



# GEMFIELDS

## Market Update

Quarter ending 31 December 2011  
(unaudited)

01 March 2012

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# GEMFIELDS plc

Kagem Emerald Mine  
(Zambia)

75%

Mbuva-Chibolele  
Emerald Mine (Zambia)

100% (mothballed)

Kamakanga Emerald  
Mine (Zambia)

100% (mothballed)

Kariba Amethyst Mine  
(Zambia)

50%

15 Madagascar exploration  
licences (rubies, sapphires  
and emeralds)

Zambian emerald  
exploration licences

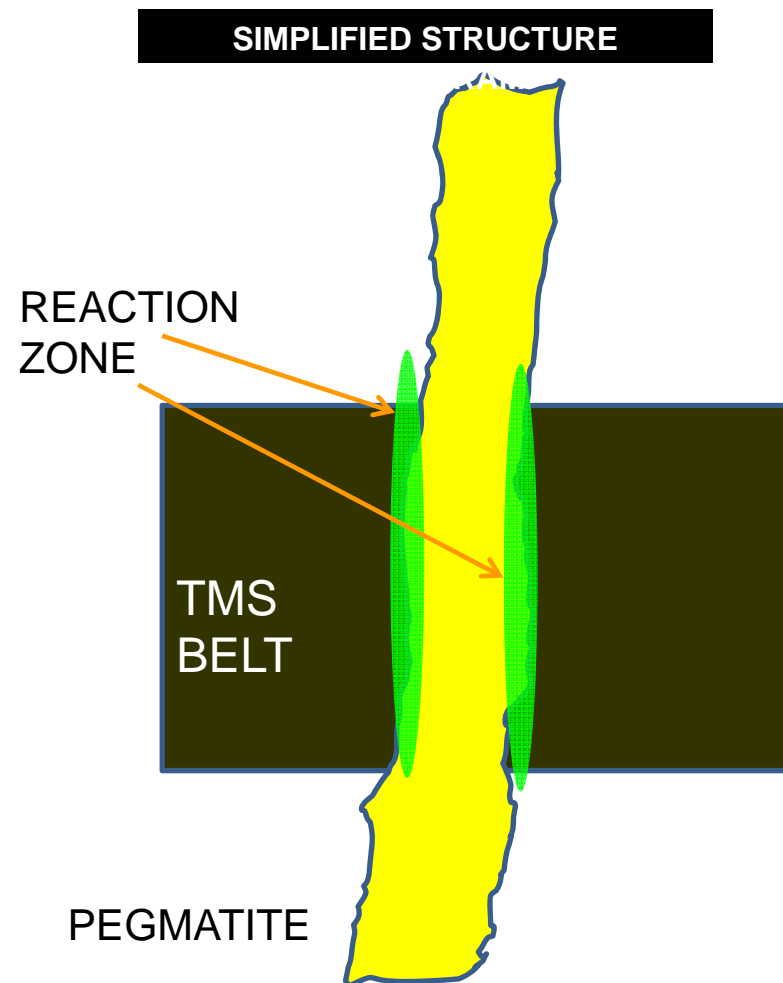
Conditional rights to  
acquire 75% of the  
Montepuez ruby  
deposit in Mozambique

Fabergé Licence for  
Coloured Gemstones

Equity Stake in  
Richland Resources  
(formerly TanzaniteOne Ltd)  
(10%)

## Emerald and Beryl Geology - The Basics

1. Emerald ore, known as Reaction Zone ("RZ"), is created when a pegmatite cuts through a layer or belt of talc-magnetite-schist ("TMS").
2. A complex reaction between the pegmatite and the TMS results in a layer of RZ of varying thickness and quality. This reaction gives rise to emerald and beryl crystals.
3. RZ contains emeralds and beryl. Both TMS and pegmatite are essentially devoid of emeralds and beryl.
4. TMS belts are typically 10-40 metres thick.
5. Pegmatites vary from a few centimetres to tens of metres thick.



