



FW: National Geographic--flow rate query

Rodriguez, Julie  bwyckoff@ngs.org

07/14/2010 11:25 AM

Cc: "Ransom, Clarice E", "Hines, Vic", "Montoya, Jordan"

History: This message has been forwarded.

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Barbara,

On background, below are the responses to your questions regarding the Flow Rate Technical Group.

1. I understand that the FRTG based its calculations on oil coming from the wellhead before June 3, when the riser pipe was cut. Is that right?

The FRTG has made several estimates of flow rate using a number of methodologies. Some early estimates pertain to the period from before the riser was cut. The most recent estimate, which was jointly released with the Department of Energy on June 15<sup>th</sup>, is post-riser cut.

2. Has there been an updated FRTG estimate using observations after the riser pipe was cut?

See above.

3. Do the estimates include gas, or just oil? The Plume Team does say the estimate (15,000-40,000 bbl/day) is of barrels of oil. The WHOI Flow Rate Measurement Group comes in with higher numbers (if I've done the math converting cubic meters to gallons correctly--65,000 to 125,000 bbl/day) and does note that the flow may contain gas, oil, and possibly other particulate matter. The Mass Balance Team measures oil on the surface, and since you can't see the gas, is it a fair assumption that their estimate (25,000 to 30,000 bbl/day) is oil only?

The improved estimates released on June 15<sup>th</sup> (35,000 – 60,000 bbl/day) from the FRTG and DOE scientists are just oil. The FRTG used 0.4 for the percentage of oil to gas ratio.

4. I've seen estimates that 40% of the flow is gas; the rest oil. Do you agree?

According to Dr. McNutt there are no credible estimates that would place the gas component as low as 40%. The FRTG used 40% for the percentage of oil in their calculations.

5. On June 15, Secretary Chu revised the estimate to 35,000 to 60,000 bbl/day, taking into account, I think, the flow after the riser was cut. Did that estimate stem from the

FRTG? Again, if the estimate unit is barrels, does that mean it is oil only?

The estimate was released jointly by the FRTG and DOE. The estimates refer to the period of time immediately after the riser was cut and reflect the amount of oil leaking from BP's well.

6. As you know, estimates early on from BP and the government were very low--1,000 and then 5,000 bbl/day. Independent researchers maintained much higher figures. The first FRTG report at the end of May brought the estimate up to 12,000 to 19,000 bbl/day, and the report does say "plus gas". Then the higher estimates as noted above. The question is, now that the rate is estimated between 35,000 and 60,000 bbl/day, can it be assumed that the flow has been that throughout the now 85 days (with some daily or hourly fluctuation)? Or would that estimate pertain to the time since the riser pipe was cut on June 3? If so, could the 12,000 to 19,000 bbl/day be assumed to be somewhat steady from April 22, when the rig collapsed, to June 3 (again, with some fluctuation)?

The FRTG does not believe the information they have is of sufficient accuracy to resolve variations in flow rate over the course of the oil spill.

Thanks,

Julie

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**From:** Barbara Wyckoff <bwyckoff@ngs.org> [mailto:Barbara Wyckoff <bwyckoff@ngs.org>]

**Sent:** Tuesday, July 13, 2010 3:03 PM

**To:** mcNutt@usgs.gov

**Subject:** National Geographic--flow rate query

Dear Dr. McNutt: I am writing you seeking advice with regard to your work with the Flow Rate Technical Group. I have read the FRTG reports issued May 27 and June 10, but I want to be sure that I am understanding the details correctly. If you could help with the following questions, or direct me to someone else, I would be most grateful. Thank you.

- I understand that the FRTG based its calculations on oil coming from the wellhead before June 3, when the riser pipe was cut. Is that right?
- Has there been an updated FRTG estimate using observations after the riser pipe was cut?
- Do the estimates include gas, or just oil? The Plume Team does say the estimate (15,000-40,000 bbl/day) is of barrels of oil. The WHOI Flow Rate Measurement Group

comes in with higher numbers (if I've done the math converting cubic meters to gallons correctly--65,000 to 125,000 bbl/day) and does note that the flow may contain gas, oil, and possibly other particulate matter. The Mass Balance Team measures oil on the surface, and since you can't see the gas, is it a fair assumption that their estimate (25,000 to 30,000 bbl/day) is oil only?

- I've seen estimates that 40% of the flow is gas; the rest oil. Do you agree?
- On June 15, Secretary Chu revised the estimate to 35,000 to 60,000 bbl/day, taking into account, I think, the flow after the riser was cut. Did that estimate stem from the FRTG? Again, if the estimate unit is barrels, does that mean it is oil only?
- As you know, estimates early on from BP and the government were very low--1,000 and then 5,000 bbl/day. Independent researchers maintained much higher figures. The first FRTG report at the end of May brought the estimate up to 12,000 to 19,000 bbl/day, and the report does say "plus gas". Then the higher estimates as noted above. The question is, now that the rate is estimated between 35,000 and 60,000 bbl/day, can it be assumed that the flow has been that throughout the now 85 days (with some daily or hourly fluctuation)? Or would that estimate pertain to the time since the riser pipe was cut on June 3? If so, could the 12,000 to 19,000 bbl/day be assumed to be somewhat steady from April 22, when the rig collapsed, to June 3 (again, with some fluctuation)?

We just want to be sure to get the estimates as accurate and up-to-date as possible. It doesn't seem that we will have a unequivocal figure, but we also don't want to perpetuate any inaccurate ideas or figures that have been reported to date. Please do let me know if I should contact someone else. We are on a tight deadline, and I hope you can reply soon. Again, many thanks.

Regards, Barbara

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