

Deposition Testimony of:

Paul Tooms

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Page 328:11 to 329:19

00328:11 Q. I'd like to turn back to Exhibit -- or Tab 49
12 from yesterday, which was the BP paper on "PRELIMINARY
13 RESPONSE TO THE FLOW RATE AND VOLUME ESTIMATES
14 CONTAINED IN STAFF WORKING PAPER NO. 3."

15 A. (Reviewing document.)

16 Q. And I'd like to direct you back to Page 6,
17 please.

18 (Discussion off the record.)

19 Q. (By Mr. Cernich) And on Page 6 in Section 4,
20 entitled "Failure to Account Accurately for Reservoir
21 Conditions," BP in its paper criticizes the
22 productivity index that was used by -- excuse me -- by
23 the Government Scientists in preparing their -- their
24 flow rate estimates.

25 And I would just -- I'm just trying to get a
00329:01 sense of what -- what they may have been missing or
02 what -- what factors may have -- may have contributed
03 to that Productivity Index. I think as we discussed
04 yesterday, it was my understanding that that
05 Productivity Index was provided to the scientist by --
06 by BP. And do -- do you recall that if -- the numbers
07 of Productivity Index, do you recall whether that was
08 provided to the Government by BP?

09 A. No, I don't specifically recall what number we
10 gave the -- the Government. I do recall that in --
11 prior to doing the actual shut-in of the well, which
12 was known as Well Integrity Test, we -- at that stage
13 we did a whole bunch of modeling to predict what
14 shut-in pressures may be. And -- and I -- as far as I
15 remember, we would have used Productivity Index at that
16 stage, but I don't know what number we used in the
17 model.

18 Q. Would -- would Mr. Merrill be the best person
19 to talk to --

Page 329:21 to 329:21

00329:21 Q. (By Mr. Cernich) -- about what that number is?

Page 329:23 to 330:05

00329:23 A. For the number that we did for the preshut-in
24 modeling, Mr. Merrill would be a good person to talk
25 to.

00330:01 Q. (By Mr. Cernich) And at the time you were
02 doing the modeling for the shut-in wellhead pressure,
03 you would have been trying to use the -- the best --
04 the best numbers, the best information you had on hand,
05 correct?

Page 330:07 to 334:21

00330:07 A. Sorry, at the time of doing the modeling?
08 Q. (By Mr. Cernich) Correct.
09 A. No. Generally when you're doing modeling, you
10 use numbers towards one end of the range or another in
11 order to explore the areas that -- that you're afraid
12 of. So if we were trying to model a potentially high
13 shut-in pressure, then -- then we'd use a different
14 number than if we're trying to model a low shut-in
15 pressure.
16 Q. Do you recall whether you used a range of
17 productivity indices --
18 A. No, I don't --
19 Q. -- to do that modeling?
20 A. I don't recall that.
21 Q. Okay. And can I direct you to Tab 20 in your
22 binder, please. This was previously marked as an
23 exhibit. And this is the E-mail from Ms. Cindy
24 Yeilding, who I believe you testified was part of
25 the -- the Flow Assessment Team; is that right?

00331:01 A. Yes, she was.
02 Q. And it included two attachments. One was a
03 Technical Memorandum for post-well subsurface
04 description of the Macondo Well, and the other one was
05 a memo regarding shut-in wellhead pressure.
06 And if I could direct you to page -- Page 13
07 of the Technical Memorandum.
08 A. (Reviewing document.)
09 Q. Well, actually, this -- this Technical
10 Memorandum, if -- if you look at the first page, it is
11 to Kate Baker, Cindy Yeilding, Jay Thorseth, and Peter
12 Carragher.
13 Can you tell me who Ms. Baker is?
14 A. Kate Baker is a former employee of BP and was
15 at one stage the President of the Society of Petroleum
16 Engineers.
17 Q. Was Ms. Baker on the Flow Assessment Team?
18 A. No, she was not.
19 Q. And Mr. Thorseth, am I pronouncing that
20 correctly?
21 A. I don't know how you pronounce his name. And
22 to my knowledge, he was not on the Flow Assurance Team.
23 Q. Do you know who Mr. Thorseth is?
24 A. No.
25 Q. You never met Mr. Thorseth?

