

Junior diamond explorer looks to repeat past success

The team that can claim much of the credit for having recognised the potential of Botswana's AK6 kimberlite and devising a low-cost development strategy to bring it into production has been reunited at junior explorer Botswana Diamonds. The company currently has a portfolio of tenements covering not just highly prospective areas in its traditional stamping ground of Botswana but also in South Africa. **Modern Mining's** Arthur Tassell recently spoke to Managing Director James Campbell about the company's strategy and its prospects of duplicating the AK6 success.

One of the diamond mining industry's best-known personalities, Campbell joined Botswana Diamonds in December last year after serving for roughly five years as CEO of South African alluvial diamond miner Rockwell Diamonds. In his new position, he has been reunited with his old colleague, John Teeling, a Dublin-based mining entrepreneur who is Chairman of the company.

The two men were at the helm of Botswana Diamonds' predecessor, African Diamonds (AFD), during much of the period (2004 to 2010) when AK6 was under re-evaluation by De Beers and AFD after originally having been discovered in 1969 by De Beers. After AFD's stake in AK6 was sold in 2010 to Lucara Diamond Corporation, its exploration assets were spun off into Botswana Diamonds (BOD), a company now dual listed in London and Botswana. Teeling became Chairman of the



James Campbell.

new company but Campbell (after a relatively short stint with Lucara) moved on to Rockwell.

Says Campbell: "AFD was in joint venture with De Beers on AK6 and – as I think is well known – there was a difference of opinion on the merits of developing AK6. We in AFD wanted to go ahead with the construction of a new mine but De Beers was deterred by the cost, which it estimated at US\$380 million, and what it perceived as poor market conditions. We totally disagreed and came up with a Value Engineering Study, which indicated a very much lower capex and which had a very different view of diamond value. It also proposed an innovative processing route,

including the use of autogenous milling. De Beers rejected this study.

"In 2009, we proposed buying out De Beers' stake in the project but were unable to raise the funds. We did, however, find an alternative investor in the form of Lucara, which later also bought out AFD and proceeded to build a mine – now known as Karowe – based on the technical solution we devised. Karowe, of course, has since established itself as one of the most remarkable mines the diamond mining industry has ever seen, and is particularly noted for the abundance of large gem-quality diamonds it has produced."

Campbell believes there are a number of lessons to be drawn from the AK6 story. "Perhaps the most important is that re-assessment of kimberlites found decades ago is vital, given the advances made in exploration techniques," he says. "De Beers initially evaluated AK6 in the early 1970s and concluded that it was sub-economic – which we now know was very far from the truth. A second lesson is that juniors can often out-perform majors when it comes to exploration and mine development. At their best, they tend to be innovative, agile and fast whereas majors – no matter their overall competence, which is generally very good – are often bureaucratic, slow moving and risk averse."

It should be mentioned that Campbell, who earned his BSc (Hons) degree in Mining & Exploration Geology from London's Imperial College, has seen both sides of the fence, as prior to joining AFD in 2006 he had enjoyed a



Drill cuttings from percussion drilling at Maibwe.



Members of the Botswana Diamonds team on site at Frischgewaagt.

A drill site in the Maibwe JV project area in the Kalahari. The drilling contractor is Discovery Drilling.



long and distinguished career with De Beers, a group which he holds in high regard.

The chances of anyone finding another kimberlite quite like AK6 are relatively remote, as Campbell readily acknowledges. "Nothing can ever be excluded but it could be that AK6 is unique, at least in terms of its large stone population. What is clear though is that there is still considerable potential for economic kimberlites to be identified in Southern Africa, by applying 'third generation' exploration technology – and this is exactly our strategy."

In Botswana, BOD has two joint ventures (JVs). One is a 50/50 JV – known as Sunland Minerals – with Russia's Alrosa, which is exploring in both the Central Kalahari Game Reserve (CKGR) and the Orapa area, and the other is the Maibwe JV owned by BCL (51%), Future Minerals (20%) and Siseko (29%). BOD's participation in Maibwe is via Siseko, in which it has a 51% share. Sunland has 19 exploration licences (nine in the Orapa area



Preparing for percussion drilling at Frischgewaagt.

and 10 in the CKGR) while Maibwe has 10 licences, all in the CKGR.

The Sunland JV is in healthy shape. “Our partner Alrosa operates 19 mines and is the largest diamond producer in the world,” says Campbell. “The JV brings together their technological expertise with our own geological skills and our deep knowledge of the Botswana scene. The JV generally runs two campaigns a year, with up to 15 Alrosa personnel working with the local BOD team. Our latest field programme started in April and our joint exploration budget for the year is US\$1,75 million.”

Turning to the Maibwe JV, Campbell describes this as an “exciting” project which is at an advanced rather than a grassroots stage. “The licences are all in the CKGR but generally close to the border with the adjoining Khutse Game Reserve,” he says. “A 2015 drill programme on PL186 discovered – or ‘rediscovered’ – six kimberlites containing significant quantities of diamonds. The problem we have with this JV is that BCL is now in provisional liquidation and has therefore been unable to finance an agreed work programme. So effectively the project is stalled. We are, however, in discussions with the liquidator and have put forward some proposals that could see work being restarted.”

