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Gemfields* - Initiation

Recovery just getting started

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Ben Davis has been an analyst covering the mining sector for the past eight years at Liberum. Ben has won a Starmine award in 2020 for Metals & Mining.Prior to joining Liberum, Ben worked within the mining team at UBS for four years covering the large and mid-cap miners. Ben oversaw the global coverage of the platinum sector and was part of the Glencore IPO research process. Ben holds a BSc in Economics from Bristol University and is a CFA.

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Tom joined Liberum in February 2021 as a commodity analyst, working with the SAS and Metals & Mining teams. Before joining Liberum, Tom held commodity research roles at Macquarie, Morgan Stanley, UBS, Bank of America and Citi –covering global commodity markets of precious and base metals, EV inputs of cobalt and lithium, the bulk trades of steel, iron ore, coal. energy-related markets of uranium, carbon, among others. Prior to his career in broking, Tom worked as an exploration geologist in Australia and Asia. Tom holds a BSc (Geology/Geophysics, Hons) from University of Sydney and a BCom(Finance/Economics) from University of Western Australia.

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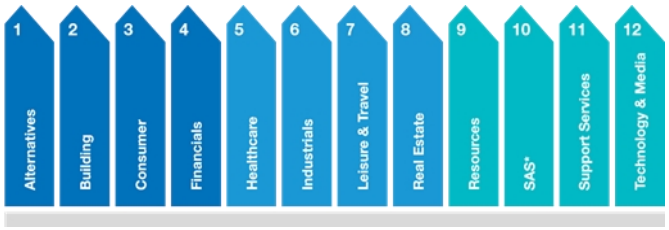

*Strategy, Accounting and Sustainability

"We produce All-Cap Pan-European Equity Research across 12 pillars. Using independent experts and data, we foster straightforward, original thinking. We believe that our All-Cap model facilitates read-across, and a deep and broad sector knowledge. Our goal in Research is simple: to produce well-considered and thought-provoking ideas that help our clients to make money."

Joe Brent, Head of Research

United Kingdom | Resources | Mining | GEM LN | Market Cap £102.2m | 13 May 2021^

BUY

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*Corporate Broking Client of Liberum

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Gemfields has had a tough 12 months, but has gotten through the worst of it with the balance sheet intact. The outlook for the recovery appears very encouraging, as the mines have restarted and the company has adapted its auctions so that the goods can be viewed by the majority of customers. A combination of restocking demand and the strength in the wider jewellery space should drive operating free cashflows of $50m in 2021/2022, rising to over $100m in 2023. Initiate with a 16p price target and a BUY rating.

Key points

Impact of COVID-19 was keenly felt in precious stones, with the market at standstill for most of 2020 due to the lack of travel. Series of mini auctions has enabled cashflow once again.

Value drivers

Catalysts from both potential disposals of Fabergé & Sedibelo stakes. A de-escalation of the conflict in Mozambique would de-risk the investment case significantly.

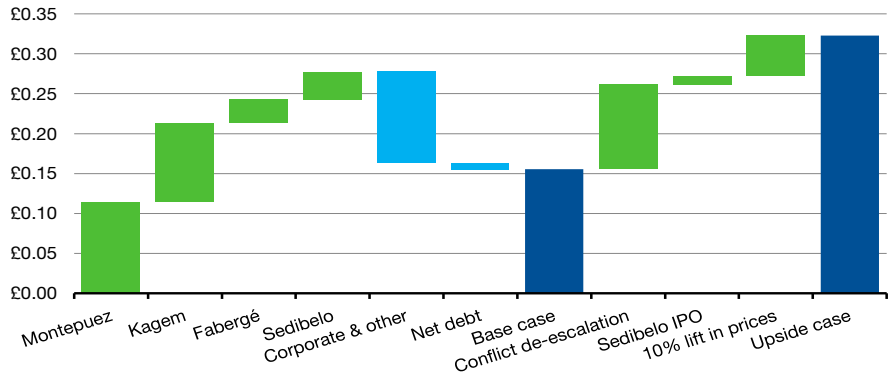
What market misses

Gemfields' mines are a significant part of the market in both emeralds (c.25%) and rubies (c.75%), and inventories will likely have to be rebuilt in the months ahead.

Is there value?

Our sum-of-the-parts valuation uses discount rates of 12.5% and 25% for Kagem and Montepuez and disposal values for Fabergé and Sedibelo. Price target of 16p, 83% upside.

Base case and upside case for Gemfields (£/share)

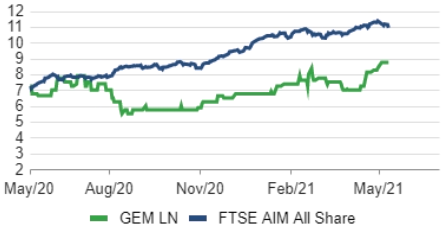


Source: Liberum

Next events

Virtual AGM	24 June 2021
Monthly market operating update	31 July 2021

Stock performance



Summary financials & valuation ($m)

Calendar year

EV (CY)	19A	20E	21E	22E
Market Cap	145	145	145	145
Net Debt/(Cash)	(25.4)	12.6	(21.8)	(24.5)
Pension & other adj.	(10.8)	8.0	(6.2)	(10.9)
EV	108	165	117	109

Valuation (CY)	19A	20E	21E	22E
P/E (x)	6.5	(1.8)	7.8	4.4
Div Yield (%)	0.0	0.0	0.0	0.0
EV/Sales (x)	0.5	4.8	0.7	0.5
EV/EBITDA (x)	1.3	(5.5)	1.7	1.0
EV/EBIT (x)	1.5	(1.8)	2.6	1.5
FCFe Yield (%)	6.2	(20.4)	28.0	5.6
Price / book (x)	0.3	0.4	0.3	0.3

Financial year (December year-end)

Financials (FY)	19A	20E	21E	22E
Sales	212.6	34.7	174.6	226.5
EBITDA	80.9	(30.1)	66.7	105.3
EBIT	71.9	(93.4)	45.2	74.8
EBIT Margin (%)	33.8	(269.4)	25.9	33.0
Net Interest	(10.7)	(5.8)	(5.5)	(4.8)
PBT	61.2	(99.2)	39.8	70.0
FD EPS ($)	0.0	(0.1)	0.0	0.0
DPS ($)	0.0	0.0	0.0	0.0

Leverage (FY)	19A	20E	21E	22E
Net Debt/(Cash)	(25.4)	12.6	(21.8)	(24.5)
Net Debt/EBITDA (x)	(0.3)	(0.4)	(0.3)	(0.2)
Net Debt/Mkt Cap (x)	(0.2)	0.1	(0.2)	(0.2)

Source: Liberum, Bloomberg
All numbers are on a post-IFRS 16 basis (e.g. net debt includes finance leases)

Contents

Company dashboard

What it does

Gemfields owns a 75% stake in both the Montepuez Ruby Mine in Mozambique and the Kagem Emerald Mine in Zambia. These are the largest producing mines in the world for their respective gemstones and have a 10-year and 22-year mine life respectively. In 2013, the group also acquired high-end jewellery business Fabergé in a bid to enhance the presence and marketing of coloured gemstones. Gemfields also holds a 6.5% stake in the unlisted Sedibelo Platinum Mines, based in the Bushveld Complex in South Africa.

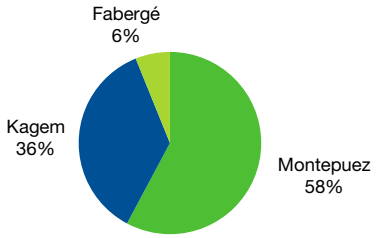
Bull case

- Long-term shift in fashion from diamonds to coloured stones
- Successfully holds normal auctions in 2021
- Mine operations continue unaffected by pandemic and domestic issues
- Asset disposal generates cash buffer
- Re-rating towards peer multiples

Bear case

- Cash position stretched by inability to run auctions
- Mozambique conflict means operations halted
- Pressure on pricing from lower-quality recoveries
- No buyer for Sedibelo stake or Fabergé

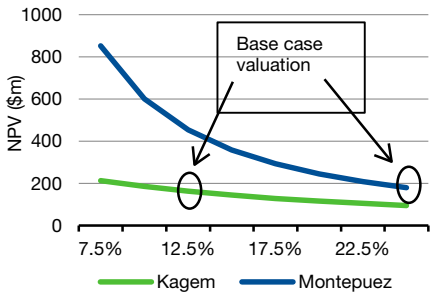
Geographic split of revenues (FY21)



EBITDA split by division

EBITDA ($m)	2019A	2020E	2021E	2022E
Montepuez	66.7	-11.0	68.5	69.5
Kagem	18.5	-5.8	33.7	60.5
Faberge	-6.5	-3.4	-2.7	-1.9
Corporate	-3.4	-9.0	-22.8	-22.8
Other	5.6	-0.8	-10.0	0.0
Total	**80.9**	**-30.1**	**66.7**	**105.3**

Asset NPV sensitivity to discount rates



Key share price drivers and catalysts

- A stronger-than-expected recovery in luxury jewellery markets coming out of the pandemic.
- If travel restrictions ease and normal auction processes can occur sooner than expected in India, Zambia and Singapore, then this will help drive auction revenues and the share price should react positively to this.
- A disposal of Fabergé or the stake in Sedibelo will strengthen the balance sheet further and reassure the market that there is not a liquidity issue for the company.
- A de-escalation in the conflict in Mozambique.

What is priced in and do we differ?

- The market is concerned about the group's ability to keep making sales in this challenging period, with auctions currently taking place on a sequential basis with online bidding.
- As such, there are lingering liquidity concerns but we believe that the auction results will be strong again in the second half and these concerns will diminish.

How the target price is generated

	% ownership	Discount rate	10y NPV ($m)	Terminal Value ($m)	Present Value of TV ($m)	NPV ($m)	NPV (£/sh)	% Group
Montepuez	75.0%	25.0%	$151	$317	$34	$185	£0.11	41%
Kagem	75.0%	12.5%	$132	$91	$28	$160	£0.10	36%
Fabergé	100.0%	10.0%	-$1	$1	$0	$48	£0.03	11%
Sedibelo	6.5%	0.0%			$0	$55	£0.03	12%
Corporate & other	100.0%	10.0%	-$149	-$91	-$35	-$184	-£0.11	
Net cash / (debt)						-$13	-£0.01	
Group Totals						**$252**	**£0.16**	
P/NAV							**0.56**	

Investment summary

Hit hard by coronavirus but cash preservation was impressive – Gemfields was particularly hard hit by the COVID-19 pandemic, with mine operations halted and no auctions possible for the majority of 2020. Auctions account for 93% of revenues and so this meant the group was burning cash in the year. However, management acted fast to cut costs where possible at the mine sites and head office. They also adapted well to hold mini-auctions across a series of locations in light of travel restrictions in late 2020 and early 2021. Whilst it is unclear when normal service will resume for auctions, the strength in the auction results and liquidity position ($46.3m cash), gives us confidence that the group can thrive in this challenging period.

Should recover stronger than diamonds – The diamond sector has bounced back firmly after a challenging 2020. Whilst it was able to hold up better than coloured gemstones, given a more mature market and a greater ability to sell products remotely, its rebound reassures us that coloured gemstones will see at least as good a recovery in 2021. This is particularly true as the impact to coloured gemstone supply was more significant, with the Gemfields mines (c.75% of rubies and 25% of emeralds) offline for 12 months.

Time is now for asset disposals – The strength in wider markets also heralds an excellent opportunity to dispose of both its Fabergé business and Sedibelo stake. In the PGM space, South African miners are making abnormally high profits and now would be the perfect time for Sedibelo to IPO and for Gemfields to realise the value of its stake. We estimate pre-IPO it could go for as much as $55m, or post IPO at $79m. Similarly, the strength in the jewellery markets, with equities up 100% on average from a year ago, should hopefully encourage the sale of Fabergé. Whilst there is no stated intention of a disposal of the business, we believe it could be sold for $48.3m.

Longer-term opportunity in coloured gemstones – Coloured gemstones have been experiencing a rise in popularity and have been eating away at the market share formerly dominated by diamonds. With an increasingly transparent, consistent supply chain, shifting fashion trends and an increase in marketing, we expect this trend to continue. In addition, the more mature market for synthetic coloured gemstones means pricing pressure is weaker than it is for diamonds.

Valuation 16p, initiate with a BUY rating – We use a sum-of-the-parts valuation for Gemfields, valuing the two key mining assets with net present value at $185m for Montepuez and $160m for Kagem, using a 25% and 12.5% discount rate respectively. We use the extremely high 25% rate to reflect the risk to operations due to the ongoing conflict in the Cabo Delgado region. A de-escalation of insurgency activities would lift our Montepuez valuation by $179m, by dropping discount rate to 15%.

Summary of coronavirus impact/outlook

It has been a rollercoaster couple of years for Gemfields, with mines, midstream and end-markets all heavily impacted by COVID-19. However all three are now recovering and the outlook is stronger than it was pre-pandemic.

Figure 1: Where do things stand, upstream, midstream and downstream

	Prior to coronavirus (FY19)	During coronavirus (FY20)	Now (FY21E)
Gemfields' mines	Production at the mines was running smoothly ahead of the pandemic, with both Montepuez and Kagem operating at capacity. Gemstone production was modestly lower than 2018, as grades at both wash plants were slightly down year-on-year.	All but critical operations suspended at Kagem (March 30th) and Montepuez (April 22nd). Security, maintenance and other essential services continued on site, but all mining operations halted. Growth capex was scrapped and wage bills were reduced through suspended contracts and lower remuneration.	Mining operations restarted at both operations in March 2021 and they are expected to be back up to full scale by the end of April 2021. We have reflected the impact of the downtime in our FY21 estimates.
Midstream (auctions)	Annual auction revenues across both mines was over $200m for the first time in the company's history. Ruby auctions benefitted from strong demand and competitive bidding. Whilst emerald markets were impacted by difficult access to finance in India, the November 2019 auction saw the highest ever average price per carat at an auction. It was also notable that more Chinese and East Asian clients attended than in the past.	The group's ability to hold auctions was significantly affected by the pandemic, as most gemstone buyers need to see a good in person before buying. With Montepuez auctions generally held in Singapore and their travel restrictions very strict amidst the pandemic, no auctions were possible in the year. The group managed to hold an emerald auction in Zambia in Q1 before lockdowns had started, and then trialled its mini auction process in November across various locations.	Both mines have held one mini auction this year, across locations such as Bangkok, Dubai and Jaipur. Selected lots are made available for in-person viewing and then auctions take place via an online auction platform. Given the lack of product in the market, both auctions achieved impressive prices per carat. We expect each mine to hold at least one more auction this year, which we expect to be run in a similar fashion.
End markets	The diamond market had a torrid year in 2019, with end-use jewellery demand looking bleak in key growth markets and synthetic diamond exports from India exploding. However, coloured gemstone prices held up well, with improved supply of high-quality gemstones and an improving consumer awareness across the globe.	Jewellery demand amidst the pandemic was unsurprisingly very weak, with no retail footfall and consumer fear about the economic fallout. Chinese jewellery sales and diamond imports dropped considerably; however, they began to pick up in the second half of the year as cashed-up individuals coming out of lockdowns looked to deploy on luxury items.	We expect that end markets will strengthen as we come out the other side of the pandemic. It is likely to have accelerated trends already in place, with respect to the bifurcation of high quality large stones and lower quality small ones (which are substituted by synthetics). We also expect that the trend of rising demand for coloured gemstones versus diamonds is likely to continue.

Source: Liberum, company

Very successful cash preservation

Gemfields acted quickly to suspend principal operations in the early stages of the pandemic last year. This, along with reduced wages, a lower marketing budget and the scrapping of non-essential capital expenditure, enabled the group to survive a long period of no revenues.

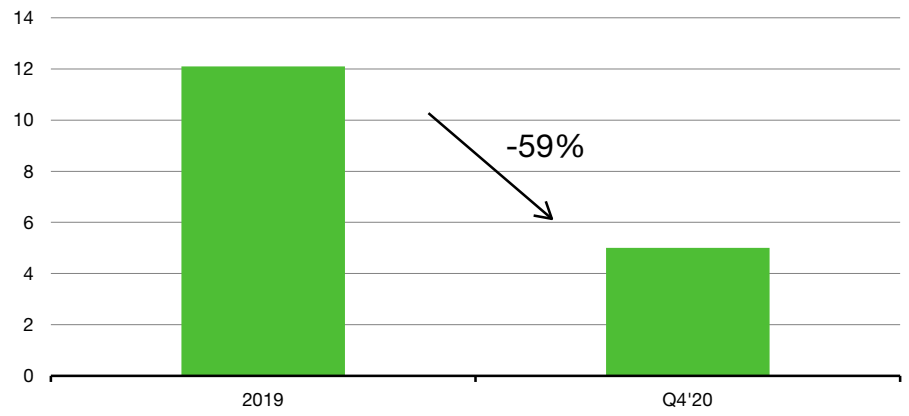
Kagem mine - At Kagem, all but critical operations were suspended as of March 30th. Around 150 out of 1,000 people remained on site and security was enhanced during the period. Work at the sort house continued, where workers graded production from prior to March. Suspended contracts helped to reduce the wage bill by 20% and operating costs per month dropped from $3.5m per month in 2019 to $1.3m per month in H2 2020.

Montepuez mine - Similarly, all but critical operations at Montepuez were suspended on April 22nd, with security, maintenance and other essential services continuing. Given that over 100 illegal miners were released from prison to the local area due to overcrowding, additional security was added. The impact on operations meant that all growth capex was scrapped for the near future. Cost-saving measures, such as a reduced wage bill from suspended contracts and reduced remuneration, helped to reduce operating costs from $2.7m per month in 2019 to $1.4m per month in H2 2020.

Fabergé - At Fabergé, the Harrods, Houston, Dubai and Kiev locations were all closed in March, as well as roughly 80% of multi-brand retailers and 80% of supplier workshops. In the last six months however, the Harrods, Dubai Mall, Houston and Kiev boutiques all reopened, as well as a majority of multi-brand retailers.

Corporate - Gemfields offices in London and Jaipur were also closed, with personnel working remotely and all UK staff members (including Board) placed on a 20% remuneration reduction and a four-day workweek from the 1st May.

Figure 2: Reduction in monthly cash operating expenditure

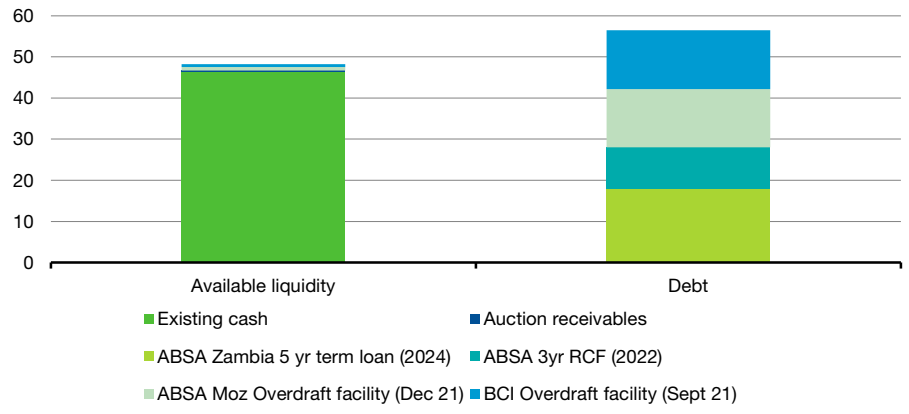


Source: company

Current liquidity position should see them through

Gemfields' had available liquidity of $48.2m at the end of February 2021 and debt of $57.9m that consisted of:

Figure 3: Available liquidity and debt position as of Feb-21



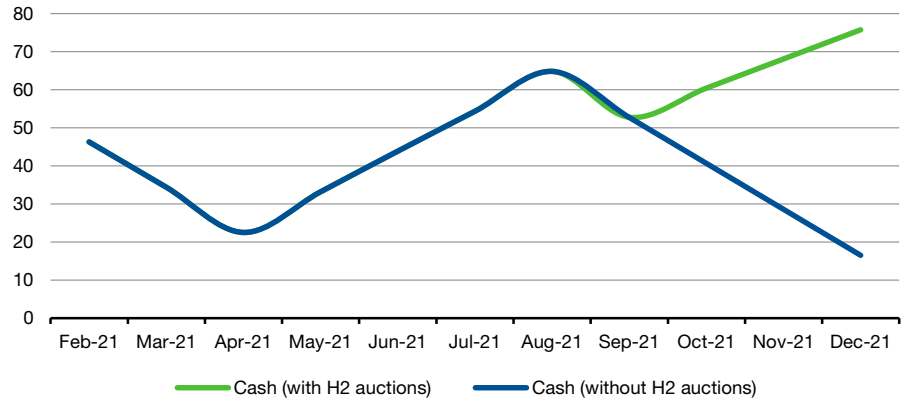
Source: company

Following this, the company entered into a further overdraft facility with BCI at the Montepuez Ruby mine for $8.9m that has to be paid back in either the next six months or before the next auction. It can then be extended to $15m upon successful repayment.

The company also had two successful auction results delivering $90.3m of revenues from April ($31.4m for emeralds and $58.9m for rubies).

With the mines now ramped back up, the monthly cash burn rate is an estimated $11.9m. As long as the company holds another set of auctions in the second half as planned (we estimate delivering $79m of revenue), it should have sufficient liquidity. Given that all the facilities were just recently renegotiated and that the covenants have been waived, we do not see much risk in the renewal of the debt facilities.

Figure 4: Illustrative cash profile ($m)



Source: Liberum

Mini-auctions to continue

The restriction of travel and social distancing rules had a major impact on the group, with mines shut down and an inability to run auctions throughout most of 2020. Ruby auctions tend to take place twice a year in Singapore, whilst emerald auctions rotate between Singapore (for high quality) and Zambia or India (for commercial quality).

