanda, which connects with the national highway to Bulawayo and to the South African border at Beit Bridge, some 196km to the south east. Consumables and materials are imported by road from South Africa.

Water is supplied from a nearby dam and power is supplied from the national grid. The mine has an "uninterrupted power supply" agreement with the state electricity supplier, ZESA. As back up in case of any power outages, the company has four 2.5 MW diesel generators, which can produce enough power to run the mine and the plant.

The mining licence covers the Jethro, Blanket Section, Feudal, AR, Sheet, Eroica, and Lima claims over an area of 2,540 ha.

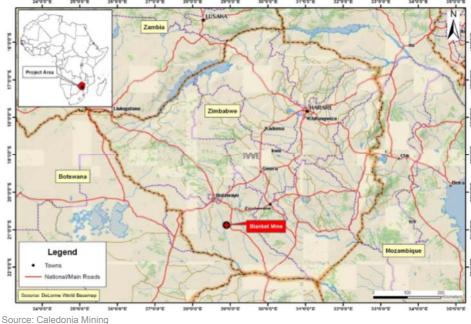


Figure 8: Map of Zimbabwe showing location of Blanket mine



Figure 9: No 4 Shaft and plant at Blanket mine as at March 2013

Source: Marten & Co

Ownership and indigenisation

Caledonia owns a 49% interest in the Blanket mine through its wholly-owned subsidiary, Caledonia Holdings Zimbabwe (Private) Limited.

Caledonia complies fully with indigenisation legislation

As required by the Indigenisation and Empowerment Act, Caledonia implemented an indigenisation plan in September 2012 by transferring a 51% ownership interest in Blanket mine to various groups for a total of US\$30.1m.



It sold:

- 16% to the National Indigenisation and Economic Empowerment Fund (NIEEF) for US\$11.7m;
- 15% to Fremiro, which is owned by indigenous Zimbabweans, for US\$11.0m;
- 10% to Blanket mine Employee Trust Services (Private) Limited (BETS) for US\$7.3m for the benefit of the present and future managers and employees of Blanket;

Caledonia provided loans to the indigenous buyers to enable the transaction to be completed

and donated:

 10% to the Gwanda Community Share Ownership Trust. In addition, Blanket mine paid a non-refundable cash donation of US\$1m to the Community Trust.

Caledonia facilitated the indigenisation deal by providing finance to the purchasers to enable them to acquire their respective interests (vendor loans). There is no term to the loans, which the vendors will repay by sacrificing a constant 80% of their future entitlement to Blanket mine dividends each year.

Despite only holding a 49% equity interest in the Blanket mine, through the mechanics of the indigenisation process, Caledonia actually receives over 77% of the dividend flow from the mine while the vendor loans it made are being repaid. For a fuller explanation of this, see Appendix 1, page 38.

As at 31 March 2016, the balance of the loans had increased to US\$31.3m with accrued interest. The loans attract interest at LIBOR plus 10% per annum and have no fixed repayment period. Interest is accrued and added to the outstanding capital amount before payment of dividends. Caledonia treats the loans as equity instruments and they are not shown on its balance sheet.

In addition, in association with the indigenisation, Blanket mine provided loans totalling US\$5.8m as advance dividends to NIEEF and the Community Trust. The outstanding balance on these loans was US\$3.2m as at 31 March 2016.

Caledonia consolidates Blanket mine in its statutory accounts and recognises non-controlling interests at the level of 16.2% of net assets and net profit of Blanket mine (see Appendix 1, page 38, for an explanation of this).

Management for the Blanket mine is supplied by Caledonia Mining South Africa Proprietary Limited, a 100%-owned South African subsidiary of Caledonia, through a fixed fee contract worth US\$4m per year. The fee attracts withholding tax at 15%.

Despite only holding a 49% equity interest in the Blanket mine, Caledonia actually receives over 77% of the dividend flow from the mine until the loans are repaid (see page 38)

Brief history

The Blanket mine first opened in 1904 and has worked more or less continuously since then. Canadian gold producer, Kinross Gold, bought the mine from Falconbridge in 1993 and operated it until 2006, before selling it as a working mine to Caledonia.

The whole of the gold mining industry in Zimbabwe shut down in late 2008, as the economic and currency crisis within the country led to hyperinflation and the cessation of payments for gold sales by the government, which is the statutory buyer of all gold produced in the country. On the adoption of a new economic plan and the introduction of the US dollar to replace the Zimbabwe dollar as the country's currency, Caledonia was able to restart the mine in April 2009.

In 2010, the company completed a major expansion project at No. 4-Shaft, which increased gold production from 14koz to the 2015 level of approximately 43koz.



Geology and mineralisation

Blanket mine is situated in a typical basaltic **greenstone** terrain; the 70km long by 15km wide Gwanda Greenstone Belt. The Blanket mine property is the largest of the three remaining large gold producers (the others being the neighbouring Vubachikwe mine and the Jessie mine to the far east of the belt) from a gold resource area that has supported no less than 268 gold mines in the past.

Blanket mine is part of the group that makes up the North Western Mining camp extending from Sabiwa and Jethro in the south, through Blanket mine itself to the Feudal, AR South, AR Main, Sheet, Eroica and Lima orebodies.

The geological sequence **strikes** north-south, dips vertically and consists, from east to west, of a basal **felsic** unit (which is not known to carry mineralisation); a higher **ultramafic** unit that includes a banded iron formation (which hosts the eastern dormant cluster of mines and the orebodies of the adjacent Vubachikwe mine complex belonging to Duration Gold); and finally the **mafics** that host the active Blanket mine orebodies. An **andesitic** unit, which lies to the west, caps this whole **stratigraphy**.

Orebodies at Blanket are epigenetic (i.e. formed later than the surrounding or underlying rock formations) and were formed by mineralised fluids filling the gaps caused by the shearing of the host rocks. The wider orebodies are located within the highly sheared rocks.

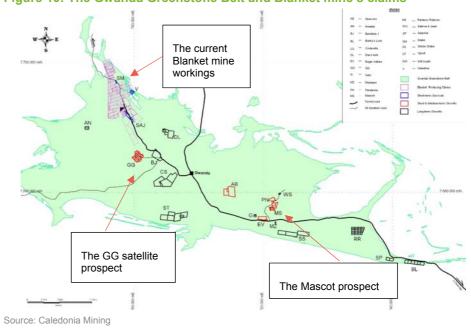


Figure 10: The Gwanda Greenstone Belt and Blanket mine's claims

There are two main types of mineralisation; a disseminated sulphide replacement type, which comprises the bulk of the ore shoots, and quartz veins that tend to have long strikes but are not uniformly mineralised.

Typically, these zones have a silicified core with fine sprays of disseminated arsenopyrite (iron arsenic sulphide) hosting the best grades. Disseminated sulphide replacement orebodies range up to 50m in width with a strike between 60m and 90m. Free-milling gold constitutes up to 50% of the total metal content with the remainder occluded within the arsenopyrite.



The second type of mineralisation, quartz veins, are less consistent and grade fluctuates widely, but they are generally higher grade. Blanket mine exploits the Blanket Quartz Reef and the Eroica Reef.

