



## Afrimat – Moving into Manganese

Date: 21 May 2021

**Key message:** Manganese has been on the cards for some time – Afrimat has made it move. High iron ore prices will help fund the development of this greenfield deposit.

- Afrimat announced the acquisition of the Gravenhage manganese mining right in the Northern Cape (50km north of Hotazel). Afrimat has been looking at manganese for some time as it complements the bulk commodity mining business already established in the region.
- Gravenhage is an undeveloped long-life resource in the northern part of the Kalahari Manganese Field. A long legal battle delayed the award of a mining right for the deposit to seller Aquila Steel, with the Constitutional Court in February 2019 eventually upholding a High Court ruling to award the mining right to Aquila.
- The purchase price is US\$45m plus R15m for the property. A first tranche of US\$30m will be paid on fulfilment of the conditions precedent (key being section 11 transfer of mining right and Water Use License) plus R15m for the property purchase. A second tranche of US\$15m will be payable at the earlier of Afrimat diluting its mining right interest to less than 50% or 12 months after the first product is mined.
- A summary of the deposit can be found on the Aquila Resources website ([click here](#)). We include these details in this report.
- A feasibility study was conducted by Aquila for a medium to high grade manganese project at the Gravenhage Deposit, based on a JORC-compliant Reserve of 20.2Mt grading 40.1% Mn. The study proposes a 1.5Mtpa run-of-mine open cut operation, with subsequent underground mining by decline access from the open pit. The DFS provides for oxide ore to be crushed and screened to produce 1.125Mtpa of lump ore for export and 330ktpa of fine ore for sale to domestic sinter plants.
- The capital development cost is estimated at R1.5-R2bn (including the cost of the mining right and property). Production could start from 2H CY22.
- The project is viable using trucks to transport the ore as opposed to rail (rail R700/t and trucks R1000/t), although a rail option is being discussed with Transnet.
- Afrimat can fund the acquisition and development of the mine through existing cash flows and some debt – a capital raise is not necessarily required.

### Analyst

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Price (21/05/2021):	R46.86
Target Price:	R44.34
Spot Valuation:	R110.77
Market cap	R5,071m
Shares in issue	139.3mn

### Financial summary

ZARmn (year to June)	FY19	FY20	FY21E	FY22E	FY23E
Revenue	2966	3304	3599	4518	4636
EBITDA	638	788	1117	1474	1194
Net income	301	463	631	901	700
Headline EPS (diluted)	233	344	462	646	501
PE Ratio	13.5	8.3	10.1	7.2	9.3
Dividend	81	36	171	239	186
Dividend yield (%)	2.7%	1.3%	3.7%	5.1%	4.0%

Source: Factset, Company data, Chronux Research estimates

*Sponsored Research: Chronux Research is compensated by certain corporates to produce objective and impartial research. A Recommendation is not provided. Earnings forecasts and a Target Price are the independent view of the analyst, based on his/her view of all factors that could influence earnings and peer comparisons. Management has no editorial input.*

**Figure 1 Financial summary**

<b>Financial year to June</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21E</b>	<b>FY22E</b>	<b>FY23E</b>
ZAR/USD exchange rate	13.75	14.77	16.43	15.10	15.34
<b>Per share data</b>					
Earnings (diluted)	220	338	463	646	501
<b>Headline earnings (diluted)</b>	<b>233</b>	<b>344</b>	<b>462</b>	<b>646</b>	<b>501</b>
NAV	8.67	10.90	14.47	18.10	21.17
Dividend	81	36	171	239	186
<b>Valuation ratios</b>					
P/E ratio	13.5	8.3	10.1	7.2	9.3
EV/EBITDA	7.0	5.2	7.1	5.1	6.6
P/B	2.89	2.29	2.92	2.38	2.05
Dividend yield	2.7%	1.3%	3.7%	5.1%	4.0%
<b>Income Statement (ZARmn)</b>					
Sales	2,966	3,304	3,599	4,518	4,636
<i>Sales growth</i>		<b>11.4%</b>	<b>8.9%</b>	<b>25.5%</b>	<b>2.6%</b>
Cost of sales	(2,043)	(2,239)	(2,130)	(2,559)	(2,945)
<b>Gross Profit</b>	<b>923</b>	<b>1,065</b>	<b>1,470</b>	<b>1,959</b>	<b>1,690</b>
<i>Gross margin</i>	<b>31.1%</b>	<b>32.2%</b>	<b>40.8%</b>	<b>43.4%</b>	<b>36.5%</b>
SG&A Expense	(451)	(478)	(542)	(680)	(698)
Other Operating Income/Expense	20	24	7	8	8
<b>EBITDA</b>	<b>638</b>	<b>788</b>	<b>1,117</b>	<b>1,474</b>	<b>1,194</b>
<i>EBITDA margin</i>	<b>21.5%</b>	<b>23.9%</b>	<b>31.0%</b>	<b>32.6%</b>	<b>25.8%</b>
Depreciation & Amortisation	(146)	(177)	(182)	(188)	(194)
<b>EBIT (Operating Income)</b>	<b>492</b>	<b>611</b>	<b>934</b>	<b>1,286</b>	<b>1,000</b>
<i>EBIT margin</i>	<b>16.6%</b>	<b>18.5%</b>	<b>26.0%</b>	<b>28.5%</b>	<b>21.6%</b>
Nonoperating Income - Net	(20)	(10)	0	0	0
Net Interest Expense	(52)	(28)	(40)	(13)	20
Equity in Earnings of Affiliates	2	0	0	0	0
<b>PBT</b>	<b>422</b>	<b>573</b>	<b>894</b>	<b>1,274</b>	<b>1,020</b>
Income Taxes	(117)	(108)	(247)	(352)	(281)
<i>Tax rate</i>	<b>27.8%</b>	<b>18.9%</b>	<b>27.6%</b>	<b>27.7%</b>	<b>27.6%</b>
Consolidated Net Income	304	465	634	906	723
Minority Interest	(3)	(3)	(3)	(5)	(23)
<b>Net Income</b>	<b>301</b>	<b>463</b>	<b>631</b>	<b>901</b>	<b>700</b>
<b>Cash flow statement (ZARmn)</b>					
Changes in working capital	(87)	(91)	(96)	(101)	(106)
<b>Cash from operating activities</b>	<b>410</b>	<b>677</b>	<b>817</b>	<b>1,094</b>	<b>916</b>
Capital expenditure	(94)	(154)	(516)	(321)	(278)
Other	14	24	(257)	(26)	34
<b>Investing cash flow</b>	<b>(80)</b>	<b>(130)</b>	<b>(773)</b>	<b>(347)</b>	<b>(244)</b>
Changes in borrowings	(165)	(250)	261	(94)	(193)
Dividend paid	(86)	(138)	(49)	(329)	(406)
Other	(43)	(49)	(19)	0	0
<b>Financing cash flow</b>	<b>(295)</b>	<b>(437)</b>	<b>194</b>	<b>(423)</b>	<b>(599)</b>
Change in cash	36	110	237	324	73
<b>Balance sheet (ZARmn)</b>					
<b>Total assets</b>	<b>2,687</b>	<b>2,795</b>	<b>3,629</b>	<b>4,137</b>	<b>4,375</b>
Cash and equivalents	192	168	407	731	805
Other current assets	710	742	877	912	949
Non-current assets	1,785	1,886	2,345	2,494	2,622
<b>Total liabilities</b>	<b>1,277</b>	<b>1,106</b>	<b>1,441</b>	<b>1,368</b>	<b>1,197</b>
Long-term liabilities	591	507	769	669	470
Current liabilities	686	599	672	699	727
<b>Total shareholders' funds</b>	<b>1,410</b>	<b>1,689</b>	<b>2,188</b>	<b>2,749</b>	<b>3,187</b>
Net debt/(cash)	326	128	150	(268)	(534)

Source: Factset, Company data, Chronux Research estimates

## Valuation

- We value Afrimat using a Sum-of-the-Parts methodology. We value the iron ore assets (Demaneng and Coza) using a DCF for the life-of-mine. We have added a valuation for the Nkomati anthracite mine. We apply a 5x PE multiple to the expected profit after tax for the operation (expected to contribute from 2H FY22).
- Our base year for EBITDA multiples is FY22 to remove the Covid impact expected for FY21.

