EDISON

Pan African Resources

A second glance at the first half

Interim results

Metals & mining

Pan African's (PAF's) shares have fallen by 41% since its operational update on 1 February, which revealed a 6.9% decline in gold production vs H117. This was reflected in a 78% decline in pre-tax profitability when interim results were announced in February. Notwithstanding the year-on-year comparison however, H118 results were, in fact, better than H217, with the exception of a large effective tax credit in the prior period (see overleaf). While PAF's share price therefore reflects the difficulties being experienced at Evander Gold Mines (EGM) (pro-rata to production), it takes little or no account of likely recovery in H218, the start of production at Elikhulu in H119 or any of PAF's three other immediate growth projects.

Year end	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)	Yield (%)
06/16	168.4	45.9	2.08	0.88	3.5	12.1
06/17	167.8	19.4	1.22	0.45	6.0	6.2
06/18e	168.4	10.9	0.46	0.24	15.9	3.3
06/19e	193.2	34.4	1.22	0.56	6.0	7.7

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

Share price reaction to Evander overdone

Despite its recovery in H118 vs H217, operations at Evander remain under pressure, primarily on account of the strength of the rand (see Exhibit 2). While we believe it is conceivable that EGM can return to profitability, it is possible that, in the absence of any tangible change by the end of FY18, management may decide to close 8 Shaft. While regrettable, from a financial perspective we estimate that the existing EGM underground accounts for only 2.54p (or 13.0%) of our valuation of PAF (below) and that any resulting production shortfall will be rapidly made up for by Elikhulu, Egoli and Royal Sheba.

Valuation: >20% IRR to shareholders in £ over 22yrs

Updating our long-term forecasts, our like-for-like absolute valuation of PAF has decreased 21% to 15.74p/sh on purely as a result of recent rand strength, although our all-in valuation has decreased by only 9.7%, to 19.59p/share, on account of management initiatives to bring new geological assets to account (see pages 13-15). More immediately, while PAF's 16.4x normalised headline EPS current year multiple is at the top end of the historic range, its multiple in FY19 is well below the normal range, while FY20's multiple is lower still as Elikhulu contributes its first full year of production. Stated alternatively, if PAF's average price to normalised EPS ratio of 9.7x in the period FY10-17 is applied to our forecasts, then PAF's share price should be 11.8p in FY19 and 28.6p in FY20. As such, almost all of the risk appears to be already discounted in the company's share price, but almost none of the opportunity. In addition, it remains cheaper than its South African and London-listed gold mining peers on at least 63% of valuation measures on the basis of our forecasts or 88% of measures on the basis of consensus forecasts. On Edison's forecasts, it also continues to have the 13th highest dividend yield of the 55 ostensibly precious metals' counters paying dividends to shareholders (vs the 10th highest previously) and is trading below its interim book value of 11.8p/sh (H118).

23 April 2018

Price	**7.30p**
Market cap	**£163m**

ZAR16.4681/£, ZAR11.8603/US$, US$1.3891/£

Net debt (£m) at end December 2017*	42.2

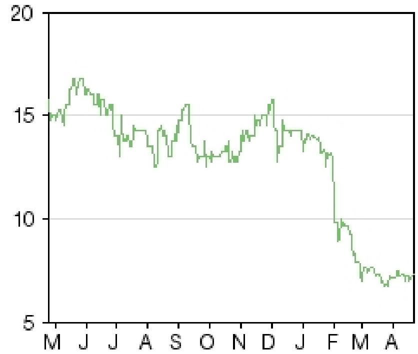
*Excludes ZAR73.6m (£4.5m) of MC Mining shares (formerly Coal of Africa)

Shares in issue**	2,234.7m

**Effective 1,798.3m post-consolidation

Free float	81%
Code	PAF
Primary exchange	AIM/JSE
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	5.8	(44.7)	(53.7)
Rel (local)	1.8	(42.3)	(55.3)
52-week high/low		16.8p	6.7p

Business description

Pan African Resources has five major producing or near-producing precious metals assets in South Africa: Barberton (target output 95koz Au pa), the Barberton Tailings Retreatment Project (20koz), Evander (95koz), the Evander Tailings Retreatment Project (10koz) and Elikhulu (53koz).

Next events

FY18 results	September 2018

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Edison profile page

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H118 results review

PAF's interim results to 31 December 2017 revealed group-wide gold production of 85,282oz at a cash cost of US$1,099/oz. Whereas this represented a decline in gold output of 6.9% compared to the prior year period (H117), in fact it represented a 4.4% increase compared with the period immediately preceding it – ie H217. The H118/H217 increase could be attributed to higher aggregate throughput and recoveries. Combined with higher prices in both rand and dollar terms, this resulted in a 26.7% increase in on-mine revenue, albeit substantially offset by a similar increase in aggregate costs of production and a disproportionately high increase in the depreciation charge. Nevertheless, mining profit was 38.3% higher than in H217. With an absence of any material exceptional items, such as hedging mark-to-market, profits/(losses) on disposals, impairments and contributions from associates, this translated into a 432.7% positive variance in profit before tax (US$4.3m profit vs US$1.3m loss) and EPS were then only lower on account of an effectively exceptional tax credit in H217 (see Exhibit 1, below):

Exhibit 1: PAF underlying P&L statement by half-year (H114-H118)

£000s (unless otherwise indicated)	H114	H214	H115	H215	H116	H216	H117	H217	H118	H118 vs H217 (%)	H118 vs H217 (units)
Mineral sales	84,637	69,914	68,126	72,951	75,632	93,728	105,046	64,538	82,900	28.5	+18,362
Realisation costs	(191)	(159)	(295)	(396)	(269)	(687)	(1,548)	(278)	(1,500)	440.2	-1,222
Realisation costs (%)	0.23	0.23	0.43	0.54	0.36	0.73	1.47	0.43	1.81	320.5	+1.38
On-mine revenue	84,447	69,755	67,831	72,555	75,363	93,041	103,498	64,261	81,400	26.7	+17,139
Gold cost of production	(52,519)		(52,727)		(48,935)	(51,102)	(65,188)	(67,851)	(69,600)	2.6	-1,749
Platinum cost of production	(1,590)		(1,797)		(1,651)	(1,448)	(2,300)	(2,721)	0	N/A	+2,721
Coal cost of production							(10,568)	(11,188)	0	N/A	+11,188
Cost of production	(54,109)	(52,285)	(54,524)	(55,889)	(50,586)	(57,637)	(78,056)	(55,950)	(69,600)	24.4	-13,650
Depreciation	(5,088)	(4,935)	(4,676)	(5,661)	(5,277)	(5,180)	(6,450)	(4,043)	(5,900)	45.9	-1,857
Mining profit	25,249	12,535	8,631	11,005	19,500	30,225	18,992	4,267	5,900	38.3	+1,633
Other income/(expenses)	(223)	(1,227)	523	(273)	(3,486)	(8,697)	2,175	(4,178)	(800)	N/A	+3,378
Loss in associate/discontinued operations	(89)	(84)	(128)	0	0	0	256	5,352	(400)	N/A	-5,752
Loss on disposal of associate			(140)	0	0	0	0	0	0	N/A	+4,854
Impairment costs	0	(12)	(56)	(2)	0	0	0	(4,854)	0	N/A	+4,854
Royalty costs	(1,747)	(272)	(795)	(852)	(1,194)	(1,606)	(968)	(367)	(300)	-18.2	+67
Net income before finance items	23,191	10,940	8,034	9,878	14,819	19,923	20,455	221	4,400	1,888.6	+4,179
Finances income	381	306	321	28	144	299	70	222	700	215.3	+478
Finance costs	(725)	(153)	(498)	(1,960)	(558)	(891)	(1,079)	(1,736)	(800)	-53.9	+936
Net finance income	(344)	153	(177)	(1,932)	(414)	(592)	(1,009)	(1,514)	(100)	-93.4	+1,414
Profit before taxation	22,847	11,093	7,857	7,946	14,405	19,331	19,446	(1,293)	4,300	N/A	+5,593
Taxation	(5,537)	(1,618)	(2,310)	(1,823)	(3,480)	(4,754)	(5,475)	5,232	(1,000)	N/A	-6,232
Marginal tax rate (%)	24.2	14.6	29.4	22.9	24.2	26.1	28.2	404.8	23.3	-94.3	-382
Deferred tax											
Profit after taxation	17,310	9,475	5,548	6,122	10,925	14,577	13,970	3,940	3,300	-16.2	-640
EPS (p)	0.95	0.52	0.30	0.33	0.60	0.82	0.93	0.24	0.18	-24.2	-0.06
HEPS* (p)	0.95	0.52	0.31	0.33	0.60	0.82	0.91	0.28	0.20	-28.3	-0.08
Diluted EPS (p)	0.95	0.52	0.30	0.33	0.60	0.82	0.93	0.24	0.18	-24.1	-0.06
Diluted HEPS* (p)	0.95	0.52	0.31	0.33	0.60	0.80	0.91	0.28	0.20	-28.3	-0.08

Source: Pan African Resources, Edison Investment Research. Note: *HEPS, headline earnings per share.

Excluding the expansionary Elikhulu project, group aggregate capex declined by 18.9%, or ZAR41.6m, across the company's four producing assets on account of the completion of the Barberton Tailings Retreatment Project (BTRP) cyanide detoxification plant and Fairview's ventilation refrigeration and infrastructure. Otherwise, the six-month period was characterised by delays in developing into Fairview's high-grade 272 and 358 platforms, 11 days (equivalent to 3,000oz) in lost production owing to industrial action by employees and protests directed by community pressure groups and a portion of the high-grade 101 platform at Fairview's MRC orebody being sterilised by an unanticipated geological roll (all at Barberton). At the same time, performance at the BTRP continued to be affected by the metallurgical consequences of the transition from the Bramber to the Harper dumps (first apparent in H217 – see Exhibit 5).

In rand terms, PAF's gold cost of production (excluding realisation costs) increased by 5.4% to ZAR1,228.0m relative to H117 (cf up 14.4%, to ZAR1,165.6m in H117 vs H116). Superimposed onto a 0.3% decline in total tonnes processed, this translated into a 5.4% increase in group-wide unit working costs, to ZAR678/t. Superimposed onto a 6.9% year-on-year decline in gold produced, it translated into a 13.0% increase in unit costs of production, to ZAR473,187/kg (or an 18.0% increase in US dollar terms, to US$1,099/oz after forex considerations). Including realisation costs, PAF's gold cost of production increased by 11.2% to ZAR1,225.2m relative to H117 (cf up 16.4%, to ZAR1,193.3m in H117 vs H116). Notable features were:

- Salaries and wages (43.2% of production costs) increasing by 2.9% – in line with previous labour agreements, but offset by retrenchments at Evander.
- Electricity costs (15.6% of the total) increasing by 4.6% (cf up 8.9% in H117 vs H116). Note that this was higher than the 2.2% approved by the National Energy Regulator of South African (NERSA) from 1 April 2017 (ie covering the period under review) on account of higher underground tonnages mined and therefore increased aggregate power consumed.
- Engineering and technical costs (8.3% of the total) increasing by 11.3% on account of additional maintenance work at Evander 8 Shaft's 10 stage pump column repairs.

