

# Reserves and resources



Jim Davidson, Technical Director

The Petra Group controls one of the world's largest diamond resources...

Careful management of Petra's major diamond resource will ensure sustainable, long-life mining for many years. It also provides flexibility in terms of organic growth and the Company has plans in place to substantially increase output, most notably at the Cullinan and Williamson mines.

## Gross reserves and resources

As at 30 June 2010, the Group's total carat base had reduced by roughly one million carats to 261 million carats (FY2009: 262 million carats), mainly due to depletion by production at the mining operations over the year.

## Attributable reserves and resources

The Group's attributable reserves and resources increased significantly in the Period by approximately 75 million carats to 194 million carats (FY2009: 119 million carats). This major increase is due to the doubling of Petra's interest in the Cullinan mine, which accounts for some 77% of the overall Group reserves and resources.

## General notes on reporting criteria

1. Resources are reported exclusive of reserves.
2. Tonnes are reported as millions. Contained diamonds are reported as millions of carats ("Mcts").
3. Tonnes are metric tonnes, and are rounded to the nearest 1,000 tonnes. Carats are rounded to the nearest 1,000 carats. Rounding off of numbers may result in minor computational discrepancies.
4. Resource tonnages and grades are reported exclusive of internal waste, unless where otherwise stated.
5. Reserve tonnages and grades are reported inclusive of external waste, mining and geological losses and plant modifying factors. Reserve carats will be less than resource carats on conversion and this has been taken into account in the applicable statements.

The following table summarises the reserve and resource status of the combined Petra Group operations as at 30 June 2010:

Category	Gross			Net attributable		
	Tonnes (millions)	Grade (cpht)	Contained Diamonds (Mcts)	Tonnes (millions)	Grade (cpht)	Contained Diamonds (Mcts)
<b>Ore/Diamond reserves per asset</b>						
Proven	17.898	7.13	1.276	12.837	8.38	1.076
Probable	37.441	22.85	8.555	27.418	23.99	6.576
<b>Sub-total</b>	<b>55.339</b>	<b>17.76</b>	<b>9.831</b>	<b>40.255</b>	<b>19.01</b>	<b>7.652</b>
<b>Diamond resources per asset</b>						
Measured						
Indicated	354.709	52.83	187.400	263.217	52.70	138.711
Inferred	1226.551	5.21	63.895	912.924	5.27	48.148
<b>Sub-total</b>	<b>1581.260</b>	<b>15.89</b>	<b>251.295</b>	<b>1176.140</b>	<b>15.89</b>	<b>186.859</b>
<b>Total</b>			<b>261.126</b>			<b>194.511</b>

"cpht" – carats per hundred tonnes; "Mcts" – millions of carats

# Reserves and resources (cont.)

## Summary of reserves and resources by status – Cullinan

Category	Gross			Net attributable		
	Tonnes (millions)	Grade (cpht)	Contained	Tonnes (millions)	Grade (cpht)	Contained
			Diamonds (Mcts)			Diamonds (Mcts)
<b>Ore/Diamond reserves per asset</b>						
Proven						
Probable	13.866	37.10	5.144	10.261	37.10	3.807
<b>Sub-total</b>	<b>13.866</b>	<b>37.10</b>	<b>5.144</b>	<b>10.261</b>	<b>37.10</b>	<b>3.807</b>
<b>Diamond resources per asset</b>						
Measured						
Indicated	253.757	71.49	181.401	187.780	71.49	134.237
Inferred	167.105	10.04	16.777	123.657	10.04	12.415
<b>Sub-total</b>	<b>420.862</b>	<b>47.09</b>	<b>198.178</b>	<b>311.437</b>	<b>47.09</b>	<b>146.652</b>
<b>Total</b>			<b>203.322</b>			<b>150.459</b>

Resource bottom cut-off: 1 mm

Reserve bottom cut-off: 1.2 mm

Resource tonnes and grade are based on block cave depletion modelling, and include external waste.

Reserve carats and grades are factorised as per the following resource to reserve liberation factors: "Brown" kimberlite 75.8%, "Grey" kimberlite 71.4%, and Hypabyssal kimberlite 71.8%.

A total of 10 new drawpoints were added to the reserve

## Summary of reserves and resources by status – Koffiefontein

Category	Gross			Net attributable		
	Tonnes (millions)	Grade (cpht)	Contained	Tonnes (millions)	Grade (cpht)	Contained
			Diamonds (Mcts)			Diamonds (Mcts)
<b>Ore/Diamond reserves per asset</b>						
Proven	16.404	3.35	0.550	11.483	3.35	0.385
Probable	18.284	8.26	1.510	12.798	8.26	1.057
<b>Sub-total</b>	<b>34.688</b>	<b>5.94</b>	<b>2.060</b>	<b>24.281</b>	<b>5.94</b>	<b>1.442</b>
<b>Diamond resources per asset</b>						
Measured						
Indicated	4.196	6.01	0.252	2.937	6.01	0.177
Inferred	101.978	3.34	3.408	71.384	3.34	2.386
<b>Sub-total</b>	<b>106.174</b>	<b>3.45</b>	<b>3.660</b>	<b>74.321</b>	<b>3.45</b>	<b>2.563</b>
<b>Total</b>			<b>5.720</b>			<b>4.005</b>

Resource bottom cut-off (Koffiefontein underground and Ebenhaezer): 0.5 mm

Resource bottom cut-off (Eskom tailings): 1 mm

Reserve bottom cut-off: 1.2 mm.

