



ENERGY PIPELINE

COVERING THE OIL AND GAS INDUSTRY IN COLORADO

Falling gas prices recall
**THE GOOD
OLD DAYS**
and how that might spell
DOOM
for some in the oil industry

**SAFETY
IN NUMBERS**
Denver company works to
make oil field travel safer with
real-time monitoring

**EVALUATING BILL
BARRETT EXPLOSION**
Internal investigation reveals
flaws in practices that have
now been corrected

**NOW
SUITING UP**
New clothing options for
oilfield, industrial workers
in Greeley area

FEB 1 VOL 2 | ISSUE 6
\$4.99

8 52667724351

US POSTAGE PAID
DENVER, CO.
PERMIT NO. 5377
P-3 P11

CARRY BEERS
18058 N. DUMBARTON DR.
LITTLETON CO 80127

*****SCH 5-DIGIT 80127 FSS

PREST STD

MAKING BLACK GOLD FIT FOR THE ROAD

BY TRACY HUME • FOR ENERGY PIPELINE

RODNEY DANGERFIELD'S famous catch phrase, "I get no respect!" might be said for drill cuttings. Most people who work in the industry look at the muddy, black mixture of soil, rock fragments and drilling mud that make up drill cuttings and see a liability. They see a useless byproduct that incurs expensive disposal and treatment costs for exploration and production companies.

Exploration and production waste recycling expert Gary Beers, of Industrial Water Permitting and Recycling Consultants, wants to change that. When Beers looks at drill cuttings, he sees a resource. Beers believes those drill cuttings can be efficiently processed and recycled as road base, providing a cost-effective source of the material operators need to build well pads and access roads in the field.

A pilot project slated to take place in Weld County early this year is designed to prove Beers' point: Instead of being a problem, recycled drill cuttings can provide solutions for the industry.

INSTEAD OF BEING A PROBLEM RECYCLED DRILL CUTTINGS CAN PROVIDE SOLUTIONS FOR THE INDUSTRY

Most of the drilling done in Weld County is done using water-based muds (drilling fluids). Drill cuttings generated by processes using water-based muds are the cuttings that hold recycling potential. A minor amount of drilling in Weld County is done using oil-based muds, which use mineral oil or diesel and other chemical additives. This distinction is important, says Beers, because "per regulations, oil-based drill cuttings cannot be recycled, therefore 100 percent of them are taken to landfills."

Beers estimates that about 30 percent of the drill cuttings generated using water-based muds also end up in landfills, such as Buffalo Ridge in Keenesburg. However, this solution is expensive



Raw cuttings from shaker

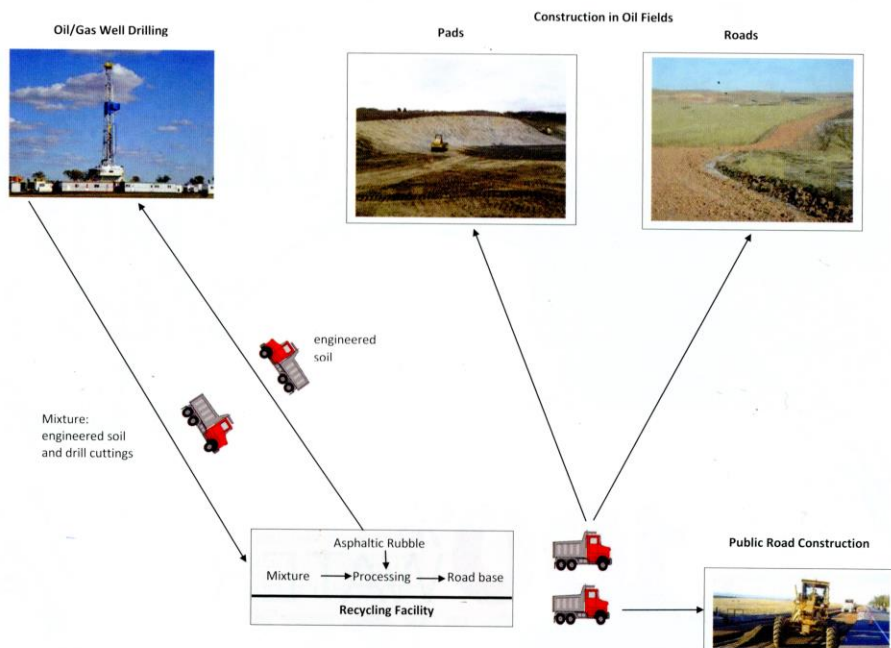


Stabilized Drill Cuttings
(Ready for transport from well site to Recycling center)



Class 6 Road Base
(Prepared from mixture of stabilized drill cuttings and asphalt aggregate)

The raw drill cuttings have a high liquid content; engineered soil is added to the raw drill cuttings to stabilize them for transport to the recycling center; the final product includes drill cuttings, engineered soil, and asphalt rubble and meets CDOT specifications for Class 6 road base. SOURCE: INDUSTRIAL WATER PERMITTING AND RECYCLING CONSULTANTS, LLC.



