EDISON

Endeavour Mining

Q418/FY18 results

Ity CIL project pours first gold

Metals & mining

On 19 March, Endeavour announced that the Ity CIL project had poured its first gold, approximately four months ahead of schedule (and within 18 months of its start) and under budget. The crushing, milling and CIL circuits are all reported to have rapidly achieved their stable nameplate capacity of 4Mtpa and commercial production is expected to be declared early in Q219. Following performance tests, Endeavour has launched an optimisation and de-bottlenecking exercise to increase plant nameplate capacity by 1Mtpa, or 25%, to 5Mtpa, at a minimal cost of US$10–15m.

Year end	Revenue (US$m)	EBITDA (US$m)	PBT* (US$m)	Operating cash flow per share (US$)	Capex (US$m)	Net debt** (US$m)
12/17	652.1	201.2	49.3	2.25	441.4	216.8
12/18	752.0	264.8	70.5	2.33	486.5	517.5
12/19e	770.2	316.0	50.2	2.39	213.2	528.7
12/20e	979.2	513.0	256.8	3.67	185.9	370.8

Note: *PBT is normalised, excluding amortisation of acquired intangibles and exceptional items. **Includes restricted cash.

Q418/FY18 results

For the second time in succession, Endeavour's quarterly results were materially ahead of our expectations in Q418, driven by universally higher production and lower costs at each of the company's continuing operations. Adjusted net earnings from continuing operations were US$13.2m higher than our prior expectations, driven by a US$31.4m positive variance in revenue partly offset by US$9.3m and US$13.1m negative variances in depreciation and taxation, respectively.

FY19 guidance

After producing 612koz gold at an all-in sustaining cost (AISC) of US$744/oz from continuing operations in FY18, Endeavour provided guidance to the effect that it will produce 615–695koz gold at an AISC of US$760–810/oz in FY19. Our financial forecasts for FY19 are based on Endeavour producing 619.7oz at an AISC of US$802/oz at an average gold price during the year of US$1,287/oz (indicative quarterly forecasts are provided in Exhibit 4 on page 6 of this report).

Valuation: Honing in on US$32.93/share

In valuing Endeavour, we have opted to discount potential cash flows back over four years from end-FY18 then to apply an ex-growth, ad infinitum terminal multiple of 10x (consistent with a discount rate of 10%) to forecast cash flows in that year (FY22). For Endeavour, our estimate of cash flow in FY22 is US$3.29 per share (including exploration expenditure), in which case our terminal valuation of the company at end-FY22 is US$32.93/share (cf US$33.63/share previously), which (in conjunction with forecast intervening cash flows) discounts back to a value of US$27.91/share at the start of FY19.

1 April 2019

Price	**C$19.90**
Market cap	**C$2172m**
	C$1.3403/US$
Net debt (US$m) at end December 2018	517.5
Shares in issue	108.1m
Free float	70.1%
Code	EDV
Primary exchange	TSX
Secondary exchange	US OTC

Share price performance

%	1m	3m	12m
Abs	0.3	(9.0)	(15.6)
Rel (local)	(0.4)	(19.6)	(19.5)
52-week high/low		C$24.2	C$16.4

Business description

Endeavour Mining is an intermediate gold producer, with four mines in Côte d'Ivoire (Agbaou and Ity) and Burkina Faso (Houndé and Karma) and two major development projects (Ity CIL and Kalana) in the highly prospective west African Birimian greenstone belt.

Next events

Ity CIL production	Early Q219
La Plaque resource update	Q219
Q119 results	May 2019
Kalana feasibility study	Q120

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Edison profile page

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Ity CIL project pours first gold

On 19 March, Endeavour announced that the Ity CIL project had poured its first gold, approximately four months ahead of schedule (and within 18 months of the start of the project) and under budget.

As of the date of the announcement, approximately 135,160t of ore had been processed in the one month since ore was first introduced into the CIL processing plant on 20 February. The crushing, milling and CIL circuits are all reported to have rapidly achieved their stable nameplate capacity of 4Mtpa and commercial production is expected to be declared early in Q219.

Following the performance tests already concluded, Endeavour has since launched an optimisation and de-bottlenecking exercise which is expected to increase the plant nameplate capacity by 1Mtpa, or 25%, to 5Mtpa, at a minimal cost of US$10-15m, mainly via the expedient of upgrading the pipes and pumps and installing a second 50 tonne oxygen plant with no additional mining fleet required. These plant upgrades are expected to be completed during scheduled plant maintenance shut-downs over the course of the next six months. Residual capital expenditure for the project in FY19 is estimated to be US$50–60m. In the meantime, an aggressive exploration programme at La Plaque target is underway with the aim of publishing an updated resource in Q219.

