Former MD of African Diamonds and CEO of Rockwell Diamonds JAMES CAMPBELL has devoted his working career to the exploration and development of kimberlites in Africa and has already injected this passion and commitment into AIM-listed diamond explorer Botswana Diamonds since joining the company as MD in December 2016. This includes a deal which could see the company uncover a new commercial kimberlite mine in South Africa, writes LAURA CORNISH.

The right man for the job
Campbell, a mining and exploration geologist by profession, is a respected leader in the diamond industry, with over 30 years’ experience of working with exploration, development and production companies. He spent over 20 years with De Beers, culminating as general manager for advanced exploration and resource delivery. Together with Botswana Diamonds’ directors, he also played a key role in the discovery and development of the African Diamonds previously owned AK6 deposit, today known as the Karowe mine, which is globally recognised for its large, high quality (Type II) diamonds.

Following TSX-listed Lucara Diamond Corp’s acquisition of African Diamonds, Campbell became vice president – new business of Lucara, where he oversaw the development of a number of alluvial diamond mines in South Africa.

“Even though Rockwell Diamonds was an alluvial diamond focused company, my passion has always been for the discovery and development of kimberlites, especially in South Africa where very little diamond/kimberlite exploration has taken place over recent decades,” Campbell states.

Realising the vision
As its name suggests, Botswana Diamonds’ project portfolio comprises two kimberlite exploration in Guinea and Sierra Leone, Campbell fulfilled the role of CEO for Rockwell Diamonds where he oversaw the development of a number of alluvial diamond mines in South Africa.

John Shelton (FD), Linesh Lutchmansingh (Exploration Manager), Charli Nienaber (Chairman) and Penelope Mohale (Geologist) looking at percussion chips from drilling on Frischgewaagt
exploration joint ventures in Botswana – a 50/50 joint venture (Sunland Minerals) with Alrosa in the Orapa and Gope areas of Botswana and a joint venture (Maibwe) on a block of 10 licences in the Gope area in the Kalahari which has to date revealed some "tantalising" exploration results.

“Not only was I excited about Botswana Diamonds’ kimberlite prospectivity portfolio, but was eager to again work with the African Diamonds/West African diamond team I know so well. Our chairman John Teeling is also a phenomenal entrepreneur and well known in the diamond industry,” Campbell highlights.

And while Botswana Diamonds’ focus on advancing its Botswana projects remains a top company priority, Campbell has expanded the company’s exploration drive to include South Africa as well.

Just three months after joining the company, he facilitated the conclusion of an earn-in agreement with private South Africa diamond exploration and development firm Vutomi Mining – a company he had been eyeing for quite some time.

Vutomi has a portfolio of over 20 high interest kimberlites spanning the Limpopo, North-West and Free State provinces of South Africa, many of which are diamondiferous. These kimberlites are housed in 10 prospecting rights encompassing over 50 000 ha of ground.

The flagship project, Frischgewaagt, is in the Limpopo province 300 km north of Johannesburg and is immediately adjacent to the Marsfontein mine which was previously operated by the De Beers/ Southern Era joint venture. This mine operated for only two years in the 1990s but the diamond grade and quality was such that the entire capital cost was repaid in four days. Marsfontein’s run of mine grade was 172 cph at a bottom cut off of +1.2mm.

The Frischgewaagt project, also located in close proximity to the Klipspringer mine (now on care and maintenance) consists of a minimum 4 km long kimberlite dyke/blow system. Vutomi has already undertaken detailed ground geophysics and sampling and recently completed a core and percussion drilling programme to provide a better indication of size and grade. A sampling programme, which was undertaken in 2016, yielded a raw diamond value of US$180/ct from 247 carats and kimberlite intersections in the dyke/blow system have been between 1 and 17 m.

Having spent his early career days with De Beers on the Frischgewaagt farm, together with a team that was responsible for discovering three small mines within the larger property (Marsfontein, Klipspringer and Oaks), Campbell is familiar with the area and believes there is high potential to uncover new high grade commercial kimberlite dykes/blows. Exploration evaluations conducted to the east of the Marsfontein mine, where the Frischgewaagt project is situated, were not according to Campbell adequately performed.

“Unfortunately, young geologists do not spend sufficient time on site and make key decisions based on computerised results alone. The key to finding a viable new mine is time spent on site evaluating geological data and a wealth of experience which in turn enables the ability to properly interpret geological and geophysical information. Our team, which has a track record of developing kimberlite mines – in combination with a variety of experts I have secured and will introduce to the Frischgewaagt project as it advances – will accurately validate the potential for a mine and I have every confidence that we will be successful.”