With auctions responsible for over 90% of revenues, the group was under significant pressure in 2020, given customers' inability to travel to auction locations without strict quarantine measures. In-person auctions are necessary because coloured gemstone buyers generally spend hours assessing the products in person, in order to see the inclusions and natural impurities that make each gem unique.

This meant that no auction was held between March and November of 2020, at which point the group managed to hold a series of mini auctions of emeralds in November and December. More recently, in March/April, the group has managed to hold both an emerald mini auction and a ruby mini auction. Selected lots were made available for in-person viewings for customers in Bangkok, Tel Aviv, Dubai and Jaipur, with auctions then taking place via an online auction platform adapted for Gemfields. This enabled global customers to enter into a sealed bid process.

When can auctions return to normal?

India is a key territory for the group, as a large proportion of emerald auction attendees come from there, specifically Jaipur. It was also historically the home to the group's commercial-quality emerald auctions, before Lusaka took the reins in H2 2018. The COVID-19 situation in India is currently quite bleak, with over 250,000 deaths and deaths per day resurging way above their September peak. As a result, international commercial travel remains suspended and it is unclear when the situation will come under control.

Singapore has been home to all ruby auctions for the last five years. The measures to counter coronavirus in the country have been extreme and this has meant just 31 deaths in total, with only four deaths since October. The current travel restrictions mean there is a closed border to short-term visitors from anywhere in the world. As such, it is unlikely to be a potential auction location any time soon.

Zambia took over as the commercial-quality emerald auction location in 2018. The coronavirus deaths there shot up in the first months of the year, but have been brought down to less than 10 per day in recent weeks. Borders are open, but under tight screening, with tourist and business visit visas available in advance and on arrival. All visitors must have proof that they tested negative in the 72 hours before arrival, but there is no need to self-isolate.

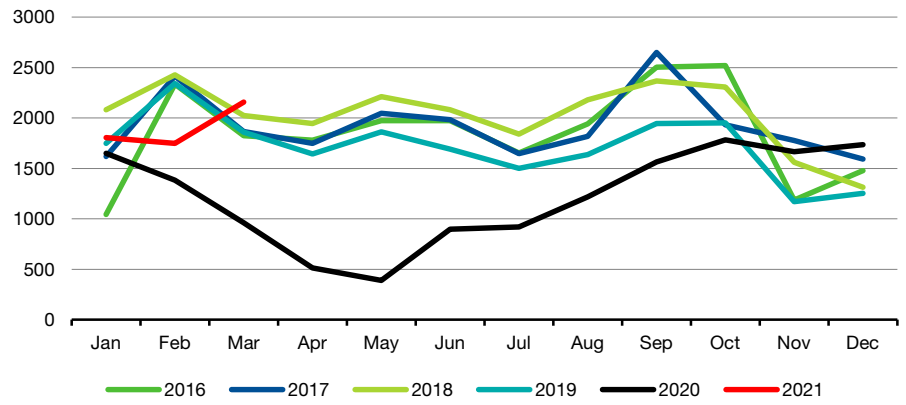
We assume that mini-auction series like in November/December 2020 and March/April 2021 will continue until the second half of 2022. It is difficult to quantify the possible impact on revenues. It is possible that some competitive tension could be lost by a lower number of possible market participants and the extended time duration of the auction. However, in a rising demand market that is short of inventories, we believe that the impact should be low.

Diamond market a promising precursor

The diamond market was similarly impacted by COVID-19 (see Dire diamond market dysfunction) but was able to recover faster than coloured gemstones, as sales were easier to facilitate. Diamonds tend to need less intense viewing, given that their grading and quality characteristics are more widely understood. Customers buying emeralds and rubies prefer to witness the inclusions and imperfections first hand.

As such, we believe that the strong performance by the diamond sector in recent months provides a positive sign of things to come for Gemfields coming out of the pandemic.

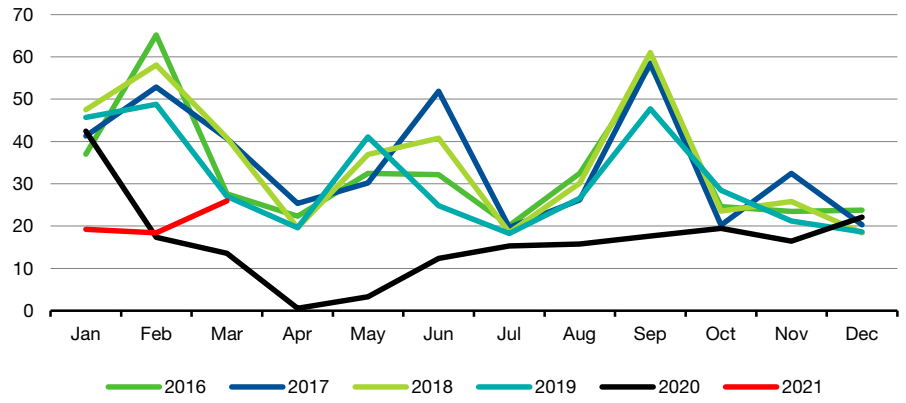
Figure 5: Diamond exports from India ($m)



Source: GJEPC

Diamond exports from India returned to near-normal levels in October of 2020, whilst coloured gemstone exports still trail historical activity, due to the lack of rough supply.

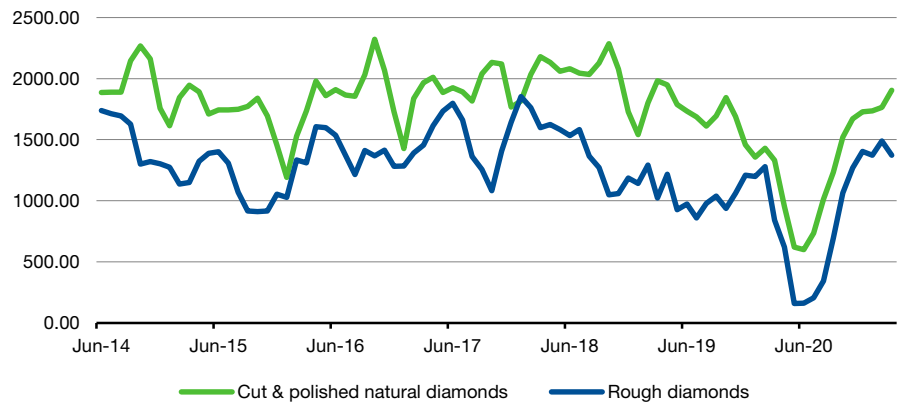
Figure 6: Coloured gemstone exports from India ($m)



Source: GJEPC

A major bounce in demand, coupled with the industry grinding to a halt in the middle of the year, saw rough diamond import demand into the Indian midstream at the strongest levels since 2018, as the industry restocks.

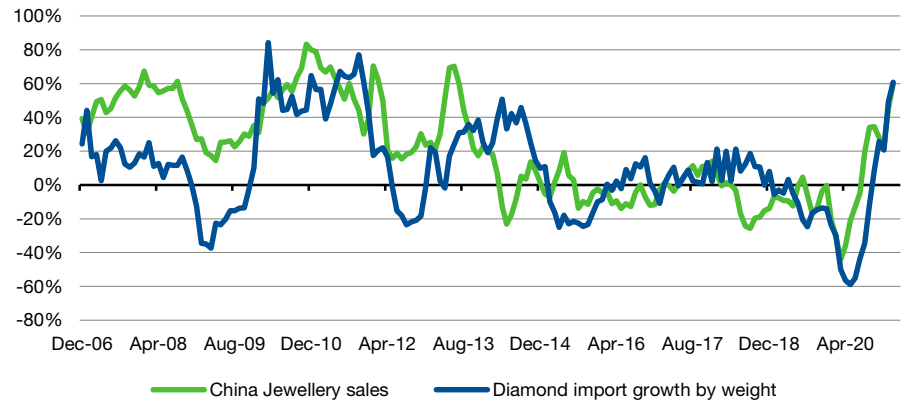
Figure 7: Indian polished exports and rough imports ($m, 3M average)



Source: GJEPC

Cashed-up consumers appear to be returning to the market for diamonds, after a year which limited large expenditure. The run-up to Christmas saw surging Chinese jewellery sales, up 35% YoY in the three months to October, 28% in November and 23% in December.

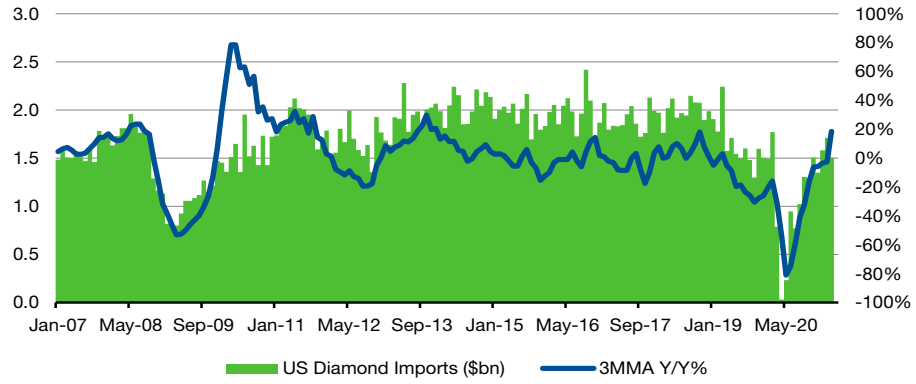
Figure 8: China jewellery sales versus diamond import growth



Source: Bloomberg

A similar story was seen in the US. The strength in end-use demand has been impressive, especially given that retail footfall remains limited.

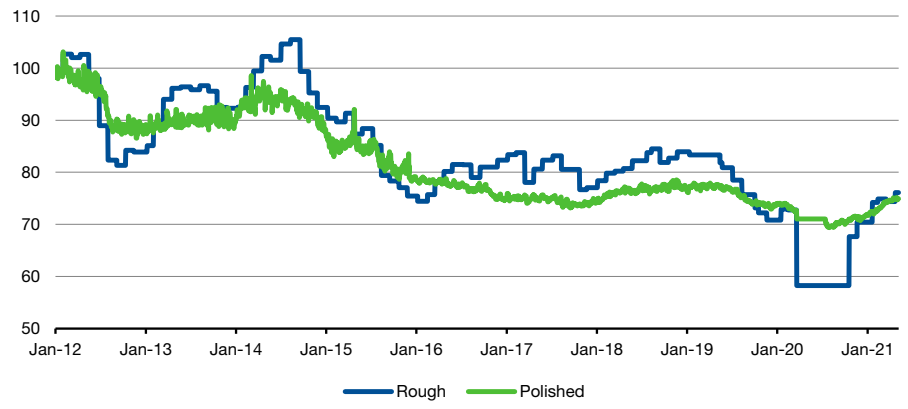
Figure 9: US diamond imports ($bn & 3MMA Y/Y%)



Source: Bloomberg

This strong demand and fractured supply has meant that diamond prices, for both rough and polished, have already bounced back above pre-pandemic levels. Given that coloured gemstones have been out of the market for longer, we expect to see an even more price aggressive recovery in the months ahead.

Figure 10: Indexed performance of rough and polished diamond prices



*Source: Bloomberg *Polished prices stopped reporting rough and polished prices during the lockdown due to the lack of transactions*

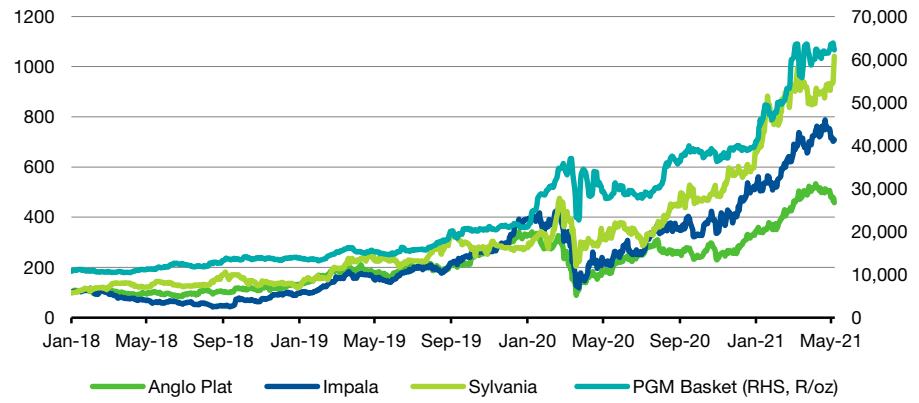
Opportune time to sell assets

Gemfields has considered the sale of both Sedibelo and Fabergé at various times, but we believe that the coming year could provide the most opportune time, given the strength in both the PGM and jewellery markets.

Sedibelo stake

Gemfields owns a 6.54% stake in Sedibelo Platinum Mines, which has an interest in a PGM mine in the Bushveld Complex in South Africa. The mine dispatched 129koz of 4E in 2020, with the bulk (roughly two thirds) coming from platinum. Following the dramatic bounce in the PGM basket in the last year, revenues bounced considerably in 2020, to $278m from $181m.

Figure 11: PGM companies share prices (indexed) versus PGM Rand basket price



Source: Bloomberg

Gemfields engaged an advisor to market and sell the 6.54% stake in 2020, with the sale process ongoing. Following an independent valuation of the carrying value of the stake, the fair value of the asset dropped by $27.9m to $29.6m in 2020, calculated using a market comparable estimate based on peer group average EVs relative to a number of metrics. The reduction is a result of an applied discount for the lack of marketability and the inclusion of financial related metrics, which are now deemed appropriate.

In order to estimate our own fair value for the Sedibelo stake, we use the median multiples of EV relative to mineral resource, production, FY21 sales and FY21 EBITDA for a number of peers (large and small). We use the 2021 financial estimates for Sedibelo from the Gemfields' annual report.

An average of these multiples equates to an enterprise value of $1,194m. We then account for net cash of $16m, apply a 30% discount for the current illiquidity of the stake and the small size versus peers. This results in an estimated market cap for Sedibelo of $847m, which would value Gemfields' 6.54% stake at $55m.

Importantly however, the illiquidity discount may be removed in the short term. The ownership structure is complex, with Gemfields owning 23.65% of Ivy Lane, a Luxembourg company with a 27.64% stake in Sedibelo. However, that structure is likely to be collapsed over the next 3-4 months, leaving Gemfields owning a direct stake in the unlisted Sedibelo, which is planning to

list in South Africa. As such, removing the 30% illiquidity discount gives us an upside to the valuation of $79m, or an additional $24m.

Figure 12: PGM producing peers

	Enterprise Value ($m)	PGM production (koz)	Cash cost per tonne (R/t)	Mineral resources (4E Moz)	EV/mineral resource (x)	EV/production (x)	2021 EV/Sales (x)	2021 EV/EBITDA (x)
Anglo Platinum	33,135	4,441	890	811	41	7.5	2.1	4.3
Sibanye-Stillwater	13,617	1,289	949	393	35	10.6	1.2	2.5
Impala Platinum	13,419	3,074	1,520	277	48	4.4	1.4	2.7
Northam Platinum	9,365	520	1,200	244	38	18.0	3.9	6.9
Tharisa	553	140	557	33	17	4.0	0.8	1.9
Royal Bafokeng	2,081	401	1,475	68	31	5.2	1.6	2.6
Average (median)	11,392	904	1,075	260	37	6.3	1.5	2.7

Source: Various

Figure 13: Sedibelo estimate

	Multiple (x)	Sedibelo	EV ($m)
EV/mineral resource	37.0	87	3219
EV/production	6.3	120	759
EV/sales	1.5	333	500
EV/EBITDA	2.7	112	297
Average			1,194

Source: Liberum

Figure 14: Gemfields' stake

	$m
Weighted average EV	1,194
Net debt / (cash)	-16.4
Market Cap	1,210
After 30% illiquidity & size discount	847
Gemfields stake	55.4
Gemfields stake (excl. 30% discount)	79.1

Source: Liberum

Sale of Fabergé

Whilst there is no stated intention to dispose of Fabergé, we see this as another potential option for the group to realise cash and take advantage of strong jewellery markets. This would leave Gemfields as a pure play coloured gemstone miner and market leader. To value the business, we have looked at the historic M&A in jewellery retail as per Bloomberg, and have calculated an average EV/sales price of 1.4x.

We believe this is justified. The table below shows the EV/sales of major global peers, across luxury jewellery, fashion houses and consumer goods. Fabergé is a far smaller, and currently loss-making entity and so does not warrant the sort of premium multiples that some of these peers trade on.

We use 2019 sales to strip out the coronavirus impact, which were $10.5m. On a 1.42x multiple, this assigns a value to Fabergé of $14.9m. We must also consider the Fabergé jewellery and watches held in inventory on the balance sheet, as this amounted to $33.4m at the end of 2020. Including this in the valuation, we estimate that the Fabergé business could be worth $48.3m to a buyer.

This buyer could be a luxury brand or fashion house from the list below, seeking to diversify its offering towards Faberge's niche offering of jewellery and watches. It could equally be a private equity player who is seeking to operationally transform the business after years of sub-par performance.

Figure 15: Fabergé peer valuations

	Enterprise Value ($m)	2019 sales ($m)	2021 sales ($m)	EV/sales (FY19)	EV/sales (FY21)
Globally recognised luxury jewellery/watch brands				5.6	5.4
Compagnie Financiere Richemont	61,210	15,561	15,780	3.9	3.9
Titan	17,868	2,847	2,693	6.3	6.6
Kering	113,536	17,399	19,476	6.5	5.8
Globally recognised luxury fashion houses which include jewellery/watch brands				9.1	9.4
Hermes	131,193	7,478	9,956	17.5	13.2
LVMH	399,742	59,039	71,628	6.8	5.6
Christian Dior	185,945	59,753	n/a	3.1	n/a
Other globally recognised luxury consumer goods companies				3.5	3.5
Aeffe	375	397	351	0.9	1.1
EssilorLuxottica	77,819	19,371	21,334	4.0	3.6
PVH	11,732	9,582	7,154	1.2	1.6
Capri	11,749	5,223	3,877	2.2	3.0
Burberry	12,904	3,495	3,262	3.7	4.0
Prada	18,977	3,532	3,719	5.4	5.1
L'Oreal	231,229	32,799	37,038	7.0	6.2
Overall Mean				5.3	5.0
Overall Median				4.0	4.5

Source: Bloomberg

Conflict in Mozambique yet to ease

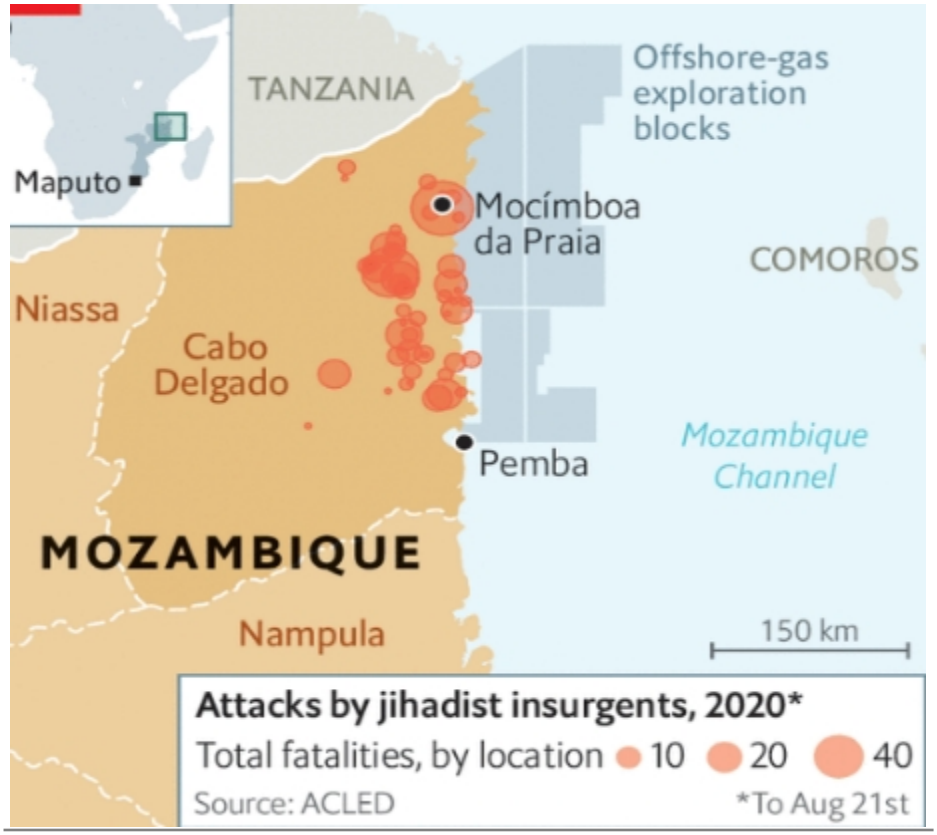
There has been an ongoing conflict in the northern part of Mozambique since 2017, but the situation recently has worsened. The insurgency is in the Cabo Delgado province, where the Montepuez ruby mine is also located. The area is deemed important because it is near the major offshore natural gas reserves being explored by energy companies.

The conflict is being led by a set of Islamic militants, known locally as al-Shabaab, which is thought to have ties to Islamic State (IS). Insurgents are attempting to establish an Islamic state in the region, and frustrations about poverty levels and a lack of access to jobs has fuelled a rise in recruits in recent years. The Mozambican forces are being trained by American soldiers, and the government has also invited private military contractors to aid their efforts in the region (see: What next for the insurgency in Cabo Delgado?).

There has been a significant rise in violence in the last year, with major war crimes committed. Overall, there has been a dramatic rise in deaths from violent incidents in the region, up from around 600 in 2019 to over 1,700 in 2020 (source: Armed Conflict Location & Event Data Project). According to the UN Office for the Co-ordination of Humanitarian Affairs, nearly 670,000 people have been displaced from their homes because of the conflict.