00332:01 A. I may have met Mr. Thorseth. I don't recall
02 who he is.
03 Q. Okay. And Mr. Carragher, do you know who
04 Mr. Carragher is?
05 A. I know Mr. Carragher. I couldn't tell you
06 what his job title is.
07 Q. Okay. And then there's a list of individuals
08 underneath there that this was written by. Do you know
09 any of those -- any of those individuals?
10 A. I think I may have met some of those
11 individuals. I don't recall who they are.

12 Q. And to your knowledge, are they Geologists?

13 A. Like I said, I -- I don't really recall who
14 they are. They may be Geologists. They may be
15 Reservoir Engineers. I don't know.

16 Q. And have you -- did -- have you seen this --
17 this memo before?

18 A. I don't recall having seen this before.

19 Q. Do you recall there being geological work done
20 during the response in order to support the efforts to
21 determine the shut-in wellhead pressure?

22 A. Yes, I do recall that.

23 Q. Okay. Well, now if I could direct you to --
24 to Page 13, please, of this memo. And at the top of
25 Page 13, there's a heading "Petrophysics." Can you
00333:01 tell me what petrophysics are?

02 A. In general, petrophysics, so far as I know
03 it -- I'm not an expert in it -- is the -- the
04 measurements that we make, the direct measurements we
05 make of the -- of the formation, so using well logs and
06 so forth.

07 Q. And those would include -- include factors
08 like porosity and permeability; is that correct?

09 A. Those are the measurements that -- that we can
10 make. Porosity measurements we can infer.
11 Permeability can't measure directly, unless we have
12 core samples.

13 Q. And this -- this "Petrophysics," underneath,
14 it says "Summary" here in the document, and it says:
15 "From shows, log response and fluid samples..."

16 Can you tell me what -- what a "show" is?

17 A. In general, a show is when we are drilling the
18 well and we -- the mud is being circulated, the
19 drilling fluid is being circulated around the well as
20 we drill it, and when that mud gets back to surface,
21 we -- if it's -- if you drill through a
22 hydrocarbon-bearing formation, you will tend to entrain
23 a little bit of hydrocarbon in the mud. And we have
24 very sensitive instruments at surface that will sense
25 that, and so that will give you a show. That's --
00334:01 that's one form.

02 I think another form of show would be the
03 cuttings themselves. If you look at them under the
04 right type of light, you can see if they've got
05 hydrocarbon stain on them.

06 Q. Thank you.

07 Well, this -- this paragraph says: "From
08 shows, log response and fluid samples it is interpreted
09 that >90 feet of hydrocarbons were discovered in the
10 M57" -- excuse me -- "and M56 sands, the majority
11 occurring in the M56D (22') and the M56E (64.5') sands.
12 Porosity averages 22%, Sw..."

13 Can you tell me what "Sw" is?

14 A. That's -- I take that to be the water
15 saturation.

16 Q. So water --

17 A. I think -- I think. I -- I'm not sure.
 18 Q. Okay. Well, "Sw" that -- which may be water
 19 saturation, "averages 10-17% and permeability averages
 20 in the range of 250-500 mD," and then there -- there's
 21 a parenthetical "(arithmetic, log derived)."

Page 334:24 to 336:04

00334:24 A. And what -- sorry, what type of log?
 25 Q. (By Mr. Cernich) I'm just reading the --
 00335:01 MR. KRAKOFF: Arithmetic.
 02 A. Arithmetic log, is that -- is that --
 03 Q. (By Mr. Cernich) I'm just -- I'm just reading
 04 from the document.
 05 A. Okay.
 06 Q. And then the next paragraph says: "Fluid
 07 sample quality is high - volatile oil with GOR" -- and
 08 it's my understanding that "GOR" is gas to oil ratio.
 09 Is that your understanding?
 10 A. That's correct.
 11 Q. -- "~3000 and API=35, PVT analysis showed
 12 viscosity of 0.17 cp."
 13 Can you tell me what "cp" stands for?
 14 A. Center points.
 15 Q. Thank you.
 16 Do you know whether this information was
 17 provided to the Government Scientist during the
 18 response effort?
 19 A. I believe it was, but I can't be sure.
 20 Q. And do you know whether this information is --
 21 is accurate?
 22 A. Any -- any data that we collect will have some
 23 level of accuracy to it. The -- the portrayal is -- is
 24 I believe an accurate portrayal of what we knew, but --
 25 but there will be numbers. For instance, they say it's
 00336:01 interpreted greater than 90 feet of hydrocarbons were
 02 discovered. How much greater, I don't know.
 03 Q. Do you know what could be done to improve upon
 04 these numbers?