**Figure 2 Sum-of-the-Parts Valuation – FY22 EBITDA (Base Case)**

ZARm	Multiple range	Comment	FY22 EBITDA	EV/EBITDA Multiple	Enterprise Value
Construction Materials	4-6x	Mid range multiple	325	5.0x	1,624
Iron ore		DCF @ WACC			3,219
Anthracite - Nkomati	5x	PE			574
Industrial Minerals	4-6x	Mid range multiple	126	4.0x	504
					<b>5,920</b>
Other assets		From balance sheet			97
Minorities		From balance sheet			(94)
Net (debt)/cash		From balance sheet			268
<b>Equity value</b>					<b>6,191</b>
Number of shares ('m)					139,610
<b>Valuation (ZAR per share)</b>					<b>44.34</b>

Source: Company data, Chronux Research estimates

### Construction Materials

- We use a 5 times EBITDA multiple to value this division. This is in line with how we value comparable company Raubex – the two companies have similar construction materials businesses with significant regional footprints.

### Bulk Commodities

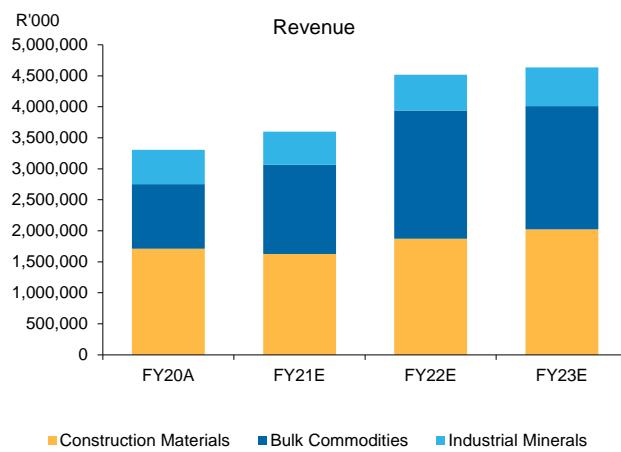
- We value the Demaneng iron ore mine using a DCF methodology.
- The Coza acquisition does allow for an extension of the LOM for iron ore exports from 10 years to +20 years (Coza should extend the LOM by more than 20 years). We have included this in our iron ore valuation.
- The opportunity to sell 1.25mtpa of direct shipping ore (minimal processing required) to AMSA is a potential boost to earnings, with margins/t expected to similar to export margins (AMSA will buy the product on an export parity pricing model). However, we have not included this in our model at this stage due to the uncertainty over the future of AMSA.
- We do add a value for the access to the rail line to Saldanha and allocated tonnage from Transnet – this allocation is valuable on a stand-alone basis to anyone who requires access to the export market.
- We have added a valuation for Nkomati Anthracite – we ascribe a 5x PE to the expected PAT of the mine.

### Industrial Minerals

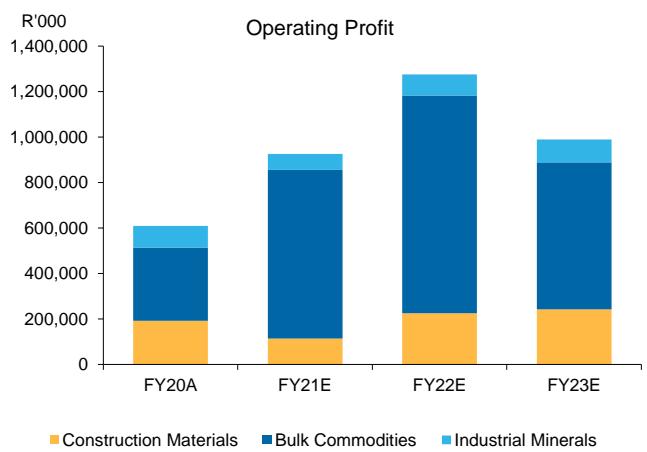
- We use a 4 times EBITDA multiple to value this division. Afrimat has well-placed quarries close to market with high-grade material.
- However, reliance on large industrial customers (Arcelor Mittal South Africa) does pose a potential risk – AMSA accounts for approx. 12-15% of revenue in this division.

### Overall Valuation

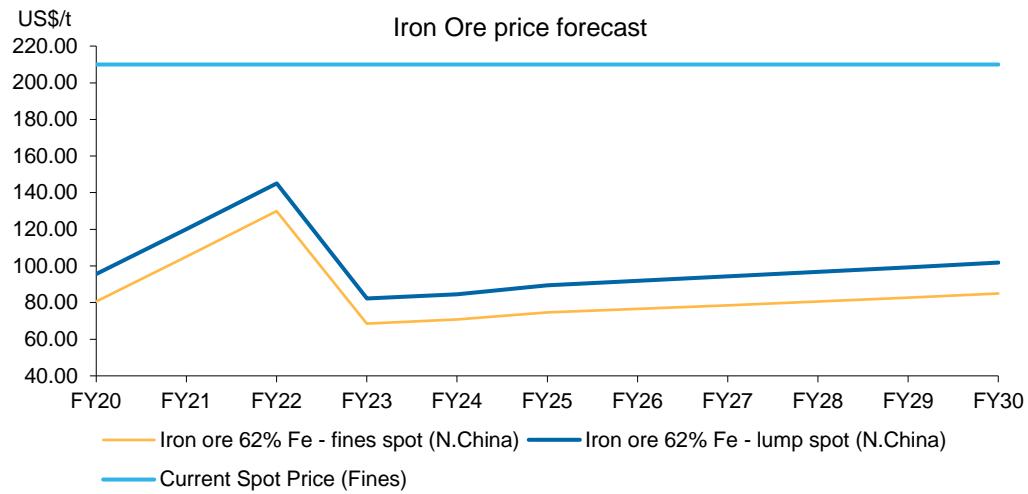
- The Coza acquisition adds R6-7 to our valuation (net of acquisition costs and WC). Nkomati adds R2-3 (net of R250 capital required) to our valuation of Afrimat.