Reserves and resources

Reserves and resources as at 31 December 2015 are shown in Figure 11.

Figure 11: Reserves and resources

Category	Tonnes (mt)	Grade (g/t)	Gold (koz)
2P reserves	2.63	3.52	298
M&I resources*	4.75	4.18	638
Inferred resources	2.59	5.03	419

Source: Caledonia Mining

*Note: measured and indicated (M&I) resources include reserves – see Appendix 3 on page 40. Reserves are based on a cut-off of 2.30 g/t and a gold price of US\$1,100/oz. Resources are based on a cut-off of 2.11 g/t and a gold price of US\$1,200/oz

The reserves and resource estimates in Figure 11 were calculated in-house based on the resource estimates from October 2014 that comply with Canada's National Instrument 43-101 standards on resource disclosure and after accounting for depletion in the intervening period.

The reserves are scattered throughout the mine mainly between 18 and 22 Levels at the Blanket zone; between 14 and 22 Levels at AR Main and AR South; between 14 and 18 Levels at Eroica; and above 9 Level at Lima.

Indicated resources are concentrated between 22 and 26 Levels at Blanket; below 22 Level at AR Main and AR South; and between 9 and 14 Levels at Lima.

The majority of inferred resources are located below 22 Level at the Blanket zone; below 14 Level at Eroica; and below 14 Level at Lima (see Figure 2, for detail).

Mining

As described earlier, mineralisation occurs in near vertical shoots of varying shape aligned along an approximately north-south axis.

Blanket mine exploits eight discrete ore shoots over a 3km strike length, as shown in the longitudinal section in Figure 2.

Currently the AR Main is the main ore source. At the end of 2015, production commenced at a new section of the Eroica orebody above 750m level, to replace ore from AR South, which was mined out in mid-2016. Some mining is carried out at the Lima reef.

AR Main and AR South are massive ore bodies up to 30m wide and are ideally suited to the long-hole, open-stope mining method (mining the ore to leave a cavity – the stope – while leaving the surrounding rock in situ), while the remainder of the Blanket mine orebodies are tabular and better suited to underhand stoping methods (mining the ore body from the top downwards).

Ore is hoisted predominantly through No.4 Shaft from the loading stations at the 510m and 789m levels, although some ore is hoisted via the No.2 and Lima Shafts.

The Jethro and Eroica shafts, and the No.5 and No.6 winzes, are used for transporting personnel and materials underground.



Production capacity is currently 1,500 tonnes per day (t/d), but this is set to double when the new Central Shaft is commissioned in mid-2018.

Processing

The primary jaw crusher is located underground below 22 Level, 765m below surface and reduces run-of-mine ore to minus 150 mm. Crushed ore is conveyed to an automated skip loading and hoisting facility at No. 4-Shaft.

On surface, after secondary and tertiary crushing, the ore is ground by rod mills before being passed through a Knelson concentrator, which collects 49% of the gold in a gravity concentrate.

The gravity tails are reground in a **ball mill** circuit and are added to to the **CIL** tanks where the remaining gold is recovered by **elution** and **electrowinning** before being smelted on site to produce a 90% **doré**. Mill tailings are pumped to two tailings dams maintained by a specialist contractor.

Mill recovery is an impressive 93%

Total recovery has been consistently above 93% in recent years.

With a few additions for relatively little capital expenditure, the current mill has sufficient capacity to accommodate the planned expansion in mine output. The company installed a new fine ore bin ahead of the rod mills in Q1 16 and a new mill (Mill 8) is being delivered for commissioning in Q3 this year as part of the expansion programme.

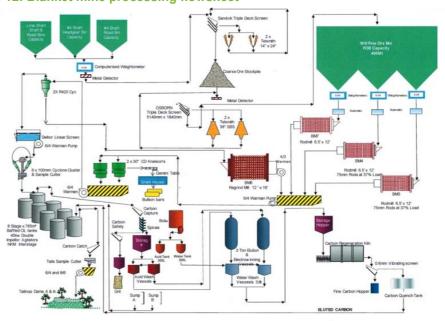


Figure 12: Blanket mine processing flowsheet

Source: Caledonia Mining



New plans to increase future

production

Production and costs

From the restart of mining operations in 2009, the company increased Blanket mine's gold production from 14koz/y to around 35koz/y by 2012, through the redevelopment of its No. 4-Shaft crushing and loading facilities, at a cost of US\$3m.

Between 2012 and 2014, gold production dipped below 10koz a quarter, from around 13koz a quarter, because of lower grade and underground logistical constraints. It was at this stage that the company drew up new plans to increase future production through to 2021 and these are described in detail on pages 21 to 23.

In July 2015, the mine completed a tramming loop on 22 Level, the main rock transportation level. This loop has improved logistics, by allowing more development waste to be handled without impeding production, and has increased capacity from 400 t/d to 1,000 t/d.

The tramming loop has enabled the mine to increase tonnes milled from approximately 105 kt per quarter, at the beginning of 2015, to around 115 kt per quarter in Q2 and Q3 15 and Q1 16 respectively. Despite a lower head grade, the increased tonnage has led to gold production climbing to 10.8koz in Q1 16 from 10.0koz in Q1 15.

250 🗷 Tonnes milled (RHS)

Figure 13: Historic ore and gold production

Source: Caledonia Mining

Caledonia reports operating costs according to **IFRS** and also presents costs on a unit of gold sales volume basis, which is normal in the gold mining industry. The company follows the convention for reporting as drawn up by the World Gold Council, which defines the **AISC** and **AIC** metrics.

The following chart shows historic on-mine costs with a breakdown of AISC showing the royalty, **G&A** and other sustaining costs that make up AISC, plus the additional expansion costs that comprise AIC.

1800 1,591 1,666 1600 1,402 1400 1,245 1,139 1200 12 IS\$/oz 1000 337 800 317 360 358 287 600 400 701 652 613 586 570 200 0 2011 2012 2013 2014 2015 Royalty, G&A, other sustaining costs On-mine cost Gold price Expansion costs

Figure 14: Historic unit costs for Blanket mine

Source: Caledonia Mining

In Q1 16, on-mine costs fell year-on-year by 4% to US\$689/oz with increased gold production. AISC fell similarly.

AIC rose to US\$1,175/oz reflecting the capital spending on the expansion programme.

Many gold mining companies continue to publish a "Total Cash Cost" figure as a widely recognised comparative measure of unit costs. Total cash costs exclude corporate G&A and capital expenditure and thus purely reflect the efficiency of the gold mining activities on an individual mine.

A total cash cost figure for the Blanket mine in 2015 of US\$764/oz has been calculated, putting the mine in the third quartile worldwide, ranked low to high by cost of production, according to metals consultancy Metal Focus's Gold Focus 2016 report.

Blanket mine's total cash costs and AISC are shown in the following gold mining industry cost curve.

