TURNING MUD INTO GOLD

Unless you live in an oil-producing state, you're probably not familiar with the term "drilling mud." When a rig drills into the ground, the bore hole is kept small to reduce the amount of steel or concrete that must be used to encase it once drilling is complete. That small hole makes it impossible to retrieve the fragments of rock, shell, and clay generated by the bit as it drills on down. So drilling mud was developed (there are a variety of formulations, including diesel fuel, synthetic oil, chlorides, and bentonite) — and it performs a number of tasks. It keeps the drill-cutting fragments in suspension and carries them out of the drilled hole keeping the bit from clogging up, it keeps the fluids found underground from entering the hole, it keeps the drilling bit cool and clean, and it has minimal interaction with the surrounding formations.

Oh — did we mention it is also expensive? It can cost $160-180 a barrel, and it's not uncommon to use hundreds of barrels on a drilling job, depending on the depth of the hole and whether there are any unexpected lost circulation zones to siphon off the mud until the fluid pressure is built back up enough to continue drilling.

When the mud is returned to the surface with its fragments and other materials it has picked up along the way, it has to go somewhere. And that's the beauty of what DRD Waste Treatment Solutions, Inc., in Hinton, Oklahoma, has to offer. Unlike other companies that simply dispose of the mud, DRD is the only company in the U.S. that actually recycles the components, which includes returning part of the product back to the oil company. By getting the hydrocarbons such as oil and diesel back, the oil and gas companies save money because they don't have to purchase those items again.

In addition to separating the hydrocarbons, DRD also reduces the chlorides (salts) which are useful in rebuilding mud products and converting the mud into materials that have beneficial uses.

What's leftover that is not useful to drillers is a bentonite-hydrocarbon mixture. And for that, DRD's own resourceful environmental personnel are finding many uses.

"We can make a road base material that sets up within 48 hours like blacktop," says Ryan Blevins, President. "It doesn't ripple or rut like gravel, and maintenance is simple — a motorgrader only needs to go over it once

a year. We've paved some county roads and now we're working our way up to the Oklahoma Department of Transportation. We can also make fertilizer and construction fill from it. Every bi-product is sellable."

SURVIVING THE PITS

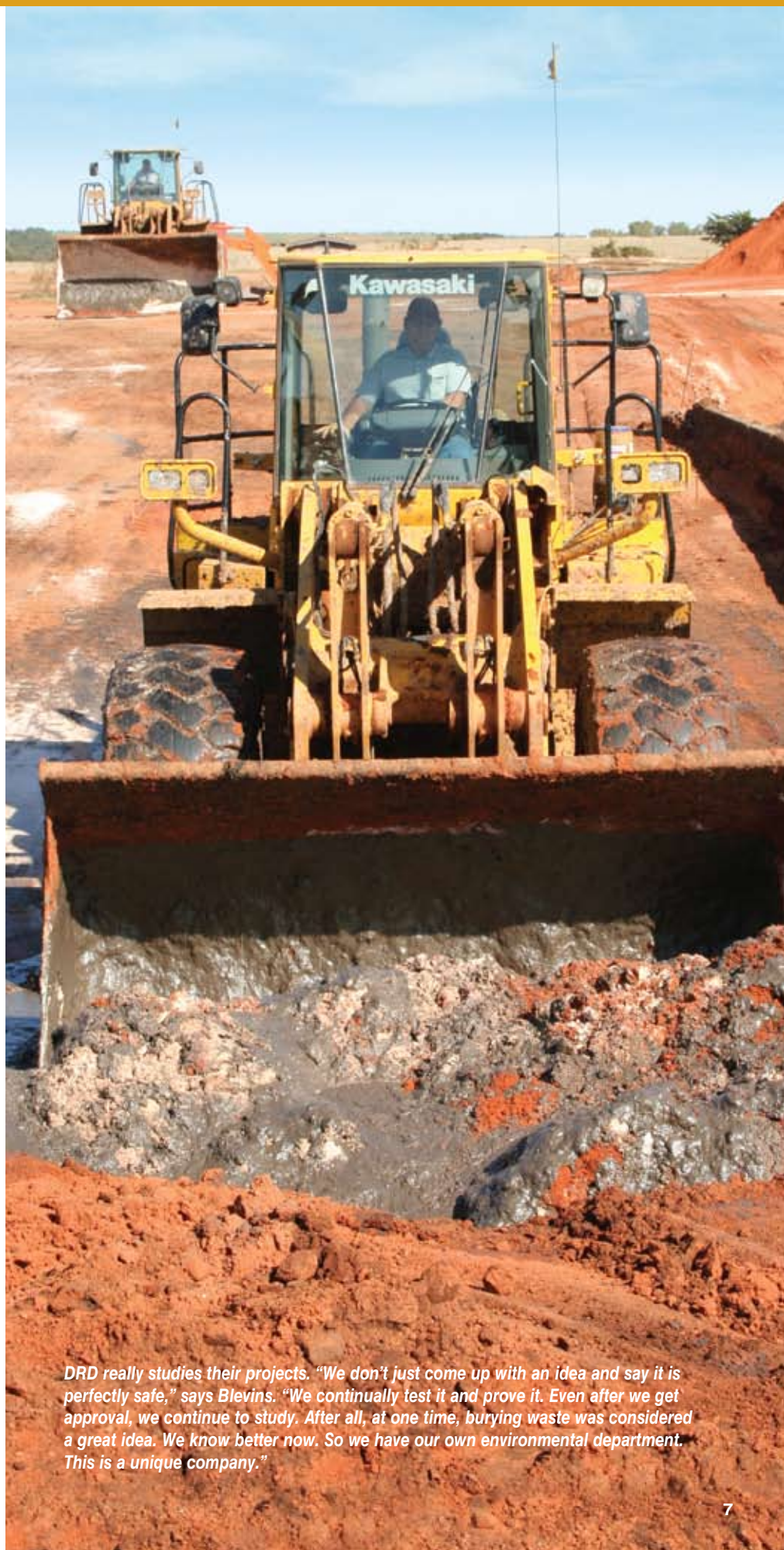
The company has three Kawasaki loaders — a 70 ZV-2, a 90ZV, and a 95ZV-2. The 70 is at their Coalgate, Oklahoma, location. The other two are in Hinton. If there were ever a wheel loader hell on earth, DRD has to be awfully close.