Q418 and FY18 results

For the second time in succession, Endeavour's quarterly results were materially ahead of our expectations in Q418, driven by universally higher production from each of the company's operating assets and universally lower all-in sustaining costs, compared with both our expectations and management's prior guidance, as shown in the exhibit below:

Exhibit 1: Endeavour production and AISC costs, by mine, actual vs guidance (FY18)

Mine	Production guidance	Production outcome	AISC cost guidance	AISC outcome
Houndé	Top end of 250–260koz	277koz	Low end of US$580–630/oz	US$564/oz
Agbaou	Lower end of 140–150koz	141koz	Low end of US$860–900/oz	US$819/oz
Karma	Low end of 105–115koz	109koz	Top end of US$780–830/oz	US$813/oz
Ity (heap leach)	Surpassed guidance of 60–65koz by Q3	85koz	Bottom half of US$790–850/oz	US$719/oz
Continuing operations	**Upper end of 555–590koz**	**612koz**	**Bottom end of US$760–810/oz**	**US$744/oz**
Tabakoto	Low end of 115–130koz	115koz	Above US$1,200–1,250/oz	US$1,369/oz

Source: Endeavour Mining

From a financial perspective, the immediate consequence of production being 21.0% above our forecast for the quarter (see Exhibit 1) was that revenue was 27.0%, or US$31.4m, above our forecast as well. This was ostensibly offset by a US$27.0m negative variance in costs, such that gross profit for the quarter was within 6% of our prior estimate. However, c US$26m of the increase in operating expenses could be attributed to a non-cash inventory adjustment at Karma to write-down inventory, which contributed to operating expenses but not adjusted net earnings from continuing operations. Other major variances from our prior expectations were:

- Depreciation: US$9.3m greater than expected as a result of higher production (since Endeavour depreciates on a unit of production basis).
- Exploration costs expensed: US$3.0m better than expected.
- Net interest: US$2.8m better than expected and US$2.8m lower than Q3, which was something of a surprise given Endeavour's rising net debt profile.
- A US$16.2m loss on financial instruments (which we declined to attempt to forecast).
- Tax charge: US$13.1m higher than expected, such that the group's marginal rate of tax for the full year was 78.3% and for the quarter was in excess of 100%. Note that Endeavour's tax charge is

very variable on a quarterly basis and particularly in the fourth quarter, when a reconciliation exercise is traditionally conducted between full year tax and that assessed for the prior quarters.

- Earnings from discontinued operations (ie Tabakoto), which were US$95.6m worse than our expectations, included an additional US$68.7m loss on disposal and US$24.1m in other losses that were booked during Q4 to add to the US$32.0m impairment made to the same asset in Q3.

A simple summary of the variance between our prior forecast of adjusted net earnings from continuing operations and the actual outcome is that revenues were US$31.4m higher than expected, but offset by depreciation and taxation also being US$9.3m and US$13.1m higher than expected, respectively. These were somewhat offset by exploration and the net interest charge being US$3.0m and US$2.8m lower than expected, respectively. Together, these five items account for a US$14.8m positive variance of actual compared to forecast adjusted net earnings from continuing operations. All of the other items together sum to a (negative) US$1.6m variance, such that the overall variance between our forecast and the actual outcome was a positive US$13.2m, as shown in Exhibit 2, below/overleaf:

Exhibit 2: Endeavour Mining FY18 earnings, by quarter (US$000s unless otherwise indicated)

