Shared Oil Deposits: The Urgency Of an International Treaty

Víctor Rodríguez Padilla*

Pemex/Cuartoscuro

Oil platforms in the Gulf of Mexico.

One of the energy agenda's central issues is the existence of geological formations favoring the accumulation of gas and oil deposits that spill onto both sides of the border in ultra-deep waters of the Gulf of Mexico, and the threat that the United States might unilaterally begin drilling to the detriment of Mexico's interests.

The two countries share more than 1,100 kilometers of marine border, extending to the east from the Tamaulipas coast to the maritime border with Cuba. Along the way, the sea floor drops deeper and deeper. At the end of the first 300-kilometer stretch, in deep waters, is the Perdido Foldbelt. Further along is the western polygon or "doughnut hole," which in June 2000 gave rise to an international treaty between Mexico and the United States that we will touch on later (see map 1). Next to that is the oil-less abyssal plain, stretching up to the eastern polygon that borders on the three countries and is not yet the object of negotiations.

The Perdido Foldbelt extends over both sides of the border. The U.S. part is on the extreme southern end of the Alaminos Canyon, an area designated by the U.S. government for granting oil concessions. The area has created great expectations despite depths of from 2,286 to 3,048 meters. According to UNAM Professor Fabio Barbosa, 13 exploratory wells were drilled between 1996 and 2006.[1] Some have been suc-

* Guest researcher at the CISAN.

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cessful, but none is currently pumping oil since until recently there was no technology to pump oil and natural gas in ultra-deep water.[2]

Today, the technological limit is 2,731 meters under the sea. The record was set in December 2006 by Transocean, a drilling company hired by Anadarko Oil, which is developing the Independence Hub project. For exploratory wells, the world record is the 3,051-meter Toledo well, on 2003, in the Perdido area, very close to the border with Mexico.

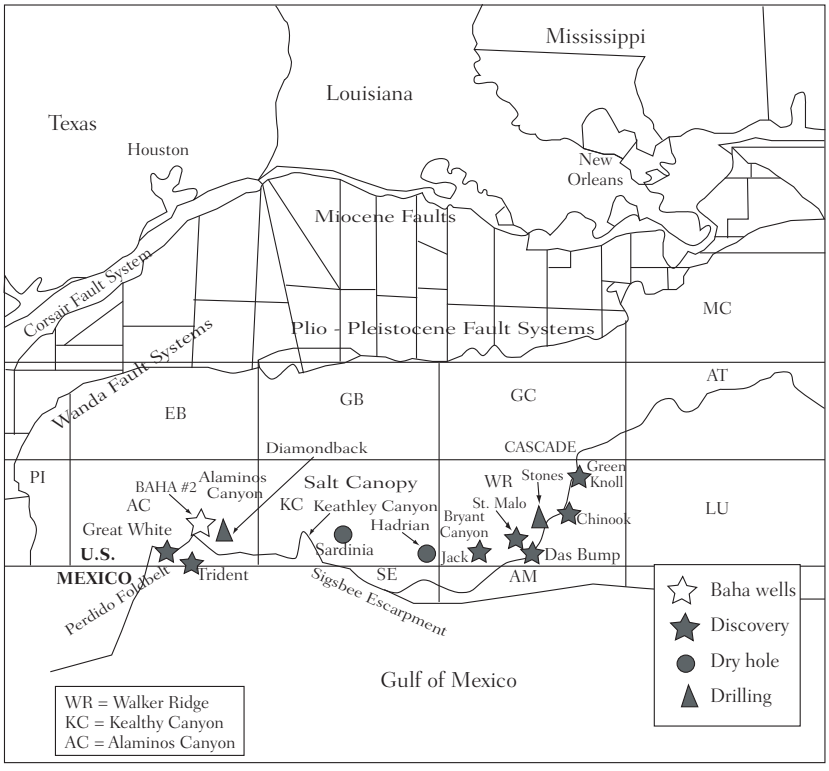
Outstanding among the successful wells drilled in Alaminos Canyon are Great White (Shell, 2002) and Trident (Shell, 2003) in 2,438- and 2,953-meter-deep water. Both wells began being productive starting at the level of the Lower Tertiary Wilcox sands.