**Group Forecast****Figure 3 Group Revenue**

Source: Company data, Chronux Research

**Figure 4 Group Operating Profit**

Source: Company data, Chronux Research

**Figure 5 Iron Ore Price Forecasts**

Source: Company data, Chronux Research

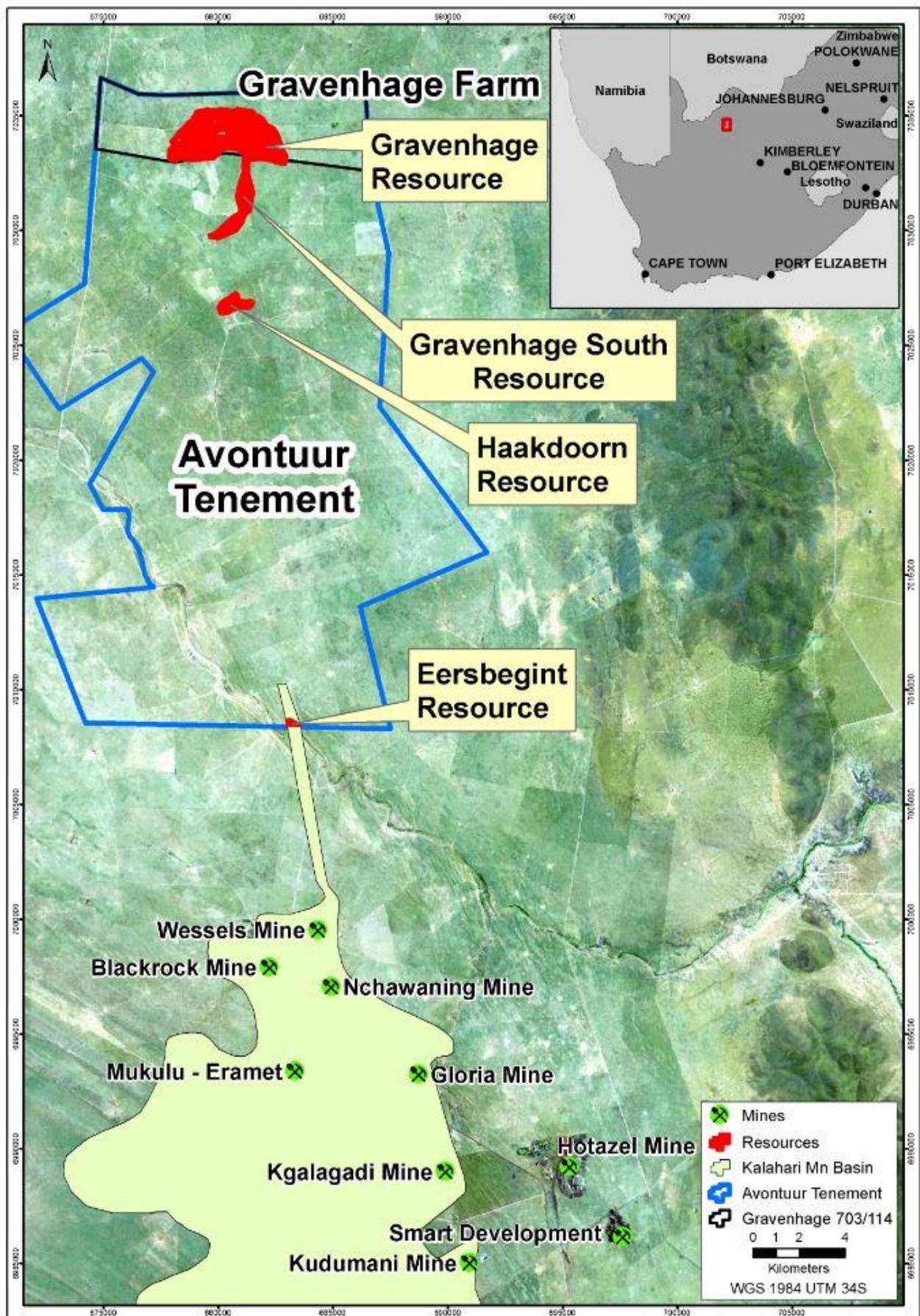
**Valuation using Spot Prices**

- Should we use spot iron ore prices for Demaneng (US\$210/tonne for iron ore fines), our valuation increases to R110.77 per share.

**Figure 6 Sum-of-the-Parts Valuation – FY22 EBITDA (Spot Iron Ore Price)**

ZARm	Multiple range	Comment	FY22 EBITDA	EV/EBITDA Multiple	Enterprise Value
Construction Materials	4-6x	Mid range multiple	325	5.0x	1,624
Iron ore		DCF @ WACC			12,492
Anthracite - Nkomati		PE			574
Industrial Minerals	4-6x	Mid range multiple	126	4.0x	504
					<b>15,194</b>
Other assets		From balance sheet			97
Minorities		From balance sheet			(94)
Net (debt)/cash		From balance sheet			268
<b>Equity value</b>					<b>15,465</b>
Number of shares ('m)					139,610
<b>Valuation (ZAR per share)</b>					<b>110.77</b>

Source: Company data, Chronux Research estimates

**Gravenhage Resource (from the Aquila Resources website)**

## Reserve and Resource

- The most recent Mineral Resource Estimate (JORC, 2012) was completed for the Gravenhage Manganese Deposit during the September Quarter 2013, with a Resource of 111.7Mt at 38.5% Mn. The Measured and Indicated Resource categories comprise 92.3Mt. The broader Avontuur Manganese Project area contains Mineral Resource Estimates (JORC, 2004 and 2012) totalling 141.7Mt at 38.4% Mn.

## Gravenhage Deposit

- Aquila completed a Definitive Feasibility Study ("DFS) for a medium to high grade manganese project at the Gravenhage Deposit, based on a JORC-compliant Reserve of 20.2Mt grading 40.1% Mn. The DFS proposes a 1.5Mtpa run-of-mine open cut operation, with subsequent underground mining by decline access from the open pit. The DFS provides for oxide ore to be crushed and screened to produce 1.125Mtpa of lump ore for export and 330ktpa of fine ore for sale to domestic sinter plants. Blending stockpiles at the mine will allow for a consistent product to be prepared for transport to domestic and international customers. Marketing studies indicate Gravenhage's lump product should attract similar manganese prices to those achieved by premium South African and Australian ores, due to relatively low contaminant levels that contribute to slag formation in ferro-alloy furnaces.
- The South African rail and port infrastructure is owned and managed by Transnet, a state-owned enterprise. Through its membership of the Manganese Industry Forum, Aquila has been working with Transnet, which is increasing the capacity of the rail line to the port of Port Elizabeth, as well as the establishment of a new export terminal at the nearby deep-water port of Nggura. In 2009, Transnet embarked on the Manganese Export Capacity Allocation ("MECA") process. Aquila participated in the MECA process and was pre-qualified by Transnet to participate in the re-allocation of the Port Elizabeth export capacity.
- Aquila's mining right application for the Gravenhage Project had been pending for a number of years. A Mining Right has recently been granted and Aquila is now considering next steps.