Over $50bn worth of gas projects are in development off the coast of Mozambique, from the likes of ExxonMobil and Total. However, recent flare-ups and civilian deaths have led to these players stalling plans for the projects until order is restored in the region.

Figure 16: Mozambique conflict fatalities (up to Aug 21st 2020)



Source: The Economist

Montepuez remains unaffected but on high alert

The Montepuez Ruby Mine is in the southern part of the Cabo Delgado province, whereas the principal insurgency is in the northern part of the region. Recent conflicts have been 400km away, near the towns of Palma and Mocimboa de Praia.

Roughly 18% of operating costs at the mine are accounted for by security, with investments in lighting towers, wireless cameras, patrol teams and a palisade fence at the sort house. This is to prevent artisanal miners in the region, given the rubies are near the surface and easily reachable.

However, it cannot prevent major coordinated incursions, such as that in February 2020 when around 800 artisanal miners broke onto the premises. If the insurgents seek to enter the property, though there is no intimation of this yet, it is unlikely that security at Montepuez will be sufficient.

Management and the Montepuez Protection Services team regularly track developments in the region and do not currently believe the insurgency poses a direct or imminent risk to operations. Whilst the displaced civilians in the vicinity of the concession means some risk of artisanal mining, it has been that way for a long period and appropriate security spend has been made.

Figure 17: Cabo Delgado conflict timeline in 2021

7th January:
Village attacked in Macomia District - beheading of at least 7 civilians.

16 - 19th January:
Five members of a travelling football team and three civilians transporting a gasoline vehicle are ambushed and killed. Government launches an offensive in Palma, killing an unknown number of insurgents.

21st January:
Islamic State insurgents attack town of Mandimba, occupying it until 26th Jan.

19-26th February:
A number of villages are attacked with over a dozen civilians killed.

1 - 10th March:
Various militant attacks and counter-insurgencies in the Nangade District, with deaths on both sides.

March:
Palma besieged by insurgents who cut off supply lines of food, with Mozambican authorities forced to fly supplies into the town.

Late March:
US deploy Green Berets to train the Mozambican marines.

From 24th March:
Islamic State militants conduct a major attack on the town of Palma, first attacking the police station and banks. Many civilians are killed (number unknown), including a South African and a British civil contractor, and a number are beheaded in the streets. The government forces have to flee the town.

5th April:
Mozambican forces recapture Palma, though most of the town is destroyed in the fighting. Insurgents remain on the outskirts and fighting is ongoing.

Source: media reports

As a result of the uncertainty provided by the conflict at the moment, we have used an extremely high 25% discount rate to reflect the risks. If and when the situation de-escalates, we believe the Gemfields' share price should materially re-rate and dropping our discount rate to 15% adds $174m or 11p to our valuation.

More clear path to upside than peers

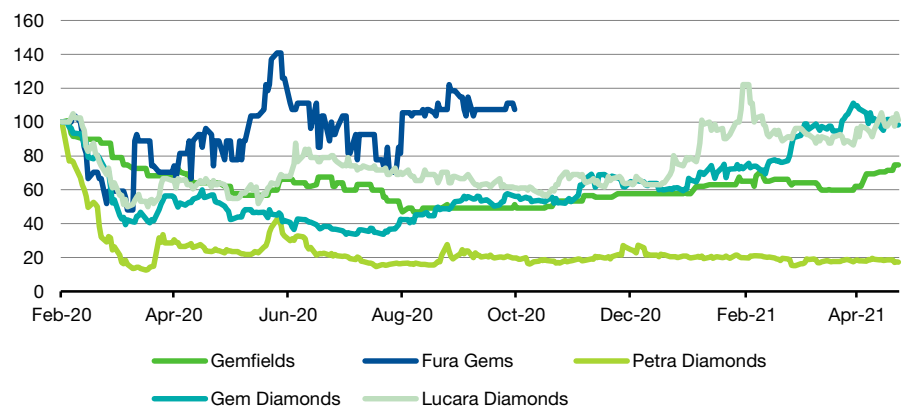
We look at Gemfields relative to a number of its closest peers. These are principally the diamond juniors – Gem Diamonds, Petra Diamond and Lucara Diamonds. There was a coloured gemstone player Fura Gems, which held a majority interest in the Coscuez emerald project in Columbia as well as ruby assets in Mozambique, but it was taken private in late 2020.

The whole peer group was hit hard by mine shutdowns and a lack of demand in the first half of 2020, but the diamond players bounced back faster. This is because most of the South African operations quickly restarted, but also because they had a greater ability to continue selling during the period. Diamonds tend to need less intense viewing, given that their grading and quality characteristics are more widely understood.

As can be seen in the chart below, the whole sector has been extremely weak since Gemfields' listing in February 2020, on the back of mine shutdowns and sluggish demand for most of 2020. Bar the troubled Petra Diamonds, which has undergone a major restructuring, Gemfields has been the worst performer. It is still trading well below its IPO price, and we see potential for a major re-rating as the market becomes comfortable with the group as:

- Near term - this will principally be comfort on Gemfields' ability to generate auction revenues amidst the travel restrictions and alleviate liquidity concerns;
- Medium term - it has organic growth, through the second wash plant at Montepuez and hopefully the de-escalation of the conflict in Mozambique;
- Longer term - better structural growth of coloured gemstones over diamonds through marketing investment and no risk of price destruction from synthetic supply.

Figure 18: Share price move relative to peers (14/02/20=100)



Source: Bloomberg

Due to the vastly different geological attributes and prices, it is difficult to compare across gemstones in terms of production, i.e. rock handled, grade, carats produced. However, we can look at them on a relative valuation basis. The greater structural pressures on diamond prices versus coloured gemstones do not appear to be reflected in relative valuations.

On our estimates, Gemfields trades on a 2022 EV/EBITDA of 2.2x, versus 2.5x, 6.6x and 5.6x for Gem, Petra and Lucara. With rising popularity, a more mature synthetic market and an improving supply chain, we believe coloured gemstone prices will be well supported in the years to come.

Figure 19: Relative valuation of gemstone peers

			Sales		EBITDA		EV/Sales		EV/EBITDA	
	Market	Geography	2021	2022	2021	2022	2021	2022	2021	2022
Gemfields	Ruby, emerald	Zambia, Mozambique	174.6	226.5	66.7	105.3	1.4	1.0	3.5	2.2
Gem Diamonds	Diamond	Lesotho	233.7	231.0	77.1	77.3	0.8	0.9	2.5	2.5
Petra Diamonds	Diamond	South Africa, Tanzania	383.1	399.4	144.9	156.4	2.7	2.6	7.1	6.6
Lucara Diamonds	Diamond	Botswana	148.3	134.2	61.7	50.7	1.9	2.1	4.6	5.6
Average			234.9	247.8	87.6	97.4	1.7	1.7	4.5	4.3

Source: Liberum, Bloomberg

As can be seen in our diamond sector note (Diamonds cutting a better shape) piece, also public today, we have Buy ratings on Gem Diamonds and Petra Diamonds. However, our preference in the space is for Gemfields, where we see considerable upside to the current share price, with likely catalysts being the disposal of one or more assets, travel restrictions easing (to enable more auctions) and prices bouncing on strong re-opening demand.

Figure 20: Summary of rating and targets of gemstone peers

	Rating	Market cap ($m)	Net debt & other adj.	Enterprise value ($m)	Share price (p/sh)	Price target (p/sh)	Upside (%)
Gemfields	Buy	144.6	91.0	235.5	8.75	16	83%
Gem Diamonds	Buy	138.9	57.4	196.4	70	100.0	43%
Petra Diamonds	Buy	199.3	835.4	1034.7	1.45	2.5	72%
Lucara Diamonds	N/A	262.8	23.4	286.2	0.61	N/A	N/A

Source: Liberum, Bloomberg

Valuation: 16p per share – 83% upside

We value Gemfields on a sum-of-the-parts basis, using net present valuation for Montepuez, Kagem and corporate costs and our assumed disposal values for Fabergé and Sedibelo, as described in previous sections.

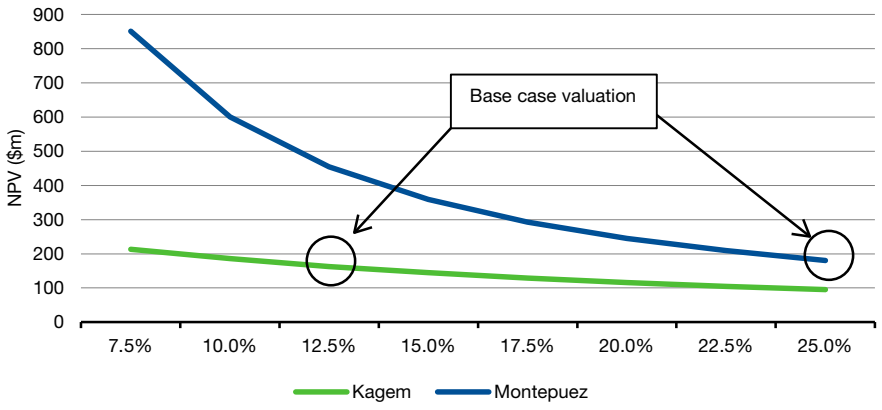
Figure 21: Sum-of-the-parts summary

		Effective Interest	Discount Rate		NPV US$M	NPV £/shr	% Group %
Montepuez	US$M	75.0%	25.0%	Montepuez	$185	£0.11	41%
Kagem	US$M	75.0%	12.5%	Kagem	$160	£0.10	36%
Faberge	US$M	100.0%	10.0%	Faberge	$48	£0.03	11%
Sedibelo		6.5%		Sedibelo	$55	£0.03	12%
Corporate & other		100.0%	10.0%	Corporate & other	-$184	-$184	-£0.11
Net cash / (debt)	US$M			Net cash / (debt)	-$13	-£0.01	
Group Totals	US$M			Group Totals	$252	£0.16	
P/NAV				P/NAV		0.56	
Upside/(downside)						83%	

Source: Liberum

We use a discount rate of 12.5% for Zambia and 25% for Mozambique. The discount rate on Mozambique to reflect the conflict risk (see page 17) is particularly punitive to the valuation because cashflows materially increase in the further out years, as the wash plant capacity is doubled in 2023.

Figure 22: NPV for Kagem and Montepuez on different discount rates (US$m)



Source: Bloomberg

Flexing the cost and price profile in our model has the following impact on NPV (£/share):

Figure 23: NPV sensitivity to changes in prices and costs (£/share)

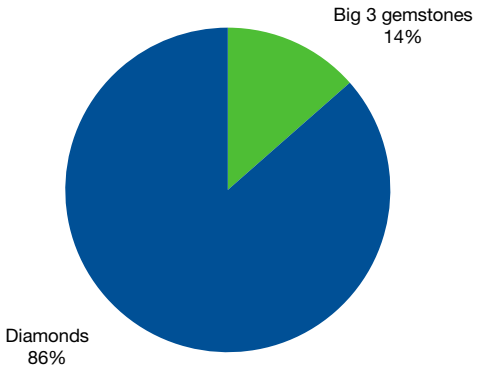
		Change in price profile				
		-20%	-10%	0%	10%	20%
Change in cost profile	-20%	0.08	0.12	0.16	0.20	0.23
	-10%	0.08	0.11	0.15	0.19	0.23
	0%	0.07	0.11	0.15	0.18	0.22
	10%	0.06	0.10	0.14	0.18	0.21
	20%	0.06	0.10	0.13	0.17	0.21

Source: Bloomberg

The coloured gemstone market

It appears that the gap between coloured gemstones and diamonds has been narrowing for some time now. Exact estimates of market size are difficult, given the artisanal and small-scale nature of much of the gemstone trade, which accounts for 70-80% of coloured gemstone production. However, the De Beers Diamond Insight Report in 2018 put the rough diamond market at $16bn and the rough ruby, emerald and sapphire market at $2bn-3bn.

Figure 24: Gemstone market size

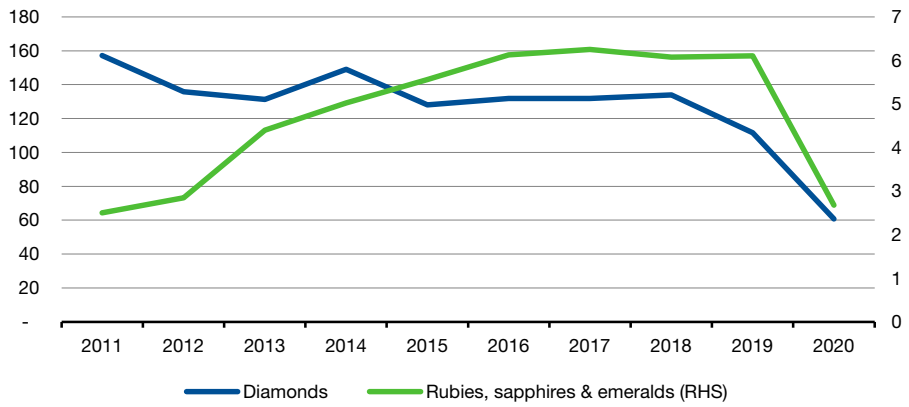


Source: De Beers

Coloured stones have been catching up with their more established rival in recent years. The export value of rubies, sapphires and emeralds (worked, but not strung, mounted or set) rose 144% between 2011 and 2019, before the pandemic hit the market (source: UN Comtrade Database). In contrast, diamonds have had a tougher time, the export value falling 29% over the same period. The diamond market had been challenged by bleak end-use jewellery demand in key growth markets and synthetic diamond exports from India exploding. As we outline on page 28, the synthetic market for coloured gemstones poses less of a threat, as it is more mature.

Looking forward, Future Market Insights – in its 2021 coloured gemstone market study – forecasted a market CAGR of 5.7% over the next decade.

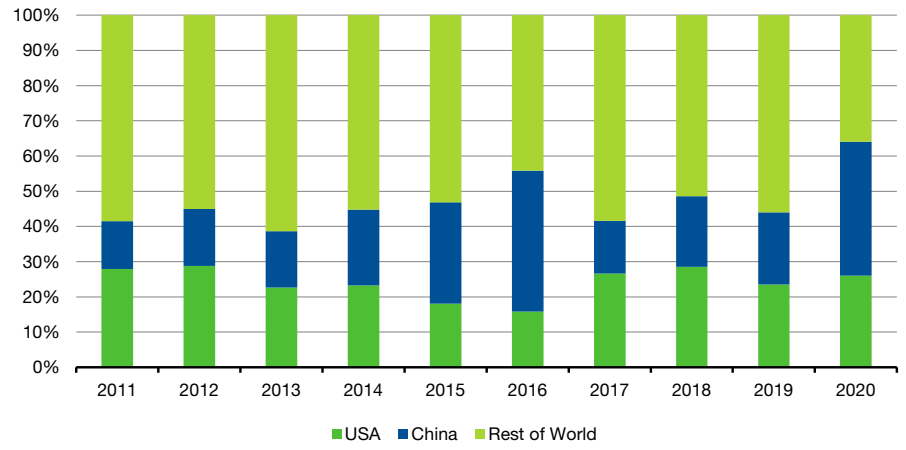
Figure 25: Export value of diamonds (worked or unworked, but not mounted or set) and rubies, sapphires & emeralds (worked, but not mounted or set) in $bn



Source: UN Comtrade data

According to the same study, almost 85% of all gemstone sales are accounted for by jewellery and ornaments. The bulk of these go into gemstone-studded rings, most notably for engagements and weddings. The world's top two coloured-stone importers account for over 40% of the world's import value. The US has been the largest market, with over $1.1bn in imports in 2019, which equated to 23% of global import value. Behind the US is demand from China & Hong Kong, which accounted for 21% of imports in 2019. However, this shot up to 38% in 2020, as other economies bounced back slower from the pandemic.

Figure 26: Share of ruby, emerald and sapphire global import value (%)

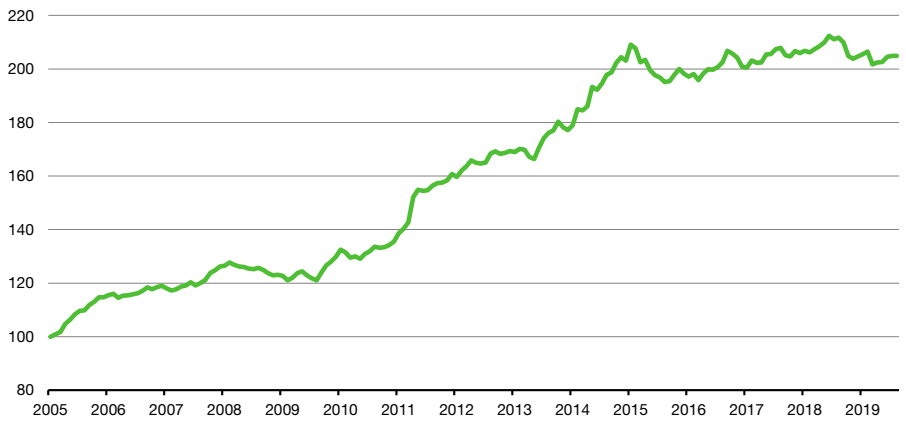


Source: UN Comtrade data

With the growing demand, there has been an unsurprising rise in the price of coloured gemstones. The Gemval Aggregate Index is a measure of global pricing in the jewellery market, calculated using 26 standard specimens of gemstone. It is indexed to 100 in July 2005, and has seen a CAGR of 4.4% up to February 2020, reaching a February 2020 value of 204.93. Emeralds have seen prices rise over 170% and rubies over 85% since July 2005.

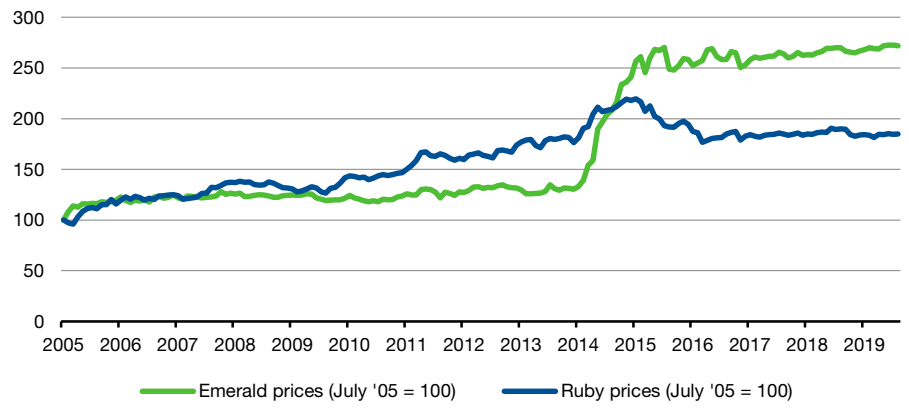
Whilst the index only runs to February 2020, given the pandemic's impact on the sector, we believe that prices will pick back up to pre-pandemic levels relatively quickly. This is because the market has been starved of stones in the last year and is reinforced by the pricing at Gemfields' mini-auctions.

Figure 27: Gemval Aggregate Index (July '05 = 100)



Source: Gemval

Figure 28: Emerald and ruby prices since 2005



Source: Gemval

What is more, both emeralds and rubies have overtaken diamonds for their record auction prices achieved per carat. The 15.04ct Crimson Flame ruby sold for over $1m/ct in 2015 and the 18.04ct Rockefeller Emerald sold for $300,000/ct in 2017.

Figure 29: Highest prices achieved for major gemstones

	Name	Year	Size (ct)	Price ($m)	Price per carat ($/ct)
Ruby	Crimson Flame	2015	15.04	18	1,196,809
Emerald	Rockefeller Emerald	2017	18.04	5.51	305,516
Colourless diamond	Archduke Joseph	2012	76.02	21.47	282,485
Sapphire	Jewel of Kashmir	2015	27.68	6.70	242,145

Source: Liberum

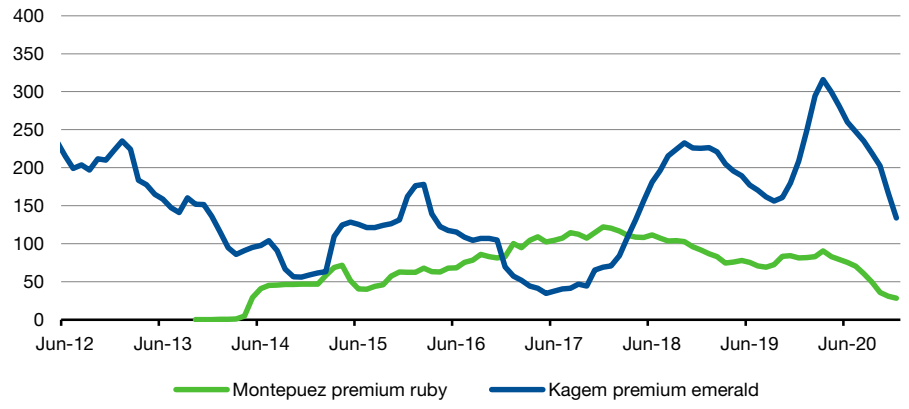
Driving ruby and emerald demand

We believe that there are three key reasons for the growth in coloured gemstone demand and, by extension, their prices. We also believe that these forces are likely to continue, putting Gemfields in the ideal position to benefit from top-line growth from both volume and pricing. The first is a development of the industry, which is now enabling consistent, transparent and responsibly-sourced supply. The second is a shift in fashion trends, in both the Western world and the Far East. The last is a commitment to marketing coloured gemstones, to continue to close the gap between rubies/emeralds and diamonds.

1) Consistent and transparent supply

Historically, a jewellery line using coloured gemstones was a difficult task for a fashion house, given the erratic, untrustworthy and opaque supply of coloured gemstones to the market. Gemfields has changed this perception, by creating mines capable of delivering consistent production of high-quality gemstones and bringing a transparency not seen before in the industry.