"These Kawasakis work in a very extreme environment," says Blevins. "A lot more extreme than mining. Our wheel loaders handle 90 percent of the materials — not only the actual drilling mud but also the various elements used to remediate it.

"When the loads come in, they are dumped into cement-lined pits. Because drilling mud is slick by design, traction is a huge challenge. These loaders are in it seven days a week, 18 to 20 hours a day. They experience slippage

Jeremy Johnson, Facility Supervisor, and Ryan Blevins, President, DRD Waste Treatment Solutions; Tom Damron, Sales Representative, Oklahoma Territory Construction Equipment.

every day and it's been absolutely amazing we've not had a problem with them. So the loaders drive in there, pick up the stuff, climb back out, and take it to a mechanical shaker that separates solids from liquids. The materials then go through a chemical process and are pumped into another cement pit. The loaders grab a variety of aggregates that will solidify the material and then drive into that second pit to mix the materials. Then they remove the mixture and place it in stockpile areas where it will later become fertilizer, road base, or construction fill.



DRD really studies their projects. "We don't just come up with an idea and say it is perfectly safe," says Blevins. "We continually test it and prove it. Even after we get approval, we continue to study. After all, at one time, burying waste was considered a great idea. We know better now. So we have our own environmental department. This is a unique company."

"The loaders are always coming in and out of the pits at a steep angle which is very stressful on the torque converter and transmissions. We tried other brands and they had overheating problems. Not Kawasaki. The chlorides we separate out are very corrosive to the loaders, but they've held up well. Then there are the aggregates. They're very dusty. They cling well to our mud but are quite hard on the radiators. That wide-fin radiator is the best we've ever used. A competitive brand, which promoted they had the best air-cooling system, only lasted 60 days. The loaders also handle compost and add amendments. We have a working farm here too. We monitor the effectiveness of the soil enhancement (fertilizer) we generate; checking the root structure of our plants and soil components. We also monitor the soil and water for contamination. We're serious about being "green" and we actually live on the property, as we have a lot of customers who need a quick response, and our personal time and attention.

"Another thing we noticed was the cabs are a lot tighter than other brands," says Blevins. "With the way the dust blows around here, when we keep the doors and windows closed, the cabs are as clean at the end of the day as they are at the start of the shift. I can't say that with other brands. And they are extraordinarily stable, even on uneven ground. When we raise a 24,000-pound bucket on our 95 equipped with a standard counterweight, we have no problem at all."

One unexpected Kawasaki benefit DRD discovered was the fuel economy. "When fuel was so high, I could make a monthly machine payment with the fuel savings," notes Blevins. "Our 90 loader, which is the one that is most heavily used, averages just 5.5 gallons an hour, which is incredible. No other brand has ever come close."

DRD has treated waste from as far away as Wyoming, but mainly receives product from as far west as Wheeler, Texas, as far east as Fort Smith, Arkansas, and 100 miles south of Fort Worth, Texas. In addition to recycling drilling mud, they also offer a number of oil-field related services such as excavation, vacuum trucks, water filtration, and soil remediation. Their self-contained bioremediation units that process waste on-site have traveled as far away as Canada.

"We've bought a lot of equipment over the years and we've never had the technical and after-sales support as we have with Kawasaki. And our dealer, Oklahoma Territory, has provided great service in comparison to the other major dealers. Once when we were using another brand of loader, we had to wait three days for them to get to us. With Oklahoma Territory, they've been out here in the evenings and even at 4 am. We're very happy."

DRD Waste Treatment Solutions, Inc. is serviced by Oklahoma Territory Construction Equipment, Oklahoma City, Oklahoma.

"These Kawasakis work in a very extreme environment."

– Ryan Blevins, President, DRD Waste Treatment Solutions, Inc.