



# GEMFIELDS

## Market Update

Quarter ending 31 March 2013  
(unaudited)

May 2013

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# GEMFIELDS plc

Kagem Emerald Mine  
(Zambia)  
75%

Mbuva-Chibolele  
Emerald Mine (Zambia)  
100% (care & maintenance)

Kamakanga Emerald  
Mine (Zambia)  
100% (care & maintenance)

Kariba Amethyst Mine  
(Zambia)  
50%

15 Madagascar  
Exploration Licenses  
(rubies, sapphires and  
emeralds)

Zambian Emerald  
Exploration Licenses

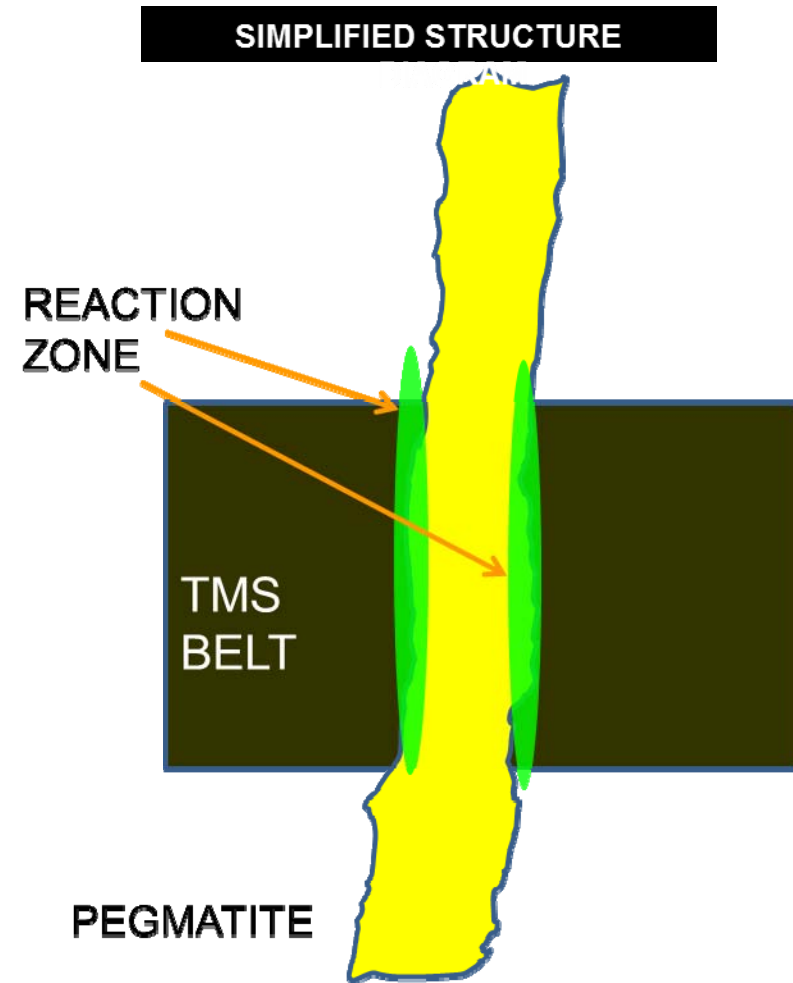
Montepuez Ruby Mine  
(Mozambique)  
75%