Figure 30: Premium gemstone production (rolling 12m - '000 cts)



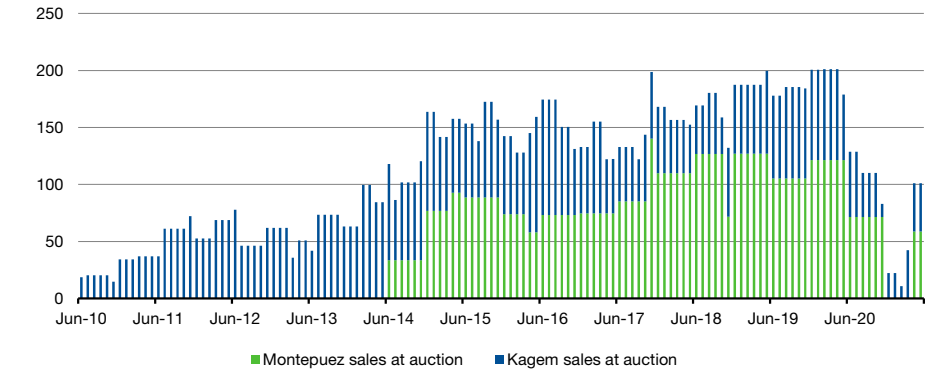
Source: company

This transparency extends far beyond just the mine production. Gemfields has created its own grading and auction system, in a bid to bring the coloured gemstone market closer towards the level of integrity of the diamond market. Historically, coloured gemstone sales have been unregulated and artisanal, often involving dealers travelling to traders or to mine sites to purchase gems.

Gemfields' stones are categorised, with 181 types of emerald and over 500 types of ruby, based on quality and size. Gemfields invites leading gemstone dealers from around the world to its auctions, based in Lusaka, Singapore and Jaipur. Material is separated into homogenous lots and attendees write a bid into their auction book, which is placed into a locked box and the highest bid wins. There is always a reserve price set by Gemfields, which is only known to a few senior individuals.

This process has proved extremely successful thus far, with 38 auctions being held and over $1bn in revenues generated. Until the impact of the COVID-19 pandemic, the rolling 12-month sales at both ruby and emerald auctions had been trending upwards, reaching over $200m in early 2020.

Figure 31: Total sales realised at auction in $m (rolling 12m)



Source: company

Gemfields is also improving the reputation of coloured gemstone production through best practice mining and providing a better understanding of a gem's provenance. Whereas the source of a ruby in the past was difficult to find out, they now come with widespread certification, transparency, and there has been a major improvement in gemmological analysis. As well as the detailed

information supplied on the gems at the auction, Gemfields has partnered with Gubelin Gem Lab in Switzerland to create the Emerald Paternity Test, which uses nanotechnology to tag gemstones and leave an invisible tracer which reveals mining location, miner and year.

The impact of COVID-19 clearly affected supply, but this was more in response to demand than mine operations not being able to continue.

2) Fashion trends

Whereas diamonds are adored for their neutral colour and clarity, the big three gemstones can be seen as much more individual and having greater identity. Inclusions in the likes of rubies, emeralds and sapphires are to be expected and help to make each gem unique.

Whilst diamond engagement and wedding rings remain the staple, coloured gemstones are increasing in popularity because of the individuality they offer. Some of the most high-profile weddings in recent years, those of the Royal family, have prominently featured coloured precious stones. The Duchess of Cambridge was given Princess Diana's sapphire ring and Meghan Markle was given an aquamarine ring. Both individuals are influential in the fashion world, and their rings have resulted in many imitations.

Figure 32: Royal trend towards coloured gemstones

Source: Daily Express

In a clear sign of the shift away from diamonds, a number of leading designers have recently released collections, which use both rubies and emeralds: Cartier's 'Coloratura' collection, Van Cleef & Arpels 'Treasure of Rubies' collection, and Dior's 'Gem Dior' collection. As a wholly owned subsidiary of Gemfields, Fabergé has also been expanding its gemstone jewellery range, via its 'Colours of Love' collection.

In China, rubies have long been famed for their red colour and its cultural connotations to luck, happiness, beauty, success, love and good fortune.

A sign of the increasing popularity of coloured gemstones came in 2019, with the first Chinese customer at a commercial emerald auction successfully winning 117kct of Zambian emeralds. Even more promisingly, they returned in November and purchased a schedule of premium emeralds. According to anecdotes from Gemfields' management, Chinese customers appear to be attending more and more regularly. We expect that there will be a significant increase in demand for coloured gemstones out of Asia, as average incomes increase.

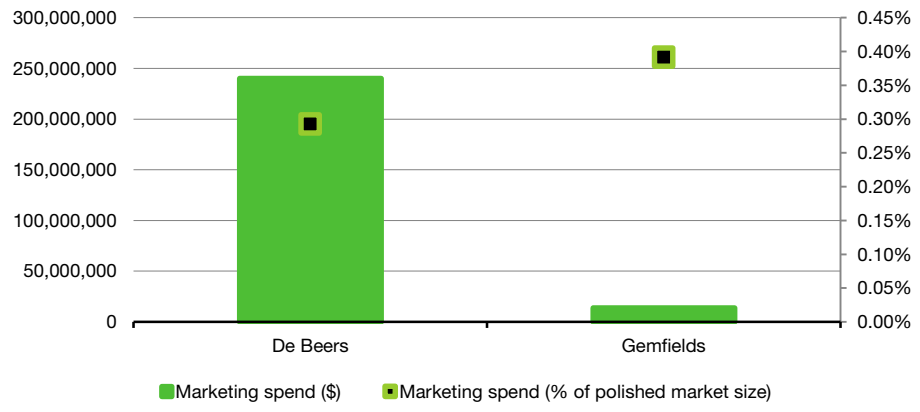
3) Marketing of coloured gemstones

The importance of marketing in the gemstone sphere is enormous and well proven. Coloured gemstones, not diamonds, were adorned by the Ancient Egyptians and Romans as a sign of wealth and status. The successful growth in diamonds over the last century was the result of a De Beers advertising slogan in 1948: "a diamond is forever", which created the concept of the diamond engagement ring.

Diamond market leader De Beers spent over $170m in 2019 on diamond marketing, with an additional $70m supporting the industry via the Diamond Producer's Association. In comparison, Gemfields incurred $13.7m of selling, marketing and advertising costs in 2019. If we calculate the marketing spend relative to the size of the polished market, Gemfields commits 0.39% to marketing, compared to 0.29% for the diamond majors.

Gemfields has been putting a focus on marketing in recent years in order to increase perception and visibility of coloured gemstones on the world stage, both through Fabergé and the Gemfields group. As such, we expect that marketing spend will rise proportionately with the rise in market size.

Figure 33: Marketing spend as a % of market size versus diamond market leader



Source: company, Liberum

Some examples of coloured gemstone marketing undertaken in recent years include:

- Content: Collaborated with Vanity Fair to create a film with in-house gemmologist and jewellery editor for social media. Gemstone meanings and attributes explored in an article in Vogue China. How-to-buy guide published in Femina, in order to reach the Indian market. A series with GQ focussed on the male audience, offering guidance on purchasing coloured gemstones to UK, US and Middle East.
- Media trips to mine sites: press trip to Kagem emerald mine in November, including Celebrated Living and Monocle (US), Marie Claire, Haya, Buro247 and The National (UAE) and Comfort Mag (China).
- Art partnerships: collaborated with Dan Tobin Smith and The Experience Machine to present VOID, a multi-sensory gemstone installation at the London Design Festival and partnered with Whitewall to present GEOCHROM in December at Design Miami.

- Fashion partnerships: Suite of Gemstones at Paris couture shows, showing coloured gemstones in fine and high jewellery; Ruth Tomlinson's limited-edition JARDIN collection using Kagem emeralds. Gemfields x Alkemistry collection selling coloured gemstones at accessible price points on Farfetch.com. Featured on stands of Valani Atelier, Miashara and Paul Morelli at Las Vegas Couture. Bibi Van der Velden's Momento Mori Ring featured at Heritage Amsterdam, becoming the first ever piece of contemporary jewellery exhibited.

Figure 34: Gemfields partnership with Valani Atelier

Source: Valani Atelier

- Sponsorships: sponsored the International Coloured Gemstone Association Congress in Bangkok and competition to drive marketing in coloured gemstones at the East & Southern African Coloured Gemstones Forum in Nairobi.
- Appearances: attended a number of the major jewellery and gem tradeshows and gave insights into successfully marketing coloured gemstones at the China International Gems and Jewellery Development Conference in Beijing.

Synthetics are already a mature industry in gemstones

A synthetic gem shares practically all the chemical, visual and physical traits of a real gem, but is made in a laboratory. Their production is required by a number of industrial applications outside of the jewellery industry, such as laser technology and microelectronics. However, synthetic gemstones have started to steal market share in the jewellery industry, given the significant discount they can be sold at relative to their natural peers.

1) Synthetic supply already mature - The rising quantity and quality of synthetic diamonds has been helping to depress rough diamond prices in recent years. However, importantly, these still only account for a c.5% share of the diamond market, meaning there is potential for further price pressure as synthetic supply rises further.

   In contrast, the synthetic coloured gemstone market is already much more mature, estimated at over 50%. Therefore, we envisage there being less scope for future price pressure on coloured gemstones from a rise in synthetic share.

2) Cheaper alternatives versus synthetic diamonds - It is also notable that whilst high-quality synthetic diamonds sell for roughly 65%-80%

discounts to their natural peers, synthetic versions of emeralds, rubies and sapphires can sell for up to a 90% discount. The nature of a Veblen good is that demand increases as the price increases, as it is a sign of luxury or wealth. Coloured gemstones are generally used for luxury, higher-end jewellery; we believe that proliferation of synthetic gemstones, which depresses prices significantly, would lead to a significant fall in demand.

3) Natural impurities/inclusions – Whereas diamonds are adored for their neutral colour and clarity, the big three gemstones can be seen as being much more individual and having greater identity. Inclusions in the likes of rubies, emeralds and sapphires are to be expected and help make each gem unique.

   Synthetic coloured gemstones are likely to have different colour and saturation to natural counterparts, as well as a lower refractive index.

On this basis, we do not see further share increases from synthetic coloured gemstones as being likely, offering significant downside price protection for coloured gemstones in comparison to the risk facing the diamond industry.

Assets

Montepuez – key cash generator

Montepuez Ruby Mine is recognised as the largest producing ruby mine in the world and it is estimated to provide half of the world's supply of rubies. It is located in north-east Mozambique in the Cabo Delgado Province. Gemfields acquired a 75% interest in the concession in 2011, with the remaining 25% held by Mozambican partner Mwriti Limitada. In November 2011, a 25-year licence was issued by the Mozambican government and as of the end of 2020, the mine life was estimated to be 10 years.

Figure 35: Gemfields rubies

Source: company

Ruby

Rubies are one of the gem varieties of the mineral corundum, whose famous red colour comes from traces of chromium. The gem's hardness and durability makes it perfect for jewellery, even the likes of rings, which are prone to damage from everyday wear.

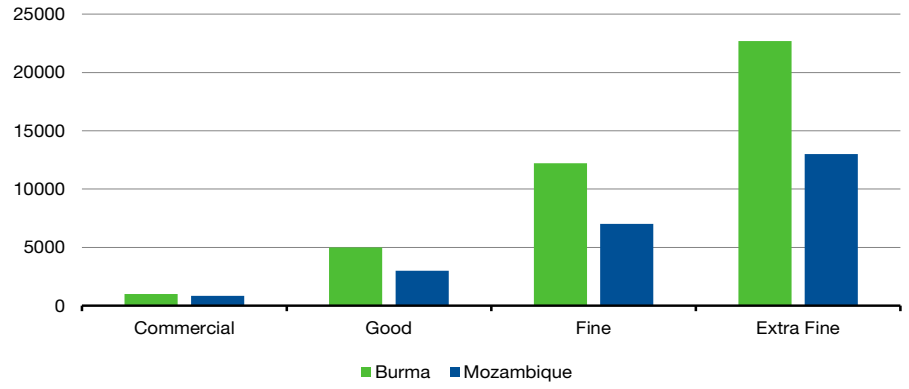
Surprisingly to some, rubies are rarer and often more expensive than comparably sized diamonds. High-quality rubies are also far less common than sapphires. Rubies have long been popular for their red colour and its connotations to luck, happiness, beauty, success, love and good fortune. They are particularly desired in China, where the colour is highly regarded.

Primarily, they come from Thailand, Myanmar, Madagascar, Mozambique, Sri Lanka, Vietnam and India. Rubies from Myanmar have traditionally commanded the highest prices, given their red 'pigeon blood' colour, fluorescence and vivid saturation. However, since their discovery in the late 2000s, Mozambican rubies are considered by many to be the best replacement as the supply from Myanmar dwindles.

Given their historic position at the centre of the market, Burmese rubies still fetch higher prices than peers. According to The Gem Guide, unheated Burmese rubies of 1.00-1.99ct achieve prices almost double those of Mozambican rubies. We believe that this gap will close as the market comes to appreciate the quality and provenance of the rubies from Montepuez.

Rubies can be made synthetically by a number of methods, but do not have the inclusions and impurities that are found in natural gemstones.

Figure 36: Price ($/ct) of untreated ruby (1-1.99ct)



Source: Montepuez CPR, 2019

Geography/geology

The mining concession is located in the north-east of Mozambique within the Montepuez Complex, a junction between the north-south trending Mozambique Belt and east-west trending Zambezi Belt. These are both known to be treasure-bearing and date back to the Neoproterozoic Pan-African tectonic event. As such, the rubies in the area are expected to be over 500 million years old.

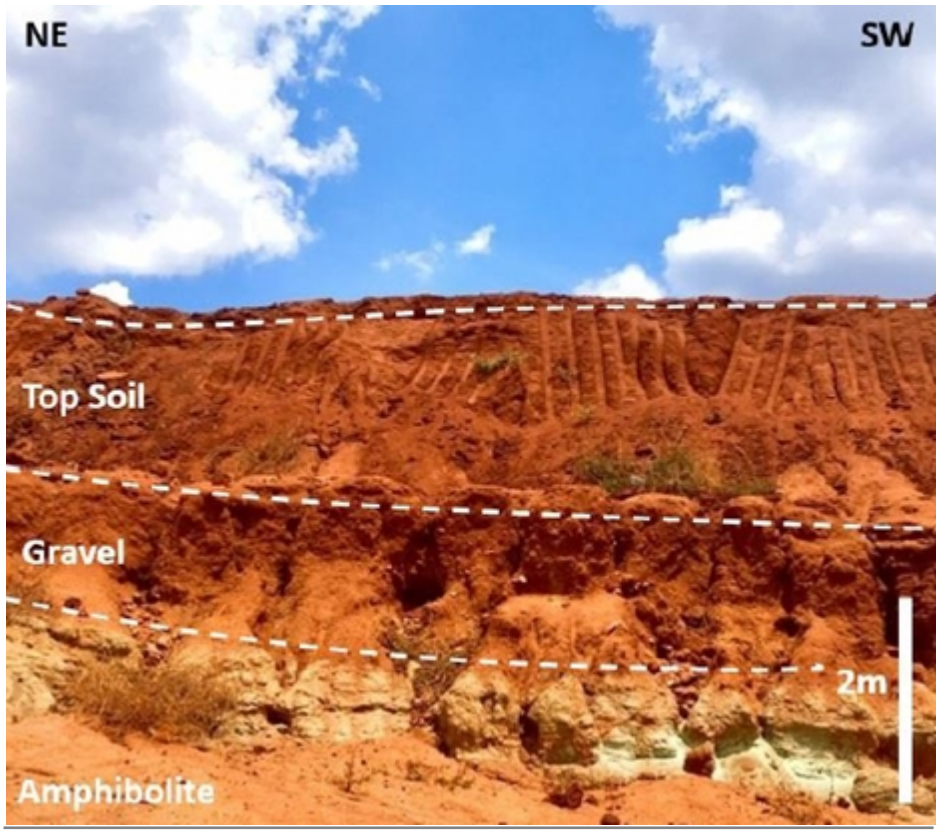
The mine is 30km east of the town of Montepuez and about 6.6km away from the mine camp at Namanhumbir, where the offices, stores and accommodation are located. The camp can be accessed by a 1.2km-long dirt road from the regional Route 242.

The rubies in Montepuez are found in two types of deposits: primary mineralisation hosted within amphibolites, and secondary types found in gravel beds. Primary forms tend to result in lighter-pink gemstones, classified as sapphires, which are high incidence but lower quality. Secondary forms from gravel beds tend to be deep red, more transparent and with fewer inclusions. These are the lower incidence but higher quality rubies.

Rubies in Mozambique differ from Asian rubies as the host rock is amphibole-related, rather than marble- or basalt-related. Historically, rubies from Myanmar were the most desired, given their deep red 'pigeon blood' colour.

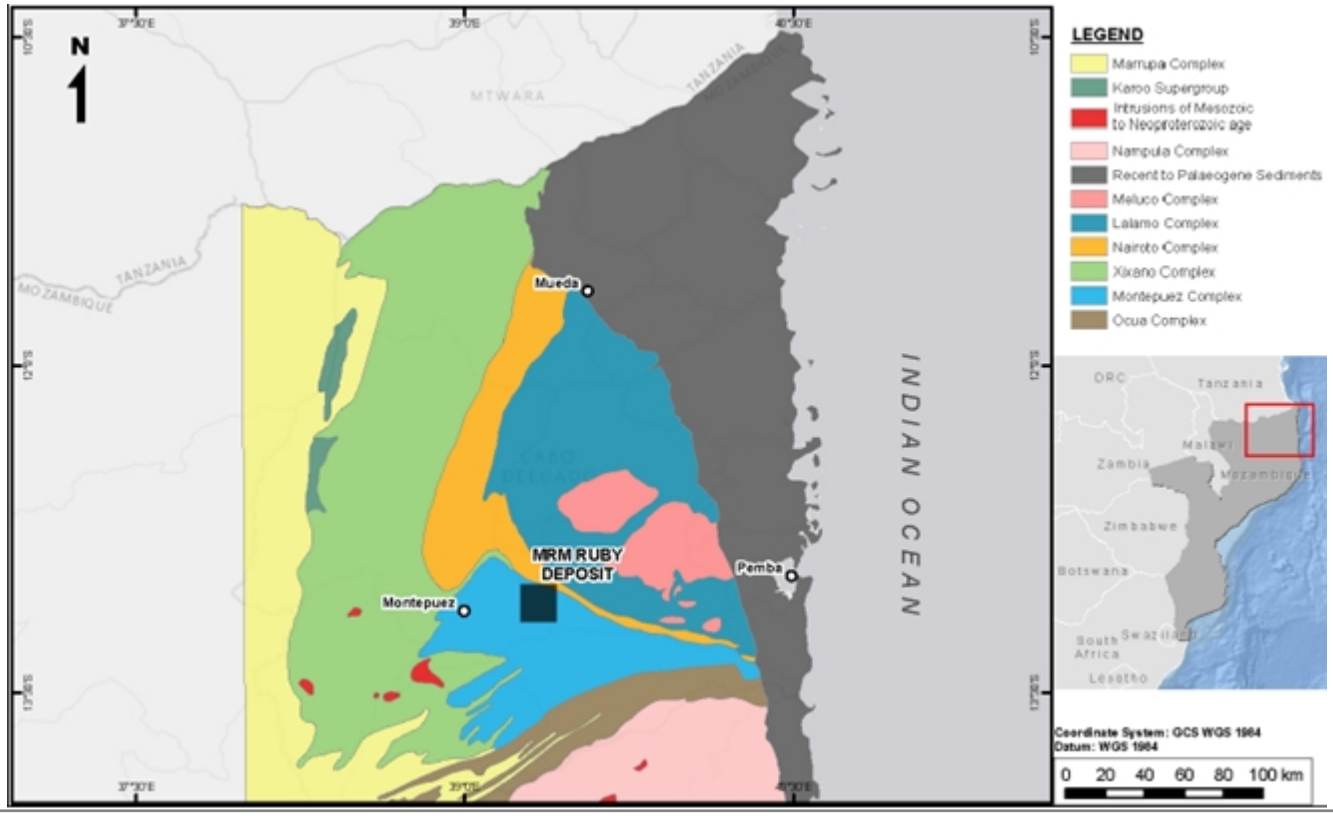
Other locations tend to have higher iron content, which results in a brownish hue. The rubies in Montepuez vary in iron content and therefore can have a fluorescence and colour hue in line with classic Burmese rubies. Gemologist Richard Wise says in his book 'Secrets of the Gem Trade, 2006' that rubies in Mozambique "rival, in hue, saturation, the best Burma has to offer."

Figure 37: Overburden stratigraphy at Maninge Nice pit



Source: Montepuez CPR, 2019

Figure 38: Montepuez mine location



Source: Montepuez CPR, 2019

Facilities

The mine is a traditional open pit operation and mining occurs in 3x8 hour shifts during daylight hours. Geologists are present on site and direct the loaders to ensure the gravel bed is mined correctly. All equipment is owned and operated by the mine, including excavators, loaders and dump trucks, which take the ore to stockpiles by a processing plant. The waste is then backfilled into mined-out areas to preserve the appearance of the area. The ore is washed in the wash plant, which has a wet scrubber screening and a log washer, before being taken to the sort house to be divided into various groups (based on colour, size, weight, shape) by hand.

Most ruby mineralisation comes from gravel beds which are less than two metres thick.