## Kagem Quarterly Production to 31 December 2011

### Operating Performance

Quarterly Summary to Sep-11	Quarter End:	Dec -08	Mar-09	Jun -09	Sep-09	Dec-09	Mar-10	Jun -10	Sep-10	Dec-10	Mar-11	Jun -11	Sep-11	Dec-11	TOTAL
Gemstone Production (Emerald+Beryl)	million carats	5.3	7.3	6.0	2.9	4.9	3.4	6.1	12.8	5.9	3.5	10.8	4.9	3.9	77.8
Ore Production (Reaction Zone)	'000 tonnes	18.7	17.8	22.3	16.0	13.5	12.5	18.9	19.5	16.0	12.0	21.7	24.0	17.5	230.2
Grade (Emerald+Beryl/Reaction Zone)	carats/tonne	286	410	268	182	365	277	323	658	369	290	500	205	222	338
Waste Mined (including TMS)	million tonnes	1.0	0.8	0.5	0.5	0.7	0.6	0.7	0.9	0.8	0.8	1.4	2.2	2.2	13.1
Stripping Ratio		53	43	22	33	49	51	38	48	48	66	67	92	125	57
Cash Operating Cost	USD million	6.2	3.7	3.5	3.3	3.1	3.0	3.4	3.5	3.6	3.6	3.5	7.2	7.0	54.6
Cash Operating Cost per tonne of rock moved	USD/tonne	6.1	4.8	6.8	6.1	4.6	4.7	4.6	3.6	4.6	4.4	2.4	3.3	3.2	4.1

### Financials

Quarterly Summary to Sep-11	Quarter End:	Dec -08	Mar-09	Jun -09	Sep-09	Dec-09	Mar-10	Jun -10	Sep-10	Dec-10	Mar-11	Jun -11	Sep-11*	Dec-11*	TOTAL
Total Operating cost	USD million	6.2	3.7	3.5	3.3	3.1	3.0	3.4	3.5	3.6	3.6	3.5	3.9	3.4	47.6
Unit Production cost per carat	USD/carats	1.16	0.51	0.59	1.13	0.63	0.87	0.55	0.27	0.62	1.03	0.32	0.79	0.87	0.61
Unit Production cost per tonne of ore	USD/tonne	332	210	159	205	230	241	179	178	227	298	160	162	193	207

- Ore grade during the quarter was 222 carats per tonne, with unit gemstone production costs of USD 0.87 per carat (versus USD 0.79 per carat in the prior quarter).
- Given their “pockety” nature, it is not unusual for coloured gemstone deposits to display significant and periodic grade and production variation. Kagem’s cumulative grade since January 2005 is approximately 342 carat per tonne.
- Kagem’s unaudited total operating costs for the thirteen quarters ending 31 December 2011 totalled USD 55.6 million(\*), implying an average production cost during that period of USD 0.64 per carat of emerald and beryl.

\*With effect from July 2011, Gemfields adopted a new accounting policy whereby all waste moving costs are capitalised and are then subsequently amortised when the corresponding ore in that area is mined (in keeping with the accounting principle of “matching costs to revenues”). Therefore, the following measures - shown in grey shading - are, **only with effect from July 2011**, reported **excluding** the cash costs of waste removal incurred in that month: monthly operating costs (USD million), Unit gemstone production costs (USD/carats), Unit ore production costs (USD per tonne of ore).