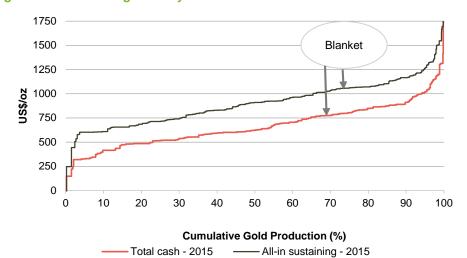


Figure 15: Gold mining industry cost curve

Source: Metals Focus



Gold sales

All gold production in Zimbabwe is required by law to be sold to the government agency, Fidelity Printers and Refiners (Fidelity) in Harare, which undertakes final refining and sale onto the international markets.

The company receives 98.75% of the gold price in US\$ dollars within seven days

Fidelity pays Blanket mine for 98.75% of the value of the gold contained, based on the London gold fix, and the US dollar proceeds are paid directly into Blanket mine's foreign currency account with its commercial bank in Zimbabwe, within seven days of receipt of the gold by Fidelity.

In February 2016, Caledonia hedged 15koz of Blanket mine's H1 2016 gold production (31% of 2016 production) to protect its capital spending programme, which is funded from cash flow, against a fall in the gold price. The hedge imposed a floor price of US\$1,050/oz but allowed the company to participate fully in spot prices above US\$1,079/oz, which it will have done as the gold price exceeded this level for the entire period of the hedge. The company has lodged a maximum margin call deposit of US\$435,000 from which it paid any margin calls.

Expansion plan

In November 2014, Caledonia instituted its "Revised Investment Plan" to improve the prospects for the mine after production dipped because of lower grade and underground logistical constraints.

The plan involves a number of initiatives to access and exploit inferred resources below the current deepest working level of 22, at 750m below surface. The plan is also expected to improve Blanket's long-term operational efficiency, flexibility and sustainability.

There are three main thrusts to the infrastructure programme - the sinking of a new vertical shaft; the development of a decline from the 750m level, and the continuation of the No. 6 winze. The programme, which commenced in 2015, is designed to increase gold production to 78koz/y by 2021 by bringing into play inferred resources below 750m level.

The total budget for the plan is US\$51m, US\$13.5m of which the company spent in 2015. All of the capital spending is being funded from internally-generated cash flow.

Central Shaft

The largest capital project is the sinking of the 3,000 t/d, Central Shaft located between the AR Main and AR South ore bodies, in the middle of Blanket mine's mining area, down to a depth of 1,080m below surface. The estimated cost is US\$26.4m, including US\$9.2m spent in 2015.

When commissioned in 2018 the US\$26m Central Shaft will allow exploitation of resources below the 750m level

The Central Shaft will not only increase ore hoisting capacity, but will also facilitate better access to the deeper resources to the north and to the south along approximately 3km of strike length through two new haulages on 26 and 30 Levels. It will also improve haulage and drilling logistics and, ultimately, lead to lower costs.

Two underground access developments are already contributing to production and a new shaft will allow greater access to the deeper resources



Figure 16: Central Shaft at Blanket mine, which is planned to be in production by mid-2018, in June 2016

Source: Marten & Co

Shaft sinking commenced in August 2015 and when we visited the site in June 2016, the 6m diameter shaft was down to 90m below surface. The jumbo drilling rig being used is capable of drilling 3m a day. The shaft should be completed down to 1,080 m in early 2018 and equipped and operational by June of that year.

Currently, during the sinking phase, two winders (hoists) are in operation. These winders were purchased from a South African gold mine and refurbished at a fraction of the price of new equipment. In due course, two additional second-hand winders will be installed.

Central Shaft No. 4 Shaft EROICA SHEET **JETHRO** 22 Level No. 6 Winze 750m) Central Shaft opens up access to the deep resources and also Source: Caledonia Mining allows exploration drilling to find new resources

Figure 17: Longitudinal section of Blanket mine showing planned infrastructure



750m level decline

The mine is developing a decline from the 750m level to access the AR South orebody. The decline has reached the 765m level and the plan is to continue it through to the 780m level, giving access to 175kt of resources at an average grade of 4g/t. The decline is already contributing to production.

No. 6 winze extension

The No. 6 winze project will allow the company to access and exploit the four Blanket mine resource areas below the 750m level. These are the Blanket 1,2,4 and Quartz Reef orebodies.

Sinking and equipping of the shaft down to the 930m level was completed in 2015 and horizontal, on-reef development has entered the Blanket 2 orebody. Production from No. 6 winze commenced in Q1 16 at approximately 10t/d and is targeted to reach 500t/d in mid-2017.

Exploration

On-mine exploration

In addition to the inferred resource areas already identified below the 750m level, there exists potential to delineate new resources below 750m in the Blanket, AR South, AR Main and Eroica sections as shown in Figure 2.

The focus of exploration at Blanket mine since the end of 2015 has been AR South below 750m, with underground drilling from levels between 600m and 750m below surface targeting down dip extensions of known orebodies 300-500m below currently accessible areas.

The company has reported very encouraging drill results in the area. The best intersections recorded were 22.7m at a grade of 6.3g/t gold; 12.5m at a grade of 3.26g/t gold, and 9.4m at a grade of 5.6g/t gold.

Exploration on satellite deposits

Blanket mine holds 78 claims in the Gwanda Greenstone Belt covering a total of 2,500ha.

These claim areas host 18 licenced properties, the furthest of which is 42km from Blanket mine's plant, and on which there has been some exploration or small-scale historic gold mining activity.

The company will build a pilot plant to trial recoveries of refractory mineralisation

Exploration drilling results

promising

below the 750m level are very

The company is progressing exploration development projects at two of these properties - GG and Mascot – and has delineated resources at both. The mineralisation at GG and Mascot is **refractory** in nature and so may present a processing challenge. The company plans to construct a 50t/d, US\$1.1m pilot plant at the Blanket minesite to test metallurgical recoveries through pre-treatment methods, such as biological leaching or pressure oxidation. The mine's management may, however, decide to feed the ore straight into the Blanket mine plant, accepting that recoveries may be very low.



GG

GG is located 7km from the Blanket mine and gold deposits here were originally worked via a shallow open pit.

The company has conducted surface drilling (24 holes for 6,360m) and is evaluating the prospect further through a 245m-deep prospect shaft and lateral development, principally on the 210m level.

Exploration has identified two zones of mineralisation and a resource between the 90m and 120m levels. The current measured and indicated (M&I – see Appendix 3 on page 40) resource stands at 182kt at an average grade of 4.41g/t for 26koz of gold contained. Inferred resources add 10koz of gold.



Figure 18: Exploration shaft at the GG prospect in June 2016

Source: Marten & Co

Mascot

The Mascot prospect lies 42km from the Blanket mine, and was previously mined down to 250m below surface.

The prospect includes three sections – Mascot, Penzance and Eagle Vulture – with Mascot the focus of current exploration work.

At Mascot, there are three mineralised zones – North Parallel, Main Shear and South Shear – which were identified from historic mining and surface drilling by the company.

In 2015, the company dewatered the old vertical shaft and drove drifts and cross-cuts on a number of levels, to allow diamond drilling to test depth extensions of the mineralised zones down to 450m below surface.

The project has an M&I resource in the North parallel zone of 136kt a grade of 3.74g/t gold for 16koz of gold contained. Inferred resources (at Main Shear) add 18koz of gold.