Operations

All of the group-wide increase in gold production in H118 could be attributed to the recovery in output at Evander after a 55-day underground mining hiatus in H217, during which steelwork at the 7A, 7 and 8 shafts was refurbished. As a result, adjusted EBITDA from PAF's underground operations (ZAR107.6m) was once again greater than that from its tailings retreatment projects (ZAR106.4m) – although it remained the case that the ETRP and the BTRP were PAF's second and third most profitable business units, overall, behind Barberton (underground), but ahead of Evander (underground).

Evander Gold Mines (EGM)

Evander's recovery in H118 vs H217 was exacerbated by the fact that the latter period contained a 55-day mining hiatus, during which steelwork at the 7A, 7 and 8 shafts was refurbished. Even so, comparing its performance in H118 vs H117, tonnes milled and head grade were both higher, while total cash costs, expressed in ZAR per tonne milled, were lower (see Exhibit 2).

During the six-month period under review, the existing 8 Shaft pump column (the only one that was operational in the period) experienced a number of water bursts, which contributed to lost production, but will cease to be a problem once EGM's refurbishment programme is completed in April. In the meantime, development of the new high-grade D raise is being accelerated with the intention of making it available for production this month to contribute to increased mining flexibility and access to higher-grade areas of the 8 Shaft orebody. A table of Evander's performance by half year period is provided below in addition to our forecasts (column eight) and a number of alternative contingencies (last three columns):

Exhibit 2: EGM operational results, H116-H218e, actual, forecast and contingencies

Column number (see text):	2	3	4	5	6	7	8	9	10	11
	H116	H216	H117	H217	H118	H118 vs H217 (%)	H218e	H218e at 6.39g/t	H218e at H216 cost	H218e at FX shown
Tonnes milled underground (t)	200,942	207,339	161,872	98,912	174,233	76.1	169,000	169,000	169,000	169,000
Head grade underground (g/t)	5.80	5.60	5.40	6.19	6.10	-1.5	6.10	6.39	6.10	6.10
Underground gold contained (oz)	37,471	37,351	28,103	19,688	34,171	73.6	33,144	34,713	33,144	33,144
Tonnes milled surface (t)	0	0	0	0	0	N/A	0	0	0	0
Head grade surface (g/t)	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00	0.00	0.00
Surface gold contained (oz)	0	0	0	0	0	N/A	0	0	0	0
Tonnes milled (t)	200,942	207,339	161,872	98,912	174,233	76.1	169,000	169,000	169,000	169,000
Head grade (g/t)	5.80	5.60	5.40	6.19	6.10	-1.5	6.10	6.39	6.10	6.10
Contained gold (oz)	37,471	37,351	28,103	19,688	34,171	73.6	33,144	34,713	33,144	33,144
Recovery (%)	97	99	94	96	96	0.4	98	98	98	98
Production underground (oz)	36,370	37,126	26,477	18,827	32,734	73.9	32,482	34,019	32,482	32,482
Production surface (oz)	0	0	0	0	0	N/A	0	0	0	0
Total production (oz)	36,370	37,126	26,477	18,827	32,734	73.9	32,482	34,019	32,482	32,482
Recovered grade (g/t)	5.63	5.57	5.09	5.92	5.84	-1.3	5.98	6.26	5.98	5.98
Gold sold (oz)	36,370	37,126	26,477	18,827	32,734	73.9	32,482	34,019	32,482	32,482
Average spot price (US$/oz)	1,105	1,221	1,256	1239	1,368	10.4	1,320	1,320	1,320	1,320
Average spot price (ZAR/kg)	483,309	605,265	565,009	526,341	588,723	11.9	503,603	503,603	503,603	527,442
Total cash cost (US$/oz)	995	918	1,457	1,986	1,306	-34.2	1,382	1,320	1,171	1,320
Total cash cost (ZAR/kg)	435,190	454,756	655,304	843,821	562,407	-33.3	527,442	503,603	446,805	527,442
Total cash cost (US$/t)	180.15	163.58	238.34	378.96	245.44	-35.2	265.71	265.71	225.09	253.70
Total cash cost (ZAR/t)	2,450.00	2,532.68	3,334.00	4,995.61	3,286.00	-34.2	3,153.05	3,153.05	2,671.00	3,153.05
Implied revenue (US$000s)	40,189	44,773	33,255	22,288	44,780	100.9	42,876	44,905	42,876	42,876
Revenue (ZAR000s)	546,731	685,865	465,296	289,601	599,398	107.0	508,781	532,865	508,781	532,865
Implied revenue (£000s)	26,219	31,052	26,025	17,754	33,971	91.3	30,901	32,363	30,901	30,901
Implied cash costs (US$000s)	36,199	33,916	38,581	37,484	42,764	14.1	44,905	44,905	38,040	42,876
Cash costs (ZAR000s)	492,308	525,124	539,681	494,125	572,530	15.9	532,865	532,865	451,399	532,865
Implied cash costs (£000s)	23,635	23,754	30,188	29,701	32,401	9.1	32,359	32,359	27,412	30,896
Forex (ZAR/£)	20.8300	22.0942	17.8771	16.6418	17.6703	6.2	16.4673	16.4673	16.4673	17.2468
Forex (ZAR/US$)	13.6000	15.4132	13.9875	13.2130	13.3900	1.3	11.8664	11.8664	11.8664	12.4281
Forex (US$/£)	1.5328	1.4335	1.2778	1.2596	1.3182	4.7	1.3875	1.3875	1.3875	1.3875
Capex (US$ 000's)	5,287	5,313	8,000	8,350	7,916	-5.2	3,576	3,576	3,576	3,415
Capex (ZAR 000's)	71,900	81,900	111,900	110,300	106,000	-3.9	42,436	42,436	42,436	42,436
Capex (GBP 000's)	3,452	3,712	6,259	6,613	5,999	-9.3	2,577	2,577	2,577	2,461

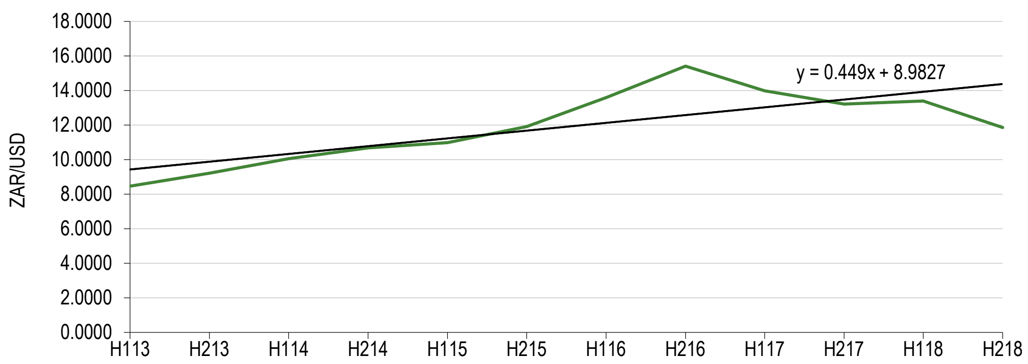
Source: Edison Investment Research, Pan African Resources

While EGM recorded a profit in H118 for the first time since H116, it is notable that, given the recent strength of the rand, our headline financial forecasts for Evander remain under pressure in H218 (column eight of the above table). Four possible remedies exist to correct this; two are partially within management's control and two outside it:

- Grade. Immediately before its H217 mining hiatus, Evander was reported to be mining material at a diluted grade of 8g/t from underground and at a mine call factor in excess of 80% (vs 65% in H116, 59% in H115 and a target of 73%) as a result of a focus on blasting and cleaning practices, in particular, including the use of blasting barricades. Operations at Evander have now advanced from the 25 to 26 Level, which has simultaneously improved access to more high-grade panels as well as allowing management to manage and blend the mined ore. The head grade at Evander is therefore expected to remain in the range 6-7g/t for the next two to four years. Nevertheless, it would require a grade of 6.39g/t to allow Evander to break even at a gross level in H218 (column 9 of the above table).

- The same effect as increasing the head grade to 6.39g/t in H218 (an increase of 4.8% over the estimated grade) could also be achieved if the forecast gold price rises by a similar percentage amount, from US$1,320/oz to US$1,382/oz (not shown in Exhibit 2).
- Notwithstanding the headline improvement in cash costs, expressed in ZAR per tonne milled, these are against periods of operational difficulty and therefore inflated comparative numbers in both H217 and H117. On 10 March 2017, management instigated a retrenchment programme (with the agreement of the National Union of Mineworkers and the appropriate South African government agency) whereby approximately 30% of Evander Mines' employees were to be retrenched at an estimated cost of ZAR54m (a contemporary US$4.2m or £3.4m). Note that this has now been completed. In order to minimise the number of job losses overall, Evander agreed to re-engage a number of retrenched employees once site activities at Elikhulu began. At the time, however, we estimated that the initiative should save Evander approximately 15% of its cost base in the longer term. While we are forecasting another six-month period at relatively high costs as the final effects of the need for the H217 hiatus are rectified, in the longer term and at steady-state, we estimate that Evander should be capable of producing and processing ore at a cost of c ZAR2,671/t (vs ZAR3,286/t in H118 – see column ten of the above table) – ie, comparable to H216 and consistent with management's target of an all-in sustaining cost of production of US$1,100/oz.
- In the five years between H113 and H117, the rand depreciated at an average rate of 9.6% per annum vs the US dollar (see Exhibit 3, below). In January 2018, South African inflation was 4.4% (source: Trading Economics) with a core rate of 4.1%, which was the lowest for six years. This compared with a US rate of inflation of 2.1% (vs expectations of 1.9%) and a long-term average US inflation rate of 3.27% between 1914 and 2018 – either way suggesting that, arguably, the rate of rand depreciation in the period in question was too high on monetary considerations alone. However, the South African currency has appreciated materially in value since H118 and is now 17.4% stronger than its trend rate, which, in turn, is putting pressure on Evander's cost base. As per the above calculations, a 4.7% depreciation in the rand to ZAR12.4281/US$ (with a stable cable rate) would have the same effect of moving EGM to a break-even position on a gross profitability basis in H218 (final column of Exhibit 2). Note that the level of the rand against the US dollar, as implied by its trend rate of depreciation from H113-H218 is ZAR14.3707/USD – ie, 21.1% below our forecast level for H218 (see chart below).

