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*Helping drillers improve
their performance*

Customer: Matrix Diamond Drilling

Location: British Columbia, CA

Product: Matex Core Wrap

CASE STUDY

MATRIX WRAPS MORE CORE WITH CORE WRAP

“EVERYONE HERE SAYS THEY LIKE THE CORE WRAP AND THINGS ARE GOING BETTER.”

Diamond drillers will definitely agree, it's all about the core. Extracting core samples is the ultimate goal of mineral exploration as this will guide geologists to the ore bodies. A crumbling core sample is a common challenge in many areas, so anything that can help alleviate this problem will be appreciated by the drilling community. A new product, Core Wrap from Matex, is an additive that helps stabilize core samples.

Core Wrap is a powdered polymer that prevents the core sample from crumbling and breaking. The product does this by **wrapping the core sample in a protective film** and that same film also adheres to the walls of the bore hole **making the hole more stable**. As a reasonably priced premium product, it is an excellent alternative to existing products on the market. Core Wrap is also ideal for drilling operations in areas with environmental restrictions. It is environmentally friendly, non-toxic and non-hazardous.

Fordia had added this new product to its line of drilling fluid additives recently, and the technical team in western Canada had been performing tests with good results. They were eager try to the product at a customer's site and luckily, they found the perfect opportunity.

Matrix Diamond Dilling was a customer who had just been awarded a substantial drilling contract and a member of Fordia's technical team had already made to visit Matrix once their crew had set up and operations were rolling along smoothly.

Matrix Diamond Drilling is a small drilling company located in Kamloops, British Columbia that had been in business for over ten years. With between 15 and 20 employees, the company has six drill rigs and had been awarded a drilling contract in northern British Columbia.





THE CHALLENGE

The new drilling site had ground conditions that included fairly competent rock and hardness that was soft to medium. There were garnets in the rock and this was resulting in short bit life. In addition, due to several directional drill cuts off the mother hole, the Matrix crew was experiencing elevated torque.

While the Matrix crew was open and familiar with drilling fluid additives, and the benefits they offer, there was no mud program in place. Many different products were on site and there were divided loyalties to products among the crew. As the Fordia team always recommends, the pH level of the water was tested and found to be in the normal range. The pH level of the water used at a drill site is important when mixing drill mud. The term “pH” refers to the levels of acid or alkaline found in a liquid. Drilling fluid additives were developed to be mixed with water with a pH level from 8.5 to 10 in order for the required chemical reaction to occur and to provide a proper yield.



THE SOLUTION

Since torque was already elevated, the technical team decided to use four liters of Torqueless, which they poured into the mixing tank. Torqueless is an environmentally friendly product can be used alone or in combination with other additives, to help bind polymers, lubricate, lower torque, reduce wear and rusting of the rods and cool the core bit. Using Torqueless enhances all other polymers and should be added to every mix. It ensures proper mixing with the water by encapsulating each grain of the polymer to ensure a thorough mix. It reduces clumping and waste of product, especially if you are using a powdered product.

THE RESULTS

As expected, within minutes of adding the Torqueless, the team noted a 200 psi reduction of torque on the gauge. With the torque lowered, the next step was to add the Core Wrap product. The technical team recommended pre-mixing Core Wrap with Torqueless according to a suggested recipe of one liter of Core Wrap per 1,000 liters of water along with two liters of Torqueless. After 24 hours, our technical team checked in with the crew and they were told that things were going smoothly.

The technical team followed up with a visit after six weeks. The team discovered that core recovery had increased and bit life had been extended. "Everyone here says they like the Core Wrap and things are going better", said Rob Brown, co-owner of Matrix. Drillers on the crew had similar comments.



Many found that:

- Mixing the mud was easy and produced a better viscosity
- Installing the casing was much easier
- Elevated torque was eliminated (500 psi reduction when using Core Wrap and Torqueless)

The Matrix crew had been using Core Wrap and Torqueless exclusively during the six weeks following the visit from the Fordia technical team. This represented quite a testament to the products' efficacy since Matrix had been using at least seven different drilling additive products prior to their introduction to Core Wrap and Torqueless. Fordia's goal is to improve drilling performance and new products such as Core Wrap are an integral part of achieving that goal. For more information about Core Wrap, visit www.Fordia.com