						Q4/Q3	Q4 vs Q4e				
	Q118*	Q218	Q318	Q418e	Q418	Change (%)	Variance (%)	Variance (units)	FY18e	FY18	Variance (units)
Houndé production (koz)	73.8	66.9	60.7	63	75.8	24.9	20.3	12.8	264	277.2	13.2
Agbaou production (koz)	32.1	33.7	31.2	37	44.4	42.3	20.0	7.4	134	141.3	7.3
Karma production (koz)	28.2	21.0	26.1	29	33.5	28.4	15.5	4.5	104	108.7	4.7
Ity heap leach production (koz)	18.3	25.0	21.0	15	20.6	-1.9	37.3	5.6	79	84.8	5.8
Tabakoto production (koz)	32.4	26.8	26.5	27	29.6	11.7	9.6	2.6	112	115.2	3.2
Total gold produced (koz)	152	147	139	144	174.2	25.3	21.0	30.2	582	612.1	30.1
Total gold sold (koz)	154	151	134	144	173.4	29.4	20.4	29.4	583	612.1	29.1
Gold price (US$/oz)	1,328	1,306	1,161	1,225	1,198	3.2	-2.2	-27	1,237	1,199	-38.0
Cash costs (US$/oz)	524	608	643	680	555	-13.7	-18.4	-125	612	579	-33.0
AISC (US$/oz)	669	768	820	846	707	-13.8	-16.4	-139	773	744	-29.0
Revenue											
- Gold revenue	198,894	189,515	155,764	176,341	207,784	33.4	17.8	31,443	720,514	751,957	31,443
Cost of sales											
- Operating expenses	83,276	92,646	86,238	97,860	124,832	44.8	27.6	26,972	360,020	386,926	26,906
- Royalties	12,183	10,254	8,293	9,854	10,338	24.7	4.9	484	40,584	41,068	484
Gross profit	103,435	86,615	61,233	68,627	72,614	18.6	5.8	3,987	319,910	323,963	4,053
Depreciation	(39,504)	(43,538)	(35,911)	(40,786)	(50,116)	39.6	22.9	(9,330	(159,739)	(169,069)	-9,330
Expenses											
- Corporate costs	(6,488)	(6,130)	(5,888)	(5,957)	(8,001)	35.9	34.3	(2,044)	(24,463)	(26,573)	-2,110
- Impairments	0	0	0	1,129	0	N/A	-100.0	(1,129)	1,129	0	-1,129
- Acquisition etc costs	0	0	0	0	0	N/A	N/A	0	0	0	0
- Share based compensation	(2,668)	(10,109)	(4,007)	(7,000)	(8,147)	103.3	16.4	(1,147)	(23,784)	(24,931)	-1,147
- Exploration costs	(2,754)	(2,284)	(2,583)	(3,000)	0	-100.0	-100.0	3,000	(10,621)	(7,621)	3,000
Total expenses	(11,910)	(18,523)	(12,478)	(14,828)	(16,148)	29.4	8.9	(1,320)	(57,739)	(59,125)	-1,386
Earnings from operations	52,021	24,554	12,844	13,012	6,350	-50.6	-51.2	(6,662)	102,431	95,769	-6,662
Interest income	0	0				N/A	N/A	0	0	0	0
Interest expense	(7,496)	(4,549)	(6,679)	(7,743)	(4,947)	-25.9	-36.1	2,796	(26,467)	(23,671)	2,796
Net interest	(7,496)	(4,549)	(6,679)	(7,743)	(4,947)	-25.9	-36.1	2,796	(26,467)	(23,671)	2,796
Loss on financial instruments	(11,403)	10,922	24,755		(16,239)	-165.6	N/A	(16,239)	24,274	8,035	-16,239
Other expenses	(165)	(818)	(173)		(402)	132.4	N/A	(402)	(1,156)	(1,558)	-402
Profit before tax	32,957	30,109	30,747	5,269	(15,238)	-149.6	-389.2	(20,507)	99,082	78,575	-20,507
Current income tax	10,772	17,095	17,443	5,540	21,212	21.6	282.9	15,672	50,850	66,522	15,672
Deferred income tax	(4,881)	4,432	(2,007)	0	(2,551)	27.1	N/A	(2,551)	(2,456)	(5,007)	-2,551
Total tax	5,891	21,527	15,436	5,540	18,661	20.9	236.8	13,121	48,394	61,515	13,121
Marginal tax rate	*17.9*	*71.5*	*50.2*	*105.1*	*(122.5)*	-344.0	-216.6	(227.6)	*48.8*	*78.3*	29.5
Profit after tax	27,066	8,582	15,311	(271)	(33,899)	-321.4	12,408.9	(33,628)	50,688	17,060	-33,628
Net profit from discontinued ops.	593	(24,025)	(35,705)	(56)	(95,658)	167.9	170,717.9	(95,602)	(59,193)	(154,795)	-95,602
Total net and comprehensive loss	27,659	(15,443)	(20,394)	(327)	(129,557)	535.3	39,519.9	(129,230)	(8,505)	(137,735)	-129,230
Minority interest	14,567	(132)	(3,619)	2,522	(3,695)	2.1	-246.5	(6,217)	13,338	7,121	-6,217
Minority interest (%)	*52.7*	*0.9*	*17.7*	*(771.1)*	*2.9*	-83.6	-100.4	774.0	*(156.8)*	*(5.2)*	151.6
Profit attributable to shareholders	13,092	(15,311)	(16,775)	(2,849)	(125,862)	650.3	4,317.8	(123,013)	(21,843)	(144,856)	-123,013
Basic EPS from continuing ops. (US$)	0.116	0.037	0.136	(0.026)	(0.292)	-314.7	1,023.1	(0.266)	0.347	(0.001	-0.348
Diluted EPS from continuing ops. (US$)	0.116	0.037	0.136	(0.026)	(0.292)	-314.7	1,023.1	(0.266)	0.339	(0.001)	-0.340
Basic EPS (US$)	0.122	(0.142)	(0.156)	(0.026)	(1.167)	648.1	4,388.5	(1.141)	(0.203)	(1.344)	-1.141
Diluted EPS (US$)	0.121	(0.142)	(0.155)	(0.026)	(1.165)	651.6	4,380.8	(1.139)	(0.198)	(1.342)	-1.144
Norm. basic EPS from continuing ops (US$)	0.222	(0.064)	(0.094)	(0.036)	(0.142)	51.1	294.4	(0.106)	0.111	(0.075)	-0.186
Norm. diluted EPS from continuing ops (US$)	0.221	(0.064)	(0.094)	(0.036)	(0.141)	50.0	291.7	(0.105)	0.111	(0.075)	-0.186
Adj net earnings attributable (US$000s)	24,411	9,189	(1,408)	3,070	16,271	-1,255.6	430.0	13,201	35,262	53,132	17,870
Adj net EPS from continuing ops. (US$)	0.227	0.085	(0.013)	0.028	0.151	-1,261.5	439.3	0.123	0.327	0.493	0.166