Faberge Limited  
100%

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 March 2013

KAGEM Quarterly Summary to Mar-13	Units	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	TOTAL
<b>PRODUCTION</b>														
Gemstone Production (Emerald+Beryl)	million carats	6.1	12.8	5.9	3.5	10.8	4.9	3.9	4.9	7.3	7.9	6.6	6.5	81.2
Ore Production (Reaction Zone)	'000 tonnes	18.9	19.5	16.0	12.0	21.7	24.0	17.5	20.8	40.7	30.5	23.1	24.5	269.0
Grade (Emerald+Beryl/Reaction Zone)	carats/tonne	323	658	369	290	500	205	222	236	181	259	288	265	302
Waste Mined (including TMS)	million tonnes	0.7	0.9	0.8	0.8	1.4	2.2	2.2	1.6	2.7	2.6	2.2	2.2	20.3
Total Rock Handling	million tonnes	0.7	1.0	0.8	0.8	1.4	2.2	2.2	1.6	2.8	2.6	2.2	2.3	20.6
Stripping Ratio		38	48	48	66	66	91	124	77	67	84	96	91	76
<b>CASH COSTS</b>														
Kagem Total (Cash) Operating Cost	USD million	3.4	3.5	3.6	3.6	3.5	7.2	7.0	6.0	9.8	8.5	7.7	6.9	70.8
Gemstone Unit Cost (E+B)	USD/carats	0.6	0.3	0.6	1.0	0.3	1.5	1.8	1.2	1.3	1.1	1.2	1.1	0.9
RZ Unit Cost	USD/RZ tonne	179	178	227	298	160	301	400	291	242	280	333	282	263
Rock Handling Unit Cost	USD/tonne	4.6	3.6	4.6	4.4	2.4	3.3	3.2	3.7	3.5	3.3	3.4	3.1	3.4
<b>ACCOUNTING COSTS</b>														
Kagem Operating Cost *	USD million						3.9	3.4	4.2	4.2	4.0	4.4	3.6	27.6
Gemstone Unit Cost (E+B) *	USD/carats						0.8	0.9	0.8	0.6	0.5	0.7	0.6	0.3
RZ Unit Cost *	USD/RZ tonne						162	193	200	104	130	189	147	102
Rock Handling Unit Cost *	USD/tonne						1.8	1.5	2.6	1.5	1.5	2.0	1.6	1.3

1. Kagem recorded gemstone production of 6.5 million carats. Ore grade during the quarter was 265 carats per tonne, with unit gemstone production costs of USD 0.56 per carat (and USD 1.06 per carat on a cash cost basis, i.e. including capitalised waste mining costs).
2. 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 313 carats per tonne.
3. Kagem’s unaudited total cash operating costs for the twelve quarters ending 31 March 2013 totalled USD 70.8 million, implying an average production cost during that period of USD 0.87 per carat of emerald and beryl.

