

World's thirst for oil leads exploration companies into riskier ventures

Harry R. Weber and John Flesher, Associated Press, 11-5-10

MIAMI — The world's thirst for crude is leading oil exploration companies into ever deeper waters and ventures fraught with environmental and political peril.

The days when the industry could merely drill on land and wait for the oil — and the profits — to flow are coming to an end. Because of that, companies feel compelled to sink wells at the bottom of deep oceans, inject chemicals into the ground to force oil to the surface, deal with unsavory regimes, or operate in some of the world's most environmentally sensitive and inaccessible spots, far from ports and decent roads. All those factors could make it difficult to move in equipment and clean up a spill.

From the Arctic to Cuba to the coast of Nigeria, avoiding catastrophes like BP's Gulf of Mexico spill is likely to become increasingly difficult and require cooperation among countries that aren't used to working together.

An Associated Press review of oil ventures around the world found plans to punch through layers of salt more than three miles beneath the ocean floor off the coast of Brazil, drill seven exploratory wells off Cuba and extract oil from crude-soaked sands on the Canadian prairie. Drilling is proceeding in countries with extremely weak regulations and a lack of skilled operators, and in geological settings much like the northern Gulf of Mexico, with high pressure and weak rock formations ripe for blowouts.

Companies are seeking the new frontiers amid warnings from some analysts that worldwide oil production will peak and then decline as onshore wells dry up. It's not that oil itself is scarce — global reserves are estimated at 1.2 trillion barrels — but getting to it requires large investments in treacherous places.

"It's just getting harder to find this stuff. You're having to go to the end of the Earth or the bottoms of very deep oceans now," said Randy Udall, director of the nonprofit Community Office for Resource Efficiency in Aspen, Colo.

BP CEO Bob Dudley argued last week that deep-water drilling is necessary despite the dangers because the world could be consuming 40 percent more energy by 2030.

BP and other major oil companies say they are preparing for the risks and trying to find common solutions. Also, the International Association of Oil and Gas Producers, a trade group, is talking with other industry organizations in the U.S., Australia, Brazil and Britain about preventing and responding to disasters, said executive director Michael Engell-Jensen.

But so far, little has been done globally to come up with a universally accepted set of standards and response procedures. Diplomatic tensions could prevent effective cooperation among countries, and some projects already under way — such as a deep-water containment system that U.S. oil companies are building in the Gulf — are meant only for a particular area.

In the meantime, the industry is pursuing some audacious projects.

Exploration companies have discovered huge oil fields in the South Atlantic off Brazil, with deposits believed

to exceed 8 billion barrels. Reaching them will require drilling not only in waters nearly two miles deep, but through salt layers up to three miles below the ocean floor. The BP well that blew out was in water a mile deep.

The U.S. Geological Survey estimates the Arctic region holds up to one-quarter of the world's undiscovered conventional oil and natural gas, including 90 billion barrels of crude — most of it offshore. Companies in the U.S., Russia, Norway, Denmark and Canada are stepping up preparations to drill there.

Environmental groups have sued to prevent it. Cold and ice would hamper cleanup of a spill, they say, by making it hard to get people and equipment to the scene. And the region lacks the sunlight and abundance of microbes that are helping break down the oil in the Gulf. A major spill could injure or kill whales, polar bears, seals, walrus and many types of fish.

Shell Oil, which plans to drill exploratory wells off Alaska, will have a response fleet constantly on hand with helicopters, boom, skimmers and other equipment for dealing with spills. "In the unlikely event of a discharge, they would be deployed and recovering oil within an hour," spokesman Curtis Smith said.

In the western U.S., companies are targeting what the Energy Department says are billions of barrels of recoverable oil trapped within deposits of shale rock, which is composed of layers of claylike, fine-grain sediments. Mining and processing shale oil are a big source of greenhouse gas emissions. Environmentalists also worry about the huge volumes of water and chemicals pumped deep underground at high pressures to break loose the shale.

Similar issues have arisen in the Canadian province of Alberta, where companies are extracting sticky black bitumen oil from mixtures of sand and clay known as tar sands — a process that consumes vast quantities of water in an arid climate.

In Nigeria, where major oil companies like Royal Dutch Shell and others explore the oil-rich Niger Delta, regulators ostensibly demand adherence to international standards. But enforcement is another matter in a country with a reputation for some of the worst corruption in the world.

Uneven environmental standards are a big concern in developing countries such as Nigeria, Angola and Kazakhstan — places where "a major spill would be an absolute nightmare to manage, politically and logistically," said Matthew Halle, a recruiting manager at the energy consulting firm NES Inc.

Environmentalists estimate as much as 550 million gallons of oil have poured into the Niger Delta and its surrounding waterways during 50 years of crude production. That is roughly comparable to one Exxon Valdez disaster per year.

The pitfalls of doing business with certain regimes were brought into sharp focus when questions were raised about whether BP tried to procure a \$900 million exploration agreement with Libya by seeking the release of the man convicted of bombing Pan Am Flight 103 over Lockerbie, Scotland. The 1988 attack killed 270 people. BP says it urged the British government to sign a prisoner transfer agreement with Libya but did not specify Abdel Baset al-Megrahi's case.

As the Gulf oil spill illustrated, even multinational oil companies with solid experience have their own shortcomings. In the U.S., it could be another year before a better cap-and-siphon containment system is developed to choke off underwater leaks. Experts have said the industry needs better technology and more thorough testing to prevent blowouts from happening in the first place.

Exxon Mobil's Lloyd Guillory, the senior project manager for the U.S. industry containment system initiative, said he is confident that enough attention is being paid to safety. "The starting point one has to understand is that prevention is the predominant focus — safe drilling operations and prevention," he said.

Plans for drilling off the Cuban coast have made many people uneasy in Florida, which depends heavily on tourism to drive its economy.

Jorge Pinon, an oil expert at Florida International University, said a Spanish company and others are expected to drill seven exploratory wells in Cuban waters. The first well — at a depth of 5,600 feet — is to be located 22 miles north of Havana and 65 miles south of Key West, he said. BP's ill-fated well was about 40 miles off Louisiana.

Because of the U.S. trade embargo, U.S. companies could be barred from assisting the Spanish company with equipment and other resources in the event of a blowout in Cuban waters.

Pinon said he was part of a recent delegation that met in Washington to discuss breaking down barriers so that the U.S. and Cuba can work together on prevention and response.

Rep. Kendrick Meek, D-Fla., said he worries about drilling off Cuba because of how long it took to stop BP's runaway well from gushing oil into the Gulf. Before it was over, some 200 million gallons of oil spewed from the well.

Just as governments around the world cooperate to keep air travel safe, "there has to be rules and regulations globally to protect our waters because we're all connected by water," Meek said.