Source: Endeavour Mining, Edison Investment Research. Note: *Q1 restated to reflect Tabakoto as a 'discontinued operation'. Company reported basis.

Compared to Q318, all five of Endeavour's producing mines benefited from the end of the rainy season in Q4. **Houndé**, in particular, reported a record quarter, as it mined higher grade areas and stockpiled low-grade ore, while deferring stripping into the 2019 financial year on account of a shift in the mine plan to focus on the Vindaloo Main and Central pits. This compared to a third quarter in which access to higher grade ore was limited by the rains and processing costs were driven higher by the utilisation of fresh ore in the mills instead. Grades similarly improved at **Agbaou** as a result of greater extraction at the South pit following earlier stripping; at the same time, recoveries improved on account of a greater proportion of oxide ore processed, which supplanted low-grade feed from stockpiles, whereas some waste capitalisation was also deferred into 2019. In addition to improved mining and stacking rates after the end of the rainy season, operations at **Karma** continued to benefit from the improved leach characteristics of Kao oxide ore in H218, compared to the transitional material mined from the GG2 pit in H1.

Opportunistic mining to feed the heap leach operation at **Ity** ceased in mid-December, ahead of the commissioning of the CIL plant this year. Nevertheless, the operation performed ahead of expectations, as mining costs and the stripping ratio declined while recoveries improved on account of the better leach characteristics and higher grade of the ore mined from the Bakatouo pit. Finally, in its last quarter under Endeavour management, an improvement in underground production at **Tabakoto** partially offset a decline from open-pit sources; tonnes milled declined as a result, although gold output increased with higher grades processed in the quarter (although the grade overall for the year remained 21.4% lower than in FY17 after the end of mining at the Kofi C pit in 2017 and the Kofi B pit in H118).

FY19 cost and production guidance and Edison forecasts

The 2018 financial year was transitional for Agbaou, in particular, with a focus on waste capitalisation activities that then provided access to higher-grade areas in the latter part of Q418 and an extension of mining in the existing pit. At the same time, operations at Karma will be affected by the mining of transition ore in the Kao pit and the extension of mining to Kao North.

Historically, Endeavour has a good record of meeting its production and cost guidance targets. For FY19, these are as follows (cf both FY18 actuals and our forecasts):

Exhibit 3: Current Endeavour production and AISC cost guidance, by mine, FY19 vs FY18 and Edison forecast

	Production			All-in sustaining costs (AISC)		
Mine	**FY19e guidance (koz)**	**Edison FY19e forecast (koz)**	**FY18 (koz)**	**FY19e guidance (US$/oz)**	**Edison FY19e forecast (US$/oz)**	**FY18 (US$/oz)**
Houndé	230–250	230.4	277	720–790	768	564
Agbaou	120–130	120.0	141	850–900	900	819
Karma	105–115	109.3	109	860–910	890	813
Ity	160–200	160.0	85	525–590	547	719
Continuing operations	**615–695**	**619.7**	**612**	**760–810**	**802**	**744**
Tabakoto	N/A	N/A	115	N/A	N/A	1,369

Source: Endeavour Mining

Within this context our financial forecasts for Endeavour for FY19, by quarter, are as follows:

Exhibit 4: Endeavour Mining FY19 earnings forecasts, by quarter (US$000s unless otherwise indicated)

