

Endeavour Mining

Maiden resource paves way for potential project

On 29 October, Endeavour (EDV) announced a maiden resource at its Fetekro property in north central Côte d'Ivoire of 719koz Au, contained within 9.8Mt. The resource equates to 4.0% of Endeavour's prior, global resource (on a 100% basis), or 4.8% on an attributable basis. However, it equates to a rather more significant 4.5-7.6% of Endeavour's 9.5-16.0Moz exploration target over the course of the next five years. Moreover, at 2.25g/t, its average grade is 21.0% above the average of Endeavour's other resources. The target remains open at depth and to the south-east, while ground geophysics and geochemical data suggest that its mineralisation also extends towards the east and north-east. As a result, a second, 45,000m exploration campaign has now been launched by Endeavour in conjunction with a regional exploration programme to test nearby targets.

Year end	Revenue (US\$m)	EBITDA (US\$m)	PBT* (US\$m)	Operating cash flow per share (US\$)	Capex (US\$m)	Net debt (US\$m)
12/16	566.5	213.9	103.4	1.91	(212.3)	21.4
12/17	652.1	201.2	51.6	2.25	(441.4)	216.8
12/18e	709.1	247.3	49.4	1.51	(287.9)	304.1
12/19e	762.1	369.4	156.2	2.71	(230.5)	273.2

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and discontinued operations.

Resource multiple valuation up to 0.44/share

The cost of delineating Fetekro's resource, to date, is reported to be US\$6m (5.6 US cents per EDV share), which equates to a discovery cost of US\$8.34 per resource oz of gold and is below the average estimated US\$14.12/oz cost of discovery projected across its exploration programme for 9.5-16.0Moz over all of the group's geological assets over the course of the next five years. Ultimately, Endeavour's target at Fetekro is in excess of 2Moz (to support standalone production in the order of 150-200koz pa) and airborne surveys to date have confirmed that this scale is achievable. Applying a pre-development valuation for EDV's existing resources of US\$66.00/oz (see page 3) suggests a valuation for Fetekro to Endeavour of US\$47.5m (or US\$0.44/share), a valuation that is implicitly supported by applying a similar methodology to nine out of 14 of Endeavour's peers with a similar positive pre-development resource valuation (see Exhibit 2).

Valuation: US\$29.76 per share plus Fetekro

Endeavour's exploration programme should be capable of supporting near-term production at its mines at elevated levels, as well as extending their lives by 5.4-17.2 years, on average. In valuing Endeavour, 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 a discount rate of 10%) to forecast cash flows in that year. In the case of Endeavour, our estimate of cash flow in FY22 is US\$3.38 per share (including exploration expenditure), in which case our terminal valuation of the company at end-FY22 is US\$33.76/share, which (in conjunction with forecast intervening cash flows) discounts back to a value of US\$29.76/share at the start of FY19 – plus the potential value of Fetekro (above).

Fetekro maiden resource

Metals & mining

9 November 2018

Price **C\$19.29**

Market cap **C\$2,078m**

C\$1.2977/US\$

Net debt (US\$m) at end June 2018 399.9

Shares in issue 107,752

Free float 70.1%

Code EDV

Primary exchange TSX

Secondary exchange US OTC

Share price performance



% 1m 3m 12m

Abs (4.4) (13.9) (14.2)

Rel (local) (0.8) (8.5) (10.0)

52-week high/low C\$26.6 C\$18.5

Business description

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

Next events

Kari-Pump maiden resource Q418

Kalana updated resource and feasibility Q418 and H119

Ity CIL production Mid-FY19

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Fetekro maiden resource

Consistent with its strategic objective of identifying a new project as part of its five-year exploration strategy, set out in late 2016, Endeavour began exploration at Fetekro (located in north central Côte d'Ivoire at the northern end of the Oumé-Fetekro greenstone belt) in March 2017, following a strategic assessment of its exploration tenements (which ranked the property as a top priority target) and a full reinterpretation of the available historical data. Since then, nearly 32,000m have been drilled, mainly focused on the 'highly prospective' Lafigué target, where a large, mineralised vein system encompassing three main mineralised zones (denoted Lafigué South, Center [sic] and North) was defined over an area of 2.5km x 0.6km (being two-thirds of the total mineralised area defined to date). As a result, on 29 October, Endeavour declared a maiden resource at the property, as follows:

Exhibit 1: Fetekro maiden resource estimate			
Category	Tonnage (Mt)	Gold grade (g/t)	Contained gold (koz)
Measured	0.0	0.00	0
Indicated	6.8	2.25	494
Inferred	3.0	2.25	225
Total	9.8	2.25	719

Source: Endeavour Mining. Note: Resources have been constrained by a US\$1,500/oz pit shell and a 0.50g/t cut-off. The Whittle pit shell optimisation assumed a base mining cost of US\$2.50/t, mining recovery of 95%, mining dilution of 15%, a pit slope angle of 40°, metallurgical recoveries of 92% in oxide and 90% in transition, and fresh rock and processing and general & administrative costs of US\$25/t.