Exhibit 3: ZAR per US$ as experienced per Pan African reporting period, H113-H218e



Source: Bloomberg, Edison Investment Research. Note: Periods reflect PAF financial year.

For Evander to cover its all-in costs in H218, including capex (in contrast to our 'base case', which is provided in column eight of Exhibit 2):

- it could hit Edison's long-term target unit cash costs (column 10 of Exhibit 2); or
- the grade, the gold price or the rand forex rate could be 13.1% higher than those currently forecast by Edison (ie 6.90g/t or US$1,493/oz or ZAR13.4179/USD, respectively); or

- a combination of the above.

Note that, of the above, we regard two of these contingencies (grade and costs) as somewhat within management's control and two (the gold price and the rand) as without it. Of the four, we maintain that the most readily achievable is our unit working cost target, followed by rand depreciation, grade and the gold price. In addition to cost cuts already made, on 27 February, PAF confirmed that Evander is in a consultation process with its labour in terms of section 189 of the South African Labour Relations Act, 66 of 1995. Section 189 (1) of the Labour Relations Act provides that, before retrenching, employers must consult any person whom they are required to in terms of the collective agreement.

While we believe it is entirely conceivable that EGM can return to a profitable and cash-flow positive position, it is possibile that, in the absence of any tangible change by the end of its financial year, management may decide to place 8 Shaft on either care and maintenance or to close it entirely. The valuation consequences of such a decision are considered more fully in the 'Sensitivities' section on page 17 of this report. In the meantime, however, while it is notable that EGM will account for c 36.7% of PAF's group-wide gold output in FY18 on current forecasts, it will account for only c 0.6% of gross profits. Moreover, even if costs return to our forecast, steady-state level (as depicted in Exhibit 2), in the long term, we estimate that EGM's EBITDA margin will average only 14.7% over the life of operations and will not exceed 20.8%; ie it will be the lowest margin of PAF's operations. In the event that operations do cease at Evander at the end of the current financial year therefore, the effect on our overall valuation of PAF (see Exhibit 13) is only 2.55p, or 13.0%, excluding exceptional costs.

In recognition of the possibility that operations at Evander's existing infrastructure could cease in the foreseeable future, on 28 March, PAF announced it will reassess the feasibility study on the Egoli project (see page 10) as a standalone project. This is expected to be completed by the end of the current financial year.

Barberton Gold Mining Operations (BGMO)

Underground production at Barberton declined by 2,312oz compared with H117 owing to a lack of grade flexibility in the Fairview MRC orebody as well as disruptions from pressure groups, community unrest and a combination of protected and unprotected strike action, which resulted in 11 days of lost production (equivalent to c 3,000oz of gold output) as employees were prevented from reporting to work. Note that, the source of the frustration within the local community is reported to be unrelated to PAF, but instead a product of the general dissatisfaction with government service delivery, inter-union rivalry and unemployment. This also compares with eight days of lost production in H117 as a result of the Department of Mineral Resources serving six Section 54 regulatory notices at Barberton and six days lost to community unrest. In addition, a portion of the high-grade 101 platform was sterilised as a result of an unanticipated geological roll.

Exhibit 4: Barberton operational results, H115-H218e

	H115	H215	H116	H216	H117	H217	H118	H118 vs H217 (%)	H218e
Tonnes milled (t)	126,713	134,036	139,430	128,953	123,168	123,747	124,969	1.0	132,628
Head grade (g/t)	11.40	10.00	10.60	10.77	9.40	10.20	8.70	-14.7	10.37
Contained gold (oz)	46,443	43,080	47,117	44,656	37,224	40,574	34,956	-13.8	44,205
Recovery (%)	89	90	92	92	93	92	93	1.2	92.5
Production underground (oz)	42,666	38,649	43,487	40,941	34,471	37,292	32,159	-13.8	40,885
Production calcine dumps/surface ops (oz)	76	102	130	132	0	0	0	N/A	
Total production (oz)	42,742	38,751	43,617	41,073	34,471	37,292	32,159	-13.8	40,885
Gold sold (oz)	41,232	40,261	43,617	41,073	34,471	37,292	32,159	-13.8	40,885
Average spot price (US$/oz)	1,229	1,206	1,113	1,221	1,268	1,239	1,288	4.0	1,320
Average spot price (ZAR/kg)	433,966	461,891	486,567	605,265	570,251	526,341	554,361	5.3	503,603
Total cash cost (US$/oz)	885	825	681	708	967	940	1,145	21.8	958
Total cash cost (ZAR/kg)	312,502	318,061	297,877	351,358	434,999	399,081	492,826	23.5	365,402
Total cash cost (US$/t)	287.82	238.62	213.09	225.38	270.74	283.19	294.62	4.0	295.25
Total cash cost (ZAR/t)	3,161.00	2,860.08	2,898.00	3,525.32	3,787.00	3,740.66	3,945.00	5.5	3,503.53
Implied revenue (US$000s)	50,674	48,095	48,546	50,288	43,709	46,640	41,421	-11.2	53,968
Revenue (ZAR000s)	556,300	574,798	660,091	774,505	611,400	616,296	554,499	-10.0	640,410
Implied revenue (£000s)	31,148	31,559	31,671	34,950	34,207	37,008	31,422	-15.1	38,895
Implied cash costs (US$000s)	36,471	31,983	29,711	29,064	33,347	35,043	36,819	5.1	39,158
Cash costs (ZAR000s)	400,600	383,353	404,068	448,861	466,437	462,895	493,003	6.5	464,666
Implied cash costs (£000s)	22,417	21,043	19,398	20,221	26,091	27,814	27,900	0.3	28,217
Forex (ZAR/£)	17.8700	18.1318	20.8300	22.0942	17.8771	16.6418	17.6703	6.2	16.4673
Forex (ZAR/US$)	10.9827	11.9173	13.6000	15.4132	13.9875	13.2130	13.3900	1.3	11.8664
Forex (US$/£)	1.6269	1.5186	1.5328	1.4335	1.2778	1.2596	1.3182	4.7	1.3875

Source: Edison Investment Research, Pan African Resources

Exploration drilling has confirmed at least a 200m down-dip extension of the high-grade 11-block of the MRC orebody. Consequently, since H217, work has been underway to develop additional production platforms to expose additional high grade panels to increase mining grades and flexibility. While there were some delays in putting in the required development, this initiative was successfully concluded towards the end of H118/start of H218, with the establishment of the 272 and 358 platforms. The 272 Level platform was inspected by the author of this report on 1 February and was observed to be operational. In combination with the deeper 358 platform, this will allow management to 'cycle' high grade production from the two levels in future such that output is of a much more consistent grade than in the recent past. Subsequently, on 2 March, PAF announced that the average grade for the Barberton complex had risen from 8.7g/t in H118 to 11.5g/t in the February production month (a 32.2% increase) and that the residual, non-high grade mineralisation of the 11-block had a 10.5g/t grade. As a result, on 28 March, it further announced that it expected Barberton Mines (including the BTRP – see below) to "produce approximately 50,000oz of gold in the second half of the 2018 financial year".

Development to the next high-grade platform (the 256 platform) will start early in FY19 ahead of its entering production early in FY20. Average grades at the platform are estimated by management to be 28.4g/t over 5.2m of width and 95m of strike length. As well as improving mining flexibility, this platform is expected to sustain gold production from the MRC section for approximately five years.

Barberton Tailings Retreatment Project

Production at the Barberton Tailings Retreatment Project (BTRP) in H118 was below the level of both H117 and H217 owing to the shift in operations to the Harper dump, after the exhaustion of the Bramber dump. As a result, head grades declined materially, to 1.40g/t (see Exhibit 5, below). In addition, the Harper dump material has a larger coarse fraction, which resulted in processing difficulties and a reduction in plant recoveries.

Exhibit 5: BTRP operational results, H115-H218e

	H115	H215	H116	H216	H117	H217	H118	H118 vs H217 (%)	H218e
Tonnes processed tailings (t)	484,315	487,312	464,179	495,036	388,905	432,786	458,779	6.0	450,000
Head grade tailings (g/t)	1.50	1.30	1.30	2.08	2.20	2.39	1.40	-41.4	1.40
Tailings gold contained (oz)	23,357	20,377	19,401	33,027	27,508	33,254	20,650	-37.9	20,255
Recovery (%)	51	65	64	47	55	36	41	13.7	45
Production tailings (oz)	11,710	13,219	12,830	15,481	14,741	11,994	8,452	-29.5	9,115
Production other (oz)	0	0	0	0	0	0	0	N/A	
Total production (oz)	11,710	12,573	12,830	15,761	14,741	11,994	8,452	-29.5	9,115
Recovered grade (g/t)	0.75	0.80	0.86	0.99	1.18	0.86	0.57	-33.5	0.63
Gold sold (oz)	11,710	12,573	12,830	15,761	14,741	12,004	8,452	-29.6	9,115
Average spot price (US$/oz)	1,229	1,206	1,113	1,221	1,268	1,239	1,288	4.0	1,320
Average spot price (ZAR/kg)	433,799	461,891	486,566	605,265	570,349	526,341	554,589	5.4	503,603
Total cash cost (US$/oz)	459	497	367	275	319	451	655	45.2	637
Total cash cost (ZAR/kg)	162,203	190,268	160,665	136,287	143,451	191,524	281,863	47.2	243,016
Total cash cost (US$/t)	11.11	12.88	10.15	8.68	12.09	12.49	12.06	-3.4	12.90
Total cash cost (ZAR/t)	121.98	152.69	138.00	134.96	169.00	165.23	162.00	-2.0	153.10
Implied revenue (US$000s)	14,392	15,112	14,280	19,286	18,692	14,526	10,886	-25.1	12,032
Revenue (ZAR000s)	157,998	179,905	194,166	293,032	261,501	189,998	145,793	-23.3	142,772
Implied revenue (£000s)	8,846	9,885	9,316	13,310	14,628	11,554	8,258	-28.5	8,671
Implied cash costs (US$000s)	5,379	6,277	4,710	4,296	4,702	5,404	5,534	2.4	5,806
Cash costs (ZAR000s)	59,077	74,406	64,057	66,810	65,771	71,508	74,097	3.6	68,895
Implied cash costs (£000s)	3,306	4,111	3,075	3,020	3,679	4,274	4,193	-1.9	4,184
Forex (ZAR/£)	17.8700	18.1318	20.8300	22.0942	17.8771	16.6418	17.6703	6.2	16.4673
Forex (ZAR/US$)	10.9827	11.9173	13.6000	15.4132	13.9875	13.2130	13.3900	1.3	11.8664
Forex (US$/£)	1.6269	1.5186	1.5328	1.4335	1.2778	1.2596	1.3182	4.7	1.3875
Capex (US$000s)	100	188	566	(8)	1,494	448	904	101.5	725
Capex (ZAR000s)	1,100	2,200	7,700	400	20,900	5,500	12,100	120.0	8,606
Capex (£000s)	62	122	370	8	1,169	360	685	90.1	523

