27,000 abandoned oil wells in Gulf of Mexico

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There are 27,000 abandoned oil wells in the Gulf of Mexico. In spite of the potential for oil leaks due to corrosion and underground pressure, the wells are not inspected by the US government or any agency within the oil industry. These revelations were uncovered as part of an investigative report conducted by the Associated Press which describes the Gulf of Mexico as "an environmental minefield."

According to the AP, over half of the 50,000 wells which have been drilled in the federal waters of the Gulf of Mexico have been abandoned, with 23,500 of them considered permanently sealed. As many as 3,500 of the wells are considered "temporarily abandoned." The oldest of the abandoned wells investigated by the AP date back to the 1940s.

Wells are abandoned by oil companies when they are considered to no longer be profitable, or when the potential for the amount of oil to be drawn from the well is not as high as the company may have initially believed. According to the AP, "Some owners temporarily abandon wells to await a rise in oil prices."

The standard procedure for plugging a well to be abandoned permanently by an oil company involves cutting riser piping 15 feet beneath the seabed, filling the well with heavy liquid, often referred to as drilling mud, to prevent the flow of oil and capping the well with cement plugs which can be up to 200 feet in length.

Several factors can cause abandoned wells to leak or fail, including erosion or aging in the cement used to plug the wells and repressurization of wells due to changes in geological conditions. Erosion in well casing or other areas of the well structure can allow oil and gas to escape to the surface. This can occur gradually or in a sudden catastrophic blowout.

The permanent sealing of an offshore well is costly and time consuming, costing as much as $200,000 and taking as many as 10 days work. Many oil companies get around this by classifying their wells as "temporarily abandoned," so they can plug the wells in a less thorough and expensive process. Federal regulations only mandate that companies provide a yearly plan stating their intentions to either return to the well or to seal it permanently in the future.

Using this loophole, companies can leave their wells in a kind of legal limbo for years. They can do so knowing they will face no repercussion from governmental regulating industries. The AP found that the federal Minerals Management Service (MMS) has issued fines of "just $440,000 on seven companies from 2003-2007 for improper plug-and-abandonment work."

The AP reports that "About three-quarters of temporarily abandoned wells have been left in that status for more than a year, and many since the 1950s and 1960s—even though sealing procedures for temporary abandonment are not as stringent as those for permanent closures."

BP has abandoned no less than 600 wells in the Gulf of Mexico.

Relief wells could be ineffective

A contractor with BP has said the company is ahead of schedule in drilling its first relief well. Billy Brown, the president of Blackhawk Specialty Tools, a company hired by BP to work on the cementing process of the relief well plan, claims BP is within ten feet of intersecting with its leaking Macondo well. Brown recently told reporters "hopefully in the next two weeks we are going to be hearing some very good things."

National Incident Commander Thad Allen gave reporters a different estimate on Tuesday saying, "They have about 264 feet left to go before they can get to a point where they can potentially intercept the well." Allen is standing by the timeline which places completion of the first relief well in mid-August, even though he says BP is a week ahead of schedule.

The relief wells are intended to intersect the blown-out Macondo well at a depth of 18,000 feet. Once the wells intersect, a heavy liquid will be pumped into the leaking well in order to stop the flow of oil. The Macondo well will then be plugged with concrete.

While BP's plan to stop the leak with relief wells has been promoted as the ultimate solution to the Deepwater Horizon disaster and the more trustworthy fall-back plan once all other efforts to stop the leak had failed, there is a real possibility the relief wells could also be ineffective.

David Rensink, the incoming president of the American Association of Petroleum Geologists, has discussed the difficulties involved with intersecting the leaking well. Rensink told reporters, "You're trying to intersect the well bore, which is about a foot wide, with another well bore, which is about a foot wide." Rensink has said making contact on the first attempt "would truly be like winning the lottery."

There is a danger that if BP misses its target, it could drill into a high-pressure zone and cause a gas "kick" which might lead to a blowout in the relief well itself. However, even if the company does hit its target on the first try, there is still no guarantee of success.

In an online discussion hosted by the *Washington Post*, John Hofmeister, the former president of Shell Oil and the current CEO of Citizens for Affordable Energy, discussed the possibility that the Macondo well casing could have been damaged during the April 20 blowout or eroded by the leaking oil, putting the success of a relief well in doubt. Damage to the casing could allow the mud to be forced into the well to escape and prevent it from bringing the flow of oil to a halt.

"If the casing is compromised," wrote Hofmeister, "the well is that much more difficult to shut down, including the risk that the relief wells may not be enough. If the relief wells do not result in stopping the flow, the next and drastic step is to implode the well on top of itself, which carries other risks as well."