## Divisional Forecast

**Figure 7 Divisional Forecast**

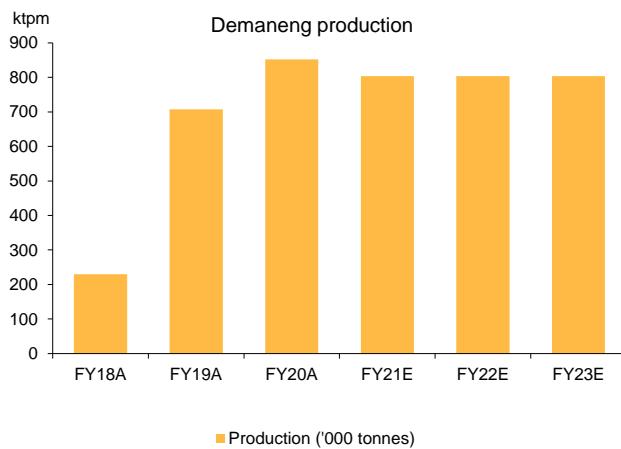
ZAR000's	1H20	2H20	FY20A	1H21	2H21	FY21E	1H22	2H22	FY22E	1H22	2H22	FY23E
<b>Revenue</b>	<b>1,719,802</b>	<b>1,584,574</b>	<b>3,304,376</b>	<b>1,558,629</b>	<b>2,040,682</b>	<b>3,599,311</b>	<b>2,173,687</b>	<b>2,344,416</b>	<b>4,518,103</b>	<b>2,144,093</b>	<b>2,491,522</b>	<b>4,635,614</b>
Construction Materials	922,917	791,263	1,714,180	651,965	976,506	1,628,471	749,760	1,122,982	1,872,742	809,741	1,212,820	2,022,561
Bulk Commodities	497,701	539,963	1,037,513	667,915	739,485	1,434,738	1,166,079	900,292	2,066,371	1,055,876	931,868	1,987,743
- Demaneng	497,701	539,963	1,037,513	667,915	739,485	1,434,738	954,399	688,612	1,643,011	632,516	508,508	1,141,023
- Nkomati							211,680	211,680	423,360	423,360	423,360	846,720
Industrial Minerals	299,184	253,499	552,683	238,749	297,354	536,103	257,849	321,142	578,991	278,477	346,833	625,310
<b>Revenue growth</b>	<b>19.9%</b>	<b>3.5%</b>	<b>11.4%</b>	<b>-9.4%</b>	<b>28.8%</b>	<b>8.9%</b>	<b>39.5%</b>	<b>14.9%</b>	<b>25.5%</b>	<b>-1.4%</b>	<b>6.3%</b>	<b>2.6%</b>
Construction Materials	6.1%	-9.0%	-1.5%	-29.4%	23.4%	-5.0%	15.0%	15.0%	15.0%	8.0%	8.0%	8.0%
Bulk Commodities	77.5%	34.4%	52.1%	34.2%	37.0%	38.3%	74.6%	21.7%	44.0%	-9.5%	3.5%	-3.8%
- Demaneng					37.0%	38.3%	42.9%	-6.9%	14.5%	-33.7%	-26.2%	-30.6%
- Nkomati										100.0%	100.0%	100.0%
Industrial Minerals	5.2%	-2.6%	1.5%	-20.2%	17.3%	-3.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
<b>Operating profit</b>	<b>317,993</b>	<b>282,959</b>	<b>600,952</b>	<b>353,108</b>	<b>567,872</b>	<b>920,980</b>	<b>709,135</b>	<b>561,906</b>	<b>1,271,041</b>	<b>519,545</b>	<b>464,673</b>	<b>984,218</b>
Construction Materials	122,161	70,277	192,438	2,764	111,229	113,993	89,971	134,758	224,729	97,169	145,538	242,707
Bulk Commodities	138,191	182,944	321,665	325,829	416,464	742,293	580,408	378,266	958,674	380,320	266,141	646,461
- Demaneng	138,191	182,944	321,665	325,829	416,464	742,293	580,408	335,930	916,338	274,480	160,301	434,781
- Nkomati							0	42,336	42,336	105,840	105,840	211,680
Industrial Minerals	62,368	33,200	95,568	24,574	45,119	69,693	41,256	51,383	92,639	44,556	55,493	100,050
Other	-4,727	-3,992	-8,719	-59	-4,941	-5,000	-2,500	-2,500	-5,000	-2,500	-2,500	-5,000
<b>Margin</b>	<b>18.5%</b>	<b>17.9%</b>	<b>18.2%</b>	<b>22.7%</b>	<b>27.8%</b>	<b>25.6%</b>	<b>32.6%</b>	<b>24.0%</b>	<b>28.1%</b>	<b>24.2%</b>	<b>18.7%</b>	<b>21.2%</b>
Construction Materials	13.2%	8.9%	11.2%	0.4%	11.4%	7.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
Bulk Commodities	27.8%	33.9%	31.0%	48.8%	56.3%	51.7%	49.8%	42.0%	46.4%	36.0%	28.6%	32.5%
- Demaneng	27.8%	33.9%	31.0%	48.8%	56.3%	51.7%	60.8%	48.8%	55.8%	43.4%	31.5%	38.1%
- Nkomati							0.0%	20.0%	10.0%	25.0%	25.0%	25.0%
Industrial Minerals	20.8%	13.1%	17.3%	10.3%	15.2%	13.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%
<b>Operating profit growth</b>	<b>56.9%</b>	<b>5.4%</b>	<b>27.5%</b>	<b>11.0%</b>	<b>100.7%</b>	<b>53.3%</b>	<b>100.8%</b>	<b>-1.1%</b>	<b>38.0%</b>	<b>-26.7%</b>	<b>-17.3%</b>	<b>-22.6%</b>
Construction Materials	6.5%	-6.8%	1.2%	-97.7%	58.3%	-40.8%	3155.1%	21.2%	97.1%	8.0%	8.0%	8.0%
Bulk Commodities	176.2%	20.9%	59.8%	135.8%	127.6%	130.8%	78.1%	-9.2%	29.2%	-34.5%	-29.6%	-32.6%
- Demaneng	176.2%	20.9%	59.8%	135.8%	127.6%	130.8%	78.1%	-19.3%	23.4%	-52.7%	-52.3%	-52.6%
- Nkomati											150.0%	400.0%
Industrial Minerals	50.4%	-9.1%	22.5%	-60.6%	35.9%	-27.1%	67.9%	13.9%	32.9%	8.0%	8.0%	8.0%

Source: Company data, Chronux Research estimates

### Demaneng forecasts

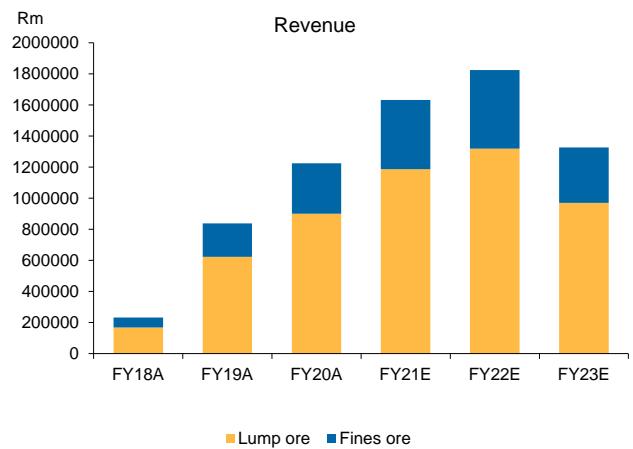
- Our forecasts for Demaneng are shown in the following charts.

