

From: Victor F Labson/GD/USGS/DOI
Sent: Tuesday, May 25, 2010 9:44:05 PM
To: Marcia K McNutt
Subject: Mass Balance Update

Marcia,

We are continuing to tie up all of the places that the oil must be accounted for. The AVIRIS discussion, not unexpectedly, continues to revolve around understanding the proportion of the spill that AVIRIS sampled. We have moved to a more proper GIS determination, but the definition of the spill extent is proving difficult. I have them working on that tonight. I am not so worried about this as it seems to have no more effect on the AVIRIS estimate than a factor of 2 on the outside. Given what I have learned about other factors that uncertainty is quite acceptable. I had a lengthy discussion with Bill Lehr and a fellow named Jones (too lengthy with Jones) at NOAA-Seattle about evaporation and dissolution. They confirm the estimate that you used for evaporation and in fact were quite certain the number could be 38%. I think without a through understanding of the history that would be a bit too precise, I shall stick with 40%. More disturbing was Jones' comments about our complete inability to quantify dissolution. This could be significant and as we (NOAA and USGS) have been unable to acquire fresh oil samples, and we do not know the proportion of easily soluble components. We may not have to bear much of a penalty here as these are also some of the most easily volatilized components, so we may account for at least some in evaporation.

The factor which I encountered today which has me most puzzled is the volume of oil contained in the "sheen" and the "slick". One of our experts stated today that that could be as high as 350,000 bbl. That in itself would account for 40,000bbl/day with the 40% allowance for evaporation. This expert, who doubted this estimate enough he did not want it attributed or used, did state that he thought that 200,000bbl might be reasonable. As we have a pretty good GIS outline of the entirety of the oil I have my people calculating an independent determination tonight. We must be close to grips with as it is by far the largest number in the entire mass balance. If my folk's number is vastly different I shall look for a more "experts" tomorrow. We can bound this since if this distributed oil were to have gotten very thick AVIRIS would have detected it, AVIRIS has only seen widely distributed thick oil, not large sheets. This still could be a significant amount and we will work through it.

We and NOAA and others still suffer from the inability to acquire samples of oil and dispersant. That does limit us. I have been trying to follow up on the numbers you found for skimmed, burned, and dispersed oil. Some of the people I talked to today are using the same numbers, but they don't know the source. Do you have any insight on where these numbers came from so we can develop a citation?

In summary, the numbers you worked through over the weekend are still reasonably close to what we would put forward now with the exception of the quantification of the "thin" oil. That is the critical number and I will work on that tomorrow.

Please call if you need any clarification or additional information. Cell is 303.378.8607

Vic