Production forecasts and mine modelling

The company's life of mine (LOM) plan is predicated on the reserves and resources above 750m level. However, the company plans to increase gold output by almost 100% through the exploitation of inferred resources below the 750m level. The company has a good record of converting resources to reserves and so 75% of inferred resources are included and this deeper mine plan has been modelled as part of a comprehensive property plan.

As described earlier, the company is currently constructing infrastructure to exploit these deeper resources following a positive independent Preliminary Economic Assessment (PEA) in July 2015.

The plan models an increased gold output without extending the six-year mine life.

The following parameters and assumptions have been used to calculate discounted cash flow (DCF) net present value (NPV) for the Blanket mine dividends.

Figure 19: Model assumptions and parameters

Parameter	Value	Source
Reserves	2.63 Mt @ 3.52 g/t (298koz)	Caledonia
M&I resources	4.75 Mt @4.18 g/t (638koz)	Caledonia
Inferred resources	2.59 Mt @ 5.03 g/t (419koz)	Caledonia
Life of Mine (LOM)	6 years	Caledonia
Average LOM milled	600 kt/y	Caledonia/Marten & Co
Average LOM grade	3.77 g/t	Caledonia/Marten & Co
Average LOM recovery	93%	Caledonia/Marten & Co
Average total cash cost	US\$611/oz	Caledonia/Marten & Co
Average LOM AISC	US\$779/oz	Caledonia/Marten & Co
Average LOM AIC	US\$872/oz	Caledonia/Marten & Co
Expansion capital (2016-2020)	US\$37.9m	Caledonia
Average LOM sustaining capital	US\$3.2m	Caledonia/Marten & Co
Long-term gold price*	US\$1,350	Marten & Co
Assumptions		
Corporate taxation rate (Zimbabwe)	25.75%	Government
Royalty on gold sales (not allowable for tax)	5%	Caledonia
Capital allowance	100% in year expended	Caledonia
US\$/£ exchange rate	1.3:1	Marten & Co
Depreciation	Straight line, LOM	Marten & Co

Source: Marten & Co *Note: See pages 29 to 31 for a discussion of the gold market and long-term gold price.

The total future cost of the expansion programme is estimated at US\$37.9m.

The schedule of capital spending for the expansion programme, as well as sustaining capital, is shown in Figure 20.

20 18 16 14 12 US\$ million 13.5 13.4 10 12.0 8 6 5.0 5.0 2.5 4 0.0 4.7 2 4.1 3.0 3.0 2.9 3.1 3.1 0 2015 2016 2017 2018 2019 2020 2021 Sustaining Expansion

Figure 20: Capital spending schedule

Source: Caledonia Mining

The major components of the expansion capital programme are shown in Figure 21.

Figure 21: Breakdown of expansion capital spending

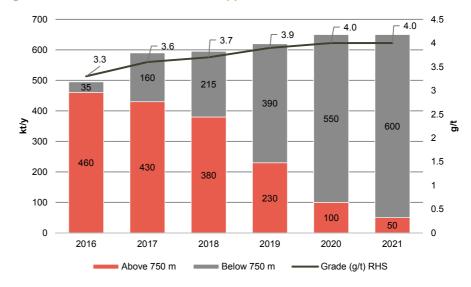
Item	US\$m	Period
Central shaft	26.4*	2015-2018
Mill additions	7.1	2015-2018
Pilot plant	1.1	2016
Deep drilling and development	1.5	2016
GG and Mascot exploration	1.0	2016
Other projects	2.5	2017-2018
Total	39.6	

Source: Caledonia Mining

* including US\$9.2m spent in 2015

Figure 22 shows the processing schedule as modelled with ore from inferred resources below the 750m level replacing ore from upper level reserves over the next six years.

Figure 22: Modelled ore milled from upper and lower sections of Blanket mine



Source: Caledonia Mining, Marten & Co

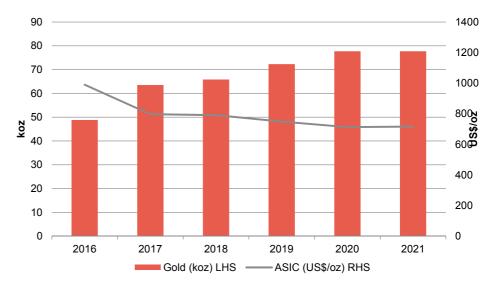


AISC are expected to decline as production increases

The following chart shows the model's projected gold production and unit costs through to 2021. Projected costs were derived from actual data on amounts spent on variable costs of consumables and electricity, and fixed labour costs for the first five months of 2016 as supplied by Caledonia.

Note that AISC do not include the management fee that Blanket mine pays annually to Caledonia.

Figure 23: Forecast gold production and AISC

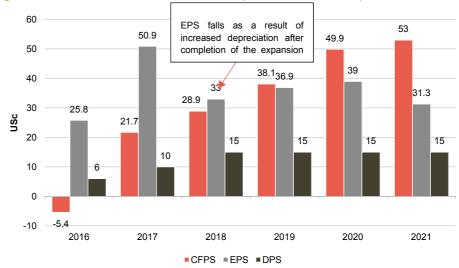


Source: Caledonia Mining, Marten & Co

Cash flow, earnings and dividends forecasts

Based on the assumptions and forecasts in Figures 18-22, the projected per share cash flows, earnings and dividends for Caledonia, on a consolidated basis in US cents, are shown in Figure 24 below.

Figure 24: CFPS, EPS and DPS forecasts (consolidated basis)



Source: Marten and Co



The model suggests that, based on assumptions, the company will have enough cash after the major financial commitments for the expansion project, to increase its annual dividend up to US15c per share.

Capital structure

The company has 52.2m shares issued (53.1m fully diluted). Over the past year the company's shares have traded between 38p and 90p and at 28 July were trading at 86.5p, giving the company a market capitalisation of £45.2m.

On the TSX, Caledonia's shares traded between C\$0.66/share and C\$1.59/share over the past 52 weeks.

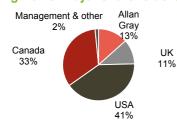
The major institutional shareholder is South African fund, Allan Gray, which holds a 13.5% interest. UK-registered shareholders account for 11.2%.

The bulk of the shares (74.1%) are held by mainly retail shareholders in North America.

Directors and officers own 1.46% of the issued capital as at 11 April 2016.

Caledonia has 0.97m share options outstanding, with 0.86m due to expire in 2018 at exercise prices between C\$0.72-0.90 per share.

Figure 25: Major shareholders



Source: Caledonia Mining

Directors and management

Directors

Non-executive chairman is **Leigh Wilson**. Mr Wilson has an international business and financial services background. He currently serves as the independent chairman of Victory Fund Board on its board of trustees and as chief executive officer of New Century Home Health Care Inc. He was first appointed to the Caledonia board in 2008.

Steve Curtis is chief executive officer and a director. He is a chartered accountant with over 30 years' experience and has held a number of senior financial positions in the manufacturing industry. He joined Caledonia in 2006 and became a board member in 2008.

