

# ZIMPLATS **NGEZI** **MINE** [www.zimplats.com](http://www.zimplats.com)

CORPORATE BROCHURE





# Valued resources

Companies operating in isolated areas must focus their attention on a robust retention strategy, among other things. As Alan Swaby learns, the extra effort is frequently worthwhile

Like many an African mining operation, Zimplats' Ngezi mine lies in splendid isolation, 150 kilometres south-west of Zimbabwe's capital Harare and is surrounded by...bush! Even though there is no expat workforce to push costs up, this remote location means that Zimplats has had to put in place competitive conditions of service in order to retain the full gamut of mining, engineering, geology and metallurgical skills it needs to keep the largest platinum resource in the country running effectively.

The mine lies on a geological feature known as the Great Dyke, first recorded in 1867 as a sinuous, layered, mafic-ultramafic intrusion running 550 kilometres along practically the full north-south axis of the country and ranging in width from four kilometres to 11 kilometres. Fifty years after its discovery, the geological oddity turned into a valuable resource when minerals such as platinum, nickel and copper were identified in the rocks. The 90 kilometre long Hartley Complex is by far the largest and most important segment of the Great Dyke, containing approximately 80 per cent of Zimbabwe's total platinum group metals (PGM).

In 1990 the mining company BHP, in partnership with Delta Gold, began to develop the Hartley Complex and established a mine, complete with smelter, at Selous in 1994. However, the mine never hit the production targets set by BHP to make it profitable and four years later, the mine was mothballed.

Zimplats came into the picture in 1998, as a spin-off from Delta specifically structured to handle the group's platinum activities. In late 2000, Zimplats purchased BHP's share of the Hartley Platinum and Mhondoro Platinum joint ventures, which included the concentrator and smelter, and in early 2001 commenced the development of the then Ngezi open pit mine, as well as the construction of an 80 kilometre tarred road linking Ngezi and Selous.

Zimplats is a business with a complicated structure (it is registered in the UK, listed on the Australian Stock Exchange and 87 per cent owned by Impala Platinum of South Africa). Its success to date can be partly attributed to various financial provisions specified in the original 1994 mining agreement set up

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### Metso

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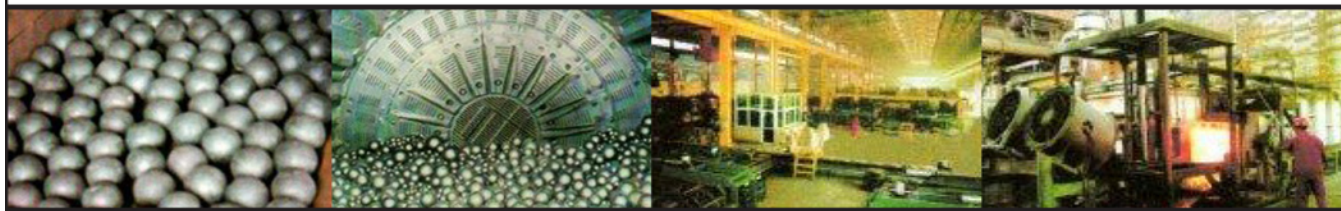
by BHP. Some of these agreements are still to be formalised, which has kept the company's executives busy defending the company's position.

"The Special Mining Lease and accompanying Mining Agreement entered into between government and Zimplats were designed to encourage large scale mining investment

that would secure significant financial and other benefits for the people of Zimbabwe, and contained a number of special conditions not generally available to the mining industry," explains Patrick Maseva-Shayawabaya, Zimplats' chief finance officer. "However, in some cases, the provisions of the agreement were not followed up with the necessary amendments to the various acts, leaving uncertainty—and from time to time, we challenge these issues."