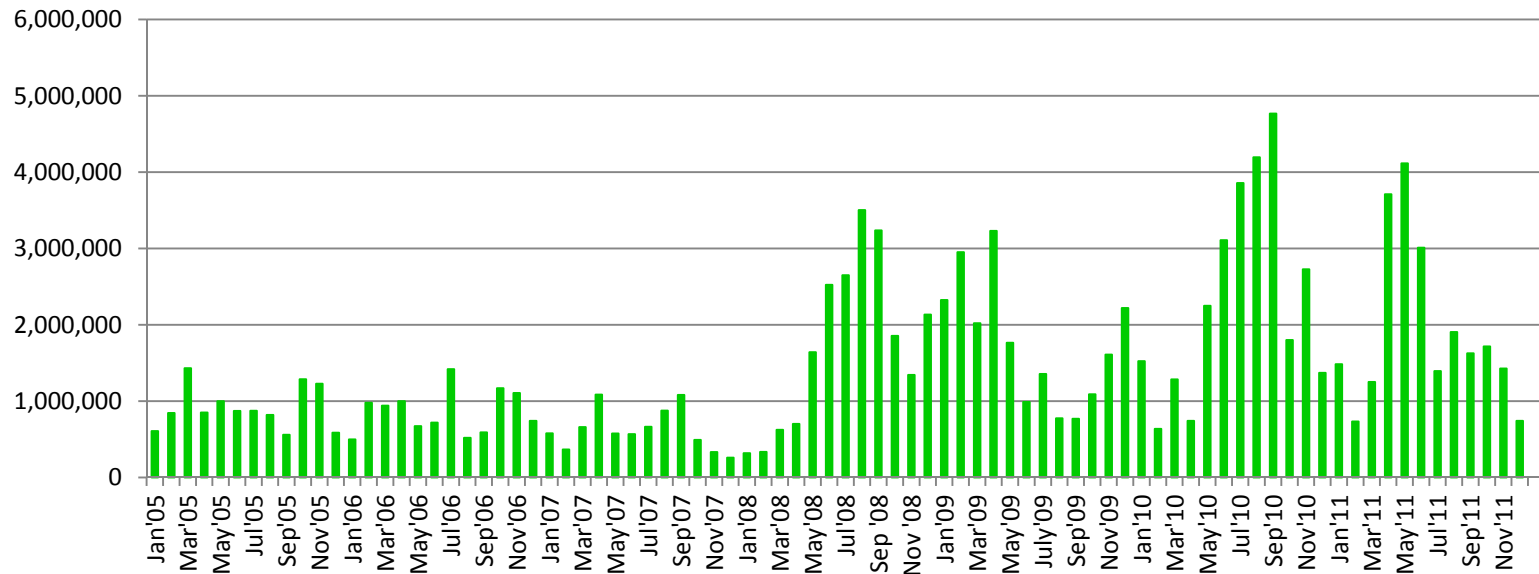
## Kagem Annual Summary

Kagem Annual Production Summary	UNITS	YEAR to 30 Jun 2006	YEAR to 30 Jun 2007	YEAR to 30 Jun 2008	YEAR to 30 Jun 2009	YEAR to 30 Jun 2010	YEAR to 30 Jun 2011	YTD to 31 Dec 2011
Gemstone Production (Emerald+Beryl)	Million carats	10.2	9.4	9.9	28	17.4	33.0	8.8
Ore Production (Reaction Zone)	000 Tonnes	22	29	42	80	61	69	42
Grade (Emerald+Beryl/Reaction Zone)	carats/tonne	462	325	233	349	286	478	212
Waste Mined (incl. TMS)	million tonnes	1.8	2.8	5.1	4	2.5	3.9	4.3
Waste+ TMS: Reaction Zone	stripping ratio	83	96	120	50	42	54	105
Total Rock Handling	million tonnes	1.8	2.8	5.1	4.1	2.6	3.9	4.3

1. Gemfields was contracted to manage Kagem in November 2007 and Gemfields acquired 75% of Kagem in June 2008. The remaining 25% is owned by the Government of the Republic of Zambia.
2. Kagem recorded gemstone production of 3.9 million carats in the quarter ending 31 December 2011.
3. Grade during the period ending 31 December 2011 stood at 212 carats per tonne, versus 478 carats per tonne in the year ending 30 June 2011.