**Figure 8 Demaneng - Production**



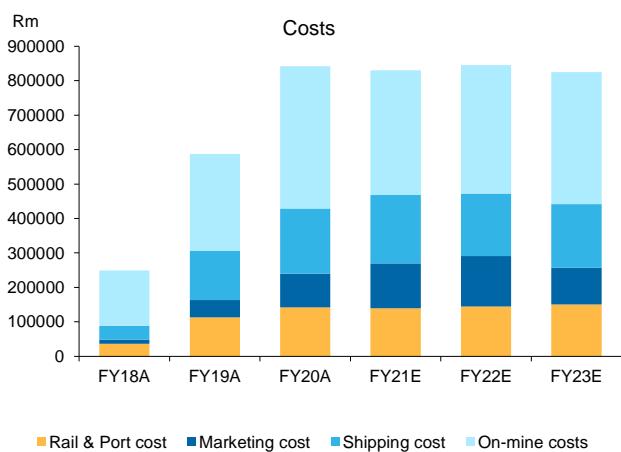
Source: Company data, Chronux Research

**Figure 9 Demaneng - Revenue**



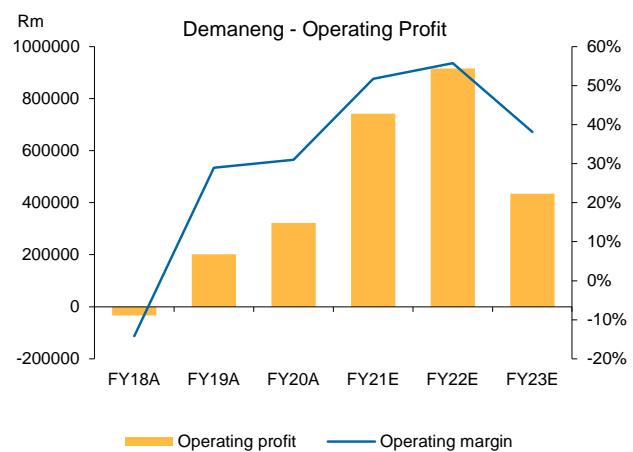
Source: Company data, Chronux Research

**Figure 10 Demaneng - Cost breakdown**



Source: Company data, Chronux Research

**Figure 11 Demaneng – Operating Profit**



Source: Company data, Chronux Research

## Demaneng DCF Valuations

Figure 12 Demaneng DCF Model

Life of mine	FY18A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	
Production (ktpm)	40	53	71,016,666.7	67	67	67	67	67	67	67	67	67	67	67	67	
Production (000 tonnes)	320	636	852.2	804	804	804	804	804	804	804	804	804	804	804	804	
Lump ore ('000 tonnes)	224	445	596.54	562.8	562.8	563	563	563	563	563	563	563	563	563	563	
Fine ore ('000 tonnes)	96	191	255.66	241.2	241.2	241	241	241	241	241	241	241	241	241	241	
Lump ore %	70%	70%	0.7	0.7	0.7	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	
Fine ore %	30%	30%	0.3	0.3	0.3	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
ZAR/USD		13.75	14.77	16.43	15.10	15.70	16.33	16.99	17.66	18.37	19.11	19.87	20.67	21.49	22.35	
Iron ore 62% Fe - fines spot (N.China)	US\$/t	69.00	80.50	105.00	130.00	68.47	70.74	74.56	76.51	78.52	80.59	82.70	84.87	85.87	86.87	
Lump premium		16.60	15.00	15.00	15.00	13.69	13.69	14.91	15.30	15.70	16.12	16.54	16.97	16.97	16.97	
Iron ore 62% Fe - lump spot (N.China)	US\$/t	85.60	95.50	120.00	145.00	82.16	84.42	89.47	91.82	94.23	96.70	99.24	101.85	102.85	103.85	
Lump premium		3%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	
Adjusted fines - 62% Fe and other (Si)	US\$/t	71.07	86.14	112.35	139.10	73.26	75.69	79.78	81.87	84.02	86.23	88.49	90.81	91.88	92.95	
Adjusted lump - 65.3% Fe and other (Si)	US\$/t	89.88	102.19	128.40	155.15	87.91	90.33	95.73	98.24	100.82	103.47	106.19	108.98	110.05	111.12	
Sth Africa to China		14.70	15.00	15.00	15.00	12.88	16.07	16.49	16.92	17.37	17.82	18.29	18.77	18.77	18.77	
Western Australia to North China	US\$/t	5.65	7.54	7.73	7.93	7.93	9.89	10.15	10.41	10.69	11.26	11.55	11.55	11.55	11.55	
Brazil to North China	US\$/t	14.32	16.98	17.40	17.83	17.83	22.25	22.83	23.43	24.05	24.68	25.33	25.99	25.99	25.99	
Rail & port cost	ZAR/t	160	166.4	173	180	187	195	202	211	219	228	237	246	256	266	
Transport & siding costs	ZAR/t	70	72.8	76	79	82	85	89	92	96	100	104	108	112	121	
One mine costs	ZAR/t	398	485	450	464	487	511	537	563	592	621	652	685	719	793	
Fixed (60%)		291	270	278	292	307	322	338	355	373	391	411	431	453	476	
Variable (40%)		194	180	185	195	204	215	225	237	248	261	274	288	302	317	
<b>Sales</b>																
Via Kumba		456	852.2	804	804	804	804	804	804	804	804	804	804	804	804	
AMSA		180	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Revenue</b>	R'000	<b>736,724</b>	<b>1,225,598</b>	<b>1,632,933</b>	<b>1,825,116</b>	<b>1,054,497</b>	<b>1,128,470</b>	<b>1,241,962</b>	<b>1,325,553</b>	<b>1,414,769</b>	<b>1,509,991</b>	<b>1,611,621</b>	<b>1,720,091</b>	<b>1,807,384</b>	<b>1,898,908</b>	<b>1,994,862</b>
Lump ore		550,254	900,343	1,187,588	1,318,500	777,000	830,312	915,130	976,723	1,042,462	1,112,625	1,187,510	1,267,436	1,331,075	1,397,778	1,467,688
Fines ore		186,470	325,255	445,345	506,616	277,497	298,158	326,832	348,830	372,308	397,366	424,111	452,656	476,309	501,129	527,174
Rail & Port cost		101,760	141,806	139,137	144,703	150,491	156,510	162,771	169,281	176,053	183,095	190,419	198,035	205,957	214,195	222,763
Transport & siding costs		44,520	62,040	60,872	63,307	65,840	68,473	71,212	74,061	77,023	80,104	83,308	86,640	90,106	93,710	97,459
Marketing cost		42,257	98,048	130,635	146,009	84,360	90,278	99,357	106,044	113,182	120,799	128,930	137,607	144,591	151,913	159,589
Shipping cost		128,564	188,805	198,196	182,105	162,632	210,983	225,183	240,339	256,515	273,780	292,207	311,874	324,349	337,323	350,816
On-mine profit		419,623	734,898	1,104,093	1,288,992	591,175	602,226	683,439	735,827	791,997	916,757	852,212	985,934	1,042,381	1,101,767	1,164,235
On-mine costs		253,128	413,317	361,800	372,654	391,287	410,851	361,800	452,963	475,611	372,654	524,362	550,580	578,109	607,014	637,365
Operating profit		166,495	321,581	742,293	916,338	199,889	191,375	321,639	282,864	316,385	479,558	392,396	435,354	464,273	494,753	526,871
Operating margin		23%	26%	45%	50%	19%	17%	26%	21%	22%	32%	24%	25%	26%	26%	
On-mine profit (ZAR/t)		660	862	1,373	1,603	735	749	850	915	985	1,060	1,140	1,226	1,296	1,370	1,448
On-mine profit (USD/t)		48	58	84	106	47	46	50	52	54	55	57	59	60	61	62
Off-mine costs (USD/t)		36	39	40	44	37	40	41	42	42	43	43	44	44	44	44
On-mine costs (USD/t)		29	33	27	31	31	31	26	32	32	24	33	33	34	34	34
<b>Free cash flow</b>																
Operating profit		166,495	321,581	742,293	916,338	199,889	191,375	321,639	282,864	316,385	479,558	392,396	435,354	464,273	494,753	526,871
Tax		-32,444	-75,868	-193,667	-242,400	-41,794	-39,410	-75,884	-65,027	-74,413	-120,101	-95,696	-107,724	-115,821	-124,356	-133,349
Depreciation&Amortisation		32,656	34,289	36,003	37,803	39,694	41,678	43,762	45,950	46,248	50,660	53,193	55,853	58,645	61,578	64,657
Maintenance capex	3%	-22,102	-36,768	-48,988	-54,753	-31,635	-33,854	-37,259	-39,767	-42,443	-45,300	-48,349	-51,603	-54,222	-56,967	-59,846
FCF		144,605	243,235	535,642	656,988	166,153	159,789	252,258	224,021	247,777	364,817	301,544	331,880	352,875	375,008	398,333
DCF @ WACC (Rm)		2,624,396														
Terminal value (present value)		200,000														
WACC		12.8%														