The Wilcox sands reach east to Keatleen Canyon and Walker Ridge on the Sigsbee Escarpment and the Amery Terrace, precisely in the part of the "doughnut hole" that came under U.S. jurisdiction. In these two areas, three and twelve wells have been drilled, respectively, some successfully.[3] In September 2006, industry press shook the world with the announcement of a gigantic reservoir of oil discovered by Chevron in the Walker Ridge area when it drilled its Jack-2 well 2,300 meters under the sea. This discovery, which could yield 800,000 barrels a day starting in 2011, has unleashed a wave of speculation about the volume of the deposits there and the possibility of stopping the decline in U.S. oil production.

But let us return to the Perdido area. Based on seismic information, it is estimated that some of its formations, due to their line-up and form, extend to the Mexican side. This is the case of Trident, a structure considered the first shared deposit, although no well has been drilled on the Mexican side confirming the hypothesis. Hammerhead, Aruba, Toledo and Toronto are structures on the U.S. side that seem to extend south of the political border, but it is unknown whether they contain hydrocarbons since, with the exception of a dry well in Toledo, no drilling has been done.

It has recently been said that the Great White block (2,438 meters) is also a shared deposit, in fact the largest one according to press reports quoting the U.S. Department of Energy. What is most important is the December 2006 announcement of the imminent erection of a production platform by Shell, BP and Chevron, to begin pumping this deposit in 2010, as well as that of the Tobago (2,926 meters) and Silvertip (2,804 meters) fields. According to Shell, these will be the pumping stations for the deepest undersea wells ever drilled.

MAP 1
OIL DEPOSITS ALONG THE U.S.-MEXICO BORDER



Source: http://www.energiayecología.com/articulo.php?nid=53698&sid=14.

On the Mexican side, since the mid-1990s, Pemex has been doing exploratory studies in the Perdido area, studies that have make it possible to pinpoint some locations at a depth of 2,500 to 3,350 meters, but no well has yet been drilled. Some of these sites cannot be drilled with current technologies, but others could be. For the time being, two areas have been defined (Máximo, bordering on the U.S., and Magno, further south) that Pemex hopes to open up to international bidding when Congress passes reform legislation in the matter.

The federal government and the Senate urgently need to begin to negotiate a treaty with the United States for the optimum exploitation of shared resources.

A Limited Treaty

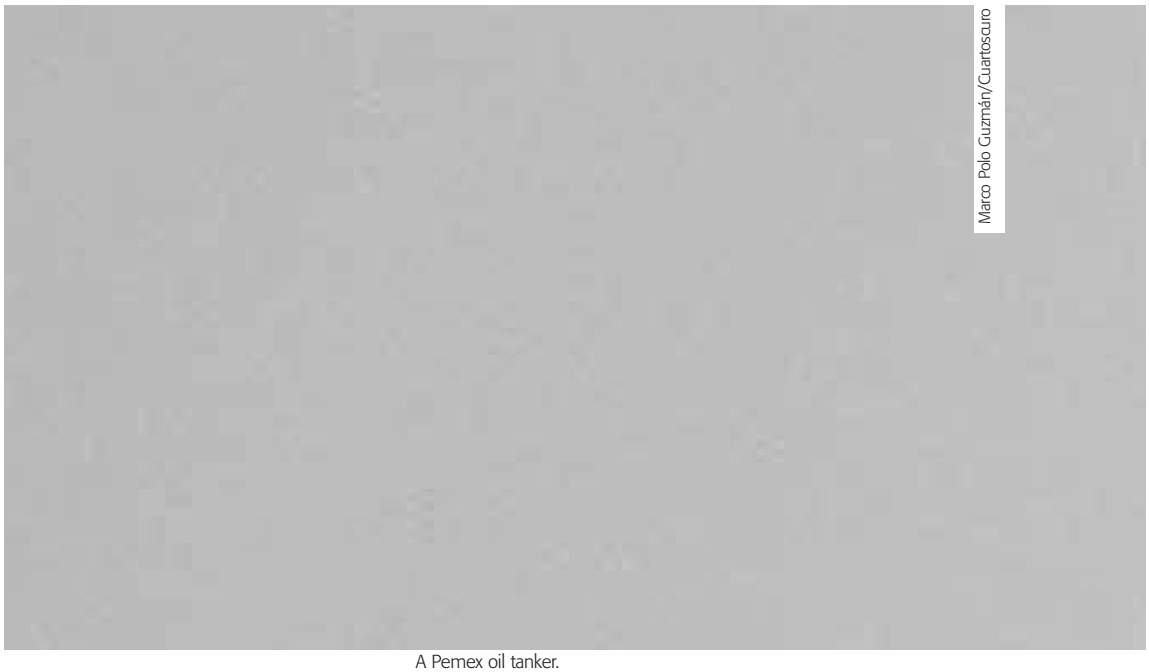
U.S. interest in extending its domination to all areas with oil potential in the Gulf of Mexico and the will to close the door to third parties that might claim rights over the western polygon —until then considered international waters— led the United States to open up negotiations with Mexico to divvy up the area in question. The result was the Mexico-United States Treaty on the Delimitation of the Continental Shelf in the Western Gulf of Mexico beyond 200 Nautical Miles, signed June 9, 2000, which went into effect January 17, 2001.[4] Its official aim was to recognize and establish commitments about the area with regard to oil or natural gas reservoirs that could cover both sides of the new border. The area in question is located at from 2,500 meters to over 3,500 meters under the surface of the ocean.

