

# inside mining

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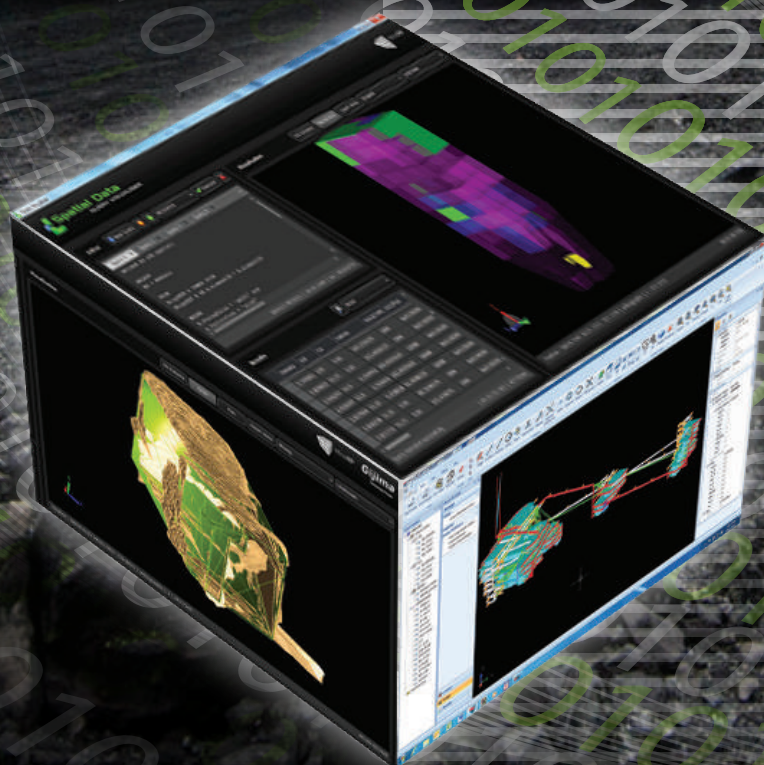
SRK chairman, Roger Dixon, is proud to sell a global brand

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# Tsodilo silences doubters

Several eyebrows were raised when Tsodilo started exploring for diamonds in Ngamiland, which died away when the company turned up several kimberlites, some diamondiferous. The scepticism returned when Tsodilo announced recently that it had discovered what looks like an extension of the Copperbelt in Botswana, but nobody is doubting anymore. **Willem Smuts** takes a look at some recent developments.



Tsodilo

**T**he Tsodilo Phase 1 exploration drill programme identified three different targets all within Katangan-age sedimentary rocks similar to those of the Central African Copperbelt of the Democratic Republic of the Congo and Zambia: the Xaudum Rapitan-type BIF magnetite project in the north, the Copperbelt style sedimentary rock hosted stratiform mineralisation, and the skarn deposits associated with late-stage intrusions in the southern part of the company's licence area. The company is currently focused on a detailed drilling programme on the Xaudum Magnetite BIF Ironstone prospect.

Recent isotope dating of Late Proterozoic diamictites interbedded within the magnetite units has provided ages (734 Ma) that are equivalent to the 'Grand Conglomerate' of the Zambian Copperbelt. These rocks have been identified as being part of a

Rapitan-type iron formation both in terms of age and lithology, Rapitan-type iron formations are Neoproterozoic (0.8 to 0.6 Ga) iron formations that are characterised by their distinct association with glaciomarine sediments. They are thought to have been deposited in the immediate aftermath of a so-called 'Snowball Earth' state. Examples include the Rapitan Group in north-west Canada (18.6 billion tonnes of 47% Fe); Matto Grosso, Brazil-Bolivia (36 billion tonnes of 50% Fe); the Yudnamutara Subgroup, Australia; the Chuos Formation, Namibia; and the Jacadigo Group, Brazil.

### What's in the basket?

Tsodilo is currently focusing on the following projects:

1. Three metal areas identified on Tsodilo's prospecting land (14 900 km<sup>2</sup>):
- Xaudum Magnetite BIF: Fe grades ~70%



About Tsodilo Resources Limited

Tsodilo Resources is an international diamond and metals exploration company engaged in the search for economic kimberlites and metal deposits at its Newdico and Gcwihaba Resources projects in north-west Botswana. The company has a 98% stake in Newdico (3 949 km<sup>2</sup> under Precious Stone – diamond licences). The Gcwihaba project area: 3 728 km<sup>2</sup> under Precious Stone – diamond licences, 14 914 km<sup>2</sup> metal (base, precious, platinum group, and rare earth) licences, and 6 925 km<sup>2</sup> under Radioactive Minerals licences is 100% held by the company. Tsodilo manages the exploration of both the Newdico and Gcwihaba licence areas. The company has offices in Toronto, Canada, and Gaborone and Maun in Botswana.

**ABOVE** Members of affected communities where Tsodilo operates are kept informed as to company activities – this includes visits to operations

and anomalous Ag, Co, Mo, U, V. Belt 35 x 5 km.

- Copperbelt-type mineralisation: Stratabound Cu (Co) and (Ni) in meta-sediments. Belt ~90 km long; 30 and 40 km wide.
- Sepupa Skarn-type: Demonstrated Cu-Fe-Au skarns associated with ~535 Ma intrusions (IOCG)
- 2. Kimberlite exploration (7 300 km<sup>2</sup>) continuous with:
- evaluation of K10 and K11

**RIGHT** Tsodilo's complex geological package within the tectono-sedimentary context of Southern Africa

- targets in the most northern licences
- 3. Uranium (7 000 km<sup>2</sup>) will focus on:
- Duricrusts within the regional geomorphology
- Neoproterozoic mineralised meta-sediments.