Chief financial officer and a director is **Mark Learmonth**, a chartered accountant. Prior to joining Caledonia in July 2008, Mr Learmonth was a division director of investment banking at Macquarie First South in South Africa, and has over 17 years' experience in corporate finance and investment banking, predominantly in the resources sector in Africa. Mr Learmonth joined Caledonia in July 2008 and was appointed chief financial officer in November 2014.

In July 2016, Caledonia appointed John McGloin as an independent non-executive director. Mr McGloin was most recently executive chairman and chief executive officer of Amara Mining PLC, which was focused on the Yaoure gold project, in Cote d'Ivoire, in West Africa. In April 2016, Amara merged with Perseus Mining Limited. Mr McGloin now serves on the board of Perseus. He is a geologist with a Masters degree in Mining and Exploration Geology. Prior to joining Amara in 2012, he spent 10 years working in



the City of London, initially as a mining analyst and latterly as head of the mining teams at various London-based stockbrokers.

Other, non-executive directors are **James Johnstone**, a mining engineer and a former vice president, operations of Caledonia; **John Kelly**, who has 30 years of experience in the financial services industry in the USA and in international markets; and **Johan Holtzhausen**, a retired partner of KPMG South Africa with 42 years of audit experience, of which 36 years were as a partner focused on the mining sector.

Management

Chief operating officer of the company is **Dana Roets.** Mr Roets is a qualified mining engineer with over 26 years of operational and managerial experience in the South African gold and platinum industry. He joined the company as chief operating officer in August 2013.

Dr. Trevor Pearton is vice president, exploration. Dr. Pearton has worked for Caledonia since 2001. Prior to joining Caledonia, he worked for a number of financial institutions in South Africa as a highly-rated gold analyst, as well as consulting to a number of mining companies. He graduated from the University of the Witwatersrand with a BSc Eng (Mining Geology) and was awarded a PhD in Geology for research into Archaean gold and antimony deposits.

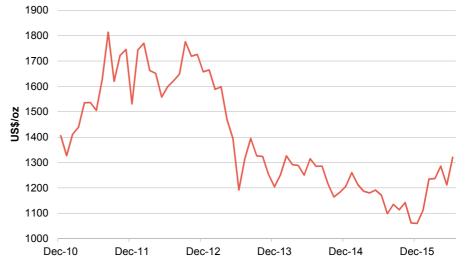
Caxton Mangezi, the general manager of Blanket mine, has worked there since 1969.

Caxton Mangezi is general manager at Blanket mine with full responsibility for day-to-day operations. He has worked at Blanket since 1969 in a range of roles including geological technician, overseer miner and underground manager and has been general manager since 1993.

The newest member of the management team is **Maurice Mason**, who joined the company in June 2016 as vice president corporate development and investor relations. He was previously a securities analyst in the mining sector for six years, following a spell working for Anglo American in its platinum and coal divisions.

The gold market

Figure 26: Long-term monthly average gold price (London PM fix, US\$/oz)



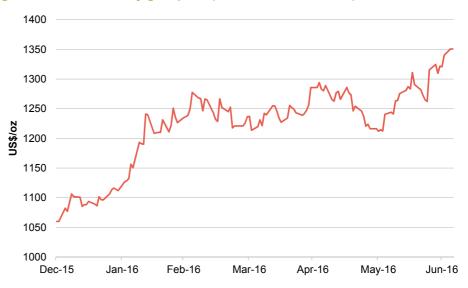
Source: Bloomberg



Figure 26 shows the gold price trend since 2010. After peaking in late 2011 at over US\$1,900/oz (on a spot basis), the gold price declined for over five years before rising again at the beginning of 2016. In July it set new two-year highs.

Figure 27 shows the improvement in daily gold prices since the beginning of the year.

Figure 27: 2016 YTD daily gold price (London PM fix, US\$/oz)



Source: Bloomberg

The London PM gold price fix averaged US\$1,160/oz in 2015, its lowest annual average since 2009, and ended the year at a little over US\$1,050/oz. In Q1 16, the price edged up to US\$1,179/oz and then improved further to average US\$1,258/oz in Q2 16, giving an average for H1 2016 of US\$1,218/oz.

We expect the price to continue to show strength, with an average price of US\$1,350/oz for the second half of 2016, but, given the inherent volatility in the gold market, it is quite possible that it may trade in a range of +/-5% of the average, or between US\$1,280/oz and US\$1,420/oz. Our forecast average gold price for 2016 as a whole is US\$1,285/oz.

Thereafter, our long-term gold price for modelling purposes is US\$1,350/oz, although NAV estimates for Caledonia have also been derived at prices as low as US\$1,000/oz and up to US\$1,500/oz in the sensitivity analysis.

At the time of writing, the latest gold price was US\$1,344/oz.

Given the steep rise in the gold price this year, we envisage a long-term gold price of US\$1,350/oz

The 'fear' trade is driving gold

Since the beginning of 2016, the gold price has been driven by investors seeking to protect their wealth in the face of poor returns on competing asset classes and volatility and uncertainty in global financial markets. Gold's role as a safe-haven asset has come to the fore. The 'fear' trade drove the metal's 24% rally in the first half of 2016; the strongest first-half performance since 1974.

There are a number of bullish factors reigning at present.

After the initial steep rise in January and a period of range-bound trading, gold gained fresh impetus from the shock decision by the UK to decide to leave the European Union in late June, surging to two-year highs above US\$1,350/oz. Financial instability and uncertainty drove investors to gold as a safe-haven asset. In the short-to-medium term,



the ramifications of the Brexit decision are likely to lead to further uncertainty and volatility in foreign exchange and stock markets, which will be positive for gold.

On the general economic front, world economies are struggling to grow and there is the distinct possibility that a number of governments will instigate another round of quantitative easing in an attempt to stimulate economic growth.

Low real interest rates are good for gold

Probably one of the most compelling bullish factors for gold is the fact that with low inflation and low interest rates, real interest rates are very low or, in some cases negative. Speculation over a Federal Reserve interest-rate hike in the near future seems to have dissipated and, in fact, traders are now pricing in greater chances of a rate cut than a rate hike in September, pushing Treasury yields lower and boosting the appeal of gold.

In the run-up to the US elections in November, there may be some volatility in the strength of the dollar and, of course, one of the keys to gold's continued rise will be the strength of that currency, as a strong dollar tends to mean a weak gold price. The dollar index has weakened recently as the promise of the interest-rate hike has receded but there are signs that the US economy is picking up, a fact which will be a bearish signal for gold. Metals Focus cautions that this year the dollar may see renewed strength but is generally bullish on the gold price for 2016.

Turning to the physical markets, Figure 28 shows the supply/demand picture for gold over the past five years and forecast for 2016.

