

From: Graham Openshaw
Sent: Fri May 14 10:44:11 2010
To: Webster, Simon; Knox, Tom
Subject: RE: Woods Hole
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Not a great surprise given the nature of previous conversations. They could have spun this worse for us. The focus on dealing with the problem is good.

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From: Webster, Simon [mailto:simon.webster@uk.bp.com]
Sent: Friday, May 14, 2010 3:55 AM
To: Knox, Tom; Openshaw, Graham (TecPM)
Subject: Woods Hole

5,000 or 26,000 barrels a day: Size of spill a guesstimate; As scientists seek to measure oil flow, BP focuses on stopping leak

14 May 2010

The Washington Post

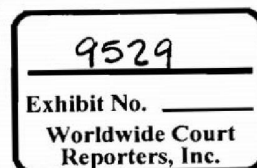
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For nearly three weeks, the world has been hearing about the leaking well on the bottom of the Gulf of Mexico. Now there's video footage, and it's not pretty, showing a turbulent plume of oil and gas billowing from the end of a 21-inch pipe that dropped to the mud floor of the gulf after the April 20 explosion on the Deepwater Horizon drilling rig.

But the new video clips don't clarify one of the biggest unknowns: How much oil are we looking at?

The experts say emphatically that anyone who makes an estimate of the leak by looking at the video is simply arm-waving. There are too many variables. The stuff coming out of the pipe isn't just oil, for example, but a frothing cocktail of oil, gas, brine and sediment from miles below the sea bottom.

BP, however, could try to measure the flow directly with off-the-shelf instruments routinely used in research on deep-sea hydrothermal vents and cold hydrocarbon seeps, according to scientists



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at the Woods Hole Oceanographic Institution. They said devices that can essentially take a sonogram of the plume could be strapped to one of the robotic submarines that BP has deployed around the damaged well.

"You can use this type of technique to determine the velocity of the particles, and if you know what the area is, it's relatively straightforward mathematics to determine what the volume is," said Andy Bowen, director of the National Deep Submergence Facility at Woods Hole.

BP representatives have spoken extensively with Woods Hole scientists about using scientific instruments to measure the flow. But a BP spokesman, David Nicholas, said the company has decided to focus on stopping the leak rather than measuring it.

"I don't think an estimate of the flow rate would change either the direction or the scale of our response to it," Nicholas said.

That response includes a new option that BP detailed Thursday. Engineers want to thread a second pipe into the end of the pipe that is spewing oil and gas, very much like inserting one drinking straw into the end of another. Ideally the "riser insertion," as the option is called, would divert the oil to a barge on the surface rather than let it pollute the gulf.

BP is also finishing the plumbing on a small dome, nicknamed the "top hat," that could be lowered onto the leak to capture the oil and pipe it to the surface. Other options remain in the mix, none of which have ever been attempted before on a blown-out well in such deep water.

"None of these things are certain. They're the next practical options that have come down our conveyor belt," Nicholas said.

As the oil slick remains largely offshore, the U.S. Army Corps of Engineers is preparing to dredge the Mississippi River to gather sediment for creating an emergency archipelago of barrier islands. On Thursday evening, the Army Corps of Engineers closed a 24-hour comment period in which federal agencies could voice any objections to the massive barrier island restoration plan.

The slick on the surface of the gulf is a moving target for scientists trying to estimate the rate of oil leaking nearly a mile below. It has changed sizes in heavy seas. The oil manifests itself in a variety of forms, which are documented in government reports as silver sheen, transparent sheen, brown oil, tarballs and "orange pancakes or streamers."

As of mid-week, the slick had been pounded with 428,000 gallons of chemical dispersants dropped from a fleet of aircraft, BP spokesman Andrew Gowers said. Thousands of gallons of dispersants have also been sprayed directly on the plume at the sea floor in three tests. But while officials study the environmental impact, BP must wait for permission to resume spraying at depth.

The oil emerging from the reservoir nearly four miles below the surface is on the lighter end of the density scale, Gowers said.

"It's not thick, heavy crude that goes glop. It's light crude that when it reaches the surface of the water, it's more like iced tea," he said.

The official number for the flow of oil from the busted well is 5,000 barrels (or 210,000 gallons) a day. That has been repeated in virtually every media report for more than two weeks. The figure, announced April 28 by the Coast Guard, is a National Oceanic and Atmospheric Administration estimate based on aerial imagery early in the crisis as well as scrutiny of video from the sea bottom.

But officials have repeatedly tried to back away from the suspiciously round figure. Jane Lubchenco, the NOAA administrator, told The Washington Post that the estimate should be considered "5,000 barrels-ish."

Two weeks ago, an outside researcher, oceanographer Ian MacDonald of Florida State University, used satellite images gathered by the organization SkyTruth to produce an estimate of 26,000 barrels of oil a day. But MacDonald noted that his figure hasn't been subjected to scientific peer review.

"I shouldn't be trying to estimate these flow rates in the media; we should be trying to do this in scientific papers," he said.

News organizations, scientists and environmental groups asked BP to make public the video of the main leak, which comes from a pipe called the riser, about 460 feet from the blowout preventer that sits atop the wellhead. BP complied Wednesday with two short video clips, one showing the pipe spewing oil and gas and the other capturing the moment when a containment dome was lowered onto the leak in an abortive effort to capture the oil.

MacDonald would like BP to make more video public so researchers can have a better idea of the nature of the leak.

"We're fighting a battle against this spill, this leak. Any military person knows that good casualty reports are the key to victory," he said.

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Staff writer Juliet Eilperin contributed to this report.

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