

# An appetite for oil

## Houston company's system uses crude-eating microbes to cleanse beach sand coated by the spill

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**Mayra Beltran : Chronicle**

*Bill Carmichael of Clean Beach Technologies, with the sand-scrubbing system in west Houston, says, "We're begging for somebody to just deploy us, but local entities don't know who is going to pay them, so they're reluctant to commit."*



**Mayra Beltran : Chronicle**

*Adam Hoisington and Ian Flader load a hopper onto a trailer as they start the first phase of assembling Clean Beach Technologies oil-eating equipment.*

After weeks of trying to get oil spill response crews to adopt its sand-scrubbing equipment, a Houston-based engineering firm finally found a receptive audience in Pensacola, Fla., this week when a tide of oil and tar balls made landfall.

High winds brought the most severe pollution yet from the Gulf oil spill to the once blinding-white beaches of northwest Florida Wednesday morning, just as Clean Beach Technologies was packing up its weary road show to move on to the next seaside town to make its pitch.

Originally designed to separate crude found in Canadian oil sands, the company's beach-cleaning equipment works like a giant washing machine for sand. The detergent: microbes that naturally consume oil.

In Escambia County, which includes Pensacola, the company demonstrated the system for emergency response authorities Thursday.

If the county leases the machine, it would be another key break for Clean Beach Technologies.

The company, barely a month old, is one of few companies to slash through reams of red tape and get its technology considered and tested by BP from among tens of thousands ideas submitted to the

company's toll free number. BP holds the lease on the blown-out Macondo well pouring crude into the Gulf and is responsible for the cleanup.

Proven Technologies, the parent company of Clean Beach Technologies, was established two years ago to develop the oil sands system. Executives decided to launch the company when they realized their equipment might be of service to the cleanup effort after the Deepwater Horizon accident.

A BP spokeswoman confirmed that Clean Beach Technologies' mechanical solution for separating oil from sand had undergone lab testing using oiled sand taken from a Louisiana beach. It was found feasible for possible use, though BP still has not performed field tests.

### **Local-level questions**

Bill Carmichael, Clean Beach Technologies vice president, said that after getting so far, the company expected clear sailing in getting local emergency response authorities to hire the company to begin cleaning the hundreds of miles of oil-stained Gulf beaches.

Not so.

"We're begging for somebody to just deploy us, but local entities don't know who is going to pay them, so they're reluctant to commit," Carmichael said in an interview at the company's west Houston manufacturing facility.

BP has agreed to pay all spill cleanup costs — and so far has paid out more than \$2 billion - but the more immediate payment issues still appear unresolved at the local level, Carmichael said.

As cleanup needs become more acute, though, as they did this week in Escambia County, he's hoping local leaders will sign up and figure out how to pay later.

### **\$25,000 a day**

The day rate for the company's machines is \$25,000, which Carmichael speculated is comparable or perhaps even less than paying hundreds of workers to shovel oily sand into plastic bags to be hauled away and treated elsewhere, Carmichael said.

The Coast Guard said 320 workers had been dispatched to Pensacola Beach on Wednesday to clean up the overnight invasion. By Thursday, the beach was largely free of oil, though more than a thousand workers were still on the job, according to media reports.

In the beach-ball-colored cleaning machine, polluted sand is dumped into a large, three-hopper system where it's agitated in a bath of oil-eating microbes and ionized water. High-velocity pumping helps shear away the tar balls and oil and breaks them down into pepper-size specks for easy microbial munching.

The slurry then goes through a spin cycle of high-powered centrifuges before it's dumped back onto the beach as clean sand.

"You can let your kids play on it," Carmichael said, though he added that the system may still need some tweaking.

The system can cover eight to 10 miles of beach a day, processing up to 700 tons of sand, then retrace its steps as more oil washes in, Carmichael said. It's important that oil be picked up as quickly as possible to prevent it from seeping deep into the sand, where it is much harder to recover.

The microbial solution used, called Petro-Clean, is manufactured by Pasadena-based bioremediation firm Alabaster Corp. and is on the Environmental Protection Agency's list of approved dispersants.

Clean Beach Technologies has two fully built systems ready for deployment. Another eight are being manufactured.

"We're patriots," said Carmichael, who, like two other company principals, is a Navy veteran. "It's not all about making money. We just want in the fight. We have the equipment, the know-how, the people. For us, this is a mission."