The gold assays from the drill holes were composited to 1.0m intervals within the mineralised wireframes and capped at 30g/t gold.

To date therefore, the resource equates to 22.5oz of gold per metre drilled or 479,333oz per square kilometre of mineralisation. In the meantime, drill results suggest that the Lafigué target remains open at depth and to the south-east, while ground geophysics and geochemical data suggest that its mineralisation also extends towards the east and north-east. Based on initial analysis of the ore characteristics and orebody shape, Endeavour believes that these resources could be amenable to open pit mining as mineralisation starts at surface, while preliminary metallurgical test work suggests the potential for high rates of gold recovery.

In addition to those resources defined above, a preliminary assessment of a recent gold-in-soil campaign at Fetekro, coupled with versatile time-domain electromagnetics (VTEM), ground geophysics and geological mapping, suggests the occurrence of additional mineralised systems – and up to 14 targets – located within a 14km radius of the Lafigué target. A number of these targets have already been drill tested on a number of reverse circulation (RC) drilling fences. Of these, Target 4, which is located 4km south-west of Lafigué, is reported to have already returned 'encouraging results' and is currently being followed up with additional drilling. At the same time, three further, large gold-in-soil anomalies (which may be related to the shear zones hosting the regional mineralised quartz system veins) have also been identified in the western section of the property, covering an aggregate total area of 11.2km² (note: 11.2km² x 479.3koz/km² = 5.4Moz). As a result, a second, 45,000m exploration (note: 45km x 22.5oz/m = 1.0Moz) campaign has now been launched at the Lafigué target by Endeavour, with the dual goal of:

- testing the extension and the continuity of the mineralisation; and
- converting the inferred resources into the indicated category.

The campaign will continue into 2019 in conjunction with a regional exploration programme to test nearby targets and is expected to result in an updated mineral resource estimate being published in late 2019.

Potential Fetekro valuation

Fetekro's 719koz maiden resource equates to 4.0% of Endeavour's prior, global resource (on a 100% basis), or 4.8% on an attributable basis. However, it equates to a rather more significant 4.5-7.6% of Endeavour's 9.5-16.0Moz exploration target over the course of the next five years. Moreover, at 2.25g/t, its average grade is 21.0% above the average of Endeavour's other resources.

Endeavour's current enterprise value (EV) equates to a resource multiple of US\$139.55 per attributable resource oz. On this basis, Fetekro's resource would/should be valued at US\$100.3m (or US\$0.93/share). Given that almost all of Endeavour's other resources relate to assets in which development (as well as exploration) capital has already been sunk, however, such an estimate is likely to be an over-estimation, except in the event that ore derived from the resource could easily be transported to other, nearby processing facilities. Within this context, investors should note that Endeavour's balance sheet value of its 'Mining interests' as at 31 December 2017 (a measure of Endeavour's investment into its resources in order to achieve their US\$139.55/oz valuation) equated to US\$73.55 per resource ounce on a 100% basis, which suggests a pre-development valuation of Endeavour's resources of US\$66.00/oz (being 139.55 - 73.55 = 66.00), on which basis Fetekro would be worth US\$47.5m (or US\$0.44/share).

Adopting a similar methodology, this valuation of US\$66.00/oz may be compared with Endeavour's peers as follows:

Exhibit 2: Endeavour peers' pre-development valuation of resources

Company	Market capitalisation (US\$m)	Net debt (US\$m)	EV (US\$m)	Book value of mining assets (US\$m)	Pre-dev't valuation of resources (US\$m)	Resource (Moz)	Pre-dev't value of resources (US\$/oz)
Newmont Mining	17,344.7	1,064.0	18,408.7	12,209.0	6,199.7	116.700	53.13
Goldcorp	8,779.1	2,925.5	11,704.6	20,161.0	-8,456.4	105.550	-80.12
Newcrest Mining	11,837.9	1,056.4	12,894.3	8,480.0	4,414.3	120.000	36.79
Kinross Gold	3,612.2	789.6	4,401.8	5,071.7	-669.9	61.910	-10.82
Agnico Eagle Mines	9,113.9	1,094.9	10,208.7	6,173.0	4,035.7	51.678	78.09
Eldorado Gold	602.0	211.4	813.4	4,209.0	-3,395.6	41.134	-82.55
B2gold	2,667.4	472.4	3,139.8	2,091.7	1,048.1	20.776	50.45
New Gold	499.1	799.7	1,298.8	2,581.3	-1,282.5	19.073	-67.24
Semafo	753.7	32.2	785.9	703.3	82.6	7.744	10.66
Yamana Gold	2,363.9	1,629.5	3,993.4	6,780.2	-2,786.8	46.824	-59.52
Randgold Resources	8,067.9	-592.3	7,475.6	3,039.3	4,436.3	24.600	180.34
Centamin	1,589.4	-253.2	1,336.1	913.0	423.2	14.620	28.94
Acacia Mining	880.1	-64.0	816.1	777.6	38.5	27.375	1.41
Avesoro Resources (di)	204.7	120.0	324.7	243.4	81.3	4.218	19.28

Source: Edison Investment Research, Thomson Reuters Datastream. Priced at 6 November 2018.