Within three months of announcing the Vutomi deal, Botswana Diamonds issued positive results from a phase 1 drilling programme for the project – aimed at increasing the geological confidence in the 6 km long kimberlite dyke/blow system.

34 percussion holes (totalling 1 459 m) and nine diamond drill holes (totalling 432 m) were drilled along a 1 580 m strike length. The width of the kimberlite dyke/blow system is between 1 and 2.7 m with two wider areas or ‘blows’ identified. To test the vertical continuity of the system, a single 104 m hole was drilled chiefly in kimberlite. Petrographic analysis of the samples resulted in classification of the dyke as a Group 2 Olivine Phlogopite rich...
magmatic kimberlite with the blows being volcanoclastic kimberlite. The size and abundance of olivines which are diamond indicator minerals is very positive. A population of over 200 garnets has also been microprobed with 38 probed as G10 (Harzburgitic paragenesis) and 17 as G10D (diamond inclusion garnets). A total of 18 garnets have been probed as Group 1 Eclogitic type which suggests a strong Eclogitic diamond paragenesis. The remaining garnets are high interest G9 along with some megacrysts. These G10 and G9 garnets are important diamond indicators and have similar mineral chemistry to Marsfontein. Results of a 200 kg core sample consigned for microdiamond analyses are due shortly as well.

In previous work, 467 diamonds yielding 247 carats were recovered from the processing of surface material. The largest diamond was 3.66 carats and the parcel had an average size of 0.53ct/stone. The sale of these diamonds achieved a rough diamond value of $180/ct and a modelled value of $259/ct at a bottom cut off of +2mm.

Detailed ground geophysical test work has also been undertaken by geophysical specialist GeoFocus to determine the most effective technique to delineate the further lateral extension of the system.

Moving forward from this point, phase 2 drilling is scheduled to start in August and will determine the areas of Frischgewaagt ideally suited to bulk sampling. “We are already striving to announce a maiden resource for the project by the end of the year, which we believe will be a major milestone achievement for the company.”

Botswana prospects
Together with Alrosa, one of the world’s largest diamond miners, Botswana Diamonds is exploring for kimberlites in the Central Kalahari Game Reserve (CKGR). In 2017 the companies will jointly spend $1.75 million on exploration activities. Joint venture company Sunland Minerals holds 14 prospecting licences (PL) in the country, seven in the Orapa area and seven in the Gope area. Alrosa’s unique exploration technology is being used to explore up to

GeoFocus is a highly experienced ground geophysics company used to operating in the mine and near-mine environment.

Survey design, modelling, interpretation and reporting
Gravity, magnetics, GPR, resistivity, IP, AMT, EM and seismics.

www.geofocus.co.za    bjorn@geofocus.co.za
100 m beneath the Kalahari sand, swamps and basalt cover in Botswana. The 2017 programme will initially focus on PL 260 in Orapa (where earlier core drilling results are due), then switch to new ground in Orapa and Gope.

PL 260, a sought after piece of ground covering 25 km² in Orapa, was awarded in October 2015 and is located in close proximity to the Karowe mine. It contains three previously discovered diamondiferous kimberlites – AK 21, AK 22 and AK 23. Intensive fieldwork took place in 2016 as well as core drilling and large diameter drilling. Two 200 m deep, large diameter 13 inch boreholes were drilled on kimberlite AK 21 to test the diamond grade at depth. 80 t of material were collected but the analysis in South Africa was of poor quality and failed to recover any of nine control diamonds in the material. The concentrate was reanalysed in Botswana by Alrosa mineralogists and new diamonds discovered.

Maibwe is a joint venture company owned by Botswana government controlled BCL (51%), Future Minerals (20%) and Siseko (29%). Siseko is 51% owned by Botswana Diamonds which has a 15% carry through to bankable feasibility study. Maibwe holds 10 licences in the Gope area close to Gem Diamonds’ Ghaghoo mine. A 2015 drilling programme on PL 186 discovered kimberlites containing significant quantities of diamonds. Because BCL is in liquidation and unable to finance an agreed work programme, Botswana Diamonds has offered to drill verification holes on the licence. “Previous drilling completed by BCL on two known kimberlites revealed some tantalising results and we are intent on maintaining momentum on this project,” Campbell notes.

Ultimately...

“We are looking for the star amongst our three key projects in Botswana and South Africa which will advance our company forward. I have every confidence of proving at least one commercially viable kimberlite which will warrant full-scale development,” Campbell concludes.