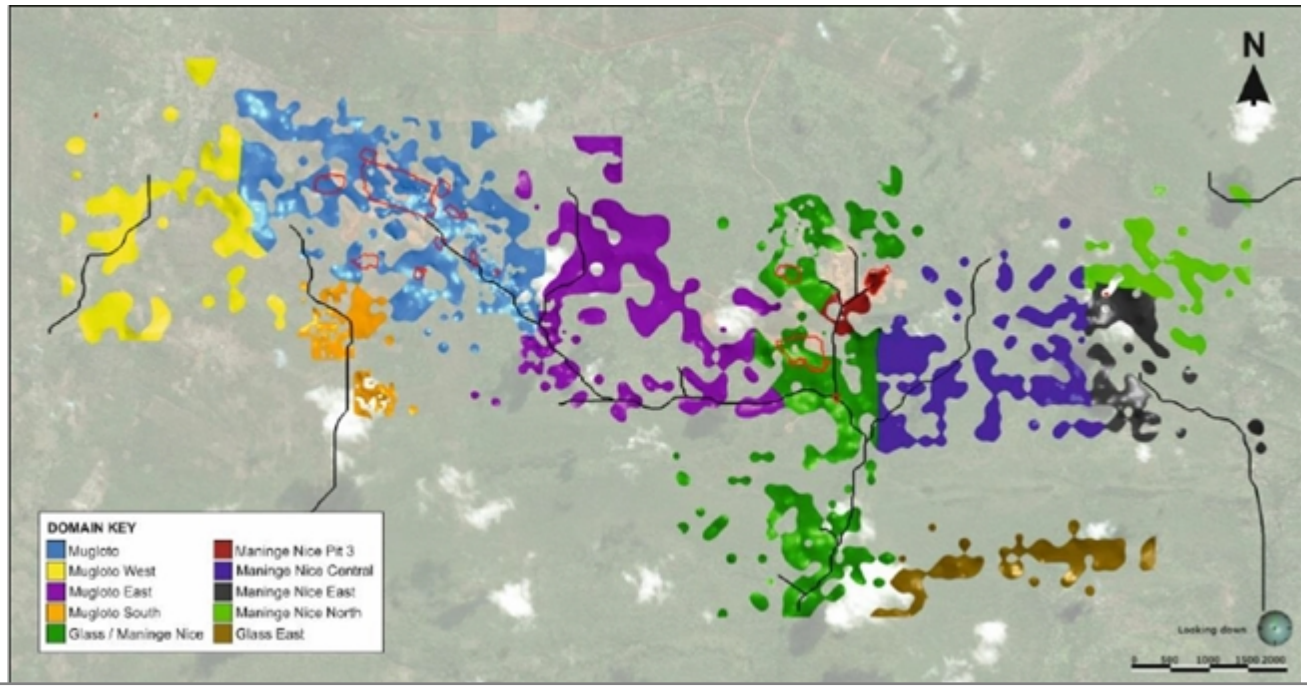
The mine is made up of several shallow open pits, split into three main areas:

1. Mugloto Block – five open pits mining secondary gravels
2. Maninge Nice Block – two open pits mining primary & secondary
3. Glass Block – three open pits mining secondary gravels

The bulk of production comes from the Mugloto Block, which accounted for 69% of 2019 production. Maninge Nice accounted for 13%, Glass for 7% and Other areas for the remaining 11%. The Mugloto Block and Glass Block produce a similar amount of ruby and corundum, but the proportion of premium ruby/ruby quality is roughly 32.5% at Mugloto versus 17.5% at Glass.

The principal infrastructure, gemstone recovery plant and ruby sorting house are located at the Maninge Nice block. Last year, a new bulk sampling pit was opened in the Mugloto Block and has so far generated similar quality rubies to Pit 3. As Pit 3 has the highest ct/t of any pit for premium rubies and rubies, the new Mugloto pit may therefore add significant value in the future.

Figure 39: Montepuez mine layout



Source: Montepuez CPR, 2019

In February 2019, the group opened a $15m state-of-the-art sort house, which is the first of its kind in the coloured gemstone industry. This uses UV lighting to enable faster, more efficient and more reliable gemstone sorting. This will put Gemfields' operations on par with the best diamond facilities in the world and should allow a consistent delivery and greater volume and spectrum of rubies. A new thickener was also added to the wash plant, which will serve to increase capacity from 125t/h to 150t/h.

Figure 40: Montepuez sort house

Source: company

The group is planning to build a second wash plant at Montepuez. This was intended to be up and running in 2021/22 according to the CPR, increasing ore processing to 1,500kt per annum. Given the impact of coronavirus, construction of the second wash plant has been pushed back to 2022 and we assume it will be fully operational from 2023. This will take ore processing from an average of 831ktpa from 2016-2019 to 1,500kt from 2023.

Security

The nature of the ore body at Montepuez means that artisanal miners are a significant risk. Whereas some mines have gemstones far below the surface, they are close to the surface at Montepuez and so are easily reachable for anyone who can break onto the premises.

Perimeter fences are not feasible given the size of the mine, and so the group spends a significant amount on security at the concession, accounting for roughly 18% of operating costs. In recent years, Gemfields has invested in lighting towers, wireless cameras, patrol teams with body cameras and a new palisade fence to protect the sort house. An international human resource and security consultant trains staff on human rights, conflicts of interest, first aid and new techniques of field patrol.

This helps to prevent small-scale artisanal mining, which reduces gemstone recoveries and company profitability. However, it cannot prevent major coordinated incursions, such as that in February 2020 when roughly 800 artisanal miners broke onto the premises. They undercut the outer edge of the mining pit, which led to several ground collapses and the death of 11 people. Following this incident, Gemfields sought to educate the local communities of the dangers of artisanal mining, in coordination with the Mozambican authorities.

During 2020, the government released over 100 illegal miners from a local prison, due to overcrowding amidst the COVID-19 pandemic. Given this and the mine being closed, the group beefed up security by increasing the team and equipping them with firearms and patrol dogs.

However, as we have seen in the past, security itself can be part of the problem. In 2019, Gemfields agreed to a 'no admission of liability' settlement for $7.8m with law firm Leigh Day, which was representing 273 Mozambicans who accused the security forces of shooting, beating and sexually abusing them. The group has stated that instances of violence have occurred on and around the licence area, before and during their tenure, but that this will not continue.

They have set up an independent operational grievance mechanism to enable community members to lodge complaints. They also seek to better the local community, through investment in education, health and agriculture. They have helped to fund new classrooms, clinic vans, chicken farms, local electricity and environmental conservation, over $1m since 2012.

Grading & auctions

Historically, coloured gemstone sales have been unregulated and artisanal, often involving dealers travelling to traders or to mine sites to purchase gems. Gemfields has strived to revolutionise how coloured gemstones are sold by establishing a grading process and selling them via auctions. Stones are first categorised into one of the following categories: Premium Ruby, Ruby, Low Ruby, Corundum, Sapphire.

Figure 41: Ruby grading criteria

Category	Description	Level 1 subdivision	Level 2 subdivision	Level 3 subdivision
Premium Ruby	Rough > 0.5g, desirable shape, clarity and red colour	10 grades based on clarity and colour	10 weight grades	
Ruby	<0.5g, desirable shape, clarity, red colour, rough > 0.5g, rough included or pink colour affecting recovery or appearance	10 grades based on clarity and colour	10 weight grades	
Ruby (primary material)	Above	3 grades based on degree of inclusions	6 size grades	3 grades based on shape
Low Ruby	Gemstones with pinkish red to red colour, translucent with significant inclusions	3 grades based on colour	3 size grades	
Corundum	Opaque non-gem quality rough	3 grades based on colour	3 size grades	
Sapphire	Very light pink to pink gemstones of variable shape and clarity	3 grades based on clarity	3 size grades	

Source: company

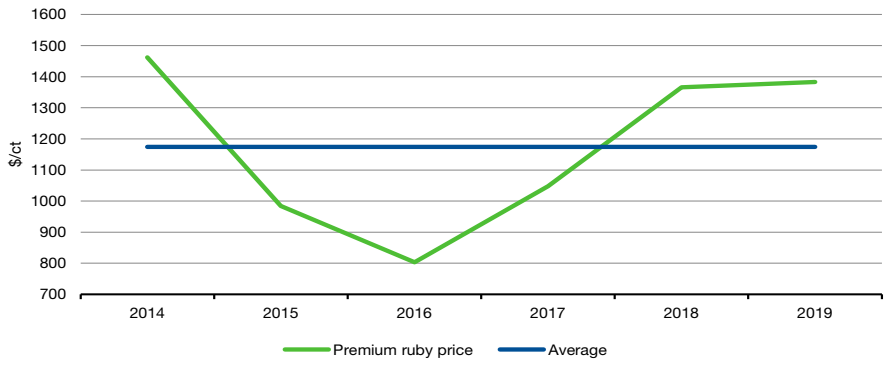
The rubies from primary and secondary deposits are split into over 500 grades before auction, based on colour, clarity, shape and size. Those from primary deposits are lower value per carat due to fractures and the need for treatment. These are graded and sorted twice, by colour and clarity, before and after treatment. This is because the fractures are less identifiable post treatment so they can be divided into fewer colour categories. Secondary deposit rubies are generally clean with good to exceptional colour, and so are easier to grade.

Gemfields invites around 60 leading gemstone dealers from around the world to its auctions. The Montepuez mine has held 14 auctions since the start of 2014, with 11 mixed quality, two high quality and one commercial quality. Bar the commercial-quality auction in Jaipur in April 2015 and the recent mini-auction, all ruby auctions have been held in Singapore.

Material is separated into homogenous lots and certified as either being produced by Gemfields or obtained from third parties. Attendees write a bid into their auction book, which is placed into a locked box and the highest bid wins. There is always a reserve price set by Gemfields, which is only known to a few senior individuals.

The 14 auctions have generated $643m in revenues from the sale of 13.58 carats. However, the large majority of this revenue comes from the top two quality categories, premium ruby and ruby. According to the CPR for Montepuez in 2019, the average price of premium rubies to date was $1,144/ct versus just $3.84/ct for low ruby and a mere $0.21 for sapphire. The lowest annual average price achieved for premium rubies was $803/ct in 2016.

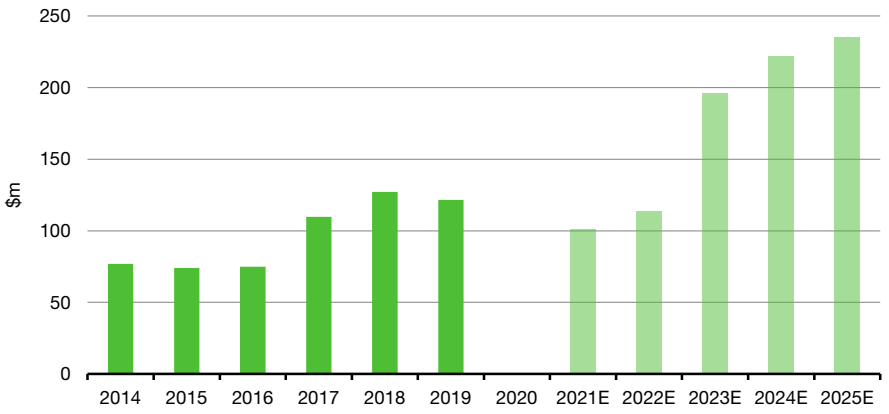
Figure 42: Premium ruby price per carat ($/ct)



Source: Montepuez CPR, 2019

The average per carat sales value over time is warped by high quality auctions held in December 2014 and June 2015, where the average price jumped to over $600/ct. However, it is clear that auction revenues continue to trend upwards as Gemfields increases its number of lots offered, the quality of its offering and continues to exhibit best practice in the space.

Figure 43: Montepuez sales realised at auction



Source: company

Resources & Reserves

As a reminder, primary mineralisation tends to host the higher incidence but lower quality rubies, whereas secondary mineralisation contains the rarer premium rubies which drive the bulk of Gemfields' revenues. Primary mineralisation and stockpiles have 873kt of probable ore reserves, grading at 97.7 ct/t, but with minimal premium rubies within that. However, the secondary mineralisation and stockpiles include 14,885kt of ore at an average grade of 4.0ct/t, but with a much higher incidence of premium rubies.

In total, the Montepuez mine has 15,758kt of probable ore reserves, grading at an average of 9.2ct/t. This equates to contained carats of 145.5Mct.

The measured resource at the mine is 30,105kt of ore grading at 11.8ct/t, with an estimated contained carats of 354.5mct.

Figure 44: Reserves and resources at Montepuez (as of the end of 2020)

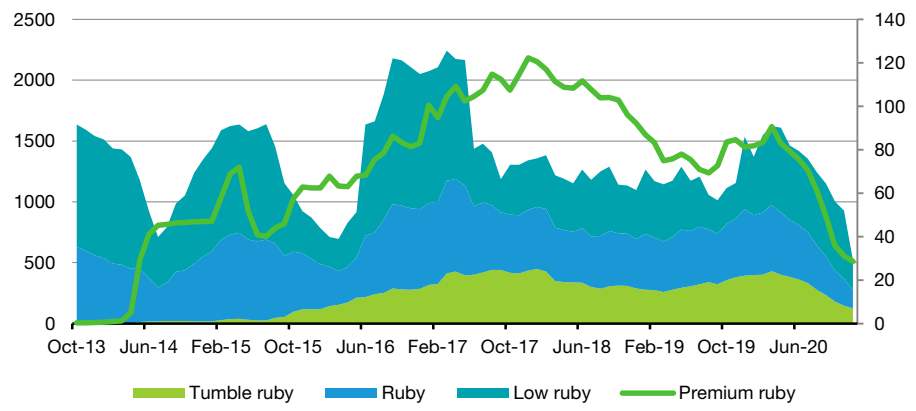
Gemstone resources	Tonnage (kt)	Grade (ct/t)	Contained (mct)	Gemstone reserves	Tonnage (kt)	Grade (ct/t)	Contained (mct)
Maninge Nice				**Maninge Nice**			
Indicated - primary	855	96.1	82.1	Probable - primary	843	97.7	82.3
Indicated - secondary	354	50.3	17.8	Probable - secondary	373	50.1	18.7
Total indicated	1,209	82.7	99.9	Total	1,215	83.1	101.0
Inferred - primary	180	97.8	17.6				
Inferred - secondary	10,050	12.7	127.8				
Inferred- total	10,230	14.2	145.4				
Mugloto				**Mugloto**			
Indicated - primary	-	-	-	Probable - primary	-	-	-
Indicated - secondary	9,193	3.0	27.3	Probable - secondary	9,100	2.8	25.6
Total indicated	9,193	3.0	27.3	Total	9,100	2.8	25.6
Inferred - secondary	13,800	14.8	203.6				
Glass				**Glass**			
Indicated - secondary	4,725	2.4	11.3	Probable - primary	-	-	-
Total indicated	4,725	2.4	11.3	Probable - secondary	4,756	2.2	10.5
Inferred - secondary	6,075	0.9	5.4	Total	4,756	2.2	10.5
Stockpiles				**Stockpiles**			
Indicated - primary	30	96.1	2.9	Probable - primary	30	96.1	2.9
Indicated - secondary	656	8.4	5.5	Probable - secondary	656	8.4	5.5
Total indicated	686	12.2	8.4	Total	686	12.2	8.4
Total indicated	**15,202**	**9.4**	**142.8**	**Total reserves**	**15,758**	**9.2**	**145.5**
Measured resource	**30,105**	**11.8**	**354.5**				

Source: company

Production & revenues

The principal value driver for Gemfields is the production of premium gemstones. MRM produced 2.2mct of ruby and corundum and 81,300ct of premium ruby in 2019. According to the company, over 90% of total revenue comes from just 6% of the weight. The highest-quality rubies command up to $400,000 per gram and the lowest quality just $0.02 per gram. Total ruby production picked up in 2019 and production of premium rubies stabilised at a level of roughly 80kct on a rolling 12-month basis before the pandemic.

Figure 45: Montepuez ruby production ('000 cts, rolling 12-month basis)



Source: company

The quality of rubies on offer at auctions can vary significantly in terms of size, colour and clarity and so it is hard to compare auctions from year to year. However, per carat prices achieved suggest that demand remains strong for premium rubies. This has supported a pickup in group revenues, as can be seen in the chart below. The group's first three years of auctions from 2014-

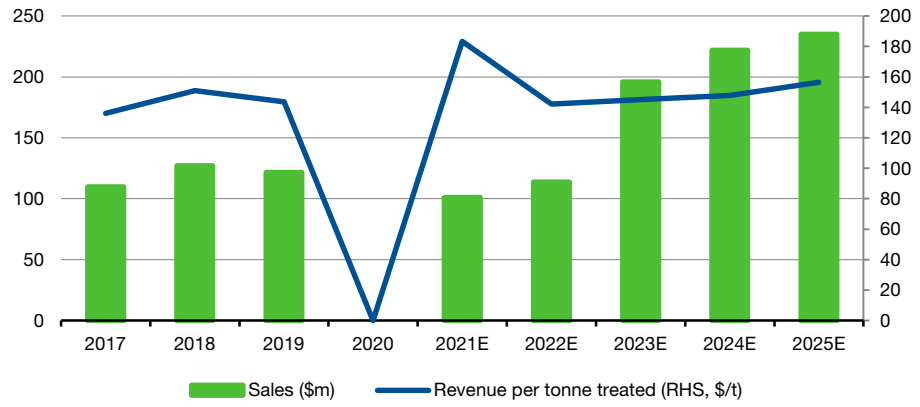
2016 averaged $75m in revenues per annum, whereas 2017-2019 averaged $119m.

Ore processing at the mine is expected to rise to 1,500kt per annum from 2023, once the second wash plant is up and running. We have assumed ramp up from now to H2 2023, when it hits nameplate capacity.

To forecast future revenues at the mine, we use an estimate of revenue per tonne of ore treated. We believe this is more effective than looking at carats produced, given the uncertainty of realised grades (which range from 4x to 28x in the CPR). We also believe it is more useful than carats sold, given the variability of what is offered at each auction and the difficulty in forecasting both this and average price per carat.

For revenue per tonne treated, we assume $140/t from H1 2021, which is broadly in line with the three-year average prior to the pandemic. This increases at a rate of 1% per half-year, to reflect gradual improvements in sorting, processing and pricing. On the ramp-up of the second wash plant from 2023, this takes revenues to $196m in FY23, up from $122m in FY19.

Figure 46: Sales and revenue per tonne treated, 2017-2025E



Source: Liberum

Costs

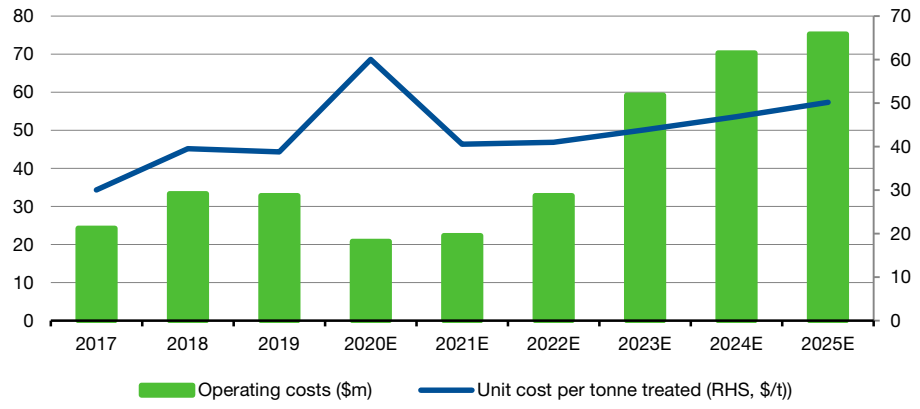
Both rock handling and ore production at the mine have been rising at similar rates, which largely explains the relatively stable strip ratio seen at the mine, of between 4x and 6x over the last four years. The life-of-mine plan requires ramp up from 2018 annual rock handling of 4.4Mt to 7.5Mt from 2021, with ore mining from 800kt per annum to 1.5Mt by 2021. Mining sequence targets areas with lower stripping and higher historical ruby recoveries at the beginning on the schedule. The life-of-mine strip ratio is expected to sit broadly in line with current levels at 4x.

In response to the COVID-19 pandemic, the group has undertaken a number of cost-saving measures. This includes a reduced wage bill from suspended contracts and reduced remuneration, which helped to reduce operating costs from $2.7m per month in 2019 to $1.4m per month in H2 2020.

We forecast future operating costs at the mine using an estimate of operating cost per tonne treated. For 2021, we assume MZN 2,500/t, as the ramp up to steady-state production incurs additional costs. From 2022, we estimate MZN 2,300/t and factor in cost inflation of 1.5% going forward. On steady-state ore

processing of 1500kt per annum, as per the mine plan, this equates to an annual operating cost of $70m at the mine in FY24, up from $33m in FY19.

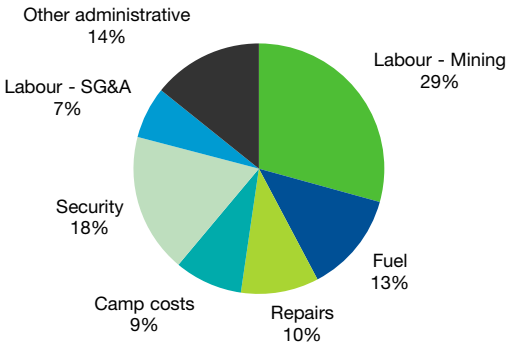
Figure 47: Operating costs and unit cost per tonne treated, 2017-2025E



Source: company, Liberum

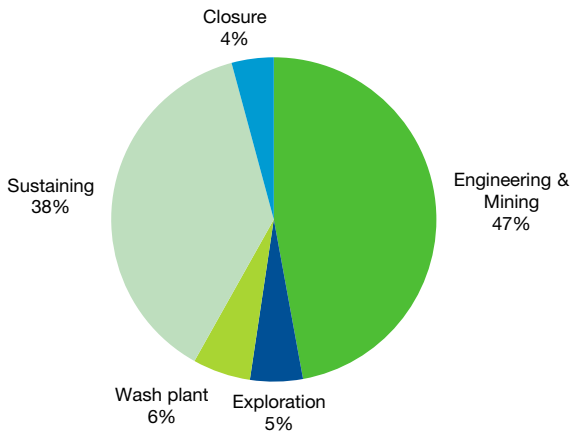
In terms of operating costs, the principal contributor is mining labour, which accounts for 29% of operating costs. Security is the second largest factor, accounting for 18%, followed by fuel costs which come in at 13%. With regards to capital costs in the future, the CPR forecasted $191m as being required. This includes $90m in capital for engineering and mining to deal with increased capacity from new wash plant, $11m for the wash plant, $72m for sustaining capital for the on-going operations, $10m for exploration and $8m of closure costs.