A proposed drill-cuttings-to-road-base recycling project will be piloted in Weld County in early 2015. The project will use treated drill cuttings as a component in a commercial road base product that will meet CDOT specifications. SOURCE: INDUSTRIAL WATER PERMITTING AND RECYCLING CONSULTANTS, LLC.

for companies, not only because of the per-ton cost to dispose of the cuttings, but also because of the costs involved in trucking the cuttings to the disposal sites, which are often located far from the drilling site where the cuttings are being generated.

Adding to the challenge is the fact that because of the high liquid content in the drill cuttings, the cuttings have to be stabilized before being hauled to the landfill. "The water content presents problems when the cuttings are transported by truck," explained Beers. "The shale pieces settle during transport and create a dense layer, covered by a layer of separated water on top. It creates an unstable load. So drill cuttings have to be stabilized with a drying additive before transport from the well site."

Due to the costs and challenges associated with disposal in a landfill, many companies choose "land spreading" or "land application" for their cuttings instead. Beers estimates that about 70 percent of the drill cuttings generated in Weld County are disposed of this way.

Land applications are regulated by the Colorado Oil and Gas Conservation Commission. In this case, companies seek landowners willing to have drill cuttings applied to the surface of the land. Drill cuttings are worked into the soil, and the contact with the air in addition to the bacteria in the soil break down the benzene, hydrocarbons and other chemical components of the cuttings.

Although less expensive than the landfill solution, land spreading also comes with costs and limitations. Companies must pay landowners to take on the cuttings for spreading. In addition, the volume and frequency of applications is limited by regulations, necessitating an ongoing search for new locations.

Beers and his partners at H2O Recycling, the lead organization in the drill-cuttings-to-road-base project, have designed a recycling program to replace these disposal and treatment processes. They considered each step in the current disposal process and re-imagined it as a part of a manufacturing process leading to the development of a commercial product that meets beneficial use requirements.

For example, the first step in the landfill disposal process would be

"All the people I've talked to have said, 'Why hasn't this happened before?'"

GARY BEERS, Industrial Water Permitting and Recycling Consultants

BIG R
OF GREELEY

proudly serving the
Oil & Gas INDUSTRY

FR CLOTHING...
BIG R'S GOT YOU COVERED
From Great Brands You Trust

ARIAT WORK FR
RASCO FR
carhartt FR
FR CINCH

Main Store
310 8th Street
Greeley
970-352-0544
800-BUY-BIGR

Farm Store
305 8th St.
970-352-3306

HOURS:
Mon - Sat 8am - 6pm
Sun 1pm - 5pm
Carpet Dept. Closed Sunday
www.bigrofgreeley.com

Compliance Specialists of Colorado



**US DOT REGULATIONS, LICENSING AND BOOKKEEPING
BONDED & INSURED**

Dawn Marie Tesch
Agent/Owner

PO Box 298 • Kersey, CO
970.302.0157 • Fax 970.506.1079 • cscsupport@live.com

**PICK UP PULLING TRAILER • STRAIGHT
TRUCK • RIGS AND ANY OTHER
COMMERCIAL MOTOR VEHICLES**

THE PILOT PROJECT BEING SET UP IN WELD COUNTY IS DESIGNED TO CEMENT INDUSTRY CONFIDENCE IN THE RECYCLED ROAD BASE BY DEMONSTRATING ITS EFFECTIVENESS UNDER ACTUAL FIELD CONDITIONS

that the exploration and production company would contract with a trucking company to haul a drying agent for the drill cuttings out to the drilling site. The truck might "deadhead" at the drilling site, i.e. deliver the drying agent and then make the return trip without a load.

In the recycling process designed by H2O Recycling, the "drying agent" hauled out to the drill site would actually be asphaltic rubble engineered to Colorado Department of Transportation specifications. That is, the component used to stabilize the cuttings for truck transportation would actually be one of the proprietary "ingredients" in the recipe for the road base. And rather than dead-heading, the truck could pick up the drill cutting/engineered soil mixture, and deliver it back to a centrally-located recycling facility for further processing.

After final processing at the recycling facility, the end product will meet CDOT's technical specifications for road base (Class 5, 6 and/or 7). At the end of the process, explained Beers, "all road base will be available for sale and delivery to the local market."

"The core feature of any sustainable recycling business is the market," said Beers. The viability of the local end-use market is literally where the "rubber meets the road" for the drill-cuttings-to-road-base recycling project.

Because the project involves a commercial facility recycling a product to a specific beneficial use, the applicable regulatory agency is the Hazardous Materials and Solid Waste Management Division of the Colorado Department of Public Health and Environment rather than Colorado Oil and Gas Conservation Commission.