Page 336:06 to 337:21

00336:06 A. Ah, in general if you want to get more
 07 reservoir data, you take more cores, more samples.
 08 Q. (By Mr. Cernich) Can you tell me whether any
 09 more cores or samples were taken from the Macondo Well
 10 after this memo was prepared?
 11 A. That wouldn't have been possible to have taken
 12 more cores or samples because the -- the well was
 13 filled with cement.
 14 Q. So to the extent that these numbers may have
 15 been improved upon subsequent to this memo, that would
 16 have been based on reinterp -- reinterpretation or
 17 analysis by BP Geologists or Geophysicists?

18 A. Or -- or, indeed, any Geologist or
19 Geophysicist who had access to the -- to the raw data,
20 yes.

21 Q. Do you know if in any subsequent flow rate
22 estimates prepared by BP, whether these numbers were
23 assumed in the modeling or whether there would have
24 been different numbers than these used in the modeling?

25 MS. KARIS: I'll instruct the witness to
00337:01 answer with the exception of any privileged work.

02 A. H'm --

03 MR. CERNICH: So you're asserting that
04 any work done by BP Geologists on these numbers is
05 privileged?

06 MS. KARIS: No. What I'm asserting is to
07 the extent any BP Geologists have been part of the
08 privileged, ongoing work and have done any work that
09 may have used those or different numbers, we're
10 asserting privilege over that.

11 MR. CERNICH: But you're not asserting --

12 MS. KARIS: Any work done --

13 MR. CERNICH: -- privilege over the
14 numbers themselves, are you?

15 MS. KARIS: You asked whether any work --
16 I believe, Counsel, you asked whether any work had been
17 done that used different numbers. And to the extent
18 work has been done using those or different numbers in
19 connection with the privileged project that we
20 referenced yesterday, then I would instruct Mr. Tooms
21 not to answer.

Page 346:06 to 349:16

00346:06 Q. (By Mr. Cernich) Sir, I believe my question
07 was whether there had been any revisions or changes to
08 these numbers subsequent to this memo of -- of
09 May 25th, 2010, these assumptions that would be used in
10 reservoir modeling, like porosity, permeability, water
11 support, API, gas-to-oil ratio, or similar geological,
12 geophysical numbers?

13 MS. KARIS: Same instruction with respect
14 to not disclosing any work that may have been done in
15 connection with the privileged project.

16 A. So, given this is done on the 25th of May,
17 and -- and I should add that -- that I don't have
18 expertise and don't claim to have any expertise in this
19 area. I have general knowledge, but not -- not
20 expertise, but given this was done on the 25th of May,
21 and we continued the -- the shut-in beyond July 15th, I
22 think, then more work definitely would have been done
23 on trying to evaluate shut-in pressures and the
24 reservoir.

25 I don't know whether -- how much of this --
00347:01 this basic data was reworked, but I'm sure it was
02 reevaluated.

03 Q. (By Mr. Cernich) Thank you. The -- and -- and

04 just so I understand it, the next -- the next document
05 that's attached to this E-mail, this Technical Note on
06 Macondo shut-in wellhead pressure and build up times,
07 was this work done at -- at your direction, Mr. Tooms?

08 A. Can I just have a -- just refresh myself on
09 what the document is?

10 Q. Certainly.

11 A. (Reviewing Exhibit 6193.) I -- I asked
12 specifically to know what -- what our best estimates of
13 the -- of the likely maximum shut-in wellhead pressure
14 could be. I don't know whether this piece of work was
15 done directly for me or -- or in answer to that
16 question, but -- but certainly I was asking those
17 questions both of BP and of the National Labs.

18 Q. And -- and who did you ask at -- at BP for
19 this information?

20 A. From my memory, I -- I think I asked Kate
21 Baker to -- to organize the work to be done, and -- and
22 then she would have talked to various people who are
23 presumably on this memo.

24 Q. Thank you. If I could please direct you to
25 Page 12 of 13 of that memo, please. And I'll direct
00348:01 you to the top of Page 12, and there's something called
02 a "Summary of Pressure Depletion Calculations." And
03 it's "Macondo MC251-1 Well Expected Reservoir
04 Depletion," and there are a range of depletion curves;
05 would that be an accurate way to describe the -- the
06 lines on that chart?