Source: Company data, Chronux Research estimates

**Figure 13 Demaneng DCF Model (Spot)**

Life of mine		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	FY18A	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
Production (ktpm)	40	53	71.0166667	67	67	67	67	67	67	67	67	67	67	67	67	67
Production (000 tonnes)	320	636	852.2	804	804	804	804	804	804	804	804	804	804	804	804	804
Lump ore (000 tonnes)	224	445	596.54	562.8	562.8	563	563	563	563	563	563	563	563	563	563	563
Fine ore (000 tonnes)	96	191	255.66	241.2	241.2	241	241	241	241	241	241	241	241	241	241	241
Lump ore %	70%	70%	0.7	0.7	0.7	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Fine ore %	30%	30%	0.3	0.3	0.3	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
ZAR/USD		13.75	14.77	16.43	15.10	15.70	16.33	16.99	17.66	18.37	19.11	19.87	20.67	21.49	22.35	23.25
Iron ore 62% Fe - fines spot (N.China)	US\$/t	69.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00
Lump premium		16.60	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Iron ore 62% Fe - lump spot (N.China)	US\$/t	85.60	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00
Fines premium		3%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Lump premium		5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adjusted fines - 62% Fe and other (Si)	US\$/t	71.07	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70	224.70
Adjusted lump - 65.3% Fe and other (Si)	US\$/t	89.88	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75	240.75
Sth Africa to China		14.70	15.00	15.00	15.00	12.88	16.07	16.49	16.92	17.37	17.82	18.29	18.77	18.77	18.77	18.77
Western Australia to North China	US\$/t	5.65	7.54	7.73	7.93	7.93	9.89	10.15	10.41	10.69	10.97	11.26	11.55	11.55	11.55	11.55
Brazil to North China	US\$/t	14.32	16.98	17.40	17.83	17.83	22.25	22.83	23.43	24.05	24.68	25.33	25.99	25.99	25.99	25.99
Rail & port cost	ZAR/t	160	166.4	173	180	187	195	202	211	219	228	237	246	256	266	277
Transport & siding costs	ZAR/t	70	72.8	76	79	82	85	89	92	96	100	104	108	112	117	121
One mine costs	ZAR/t	398	485	450	464	487	511	537	563	592	621	652	685	719	755	793
Fixed (60%)		291	270	278	292	307	322	338	355	373	391	411	431	453	476	
Variable (40%)		194	180	185	195	204	215	225	237	248	261	274	288	302	317	
<b>Sales</b>																
Via Kumba		456	852.2	804	804	804	804	804	804	804	804	804	804	804	804	804
AMSA		180	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Revenue</b>	R'000	<b>736,724</b>	<b>2,969,718</b>	<b>3,117,418</b>	<b>2,864,327</b>	<b>2,978,900</b>	<b>3,098,056</b>	<b>3,221,979</b>	<b>3,350,858</b>	<b>3,484,892</b>	<b>3,624,288</b>	<b>3,769,259</b>	<b>3,920,030</b>	<b>4,076,831</b>	<b>4,239,904</b>	<b>4,409,500</b>
Lump ore		550,254	2,121,227	2,226,727	2,045,948	2,127,786	2,212,897	2,301,413	2,393,470	2,489,209	2,588,777	2,692,328	2,800,021	2,912,022	3,028,503	3,149,643
Fines ore		186,470	848,491	890,691	818,379	851,114	885,159	920,565	957,388	995,683	1,035,511	1,076,931	1,120,008	1,164,809	1,211,401	1,259,857
Rail & Port cost		101,760	141,806	139,137	144,703	150,491	156,510	162,771	169,281	176,053	183,095	190,419	198,035	205,957	214,195	222,763
Transport & siding costs		44,520	62,040	60,872	63,307	65,840	68,473	71,212	74,061	77,023	80,104	83,308	86,640	90,106	93,710	97,459
Marketing cost		42,257	237,577	249,393	229,146	238,312	247,845	257,758	268,069	278,791	289,943	301,541	313,602	326,146	339,192	352,760
Shipping cost		128,564	188,805	198,196	182,105	162,632	210,983	225,183	240,339	256,615	273,780	292,207	311,874	324,349	337,323	350,816
On-mine profit		419,623	2,339,489	2,469,819	2,245,066	2,361,626	2,414,245	2,505,054	2,599,108	2,696,510	2,797,366	2,901,785	3,009,877	3,130,272	3,255,483	3,385,703
On-mine costs		253,128	413,317	361,800	372,654	391,287	410,851	361,800	452,963	475,611	372,654	524,362	550,580	578,109	607,014	637,365
Operating profit		166,495	1,926,172	2,108,019	1,872,412	1,970,340	2,003,394	2,143,254	2,146,145	2,220,898	2,424,712	2,377,423	2,459,298	2,552,164	2,648,469	2,748,338
Operating margin			23%	65%	68%	65%	66%	65%	67%	64%	67%	63%	63%	62%	62%	
On-mine profit (ZAR/t)		660	2,745	3,072	2,792	2,937	3,003	3,116	3,233	3,354	3,479	3,609	3,744	3,893	4,049	4,211
On-mine profit (USD/t)		48	186	187	185	187	184	183	183	182	182	181	181	181	181	
Off-mine costs (USD/t)		36	50	49	51	49	52	52	53	53	54	54	55	55	55	55
On-mine costs (USD/t)		29	33	27	31	31	31	26	32	24	33	33	33	34	34	
<b>Free cash flow</b>																
Operating profit		166,495	1,926,172	2,108,019	1,872,412	1,970,340	2,003,394	2,143,254	2,146,145	2,220,898	2,424,712	2,377,423	2,459,298	2,552,164	2,648,469	2,748,338
Tax		-32,444	-525,153	-576,070	-510,100	-537,520	-546,775	-588,936	-586,745	-607,676	-664,744	-651,503	-674,428	-700,431	-727,396	-755,360
Depreciation&Amortisation		32,656	34,289	36,003	37,803	39,694	41,678	43,762	45,950	48,248	50,660	53,193	55,853	58,645	61,578	64,657
Maintenance capex	3%	-22,102	-89,092	-93,523	-85,930	-89,367	-92,942	-96,659	-100,526	-104,547	-108,729	-113,078	-117,601	-122,305	-127,197	-132,285
FCF		144,605	1,346,216	1,474,430	1,314,186	1,383,146	1,405,356	1,504,421	1,504,824	1,556,923	1,701,899	1,666,035	1,723,121	1,788,074	1,855,454	1,925,350
DCF @ WACC (Rm)		11,375,040														
Terminal value (present value)		200,000														
WACC		12.8%														
<b>Value of rail access</b>																
% of revenue		5%	36,836	148,486	155,871	143,216	148,945	154,903	161,099	167,543	174,245	181,214	188,463	196,001		
DCF @ WACC (Rm)		917,444														
WACC		12.8%														