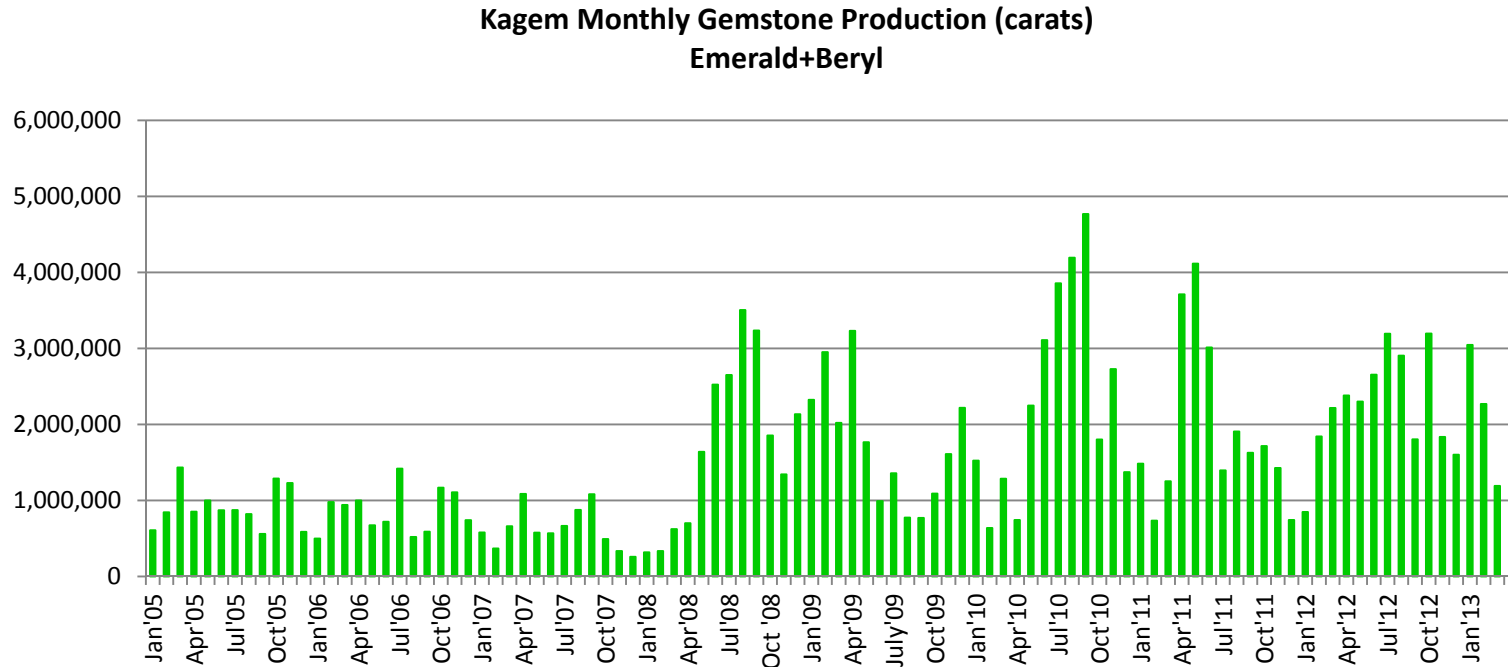
\* With effect from July 2011, Gemfields adopted a new accounting policy whereby all waste moving costs are capitalised and are then subsequently amortised when the corresponding ore in that area is mined (in keeping with the accounting principle of “matching costs to revenues”). Therefore, the following measures 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	YEAR to 30 Jun 2012
Gemstone Production (Emerald+Beryl)	million carats	10.2	9.4	9.9	28	17.4	33.0	21.1
Ore Production (Reaction Zone)	000 tonnes	22	29	42	80	61	69	103
Grade (Emerald+Beryl/Reaction Zone)	carats/tonne	462	325	233	349	286	478	205
Waste Mined (incl. TMS)	million tonnes	1.8	2.8	5.1	4.0	2.5	3.9	8.7
Waste+ TMS: Reaction Zone	stripping ratio	83	96	120	50	42	57	84
Total Rock Handling	million tonnes	1.8	2.8	5.1	4.1	2.6	4.0	8.8