Figure 48: Montepuez operating cost breakdown



Source: Montepuez CPR, 2019

Figure 49: Montepuez capital cost breakdown



Source: Montepuez CPR, 2019

Risks

Price risk – Commodity demand and supply dynamics may lead to declines in price, which impact group sales and cashflow. An increase in supply may come from MRM or peers or new discoveries, which flood the market and depress prices. On the demand side, a downturn in the global economy, which weighs on disposable incomes, would likely lead to weaker coloured gemstone prices. There is also the possibility that the price gap between Mozambican and Burmese rubies does not narrow.

Country risk – We discussed the current insurgency in the region (Conflict in Mozambique yet to ease

) and if this spreads closer to Montepuez, then it poses a major risk to the group. The government may increase taxation or royalty payments required by Gemfields. Social unrest can also bring about security issues, such as an influx of artisanal miners or robberies from the mine facilities.

Legislative risk – In 2018, law firm Leigh Day represented a group of 273 Mozambicans positing that security employees of the mine had beaten, shot and sexually abused locals. Gemfields paid a $7.8m 'no admission of liability' settlement and set up an independence grievance mechanism, as well as putting $659,000 into a local agricultural development and training fund. Other legislative issues such as this could have an impact on group profits and reputational damage.

Water management risk – There is the possibility that the mine is not prepared for sustained dry periods and will not have sufficient water to sustain gravel washing operations. In addition, the dewatering of the pits in rainy season needs to be managed to avoid impacting the water resources used by the local community.

Tailings management – The mine uses shallow drying cells before tailings are re-handled and backfilled into the open pit. Whilst there is a risk of overtopping, this is managed by operational management, visual inspections, emergency action plans and water quality monitoring, both on site and in the immediate downstream environment.

Kagem – mature and well understood

Kagem is an emerald mine in the 'Copperbelt' region of northern Zambia. Gemfields acquired a 75% stake in the project in 2007, with the remainder owned by the Zambian government. It is estimated to be the world's largest emerald mine and responsible for a quarter of the world's supply of emeralds. It has been operating for over 20 years, and has an expected mine life of 22 more years. Gemfields' licence on the project was renewed in December 2019, extending it out to April 2045.

Figure 50: Inkalamu - the 5,655ct emerald found at Kagem in 2018

Source: company

Emeralds

Emeralds are extremely rare gemstones, belonging to the mineral family beryl. Along with rubies, sapphires and diamonds, it makes up the big four gemstones. Depending on the integrity of the gem, its wearability is good to poor, as it is less hard than the likes of rubies and diamonds.

Emeralds are formed by the rare combination of beryllium (carried to surface by pegmatites) and chromium and vanadium bearing rocks. This combination must occur under very specific temperature, pressure and fluid content requirements, making emerald product extremely rare. Zambian emeralds are formed via the combination of 1.6bn year-old metamorphic rock (talc magnetite schist or TMS) and the 500m year-old pegmatite. Trace elements of chromium, provided by the TMS, give the gem the rich green colour.

Price escalates rapidly with size, as well as colour, saturation and hue. The most attractive colour is traditionally a slightly blueish green, with strong saturation. Whilst clarity is important, inclusions are generally more acceptable than in other gems.

The principal other producers of emeralds are Colombia, Brazil, Afghanistan, Ethiopia and India. Colombian emeralds are generally yellowish-green or blue-green, whereas Zambian emeralds display an unusual blue tone, with blue-green or yellow-green pleochroism due to their iron content. Zambian gems are more saturated green than rivals, but have a better transparency and clarity. Due to their historic prominence in the market, Colombian emeralds can be priced up to 3x higher than Zambian emeralds, although the gap has been narrowing at both a cut and polished level.

Synthetic emeralds are possible, but have slightly lower refractive indices and birefringence.

Figure 51: Emeralds from Kagem

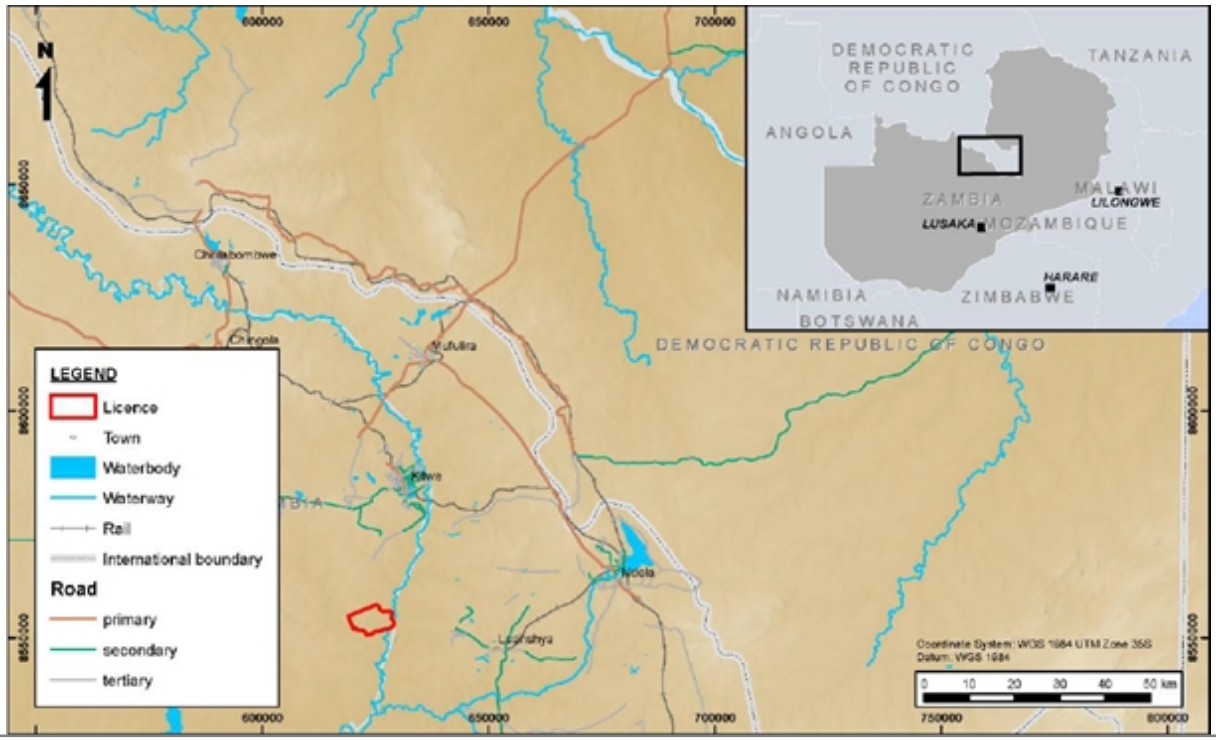
Source: company

Geography/geology

Gemfields' licence area is in the Ndola Rural Emerald Restricted Area (NRERA) in Zambia's 'Copperbelt' Province. The site is 31km south-southwest of the Copperbelt town of Kitwe and 260km north of Lusaka, the capital city of Zambia.

Early discoveries of gemstones in the area near the Kafubu River in north-central Zambia came in the 1920s and 1930s, but were not considered economically viable. Further exploration in the following decades pointed to a greater opportunity than previously envisaged. Discoveries by local miners in the 1970s led to a rapid rise in emerald exploration and mining, both legal and illegal. That led the government to form the restricted zone of the NRERA, where Kagem Mining Ltd was authorised to operate.

Figure 52: Kagem mine location

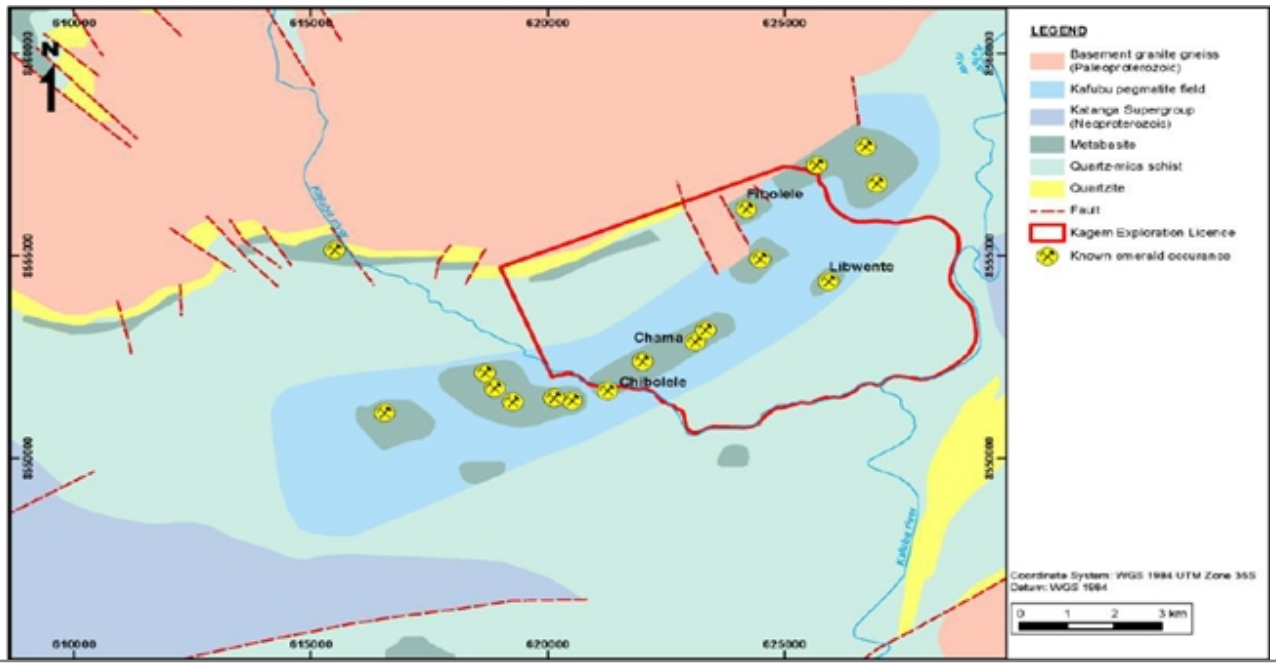


Source: CPR

The operations at Kagem have three open pit operations:

- Chama: over 2.2km in strike length and responsible for about 75-80% of gemstone production
- Fibolele: 600 metres of strike length and in active production for over 6y
- Libwente: bulk sampling pit
- Mbuva-Chibolele: about 450 metres in strike length and under expansion

Figure 53: Kagem mine layout



Source: CPR

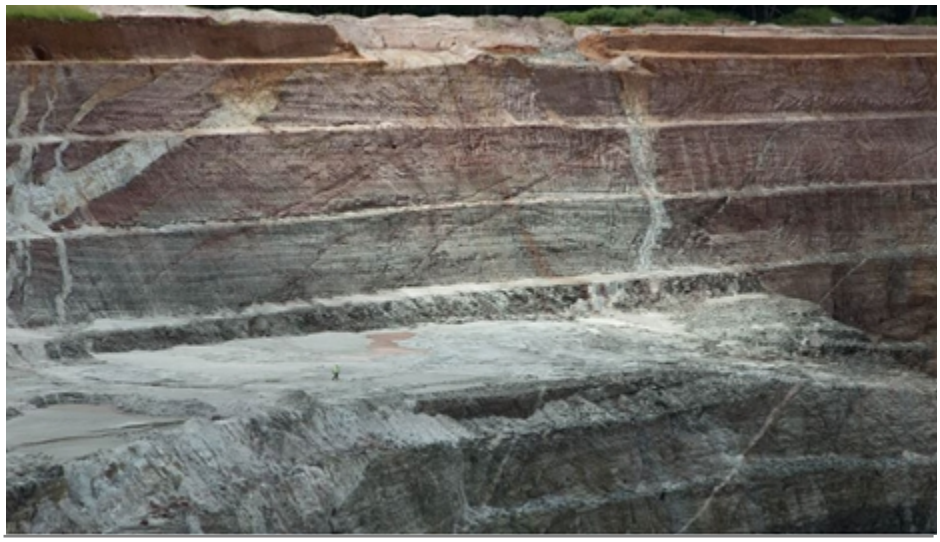
The Chama pit has been continually extended to open new areas and enable more space for a larger fleet, and hence more gemstone production. In 2019, the F10, Chama and FF-Mboyonga sectors were worked on and other sections were cleared and deramped to create a stable production profile.

The extension of Fibolele to 600 metres of strike length opened up more emerald- and beryl-yielding contacts and continues to provide support to production from Chama. The pit contributed 3.08Mct in 2019, roughly 10% of annual production.

Both Libwente and Mbuva-Chibolele lie along the prolific Fawya-Fawya-Pirala Belt of the NRERA and are hoped to be major contributors to future growth. The transfer of the Chibolele licence to Kagem was completed in October 2019, and the pit generated 2.16Mct of gemstones in the final two months of the year.

The mineralisation in the Kafubu area is referred to as “schist-hosted emeralds”, due to the interaction of pegmatite dykes of granitic rocks bearing beryllium fluids, with chromium-rich schists. The Chama deposit has a footwall of mica schist, overlain by TMS, amphibolite and quartz-mica schist. This is intruded by steeply dipping quartz-feldspar pegmatite dykes and quartz-tourmaline veins.

Figure 54: Highwall at Kagem



Source: company

Facilities

The Kagem mine is run as a conventional open pit operation, utilising a drill-blast-load-haul method using a company-owned fleet. The fleet includes 22 excavators and 49 articulated dump trucks, with contractor-provided labour. The mine is about 140 metres in depth and is 1.5km in length.

The Chama pit is set up as five sequential cutbacks in order to enable flexibility of mining locations to balance strip ratio and ore confidence. Underground mining was attempted in the past, but ceased in 2014 due to the difficulty of interpreting reaction zones and the higher likelihood of theft.

Hydraulic excavators are used to mine the steep reaction zones during daylight hours. Large and high-quality gemstones are hand-sorted and placed in a numbered, tagged and locked security box. This material is tumbled, chipped and cleaned and sorted into 181 size and quality categories.

The rest of the material is loaded into trucks and transported to the processing facility. Two sets of grizzlys split the plant feed into three fractions of weight: +300mm is stockpiled, -100mm is sent to the double-deck screen, and -300+100mm is sent to the primary crusher. The double-deck screen separates the material again into three streams, with +60mm sent to the secondary crusher, -3mm fines to the valley storage area and -60+3mm sent for hand picking.

In 2019, a number of measures were implemented to improve the process at the wash plant. An improved and effective lighting system was put in to enable better picking visibility and an automatic lubrication system was also commissioned to reduce repair frequency and time. Also, anti-rollback rollers have been mounted on the feeder conveyor belt to limit spillage when there is a power outage.

This product and the high-quality product from the mine is then hand-sorted in the sort house. Any waste rock or schist attached to the emeralds is removed either using pliers, (known as ‘cobbing’) or using a hand-held drill for higher quality gemstones, as per the photo below.

Figure 55: Drilling to isolate high-quality gemstones

Source: company

Overburden stripped away is used to fill in the exhausted mined footwall of the pit, to keep environmental liability costs down and minimise the transport distance. Stockpiling is also used to enable stable supply in case of variable rates of production.

In 2019, the group also installed a high-resolution digital surveillance CCTV system. In addition, permanent patrol teams were formed and deployed. Protection of the sort house is being improved via the commissioning of a new palisade fence. An international human resource and security consultant has also come in to train staff on human rights, conflict of interest and new techniques of field patrol.

The mine is well served by infrastructure and good quality gravel roads connect it to the main highway. Appropriate communications systems are in place and power is sourced from the national grid to transformers at the camp and wash plant, with backup generators used when the connection is interrupted.

Grading & auctions

Historically, coloured gemstone sales have been unregulated and artisanal, often involving dealers travelling to traders or to mine sites to purchase gems. Gemfields has strived to revolutionise how coloured gemstones are sold, by establishing a grading process and selling them via auctions. Stones are first categorised into one of the following categories: Premium Emerald, Emerald, Beryl-1 and Beryl-2.

Figure 56: Emerald grading criteria

Category	Description	Level 1 subdivision	Level 2 subdivision	Level 3 subdivision
Premium Emerald	Strong green/blue-green colour, vivid saturation, very good clarity, high brilliance, very high carat yield once cut.	2 colour fractions: green or blue-green	5 quality designations from A to E	6 size categories
Emerald	Variable green/blue-green colour, variable clarity, variable carat yield once cut.	2 colour fractions: green or blue-green	7 quality designations from F to M for green (and Fc to Nc for blue-green)	8 size categories
Beryl-1	Bluish colour, clarity translucent to opaque, highly included, low cut recovery.	2 size categories	-	-
Beryl-2	Greyish/brownish colour, no lustre or transparency.	No sorting required	-	-

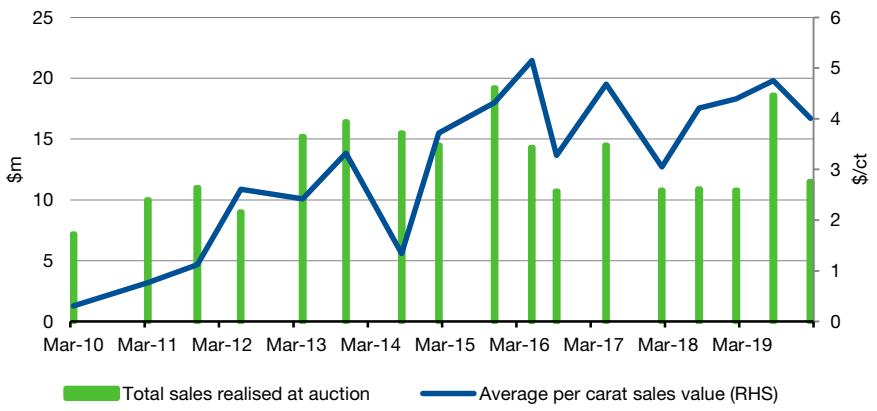
Source: company

The gemstones are split into 181 quality splits, made up of four broad categories. There are 60 Premium grades, 118 Emerald grades, two Beryl-1 grades and just one Beryl-2 grade. There is a reference set for each quality designation, held at the sort house in Kagem, in London and in India.

Gemfields invites around 60 leading gemstone dealers from around the world to its auctions. Material is separated into homogenous lots and certified as either being produced by Gemfields or obtained from third parties. Attendees write a bid into their auction book, which is placed into a locked box and the highest bid wins. There is always a reserve price set by Gemfields, which is only known to a few senior individuals.

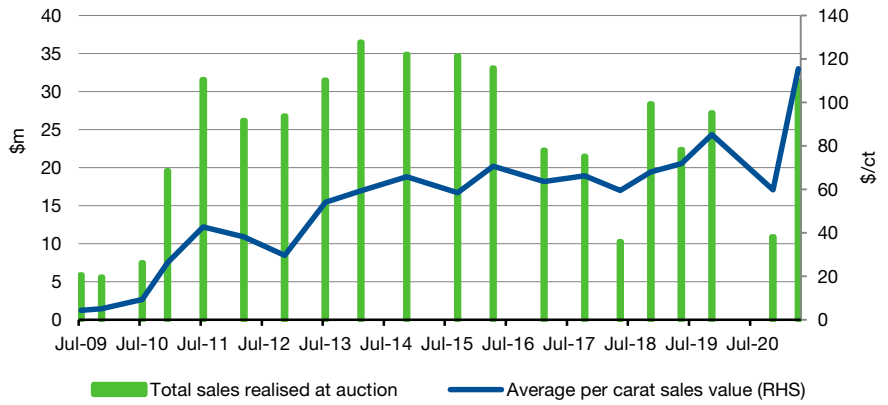
Two types of auction are run: high quality and commercial quality. There have been 17 commercial-quality auctions since 2010, with nine in Jaipur, India and eight in Lusaka, Zambia (as well as a mini-auction across various locations recently). These are generally lower quality lots, and so generate an average per carat sales value of $3-5/ct. In contrast, the high-quality auctions (split between Singapore and Lusaka) achieve a far higher average per carat price, reaching $85.26 in the November 2019 auction.

Figure 57: Commercial-quality auctions: sales & price per carat



Source: company

Figure 58: High-quality auctions: sales & price per carat



Source: company

The 37 auctions have generated $688m in revenues from the sale of 116 carats. However, a majority of this revenue comes from the high-quality auctions, and by extension from the emerald and premium emerald categories. According to the CPR for the Kagem mine, the two top quality categories account for 99% of revenues, with high-quality auctions contributing 83%, low-quality contributing 16%, and the beryl-1 and beryl-2 categories contributing just 1%.

Additionally, it is clear that the interest in Gemfields' emerald auction process has picked up over the years, with the number of companies placing bids up from c.20 in 2010 to 59 at the latest high-quality auction.

Reserves & resource

The Kagem mine has proven and probable ore of 2,635kt, coming primarily from the Chama pit and with some additional ore from Fibolele and stockpiles. At an average grade of 208 ct/t, that equates to 548Mct of beryl and emerald gemstones. The proven ore accounts for just 436kt and 74Mct of the contained carats, with the bulk coming from probable reserve estimates.

Total measured and indicated resources at the Kagem mine are 3,380kt of ore, grading at 260ct/t and with 864mct of contained carats. Inferred resources add another 1,562kt at 162ct/t and 253mct of contained carats.