Source: Company data, Chronux Research estimates

**Figure 14 Income Statement - Forecast**

Afrimat Limited	02/2011	02/2012	02/2013	02/2014	02/2015	02/2016	02/2017	02/2018	02/2019	02/2020	02/2021	02/2022	02/2023
<b>Sales</b>	<b>854</b>	<b>996</b>	<b>1338</b>	<b>1901</b>	<b>1999</b>	<b>1970</b>	<b>2228</b>	<b>2457</b>	<b>2966</b>	<b>3304</b>	<b>3599</b>	<b>4518</b>	<b>4636</b>
Cost of Goods Sold (COGS) incl. D&A	649	750	1026	1450	1483	1363	1476	1709	2055	2260	2312	2747	3139
<b>Gross Income</b>	<b>206</b>	<b>246</b>	<b>312</b>	<b>451</b>	<b>516</b>	<b>607</b>	<b>752</b>	<b>748</b>	<b>912</b>	<b>1044</b>	<b>1287</b>	<b>1771</b>	<b>1497</b>
SG&A Expense	-	124	157	221	247	290	346	392	439	458	542	680	698
Other Operating Expense	100	0	0	0	0	0	5	0	-7	-8	-7	-8	-8
<b>EBIT (Operating Income)</b>	<b>106</b>	<b>123</b>	<b>155</b>	<b>230</b>	<b>269</b>	<b>317</b>	<b>401</b>	<b>356</b>	<b>479</b>	<b>594</b>	<b>752</b>	<b>1098</b>	<b>807</b>
Nonoperating Income - Net	13	17	8	15	24	23	40	27	16	24	27	43	52
Interest Expense	10	9	14	23	19	18	36	53	59	37	67	56	32
Unusual Expense - Net	1	0	5	1	-1	2	3	6	18	8	0	0	0
Income Taxes	32	39	41	58	73	91	123	79	117	108	247	352	281
Equity in Earnings of Affiliates	0	0	0	0	-1	-4	1	0	2	0	0	0	0
<b>Consolidated Net Income</b>	<b>77</b>	<b>91</b>	<b>104</b>	<b>163</b>	<b>200</b>	<b>224</b>	<b>279</b>	<b>245</b>	<b>304</b>	<b>465</b>	<b>465</b>	<b>733</b>	<b>545</b>
Minority Interest	0	1	1	8	2	2	2	0	3	3	3	5	23
<b>Net Income</b>	<b>76</b>	<b>90</b>	<b>103</b>	<b>155</b>	<b>198</b>	<b>222</b>	<b>278</b>	<b>246</b>	<b>301</b>	<b>463</b>	<b>462</b>	<b>728</b>	<b>522</b>
Discontinued Operations	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Income available to Common	76	90	103	155	198	222	278	246	301	463	462	728	522
<b>Per Share</b>													
EPS (recurring)	0.55	0.64	0.72	1.06	1.36	1.55	1.96	1.82	2.29	3.42	4.69	6.54	5.08
EPS (diluted)	0.54	0.64	0.70	1.06	1.36	1.54	1.94	1.79	2.20	3.38	4.63	6.46	5.01
Earnings Persistence	90.13	95.44	77.71	81.32	85.54	93.24	72.97	80.23	90.93	89.56			
Dividends per Share	0.17	0.19	0.28	0.39	0.50	0.57	0.70	0.62	0.81	0.36	1.71	2.39	1.86
<b>EBITDA</b>													
EBITDA	152	169	213	329	349	403	502	480	626	771	934	1286	1000

All figures in millions of South African Rand except per share items.

Afrimat Limited	02/2011	02/2012	02/2013	02/2014	02/2015	02/2016	02/2017	02/2018	02/2019	02/2020	02/2021	02/2022	02/2023
Rental Expense	41	50	58	61	74	63	82	77	138	176			
Stock Option Comp Exp (Net of Tax)	0	2	2	3	8	3	5	4	5	11			
Foreign Currency Translation Gains/Losses	0	0	0	-	-	-	-	-	1	6			
Tax Rate	29.3	30.0	28.2	26.3	26.6	28.5	30.6	24.2	28.0	18.9	28.0	28.0	28.0
Headline EPS	0.53	0.63	0.77	1.09	1.36	1.57	1.96	1.81	2.34	3.48	4.69	6.54	5.08
Headline EPS (diluted)	0.53	0.61	0.75	1.06	1.33	1.54	1.94	1.79	2.33	3.44	4.62	6.46	5.01

All figures in millions of South African Rand except per share items.

Afrimat Limited	02/2011	02/2012	02/2013	02/2014	02/2015	02/2016	02/2017	02/2018	02/2019	02/2020	02/2021	02/2022	02/2023
Price / Sales	0.5	0.8	0.9	1.0	1.2	1.8	2.0	1.6	1.4	1.2	1.8	1.4	1.4
Price / Earnings	6.0	8.8	11.7	11.9	11.9	15.5	15.5	16.1	13.5	8.3	10.1	7.2	9.3
Price / Book Value	0.7	1.2	1.6	2.2	2.5	3.4	3.5	3.3	2.9	2.3	2.9	2.4	2.0
Price / Tangible Book Value	0.9	1.4	2.0	2.7	3.0	3.9	3.9	4.3	3.4	2.6	3.2	2.6	2.2
Price / Cash Flow	3.5	5.5	7.3	7.7	9.2	10.9	10.7	19.8	10.0	5.8			
Price / Free Cash Flow	5.5	10.9	14.3	15.4	24.3	18.5	16.0	48.6	12.9	7.5			
Dividend Yield (%)	5.2	3.3	3.3	3.0	3.0	2.4	2.3	2.1	2.7	1.3	3.7	5.1	4.0
Enterprise Value / EBIT	4.6	6.2	8.0	8.6	9.2	10.9	10.8	12.3	9.1	6.7	8.8	6.0	8.2
Enterprise Value / EBITDA	3.2	4.5	5.9	6.0	7.1	8.6	8.7	9.1	7.0	5.2	7.1	5.1	6.6
Enterprise Value / Sales	0.6	0.8	0.9	1.0	1.2	1.8	2.0	1.8	1.5	1.2	1.8	1.5	1.4
EBIT / Interest Expense (Int. Coverage)	10.5	13.5	10.9	9.9	14.0	17.2	11.1	6.8	8.2	15.9	11.2	19.7	24.9

