CASE STUDY

A SMALLER ECOLOGICAL FOOTPRINT IN MEXICO

FORDIA

«G4 takes it commitment to the environment very seriously and the Eddy system allows us to leave a smaller ecological footprint.»

Dino Lombardi,
Vice President of Development and Operations at G4 Drilling

The mineral exploration and drilling industry has been faced with the need to minimize its impact on the environment and limit consumption of scarce resources. As a result, drilling and mining companies are looking for ecologically friendly ways to deal with drill cuttings and reduce water consumption. Fordia's customer, G4 Drilling, is a company committed to compliance with the environmental restrictions and municipal regulations present in many of their projects across the globe.

Forage G4 Drilling has almost 40 drilling units and employs more than 120 employees from Canada to Mexico. The company started operations in 2006 in Mexico, with one drill. Within five years, that number increased to 32 drills. G4 Drilling carries out surface and underground drilling projects from the tundra to the jungle including the semi-desert plains of Chihuahua, They are known for their expertise in in projects that present highly technical challenges.

Needs

G4 is proud of their reputation for performing work safely while complying with environmental standards. The company's had projects in the town of Durango and another close to the town of Cananea, both in Mexico. As most drill sites are remote, limited access to water is often an issue in Mexico.

Tanker trucks are used to haul the water to the drill rigs and this represents a substantial operational cost. G4 Drilling needed a water treatment system that would limit water consumption and could recycle the drill water so it could be re-used.

Solution

Water treatment systems Eddy for the mining industry had historically been very expensive, very large machines with limited efficiency and functionality. Fordia's Eddy water treatment system was easy to transport and easy to operate. G4 had already purchased an Eddy water treatment system from Fordia that had been used successfully in Northern Quebec. The company was ready to try the system in Mexico where the conditions were vastly different.

The primary function of the Eddy is to separate drill cuttings from water. Once the drill cuttings are isolated, they can be disposed of in environmentally approved ways. The water is treated and cleaned, then re-used so that a minimal amount of additional water is required. This system would allow G4Drilling to re-use drill water that is free of cuttings so the risk of damage to the drilling equipment is reduced.

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Results

Without a water treatment system, drillers in Mexico would dump the used drill water into containers or "sumps" and simply let the drill cuttings settle. Then the water from the top of the container would be pumped back into the bore hole. However, this "recycled" water still contained a lot of drill cuttings. The water used in the drilling process is meant to cool the core bit and flush the cuttings from its face. Re-using water that still contained a lot of drill cuttings caused production numbers to drop substantially.
Once the used drill water was filtered through Fordia's Eddy, it was free of drill cuttings and cleaner. When this filtered water was pumped back into the bore hole, the drill bit face was cooled and flushed properly and production increased. What's more, it allowed G4 to lower its consumption of a scarce resource.

"G4 takes it commitment to the environment very seriously and this system allows us to leave a smaller ecological footprint," stated Dino Lombardi, Vice President of Development and Operations at G4 Drilling. "Many of our projects are in rural areas and the Eddy allowed us to increase our social acceptance from the farmers in the community," he added.

The ground in Mexico is fractured so polymers and drilling fluid additives must be added to the drill water when drilling. The Eddy was able to separate the cuttings even when the drill teams were using polymers. "We were happy with the size and light weight of the system. It made transporting it to remote sites that much easier. We've had success with it in Northern Quebec and we plan to use it in our drilling project in British Columbia."

Fordia, is a provider of drilling solutions that include diamond tools, equipment and accessories. The company has been serving customers in the mineral exploration, geotechnical and environmental industries since 1977. Their goal is to improve drilling performance and make drillers' lives easier. Visit www.fordia.com for more information about their Water Treatment System and to learn about other drilling solutions.

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