Figure 59: Reserves and resources at Kagem (at the end of 2020)

Resources	Tonnage (kt)	B+E grade (ct/t)	Contained B+E (Mct)	Reserves	Tonnage (kt)	B+E grade (ct/t)	Contained B+E (Mct)
Chama				**Chama**			
Measured	281	260.0	73.0	Proved	210	202.0	42.0
Indicated	2,783	270.0	746.0	Probable	2,130	218.0	465.0
Total M&I	3,063	267.0	818.0	Total	2,340	217.0	507.0
Inferred	-	-	-				
Fibolele				**Fibolele**			
Measured	-	-	-	Proved	-	-	-
Indicated	92	160.0	14.0	Probable	69	139.0	10.0
Total M&I	92	160.0	14.0	Total	69	139.0	10.0
Inferred	900	160.0	144.0				
Libwente							
Measured	-	-	-				
Indicated	-	-	-				
Total M&I	-	-	-				
Inferred	150	46.0	7.0				
Stockpiles				**Stockpiles**			
Measured	226	139.0	32.0	Proved	226	139.0	32.0
Indicated	-	-	-	Probable	-	-	-
Total M&I	226	139.0	32.0	Total	226	139.0	32.0
Inferred							
Chibolele							
Measured	-	-	-				
Indicated	-	-	-				
Total M&I	-	-	-				
Inferred	512	200.0	102.0				
Total M&I	**3,380**	**260.0**	**864.0**	**Total gemstone reserves**	**2,635**	**208.0**	**548.0**
Total inferred	**1,562**	**162.0**	**253.0**				

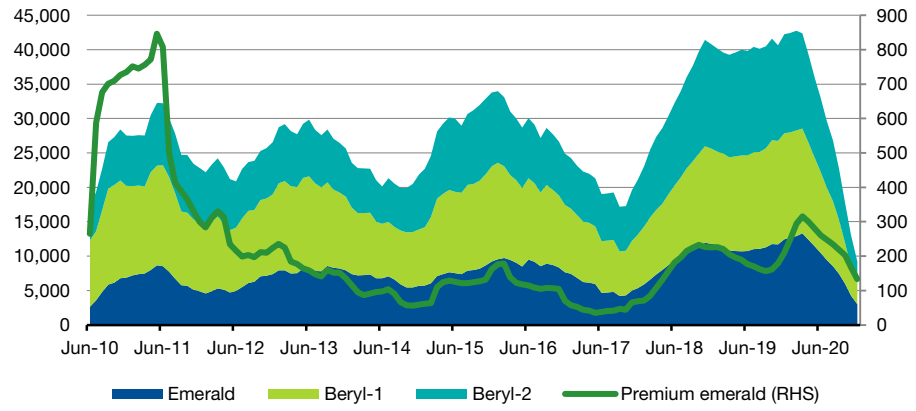
Source: company

Production & revenues

Much like at Montepuez, the key value driver is premium gemstones, as these achieve a far higher price per gram than low-quality emeralds. The highest-quality emeralds can achieve $40,000 per gram, whereas the low end can be $0.02 per gram.

Gemfields estimates that 65% of total revenue at Kagem comes from just 4% of the weight. The Kagem mine produced 36.3Mct of emerald and beryl in 2019, of which there were 204,360 carats of premium emerald. The Chama pit accounted for 31.1Mct of this, and saw a significant grade improvement from 194 ct/t in 2018 to 226 c/t in 2019 as the hanging walls of F10 North, F10 East and F10 junction exposed more productive ore veins. There has been a significant pickup in both gemstone production and premium emerald production over the last few years (until the pandemic impact).

Figure 60: Kagem emerald production ('000 cts, rolling 12 months)

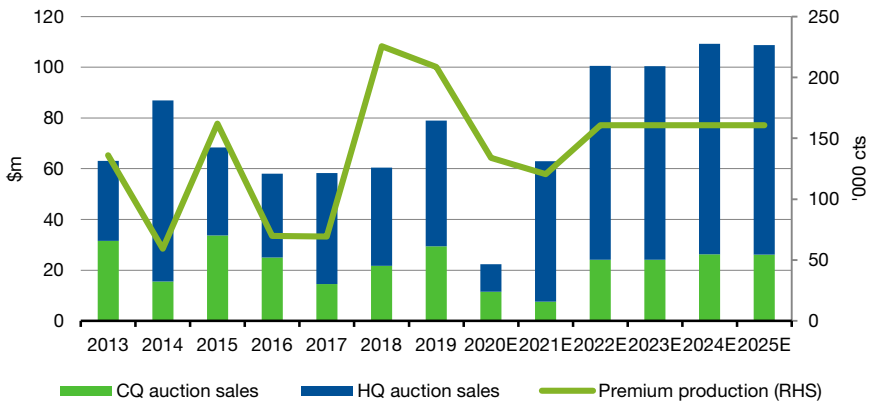


Source: company

Looking forward, we assume ore processing of 146kt per annum, as per the mine plan, and annual carats produced at the mine in line with the CPR. From this total, we estimate that 4% of carats are sold at HQ auctions (a modest increase on historic levels) and 20% are sold at CQ auctions (in line with the historic average). For the second half of FY21 however, we assume 3% and 15% to be conservative in light of the difficulty of holding regular auctions.

We calculate revenues using the CPR's estimate of average sale prices at high-quality and commercial-quality auctions respectively. For CQ, this is $4/ct and for HQ, this is $68/ct. However, we apply a 1% half-yearly increase in pricing over time to reflect our belief that the quality of Zambian emeralds will become better appreciated by the market. This results in an increase in revenues from $79m in FY19 to $100m+ per annum from 2022.

Figure 61: Kagem auction sales and premium emerald production



Source: Liberum

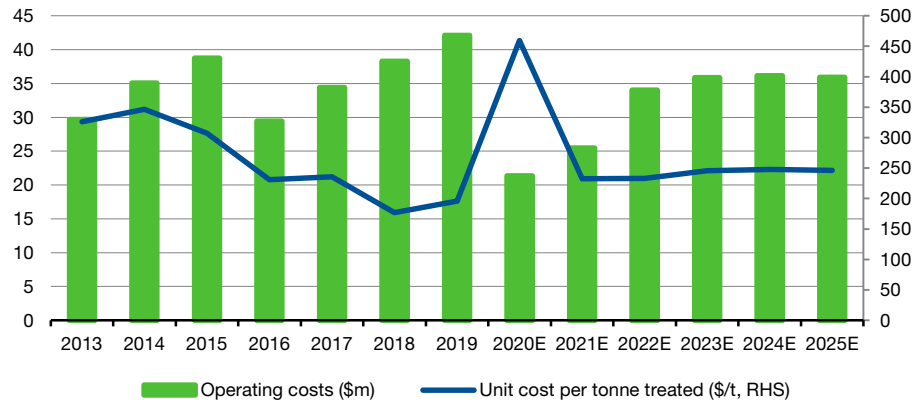
Costs

The extension of the Chama pit has led to greater space to operate the fleet and thus more efficient production. Rock handled has increased in recent years, despite reaching segments of harder rock from deeper parts of the mine. This has been possible due to best-practice techniques in drilling, blasting and machinery usage, as well as utilising the mining performance management software Centric. Whilst rock handled has risen significantly,

rising ore production has meant that the strip ratio has dropped from over 120x in 2014 to roughly 60x in 2019.

We calculate future operating costs at the mine using an estimate of operating cost per tonne treated. We assume that this drops from KWA 5,500/t in H1 2021 to KWA 5,000/t in H2, which is broadly in line with the historic average seen at Kagem in dollar terms. After cost inflation out to 2024, and using the group's annual ore processing of 146kt, this equates to an average annual operating cost at the mine of c$36m.

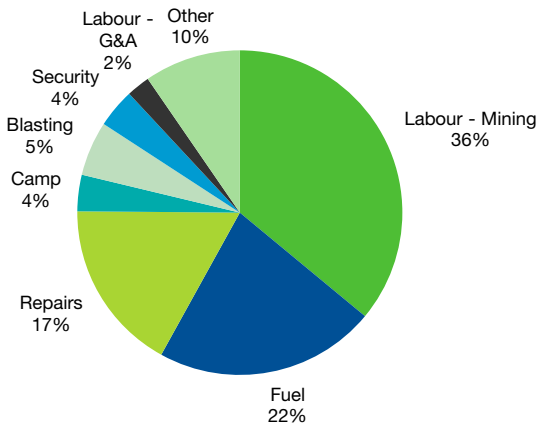
Figure 62: Operating costs and unit costs at Kagem



Source: company, Liberum

Mining labour accounts for over a third of mine operating costs, with fuel and repairs the other notable contributors, respectively accounting for 22% and 17%. Costs have ticked up in recent years, due to Zambian inflation and its impact on fuel, labour and spare parts costs. Additionally, the opening up of the Chama pit has meant greater haulage distances and higher fuel costs.

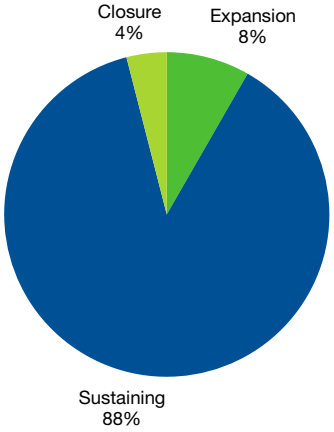
Figure 63: Operating cost breakdown



Source: Kagem CPR, 2019

In terms of capital costs, the CPR forecast a life-of-mine spend of $16.6m on expansionary capex, $175.7m on sustaining capex and an $8m closure cost. The sustaining capex implies an annual capex cost of $8m at Kagem.

Figure 64: Capital cost breakdown



Source: Kagem CPR, 2019

Risks

Price risk – Commodity demand and supply dynamics may lead to declines in price, which impact group sales and cashflow. An increase in supply may come from Kagem or peers or new discoveries, which flood the market and depress prices. On the demand side, a downturn in the global economy, which weighs on disposable incomes, would be likely to lead to weaker coloured gemstone prices. There is also the possibility that the price gap between Colombian and Zamban emeralds does not narrow.

Country risk – Any instability in the country, be it political, economic, or social, could have a significant impact on the group. Social unrest can also bring about security issues, such as an influx of artisanal miners or robberies from the mine facilities.

Taxation risk - In 2019, the Zambian government imposed a 15% export duty, which cost the group $12.4m in the year and dramatically impacted cashflow. As a result, the group also had to cut planned expansionary capex. This export duty was indefinitely suspended from 1st January 2020. Whilst management state that new ministers seem progressively minded, they are aware that the country is relatively poor and going into an election period, higher taxation is always a possibility.

Legislative risk – In the past, the security team released dogs to chase illegal miners at the site, which led to complaints. These forms of practice could pose a threat to the group, as with the Leigh Day trial at MRM, if they are continued.

Fabergé – continuing cash drag

Fabergé was wholly acquired by Gemfields in 2013. With multi-brand retail partners all over the world and 81 points of sale (FY20), it was designed to provide the group with direct access to the end consumer of coloured gemstones. As a historic and world-renowned brand, the acquisition was also intended to help enhance the presence and perception of coloured gemstones via marketing campaigns. The business has been a drain on group cash, but its funding requirement has fallen from $24.7m in 2015 to under $5m in 2019. Prior to any COVID-19 impact, management were hoping the division would turn EBITDA positive by 2021.

History

Fabergé was founded in 1842 in Russia and went on to receive the title of 'Goldsmith by special appointment to the Imperial Crown' in 1885. Later that year, Tsar Alexander III commissioned the jeweller to make an Easter egg for his wife. This became a tradition for the Tsar to give his wife at Easter and the Fabergé eggs became more and more elaborate. Fabergé created 50 Imperial eggs, of which 43 have survived. The brand grew from there, creating hardstone sculptures and jewellery, as well as the infamous eggs, for nobility and royalty all over the world.

In 1918, the company was nationalised by the Bolsheviks, its stock was confiscated, and the Fabergé family escaped the Soviet Union. In 1937, an American named Sam Rubin started a perfume business named Fabergé Inc, without the family's permission. In a series of transactions over the next few decades, Unilever bought Fabergé Inc for $1.55bn from Elizabeth Arden and trademarked the name across a wide range of merchandise.

In 2007, Pallinghurst Resources (which held a majority stake in Gemfields) acquired the portfolio of trademarks, licences and rights relating to the Fabergé name from Unilever for $38m. The company's first modern day advertising campaign was launched in 2011, shot by famous photographer Mario Testino and launched in major titles in Europe and the US.

In 2013, Gemfields acquired Fabergé from Pallinghurst (which held a majority stake in Gemfields themselves) for $142m (£89m).

The Colours of Love Collection was released, utilising the coloured gemstones of Gemfields and the craftsmanship of Fabergé in gemstone-set engagement and anniversary rings.

The first fine watch collection was unveiled in 2015, with the Compliquée Peacock winning the Grand Prix d'Horlogerie de Geneve in the Hi-Mechanical category. The Fabergé Pearl Egg became the first hand-crafted egg in the Imperial tradition since the Russian Revolution.

The years since include an expansion of retail outlets, a number of successful modern collections, collaborations with major designers and artists and a number of timepiece awards.

Sales

Fabergé itself has three points of sale:

1. By-appointment boutique at the group HQ in Victoria, London
2. Concession in Harrods Fine Jewellery Room
3. Stand-alone boutique in Galleria Mall in Houston, Texas

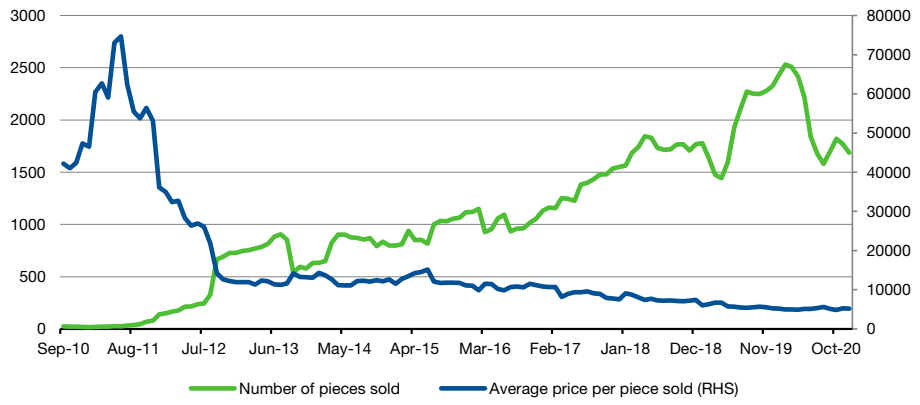
There are also partner-operated boutiques in the Dubai Mall, Kiev and Heydar Alyiev Airport in Baku, Azerbaijan. On top of that, Fabergé has agreements with multi-brand retail partners in Australia, Austria, Abu Dhabi, Andorra, Azerbaijan, Bahrain, Belgium, Canada, Czech Republic, Dubai, Finland, France, Germany, Greece, Holland, India, Italy, Jordan, Japan, Kuwait, Malta, Moldova, Netherlands, Norway, Qatar, Romania, Saudi, South Africa, Switzerland, Thailand, UK, Ukraine and USA. This took the number of points of sale to 81 as of the end of 2020.

Of the Fabergé revenues of $10.5m in 2019, $5.8m (or 55%) came from wholesale, $4.4m (42%) from appointment or retail and $0.3m from other channels.

Through rising demand for coloured gemstones, an increase in points of sale and an expansion of the Colours of Love collection, the number of Fabergé pieces sold had been on an upward trajectory since acquisition in 2013. This has fallen back of late, due to the coronavirus impact.

Sales have also been aided by a steady decline in the average price of pieces sold since acquisition, as can be seen in the chart below. Gemfields has attempted to sell at more affordable price points, in order to significantly boost the quantity of sales and hence drive revenues.

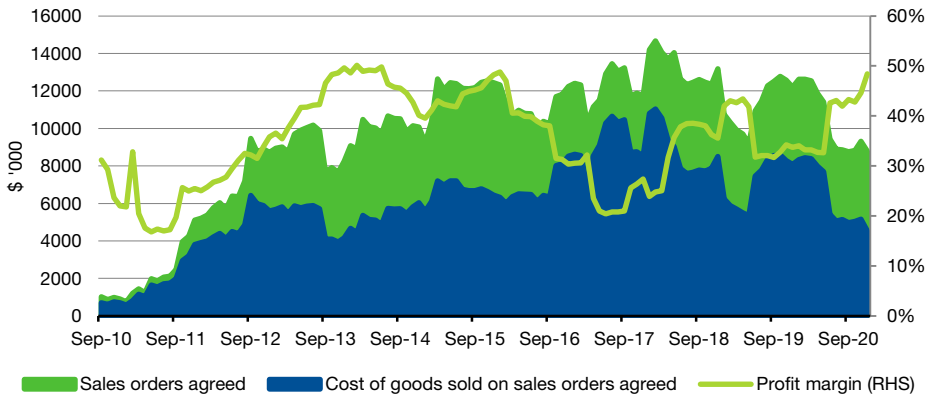
Figure 65: Number of pieces sold and average price ($ '000) – rolling 12m basis



Source: company

On a rolling 12-month basis, the numbers of sales orders agreed had risen from roughly $1m in 2010 to over $12m, before store closures started to hit in March. In June 2020, $8.8m of sales orders had been agreed on a rolling 12-month basis, with a cost of goods sold on those orders of $5.2m. This equates to a profit margin of 48%.

Figure 66: Fabergé profit margins



Source: company

In 2019, total operating costs at Fabergé hit their lowest level since the acquisition by Gemfields in 2013. These came in at $9.6m, broadly in line with 2018, as past cost optimisation programmes continued to support the bottom line. The closure of stores and workshops meant that operating costs continued to drop in H1 2020, though we expect these to bounce back as most stores have now reopened.

Our valuation for Fabergé can be found in the "Sale of Fabergé

" section on page 2, where we consider the group based on peer multiples and past transaction multiples in the jewellery retail sector. With inventory added, we estimate a potential purchase price for a buyer of $48.3m.

Risks

Profitability risk – Since Fabergé requires funding from the wider group to meet its working capital requirements, failure to improve performance could weigh on group profits and cash flows.

Fashion risk – If Fabergé's jewellery or coloured gemstones themselves go out of fashion, then the brand will continue to be a drain on group cash. We do not see this as likely, given the history and esteem of the brand, but there is always potential for a shift in attitudes in the fashion industry, or competition from other fashion houses.

Sedibelo – highly leveraged to PGMs

Pallinghurst completed seven transactions surrounding four adjacent PGM deposits in South Africa between 2007 and 2010. This was then merged to create Sedibelo in 2012. Gemfields now owns a 6.54% interest in the unlisted Sedibelo Platinum Mines Limited, which owns the Pilanesberg Platinum Mine in the Bushveld Complex of South Africa.

The mine had a SAMREC-compliant measured and indicated resource of 32.2Moz of 4E as at the end of 2016, with an additional 62.8Moz of inferred resources. With shallow reserves compared to peers, the mine is expected to have a significant cost advantage. The mine dispatched 129koz of 4E in 2020, with the bulk (roughly two thirds) coming from platinum. Following the dramatic bounce in the PGM basket in the last year, revenues bounced considerably in 2020 to $278m, from $181m. This enabled the mine to turn a profit of $196m in the year.

Gemfields engaged an advisor to market and sell the 6.54% stake in 2020 and whilst the sale process is ongoing, the appetite has been lacking. Following an independent valuation of the carrying value of the stake, the fair value of the asset dropped by $27.9m to $29.6m in 2020, calculated using a market comparable estimate based on peer group average EVs relative to a number of metrics. The reduction is a result of an applied discount for the lack of marketability and the inclusion of financial related metrics, which are now deemed appropriate.

On page 15, we estimate our own fair value for Sedibelo and calculate that Gemfields' 6.54% stake is worth $55m currently and potentially worth an additional $24m after the removal of an illiquidity discount. This upside case is relevant if Sedibelo Platinum Mines can IPO, as it intends to do.

Figure 67: Pilanesberg Platinum Mine in South Africa

Source: company

Other assets

Ethiopia (75% stake)

Gemfields owns a 75% interest in Web Gemstone Mining, which holds an exploration licence covering 148.6km^2 in Ethiopia.

Exploration began in June 2015 in the Dogogo Block, which is based in the northern part of the licence area. The work has involved a geological mapping, followed by a trenching and exploratory pitting exercise. These confirmed the existence of reaction zones of pegmatites and TMS, supportive of emerald and beryl presence. Over 3,500 metres of drilling was completed in December 2016 in 45 drill holes along 11 sections, with all sections visually showing reaction zones.

Figure 68: Gemstone in ore at Web Gemstone Mining in Ethiopia

Source: company

On the back of this encouraging exploratory work, a bulk sampling phase began in August 2017, targeting 600k tons per year of rock handling for two years using two excavators. This is designed to confirm the depth continuity of mineralisation, with drilling and blasting required due to the conditions.

Gem-quality beryl and low-quality crystalline emerald have been recovered during the bulk sampling phases, supporting discoveries from exploratory work. More bulk sampling is needed to estimate the resource potential and thus justify the economic viability of the project.

However, in June 2018, the exploratory work was halted and the area evacuated after a raid by an armed mob of 300-500 people. The group occupied the ore stockpile, the sort house and the sampling pit, which held all the emeralds, beryl, ore, geological samples and data from the project.

A breach of the sort house a month later meant all emerald stock was looted, and the surrounding campsites and offices were looted and destroyed. Since then, work has not recommenced at the licence, due to security concerns and the ongoing political unrest.