Source: Factset, Company data, Chronux Research estimates

**Figure 15 Balance Sheet and Cash Flow - Forecast**

	02/2011	02/2012	02/2013	02/2014	02/2015	02/2016	02/2017	02/2018	02/2019	02/2020	02/2021	02/2022	02/2023
<b>Assets</b>													
Cash & Short-Term Investments	87	133	134	92	79	118	245	112	192	168	407	731	805
Short-Term Receivables	156	161	199	310	288	298	335	401	449	481	542	564	587
Inventories	76	72	89	113	127	133	163	242	261	261	292	304	317
Other Current Assets	7	6	2	4	9	6	7	-	-	-	43	44	46
<b>Total Current Assets</b>	<b>325</b>	<b>371</b>	<b>425</b>	<b>519</b>	<b>503</b>	<b>554</b>	<b>750</b>	<b>755</b>	<b>902</b>	<b>909</b>	<b>1284</b>	<b>1643</b>	<b>1754</b>
Net Property, Plant & Equipment	404	426	504	662	725	763	1058	1418	1470	1572	1940	2018	2100
Total Investments and Advances	14	13	14	28	17	19	33	54	60	72	17	18	18
Long-Term Note Receivable	70	70	102	110	144	141	247	8	0	-	0	0	0
Intangible Assets	115	114	154	156	153	150	148	300	222	210	214	222	231
Deferred Tax Assets	5	5	3	5	25	21	30	55	34	32	40	41	43
Other Assets	21	0	0	0	0	0	0	0	0	0	135	194	229
<b>Total Assets</b>	<b>953</b>	<b>1000</b>	<b>1201</b>	<b>1479</b>	<b>1568</b>	<b>1648</b>	<b>2266</b>	<b>2591</b>	<b>2687</b>	<b>2795</b>	<b>3629</b>	<b>4137</b>	<b>4375</b>
<b>Liabilities &amp; Shareholders' Equity</b>													
ST Debt & Curr. Portion LT Debt	67	55	112	128	119	105	351	255	282	157	157	164	170
Accounts Payable	75	77	78	174	155	164	145	202	181	194	476	496	516
Income Tax Payable	3	10	3	6	6	3	9	11	4	11	29	30	31
Other Current Liabilities	42	40	73	91	109	119	250	282	219	237	9	9	10
<b>Total Current Liabilities</b>	<b>187</b>	<b>182</b>	<b>266</b>	<b>399</b>	<b>388</b>	<b>391</b>	<b>754</b>	<b>751</b>	<b>686</b>	<b>599</b>	<b>672</b>	<b>699</b>	<b>727</b>
Long-Term Debt	52	45	59	95	57	47	95	272	236	139	400	300	100
Provision for Risks & Charges	29	31	34	56	67	76	96	130	141	153	161	167	174
Deferred Tax Liabilities	69	70	81	92	106	108	114	208	215	216	208	202	196
Other Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Liabilities</b>	<b>337</b>	<b>328</b>	<b>439</b>	<b>641</b>	<b>618</b>	<b>623</b>	<b>1059</b>	<b>1361</b>	<b>1277</b>	<b>1106</b>	<b>1441</b>	<b>1368</b>	<b>1197</b>
Common Equity	613	668	758	824	937	1018	1199	1219	1398	1682	2179	2741	3179
Total Shareholders' Equity	613	668	758	824	937	1018	1199	1219	1398	1682	2179	2741	3179
Accumulated Minority Interest	3	4	4	14	12	7	8	10	11	7	8	8	8
<b>Total Equity</b>	<b>616</b>	<b>672</b>	<b>762</b>	<b>838</b>	<b>949</b>	<b>1025</b>	<b>1207</b>	<b>1229</b>	<b>1410</b>	<b>1689</b>	<b>2188</b>	<b>2749</b>	<b>3187</b>
<b>Total Liabilities &amp; Shareholders' Equ</b>	<b>953</b>	<b>1000</b>	<b>1201</b>	<b>1479</b>	<b>1568</b>	<b>1648</b>	<b>2266</b>	<b>2591</b>	<b>2687</b>	<b>2795</b>	<b>3629</b>	<b>4117</b>	<b>4384</b>
<b>Per Share</b>													
Book Value per Share	4.43	4.87	5.29	5.79	6.56	7.20	8.81	8.93	10.30	12.46	16.03	19.69	22.83
Tangible Book Value per Share	3.60	4.03	4.22	4.70	5.49	6.15	7.73	6.73	8.67	10.90	14.47	18.10	21.17
	02/2011	02/2012	02/2013	02/2014	02/2015	02/2016	02/2017	02/2018	02/2019	02/2020	02/2021	02/2022	02/2023
<b>Operating Activities</b>													
Net Income / Starting Line	108	130	144	221	273	315	402	324	422	573	730	1007	829
Depreciation, Depletion & Amortization	46	46	58	97	77	82	101	124	146	177	182	188	194
Other Funds	-30	-28	-37	-69	-87	-78	-134	-114	-70	-42	0	0	0
<b>Funds from Operations</b>	<b>124</b>	<b>149</b>	<b>165</b>	<b>249</b>	<b>263</b>	<b>319</b>	<b>368</b>	<b>334</b>	<b>498</b>	<b>709</b>	<b>913</b>	<b>1195</b>	<b>1022</b>
Changes in Working Capital	6	-2	5	-5	-1	1	38	-133	-87	-32	-96	-101	-106
<b>Net Operating Cash Flow</b>	<b>131</b>	<b>146</b>	<b>170</b>	<b>244</b>	<b>262</b>	<b>320</b>	<b>406</b>	<b>201</b>	<b>410</b>	<b>677</b>	<b>817</b>	<b>1094</b>	<b>916</b>
<b>Investing Activities</b>													
Capital Expenditures	-46	-72	-83	-121	-162	-131	-135	-119	-94	-154	-516	-321	-278
Net Assets from Acquisitions	-36	-	-87	-70	-8	-4	-280	-38	-9	-27	-240	-60	0
Sale of Fixed Assets & Businesses	7	17	7	17	34	14	27	27	14	34	35	34	34
Purchase/Sale of Investments	-5	0	-32	9	-18	-2	-116	-68	0	6	0	0	0
Other Funds	0	0	0	-1	0	0	0	0	0	0	-52	0	0
<b>Net Investing Cash Flow</b>	<b>-80</b>	<b>-54</b>	<b>-194</b>	<b>-166</b>	<b>-155</b>	<b>-123</b>	<b>-504</b>	<b>-197</b>	<b>-89</b>	<b>-141</b>	<b>-773</b>	<b>-347</b>	<b>-244</b>
<b>Financing Activities</b>													
Cash Dividends Paid	-22	-24	-30	-45	-59	-76	-88	-96	-86	-136	-49	-329	-406
Change in Capital Stock	-6	-4	-7	-27	-15	-60	-18	-14	-31	-29	-12	0	0
Issuance/Reduction of Debt, Net	12	-19	32	-50	-47	-23	293	180	-165	-250	261	-94	-193
Other Funds	0	0	0	0	0	0	38	-25	-3	-3	-66	0	0
<b>Net Financing Cash Flow</b>	<b>-16</b>	<b>-47</b>	<b>-5</b>	<b>-122</b>	<b>-121</b>	<b>-158</b>	<b>225</b>	<b>45</b>	<b>-286</b>	<b>-426</b>	<b>134</b>	<b>-423</b>	<b>-599</b>
Exchange Rate Effect	-	-	-	-	-	-	-	-	0	-	0	0	0
Net Change in Cash	34	45	-29	-44	-14	39	127	49	36	110	178	324	73
<b>Free Cash Flow</b>	<b>85</b>	<b>74</b>	<b>87</b>	<b>123</b>	<b>99</b>	<b>189</b>	<b>272</b>	<b>82</b>	<b>317</b>	<b>523</b>	<b>301</b>	<b>773</b>	<b>638</b>
Free Cash Flow per Share	0.60	0.53	0.59	0.84	0.68	1.31	1.90	0.60	2.31	3.82	2.20	5.54	4.57
Free Cash Flow Yield (%)	18.3	9.2	7.0	6.5	4.1	5.4	6.2	2.1	7.7	13.4	4.7	11.8	9.8

Source: Factset, Company data, Chronux Research estimates

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