



In the driving seat of the ROC L8: Production has doubled since the rig was purchased.

Like most drilling contractors around the world, those that operate in the countries surrounding the Arabian Gulf strive for perfection in the battle to achieve the highest possible production at the lowest possible cost.

The quarry operators of the United Arab Emirates are a case in point and, like more and more companies in the region, they are turning to Atlas Copco for the technology they need – especially to meet the tough demands of surface drilling in the quarrying industry.

In this sub-tropical climate with its blistering temperatures (up to 50 degrees centigrade in summer) and scarcity of rain, conditions at the worksites can be extremely demanding for both men and machines.

This is particularly true in Fujayrah, one of the seven member states of the UAE where the tough mountainous terrain, intense heat, lack of rain, and very difficult rock conditions make drilling a formidable task.

Success does not come easily, but the right equipment is a major asset. ▶

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Powerful engine: The L8 crawler rig is powered by a Caterpillar diesel engine, rated at 431 hp at 2,000 rpm.



Top marks at Fujarac

Quarrying is a tough job in the United Arab Emirates, where the local rock is the hardest density in the Gulf region. Despite this, a quarry there has doubled its production.

The Fujarac quarry, the largest in the Al Sharqivin mountain region, overlooks the port of Fujayrah. It needed a new drill rig to increase production and tested one for seven months. But the machine failed to achieve its predicted targets.

Then INMA, the local distributor for Atlas Copco, recommended the ROC L8 down-the-hole crawler rig fitted with a COP 44 down-the-hole hammer. The targets were achieved, the rig was purchased and production has now doubled.

High performance

This high-production crawler is powered by a Caterpillar diesel engine, rated at 431 hp at 2,000 rpm, to deliver high penetration rates and deep holes. The rig features a rod-handling capacity of 54 metres and an on-board screw compressor, which provides a free-air delivery of 405 l/sec at an operating pressure of 25 bar. This ensures high performance when drilling large-diameter holes up to 165 mm.

The COP 44 hammer achieves a high penetration rate and reduced fuel consumption per drill metre when handling 110–113 mm diameter holes. A tube-handling system with a capacity of eight 6 m-long tubes is fitted as standard.

Depending on ground conditions, the new rig is achieving production rates of up to 250 metres per day drilling holes of 110 mm diameter and 20–22 m deep. Two older Atlas Copco crawler rigs – a ROC 604 and a ROC 311 – are working alongside the new ROC L8 unit and production has increased to 10,000 tonnes per day, providing an annual output approaching three million tonnes.

Inside the rock

The rock at Fujarac is igneous gabbro diorite, which is solidified from lava or magma and is dark and coarse-grained with a density of 2.9–3.0 t/m³. It is ▶



Born in the Gulf: The United Arab Emirates was created by seven states in 1971.

▶ totally limestone-free and highly sought after for applications demanding high conformity to rigid standards – particularly where structures are exposed to saline conditions.

Since it is not degraded by sea water and contains negligible amounts of sulphate and chlorides, the rock has proved ideal for marine construction applications.

The rock being quarried ranges in

colour from dark grey to blue-grey and comprises 60% plagioclase feldspar and 40% black augite pyroxene.

Excellent service

Fujarac's two-shift-per-day operation has seven benches, 20–22 m deep and up to 30 m wide, located in a section between 80 and 220 metres up the mountainside.

The quarry started operations 16 years ago and has now advanced more than



Workshop Manager Kisra El-Haibi: "I am very pleased with the ROC L8 rig and INMA's excellent back-up service."

300 metres towards the mountain's peak.

Workshop Manager Kisra El-Haibi confirms the abrasiveness of the rock. "It affects everything at the site from bulldozers and excavators to crushers and, of course, the drill rigs," he says. "I am very pleased with the performance of the new ROC L8 rig and the excellent back-up service provided by INMA."

Subject to winning contracts for rock filling material for harbour extensions, the quarry is considering purchasing a second ROC L8 rig. The quarry has reserves to supply its customers for at least the next 50 years and exports to the major markets of Kuwait, Qatar and Bahrain.

The drill rigs and their sites in the Emirates

There are a considerable number of flourishing quarry operations in the United Arab Emirates and drilling operations with rigs and other equipment from Atlas Copco are a familiar scene at the sites.

The RAK Rock Company was established in 1971 by His Highness Sheikh Saqr Bin Mohammed Al Qasimi, the ruler of Ras Al Khaimah, the northernmost of the seven United Arab Emirate states.

The company operates at one of the world's largest limestone quarries, mainly serving cement factories with raw material and exporting limestone for agriculture and the process industry.

Following the purchase of two Atlas

Copco ROC crawler rigs – an 848 and a 748 – six years ago, the company has added a ROC D7-11 and a ROC F6 to its fleet.

Rental rigs

In Ras Al Khaimah, the Union Cement Company has the first ROC 203 fitted with the COP 34Q sold in the region. It replaces old equipment and is being used to mine special raw material for cement production.

And two pneumatic ROC 442 rigs fitted with the BBE 57 rock drill are employed in limestone production for cement at the Al Ain Cement Company in the emirate of Abu Dhabi.

Finally, the Wadi-Muddiq under-

ground tunnel project in the Emirate of Sharjah was inaugurated recently. The project is led by the Six Construct-AST joint venture, which is using two rental drill rigs from Europe – a Boomer 353 ESB from 1999 and a Boomer H135 built in 1983.

All the Rock Tools have been supplied by INMA/Atlas Copco.

INMA, Gulf Development and Construction LLC, has been representing European manufacturers of construction and industrial equipment in the UAE for nearly 30 years. And the strong presence of Atlas Copco's rigs and rock tools there is the result of a close working relationship between the two companies.

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