Investors should note the wide range of values. In addition, a crude interpretation of a negative result for a company is that it is quite likely to be trading below net book value. Nevertheless, the (simple) average of pre-development resource values of those companies with a positive number is US\$51.01/oz, which is acceptably close to the same multiple for Endeavour of US\$66.00/oz to provide confidence in both this valuation and this methodology.

In our report, [Mining overview: Unlocking the price to NPV discount](#), published in November 2017, we calculated average values for pure in situ resources, differentiated both by the markets in which they were listed and also by category of resources (as well as on a blended average basis). The results of this process for London- and Canada-listed companies (as well as the global average) plus their implications for the valuation of Fetekro are provided in Exhibit 3, below.

Exhibit 3: Fetekro maiden resource valuation range

Category	Fetekro resource (Moz Au)	Resource multiples			Implied Fetekro valuation		
		London (US\$/oz)	Canada (US\$/oz)	Geometric global mean (US\$/oz)	London (US\$m)	Canada (US\$m)	Geometric global mean (US\$m)
Measured	0	17.88	47.49	43.70	0.0	0.0	0.0
Indicated	494	10.27	6.92	12.89	5.1	3.4	6.4
Inferred	225	7.33	11.64	11.00	1.6	2.6	2.5
Total	719	10.34	15.68	17.54	7.4	11.3	12.6

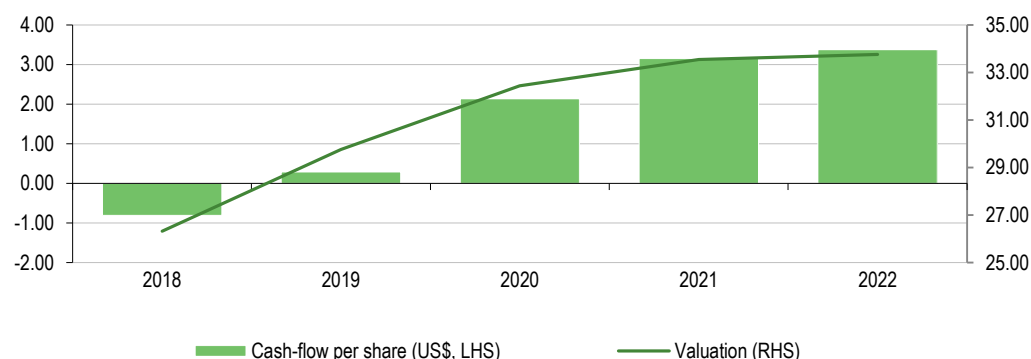
Source: Edison Investment Research, Endeavour Mining

On the basis of this analysis, a minimum value for the Fetekro maiden resource is US\$6.0m (second last column, $3.4 + 2.6 = 6.0$), or US\$8.40/oz, or US\$0.06/share, derived from applying Canadian resource multiples differentiated by category (including the apparent anomaly that Canadian investors seemingly apply a counterintuitive discount to indicated resources relative to inferred ones). A maximum value for the Fetekro maiden resource (valued purely as an in situ resource) may otherwise be seen to be US\$12.6m (or US\$0.12/share), derived by applying a geometric, global mean rating of US\$17.54/oz to the resource in its entirety. Note that these valuations (particularly at the lower end) accord closely with the reported investment in the drilling programme to define the resource of US\$6.0m.

Endeavour valuation (plus Fetekro)

In valuing Endeavour in our initiation note (see [From the ground upwards](#), published on 16 October) we opted to discount potential cash flows back over four years from end-FY18 and then 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) to reflect the fact that Endeavour is a multi-asset company that has shown a willingness and desire to trade assets, maintain production, reduce costs and maximise returns to shareholders (eg the sale of Youga in FY16 and Nzema in FY17). In recognition of the fact that exploration investment would be required to maintain cash flows at its FY22 level, however, we also opted to include it in our cash flow analysis on the grounds that it may be a critical component of ongoing business performance in its ability to continually extend the lives of the company's assets, instead of excluding it (as would be our normal practice).