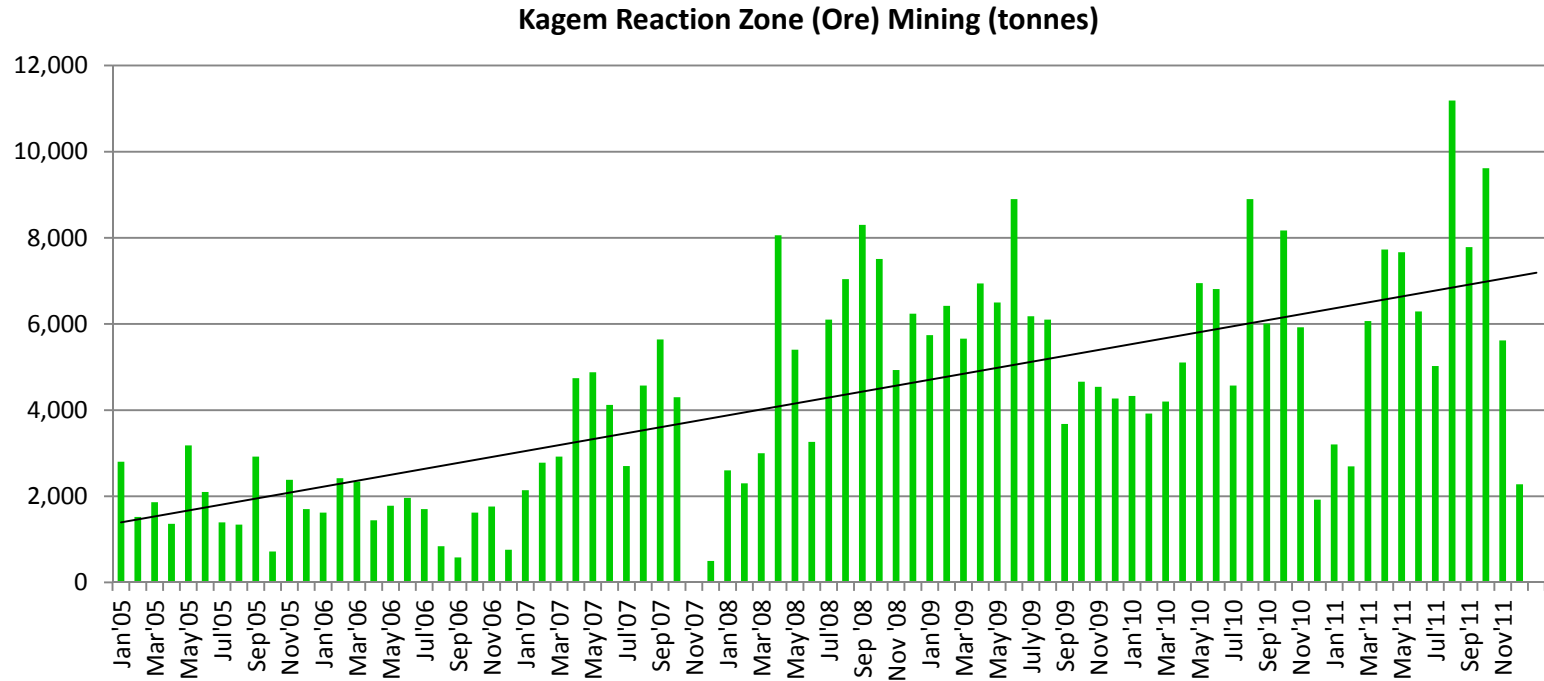
## Kagem Monthly Gemstone Production

Kagem Monthly Gemstone Production (carats)  
Emerald+Beryl



1. During Gemfields' period of ownership (which commenced June 2008), gemstone production has averaged 2.08 million carats per month.
2. Average monthly gemstone production in the quarter ending 31 December 2011 was 1.2 million carats (versus 1.6 million carats per month in the quarter ending 30 September 2011).