Source: Edison Investment Research, Pan African Resources

A regrind mill is on track to being commissioned in the last week of April to reduce the Harper dumps' coarse fraction material, which should have the combined effect of both improving material handling and recoveries. Otherwise, nameplate capacity at the BTRP is 100ktpm and management is working towards achieving this level to sustainably produce 10,500oz in each semi-annual period. In addition, it has also recently been investigating the potential to reduce retention times, while maintaining metallurgical recoveries, in which case our longer-term forecasts (see pages 14-15) may ultimately prove to be conservative. More generally, approximately two-thirds of the tailings being treated at the BTRP originate from the Fairview concentrator at a grade of c 1.6g/t, while the remaining third have the same origin but are supplemented with material from the Biox plant at a grade of 3-10g/t. As a result, a substantial portion of the resources being treated by BTRP exist at a grade in excess of 1.6g/t and there is therefore ample opportunity for management to pursue grade-optimised strategies in future to improve financial returns to shareholders.

Evander Tailings Retreatment Project (ETRP)

Effectively, the ETRP represents a substantial pilot plant, designed to prove recovery and cost parameters, before the development of the much larger Elikhulu project (see below).

Production at the ETRP reduced in H118 compared with both H117 and H217. However, this could be attributed to higher levels of surface material being processed by the plant during those periods while

7 Shaft infrastructure was being repaired. Nevertheless, the plant achieved a high level of capacity utilisation (91.0% vs a management target of 150-160ktpm, or 75-80%, on a sustainable, long-term basis) and a high level of metallurgical recovery (56% vs 45%), which contributed to costs continuing to be lower than their forecast long-term level of ZAR417,963/kg.

Exhibit 6: ETRP operational results, H216-H218e

	H216	H117	H217	H118	H118 vs H217 (%)	H218e
Tonnes processed from surface feedstocks (t)	235,852	240,495	227,115	184,161	-18.9	200,000
Head grade surface feedstocks (g/t)	1.25	1.80	2.01	2.00	-0.3	2.00
Surface feedstocks gold contained (oz)	9,858	13,918	14,647	11,842	-19.2	12,860
Tonnes processed tailings (t)	715,959	940,489	913,624	907,969	-0.6	900,000
Head grade tailings (g/t)	0.30	0.30	0.30	0.30	0.0	0.32
Tailings gold contained (oz)	6,906	9,071	8,812	8,758	-0.6	9,259
Total tonnes processed (t)	951,811	1,180,984	1,140,739	1,092,130	-4.3	1,100,000
Head grade (g/t)	0.55	0.61	0.64	0.59	-8.3	0.63
Contained gold (oz)	16,763	22,989	23,459	20,600	-12.2	22,120
Recovery (%)	54.7	65.0	57.8	56.0	-3.0	45.0
Production tailings (oz)	3,016	4,444	3,669	3,248	-11.5	5,787
Production surface (oz)	6,155	11,480	9,880	8,689	-12.1	4,167
Total production (oz)	9,171	15,924	13,549	11,937	-11.9	9,954
Recovered grade (g/t)	0.30	0.42	0.37	0.34	-8.0	0.28
Gold sold (oz)	9,171	15,924	13,549	11,937	-11.9	9,954
Average spot price (US$/oz)	1,221	1,224	1,239	1,021	-17.6	1,320
Average spot price (ZAR/kg)	605,265	550,380	526,341	439,542	-16.5	503,603
Total cash cost (US$/oz)	638	545	561	723	28.8	842
Total cash cost (ZAR/kg)	316,105	245,178	238,372	311,075	30.5	321,403
Total cash cost (US$/t)	6.22	7.35	6.70	7.90	17.8	7.62
Total cash cost (ZAR/t)	94.73	103.00	88.06	106.00	20.4	60.19
Implied revenue (US$000s)	11,123	19,491	16,672	12,188	-26.9	13,139
Revenue (ZAR000s)	170,429	272,597	218,706	163,193	-25.4	155,912
Implied revenue (£000s)	7,714	15,254	13,251	9,246	-30.2	9,469
Implied cash costs (US$000s)	5,918	8,682	7,646	8,626	12.8	8,385
Cash costs (ZAR000s)	90,168	121,434	100,454	115,496	15.0	99,504
Implied cash costs (£000s)	4,107	6,793	6,062	6,536	7.8	6,043
Forex (ZAR/£)	22.0942	17.8771	16.6418	17.6703	6.2	16.4673
Forex (ZAR/US$)	15.4132	13.9875	13.2130	13.3900	1.3	11.8664
Forex (US$/£)	1.4335	1.2778	1.2596	1.3182	4.7	1.3875
Capex (US$000s)	0	0	0	97	N/A	0
Capex (ZAR000s)	0	0	0	1,300	N/A	0
Capex (£000s)	0	0	0	74	N/A	0

Source: Edison Investment Research, Pan African Resources

The grade of the dam being re-mined at the ETRP is 0.3g/t. However, the operation is commercially viable given its ability to fill unutilised capacity in the Kinross plant such that it therefore attracts only incremental operating costs (eg 14 additional employees). Re-mining is being conducted without breaching the dam wall and the tailings are being redeposited at Winkelhaak, thereby simplifying the environmental requirements with respect to re-filling the Kinross dam at a later date.

In the meantime, however, management will continue to source toll-treatment material with higher grades than the ETRP's reserve and resource grades, thereby taking commercial advantage of the fact that it is the only retreatment operator in the area and is therefore (effectively) the buyer of choice – or even the buyer of last resort – for tailings assets destined for retreatment in the region.

Elikhulu

Construction at Elikhulu is reported to be progressing ahead of schedule and below budget, with first gold now expected from the complex in August 2018 (vs Edison expectation H219 – ie the first half of CY19) and the ramp-up to full production anticipated to take no longer than two months. Compared with the ETRP's 2.4Mtpa processing plant capacity, Elikhulu will process 12Mtpa to produce c 50koz per year, at an initial capital cost of c ZAR1.7bn (of which ZAR671.4m has been expended to date) and ongoing cash costs of c US$398-504/oz and all-in sustaining costs below US$650/oz. The re-mining contract for the project has been awarded to Fraser Alexander (which already has a similar contract at the ETRP) and incentivises it to process more than 1Mtpm.

In addition, a feasibility study has now been completed by DRA, which confirms the viability of a post-commissioning capacity increase at Elikhulu to allow the plant to process the c 200kt of tailings per month currently assigned to the ETRP for "limited" capex and with resultant cost and throughput benefits as the same feed is exposed to Elikhulu's lower cost structure and higher metallurgical recoveries..

Growth projects

In addition to Elikhulu, PAF has three other significant growth projects, namely Egoli (formerly the Evander Mines 7 Shaft No. 3 Decline and 2010 Pay Channel project), the Royal Sheba project and the Barberton Mines Sub-Vertical Shaft project at Fairview.

Egoli (formerly Evander Mines 7 Shaft, No. 3 Decline and 2010 Pay Channel)

The 2010 Pay Channel contains an estimated 2.95Moz of resources (of which 1.03Moz are in the measured and indicated categories) at an average grade of 9.75g/t and is c 4.5km in tramming distance from 7 Shaft, which is used by EGM for hoisting to the Kinross metallurgical plant (cf 8 Shaft, which is c 12km distant). The previous operator, Harmony, had previously developed the 7 Shaft mine working towards the 2010 Pay Channel, but discontinued the initiative in 2009, allowing the controlled flooding of the development ends and 7 Shaft's No. 3 Decline, from 21 Level to 18 Level. To date, two boreholes have successfully been drilled into the 2010 Pay Channel, intersecting the Kimberley reef at a depth of c 2km. The first yielded a reef intersection with a width of 49cm and a grade of 36.04g/t (a metal content factor of 1,766cm.g/t), while the more recent recorded a width of 6cm and a grade of 36.8g/t (a metal content factor of 221cm.g/t). Additional drilling deflections are being performed to further delineate the orebody.

In the meantime, a feasibility study on the project has been completed with the following major features:

- Existing available plant and shaft capacity will be used to treat the mined ore.
- Initial de-watering of the declines is expected to commence during CY18, after which only standard footwall and on-reef development (with associated engineering infrastructure) is required.
- The mining operation will be planned to ensure that waste and reef are hoisted separately (this is in contrast to the existing operation at Evander, which is a contributory factor to grade dilution).
- Recoverable gold is estimated to be 13,000oz per year for the first four years of development and c 65,000oz per year for the next 10 years thereafter at an all-in sustaining cost of ZAR275,000/kg, or US$684/oz at a forex rate of ZAR12.50/USD, over the life of the mine.
- Peak funding is forecast to be ZAR572m (US$48.2m, or £34.7m, at prevailing forex rates), which is equivalent to US$741 per annual oz of production at full capacity.

- At a gold price of US$1,287/oz, the project has a (real) pre-tax NPV_{10} of ZAR1.74bn (US$139.4m), an internal rate of return of 46% and a payback period of two years following the initial four-year development period.

We are not privy to the detailed financial model for Egoli. From the information provided, however, it is able to make a preliminary valuation of the project on a post-tax basis of ZAR929.7m at our updated long-term gold price assumptions (see Exhibit 8) and prevailing forex rates, which equates to 53.4% of PAF's pre-tax NPV_{10} of ZAR1.74bn, above (among other things, reflecting a relatively high average gross margin of 47.7% for tax purposes), or ZAR0.52 (4.4 US cents, or 3.2p) per share. Note that the figures provided above also imply a unit cash cost of ZAR2,163 per tonne milled, which approximates our targeted costs for EGM's existing operations on the Kinross Pay-Channel (see Exhibit 2 and pages 4-5).

While the study inevitably conceives of the Egoli project as an integrated constituent of the broader Evander complex, in view of the section 189 process underway there (see page 6), on 28 March PAF announced it will reassess the feasibility study as a standalone project and that this process is expected to be completed by the end of the current financial year.