Our estimate of Endeavour's cash flow remains US\$3.38 per share in FY22, on which basis our terminal valuation of the company at end-FY22 is US\$33.76/share, which (in conjunction with forecast intervening cash flows) discounts back to a value of US\$26.32/share at the start of FY18 and US\$29.76/share at the start of FY19 (as per our [initiation note](#) published on 16 October).

Exhibit 4: Endeavour forecast valuation and cash flow per share, FY18-22e (US\$/share)


Source: Edison Investment Research

This underlying valuation remains unchanged, although to be added to it now is our estimate of the potential range of values of US\$0.06-0.44/share for the Fetekro maiden resource.

Exhibit 5: Financial summary

	US\$'000s	2016	2017	2018e	2019e	2020e
December		IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Revenue		566,486	652,079	709,104	762,133	1,002,952
Cost of Sales		(376,794)	(597,528)	(475,041)	(392,688)	(444,552)
Gross Profit		189,692	54,551	234,063	369,445	558,400
EBITDA		213,916	201,166	247,258	369,445	558,400
Operating Profit (before amort. and except.)		127,981	70,379	71,062	186,634	361,902
Intangible Amortisation		0	0	0	0	0
Exceptionals		(36,272)	(149,942)	(13,676)	0	0
Other		(1,989)	(2,242)	(983)	0	0
Operating Profit		89,720	(81,805)	56,403	186,634	361,902
Net Interest		(24,593)	(18,789)	(21,681)	(30,413)	(27,315)
Profit Before Tax (norm)		103,388	51,590	49,381	156,221	334,587
Profit Before Tax (FRS 3)		65,127	(100,594)	34,722	156,221	334,587
Tax		(27,643)	(32,945)	(34,242)	(53,071)	(91,957)
Profit After Tax (norm)		73,756	16,403	14,156	103,150	242,630
Profit After Tax (FRS 3)		37,484	(133,539)	480	103,150	242,630
Average Number of Shares Outstanding (m)		80.6	98.5	107.7	107.7	107.7
EPS - normalised (c)		(37.8)	(6.5)	(30.6)	70.2	178.6
EPS - normalised and fully diluted (c)		(37.5)	(6.5)	(30.0)	68.7	174.8
EPS - (IFRS) (c)		28.8	(114.5)	(10.2)	70.2	178.6
Dividend per share (p)		0.0	0.0	0.0	0.0	0.0
Gross Margin (%)		33.5	8.4	33.0	48.5	55.7
EBITDA Margin (%)		37.8	30.8	34.9	48.5	55.7
Operating Margin (before GW and except.) (%)		22.6	10.8	10.0	24.5	36.1
BALANCE SHEET						
Fixed Assets		1,073,562	1,331,745	1,312,582	1,360,304	1,349,739
Intangible Assets		29,978	6,267	6,267	6,267	6,267
Tangible Assets		1,039,529	1,317,952	1,298,789	1,346,511	1,335,946
Investments		4,055	7,526	7,526	7,526	7,526
Current Assets		283,536	361,766	284,821	330,978	630,073
Stocks		110,404	141,898	144,715	155,537	204,684
Debtors		36,572	95,212	102,797	107,155	126,948
Cash		124,294	122,702	35,387	66,364	296,519
Other		12,266	1,954	1,922	1,922	1,922
Current Liabilities		(149,626)	(241,185)	(213,258)	(180,043)	(202,000)
Creditors		(145,311)	(223,527)	(195,600)	(162,385)	(184,342)
Short term borrowings		(4,315)	(17,658)	(17,658)	(17,658)	(17,658)
Long Term Liabilities		(246,811)	(451,705)	(393,991)	(393,991)	(393,991)
Long term borrowings		(146,651)	(323,184)	(323,184)	(323,184)	(323,184)
Other long term liabilities		(100,160)	(128,521)	(70,807)	(70,807)	(70,807)
Net Assets		960,661	1,000,621	990,154	1,117,248	1,383,822
CASH FLOW						
Operating Cash Flow		164,522	244,092	196,999	344,994	535,360
Net Interest		(19,626)	(15,212)	(21,681)	(30,413)	(27,315)
Tax		(10,625)	(22,301)	(34,691)	(53,071)	(91,957)
Capex		(212,275)	(441,396)	(287,942)	(230,533)	(185,934)
Acquisitions/disposals		32,098	(37,332)	60,000	0	0
Financing		174,702	116,536	0	0	0
Dividends		(2,612)	(5,177)	0	0	0
Net Cash Flow		126,184	(160,790)	(87,315)	30,976	230,155
Opening net debt/(cash)		152,856	26,672	218,140	305,455	274,478
HP finance leases initiated		0	0	0	0	0
Other		0	(30,678)	0	0	0
Closing net debt/(cash)		26,672	218,140	305,455	274,478	44,323

Source: Company sources, Edison Investment Research. Note: Includes discontinued operations; excludes restricted cash.

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