



Re: Evaporation rates 

Victor F Labson  Marcia K McNutt

05/23/2010 12:50 PM

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History: This message has been replied to.

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Marcia,

I did a check and come up with different numbers:

$70,000 + 11,642 + (158,378 * .15) = 4790$   
22 days = 4790 bbl/day

$150,000 + 11,642 + (158,378 * .15) = 8427$  bbl/day

with evaporation of .4

$4790 * 1.4 = 6706$  bbl/day

$8427 * 1.4 = 11798$  bbl/day

Additionally you say that you will reduce the number of days from 27 due to sub-sea application of dispersants by 4 days and use 22 days. 27-4 is 23, so should it be 23 or 22. I have also found that in other estimates the beginning of the spill is taken to be from the explosion on 4/20 or from the sinking of the platform 4/24. I have never seen that the FRTG has settled on a date. I may have missed this but we need a uniform date or we will ensure a mismatch.

I've been doing all of my arithmetic on the Blackberry, not the most convenient calculator, but I got the same numbers twice.

Vic

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Marcia K McNutt

Yes. Here are the numbers I got. First, Roger Cl...

05/23/2010 09:55:14 AM

From: Marcia K McNutt/DO/USGS/DOI  
To: Bill.Lehr@noaa.gov  
Cc: Victor F Labson/GD/USGS/DOI@USGS, Roger N Clark/GD/USGS/DOI@USGS  
Date: 05/23/2010 09:55 AM  
Subject: Re: Evaporation rates

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Yes. Here are the numbers I got.

First, Roger Clark revised his calculation of the surface oil. The new number that is going through review is 70,000 to 150,000 barrel of oil because he realized that he had too small a fraction for the percentage of the surface of the oil slick that his data covered.

Then, you add to this the amount of oil skimmed from the ocean as of May 17. I got that number from the Coast Guard. They said it was 158,378 barrels at 15% oil to yield 23,757 barrels of oil.

Then you add the amount of oil burned. This number is not very precise, but of course the Coast Guard reports a very precise number! 11,642 barrels burned as of May 17.

Oil would have been released from the well head for 27 days at the time of the flights, but for 5.3 days

subsea dispersants were being applied to the plume as of May 17. So I subtracted 4 from 27 to yield 22 days of oil release.

So adding up the surface oil observed, plus the skimmed and burned, dividing by 22, yields a rate of release of 4100 to 7700 barrels per day. If we assume that those numbers need to be increased by 40% to account for evaporation, then the rates are 5700 to 10,780 barrels per day.

My numbers do account for "dispersed at depth" in terms of the 5.3 days of dispersants having been applied to the plume and assuming that none of that oil came to the surface. But note that my calculation doesn't assume a volume for it (e.g., assume the answer ahead of time) but does make the conservative estimate that none of that is being observed at the surface.

I have not, however, accounted for surface application of dispersant because everyone tells me that the surface dispersed oil stays at the surface, and that process and been minimally effective anyway. Is that not true?

Marcia

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