Barberton Mines Sub-Vertical Shaft Project at Fairview

The Fairview mining operation is restricted by the hoisting capacity of its No. 3 Decline, which is used to access workings below 42 Level and the high grade MRC 11-block orebody. Currently, the decline is used to transport employees and material as well as for rock hoisting and, with no modifications, future mining at depth will be compromised by increased travelling distances, reduced employee face time and a lack of sufficient capacity to ensure both adequate ore replacement and exploration development. With this in mind, PAF has now completed a study with DRA to investigate the feasibility of constructing a raise-bored, sub-vertical shaft from Fairview's 42 Level to 64 Level and, potentially, in future, to 68 Level (resources extend down at least to 74 Level). The sub-vertical shaft will then be used to transport employees and material to the working areas, while No. 3 Decline will be used exclusively for rock hoisting, thereby significantly increasing overall capacity and production from this high grade mining area as well as improving ore handling efficiencies.

Estimated capex for the project (including contingencies) is ZAR105m (US$8.9m, or £6.4m at prevailing forex rates) and would result in estimated, additional output of 7,000oz gold per year, which "can be optimised further to more than 10,000oz per year."

Assuming that construction takes place in CY18 and CY19 and that production begins in CY20 with cash costs of c US$800/oz over 15 years at the gold prices indicated in Exhibit 8 and prevailing forex rates, we estimate that this project could be worth in the order of US$10.5m (0.58c, or 0.42p, per share) to PAF, rising to US$16.4m (0.91c/share) in the event of optimisation (at our standard 10% discount rate).

Royal Sheba

The Royal Sheba orebody forms part of the Barberton mine and, before 1996, was mined on a small scale to a depth of 340m below surface. In FY10, a concept study was completed with the aim of re-opening the mine as a larger, standalone operation. The study concluded that the project was viable, but required significant capex in the form of a new shaft system from surface and the construction of a new gold plant. Since then, however, three significant synergies have been identified that suggest that capex can be materially reduced. These include:

- The orebody is conducive to sub-level open stoping. Importantly, this is a massive, mechanised, high volume (eg 30-40kt per month) and relatively low-cost mining method.
- A development drive from the Sheba mine on the 23 Level (c 600m underground) is being advanced towards the Royal Sheba orebody. A further 800m of development is required and

multi-blasting is being investigated to halve the development time from 36 months to c 18 months to access Royal Sheba. Importantly, however, this infrastructure will obviate the need for the new shaft system envisaged in the 2010 study.

- The Royal Sheba ore is free-milling and non-refractory. Therefore, the BTRP plant can be expanded at a minimal capital cost to treat Royal Sheba ore.

Management believes that Royal Sheba has the potential to produce c 30,000oz of gold per annum, to which end it has commenced a drilling programme of 14 holes from surface, totalling 12,000m (an average of 857m/hole), to increase geological confidence in the orebody and to contribute towards a feasibility study, which is expected to be completed in CY18. In the meantime, management has developed a full three-dimensional model of the Royal Sheba ore body, incorporating the structural, lithological and mineralisation components of the deposit, which has resulted in an increase in resources both adjacent to and below the current mine infrastructure and a formal upgrade in its mineral resource estimate, as follows:

Exhibit 7: Royal Sheba March 2018 mineral resource estimate vs previous

	March 2018			Change vs previous (units)			Change vs previous (percent)		
Category	Tonnes (kt)	Grade (g/t)	Contained gold (Moz)	Tonnes (kt)	Grade (g/t)	Contained gold (Moz)	Tonnes (%)	Grade (%)	Contained gold (%)
Measured	2,720	3.91	341,932	2,335	(0.24)	290,511	605.7	(5.8)	565.0
Indicated	1,340	3.22	138,725	(14)	(1.13)	(50,673)	(1.1)	(26.0)	(26.8)
Inferred	1,830	4.05	238,287	974	(0.3)5	118,505	113.7	(8.0)	98.9
Total	5,890	3.80	718,945	3,294	(0.52)	358,765	126.9	(12.0)	99.6

Source: Pan African Resources, Edison Investment Research. Note: Reported in accordance with the South African Code for the Reporting of Exploration Results at a cut-off grade of 2.5g/t, derived by applying a gold price of ZAR600,000/kg (equivalent to US$1,435/oz at ZAR13.00/US$).

The updated mineral resource estimate considers 10 domains within the deposit and is staged over a larger down-dip extent than previously, owing to the variogram model parameters applied. Relative to PAF's prevailing resource multiple of US$7.14/oz, a 358.8koz resource increase has a pro-rata value of US$2.6m.

Assumptions: The gold price

We have has updated our gold price forecasts since its last note on PAF. These are set out in detail in our report, Mining overview: Unlocking the price to NPV discount, published in November 2017, and are summarised below in real terms:

Exhibit 8: Edison gold price forecasts, H218-FY30 onwards (US$/oz, real)

Year	H218	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031 onwards
Gold price (US$/oz)	1,320	1,291	1,372	1,460	1,370	1,303	1,283	1,249	1,277	1,374	1,464	1,537	1,487	1,401

Source: Edison Investment Research

Note that, Edison's average (real) gold price forecast over the course of PAF's mines' lives, from FY19-39 inclusive, is US$1,384/oz.

Short-term forecasts

After producing 85koz of gold in H118, our updated group-wide production estimate (as per Exhibits 2 and 4-6) in FY18 is 178koz, which correlates closely to management's guidance of 177-181koz (thereby implying production of 92-96koz in H218):

Exhibit 9: PAF group-wide production, actual and forecast, FY14-FY18e

Operation	FY14	FY15	FY16	FY17	H118	H218e	FY18e (current)	FY18e (previous)
Barberton	88,738	81,493	84,690	71,763	32,159	40,885	73,044	94,641
Evander	76,556	63,558	73,496	43,304	32,734	32,482	65,216	72,700
BTRP	22,885	24,283	28,591	26,745	8,452	9,115	17,567	20,000
ETRP	0	6,523	18,151	29,473	11,937	9,954	21,891	10,000
Total	**188,179**	**175,857**	**204,928**	**173,285**	**85,282**	**92,436**	**177,717**	**197,341**

Source: Edison Investment Research, Pan African Resources. Note: Numbers may not add up owing to rounding.

Within this context, our detailed financial forecasts for PAF for H218 and FY18 are therefore now as follows.

Exhibit 10: PAF underlying P&L statement by half-year (H115-H218e) actual and expected

£000s (unless otherwise indicated)	FY14	H115	H215	H116	H216	H117	H217	H118	H218	FY18e
Mineral sales	154,551	68,126	72,951	75,632	93,728	105,046	101,256	82,900	87,936	170,836
Realisation costs	(349)	(295)	(396)	(269)	(687)	(1,548)	(1,346)	(1,500)	(978)	(2,478)
Realisation costs (%)	0.23	0.43	0.54	0.36	0.73	1.47	1.47	1.81	1.11	1.45
On-mine revenue	154,202	67,831	72,555	75,363	93,041	103,498	99,911	81,400	86,958	168,358
Gold cost of production		(52,727)		(48,935)	(51,102)	(65,188)	(68,933)	(69,600)	(70,803)	
Pt cost of production		(1,797)		(1,651)	(1,796)	(2,300)	(2,529)	0		
Coal cost of production						(10,568)	(5,972)	0		
Cost of production	(106,394)	(54,524)	(55,889)	(50,586)	(57,637)	(78,056)	(77,435)	(69,600)	(70,803)	(140,403)
Depreciation	(10,023)	(4,676)	(5,661)	(5,277)	(5,180)	(6,450)	(8,032)	(5,900)	(9,238)	(15,138)
Mining profit	37,784	8,631	11,005	19,500	30,225	18,992	14,444	5,900	6,918	12,818
Other income/(expenses)	(1,450)	523	(273)	(3,486)	(8,697)	2,175	(2,302)	(800)		(800)
Loss in associate etc	(173)	(128)	0	0	0	256	0	(400)		(400)
Loss on associate disposal		(140)		0	0	0	0	0		0
Impairment costs	(12)	(56)	(2)	0	0	0	0	0		0
Royalty costs	(2,019)	(795)	(852)	(1,194)	(1,606)	(968)	(1,764)	(300)	(982)	(1,282)
Net income before finance items	34,130	8,034	9,878	14,819	19,923	20,455	10,377	4,400	5,936	10,336
Finances income	687	321	28	144	299	70	0	700		
Finance costs	(878)	(498)	(1,960)	(558)	(891)	(1,079)	0	(800)		
Net finance income	(191)	(177)	(1,932)	(414)	(592)	(1,009)	(1,025)	(100)	(529)	(629)
Profit before taxation	33,939	7,857	7,946	14,405	19,331	19,446	9,352	4,300	5,407	9,707
Taxation	(7,155)	(2,310)	(1,823)	(3,480)	(4,754)	(5,475)	(2,871)	(1,000)	(1,689)	(2,689)
Marginal tax rate (%)	21	29	23	24	26	28	31	23.3	31.2	27.7
Deferred tax										
Profit after taxation	26,785	5,548	6,122	10,925	14,577	13,970	6,482	3,300	3,718	7,018
EPS (p)	1.47	0.30	0.33	0.60	0.82	0.93	0.43	0.18	0.21	0.39
HEPS* (p)	1.47	0.31	0.33	0.60	0.82	0.91	0.43	0.20	0.21	0.39
Diluted EPS (p)	1.46	0.30	0.33	0.60	0.80	0.93	0.43	0.18	0.20	0.38
Diluted HEPS* (p)	1.46	0.31	0.33	0.60	0.80	0.91	0.43	0.20	0.20	0.38

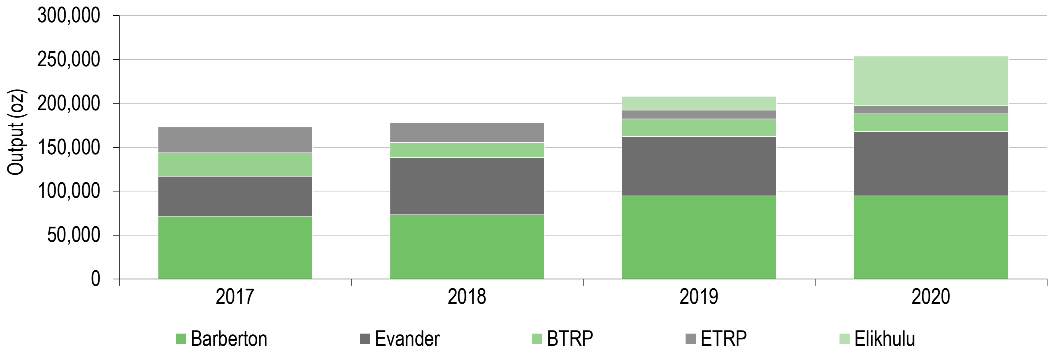
Source: Pan African Resources, Edison Investment Research. Note: As reported basis; *HEPS = headline earnings per share (company adjusted basis).