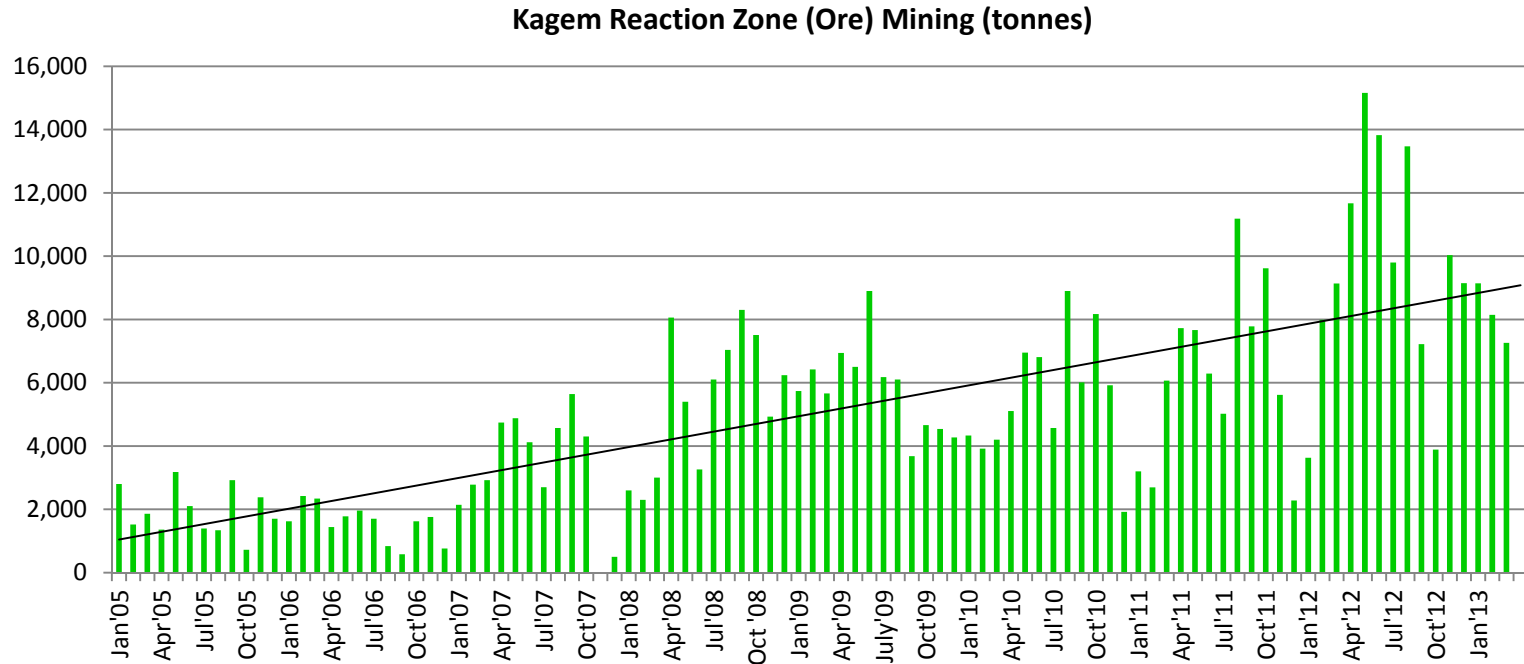
1. Gemfields was contracted to manage Kagem in November 2007 and Gemfields acquired 75% of Kagem in June 2008. The remaining 25% is owned by the Government of the Republic of Zambia.
2. Kagem recorded gemstone production of 21.1 million carats in the year ending 30 June 2012.
3. Grade during the period ending 30 June 2012 stood at 205 carats per tonne, versus 478 carats per tonne in the year ending 30 June 2011.

## Kagem Monthly Gemstone Production



1. During Gemfields' period of ownership (which commenced June 2008), gemstone production has averaged 2.1 million carats per month.
2. Average monthly gemstone production in the quarter ending 31 March 2013 was 2.2 million carats (versus 2.2 million carats per month in the quarter ending 31 December 2012).