Campbell makes the point that BOD’s tenements in the CKGR are in a region which includes Gem Diamonds’ Ghaghoo mine, which exploits the Gope kimberlite, and Petra’s KX-36 discovery, 60 km to the south-east of Ghaghoo.

While BOD for most of its existence has been focused on Botswana, this changed earlier this year when the company announced in February that it had sealed an option and earn-in agreement with Vutomi Mining and Razorbill Properties 12 (collectively known as Vutomi). The deal gives BOD access to a portfolio of

over 20 high-interest kimberlites, many of them diamondiferous, spanning three provinces in South Africa – Limpopo, North West and Free State. The kimberlites are housed in ten prospecting rights encompassing over 50 000 ha of ground.

A sizeable chunk of Vutomi (30 %) is owned by Campbell and his long-time colleague John Shelton (ex-De Beers and Rockwell). “Our main reason for investing on a personal basis in Vutomi was to persuade the BOD board that this was a good project,” he explains. “Nothing talks louder than putting your own money into a venture.”

Although one might think that most of the prospective diamond ground in South Africa has already been intensively explored, Campbell says this is only partly true. “The barriers to entry into South Africa in terms of exploration are perceived as being very high,” he maintains. “This has meant that no one – De Beers apart – has really been exploring for kimberlites for years and even De Beers has been relatively quiet over the past decade, concentrating its exploration efforts mainly outside of Africa. The result is that much of the ground we have – and many of the kimberlites previously discovered – have not been looked at with modern technology.”

The flagship project within the Vutomi package is Frischgewaagt. This is located in Limpopo Province to the east of Mokopane, south of Eersteling, the site of South Africa’s first gold discovery, and immediately adjacent to the Marsfontein mine. Although short lived (it was operated between 1998 and 2000 by a De Beers/SouthernEra joint venture), Marsfontein – a blow of 0,4 ha in size – was a phenomenally successful operation producing around 1,9 million carats over its life and, famously, achieving payback of capital in just 3,4 working days. Also in the same area to the south-west of Marsfontein is the Klipspringer diamond mine, owned by ASA Resources but currently on care and maintenance.

Campbell says that the Frischgewaagt project consists of an approximately 7,5 km long kimberlite dyke/blow system extending to the east of – and on strike with – Marsfontein. “This is an area I know well as I was involved in the De Beers exploration programme which led to the discovery of both Marsfontein and Klipspringer in the 1980s, although neither was immediately followed up. I’ve always wanted to go back and the Vutomi deal makes that possible.”

BOD has wasted no time in getting to grips with Frischgewaagt and in April reported that it had completed the first phase of drilling

comprising 34 percussion and nine diamond drill holes, in the process discovering two blows on the kimberlite dyke system. It followed up in June with an announcement that 223 microdiamonds had been recovered from 160 kg of drill core from the drill programme, indicating an estimated grade range of between 20 and 270 cpht (since updated to a medium grade of 78 cpht in a range of 64 to 110 cpht at a bottom cut-off of +1 mm). The MSA Group in Johannesburg undertook the microdiamonds analyses and the modelling was undertaken by Dr JJ Ferreira, an expert in micro diamond assessment with an international reputation.

Comments Campbell: “These results are excellent although we need more drill samples so that we can refine the grade estimate. We’ve also virtually completed a very detailed ground geophysics programme which is intended to delineate the further lateral extension of the system and which will underpin a second phase of drilling starting shortly. Our goal is to produce an inferred resource by the end of the year.”

Although Frischgewaagt is currently receiving the bulk of BOD’s attention, the other projects within the Vutomi package are highly prospective and take in ground in the vicinity of current or past producing mines, including the Cullinan diamond mine near Tshwane in Gauteng and the Helam fissure mine near Swartruggens in North West Province. In the Free State, Vutomi has six contiguous prospecting areas. Mines in the area include Koffiefontein and Jagersfontein in the Free State and the Kimberley mine in the Northern Cape.

As befits a junior explorer, BOD is a very lean operation, with Campbell being the only full-time employee. As he says, “The appetite for grassroots exploration is currently very low so it is not easy to raise money and what is raised has to be used very effectively – certainly one cannot have the luxury of a large staff complement. Our strategy is to raise money for six to eight months, demonstrate delivery on that and then go back to the market for further funding



The Marsfontein pipe or blow as it looks today. It was mined between 1998 and 2000.

to take us forward again. While I’m the only person working full-time for BOD, this does not have any downside. We have a huge network of consultants and contractors who assist us and who, in most cases, rank among the leaders in their respective fields.”

Among the experts that Campbell mentions are Bjorn Havemann, who at one stage was Head of Geophysics at De Beers, Dr Kurt Petersen, a world-renowned diamond metallurgist, and Dr Gargi Mishra, who has a stellar reputation in the field of kimberlite petrography.

Summing up, Campbell notes that apart from AK6 in Botswana and Luaxe in Angola, there have been no significant kimberlite discoveries over the past 15 or so years in Africa or, for that matter, worldwide. “We’re hoping to reverse that. Obviously, diamond exploration is inherently an uncertain business and no diamond explorer can ever guarantee success. Having said that, Botswana Diamonds has the right people, the right ground and the right technology to find a mine – if indeed there is a mine to be found. We’re very excited by the company’s potential and have high hopes that it will, in time, deliver one or more kimberlite projects that can be developed into viable commercial mining operations.”

Photos courtesy of Botswana Diamonds

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