Note that our FY18 EPS forecast of 0.38p per share (above) compares with a mean consensus estimate of 1.143p, within the range 0.30-2.40p (source: Bloomberg, 13 March 2018). This compares to our forecast at the time of our last note on 28 September 2017, of 1.91p/sh, and a consensus at the time of 1.9271p/sh (source: Bloomberg). Our (normalised) forecast of 1.22p for FY19 (including a full contribution from Evander) assumes a gold price for the year of US$1,291/oz and compares with an erstwhile mean consensus of 1.535p within the range 0.669-2.15p (excluding Edison). By way of comparison, excluding Evander, our normalised EPS forecast for FY19 is instead 0.99p/sh.

Long-term forecasts and absolute valuation

More significant to PAF in the medium to long term, the development of Elikhulu (which is now underway and fully funded) should increase output to c 250koz over the next two financial years (including Evander) and underpins our longer-term earnings and cash-flow expectations:

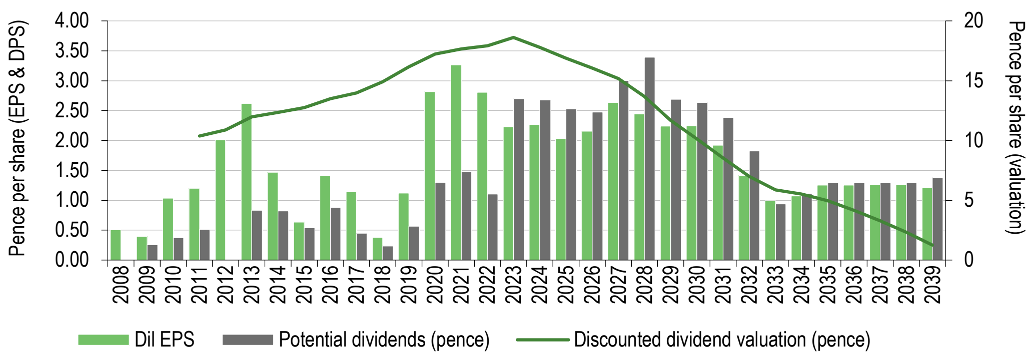
Exhibit 11: Edison estimate of PAF production, FY17-FY20e (oz)



Source: Edison Investment Research

Updating our long-term forecasts to reflect our revised gold prices and prevailing forex rates in particular, our absolute value of PAF (based on its existing four producing assets only) decreases from 19.95p/sh in September to 15.74p/sh currently, based on the present value of our estimated maximum potential stream of dividends payable to shareholders over the life of its mining operations (applying a 10% discount rate). Note that this 21.1% decline in our valuation is consistent with the c 10% strength exhibited by the rand against both the dollar and sterling over the course of the past six months.

Exhibit 12: PAF estimated life of operations diluted EPS and (maximum potential) DPS



Source: Edison Investment Research, Pan African Resources

In the longer term, it is notable that our forecasts for EPS during the period FY20-31 in the order of 2.48p are reduced from nearer 3p/sh previously, once again on account of the recent strength of the rand.

Including its growth projects, discussed above, a summary of our overall valuation of PAF is as follows:

Exhibit 13: PAF absolute valuation summary (pence/sh)

Project	Valuation (pence/sh)
Existing four producing assets plus Elikhulu	15.74
Egoli	3.18
Fairview Sub-Vertical Shaft Project	0.42
MC Mining shares*	0.25
Total	**19.59**

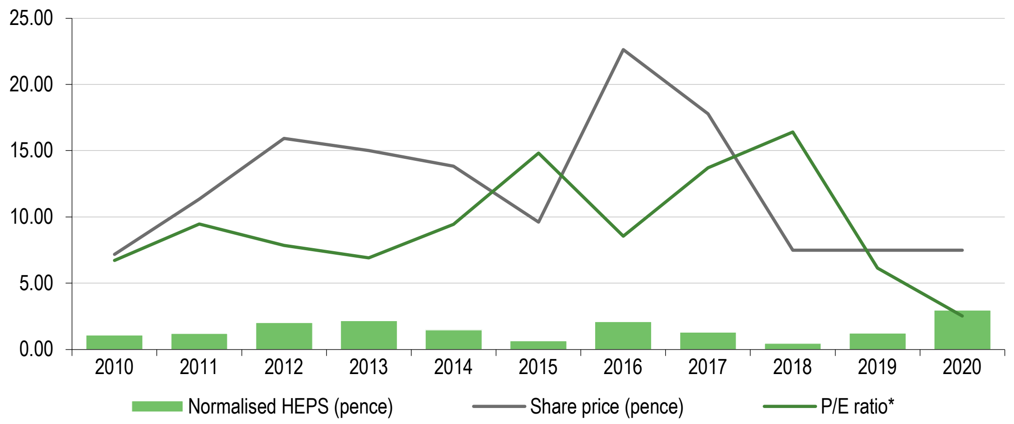
Source: Edison Investment Research. Note: *See our note, Pan African Resources: Canning coal, 17 May 2017.

Historic and relative valuation

Historic

At their current price of 7.3p, PAF's shares trade at a level that puts its FY18 price to normalised HEPS ratio at the top of its recent historical range (see Exhibit 14, below). However, this ratio falls to below the minimum of the recent historical range assuming the recovery anticipated in FY19 vs FY18 (and a partial contribution from Elikhulu) and to well below the bottom of the range in FY20, when a full contribution is expected.

Exhibit 14: PAF historical price to normalised HEPS ratio, FY10-FY20e



Source: Edison Investment Research, Bloomberg. Note: *Completed historic years calculated with respect to average share price within the year shown and normalised HEPS; zero normalisation assumed before 2016.

Stated alternatively, if PAF's average contemporary price to normalised EPS ratio of 9.7x in the period FY10-17 is deemed to be 'correct', then its share price should be 4.4p now, 11.8p in FY19 and 28.6p in FY20. As such, almost all of the 'bad' news appears to be already discounted in the company's share price, but almost none of the 'good'.

Relative

In the meantime, over the next two years PAF remains cheaper than its South African and London-listed gold mining peers on at least 63% of valuation measures (ie 23 out of 36 measures in the table below on an individual company basis) on the basis of Edison's forecasts or 88% of measures (ie 32 out of 36 measures) using consensus forecasts:

Exhibit 15: Comparative valuation of PAF with respect to South African peers

	EV/EBITDA (x)		P/E (x)		Yield (%)	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
AngloGold Ashanti	4.1	4.0	13.1	11.4	1.0	1.2
Gold Fields	3.6	3.3	22.3	16.0	1.7	2.0
Sibanye	3.9	3.4	6.7	7.0	3.6	4.8
Harmony	2.8	2.3	7.4	7.6	1.0	2.0
Randgold Resources	11.0	10.7	23.3	21.8	4.0	4.3
Centamin	5.3	5.1	15.8	16.4	4.7	5.2
Average (excluding PAF)	**5.1**	**4.8**	**14.8**	**13.4**	**2.7**	**3.2**
PAF (Edison)	6.6	3.1	16.4	6.2	3.2	7.5
PAF (consensus)	3.7	2.6	6.7	4.9	6.8	8.1

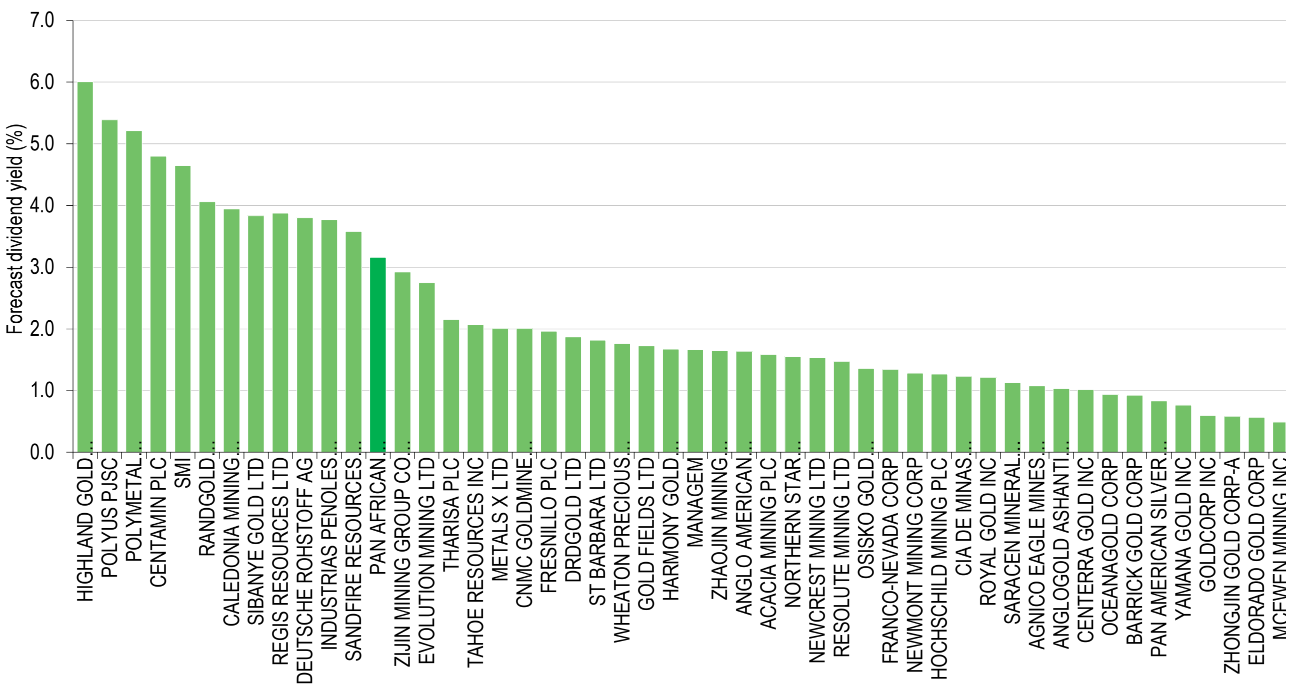
Source: Edison Investment Research, Bloomberg. Note: Peers priced at 14 March 2018.

Dividend

PAF has a target dividend pay-out ratio of 40% of net cash generated by operating activities, after allowing for the cash-flow effect of sustaining capital, contractual debt repayments and one-off items. In addition, in FY17, the board took the view that the proceeds from the sale of Uitkomst were eligible to contribute to the dividend payout on the grounds that they constituted a viable return to shareholders relative to the original price paid for the investment.