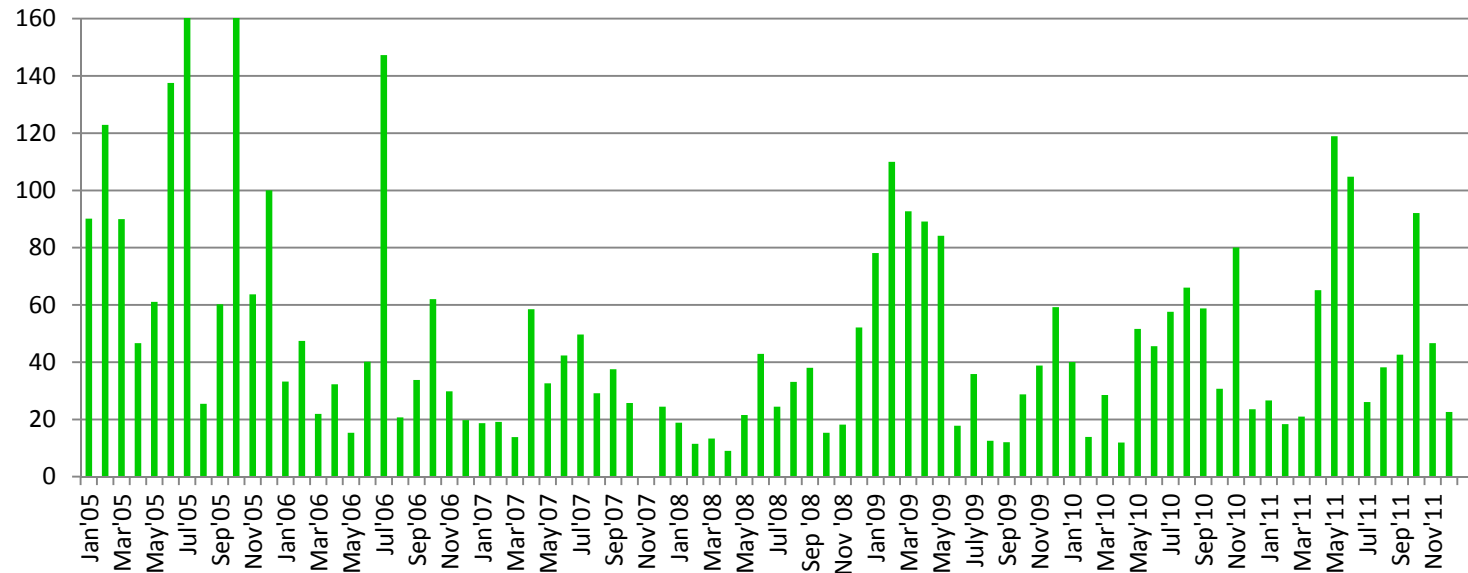
## Kagem Monthly Ore Mining



1. Average monthly ore mining (called “Reaction Zone”) in the quarter ending 31 December 2011 stood at 5,837 tonnes (versus 7,997 tonnes per month in the prior quarter).

