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From: Barbara W Wainman <bwainman@usgs.gov>
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To: GS FOIA 0134 <foia0134@usgs.gov>
Subject: Fw: FYI - Mass Balance info

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From: Martha N Garcia/BRD/USGS/DOI

To: Hazard Response Executive Committee@USGS

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Date: 06/18/2010 08:46 AM

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Subject: FYI - Mass Balance info

Following our discussion yesterday, I thought I would pass this along to provide insight into how the Coast Guard uses the FRTG's information.

II.c. FLOWRATE TECHNICAL GROUP FINDINGS

Lead: FRTG

- BLUF: Range is 35,000 - 60,000 bbls/day. Our preliminary estimate of the oil budget (amount of

oil released minus collection, burning & evaporation) is between half a million to one million

barrels as of day 57 (6/15).

- Purpose: Provide an update to the Governors on the progress of the FRTG

- The FRTG estimates that the most likely flow rate of oil today is between 35,000 and 60,000

barrels per day. The improved estimate is based on more and better data that is available after the

riser cut – data which helps increase the scientific confidence in the accuracy of the estimate.

- DEFINITION: A “mass balance” is a widely used approach to accounting for the total amount

of a material that enters and leaves a system. The U.S. Coast Guard uses a mass balance approach

to daily generate an “oil budget” for the Deepwater Horizon spill. This involves starting with the

amount of oil flowing from the riser, then subtracting out what is removed by various techniques

or natural processes. The difference that remains represents oil that is still available on the

surface (or subsurface) and that may impact natural and economic resources in the Gulf.

- Mass balance estimate as of day 57, when we account for collecting, burning & evaporation

operations, we estimate

o "low-end" estimate of oil remaining is estimated to be 562,992 bbls.

o The "high-end" estimate is 1,132,992 bbls.

o When rounded this means a range between and a half million and one million barrels as of

day 57.

- The basic oil budget calculation is: Oil flowing from riser - amount removed by RITT/Top Hat -

oil skimmed - oil chemically dispersed - oil burned on surface - oil evaporated and naturally

dispersed = oil remaining in the system.

- Some of these factors are directly measured, others are estimated based on particular assumptions

with varying levels of uncertainty. Different agencies or organizations are responsible for

reporting the various components used in the calculation.

- (FRTG) provides the official estimate of the amount of oil flowing from the riser; as that value is

refined and updated, the estimate of oil remaining in the system changes accordingly (even if all

other factors remained the same).

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