	FY18	Q119e	Q219e	Q319e	Q419e	FY19e
Houndé production (koz)	277.2	46.6	46.6	68.6	68.6	230.4
Agbaou production (koz)	141.3	24.7	31.8	31.8	31.8	120.0
Karma production (koz)	108.7	23.0	23.0	28.3	35.0	109.3
Ity production (koz)	84.8	5.0	44.4	55.3	55.3	160.0
Tabakoto production (koz)	115.2	N/A	N/A	N/A	N/A	N/A
Total gold produced (koz)	612.1	99.4	145.8	183.9	190.6	619.7
Total gold sold (koz)	612.1	99.4	145.8	183.9	190.6	619.7
Gold price (US$/oz)	1,199	1,304	1,318	1,263	1,263	*1,243
Cash costs (US$/oz)	579	781	646	533	515	594
Mine level AISC (US$/oz)	744	1,007	816	680	659	758
Revenue						
- Gold revenue	751,957	122,405	184,953	227,165	235,662	770,185
Cost of sales						
- Operating expenses	386,926	77,565	94,248	98,110	98,110	368,034
- Royalties	41,068	6,492	8,713	11,002	11,512	37,719
Gross profit	323,963	38,348	81,991	118,053	126,041	364,432
Depreciation	(169,069)	(44,764)	(48,492)	(58,856)	(62,925)	(215,036)
Expenses						
- Corporate costs	(26,573)	(5,957	(5,957)	(5,957)	(5,957)	(23,828)
- Impairments	0	0	0	0	0	0
- Acquisition etc costs	0	0	0	0	0	0
- Share based compensation	(24,931)	(5,333)	(5,333)	(5,333)	(5,333)	(21,332)
- Exploration costs	(7,621)	(821)	(821)	(821)	(821)	(3,285)
Total expenses	(59,125)	(12,111)	(12,111)	(12,111)	(12,111)	(48,445)
Earnings from operations	95,769	(18,528)	21,388	47,086	51,005	100,951
Interest income	0					0
Interest expense	(23,671)	(12,938)	(12,938)	(12,938)	(12,938)	(51,753)
Net interest	(23,671)	(12,938)	(12,938)	(12,938)	(12,938)	(51,753)
Loss on financial instruments	8,035					0
Other expenses	(1,558)	1,033	0	0	0	1,033
Profit before tax	78,575	(30,433)	8,450	34,148	38,067	50,230
Current income tax	66,522	2,671	10,471	14,634	14,572	42,348
Deferred income tax	(5,007)	0	0	0	0	0
Total tax	61,515	2,671	10,471	14,634	14,572	42,348
Marginal tax rate	*78.3*	(8.8)	123.9	42.9	38.3	84.3
Profit after tax	17,060	(33,104)	(2,021)	19,514	23,494	7,883
Net profit from discontinued ops.	(154,795)	0	0	0	0	0
Total net and comprehensive loss	(137,735)	(33,104)	(2,021)	19,514	23,494	7,883
Minority interest	7,121	(1,092)	3,570	5,915	6,304	14,698
Minority interest (%)	*(5.2)*	3.3	(176.6)	30.3	26.8	186.5
Profit attributable to shareholders	(144,856)	(32,013)	(5,591)	13,599	17,190	(6,815)
Basic EPS from continuing ops. (US$)	(0.001)	(0.296)	(0.052)	0.126	0.159	(0.063)
Diluted EPS from continuing ops. (US$)	(0.001)	(0.285)	(0.050)	0.121	0.153	(0.061)
Basic EPS (US$)	(1.344)	(0.296)	(0.052)	0.126	0.159	(0.063)
Diluted EPS (US$)	(1.342)	(0.285)	(0.050)	0.121	0.153	(0.061)
Norm. basic EPS from continuing ops (US$)	(0.075)	(0.296)	(0.052)	0.126	0.159	(0.063)
Norm. diluted EPS from continuing ops (US$)	(0.075)	(0.285)	(0.050)	0.121	0.153	(0.061)
Adj net earnings attributable (US$000s)	53,132	(27,854)	9,162	17,315	21,092	19,715
Adj net EPS from continuing ops. (US$)	0.493	(0.258)	0.085	0.160	0.195	0.182

Source: Endeavour Mining, Edison Investment Research. Note: Company reported basis; *Includes adjustment for Karma stream.