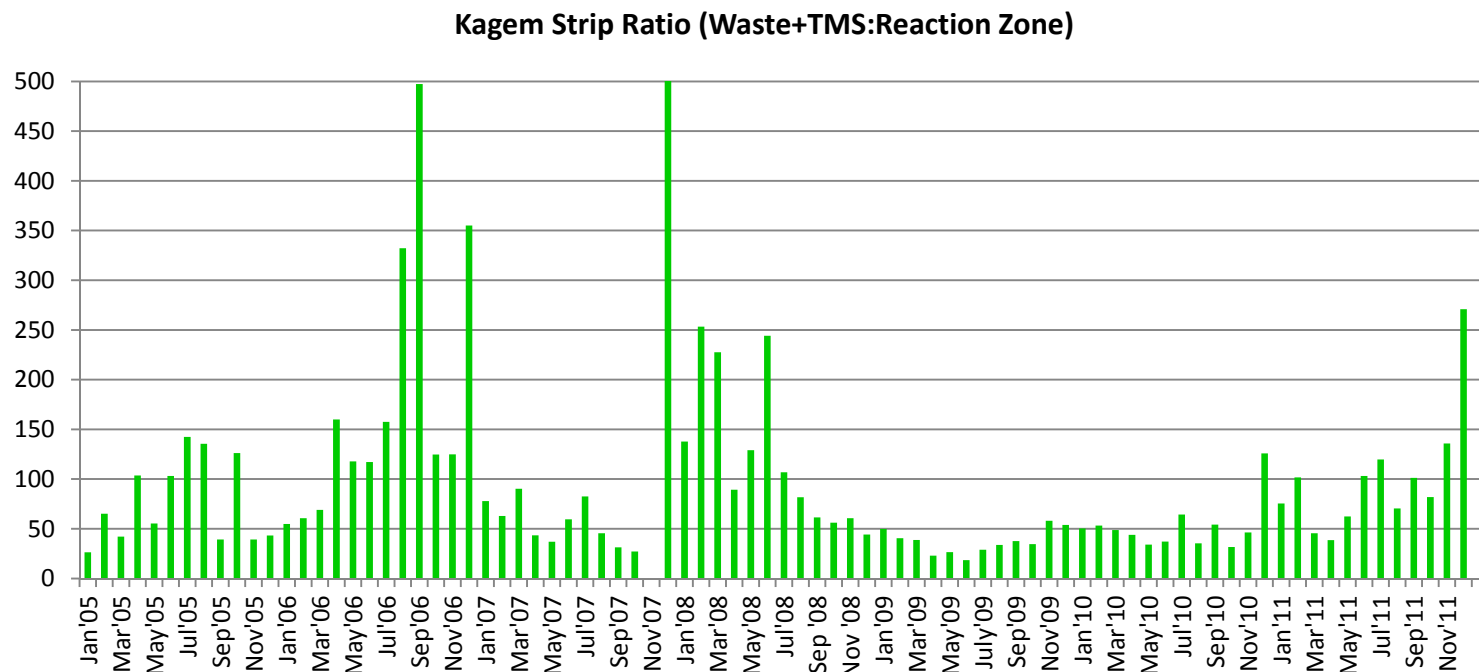
## Kagem Monthly Ore Grade

Kagem All-in Grade (carats/TMS tonne)  
Emerald+Beryl



1. During the quarter ending in 31 December 2011, the ore grade averaged 222 carats per tonne (compared with 205 carats per tonne in the prior quarter).
2. Since January 2005, Kagem's cumulative grade is approximately 342 carats per tonne.

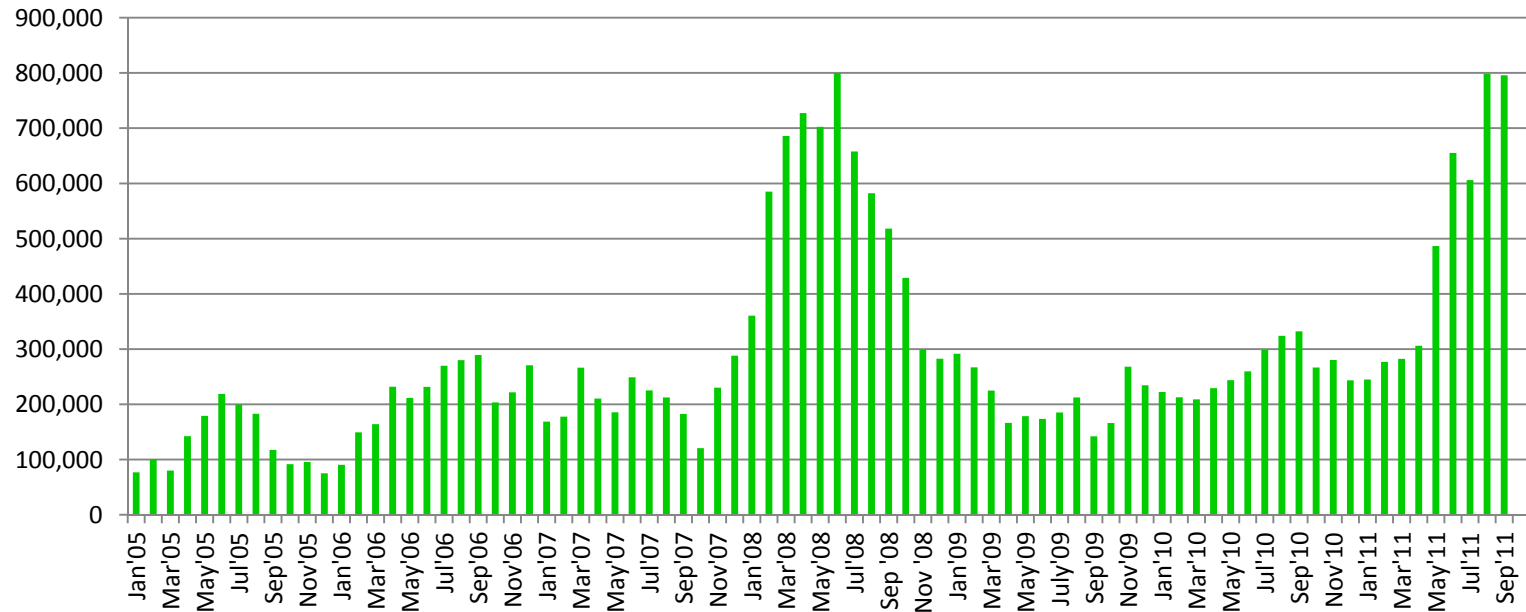
## Kagem Monthly Stripping Ratio



1. The early stages of Gemfields' management of Kagem (which commenced November 2007, with ownership occurring from June 2008) was characterised by the removal of a backlog of waste to open new ore areas for future production.
2. Kagem is presently carrying out a further waste stripping exercise (or "pushback") and the stripping ratio is expected to rise considerably in the short to medium term. The collective stripping ratio from January 2005 through December 2011 is 71:1.