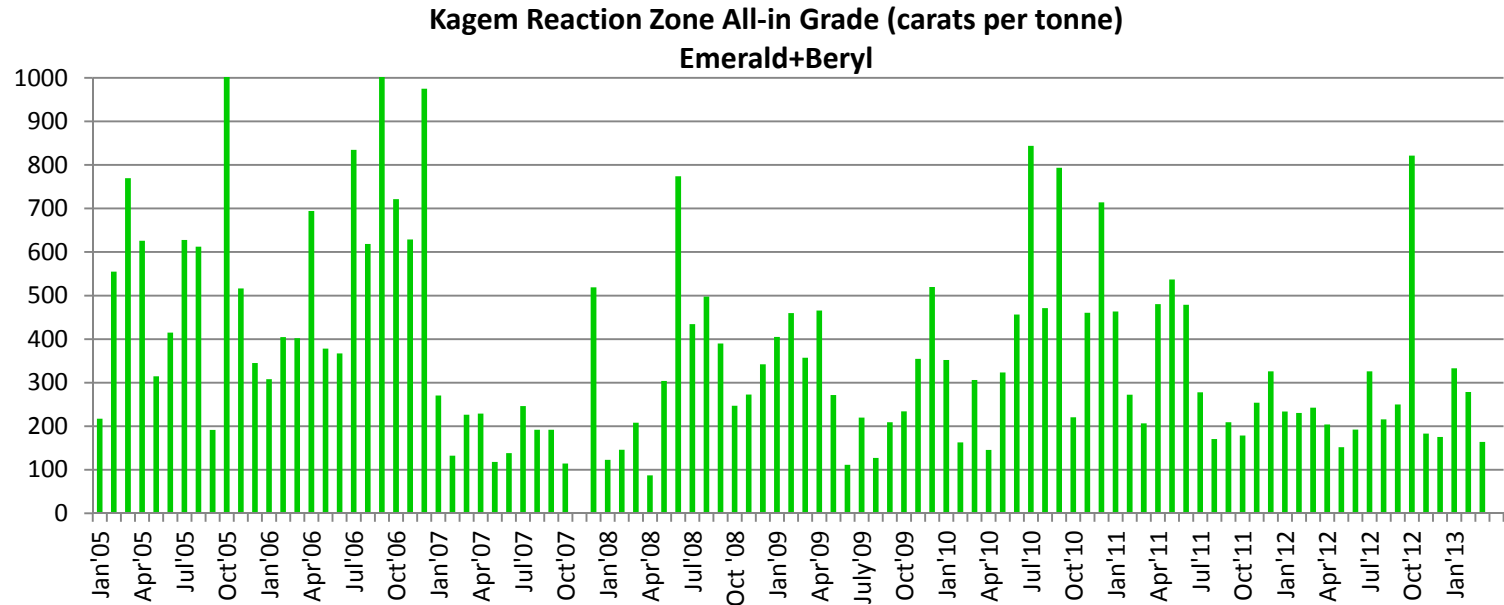
## Kagem Monthly Ore Mining



1. Average monthly ore mining (called “Reaction Zone”) in the quarter ending 31 March 2013 stood at 8,181 tonnes (versus 7,688 tonnes per month in the prior quarter).