Readers are cautioned that forecasting on a quarterly basis is prone to large variations between actual and forecast numbers (as demonstrated, not least, by the variances observed between Q4a and Q4e in Exhibit 2). To this end, it is worth noting that the top end of Endeavour's production guidance is 75.3koz gold above Edison's forecast for the year, which is worth a material US$97.9m in additional revenue to the company (at the current spot price of gold) for a potentially negligible incremental cost and therefore has the ability to almost treble Endeavour's profit before tax in the year relative to our forecasts above. In addition, as in FY18, a degree of seasonality may be expected between Q319 and Q419, which has not been taken into consideration at this stage. As such, the exhibit above should be regarded as more indicative than prescriptive with respect to the individual quarters. Within that context, however, the table above nevertheless demonstrates the effects of a number of anticipated operating developments over the course of the year, including:

- The processing of lower-grade stockpiles at Agbaou in Q1.
- The processing of low-grade stockpiles at Karma in H1.
- Production from the higher-grade Bouere pit at Houndé in H2.
- The start of commercial production from the Ity CIL project in Q2 (cf Q3 assumed previously).

Reserves and resources

On 8 February 2019, Endeavour updated its mineral resource estimate at Kalana Main (and therefore the entire Kalana project), incorporating a lower cut-off grade of 0.5g/t (cf 0.9g/t previously), as follows:

Exhibit 5: Kalana consolidated mineral resource estimate (8 February 2019 vs end-FY17)

	8 February 2019			Previous*			Change (%)			Change (units)		
	Tonnes (Mt)	Grade (g/t)	Contained gold (koz)	Tonnes (Mt)	Grade (g/t)	Contained gold (koz)	Tonnes	Grade	Contained gold	Tonnes (Mt)	Grade (g/t)	Contained gold (koz)
Kalana Main												
Measured	0.0	0.00	0									
Indicated	26.6	2.69	2,290									
Inferred	6.4	2.75	560									
Total	33.0	2.69	2,849									
Kalanako												
Measured	0.0	0.00	0									
Indicated	2.1	2.27	150									
Inferred	0.2	4.66	25									
Total	2.3	2.37	175									
Tailings												
Measured	0.0	0.00	0									
Indicated	0.7	1.75	40									
Inferred	0.0	0.00	0									
Total	0.7	1.79	40									
Total												
Measured	0.0	0.00	0	9.5	4.19	1,280	-100.0	N/A	-100.0	-9.5	N/A	-1,279.8
Indicated	29.4	2.62	2,480	14.2	3.96	1,810	107.0	-33.7	37.0	15.2	-1.34	670.3
Inferred	6.6	2.78	585	1.7	4.39	240	288.2	-36.8	143.7	4.9	-1.61	344.9
Total	36.0	2.65	3,065	25.4	4.08	3,330	41.7	-35.1	-7.9	10.6	-1.43	-264.6

Source: Endeavour Mining, Edison Investment Research. Note: The 2019 resource estimate is based on a 0.5g/t cut-off grade and is constrained by a conceptual US$1,500/oz pit shell. *As at 31 December 2017.

Endeavour considers the updated 2019 geological model to be more robust and accurate for the following reasons:

- The geological model was updated with over 30,000m of in-fill drilling completed since the project was acquired in late 2017. In total, more than 2,200 holes and more than 221,000 assays (including over 103,000 LeachWELL assays) were used to refine the geological model.
- A total of 135 veins within 61 vein packages were individually modelled as opposed to the previous approach of applying geostatistics to 56 grouped vein packages, which thereby improved confidence in the vein packages/domain boundaries.
- Mineralised intersections outside the defined wireframes where continuity was not proven were excluded.

On the basis of Kalana's updated 8 February resources (as opposed to those prevailing at 31 December 2018), a comparison of Endeavour's group-wide reserves and resources compared with those extant at 31 December 2017 revealed the following changes:

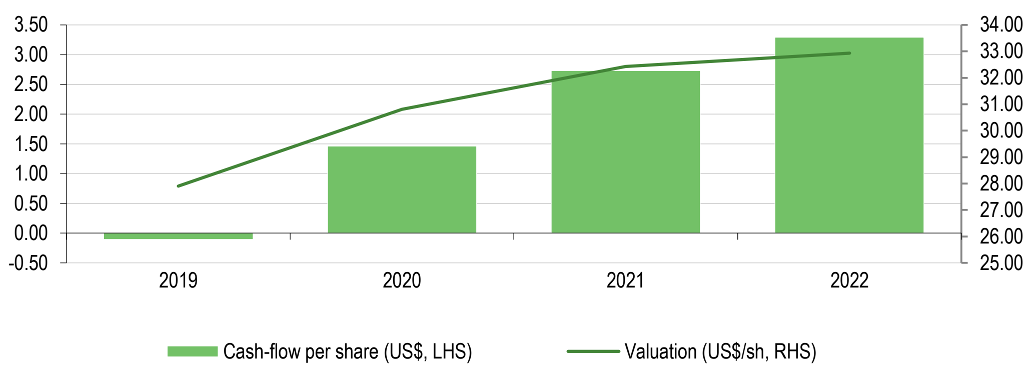
- A 2.8Moz decline in gross resources (on a 100% basis) and a 2.3Moz decline in resources on an attributable basis. However, the overwhelming majority of the decline could be attributed to the sale of Tabakoto at the end of Q418. On an underlying basis, excluding both Tabakoto and Fetekro (for which a maiden resource was announced in November 2018), gross resources declined by just 0.1Moz (or 0.7% of Endeavour's total); on an attributable basis, underlying resources actually increased, albeit by a relatively modest 1.2%.
- Over the same time, group gross reserves declined by 1.1Moz. Once again, however, the overwhelming majority of the decline could be attributed to the sale of Tabakoto. On an underlying basis, reserves declined by only 0.6Moz (ie on a par with production in 2018), or 7.2%. Underlying attributable reserves, by contrast, declined by 5.6%.
- Adjusting for the reduced aggregate group milling rate in the aftermath of the Tabakoto sale, the aggregate mine life of the group, based on both reserve and resource tonnages, actually increased (albeit modestly – eg by less than one year in each case) – reflecting, among other things, Tabakoto's below (group) average official mine life, especially when measured with respect to proven and probable reserves.

Valuation

Endeavour is a multi-asset company that has shown a willingness and desire to trade assets to maintain production, reduce costs and maximise returns to shareholders (eg the sale of Youga in FY16, Nzema in FY17 and Tabakoto in FY18). Rather than our customary method of discounting maximum potential dividends over the life of operations back to FY19, therefore, we have opted to discount potential cash flows back over four years from end-FY18 and then to apply an ex-growth terminal multiple of 10x (consistent with using a standardised discount rate of 10%) to forecast cash flows in that year (ie FY22). In the normal course of events, exploration expenditure would be excluded from such a calculation on the basis that it is an investment. In the case of Endeavour, however, we have included it in our estimate of FY22 cash flows on the grounds that it may be a critical component of ongoing business performance in its ability to continually expand and extend the lives of the company's assets.

In the wake of its FY18 results, our estimate of Endeavour's cash flow in FY22 has reduced fractionally from US$3.36 to US$3.29 per share, on which basis our terminal valuation of the company at end-FY22 is US$32.93/share (cf US$33.63/share previously), which (in conjunction with forecast intervening cash flows) discounts back to a value of US$27.91/share at the start of FY19.

Exhibit 6: Endeavour forecast valuation and cash flow per share, FY19–FY22 (US$/share)



Source: Edison Investment Research

Financials

Endeavour had US$517.5m in net debt (including restricted cash) on its balance sheet at end-FY18 (vs US$509.2m at end-Q3 and US$399.9m at end-Q218), after US$87m in accelerated capex during the quarter (vs US$110.8m in capex in Q318) and US$453.3m for the full year. This level of net debt equates to a gearing (net debt/equity) ratio of 60.3% (vs 52.1% at end-Q3) and leverage (net debt/[net debt + equity]) ratio of 37.6% (vs 34.3% at end-Q3). Note that US$517.5m accords with Endeavour's FY18 accounts; it differs from the figure of US$536m quoted in some of the company's other materials because the formal accounting treatment of the finance leases on the balance sheet in particular requires future cash flows to be discounted back to present value – whereas the higher figure is quoted on an undiscounted basis. In addition, the higher figure does not include restricted cash.

With only US$50–60m in capital on the Ity CIL project to be expended in FY19 (the majority in H119), Endeavour has now passed the period of greatest capex intensity on growth projects in the immediately foreseeable future – at least until the development of Kalana. With sustaining capex, non-sustaining capex and exploration expenditure of c US$160m at Endeavour's other projects however, we estimate that cash flows before financing in FY19 will be close to break-even, such that we are forecasting that Endeavour will have virtually unchanged net debt of c US$528.7m as at end-FY19, which will equate to a gearing ratio of 60.6% and a leverage ratio of 37.7%. Thereafter, net debt should decline rapidly (see Exhibit 7) such that we estimate the company will be net debt-free in early FY22 (notwithstanding capex related to the Kalana project), at which point it will potentially be able to make dividend distributions to shareholders.

