



News

Israel's diamond exports down 12% during first 9 months of 2017

Israel's exports of polished diamonds fell 12% y-o-y to \$3.38 bn during the first nine months of 2017, while in volume terms, diamonds exported dropped 11% to 1.297 mn karats, as per a report in diamonds.net.

Today

Signet completed first phase of strategic outsourcing of credit portfolio

Signet Jewelers Limited, the world's largest retailer of diamond jewelry, announced the completion of the first phase of the strategic outsourcing of its in-house credit program.

Today

Gaheho Kué diamond mine may exceed projected production guidance for 2017

Mountain Province Diamonds has reported its third quarter results and announced that the projected 2017 full-year production guidance may exceed the company's expectations.

Yesterday

Stellar gets environmental licence for Tongo

Stellar Diamonds said it has been granted an environmental licence for its Tongo kimberlite project in Sierra Leone by the Environmental Protection Agency (EPA).

Yesterday

Grand Mazarin diamond comes to auction at Christie's

On 14 November in Geneva, one of France's most storied gems comes to auction at Christie's.

Yesterday

Marine mining set to engulf Namibian diamond production

01 december 2010 • *Expert reports*

Recent comments by Barend Petersen, the recently appointed executive chairman of De Beers' South African mining operations, concerning the mining giant's plans to abandon marine mining in South Africa in order to concentrate on mining diamonds off the Namibia coast, served to shine the spotlight on the huge role that marine mining plays in Namibia's diamond mining operations, Antwerp Facets writes.

Petersen said that the company had consolidated all its marine diamond operations in Namibian waters, rather than off the coast of South Africa where it has only been obtaining low grade gems.

"In the Namibian waters, it was an exceptional turnaround," Petersen said. "In terms of our marine business, it's clearly more advantageous for us to mine the sea waters of Namibia than the South African sea waters."

Diamond production in Namibia from marine mining has overtaken that from increasingly lower-grade land-based mines. In 2009, for example, of the 1.36 billion carats of diamonds sold by Namdeb, 627,000 carats came from land-based operations while 736,000 carats were from marine mining.

Marine diamonds account for around 60 percent of Namdeb's total diamond production of more than 1 billion carats annually, and 90 percent of Namdeb's diamond resources. The national mining firm is jointly owned by De Beers and the Namibia government. The De Beers Marine fleet consists of five mining vessels and one evaluation sampling and mining vessel. De Beers Marine Namibia (DBMN), 70 percent owned by De Beers and 30 percent by Namdeb, performs marine mining for Namdeb as well as being the exclusive contractor in the Atlantic 1 area.

However, Namdeb Managing Director Inge Zaamwani-Kamwi said earlier this year that talks between the government and De Beers to restructure De Beers Marine Namibia were at an advanced stage. The new structure would give the government more than 50 percent of the shares in DBMN.

Namdeb is not the only marine diamond mining operation in Namibia. Other companies involved include Samicor, LL Mining Corporation, Trans Hex.

In the diamond mining world, most attention is focused on underground mining. That is natural since producers are looking for large deposits, otherwise the operation is not worthwhile from a commercial aspect. Marine mining, however, receives little attention. That is surprising given that such

operations are highly complex, however it could be due to the fact that marine mining on a large scale has only taken place in the last 25 years or so.

The richest known marine diamond deposits in the world are off the coast of Namibia and are estimated at around 100 million carats, and possibly much more. All of the deposits originally came from kimberlites in South Africa. The diamonds were washed down the Orange River, which forms a natural border between the two countries, and deposited at the river mouth as well as along the coastlines of Namibia and South Africa. According to geologists, the Orange River has been transporting eroded diamondiferous kimberlite material from central South Africa and Botswana for the last 100 million years.

When the diamondiferous material comes out of the Orange River on the coast, it is unloaded into Alexander Bay and is moved by the churning effects of the Atlantic Ocean. The larger stones usually accumulate in low lying areas of the seabed, while smaller diamonds are moved by sea currents in a northward direction. The pressure and effects of the weather on the diamonds as they are carried westward to the sea means flawed stones tend to break up while those with fewer deficiencies usually end the journey to the sea intact.

De Beers uses two marine mining methods. There is the horizontal system where a seabed crawler brings diamond-bearing gravels to the vessel through flexible slurry hoses. The other method is the vertical system where a large-diameter drilling device recovers diamond-bearing gravels from the seabed. Mining takes place to a depth of around 150 metres.

Despite the recovery of around 1.5 million carats of diamonds from the sea on the coast of Namibia and South Africa between 1961 and 1970, these early moves at marine mining were not a great success for several reasons. Firstly, the technology had not yet been developed to enable truly large-scale mining. Secondly, there was not yet a deep understanding of the geological effects on sea floor diamond deposits. And, finally, the relatively low price of diamonds at the time made the big investments necessary for marine diamond mining not worthwhile from a financial perspective.

When De Beers bought out the existing marine operations in 1970, it began a widespread 15-year exploration programme, and only started the next stage – the commissioning of mining vessels for offshore diamond mining in the late 1980s. As a result of the resources invested, there was a huge improvement in the technology used leading to marine diamond mining becoming a complex and sophisticated industry.

Reducing its impact on the environment is one of the largest challenges for diamond miners, and that is no less the case with marine mining. Waste and recycling, use of water, and the impact on biodiversity are the main issues to be considered. When diamond deposits are found in coastal areas, soil and plant life usually have to be removed before mining operations can start. Mining of beaches and inland alluvial diamond deposits can also require the removal of sand and soil and the building of sea-walls. As a result, such mining results in large-scale excavation along coastal areas and significant changes to the landscape and natural order.

Once mining operations have ended, however, soil and plant life is replaced while the impact on surrounding land is removed over time by the effects of

wind and wave motion. And in areas that suffer from very low rainfall, special techniques are used to replant the area.

Where there are diamond deposits on the floor of the ocean, seabed matter usually needs to be removed to enable marine diamond mining to take place. To reduce the impact on the environment, seabed matter is replaced in its original position. Post-mining research indicates that in time fish and marine mammals return to the seabed area after a number of years.

For Namdeb, the Atlantic Ocean is the main source of water used in its treatment plants. More than 93 percent of the total water used is drawn from the sea to be used in the processing of ore at mines situated along the coast. The remaining 7 percent comes from the Orange River. Of the fresh water used, less than 20 percent is used in the mining process.

Print version

Comments

Only registered users can add comments ([Register](#), [Login](#))

[About](#) [News](#) [Analytics](#) [Schedule](#) [Expert reports](#) [Exclusive](#) [Stock quotes](#)

©2007-2017
Rough and Polished



 ALRS
АЛРОСА

74.66 ▼

 DDC
Dominion Diamond
Corporation

14.17 ▼

 PDL
Petra Diamonds Ltd

79.00