07 A. Well, it's straight lines, it looks like to
08 me, but -- but I -- I would describe it as depletion
09 against time for -- for a variety of different flow
10 rates, assumptions.

11 Q. And this -- this document shows it for -- or
12 this -- this chart shows it for a depletion of 460 psi,
13 that the flow rate would be 60,000 barrels per day; is
14 that correct?

15 A. I don't know what other assumptions went into
16 this, so this particular chart, if you -- if you read
17 it off at 460 psi, it would give you -- on that date,
18 it would give you a 60,000 barrel a day number, I
19 guess, but that's on the -- I'll point out that's on
20 the 6th -- 15th or 16th of -- of May, if I'm not
21 mistaken.

22 Q. Okay. And then with the 700 psi depletion,
23 this chart would show a -- a flow rate of 93,000
24 barrels per day; is that correct?

25 A. Well, I think the same comments -- I'm -- I'm
00349:01 reading it off the chart, but I would point out that
02 this is -- this is modeling with assumptions to try and
03 understand what the maximum shut-in pressure might be,
04 so the assumptions may well have been taken to
05 different ends of the spectrum.

06 Q. And -- and what are those assumptions?

07 A. The types of assumptions that one would need
08 to be using in general -- and as I say, I'm not -- I'm

09 not an expert in this, but in general, the reservoir
10 size would be -- would have a -- a major bearing on --
11 on the depletion. The amount of aquifer support would
12 have a major bearing on the depletion and the
13 compressibility of the -- of the rock -- of the -- of
14 the reservoir would have -- would have a -- a huge
15 barrier on -- on this, and all those would be
16 somewhat -- they would be estimates rather than known.

Page 350:03 to 350:10

00350:03 Q. (By Mr. Cernich) You mentioned size of the
04 reservoir on the -- size of the reservoir is certainly
05 something that BP looks at before it decides to drill a
06 well; isn't that correct?
07 A. We estimate the -- the range of volumes that
08 we think might be in the reservoir and the range of
09 volumes that might be recoverable from that reservoir
10 before we drill a well.

Page 351:08 to 352:15

00351:08 Q. And just going back to this -- this chart
09 again, this chart examines flow rate -- flow rates for
10 four different depletion scenarios, a 700 psi, a 460
11 psi, a 160 psi, and a 40 psi; is that correct?
12 A. I think it's read the other way. I think
13 the -- the -- it examines a number of different rates
14 and then takes what the depletion would be on those
15 dates, I think, is -- is -- is how that chart would be
16 read, but --
17 Q. So what you're saying is that the -- what
18 you're saying is that the -- you would assume a flow
19 rate, and then calculate a depletion based on that?
20 A. In -- in this case, I need to read around --
21 around the document to see the context, but in this
22 case, all we're trying to estimate is -- and given
23 the -- given the timing of it is what the -- what the
24 shut-in pressure buildup, what -- what the shut-in
25 pressure might be and how fast it might arrive there,
00352:01 and -- and this was done for the purposes of, if we
02 shut the well in, and if the rupture disks were
03 exposed, would we be approaching the limits of those --
04 of those rupture disks or, indeed, the casing. So it
05 was a -- it was a modeling exercise for that purpose,
06 and it -- it wasn't a modeling exercise to try and
07 estimate flow rate.
08 Q. Understood. What is the MBAL model?
09 A. I can't be sure what that is.
10 Q. Okay. And the -- the contention of BP in its
11 White Paper submitted to the Presidential Oil Spill
12 Commission is that the -- the reservoir depletion of
13 the -- from the -- from the reservoir into which the
14 Macondo Well was drilled was approxed --

15 approximately 1,250 psi; is that correct?

Page 352:24 to 353:04

00352:24 A. That's what it states in -- in here is the
25 reservoir depletion was approximately 1250 psi.
00353:01 Q. And that -- that reservoir depletion is higher
02 than any of the modeled depletion -- reservoir
03 depletions in the chart on Page 12 of the memo we were
04 looking at; is that right?

Page 353:08 to 353:08

00353:08 A. Yes.

Page 356:02 to 356:05

00356:02 Q. But there are -- have you seen the -- any of
03 the collection data that shows that there were points
04 in time where the RITT was collecting much more
05 than 8,000 barrels of oil per day?