Despite us cutting our forecast for PAF's FY18 dividend, within the global context, PAF continues to have the 13th highest dividend yield of the 55 ostensibly precious metals' counters paying dividends to shareholders (vs the 10th highest previously):

Exhibit 16: Global gold mining companies ranked by forecast dividend yield (%)

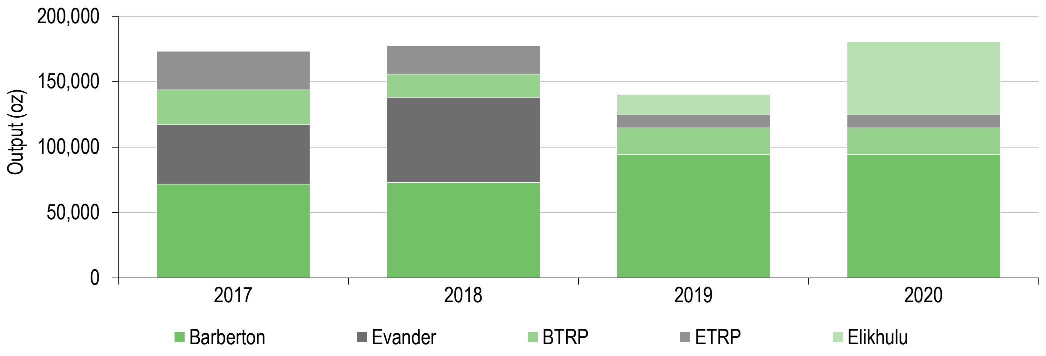


Source: Bloomberg, Edison Investment Research. Note: Consensus data priced 14 March 2018; Edison estimates used for PAF.

Sensitivities

As stated previously, while we believe it is entirely conceivable that EGM can return to a profitable and cash-flow positive position, it is a realistic possibility that, in the absence of any tangible change by the end of its financial year, management may decide to place 8 Shaft on either care and maintenance or to close it entirely. In the event that operations do cease at Evander 8 Shaft at the end of the current financial year, then our short-term production forecasts modify to 140.3koz in FY19, followed by 180.6koz in FY20, with new production from Elikhulu largely replacing lost production from Evander underground (albeit, at a much higher margin).

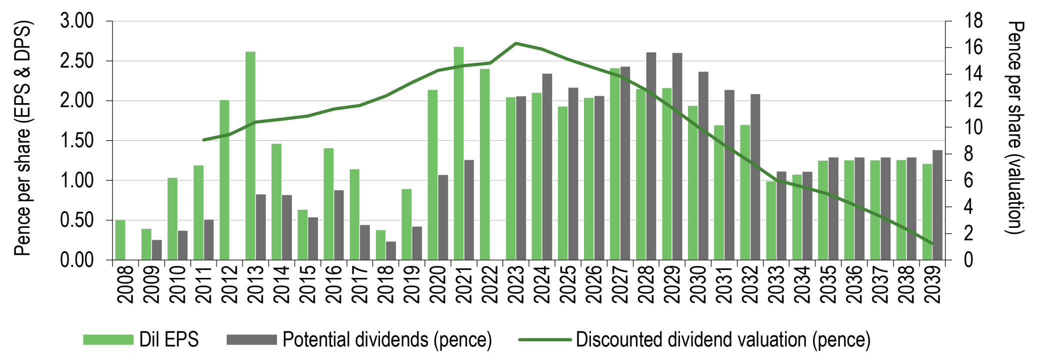
Exhibit 17: Edison estimate of PAF production in the event Evander 8 Shaft ceases production, FY17-FY20e (oz)



Source: Edison Investment Research

However, given Evander's relatively high-cost and low-margin profile, the effect on earnings and our valuation is much more muted than the effect on production and, in the event of this contingency, our 'core' valuation of PAF, based upon the four existing producing operations, declines by only 2.54p (or 16.1%), from 15.74p/sh to 13.20p/sh, with average EPS during the period FY20-31 reduced by only 11.3%, from 2.48p/sh to 2.20p/sh.

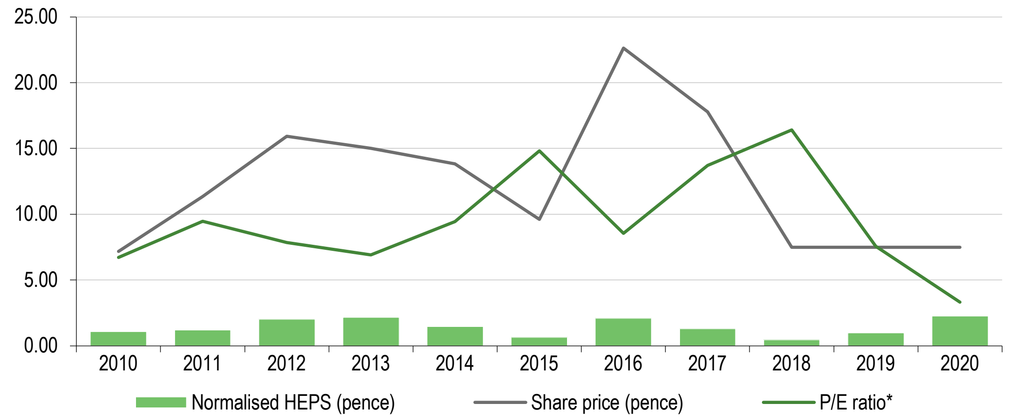
Exhibit 18: PAF estimated life of operations diluted EPS and (maximum potential) DPS



Source: Edison Investment Research, Pan African Resources

Similarly, the absence of a contribution from Evander 8 Shaft would have limited effect on our P/E ratio analysis (Exhibit 14), which is shown below excluding EGM:

Exhibit 19: PAF historical price to normalised HEPS ratio, FY10-FY20e (excluding EGM)



Source: Edison Investment Research, Bloomberg. Note: *Completed historic years calculated with respect to average share price within the year shown and normalised HEPS; zero normalisation assumed before 2016.

In partial recompense, PAF could continue to count the Evander underground resources as one of its assets, albeit one that would be valued as an in-situ resource, rather than on the basis of future earnings, cash-flows, dividends etc. At the current time, we estimate the underground resource at Evander (including 8 Shaft, Egoli, 7 Shaft vamping, Rolspruit, Poplar and Evander South) to be 28.2Moz, categorised as follows:

Exhibit 20: Evander underground resource estimate

Resources	Tonnes (kt)	Grade (g/t)	Moz
Measured	2,880	13.29	1.230
Indicated	51,730	10.32	17.168
Inferred	35,940	8.52	9.840
Total	**90,550**	**9.70**	**28.238**

Source: Pan African Resources, Edison Investment Research

The value of Witwatersrand resources has proved persistently difficult to place within a global context – a problem exacerbated by an absence, currently, of pure Wits basin exploration companies. PAF bought Evander from Harmony in mid-2012 at a price equivalent to US$5.26 per resource ounce (albeit the gold price was then materially higher, averaging US$1,668/oz during the year). Since then, we estimate that PAF will have mined 437,663oz from Evander (ie implying only c 1.5% depletion relative to the acquired resource, on a contemporary basis). More recently, Sibanye acquired Wits Gold (although then not a pure exploration company) at a price equivalent to US$0.22/oz, at a time when the gold price was c US$1,225/oz. Otherwise, a value for in-situ Witwatersrand gold ounces may be imputed from the US$2.78/oz value calculated by us for Bushveld platinum equivalent ounces (there still being pure platinum explorers in South Africa) in our report, *Mining overview: Unlocking the price to NPV discount*, published in November 2017 – contingent on investors accepting the similarities between Bushveld and Witwatersrand geology in terms of depth, reef width and continuity, mining methods etc. On the basis of these three valuation points, the in-situ value of the Evander underground assets could range from 0.35-8.26 US cents per PAF share, as shown below:

Exhibit 21: EGM underground

Valuation basis	Wits Gold acquisition in December 2012	Bushveld PtE exploration oz (Edison Nov 2017)	PAF acquisition of EGM in 2012
In-situ value (US$/oz)	0.22	2.78	5.26
Implied EGM underground valuation (US$m)	6.3	78.5	148.5
Ditto (US cents per share)	0.35	4.37	8.26

Source: Edison Investment Research

Stated alternatively, our calculated value for Evander underground to PAF on a going concern basis of 2.54p/sh (3.53 US cents per share) equates to an in-situ value of its resources of just US$2.25/oz (cf Pan African's effective resource multiple of US$7.14/oz at the time of writing).

Including its growth projects, discussed above, a summary of our overall valuation of PAF, under these circumstances, would be as follows:

Exhibit 22: PAF absolute valuation summary (pence/sh)

Project	Valuation (pence/sh)
Existing three producing assets plus Elikhulu	13.20
Egoli	3.18
Fairview Sub-Vertical Shaft Project	0.42
MC Mining shares*	0.25
EGM underground resource	0.25-5.95
Total	**17.30-23.00**

Source: Edison Investment Research. Note: *See our note, Pan African Resources: Canning coal, 17 May 2017.

Financials

PAF had £42.2m of net debt on its balance sheet as at 31 December 2017 after the payment of a net £8.1m final dividend in late December (cf £7.0m as at June 2017, £33.2m as at December 2016, £22.8m as at 30 June 2016, £16.2m as at 31 December 2015 and £18.0m as at 30 June 2015). As such, at the interim stage, net debt equated to a gearing (net debt/equity) ratio of 19.9% and a leverage (net debt/[net debt + equity]) ratio of 16.6%.

PAF's major immediate capital requirement relates to the development of the Elikhulu project. To date, ZAR671.4m (c £38.0m) in capex has been incurred on the project (excluding capitalised borrowing costs) and Edison forecasts that future capital expenditure commitments are as follows:

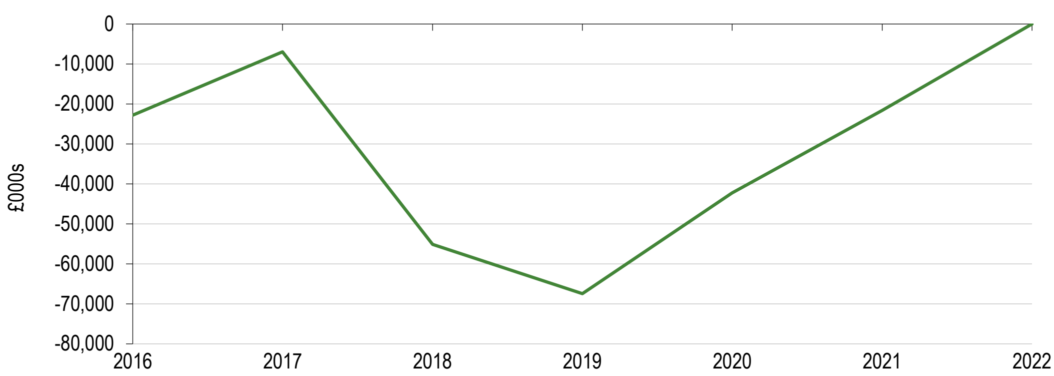
Exhibit 23: Estimated Elikhulu capex requirements by financial year

£000s	H218	FY19	FY20	FY21	FY22
Total capex*	21,730	33,399	9,732	19,234	19,234

Source: Pan African Resources, Edison Investment Research. Note: *Includes sustaining capex, but excludes phase 3 capex, which commences in FY26.