Changes due to geological re-evaluation and modelling of drilling results below 520 level.

## Summary of reserves and resources by status – Kimberley Underground

Category	Gross			Net attributable		
	Tonnes (millions)	Grade (cpht)	Contained	Tonnes (millions)	Grade (cpht)	Contained
			Diamonds (Mcts)			Diamonds (Mcts)
<b>Ore/Diamond reserves per asset</b>						
Proven						
Probable	3.219	19.58	0.630	2.382	19.58	0.466
<b>Sub-total</b>	<b>3.219</b>	<b>19.58</b>	<b>0.630</b>	<b>2.382</b>	<b>19.58</b>	<b>0.466</b>
<b>Diamond resources per asset</b>						
Measured						
Indicated	6.750	18.29	1.234	4.995	18.29	0.913
Inferred	55.798	10.03	5.595	41.291	10.03	4.140
<b>Sub-total</b>	<b>62.548</b>	<b>10.92</b>	<b>6.829</b>	<b>46.286</b>	<b>10.92</b>	<b>5.053</b>
<b>Total</b>			<b>7.459</b>			<b>5.519</b>

Resource bottom cut-off (Dutoitspan West Extension): 1 mm

Resource bottom cut-off (all other underground blocks): 0.5 mm

Reserve bottom cut-off: 1.2 mm

Changes due to a complete geological re-evaluation of remaining resources and reserves in Wessellon 995 m Centre block cave, and Dutoitspan 870 m East and West block cave, plus re-evaluation of exploration development, drilling and sampling results for Dutoitspan NW corner.

## Summary of reserves and resources by status – Williamson

Category	Gross			Net attributable		
	Tonnes (millions)	Grade (cpht)	Contained	Tonnes (millions)	Grade (cpht)	Contained
			Diamonds (Mcts)			Diamonds (Mcts)
<b>Diamond resources per asset</b>						
Measured						
Indicated	90.006	5.01	4.512	67.505	5.01	3.384
Inferred	900.048	3.94	35.444	675.036	3.94	26.583
<b>Sub-total</b>	<b>990.054</b>	<b>4.04</b>	<b>39.956</b>	<b>742.541</b>	<b>4.04</b>	<b>29.967</b>
<b>Total</b>			<b>39.956</b>			<b>29.967</b>

Resource bottom cut-off: 1 mm.

Resource depletion calculated from in-pit survey.

Stockpile of 594,000 tonnes of RVK and BVK accumulated since plant shutdown at end of March 2010

## Summary of reserves and resources by status – Fissure mines combined (Helam, Sedibeng, Star)

Category	Gross			Net attributable		
	Tonnes (millions)	Grade (cpht)	Contained	Tonnes (millions)	Grade (cpht)	Contained
			Diamonds (Mcts)			Diamonds (Mcts)
<b>Ore/Diamond reserves per asset</b>						
Proven	1.494	48.57	0.726	1.354	51.01	0.690
Probable	2.073	61.30	1.270	1.976	63.07	1.246
<b>Sub-total</b>	<b>3.567</b>	<b>55.96</b>	<b>1.996</b>	<b>3.330</b>	<b>58.17</b>	<b>1.936</b>
<b>Diamond resources per asset</b>						
Measured						
Indicated						
Inferred	1.622	164.66	2.672	1.555	168.77	2.624
<b>Sub-total</b>	<b>1.622</b>	<b>164.66</b>	<b>2.672</b>	<b>1.555</b>	<b>168.77</b>	<b>2.624</b>
<b>Total</b>			<b>4.667</b>			<b>4.560</b>

Resource and reserve bottom cut-off: 1 mm

Resource bottom cut-off: 1 mm

Reserve bottom cut-off: 1 mm

Measured resources are classified as 1 level below current workings, or where a block is bounded above and below by current workings.

Indicated resources are classified as 2 levels below measured resources.

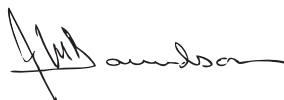
Inferred resources are classified as 3 levels below indicated resources.

Measured and indicated resources have been converted to reserves by applying historically derived external dilution and in-stope loss factors to resource tonnages and grades.

## Notes

The annual reserve and resource statements for Petra shown above are based on information compiled internally within the Group under the guidance and supervision of Jim Davidson, Pr. Sci. Nat. (reg. No.400031/06). Jim Davidson is the qualified person for the purposes of the AIM guidance note on Mining, Oil and Gas companies (2006). Jim Davidson has over 30 years' relevant experience in the diamond industry and is a full-time employee of Petra.

All reserves and resources have been independently verified by Patrick Bartlett, Pr.Sci. Nat. (reg. No. 400060/87), a competent person with over 30 years' relevant experience in the diamond mining industry. Reserves and resources have been reported in accordance with the South African code for the reporting of mineral reserves and mineral resources (SAMREC 2007).



**Jim Davidson**

Technical Director

24 November 2010