Page 356:07 to 356:18

00356:07 A. I saw the -- the collection data. I don't
08 recall it collecting much more than 8,000 barrels a
09 day.
10 Q. (By Mr. Cernich) The -- the RITT wasn't
11 capturing the oil that was -- the oil that was
12 emanating from the -- from the holes in the -- the kink
13 above the riser -- I mean, above the BOP; is that
14 correct?
15 A. That's correct.
16 Q. And the RITT -- RITT capture wasn't affecting
17 the -- the visual expression of the oil escaping from
18 the kink; is that correct?

Page 356:20 to 357:01

00356:20 A. The RITT wasn't --
21 Q. (By Mr. Cernich) So if you're observing the --
22 the oil that was -- that was jetting -- jetting out of
23 the -- the kink above the BOP when you're collecting
24 from the -- the RITT, was that affecting the -- the
25 image of the -- of the jet that was emerging from
00357:01 the -- from the kink?

Page 357:03 to 357:08

00357:03 A. I don't -- don't recall that it was.
04 Q. (By Mr. Cernich) And the -- and the RITT
05 capture work was -- was stopped in order to do the top

06 kill; is that correct?
07 A. The RITT capture work would have to have been
08 stopped during top kill itself, yes.

Page 357:23 to 358:11

00357:23 Q. You don't know about the Flow Rate Technical
24 Group?
25 A. I know the Flow Rate Technical Group existed.
00358:01 I have no knowledge of the structure or organization or
02 the number of people that were working on the Flow Rate
03 Technical Group.
04 Q. As the Leader of the Flow -- Flow Assessment
05 Team, you've never considered or looked at the -- the
06 members of the -- of the Flow Rate Technical Group?
07 MS. KARIS: Object to form. Instruct the
08 witness not to answer with respect to work that was
09 done in connection with the privileged product. I
10 instruct you not to answer.
11 A. Okay. I can't answer.

Page 358:23 to 359:10

00358:23 Q. Now, you -- you did engage in -- in
24 conversations and interaction with scientists at the
25 National Labs with regard to flow rate; is that
00359:01 correct?
02 A. No. Personally, I had very little engagement
03 with them about flow rate.
04 Q. You had engagement with them regarding Well
05 Integrity; is that correct?
06 A. That's correct.
07 Q. And flow rate never came up in any of those
08 conversations with them with regard to Well Integrity?
09 A. Flow rate did come up in -- in -- in those
10 conversations, in terms of reservoir depletion.

Page 367:01 to 367:03

00367:01 Q. (By Mr. Cernich) It's true that -- that BP
02 declined to estimate any flow rates during the response
03 to the Macondo Well; is that correct?

Page 367:05 to 367:11

00367:05 A. We were entirely focused on shutting the well
06 in and stopping the flow. That was -- that was the
07 focus of all our efforts, and I think that the papers
08 demonstrate that. And -- and we felt unable to
09 accurately measure the flow rate, from my perspective,
10 from a subsea flow rate measurement. We did not feel
11 that we had the ability to do so.

Page 367:14 to 367:25

00367:14 Q. (By Mr. Cernich) What do you -- what do you
15 consider accurately? I guess I'm looking for a range,
16 if you could -- if you could estimate it to within plus
17 or minus 20 percent, would that be inaccurate, would it
18 be accurate? We've discussed throughout this
19 deposition you've talked about ranges, and using --
20 using variables or assumptions, Engineering
21 assumptions --
22 A. (Nodding.)
23 Q. -- couldn't you have used Engineering
24 assumptions to come up with a range of flow rates
25 during the response?

Page 368:02 to 368:20

00368:02 A. Clearly, we could have come up with -- with
03 ranges. I asked my flow rate special -- flow -- Flow
04 Assurance Technical Authority to do that in the early
05 stages, and he told me that he could not reasonably,
06 with any reasonable degree of accuracy, estimate flow
07 rate.
08 Q. (By Mr. Cernich) At any point during the
09 response, did anyone from BP's Management tell you:
10 "Please don't calculate any flow rates," or something
11 similar to that?
12 A. No, they did not.
13 Q. Did any attorneys for BP tell you: "Don't
14 calculate flow rates"?
15 MS. KARIS: Objection. Instruct the
16 witness not to answer because that expressly calls for
17 communication with counsel.
18 Q. (By Mr. Cernich) Did anyone at all, during the
19 response effort, tell you not to -- not to calculate
20 any flow rates during the response efforts?