Figure 28: Supply and demand estimates for gold (t)

Heading	2011	2012	2013	2014	2015	2016*
Supply						
Mine production	2,849	2,938	3,074	3,153	3,211	3,197
Recycling	1,674	1,659	1,266	1,202	1,127	1,118
Hedging (supply)	32	0	0	106	9	10
Total supply	4,555	4,597	4,340	4,462	4,348	4,325
Demand						
Jewellery fabrication	2,164	2,180	2,728	2,503	2,439	2,420
Industrial demand	385	364	351	349	334	323
Net physical investment	1,380	1,283	1,700	1,008	1,021	1,036
Hedging (demand)	0	47	28	0	0	0
Central bank buying	516	582	646	584	566	490
Total demand	4,445	4,456	5,452	4,443	4,359	4,269
ETF investment	239	307	(916)	(185)	(134)	400
Implied (shortfall)/surplus	(128)	(166)	(196)	204	123	(344)

Source: Gold Focus 2016, Metals Focus, Marten & Co. * forecast

Mine supply looks to have peaked in 2015 and Metals Focus predicts a marginal drop in mined gold this year. A reduction in gold from mining, caused by the lack of investment and exploration success in recent years, will help support prices.

On the demand side, physical investment (bars and coins) peaked in 2013 after a surge in Chinese and Turkish buying and has since stabilised at a lower level as China and India, the two most important markets, have bought less.

Central banks have been large buyers in recent years and this trend is expected to continue as bankers seek further reserve diversification.

ETF holdings have soared this year

Perhaps the key line in the table is the implied physical demand from gold ETFs. Investment in ETFs plunged in 2013 and disinvestment continued over the next two years. However, ETF demand has staged a spectacular recovery in the first half of 2016; a manifestation of the fear trade discussed earlier.



The following chart shows how ETF holdings have soared recently.

Spot Gold Price (Left Axis)

2000 \$1350 1900 \$1300 \$1250 1800 \$1300 1700 \$1150 1600 \$1100 1500 \$1050 OCT-15 NOV-15 DEC-15 JAN-16 FEB-16 MAR-16 APR-16 MAY-16 JUN-16 JUL-15 AUG-15 SEP-15 Global Gold ETFs Holdings, Metric Tonnes (Right Axis)

Figure 29: Gold ETF holdings top 2,000 metric tonnes

Source: US Global Investors

Finally, to endorse the ETF trend, we note that long positions of speculators on Comex have reached record high levels.

Zimbabwe

Zimbabwe, formerly Rhodesia, is a republic formed in 1980 with a population of 14.1m (source: IMF). A landlocked country, Zimbabwe is located in southern Africa, bordered by South Africa to the south, Mozambique to the east, Zambia to the north and Botswana to the west.

Political situation

The UK annexed Southern Rhodesia from the British South Africa Company in 1923.

A 1961 constitution was formulated that favoured the white population in power and in 1965, Ian Smith's minority government unilaterally declared its independence. The UK refused to recognise this act and demanded more complete voting rights for the black African majority in the country. UN sanctions and an uprising finally led to free elections in 1979 and independence (as Zimbabwe) in 1980.

Robert Mugabe, of the ZANU-PF party, became the nation's first prime minister and, in 1987, was installed as the country's president, a position he still holds.

Throughout the 1990s and 2000s, as the economy declined dramatically, there was growing opposition to the government and the Movement for Democratic Change (MDC) became a popular and significant political force in opposition to ZANU-PF. The increasing disaffection for the government culminated in widespread unrest and violent intervention by government forces in 2007.

With the South African government putting pressure on Mugabe, elections were held in 2008. Despite the fact that the MDC narrowly won the first round of the presidential



A Government of National Unity in 2009 brought economic stability

elections, the party decided to withdraw from the process as a protest against what it saw as intimidation and violence against its supporters.

With further international pressure on Mugabe and his ZANU-PF party, and with the country on the brink of economic collapse, the two main political groups formed a Government of National Unity (GNU) in February 2009.

The first act of the GNU was to introduce measures to stabilise and revive the economy, the most fundamental move being the effective dollarisation of the economy.

In 2013, the country held a referendum on a new, more democratic, constitution, which achieved universal support. Elections later that year saw ZANU-PF returned to power with Mugabe once again installed as president.

The United States repeated its stance that the West would not lift all sanctions on Zimbabwe unless there were further political reforms in the country.

The next elections are due to be held in 2018. Mugabe intends to contest them

Now, in 2016, with the next elections two years away, and Mugabe indicating his determination to stand again, there is a great deal of posturing within the ruling party while at the same time, there is growing dissatisfaction amongst the populace over the worsening economic situation.

Although Zimbabwe's political situation appears broadly stable, infighting within ZANU-PF has increased, leading most prominently to the expulsion from the party in December last year of former vice president Joice Mujuru. Ms Mujuru launched a new party, ZimPF, in March 2016.

Economic situation

When the GNU came into power in February 2009, the economy was in turmoil with per capita GDP at only US\$290 (from US\$700 in 1997). The country's external debt arrears were US\$3.1bn, there was hyperinflation and a rapidly depreciating currency. The gold mines had suspended operations as they were not being paid for their gold output by the Reserve Bank.

In May 2008, the official Z\$ to US\$ exchange rate was revised to a floating rate of about Z\$165,000,000=US\$1, from a fixed rate of Z\$30,000=US\$1. After the official inflation rate reached 231,000,000% in July 2008, the government ceased to release consumer price index data, mainly because there were few goods available for purchase. In August that year, the newly-issued Z\$10,000,000,000 dollar bill was revalued to Z\$1. Hyperinflation was estimated to have reached about 500,000,000,000,000 in September and 89,700,000,000,000,000,000,000,000 in November.

One of the first acts of the new government was to introduce measures to tackle the economic crisis. Its "Short Term Economic Recovery Plan" (STERP) was aimed at ensuring that there was increased capacity utilisation in every sector of the economy. In the agriculture and mining sectors, the government undertook to abolish the retention of commodity earnings by any authority in Zimbabwe with the promise, however, to "review upwardly the taxation and royalty structures in line with international standards".

The key response to hyperinflation was the dispensation that "all enterprises are free to trade in South African rands, US dollars or any other convertible currency". This effective dollarisation of the economy came in tandem with the agreement that gold producers could be paid international prices in US dollars, a move that galvanised the industry back into production.



GDP growth fell to 1.1% in 2015 but the IMF is forecasting a return to higher growth rates

STERP II, a three-year plan, adopted in 2011, had an immediate and significant impact on the fortunes of the economy. Recovery began immediately. Real GDP growth reached 9.5% and annual inflation was capped below 5%. Much of the growth during this period was a result of cumulative growth rates of 57% and 50% by the mining and agriculture sectors respectively.

After GDP growth reached 10.6% in 2012, the effects of a bad harvest impinged on the economy and GDP growth plunged over the next three years, seemingly bottoming out at 1.1% in 2015, according to the IMF.

In a May 2016 report, the IMF summed up Zimbabwe's current economic situation thus:

"Zimbabwe's economic difficulties have deepened. Drought, erratic rains, and increasing temperatures, have reduced agricultural output and disrupted hydropower production and water supplies.

Economic activity is severely constrained by tight liquidity conditions resulting from limited external inflows and lower commodity prices. Inflation remains in negative territory, because of the appreciating U.S. dollar—the country's main currency—and lower commodity prices.

Zimbabwe remains in debt distress and the level of international reserves is low".

