

ENERGY DIVERSIFICATION

A FIRST-OF-ITS-KIND OIL SHALE PROJECT IN JORDAN

About two years ago, contractors Al-Own Advanced and BCM International Company created Al-Own BCM, a joint venture that was awarded mining projects at Jordan's Attarat Um Ghudran oil shale reserve. The deposit is estimated to contain more than 3.5 billion tonnes of oil shale.

This story, however, really begins around 2012. That's when Enefit of Estonia, the world's largest oil shale developer, created a partnership with YTL Power International of Malaysia and Guangdong Yudean Group of China. Together, they established the Attarat Power Company (APCO). APCO's main goal was to develop a 532-megawatt (490-megawatt net), oil-shale-fired generation plant at the Attarat mining site for the National Electric Power Corporation (NEPCO) of Jordan. NEPCO is Jordan's only power buyer and this is the country's largest private mining and energy generation project to date. The overall investment is valued at \$2.1 billion USD. Plus, the power plant will supply NEPCO with electricity for 30 years and contribute to developing alternative power resource in Jordan. During construction, about 5,500 people will be employed. Once complete, the power station will employ close to 1,000.

Oil shale is Jordan's most significant natural resource. According to various estimates, deposits can be found in more than 60 percent of the Kingdom's territory, with assessments ranging from 40 to 70 billion tonnes, which would make Jordan the sixth richest country in the world in terms of oil shale deposits.

One reason for the construction of the power plant is because about 97 percent of the country's energy supplies come from costly fuel imports from foreign countries. According to the National Energy Strategy, to cover Jordan's energy requirements from 2007 to 2020, the Kingdom needs to increase and secure its energy supply and reduce its dependence on external energy sources. To do this, they must take advantage of national resources such as oil shale and renewable energies. This strategy is designed to increase the contribution of local energy sources to 39 percent by 2020 while reducing dependency on foreign sources 61 percent.

Helping extract the oil shale are the first two Cat® MD6290 drills in the Middle East. They were supplied by Cat dealer Jordan Tractor. The MD6290 complement a fleet of three Cat 6030 hydraulic shovels and 34 Cat 777 dump trucks that Al-Own BCM are using to advance the oil shale mining project. The drills work the site 24 hours a day, seven days a week with only two hours each day dedicated to maintenance. There is also a maintenance contract and eight dedicated technicians, two of whom reside at the site, as well as a variety of additional Cat machines that bring the site's fleet to 62.

Before drilling could begin, however, overburden has to be removed. "The oil shale was buried under a lot of overburden. It took two years just to remove it from just one area," said Tamer Tamer Nasr, Sales Manager for Jordan Tractor. "The combination of the massive hydraulic shovels and the two 777 did an excellent job removing overburden and transporting it to the dump site. During phase one we needed to extract 204.1 million cubic meters." Abderrahman Ammoura, Commercial Manager for the Middle East and East Africa added, "The sequences of removing overburden to expose and remove oil shale will always be a part of the project".

The Attarat mining project is a huge undertaking but the power plant is on track to be completed next year. "Nobody is working on anything like this in the region," said Abderrahman. "This is a great opportunity for Jordan to diversify its power sources. We are extremely proud to see this type of high level operation and commitment from Al-Own BCM. It's a highly complicated job. They are making great progress and this project is already a great success."

THE ATTARAT PROJECT

- The notice to proceed was issued on March 16, 2017
- Project duration: 12 years with an optional six-year extension upon completion
- Phase 1: Remove 204.1 MBCM of overburden
- Extract 63.6 MBCM of oil shale
- 8 dedicated technicians, 2 on-site.



Tamer agrees. "We have great confidence in Al-Own BCM and our Cat machines. This is a new way of mining, especially in the Middle East. And, our equipment is helping meet or exceed extremely high production targets each month in this demanding application to help Al-Own BCM achieve what they set out to do." ■

Additional details at: www.cat.com