Most of the western region is abyssal plain devoid of geological structures. That is what Mexico ended up with. The rest, as has already been mentioned, is the Sigsbee Escarpment and the Amery Terrace, areas with oil potential that ended up on the U.S. side (see map 2).

The two countries agreed that for a period of 10 years after the treaty entered into effect, they would not authorize or allow drilling or oil or natural gas extraction on the continental shelf within 1.4 nautical miles (2.6 kilometers) of the border established in the treaty; that is, they set a moratorium for a strip a little over five kilometers wide along the border. They also decided that the parties would share any geological and geophysical information they had in order to determine the possible existence and location of transborder reservoirs, and that they would notify their counterparts if they discovered new ones. They also agreed that both parties would meet periodically in order to identify, locate and determine the characteristics of these deposits. Fi-

Map 2
Area Under the Mexico-U.S. Treaty

Source: INEGI, http://mapserver.inegi.gob.mx/geografia/espanol/datosgeogra/poligono/menuintro.cfm?c=162



A Pemex oil tanker.

nally, they resolved to try to come to an agreement about efficient, equitable exploitation of the resources, without specifying the mechanisms for solving differences.

In summary, formally, all that exists is a very general treaty for the western region, while the rest of the border remains to be covered, specifically the area of the Perdido Foldbelt. The last big jump in technology shortened Mexico's breathing time. Four years ago it was only possible to drill and pump oil at a depth of 2,200 meters; today it is possible 2,700 meters under the sea. In only a few years, it will be possible at 3,000 meters. It will take longer to design and put into operation specific drilling and pumping projects; however, it is clear that time is running out for our country.

The federal government and the Senate urgently need to begin to negotiate a treaty with the United States for the optimum exploitation of shared resources. It is, above all, a matter of diplomacy that will not be solved by changing industrial structures, property rights or the Constitution. It is devoutly to be wished that the rules of unification used in the North Sea for optimum exploitation of shared deposits be applied. In any case, the authorization of development and extraction plans must be the decision of the appropriate authorities of both countries. VM

NOTES

[1] They are Baha 1 and 2 (Shell); Trident 1 and 2 (Unocal); Great White 1 and 2 (Shell); Toledo (Chevron); Tobago (Shell); Silver TIP (Shell); Tiger (Shell); Diamond Back and Gotcha 1 and 2 (Chevron).

[2] See Fabio Barbosas's article, "La próxima batalla por el petróleo del golfo de México," http://www.energiayecología.com/articulo.php?nid=53698&sid=14. [Editor's Note.]

[3] The Sardinia, Hadrian and Kaskida wells have been drilled in Keatleen Canyon. Chinook 1 and 2, Cascade, Dana Point, St. Malo 1 and 2, Jack 1 and 2, Stones, Das Bump and Tucker have been drilled in Walker Ridge. In November 2006, Petrobras got permission to exploit the Cascade and Chinook fields 2,499 meters under water. *Offshore*, vol. 66, issue 12, December 1, 2006, http://www.offshore-mag.com/pastissues/index.cfm?pubyear=2006.

[4] For details of the treaty, see http://mapserver.inegi.gob.mx/geografia/espanol/datosgeogra/poligono/decreto02.cfm. [Editor's Note.]