12
10
8
8
6
4
2
0
2012 2013 2014 2015 2016f 2017f 2018f 2019f 2020f

Figure 30: Real GDP growth forecasts for Zimbabwe (annual percentage change)

Source: IMF report, May 2016

Despite the economic woes, the IMF observed that the authorities did reduce the fiscal deficit in both 2014 and 2015 and have started to rationalise public expenditures. In addition, the Reserve Bank of Zimbabwe has taken measures to restore confidence in the financial sector.

Over the next few years, the IMF is forecasting a return to higher growth rates (see Figure 30).

However, the IMF report cautions that unless the country makes bold reforms, economic difficulties will continue in the medium term.

The vast informal sector of the economy, including the multitude of street traders, is an important source of economic power in Zimbabwe and through that power has forced change in the past. It was the informal sector's refusal to accept Zimbabwe dollars at the height of the crisis in 2009 that forced the politicians to institute the move to adopt the US dollar as the functional currency, which improved the economic situation.



The current wave of unrest may bring about political change for the better, particularly at the top, for it is the exit of Mugabe that will undoubtedly herald significant change in the attitude of investors and governments worldwide.

Gold production

Zimbabwe is a significant gold-producing nation, with 2015 production of 24.8 t (800koz) placing it amongst the world's top 30 producers.

30 24.8 25 23.0 23.5 22.7 19.0 20 17.1 **→** 15 10 2012 2010 2011 2013 2014 2015

Figure 31: Zimbabwe's gold production (t)

Source: Metals Focus' Gold Focus 2016

Since the 2009 hiatus, the country's gold production has increased steadily over the past few years as the chart in Figure 31 shows.

Caledonia's 43koz (1.33 t) of gold produced in 2015 accounted for 5% of the country's total.

Risks

Country risk

The overwhelming risk factor for Caledonia is country/political risk. The company's fortunes are totally dependent on continued economic and political stability.

We have discussed the political and economic issues in some length in preceding sections.

To summarise, there will be significant challenges for all businesses through to the 2018 elections. However, post-Mugabe, the upside after the lifting of sanctions and the prospect of renewed inward investment and economic stimulus could lead to a swift and dramatic recovery in the country's fortunes.

Technical risk

Caledonia is embarking on a major capital infrastructure programme. There is always a significant execution risk with any technical mining project of this scale.



The company is using its own manpower and progress so far is on schedule and within budget.

Furthermore, attainment of mining, milling and gold production targets is dependent on the operator achieving the predicted ore grades, throughputs and recovery rates. Management has a long track record of successful operation of the mine and mill (the mine manager has been working there since 1969) and understands the orebody and its mineralogy.

Much of the expansion is predicated on the exploitation of inferred resources. By definition these resources are of the lowest confidence.

Power supply problems

The gold mining industry has been plagued by power supply problems that hampered operations and caused loss of production since 2008.

The country only produces about half the power it requires and although it imports some, the shortfall has led to forced interruptions to reduce the load on generators.

Caledonia has sought to overcome these problems by negotiating a guaranteed supply with ZESA, the state electricity supplier, and through installing its own generating facilities.

However, such moves may only be temporary (and expensive) solutions as the fundamental problem is the severe shortage of generating capacity within the country, with a need to refurbish old power stations and to build new capacity.

Single asset

Investors should be aware of the fact that Caledonia is a single-asset company. All the value of the company derives from the Blanket mine. Continued revenue, earnings and dividends are dependent on the mine remaining in operation.

Long-term growth will be dependent on how successful the company is in developing and exploiting existing reserves and additional resources on the property.



Exchange rates

The company pays wages and buys its consumables and materials in US dollars and receives the same currency for its gold sales, so there is little exchange rate risk to the core Blanket mine operations.

Additionally, despite being registered in Jersey, the company holds the vast majority of cash funds in US dollars and so avoids any further exchange rate risk.



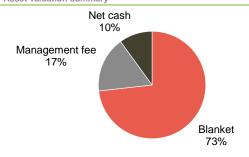
Gold prices

We have assumed a long-term gold price of US\$1,350/oz. We believe that the gold price has entered a new bull phase and price risk is largely on the upside (see pages 29 to 32 for a discussion on the gold market and prices).



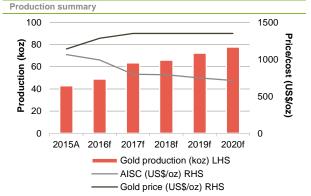
Figure 32: Caledonia Mining summary

Sum-of-the-parts DCF valuation July 2016	US\$M	Pence per share
NPV ^{15%} of Blanket mine dividends	64.6	95.2
NPV ^{15%} of Blanket mine management fee	14.8	21.8
Investments	0	0
Subtotal	72.3	106.5
Net cash	8.8	13.0
NAV	88.2	130.0
Asset valuation summary		





NAV sensitivity analysis (pence per share)						
	Gold price (US\$/oz)					
Disc. rate	1,000	1,100	1,200	1,350	1,400	1,500
8%	80.2	102.5	124.8	154.3	169.3	191.6
10%	76.4	97.5	118.6	146.6	160.9	182.0
12%	73.0	93.0	113.0	139.5	153.1	173.2
15%	68.3	86.9	105.5	130.0	142.6	161.2
18%	64.2	95.5	98.8	121.6	133.4	150.6
20%	61.8	78.3	94.8	116.5	127.7	144.2



		Gold
(mt)	(g/t)	(koz)
2.63	3.52	298
4.75	4.18	638
2.59	5.03	419
	2.63 4.75	2.63 3.52 4.75 4.18