Exhibit 7: Financial summary

	US$'000s	2016	2017	2018	2019e	2020e
December		IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Revenue		566,486	652,079	751,957	770,185	979,241
Cost of Sales		(376,794)	(597,528)	(487,119)	(454,197)	(466,225)
Gross Profit		189,692	54,551	264,838	315,987	513,016
EBITDA		213,916	201,166	264,838	315,987	513,016
Operating Profit (before amort. and except.)		127,981	70,379	95,769	100,951	309,639
Intangible Amortisation		0	0	0	0	0
Exceptionals		(36,272)	(149,942)	8,035	0	0
Other		(1,989)	(2,242)	(1,558)	1,033	0
Operating Profit		89,720	(81,805)	102,246	101,984	309,639
Net Interest		(24,593)	(18,789)	(23,671)	(51,753)	(52,872)
Profit Before Tax (norm)		101,399	49,348	70,540	50,230	256,767
Profit Before Tax (FRS 3)		65,127	(100,594)	78,575	50,230	256,767
Tax		(27,643)	(32,945)	(61,515)	(42,348)	(79,913)
Profit After Tax (norm)		73,756	16,403	9,025	7,883	176,854
Profit After Tax (FRS 3)		37,484	(133,539)	17,060	7,883	176,854
Net loss from discontinued operations				(154,795)	0	0
Minority interests				7,121	14,698	36,486
Net profit				(137,735)	7,883	176,854
Net attrib. to shareholders contg. businesses (norm)				(8,100)	(6,815)	140,368
Net attrib.to shareholders contg. businesses				(65)	(6,815)	140,368
Average Number of Shares Outstanding (m)		80.6	98.5	107.7	108.1	108.1
EPS - normalised ($)		(0.38)	(0.06)	(0.08)	(0.06)	1.30
EPS - normalised and fully diluted ($)		(0.38)	(0.06)	(0.08)	(0.06)	1.25
EPS - (IFRS) ($)		(0.83)	(1.59)	(1.34)	(0.06)	1.30
Dividend per share (p)		0.0	0.0	0.0	0.0	0.0
Gross Margin (%)		33.5	8.4	35.2	41.0	52.4
EBITDA Margin (%)		37.8	30.8	35.2	41.0	52.4
Operating Margin (before GW and except.) (%)		22.6	10.8	12.7	13.1	31.6
BALANCE SHEET						
Fixed Assets		1,073,562	1,331,745	1,594,202	1,597,381	1,579,937
Intangible Assets		29,978	6,267	4,186	4,186	4,186
Tangible Assets		1,039,529	1,317,952	1,543,842	1,547,021	1,529,577
Investments		4,055	7,526	46,174	46,174	46,174
Current Assets		283,536	361,766	327,841	343,935	559,241
Stocks		110,404	141,898	126,353	148,112	188,316
Debtors		36,572	95,212	74,757	80,278	97,461
Cash		124,294	122,702	124,022	112,836	270,756
Other		12,266	1,954	2,709	2,709	2,709
Current Liabilities		(149,626)	(241,185)	(248,420)	(238,478)	(238,154)
Creditors		(145,311)	(223,527)	(224,386)	(214,444)	(214,120)
Short term borrowings		(4,315)	(17,658)	(24,034)	(24,034)	(24,034)
Long Term Liabilities		(246,811)	(451,705)	(729,290)	(729,290)	(729,290)
Long term borrowings		(146,651)	(323,184)	(618,595)	(618,595)	(618,595)
Other long term liabilities		(100,160)	(128,521)	(110,695)	(110,695)	(110,695)
Net Assets		960,661	1,000,621	944,333	973,548	1,171,734
CASH FLOW						
Operating Cash Flow		164,522	244,092	274,938	301,129	476,639
Net Interest		(19,626)	(15,212)	(26,734)	(51,753)	(52,872)
Tax		(10,625)	(22,301)	(24,018)	(42,348)	(79,913)
Capex		(212,275)	(441,396)	(486,498)	(213,215)	(185,934)
Acquisitions/disposals		32,098	(37,332)	33,179	(5,000)	0
Financing		174,702	116,536	(6,231)	0	0
Dividends		(2,612)	(5,177)	(1,956)	0	0
Net Cash Flow		126,184	(160,790)	(237,320)	(11,186)	157,920
Opening net debt/(cash)		152,856	26,672	218,140	518,607	529,793
HP finance leases initiated		0	0	0	0	0
Other		0	(30,678)	(63,147)	(0)	0
Closing net debt/(cash)		26,672	218,140	518,607	529,793	371,873

Source: Endeavour Mining sources, Edison Investment Research. Note: *Excludes restricted cash. EPS normalised from 2018 reflect continuing business only. 2017 is shown as previously reported (ie not restated).

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