Page 368:25 to 369:05

00368:25 A. Nobody ever told me that they did not want me
00369:01 to calculate flow rate.
02 Q. (By Mr. Cernich) So was it your -- so it was
03 your determination and your judgment that during the
04 response efforts there wouldn't be any flow rate
05 estimates prepared by BP?

Page 369:07 to 369:24

00369:07 A. During the -- during the incident I relied
08 upon my technical specialists, who told me that they
09 could not and would not try and provide an estimate of
10 flow rate because they did not have sufficient
11 information to do so.

12 Q. (By Mr. Cernich) But you -- you knew at some
 13 point during the response, whether it was after --
 14 after June 2nd or 3rd, or sometime in late June, that
 15 the -- that the flow rate was higher than the 1,000 to
 16 5,000 barrel of oil per day estimates, had
 17 originally -- originally been put out there, I know
 18 there's some dispute as to whether any of those came
 19 from BP, or the Unified Command, or the Government.
 20 But there was a 1,000 to 5,000 barrel of oil per day
 21 estimate that -- that was issued early on.
 22 But would you agree that at some point during
 23 the -- the spill that the flow rate was higher than
 24 5,000 barrels of oil per day?

Page 370:02 to 370:09

00370:02 A. Yes, I would agree that we've collected
 03 substantially more than that later on during the spill.
 04 Q. (By Mr. Cernich) And later on during the spill
 05 when top hat floor was installed over the -- over
 06 the -- the -- the BOP after the riser had been -- had
 07 been cut, you were at the surface collecting -- or BP
 08 at the surface was collecting well over 20,000 barrels
 09 per day; is that correct?

Page 370:11 to 370:21

00370:11 A. I -- I don't recall the exact number, but
 12 after the -- after the riser had been cut off and we
 13 installed the what we call top hat and were collecting,
 14 yes, it was -- it was a number over 20,000 barrels a
 15 day.
 16 Q. (By Mr. Cernich) And at that time there was
 17 still, despite the -- the collection from the -- the
 18 top hat to the surface, there's still oil that was --
 19 that was emanating from under the -- the top hat and
 20 escaping to the ocean; is that correct?
 21 A. That's correct.

Page 371:11 to 372:09

00371:11 MR. CERNICH: And I'm going to mark
 12 this --
 13 MS. MCCLELLAN: 6196.
 14 MR. CERNICH: -- as Exhibit 6196.
 15 (Exhibit No. 6196 marked.)
 16 Q. (By Mr. Cernich) This was a -- appears to be
 17 a -- a slide presentation that was produced as part of
 18 your custodial file, prior to this deposition, and it's
 19 titled "Considerations of flowrate from MC252," and it
 20 says: "Trevor Hill," date, "August" 17th.
 21 Have you seen this document before, Mr. Tooms?
 22 A. I -- I certainly saw the -- the Word document,

23 and I -- and I have -- I think I've seen this document,
24 yes.
25 Q. Do you know -- and -- and I assume -- am I
00372:01 assuming correctly from the title that this was
02 prepared by Mr. Hill?
03 A. This was prepared by Trevor Hill, yes.
04 Q. And if it was, in fact, prepared on or about
05 August 17th, that would have been approximately a month
06 after the -- the well was shut-in, correct?
07 A. Yes.
08 Q. Is that your handwriting on the top of Page 1?
09 A. No, that's not my writing.

Page 373:07 to 376:16

00373:07 MR. CERNICH: I'm going to mark this as
08 Exhibit 6197.
09 (Exhibit No. 6197 marked.)
10 Q. (By Mr. Cernich) This appears to be an E-mail
11 dated June 11, 2010 from yourself to a -- a variety of
12 individuals, including Kent Wells, Gordon Birrell,
13 David Clarkson, Patrick O'Bryan, and others, with an
14 attachment called "BOP Pressure History rev3..." I --
15 I assume that's Revision 3?
16 A. Revision 3, yes.
17 Q. Okay. Did you -- did you write this E-mail,
18 Mr. Tooms?
19 A. Yes, I did.
20 Q. And why did you prepare this E-mail,
21 Mr. Tooms?
22 A. I think I was sharing, as I said in the -- the
23 last paragraph, the -- the various Teams were talking
24 about pressures and -- and things, they were doing it
25 from -- entirely from memory and what they've seen. We
00374:01 had a lot of gauge correction numbers involved, and so
02 all I was trying to do is make sure I put out the
03 dataset that we had.
04 Q. And you're talking about BP Teams when you
05 refer to Teams?
06 A. Predominantly B -- BP Teams, but all the Teams
07 who were working because it was a Unified Command
08 response, but all -- all the Teams that were working in
09 particularly source control.
10 Q. I know you -- you mentioned pressure earlier
11 when you were discussing the last paragraph of this
12 document, but doesn't the last paragraph also say:
13 "This graph will" in -- "be included in a more complete
14 report on pressures and flow indications..." Is that
15 correct?
16 A. That's what I've said there, yes.
17 Q. Okay. And I'll direct you to No. 1, in
18 that -- that document. It says: "Pressures below and
19 across the BOP (with...test rams closed) are broadly
20 the same now as they were prior to...Top Kill. This
21 suggests that overall flow rates have not changed much,

