

# THE ZIMBABWEAN MINING INDUSTRY

Recent expansion in the mining of platinum group metals in Zimbabwe has finally started to make this country a significant producer.

**Platinum was discovered on Zimbabwe's Great Dyke in the early 20th century, at around the same time that the metal was found in the Bushveld Complex. However, comparatively little development has occurred in Zimbabwe in the platinum mining sector since that date.**

Interest in mining this 550 km long, 12 km wide geological structure has, though, increased in recent years. The four major platinum deposits on the Great Dyke (Hartley, Musengezi, Ngezi and Selukwe) are located in a 3-4 m thick mineralised seam which lies at shallow depths, typically of 250 m or less. The reef is platinum-rich but also has high base metal content, leading to high by-product credits and making mining potentially very economically attractive.

The Hartley mine which opened in the mid-1990s was the first serious attempt at platinum mining in Zimbabwe. Although this no longer produces any ore, active mines at Mimosa and Ngezi have since begun operations. A new mine is also under development at Unki. After several years of inactivity, exploration has restarted at a small number of other properties too.

Investment in Zimbabwean platinum mining has been gradual to date, inhibited by an uncertain political climate. The establishment in 2009 of a cross-party inclusive government in Zimbabwe has given grounds for cautious optimism over the operating environment for the mining industry, but the political situation remains somewhat fragile. In April 2010, confusion emerged over whether the new indigenisation law (equivalent to South Africa's Black Economic Empowerment rules) which required 51 per cent local ownership of large businesses would be enacted or not.

Recent expansions at Mimosa and Ngezi have increased production at both sites. Outline plans have also been developed for Phase 2 expansion at Ngezi – adding 2 million tonnes of ore to output, roughly equivalent to 200,000 oz per annum of pgm – and for Wedza Phase 6 at Mimosa. If these occur, together with production from Unki, this would make Zimbabwe the world's third largest producer of platinum as it finally starts to fulfil its potential.

**HARTLEY**

Hartley was developed in the mid-1990s by Delta Gold and BHP. Mining began in 1997 but was suspended in June 1999 due to geological problems and low productivity. Peak production was close to 150,000 oz of pgm per year. Hartley is now owned by Zimplats (which is majority owned by Impala) and, although no mining is carried out, concentrate from Ngezi is processed into matte at the Selous Metallurgical Complex at Hartley before being sold to Impala Refining Services (IRS) for further processing in South Africa.

**NGEZI**

Ngezi is owned by Zimplats. Ore from this site was crushed before being shipped 77km to Hartley and then to IRS for processing and refining. The commissioning of a new concentrator in 2009 indicates that concentrate is now shipped to Hartley for smelting. Ngezi began operations in 2001 as an open pit mine which was eventually closed in late 2008. Underground tonnage has now replaced open pit tonnage. Platinum production rose to 130,000 oz in 2009 with the completion of Portal 1 and should reach 180,000 oz by mid-2011 once the Phase 1 expansion is complete.

**UNKI**

The Unki project is a shallow (up to 250 m deep) deposit on the Selukwe Complex on the Great Dyke and is owned by Anglo Platinum. Development has started in earnest in recent years and two declines are being constructed. Mining will be mechanised and the concentrate produced is expected to be smelted at Polokwane in South Africa.

**MIMOSA**

Pilot production started at Mimosa on the Wedza Complex in the mid-1990s under Union Carbide and then Zimasco. Impala and Aquarius acquired part-ownership in 2001 and 2002 respectively and have since increased production from this shallow deposit. Ore is processed into concentrate at Mimosa and there is a life-of-mine offtake agreement with Impala Refining Services. Platinum group metal output climbed to 182,000 oz in 2009 including 99,000 oz of platinum. The completion of the Wedza 5.5 expansion has increased capacity to an annual 200,000 oz of pgm.



**GREAT DYKE**

**HARARE**

**HARTLEY**

**NGEZI**

**UNKI**

**MIMOSA**

0 50  
Scale: Kilometres