As a result, after investing activities, we estimate that PAF will experience net negative cash-flow in FY18 and FY19, before a positive trend sets in once again from FY20 onwards. Maintaining a dividend policy of 40% of free cash flows less sustaining capital, debt repayments and exceptional items, PAF's funding requirement, on our estimates, will evolve as follows in the period from FY16 to FY22e:

Exhibit 24: PAF estimated funding requirement, FY16 to FY22e



Source: Edison Investment Research, Pan African Resources

Note that PAF's maximum funding requirement of £67.4m in FY19, as estimated by Edison, equates to ZAR1,111m at prevailing forex rates, or contemporary gearing (debt/equity) of 29.3% and leverage (debt/[debt+equity]) of 22.7%. Excluding Evander 8 Shaft, our maximum funding requirement increases to £73.8m (or ZAR1,215m at prevailing forex rates), which equates to contemporary financial gearing of 32.3% and leverage of 24.4%.

Debt is financed via a ZAR1bn revolving credit facility (£60.7m at current exchange rates), of which ZAR676.6m (£31.8m) was drawn down as at end-H118, plus a banking facility. In addition, Rand Merchant Bank (a division of First Rand) has provided PAF with all the necessary approvals for a ZAR1bn underwritten five-year debt facility for Elikhulu.

The group's revolving credit facility (RCF) debt covenants and their actual recorded levels within recent history are as follows:

Exhibit 25: PAF group debt covenants

Measurement	Constraint	H118 (actual)	FY17 (actual)	H117 (actual)	FY16* (actual)	HY16 (actual)
Net debt:equity	Must be less than 1:1	0.19:1	0.01:1	0.17:1	0.35:1	0.50:1
Net debt:EBITDA	Must be less than 2.5:1	2.25:1	0.05:1	0.48:1	0.12:1	0.13:1
Interest cover ratio	Must be greater than four times	4.62:1	10.00	21.99	23.98	18.08
Debt service cover ratio	Must be greater than 1.3:1	1.85:1	N/A	N/A	N/A	N/A

Source: Pan African Resources. Note: *Subsequently restated for disposals.

Note that, subject to future performance, it is possible that PAF will 'break' its net debt:EBITDA covenant as a result of its capital expenditure commitments at Elikhulu. We do not anticipate this. However, this contingency has already been pre-empted by management and the providers of the RCF, which have agreed to temporarily waive this condition during the period in which capex relating to Elikhulu is at its most intense.

BEE footnote

PAF entered into a restructured BEE transaction on 16 January 2018, whereby the current BEE equity shareholdings in the company (held via interests in PAR Gold) were replaced with BEE shareholdings in Emerald Panther Investments 91 (hereafter SA Holdco), which is a subsidiary of the company. Following implementation of the transaction, SA Holdco will hold all of PAF's South African mining operations. More significantly, where before the previous BEE ownership structure terminated in December 2018, the new structure will only terminate on 21 December 2021.

Exhibit 26: Financial summary

£'000s	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018e	2019e
Year end 30 June	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS											
Revenue	52,860	68,344	79,051	100,905	133,308	154,202	140,386	168,404	167,759	168,358	193,195
Cost of sales	(28,505)	(40,554)	(45,345)	(46,123)	(71,181)	(106,394)	(110,413)	(108,223)	(134,007)	(140,403)	(133,344)
Gross profit	24,355	27,790	33,705	54,783	62,127	47,808	29,973	60,181	33,752	27,956	59,851
EBITDA	22,890	25,023	28,540	45,018	53,276	44,165	28,448	57,381	32,417	26,674	57,251
Operating profit (before GW and except.)	20,529	21,897	25,655	41,759	47,278	34,142	18,110	46,925	21,924	11,536	39,316
Intangible amortisation	0	0	0	0	0	0	0	0	0	0	0
Exceptionals	(5,025)	(335)	0	(48)	7,232	(12)	(198)	(12,183)	(1,248)	(1,200)	(1,252)
Other	0	0	0	0	0	0	0	0	0	0	0
Operating profit	15,504	21,562	25,655	41,711	54,510	34,130	17,912	34,742	20,676	10,336	38,065
Net interest	807	594	762	516	197	(191)	(2,109)	(1,006)	(2,523)	(629)	(4,962)
Profit before tax (norm)	21,336	22,491	26,417	42,274	47,475	33,951	16,001	45,919	19,401	10,907	34,354
Profit before tax (FRS 3)	16,311	22,156	26,417	42,226	54,707	33,939	15,803	33,736	18,153	9,707	33,103
Tax	(8,219)	(7,656)	(9,248)	(12,985)	(12,133)	(7,155)	(4,133)	(8,234)	(243)	(2,689)	(12,428)
Profit after tax (norm)	13,117	14,835	17,169	29,290	35,342	26,796	11,868	37,685	19,158	8,218	21,927
Profit after tax (FRS 3)	8,091	14,500	17,169	29,242	42,574	26,785	11,670	25,502	17,910	7,018	20,675
Average number of shares outstanding (m)	1,104.4	1,366.3	1,432.7	1,445.2	1,619.8	1,827.2	1,830.4	1,811.4	1,564.3	1,798.3	1,798.3
EPS - normalised (p)	0.85	1.07	1.20	2.03	2.18	1.46	0.64	2.08	1.22	0.46	1.22
EPS - FRS 3 (p)	0.40	1.04	1.20	2.02	2.63	1.47	0.64	1.41	1.14	0.39	1.15
Dividend per share (p)	0.26	0.37	0.51	0.00	0.83	0.82	0.54	0.88	0.45	0.24	0.56
Gross margin (%)	46.1	40.7	42.6	54.3	46.6	31.0	21.4	35.7	20.1	16.6	31.0
EBITDA margin (%)	43.3	36.6	36.1	44.6	40.0	28.6	20.3	34.1	19.3	15.8	29.6
Operating margin (before GW and except.) (%)	38.8	32.0	32.5	41.4	35.5	22.1	12.9	27.9	13.1	6.9	20.4
BALANCE SHEET											
Fixed assets	67,198	74,324	97,281	86,075	249,316	223,425	220,150	230,676	273,635	327,342	353,284
Intangible assets	35,397	36,829	38,229	23,664	38,628	37,040	37,713	38,682	41,425	43,161	44,897
Tangible assets	31,801	37,495	59,052	62,412	209,490	185,376	181,533	190,725	224,687	276,658	300,864
Investments	0	0	0	0	1,199	1,010	905	1,269	7,523	7,523	7,523
Current assets	4,949	17,677	15,835	41,614	26,962	23,510	17,218	22,016	37,090	23,579	26,002
Stocks	358	1,126	1,457	1,869	6,596	5,341	3,503	4,399	7,583	5,695	6,447
Debtors	2,201	3,795	4,254	6,828	15,384	12,551	10,386	14,891	14,813	12,637	14,307
Cash	2,389	12,756	10,124	19,782	4,769	5,618	3,329	2,659	9,447	0	0
Current liabilities	(6,101)	(7,084)	(8,960)	(11,062)	(24,066)	(24,012)	(22,350)	(32,211)	(31,251)	(67,650)	(84,408)
Creditors	(6,080)	(7,084)	(8,960)	(11,062)	(23,202)	(19,257)	(17,301)	(25,230)	(27,105)	(24,808)	(29,250)
Short-term borrowings	(21)	0	0	0	(864)	(4,755)	(5,049)	(6,981)	(4,146)	(42,842)	(55,157)
Long-term liabilities	(9,686)	(11,431)	(13,410)	(14,001)	(80,004)	(63,528)	(67,850)	(69,506)	(62,893)	(63,939)	(65,010)
Long-term borrowings	0	0	(181)	(869)	(11,133)	(8,141)	(16,313)	(18,456)	(12,290)	(12,290)	(12,290)
Other long-term liabilities	(9,686)	(11,431)	(13,228)	(13,132)	(68,871)	(55,387)	(51,537)	(51,049)	(50,603)	(51,648)	(52,720)
Net assets	56,360	73,487	90,746	102,626	172,208	159,396	147,167	150,975	216,581	219,333	229,868
CASH FLOW											
Operating cash flow	25,420	25,207	31,968	49,092	61,618	45,996	26,423	47,130	29,945	25,426	52,146
Net Interest	807	594	762	516	314	(606)	(2,109)	(1,006)	(2,141)	(629)	(4,962)
Tax	(10,886)	(7,476)	(10,743)	(11,616)	(13,666)	(8,536)	(3,943)	(7,777)	(8,003)	(1,643)	(11,357)
Capex	(5,705)	(6,764)	(21,712)	(17,814)	(27,197)	(21,355)	(19,554)	(14,097)	(36,748)	(68,494)	(43,877)
Acquisitions/disposals	(4,205)	0	0	(1,549)	(96,006)	0	(760)	(30,999)	8,364	5,210	0
Financing	0	48	1,545	259	47,112	349	(235)	15,207	34,638	0	0
Dividends	(6,774)	0	(5,376)	(7,416)	0	(14,684)	(15,006)	(9,882)	(13,290)	(8,014)	(4,266)
Net cash flow	(1,343)	11,609	(3,557)	11,471	(27,826)	1,164	(15,184)	(1,425)	12,764	(48,143)	(12,315)
Opening net debt/(cash)	(5,313)	(2,369)	(12,756)	(9,943)	(18,913)	7,228	7,278	18,033	22,778	6,989	55,132
Exchange rate movements	(2,642)	(281)	925	(1,813)	594	(839)	(276)	812	238	0	0
Other	1,041	(940)	(181)	(688)	1,090	(375)	4,705	(4,131)	2,787	0	0
Closing net debt/(cash)	(2,369)	(12,756)	(9,943)	(18,913)	7,228	7,278	18,033	22,778	6,989	55,132	67,448

Source: Company sources, Edison Investment Research

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