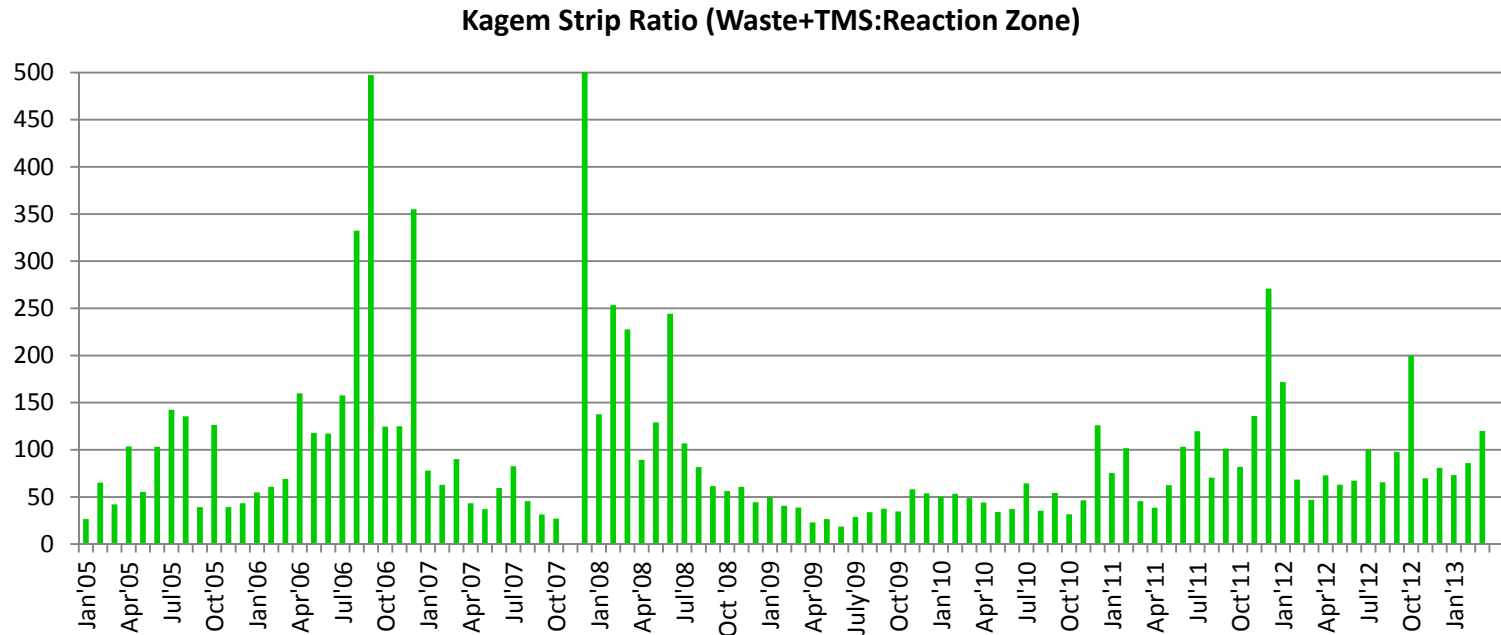


## Kagem Monthly Ore Grade



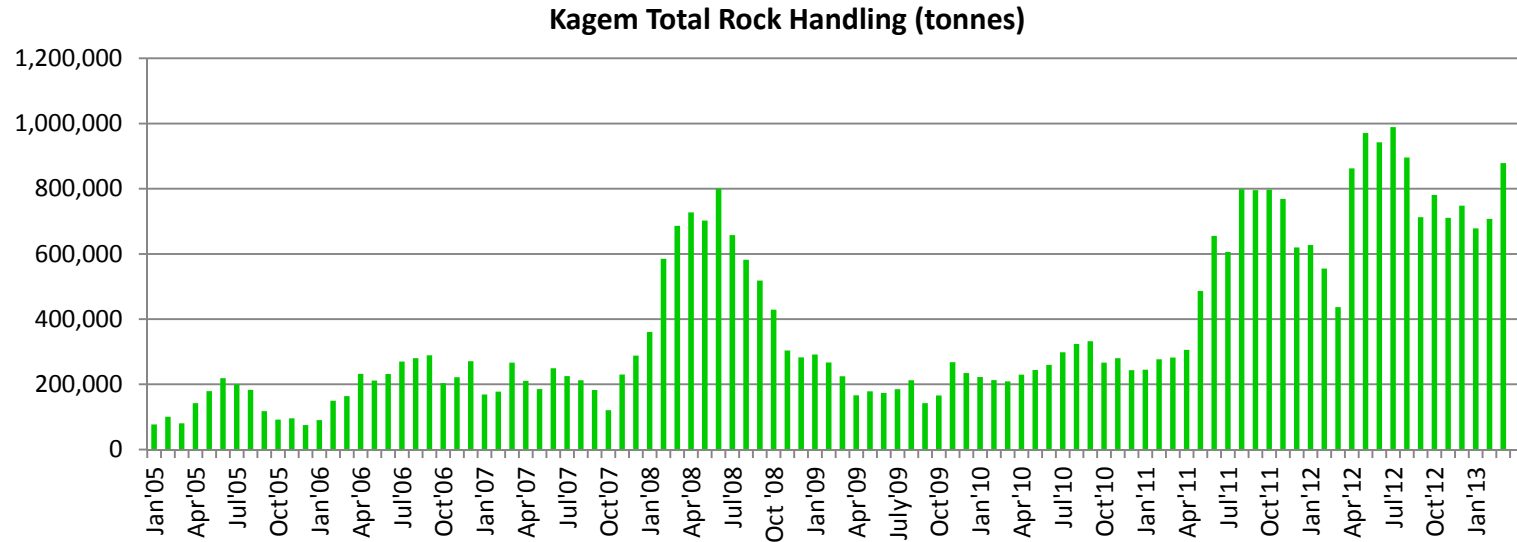
1. During the quarter ending 31 March 2013, the ore grade averaged 265 carats per tonne (compared with 288 carats per tonne in the prior quarter).
2. Since January 2005, Kagem's cumulative grade is approximately 313 carats per tonne.