## Kagem Total Monthly Rock Handling

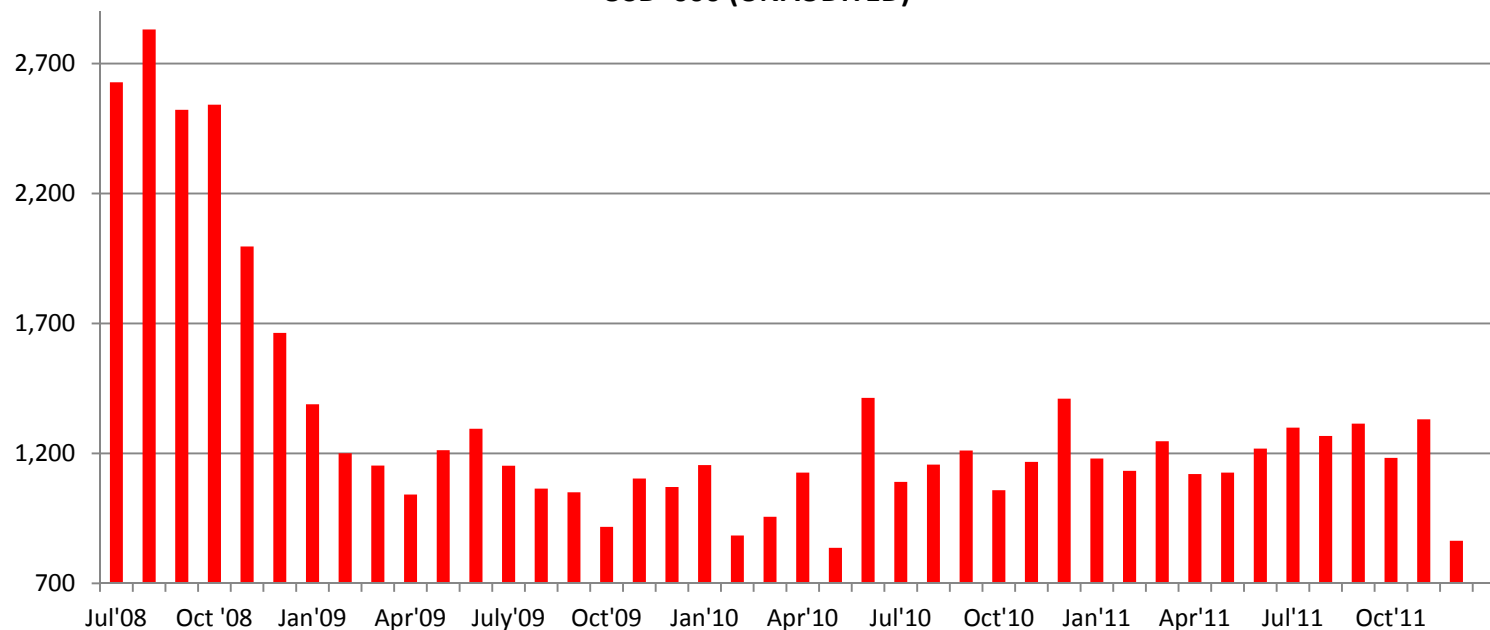
Kagem Total Rock Handling (tonnes)



1. Significant volumes of rock were handled in the early months after Gemfields took over management of Kagem (in November 2007) to open new production areas.
2. Rock handling levels have increased in recent months due to the current waste stripping programme (or “pushback”). The pushback is being carried out by a contract mining firm.