### Bruchs on the way forward

**Smuts: What is the programme for the near-term?**

**Bruchs:** We will start on a 43-101 Technical and Mineral Reserves Report on the northern section of the Xaudum iron deposit.

**Smuts: You have a great deal of prospective land. How are you going to advance it all?**

**Bruchs:** We are confident that we can advance the iron project and it is no secret that we have been and are in discussions with mining companies with respect to advancing the metals exploration – especially copper. We are a bit different than most junior exploration companies, and it is important that we find the right partner so that it is a win/win situation for both parties.

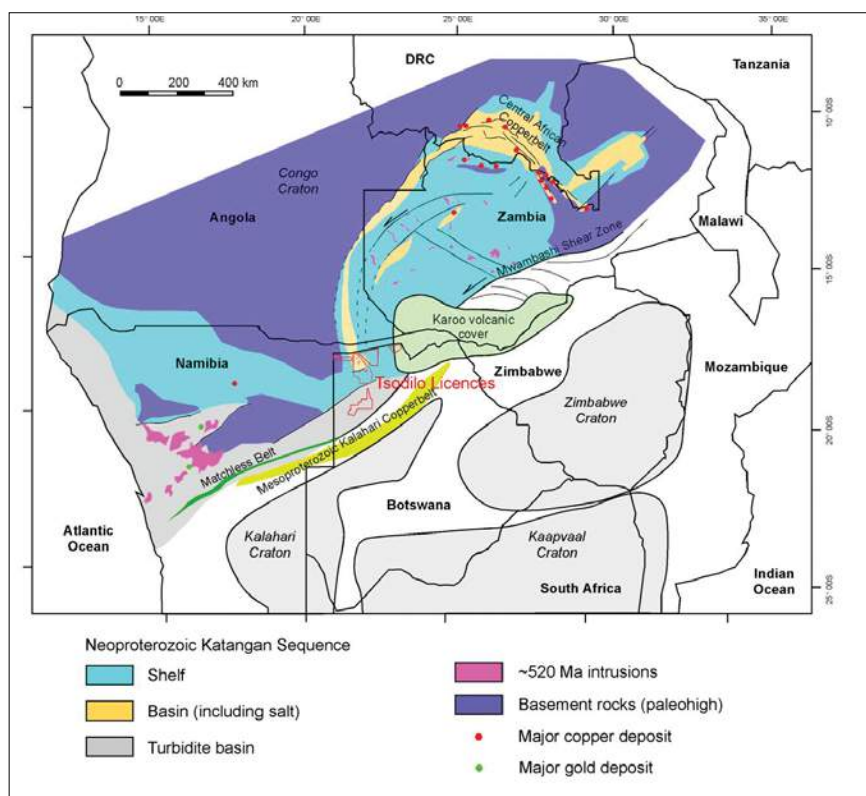
**Smuts: How's that going?**

**Bruchs:** All I can say is that discussions are ongoing and we hope to reach an accord before the end of the year.

A new dawn is unfolding for mining in Botswana... and there is certainly a lot more work to be done here

This series of projects is an excellent example of a situation where unexplained drill results were not ignored but unraveled and taken right back to academic basics to rebuild the big picture so as to fully understand what one is dealing with. There is certainly a lot more work to be done here, but the company is on the right track to writing a beautiful story in this north-western corner of Botswana, which will greatly add to our understanding of the structural and economic geology of the region, while at the same time unfolding a new dawn for mining in Botswana.

In a follow-on article, **Inside Mining** will look at the regional implications for Tsodilo projects and the work being carried out to bring these and other significant resource projects of the region to market. **35**



**LEFT** Bernard Amaning, IFC Infrastructure and Natural Resources Department: Mining Division, and Tsodilo drill foreman, Gosaitse Moabi (right), during a recent IFC visit **RIGHT** The first Davis Tube Recovery Results from the Rapitan-type Fe formation at the base of Grand Conglomerate produced Fe with recoverable grades of between 69.5% and 72% with only 0.9% to 3.5% SiO<sub>2</sub>, 0.05% to 0.2% Al<sub>2</sub>O<sub>3</sub>, 0.002% to 0.04% S and less than 0.05% P. The DTR tests recorded between 71% and 79% recovery by magnetic separation with most of the iron reporting in the magnetic fraction (high magnetite and low hematite).

### IFC does a private placement

Tsodilo Resources closed a non-commissioned private placement financing agreement for gross proceeds to the company of US\$2 million (R16.4 million) on 11 September. The financing is for 1 818 181 units of the company. Each unit is comprised of one common share priced at C\$1.10 and one common share purchase warrant per unit, each such warrant entitling the holder to purchase one common share of the company for a period until the close of business on 29 June 2015 at US\$1.21. The common shares to be issued as a result of the financing will have a statutory four-month hold period expiring on 8 January 2013. The proceeds of the financing will be used by Tsodilo for advancement of the Xaudum iron ore and metals project in Botswana, and for general corporate working capital.

IFC, a member of the World Bank Group, is the sole placee in this financing and, as a result, will own upon the closing thereof 4 520 883 common shares (representing 16.11% of the issued and outstanding share capital of the company and up to 30.27% on a partially diluted basis, assuming the exercise of all of IFC's warrants granted to date [2 802 802 priced at C\$2.17, expiring on 29 June 2015, and 1 818 181 priced at US\$1.21, also expiring on 29 June 2015]).

James Bruchs, chairman, said: "IFC is our 'Partner of Choice'; its participation, professionalism, guidance and expertise combined with the economic, political and social stability afforded by the government of Botswana, together with the assistance and support provided by the Ministry of Minerals, Energy and Water Resources and the Department of Geological Survey, create a winning atmosphere for mineral exploration and development."