## Kagem Monthly Stripping Ratio



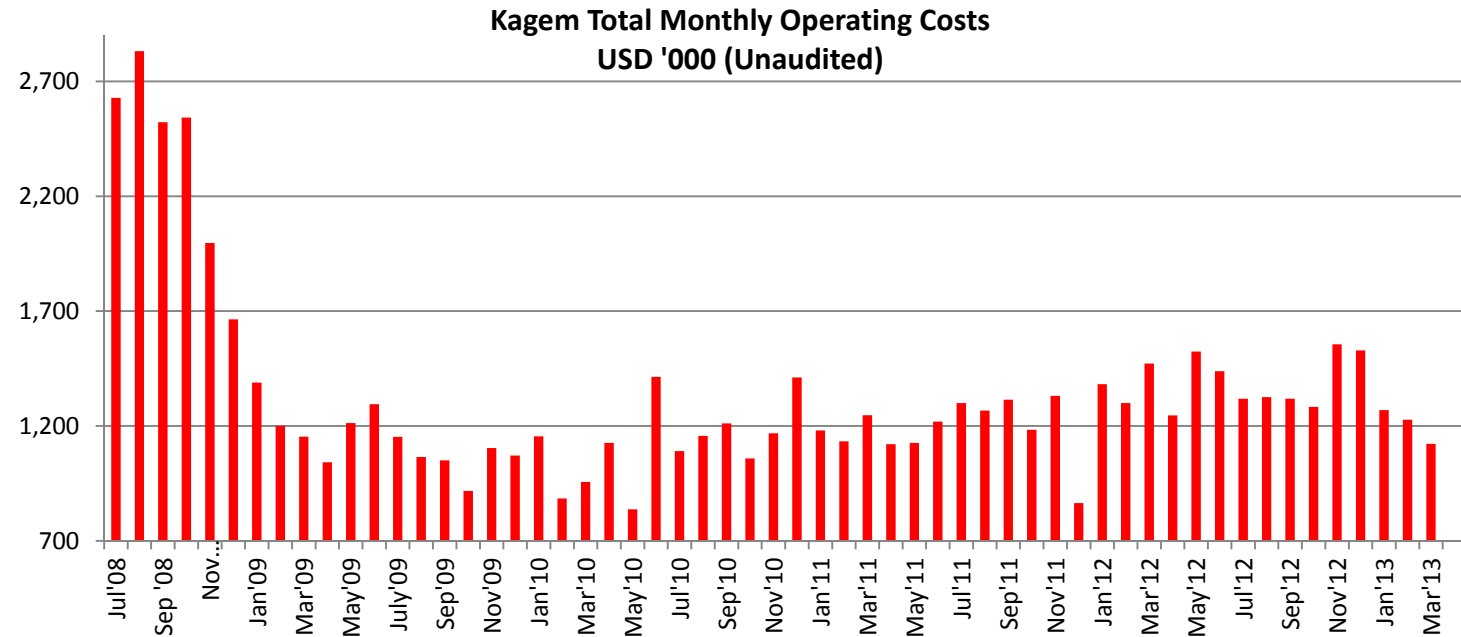
1. The early stages of Gemfields' management of Kagem (which commenced November 2007, with ownership occurring from June 2008) was characterised by the removal of a backlog of waste to open new ore areas for future production.
2. Kagem is presently carrying out a further waste stripping exercise (or "pushback") and the stripping ratio is expected to rise considerably in the short to medium term. The collective stripping ratio from January 2005 through March 2013 is 74:1.