CDPHE is "very sensitive about being sure there is a guaranteed market for a recycled product," said Beers. "The Health Department's been burned several times by this. They want to make sure that we are not just creating a huge stockpile of something that has no value in the marketplace. That has happened with tires in the past, and with roof shingles, too."

For the drill-cuttings-to-road-base recycling project to be viable, "75 percent of the drill cuttings we take in have to be taken back by the industry as road base," said Beers.

The pilot project being set up in Weld County is designed to cement industry confidence in the recycled road base by demonstrating its effectiveness under actual field conditions. "We've given the companies samples of the product; they know the specifications; but they want to see it in use under their conditions and their specifications," said Beers.

H2O Recycling, LLC, the lead organization in the recycling project, received approval to proceed with the project from CDPHE last August. The Denver-based company operates a recycling facility at Denver's former Stapleton International Airport. For the pilot project, drill cuttings will be hauled to the Stapleton facility for

"75 percent of the drill cuttings we take in have to be taken back by the industry as road base."

GARY BEERS, Industrial Water Permitting and Recycling Consultants

processing; but once the pilot project has been completed, H2O will develop smaller hub-and-spoke locations in Weld County, closer to the oil fields. H2O Recycling has subcontracted with Colorado-based Recycled Materials Company Inc. to operate the equipment that processes the drill cuttings into road base.

At press time, negotiations were still underway with the exploration and production partner for the pilot project, so Beers was unable to name the company involved. He did say that "we are negotiating with one of the major oil producers in Weld County" for the pilot project, and that "another six or seven of the operators up in Weld County have expressed a strong interest in participating once the pilot project is completed."

The project is designed to realize cost-efficiencies for operators in a number of ways. Besides reducing treatment and disposal costs, the recycling project also reduces hauling costs.

"Look at what they are doing now," said Beers. "At the wellhead, they have a truck bringing in soil to mix with the drill cuttings. When that truck leaves the site, it leaves the site empty. Then they have another truck come and pick up the mixed drill cuttings and soil. That truck goes to the land spreading site, unloads their stuff and comes back empty. So half the trips they are paying for are pointless. We've set up a system whereby basically all the trucks are full."

Beers said that H2O Recycling already has a stockpile of 350,000 tons of asphaltic rubble ready to be mixed with drill cuttings. Beers estimated that a typical Wattenberg well would generate 400 to 900 cubic yards of cuttings; when mixed with the additional proprietary components, each well has the potential to generate nearly 8,000 cubic yards of road base material.

"After the oil companies purchase their required 75 percent to construct pads and roads, the surplus road base can be purchased by other markets," said Beers. "However, use of the recycled road base product may be restricted by the conditions in the approved beneficial use plan and by local governing agencies."

Although the use of drill cuttings in a commercial road base product is somewhat innovative for Colorado, it is already common practice in Texas. Beers pointed out that the Texas Department of Transportation is already using a product derived from drill cuttings in a shoulder-widening program throughout the state.

Beers is confident the drill-cuttings-to-road-base concept also will find success in Colorado. "It just makes a lot of sense to a lot of people," he said. "The road people like it because the material's being put to use as a good construction material. The oil people like it because of the cost efficiencies. COGCC and CDPHE like it because it reduces waste and reduces the environmental footprint of that waste."

"All the people I've talked to have said, 'Why hasn't this happened before?'" Beers said. "They are ready to give it a try." ♦

ALL COLORADO SEMI TRAILERS






20 Ft Storage Containers
Starting at **\$2750**



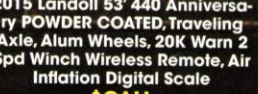

2015 Doonan 4 Axle Oilfield Scissor Neck 53' Extendable, Lift Axle, Pop-Up Rollers 60 Ton, Tail Roller, Strobes
\$CALL



40 Ft Storage Containers
Starting at **\$3800**



2015 Landoll 53' 440 Anniversary POWDER COATED, Traveling Axle, Alum Wheels, 20K Warn 2 Spd Winch Wireless Remote, Air Inflation Digital Scale
\$CALL



2008 Load King Tri Axle Lowboy CLEAN 53'x102", Honda Pony Motor, Strobes, GN Mud flaps, Air Lift 3rd Axle
\$CALL

5075 Vasquez Blvd • Denver, CO • 80216
303-494-6472



Diamond B

Diamond B Oilfield Trucking, Inc.

For a Safe, Reliable, and Timely Source of Transportation



Crude Oil Transportation

Now In Nunn, CO

Jay Obergfell - Supervisor

Cell (406) 480-5519

Stephen C. Bowman
President

Ole Hagen
District Manager
Cell (701) 263-5571

Daryl Sorenson
Vice-President
Cell (406) 765-8563

Kara Eggen
Office Manager
Cell (406) 480-0458

Chuck Ensrud
Operations Manager
Cell (406) 480-3183

Alan R. Caldwell CDS
Safety Coordinator
Cell (408) 765-8600

Plentywood, MT
Westhope, ND
Phone: 1-800-876-1376
or
701-245-6663

end