Ngezi went into production in 2001 as a two million tonnes per annum (mtpa) open pit mine. By 2003, underground trial mining had commenced. The successful trial mine led to the establishment of the first of three underground mines which reached full production of one mtpa ore from FY2006. A second 1.2 mtpa underground mine reached full production in December 2008, thus completing the process of replacing the more expensive open pit ore with cheaper underground ore. A third underground mine is currently under development, and will produce two mtpa when it comes on stream next year. The three underground mines are quite shallow, with maximum depth of around 100 metres. "In total," says Maseva-Shayawabaya, "Zimplats has invested nearly US\$500 million since operations commenced in 2001, approximately half of which was on the three underground mines".

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Fengxing, China is pleased to have been involved in the supply of grinding media for the Ngezi Mine project and has continued to supply the Zimplats Selous operation for over six years. In addition, Fengxing is supplier of grinding media to Mimosa Platinum in Zimbabwe and Impala Platinum in South Africa.

Platinum is used mainly in automotive catalytic converters and at the height of the market in mid-2008, was selling for around \$2,300 per ounce. The worldwide recession resulted in the platinum price collapsing to a low of around \$800 per ounce in late 2008. By that time, Zimplats had a sizable ore stock pile and thus suspended the expensive open pit mining operations which were no longer viable. "The ore body extractable by open pit remains an important source of ore for the future," says Maseva-Shayawabaya.

Operations underground at Ngezi are completely mechanised. Now with a second concentrator, Zimplats has only to ship half the output 80 kilometres from Ngezi to Selous using a fleet of nine trucks working 20 hours a day. Interestingly, the road was built by Zimplats in just a few months and yet is capable of taking the weight of 100 tonne trucks every 20 minutes. In the four hours of downtime, routine service is carried out. But it's worth the effort—many of these trucks have now been working since 2001, far longer than the five years anticipated.

When the third decline comes on stream, Zimplats will mine 4.2 million tonnes of ore a year. Ninety-seven per cent of this is worthless; but the three per cent that doesn't end up in a tailings dam produces 125,000 tonnes of concentrate containing a mix of PGMs and base metals. Process this further, and the concentrate is converted to 7,000 tonnes of white matte which realises 180,000 ounces of platinum, 150,000 ounces of palladium and 18,000 ounces each of gold and rhodium, 3,000 tonnes of nickel, 2,000 tonnes of copper and smaller quantities of silver, ruthenium, iridium and cobalt.

"The white matte is exported to a South African refinery in terms of an off-take agreement," explains Maseva-Shayawabaya, "which buys the white matte at a price based on the open market value of the contained metals. This has led to profitable operations every year so far, with the exception of 2008."

Although Ngezi mining operations are highly mechanised, they still rely on an extremely large workforce. Zimplats has a direct payroll of 2,500 responsible for all mining and processing activities, with an indirect workforce of another 1,500 employed by suppliers/contractors that provides a variety of services to the business.

Ngezi is not exactly within 'let's-have-a-night-out' distance from Harare or even Selous; but at least the improvements Zimplats has made are keeping the workforce—especially the key technical staff—in relative comfort and benefiting the whole of the Kadoma district in the process. [www.zimplats.com](http://www.zimplats.com) – Editorial research

by Paul Radbourne



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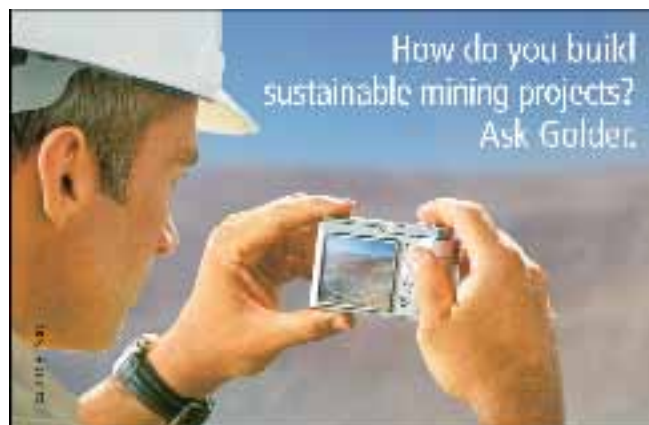
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