2016f 1,285 2016f 460 35 495 3,30 93,0 48,4 619 739 990 1,264 2016f 62,0 (30,2) (3,1)	1,350 2017f 430 160 590 3.65 93.0 63.5 510 620 797 986 2017f 84.7 (32.4) (4.2) (10.3)	2018f 1,350 2018f 380 215 595 3.70 93.0 65.8 512 621 791 867 2018f 87.8 (33.7) (4.4) (10.3) 39.4 (13.7)	2019 1,350 2019 230 399 621 3.90 93.0 72.3 480 590 744 818 2019 96.4 (35.4 (4.8 (10.3)
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460 35 495 3.30 93.0 48.4 619 739 990 1,264 2016f 62.0 (30.2) (3.1)	430 160 590 3.65 93.0 63.5 510 620 797 986 2017f 84.7 (32.4) (4.2) (10.3)	380 215 595 3.70 93.0 65.8 512 621 791 867 2018f 87.8 (33.7) (4.4) (10.3) 39.4	230 399 621 3.99 3.90 72.3 488 598 748 818 2019 96.4 (35.4 (4.8 (10.3
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35 495 3.30 93.0 48.4 619 739 990 1,264 2016f 62.0 (30.2) (3.1)	160 590 3.65 93.0 63.5 510 620 797 986 2017f 84.7 (32.4) (4.2) (10.3)	215 595 3.70 93.0 65.8 512 621 791 867 2018f 87.8 (33.7) (4.4) (10.3) 39.4	399 62: 3.9 93.1 72. 48: 59: 74: 81: 2019 96. (35.4 (4.8 (10.3
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3.30 93.0 48.4 619 739 990 1,264 2016f 62.0 (30.2) (3.1)	3.65 93.0 63.5 510 620 797 986 2017f 84.7 (32.4) (4.2) (10.3)	3.70 93.0 65.8 512 621 791 867 2018f 87.8 (33.7) (4.4) (10.3)	3.9 93.1 72.1 48 59 74 81: 2019 96. (35.4 (4.8 (10.3
93.0 48.4 619 739 990 1,264 2016f 62.0 (30.2) (3.1)	93.0 63.5 510 620 797 986 2017f 84.7 (32.4) (4.2) (10.3)	93.0 65.8 512 621 791 867 2018f 87.8 (33.7) (4.4) (10.3)	93. 72. 48 59 74 81: 2019 96. (35.4 (4.8 (10.3
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(10.3)	37.7		45
18.3	0111	(13.7)	.5.
(4.4)	(5.0)	(13.7)	(16.3
(0.5)	(0.5)	(0.5)	(0.5
0.0	(5.7)	(8.0)	(9.8
13.5	26.6	17.2	19.
52.2	52.2	52.2	52.
25.8	50.9	33.0	36.
6.0	10.0	15.0	15.
2016f		2018f	2019
9.8	21.1	36.2	56.
62.4		66.8	58.
82.9		113.6	125.
11.2		6.7	6.
0		0	
14.0		14.0	14.
25.2		20.7	20.
57.7	83.5	92.9	104.
	2017f	2018f	2019
2016f	31.5	30.9	35.
2016f	(15.0)	(8.0)	(7.9
2016 f		(8.0)	(7.9
2016f 17.8 (17.5)		(7.8)	(7.8
2016f 17.8 (17.5) (17.5)	(5.2)	(7.8)	(7.8
2016f 17.8 (17.5) (17.5) (3.1)			56.
2016f 17.8 (17.5) (17.5) (3.1) (3.1)	(5.2)		
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Source: Caledonia Mining, Marten & Co



Appendix 1: Blanket mine's dividends explained

Dividends from Blanket mine are defined as free cash flow (i.e. after all expenses and capital spending) and we assume that 100% is paid out each year to the shareholders from the second half of 2016 onwards. In 2015, and the first half of 2016, Blanket mine management suspended dividend payments to fund the capital expansion programme.

Despite only holding a 49% equity interest in the Blanket mine, through the mechanics of the indigenisation process completed four years ago, Caledonia actually receives 77% of the dividend flow from the mine while the vendor loans it made are being repaid.

The following worked example shows the mechanics of distribution to Caledonia and the indigenous groups, who own in total a 51% equity interest, of a theoretical US\$10m dividend.

Caledonia receives a net US\$4.66m from its 49% interest and then receives loan repayments from each of the groups it financed to make their acquisitions and so ends up with a US\$7.74m share out of the original US\$10m.

Figure 33: Worked example of a theoretical Blanket mine US\$10m dividend payout

	US\$M
Blanket mine total dividend	10.00
Caledonia nominal share (49%)	4.90
Less withholding tax at 5%	(0.25)
Net to Caledonia	4.66
NIEEF nominal share (16%)	1.60
Less withholding tax at 15%	(0.24)
Net to NIEEF	1.36
Paid to Caledonia towards loan repayment (80%)	1.09
Retained by NIEEF	0.27
Fremiro nominal share (15%)	1.50
Less withholding tax at 15%	0.00
Net to Fremiro	1.50
Paid to Caledonia towards loan repayment (80%)	1.20
Retained by Fremiro	
BETS nominal share (10%)	1.00
Less withholding tax at 0%	0.00
Net to BETS	1.00
Paid to Caledonia towards loan repayment (80%)	0.80
Retained by BETS	0.20
0 (400/)	4.00
Gwanda nominal share (10%)	1.00
Less withholding tax at 15%	(0.15)
Net to Gwanda (retained to offset advance dividends)	0.85
Total paid to Caledonia	7.74
Total retained by minorities	1.62

Source: Caledonia Mining, Marten & Co



Caledonia recognises non-controlling interests (NCI) in the portion of shareholding upon which dividends declared by Blanket mine accrue unconditionally to equity holders as follows:

- (a) 20% of the 16% shareholding of NIEEF;
- (b) 20% of the 15% shareholding of Fremiro;
- (c) 100% of the 10% shareholding of the Community Trust.

This effectively means that NCI is recognised at Blanket mine level at 16.2% of the net assets and only reverts to 51% after full payment of the vendor loans.

Appendix 2: Explanation of unit costs of production

Caledonia reports operating costs according to IFRS and also presents costs on a unit of gold sales basis, which is normal in the gold mining industry. The company follows the convention for reporting as drawn up by the World Gold Council, which defines the AISC and AIC metrics.

Many gold mining companies continue to publish a "Total cash cost" figure as a widely recognised comparative measure of unit costs. Total cash costs exclude corporate G&A and capital expenditure and thus purely reflect the efficiency of the gold mining activities on an individual mine.

The table in Figure 34 shows the cost breakdown for the "XYZ" imaginary underground gold mine.

Figure 34: Simplified unit cost guidance for "XYZ" gold mine

	US\$/oz gold sales
On-site mining costs	600
On-site G&A	65
Royalties/production taxes	60
Permitting/community costs related to current operations	2
Inventory write-down	2
By-product credits	(80)
Total cash cost	649
Corporate G&A	150
Reclamation costs	2
Exploration and study costs	8
Sustaining capital exploration/development	10
Sustaining capital expenditure	40
AISC	859
Permitting/community costs not related to current operations	5
Reclamation costs not related to current operations	2
Non-sustaining exploration and study costs	5
Non-sustaining capital exploration/development	10
Non-sustaining capital expenditure	200
AIC	1,081

Source: World Gold Council, Marten & Co



Appendix 3: Definition of reserves and resources

Reserves

That part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination. Reserves are customarily stated in terms of ore when dealing with metalliferous minerals. There are two categories of reserves: proven ore and probable ore.

Proven ore is material for which tonnage and grade are computed from dimensions revealed in outcrops, trenches, underground workings or drill holes; grade is computed from the results of adequate sampling; and the sites for inspection, sampling and measurement are so spaced and the geological character so well-defined that size, shape and mineral content are established.

Probable ore is material for which tonnage and grade are computed partly from specific measurements, samples or production data and partly from projection for a reasonable distance on geological evidence; and for which the sites available for inspection, measurement and sampling are too widely or otherwise inappropriately spaced to outline the material completely or to establish its grade throughout.

Resources

A mineral resource is a concentration or occurrence of material of economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a mineral resource are known, estimated from specific geological evidence and knowledge, or interpreted from a well-constrained and portrayed geological model. Mineral resources are subdivided, in order of increasing geological confidence, into inferred, indicated and measured categories. The mineral resources are inclusive of those resources which have been modified to produce ore reserves.

Resources can be divided into three categories.

A **Measured** resource is that part of a resource for which quantity, grade or quality, densities, shape and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

An **Indicated** resource is that part of a resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.



An **Inferred** resource is that part of a resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.



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