## Kagem Total Monthly Operating Costs (unaudited)

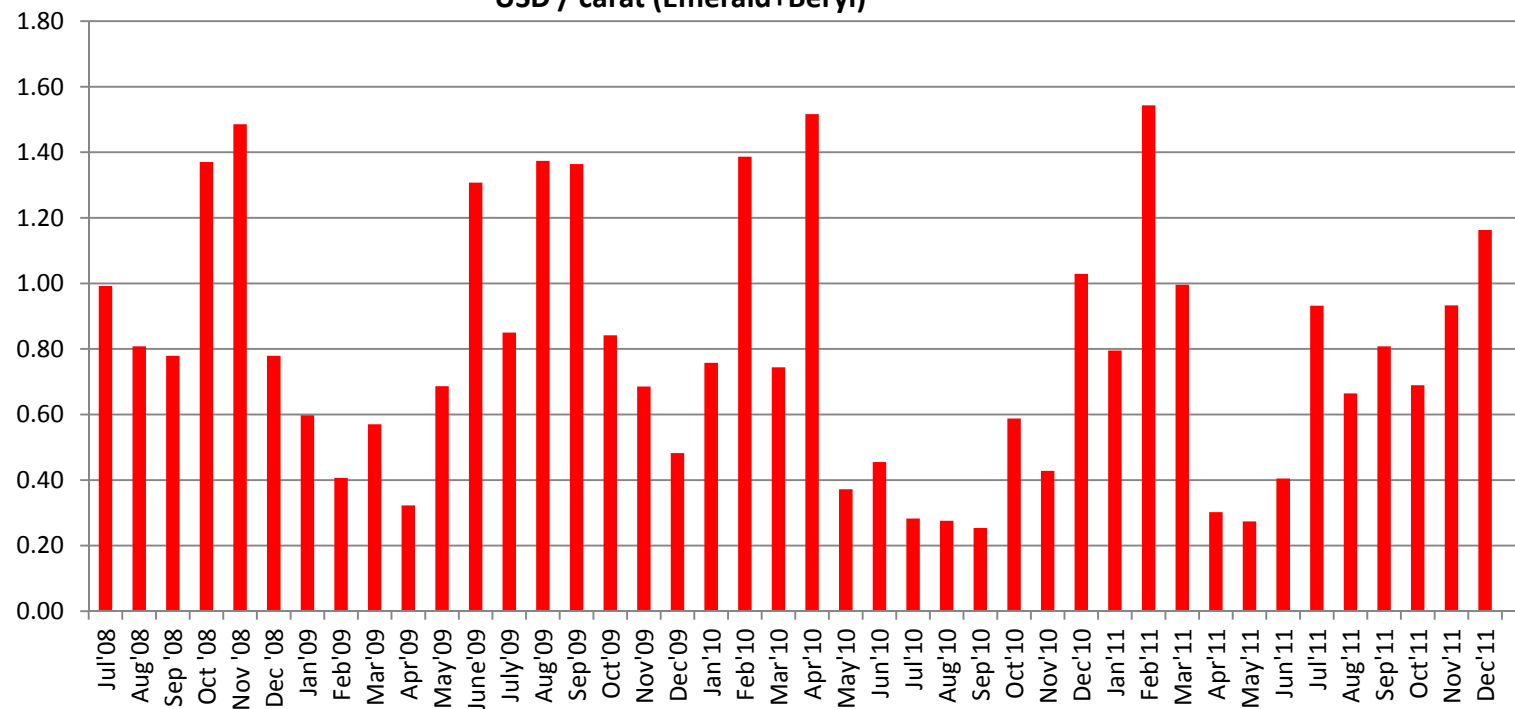
KAGEM'S TOTAL MONTHLY OPERATING COSTS  
USD '000 (UNAUDITED)



1. Significant reductions in monthly operating costs were achieved in late calendar 2008 and early 2009, primarily through a reduction in the stripping ratio and improved operating efficiencies.
2. \*With effect from July 2011, Gemfields adopted a new accounting policy whereby all waste moving costs are capitalised and are then subsequently amortised when the corresponding ore in that area is mined (in keeping with the accounting principle of “matching costs to revenues”). To date approximately USD 6.9 million of waste moving costs has been capitalised and the cumulative cost will be amortised later during the mining of the ore associated with that waste. Accordingly, the cost of the present pushback exercise will not be seen in the graph above until such time as the corresponding ore is mined.

## Kagem Unit Operating Costs (unaudited)

Kagem Unit Operating Costs  
USD / carat (Emerald+Beryl) \*



1. Kagem's average unit production cost during the quarter ending 31 December 2011 was approximately USD 0.87 per carat excluding pushback costs.
2. Kagem's average unit production cost during the fourteen quarters ending 31 December 2011 was approximately USD 0.64 per carat (emerald + beryl).

\*Note: With effect from July 2011, Gemfields adopted a new accounting policy whereby all waste moving costs are capitalised and are then subsequently amortised when the corresponding ore in that area is mined. To date approximately USD 6.9 million of waste moving costs has been capitalised and the cumulative cost will be amortised later when the ore associated with that waste is mined.

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