## Kagem Total Monthly Rock Handling



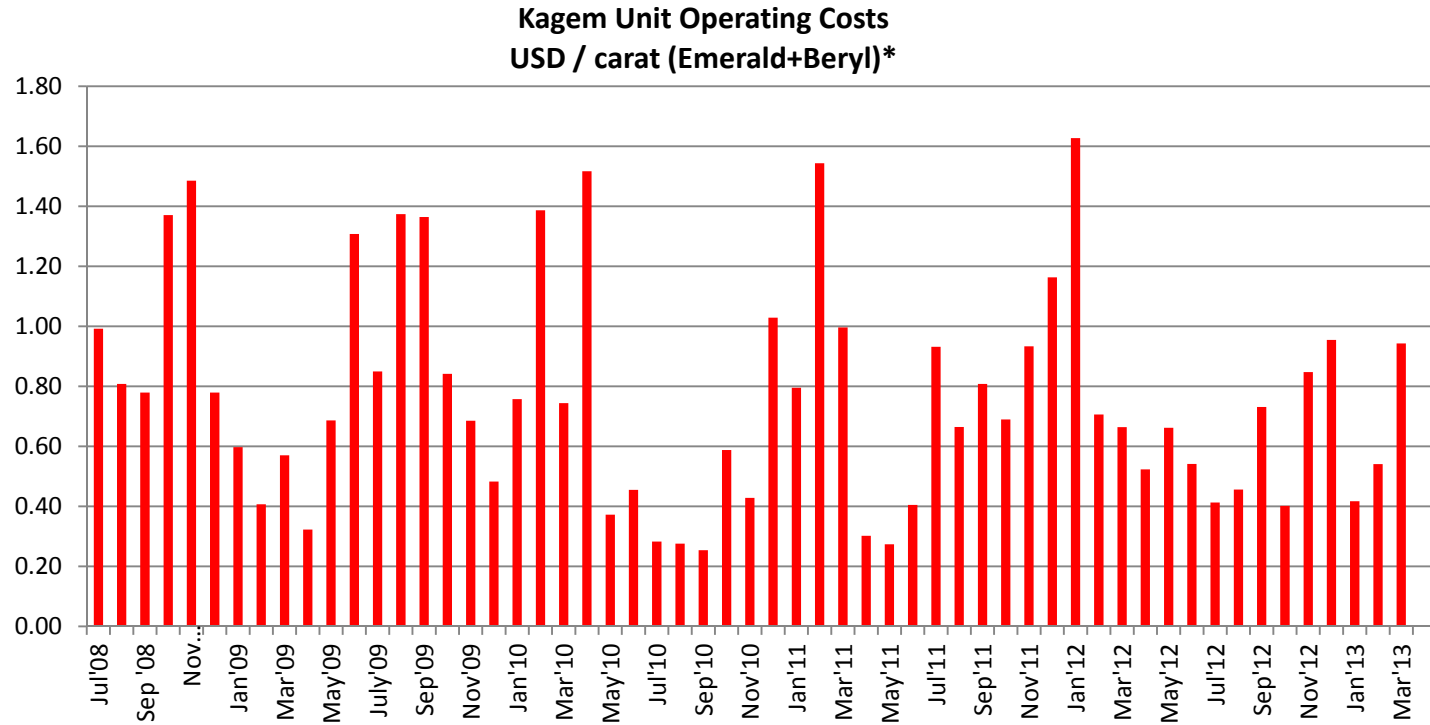
1. Significant volumes of rock were handled in the early months after Gemfields took over management of Kagem (in November 2007) to open new production areas.
2. Rock handling levels have increased in recent months due to the current waste stripping programme (or “pushback”).

## Kagem Total Monthly Operating Costs (unaudited)



1. Significant reductions in monthly operating costs have been achieved 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 25.7 million of waste moving costs have 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)



1. Kagem's average unit production cost during the quarter ending 31 March 2013 was approximately USD 0.56 per carat excluding pushback costs.
2. Kagem's average unit production cost during the seven quarters ending 31 March 2013 was approximately USD 0.65 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 25.7 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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