

**From:** William Burch  
**Sent:** Tuesday, May 11, 2010 7:42 PM  
**To:** Fred Ng  
**Cc:** John Hatteberg; C Scott Jortner; Larry Nixon; Monte Leicht; Graham Berry; David Barnett  
**Subject:** URGENT: Cairn Dynamic Kill Modeling Request

Fred,

I'm not sure if we want to even go "there" – my gut is telling me it's too soon to start fudging numbers to meet media/government expectations and it's also saying (beside I'm late for dinner) that this email isn't nearly smooth enough to convey my concerns for a client under-estimating the fallout which is yet to come. I know they're in a hurry but I don't want to put WWCI saying something that isn't even close to the first report's values.

Can you please do some magic wordsmithing and let me know how you want to handle this. I certainly appreciate your help with it!

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Mr. Foy,

John Hatteberg asked me to write to you before the end of the day but I've been in meetings since I arrived this morning at the BP's office. I apologize for the delay in returning this reply.

We completely understand the urgency and desire to revisit the work done previously for this project. However, our available engineering staff is extremely limited and in my situation, I am completely dedicated to the relief well aspects at the moment and am very unsure of being able to meet a deadline of later this week. Running the models would only take a few hours or so and adjusting the PI is a simple iteration to achieve your two desired conditions. The problem comes in with the time to document the revisions. It may be possible to get this done by early (or mid) next week if this is acceptable timeframe and we can squeeze some time away from BP.

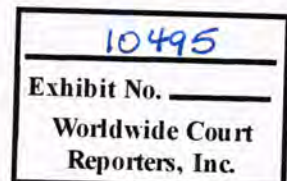
Since I'm not at liberty to discuss the issues with the current GOM well control problem, I'm trying to carefully suggest maybe leaving the numbers on the "higher" side and not under cut the risk potential by an order of magnitude. Certainly, we're happy to provide you with results based on reasonable parameters but fitting an answer to meet the current situation may not pan out well in the long term for anyone. There will be significant complications down the road with who reported what and when in terms of what has already happened. What may be a good alternative to help soften the blow of the potential worst-case scenarios is to focus on the seafloor exit scenario with the rig skidded off location which we did not do originally because we focused only on the truly worst case of extended surface release. As recently witnessed, the rig didn't stay around long (<48 hours) once the fire began and the spill media focus didn't really begin to have significance until she sank because the majority of the oil was being burned (maybe in excess of 80%.) Since that is the most likely repeatable case with any semi or drillship, using the seawater backpressure to help limit the flow potential is a valid argument along with better boundaries of the PI.

Please let us know how you'd like to proceed. Sincerely,

Bill

**William Burch**  
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**Confidential**

**WW-MDL-00139301**

**From:** John Hatteberg  
**Sent:** Tuesday, May 11, 2010 5:27 AM  
**To:** William Burch  
**Cc:** Fred Ng; john.foy@cairnenergy.com; John Boyle; C Scott Jortner; Larry Nixon  
**Subject:** Cairn Dynamic Kill Modeling Request

Bill,

John Foy with Cairn got in touch with me a moment ago and asked me to pass along the following:

Cairn would like WWCI to perform additional dynamic kill modeling to determine the reservoir thickness and permeability combinations required for oil production rates of **5,000 and 21,000 stb/d from the 8-1/2" hole section scenarios** (scenarios 4, 5, 8 and 9). Other variables not depending on reservoir thickness and permeability should remain the same. The PI values you would like to use to demonstrate the 5,000 or 21,000 stb/d production rates are left up to your discretion.

They have specifically requested a short and concise answer that they can keep in reserve in case they are asked by the Greenland government what perm. and reservoir thickness assumptions were made to come up with the 5,000 and 21,000 stb/d scenario results. **John asked if we could get the modeling to him later this week**, to which I informed him that we have a number of emergency projects and jobs currently ongoing that may affect our ability to come up with results this week. Please e-mail John (john.foy@cairnenergy.com) and let him know if you can meet his request for results this week.

Background:

Spud dates for the two Cairn wells are coming up next month and the Greenland government is getting cold feet as a result of the current goings-on in the Gulf of Mexico. Cairn feels that the oil production rates currently shown in the dynamic kill modeling report may be too large for the Greenland government to stomach.

Regards,

**John Hatteberg**

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