There has been some improvement, with the number of illegal miners down from nearly 1,000 to under 30 at the most recent visit and no illegally operated

shafts being used. In addition, the social-risk consultancy Trubshaw Cumberlege visited in August 2019 to discuss Web Gemstone Mining's return to work intentions with local communities and authorities. Feedback on returning to the licence area was largely positive.

The political and security situation in Ethiopia is still unsettled, with elections delayed from May 2020 until June 2021. In addition, the pandemic situation is particularly bad in the country, with cases and deaths rising steeply in the last six months. As such, Gemfields has postponed any operations at Web Gemstone Mining until at least 2022, apart from critical business functions.

Madagascar (100% stake)

Gemfields owns Oriental Mining SARL, which has a number of concessions for a range of minerals (including emerald and sapphire) in the Antananarivo, Fianarantsoa and Toliara provinces of Madagascar. Oriental also has five further exploration licences pending transfer approval of the government. Gemfields views Madagascar as a valuable future part in the group's portfolio, given recent key gemstone discoveries and an improving political backdrop.

Mozambique (75% stake)

Gemfields lastly has a 75% ownership interest in Nairoto Resources Limitada (NRL), with the group's existing Mozambican partner MRM controlling the remainder. The company is in the process of achieving six mining and six exploration titles north of the MRM concession, with potential for gold, ruby and allied minerals.

About Gemfields

Gemfields is a leading supplier of responsibly sourced gemstones, with principal operations in Zambia and Mozambique. The Kagem mine in Zambia is the largest producing emerald mine in the world, accounting for roughly a quarter of global supply. The group's Montepuez mine in Mozambique is similarly recognised as being the largest producing ruby mine in the world. Gemfields has a 75% ownership in both, with other early-stage assets in Ethiopia, Madagascar and Mozambique. In 2013, Gemfields also acquired the historic jeweller Fabergé in a bid to provide direct access to the end consumer in coloured gemstones. Gemfields is listed on the Johannesburg Stock Exchange and the London AIM Stock Exchange.

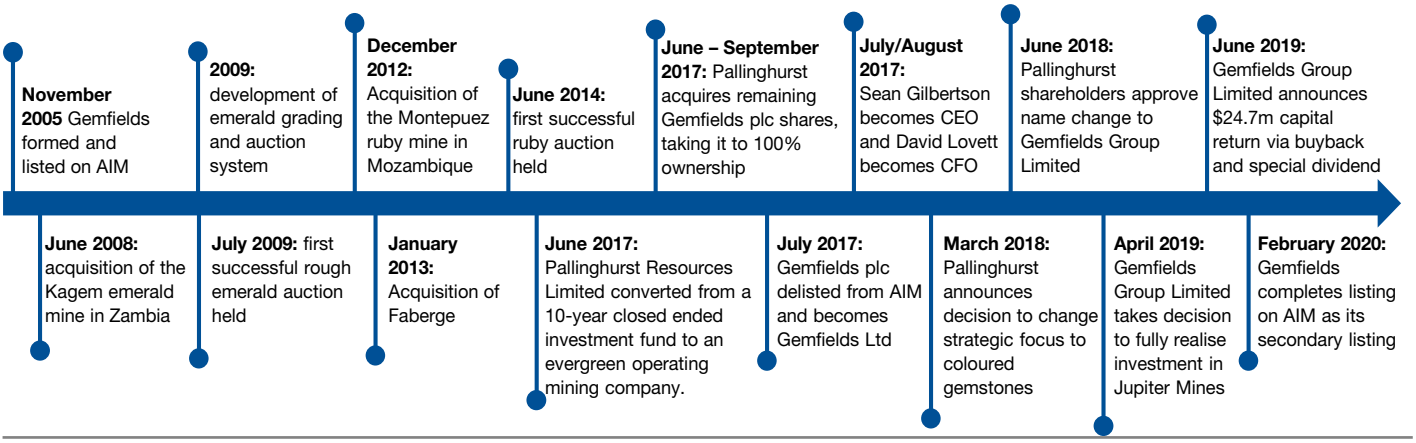
History

Gemfields listed on the London AIM Stock Exchange in November 2005 with a mission to explore and develop some of the world's leading coloured gemstone mines. The group acquired the Kagem emerald mine in 2008 and the Montepuez ruby mine in 2012 and also formed a ground-breaking grading and auction system for coloured gemstones.

In 2017, South African private equity group and 47% shareholder, Pallinghurst Resources, acquired the remaining shares in the group and restructured itself from a closed-ended investment fund to an operating mining company. As a result, Gemfields plc delisted from AIM in July 2017 and became Gemfields Ltd. In June 2018, Pallinghurst Resources' shareholders approved the name change to Gemfields Group Limited, to reflect the focus on coloured gemstones.

In April 2019, Gemfields fully realised its investment in Jupiter Mines, following its London listing and subsequently returned $25m in capital to shareholders via special dividend and buyback. In February 2020, the group re-listed on the London AIM Stock Exchange, citing "a lack of broker research and share trading liquidity, as well as feedback from shareholders".

Figure 69: Gemfields timeline



Source: company

Management

Martin Tolcher is the Group Chairman, appointed in November 2019 after serving on the Board for 11 years. He has 30 years of experience in the fund administration industry in Guernsey, working at senior levels for subsidiaries of Canadian and Bermudan banks. He has a deep understanding of offshore fund and private equity investment structures.

Sean Gilbertson has been CEO of Gemfields since July 2017 and has served on the boards of Gemfields and Kagem Mining since 2007. Prior to that, he worked as a project financier for Deutsche Bank in Frankfurt and London, specialising in independent power projects and public/private partnerships. In 1998, he co-founded globalCOAL, which helped to commoditise the thermal coal industry and was acquired by the big four miners. He also co-founded Spectron eMetals trading platform for category I and II members of the LME. He graduated as a mining engineer from Wits University in South Africa.

The group's CFO has been David Lovett since 2017. Prior to that, he acted as a senior financial manager across a number of Gemfields' operating businesses over a nine-year tenure and so has a deep understanding of the group's activities. He worked as a chartered accountant for Grant Thornton before joining Gemfields and holds a Bachelor's degree in Economics and Marketing from Birmingham University.

Board members include the ex-CFO of Tshipi, a former partner at Deloitte, a director of Sedibelo Platinum Mines and an economist/strategist who has worked extensively across Africa. It also includes major shareholder Dr Christo Wiese, chairman of Shoprite Holdings, the largest FMCG retail company in Africa with over 2,400 stores.

Past share price performance

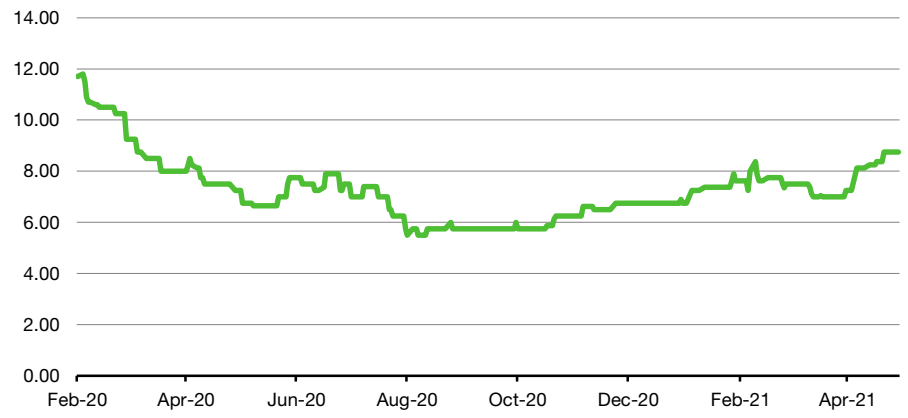
During its initial period of being listed in the London market, the Gemfields share price rose from 5.25p at the start of 2010 to over 30p, when Pallinghurst Resources acquired the remainder of the group and the stock was delisted. This largely mirrors the performance of the group over the period, as mine production, auction sales and coloured gemstone prices all rose.

Figure 70: Share price performance on AIM prior to Pallinghurst acquisition (p)

Source: Bloomberg

Since its relisting in February 2020, the share price has dropped from 11.7p to 8.75p. This equates to a market cap of £103m, considerably below the price of the acquisition in 2017 of £152m.

Figure 71: Share price performance since relisting on AIM in February (p)



Source: Bloomberg

In terms of liquidity, the average daily trading volume has been muted, with just 0.01% of market cap trading per day over the last 12 months. Management has noted that the big holders in South Africa tend to be long-term holders who are significantly underwater, which makes it hard to drum up liquidity on AIM. Similarly, a number of the AIM investors are big block holders.

The company estimate that 47% of shareholders are institutional, with 37% non-institutional and the remainder company related. Major institutional shareholders include Old Mutual, Fidelity, Ophorst Van Marwijk Kooy Vermogensbeheer, Oasis Asset Management and Ninety One Group. The largest shareholder is board member Dr Christo Weise, who holds 13.72% of shares (and an additional 0.19% are owned by his immediate family).

By geography, 43% of institutional shares are held in South Africa, with United Kingdom accounting for 27%, Netherlands accounting for 23% and the remaining 7% elsewhere.

Liquidity analysis

Figure 72: Biggest shareholders

Name	Stake (%)	Shares owned (26/03/21)	Net change
Christo Wiese	13.9%	137,452,121	0
Fidelity International	11.0%	128,581,400	-5,460,079
Rational Expectations (Pty) Ltd.	6.5%	75,835,011	4,919,463
Oasis Group Holdings	7.5%	94,785,218	
Ophorst Van Marwijk Kooy Vermogensbeheer NV	7.5%	87,861,910	-142,234
Individuals and Private Trusts	5.9%		-1,069,792
Ninety One SA Pty Ltd.	5.8%	68,255,891	0
Solway Finance Ltd.	5.8%	67,386,056	0
Old Mutual Investment Group (South Africa) (Pty) Limited	5.7%	67,195,197	0
Hof Hoorneman Bankiers N.V.	3.4%	39,719,250	0
Individuals & Private Trusts	4.8%	56,043,993	-532,619

Source: Liberum, Bloomberg

1m liquidity metrics

	Shares traded per day	Value traded per day	% of market cap
Max	217,000	17,355	0.04%
Average	53,358	4,436	0.00%
Median	36,107	3,136	0.00%
Min	0	0	0.00%

Source: Bloomberg

3m liquidity metrics

	Shares traded per day	Value traded per day	% of market cap
Max	473,425	34,481	0.04%
Average	32,989	2,314	0.00%
Median	9,085	565	0.00%
Min	0	0	0.00%

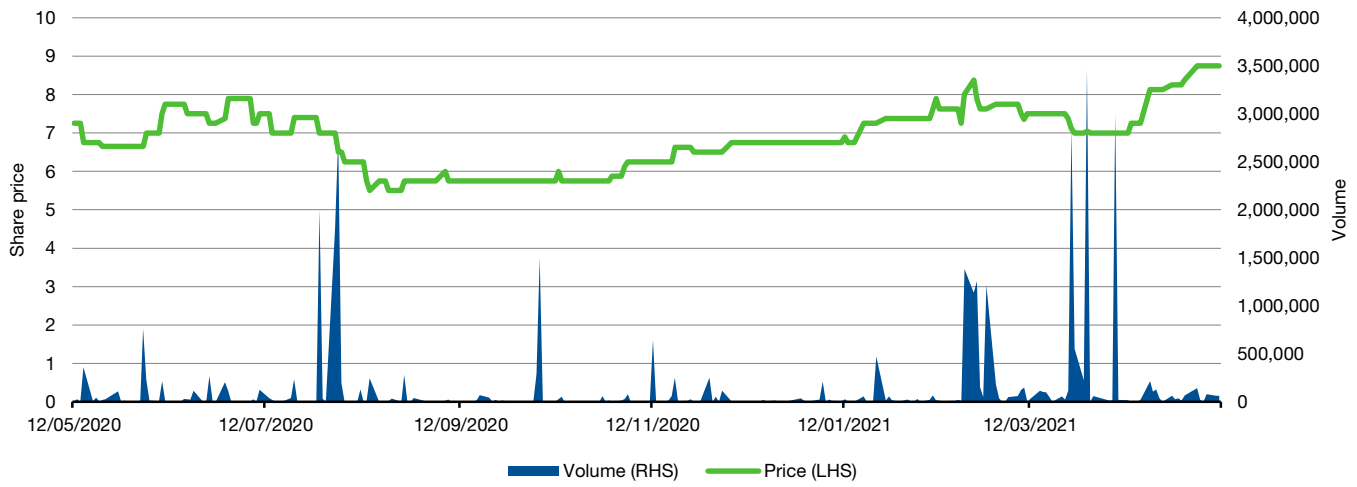
Source: Bloomberg

12m liquidity metrics

	Shares traded per day	Value traded per day	% of market cap
Max	12,160,989	1,092,555	1.01%
Average	150,544	12,177	0.01%
Median	7,343	514	0.00%
Min	0	0	0.00%

Source: Bloomberg

Price and volume since February 2020 listing



Source: Bloomberg

Financial model

Figure 73: Income statement ($m)

December year-end	2017A	2018A	2019A	2020E	2021E	2022E	2023E
Total sales	189.6	206.2	212.6	34.7	174.6	226.5	311.1
Sales growth (%)	23.0	8.8	3.1	(83.7)	403.6	29.8	37.4
Gross margin (%)	22.6	28.6	38.0	(86.8)	38.2	46.5	48.9
Cost of sales	(146.7)	(147.3)	(131.8)	(64.7)	(107.8)	(121.2)	(159.0)
Gross profit	42.9	58.9	80.9	(30.1)	66.7	105.3	152.2
Operating expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share based payments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Underlying EBITDA	**42.9**	**58.9**	**80.9**	**(30.1)**	**66.7**	**105.3**	**152.2**
Depreciation	38.7	32.1	20.5	30.5	31.5	30.5	40.4
Amortisation (not acquired)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Underlying EBIT (pre JVs)	50.5	(45.1)	71.9	(93.4)	45.2	74.8	111.8
EBIT (pre JVs) margin (%)	26.6	(21.9)	33.8	(269.4)	25.9	33.0	35.9
Revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JV post tax profit	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JV contribution	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit on disposal	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Underlying EBIT	**50.5**	**(45.1)**	**71.9**	**(93.4)**	**45.2**	**74.8**	**111.8**
EBIT Margin (%)	**26.6**	**(21.9)**	**33.8**	**(269.4)**	**25.9**	**33.0**	**35.9**
Amortisation of acquired intangibles	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exceptional / extraordinary costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reported EBIT	50.5	(45.1)	71.9	(93.4)	45.2	74.8	111.8
Non-operating exceptional costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest income	4.6	(3.8)	(6.6)	(2.8)	0.6	0.6	0.6
Interest costs	(4.6)	(5.0)	(4.1)	(3.0)	(6.1)	(5.4)	(4.7)
Pension credit / (cost)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Interest	0.0	(8.8)	(10.7)	(5.8)	(5.5)	(4.8)	(4.2)
Underlying PBT	**50.5**	**(53.9)**	**61.2**	**(99.2)**	**39.8**	**70.0**	**107.6**
Reported PBT	50.5	(53.9)	61.2	(99.2)	39.8	70.0	107.6
Underlying tax rate (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exceptional tax rate (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reported tax rate (%)	(20.0)	12.0	(46.2)	(6.0)	(38.0)	(38.0)	(38.0)
Underlying tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exceptional tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reported tax	(10.1)	(6.5)	(28.2)	6.0	(15.1)	(26.6)	(40.9)
Underlying PAT	**40.4**	**(60.4)**	**32.9**	**(93.2)**	**24.7**	**43.4**	**66.7**
Discontinued operations (net)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit on disposal	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reported PAT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Preference dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minorities	(8.3)	(1.8)	(10.8)	8.0	(6.2)	(10.9)	(16.7)
Underlying net income	**40.4**	**(60.4)**	**32.9**	**(93.2)**	**24.7**	**43.4**	**66.7**
Reported net income	30.7	(62.0)	24.6	(82.3)	18.5	32.6	50.0
Weighted average number of shares (basic) (m)	793.4	1,317.7	1,289.6	1,169.0	1,168.8	1,168.8	1,168.8
Weighted average number of shares (diluted) (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of shares at period end (basic) (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Underlying EPS (basic) ($)	2.3	(4.7)	1.9	(7.0)	1.6	2.8	4.3
Underlying EPS (basic) growth (%)	(255.7)	(308.3)	(140.6)	(468.0)	(122.5)	76.1	53.6
Underlying EPS (diluted) ($)	**0.0**	**(0.0)**	**0.0**	**(0.1)**	**0.0**	**0.0**	**0.0**
Underlying EPS (diluted) growth (%)	**(255.7)**	**(308.3)**	**(140.6)**	**(468.0)**	**(122.5)**	**76.1**	**53.6**
Pro-forma EPS (diluted) ($)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
DPS (Ordinary) ($)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DPS (Total) ($)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Liberum

Figure 74: Cash flow statement ($m)

December year-end	2017A	2018A	2019A	2020E	2021E	2022E	2023E
Reported EBIT	50.5	(45.1)	71.9	(93.4)	45.2	74.8	111.8
Profit in associates	0.0	(5.3)	(2.6)	0.0	0.0	0.0	0.0
Depreciation	38.7	32.1	20.5	30.5	31.5	30.5	40.4
Amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loss / (profit) on sale of PPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share based payments	2.7	4.2	1.7	0.9	0.0	0.0	0.0
Increase/(Decrease) in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loss / (Gain) on business disposal	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating cash flows before movements in working capital	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(Increase) / decrease in inventories	1.9	8.6	(11.5)	(6.2)	0.9	(5.3)	(47.1)
(Increase) / decrease in receivables	(6.2)	(39.2)	(21.8)	49.8	(14.5)	(20.9)	(32.0)
(Decrease) / increase in payables	(0.5)	0.9	7.6	(18.2)	6.7	1.1	9.7
(Increase) / decrease in working capital	(4.9)	(29.7)	(25.7)	25.5	(6.9)	(25.2)	(69.5)
Cash generated by operations	**37.9**	**29.5**	**46.4**	**(5.2)**	**70.5**	**80.8**	**83.3**
Tax paid	(25.1)	(24.4)	(9.7)	(15.0)	(15.1)	(26.6)	(40.9)
Net cash flow from operating activities	**12.8**	**5.1**	**36.7**	**(20.2)**	**55.4**	**54.2**	**42.4**
Purchase of PPE	(18.8)	(29.0)	(27.8)	(5.6)	(14.9)	(46.1)	(32.7)
Purchase of other intangibles	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net capex	(18.8)	(29.0)	(27.8)	(5.6)	(14.9)	(46.1)	(32.7)
Dividends from associates	0.0	5.3	0.0	0.0	0.0	0.0	0.0
Movement in short term investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acquisitions	7.7	7.7	32.7	(0.5)	0.0	0.0	0.0
(Investments) / disposals of associates	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash flow from investing activities	**26.7**	**46.6**	**(1.9)**	**(13.2)**	**(14.9)**	**(46.1)**	**(32.7)**
Net interest received / (paid)	0.1	0.7	0.8	0.4	0.0	0.0	0.0
Equity dividends paid	(9.3)	(5.8)	0.0	(3.8)	0.0	0.0	0.0
Share issues / (repurchases)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase / (decrease) in borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash flow from financing activities	**(10.1)**	**(26.4)**	**(19.6)**	**(1.1)**	**(12.1)**	**(11.4)**	**(10.7)**
Increase in cash and cash equivalents	29.4	25.3	15.2	(34.4)	28.4	(3.3)	(1.0)
(Increase) / decrease in borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayment of finance leases	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exchange / other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Increase) / decrease in net debt	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Net cash / (debt) (start)	(25.7)	9.8	25.4	(12.6)	21.8	24.5	29.4
Net cash / (debt) (end) including leases	**(25.7)**	**9.8**	**25.4**	**(12.6)**	**21.8**	**24.5**	**29.4**

Source: Liberum

Figure 75: Balance sheet ($m)

December year-end	2017A	2018A	2019A	2020E	2021E	2022E	2023E
Goodwill	0	0	0	0	0	0	0
Other intangible assets	49	52	55	51	51	51	51
PPE	378	365	377	363	346	362	354
Trade and other LT receivables	9	10	11	11	11	11	11
Deferred tax asset	0	0	0	0	0	0	0
Investments in JVs / Associates	7	6	7	3	3	3	3
Retirement benefit asset	0	0	0	0	0	0	0
Fixed assets	**640**	**510**	**507**	**458**	**441**	**457**	**449**
Inventories	119	99	111	118	117	122	169
Trade and other receivables	27	62	88	33	47	68	100
Cash & cash equivalents	38	63	78	44	72	69	68
Financial assets	0	0	0	0	0	0	0
Current assets	**184**	**224**	**277**	**199**	**241**	**264**	**342**
Total Assets	**824**	**734**	**784**	**657**	**682**	**721**	**791**
Trade payables	21	28	30	17	24	25	35
Borrowings	4	23	25	33	33	33	33
Tax liabilities	7	1	16	4	4	4	4
Provisions	0	0	0	0	0	0	0
Other current liabilities	0	0	0	0	0	0	0
Current liabilities	**37**	**61**	**75**	**60**	**66**	**67**	**77**
Total assets less current liabilities	**787**	**673**	**709**	**597**	**616**	**653**	**714**
Net current assets	**147**	**164**	**202**	**139**	**175**	**196**	**265**
Long-term borrowings and finance leases	59	30	28	24	18	12	6
Provisions	8	6	6	4	4	4	4
Other payables	0	0	0	0	0	0	0
Other non-current liabilities	102	88	96	87	87	87	87
Net Assets	**617**	**550**	**579**	**483**	**508**	**551**	**618**
Total equity	618	550	579	483	508	551	618
Minority interests	78	74	85	70	77	87	104
Shareholders' equity	**539**	**476**	**494**	**413**	**431**	**464**	**514**

Source: Liberum

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