22 unless there is some unexplained mechanism in the
23 well."
24 And are -- are you saying there that flow
25 rates haven't changed much from -- from the -- I'm
00375:01 sorry. If I -- if I could direct you to the attachment
02 to that document. It should slide out of the top of
03 the --
04 A. Right. Thank you.
05 Q. And this chart's titled "Historical Records of
06 BOP Pressures." Did you prepare this chart, Mr. Tooms?
07 A. Actually, I think Doug Wood prepared it on my
08 behalf.
09 Q. Okay. And if I'm understanding this
10 correctly, this is a -- a chart analyzing the -- the
11 pressure differential across the BOP for a range of
12 dates going from May 20th through -- through June 10th;
13 is that right?
14 A. That's correct.
15 Q. And May 20th was before the -- the riser was
16 cut; is that right?
17 A. That's correct.
18 Q. June 10th is after the riser was cut, correct?
19 A. That's correct.
20 Q. So am I reading this correctly, this chart
21 combined with your comment in your -- your E-mail that
22 the -- the -- the flow -- flow rates have not -- didn't
23 change much from before the riser was cut to after the
24 riser was cut?
25 A. That's the -- certainly the -- the inference
00376:01 that we made from -- from the pressure gauge. You also
02 note that we -- we had to apply this very large
03 correction to the -- to -- to -- to the gauge, and --
04 and we were not sus -- suspicious may be not the right
05 word, but we -- we were uncertain as to the reliability
06 of that gauge.
07 Q. And then if we go to No. 2 in your E-mail, it
08 says: "The pressure drop across the BOP has been
09 relatively consistent, and it can be inferred that" the
10 "drillpipe is present and that flow through it has
11 remained relatively unchanged."
12 So is that saying that at least from this
13 period of May 20th through June 10th, that you had
14 concluded had that the pressure drop across the BOP
15 was, in fact, consistent and that flow through it
16 had -- had remained relatively unchanged?

Page 376:18 to 377:01

00376:18 A. That -- that's what I said there. I don't
19 know if -- I -- I don't know if I was correct. That
20 was my inference at the time.
21 Q. (By Mr. Cernich) Okay. Thank you. I could
22 direct you to Tab 24, please. This is an E-mail from
23 Trevor Hill dated May 31st to Sheldon "Tee-zen" or --
24 or "Tie-zen," who I -- I believe is a -- is a scientist

25 at one of the -- the National Labs; is that your
00377:01 recollection?

Page 377:03 to 377:04

00377:03 A. He's actually, so far as I'm aware, an
04 Engineer for the National Labs.

Page 377:07 to 377:20

00377:07 MR. CERNICH: And I'm going to mark this
08 as Exhibit 6198.
09 (Exhibit No. 6198 marked.)
10 Q. (By Mr. Cernich) And the -- the -- there's an
11 attachment to this entitled "Secretary Salazar May"
12 31st "2010_Final..." Have you seen this presentation
13 before the attachment, Mister -- Mr. Tooms?
14 A. I don't re -- I don't recall having seen
15 this -- this particular presentation.
16 Q. You didn't prepare it?
17 A. No, I don't think so.
18 Q. Okay. Do you know if Mister -- Mr. Hill
19 prepared it?
20 A. I don't --

Page 377:22 to 379:16

00377:22 A. I don't know whether he did it or not. I see
23 that it's -- if this is the attachment that's part of
24 the E-mail, then I presume he had something to do with
25 it, but I don't know if he prepared it.
00378:01 Q. (By Mr. Cernich) Okay. Do you know whether
02 this was -- this was, in fact, presented to Secretary
03 Salazar?
04 A. I -- I don't recall.
05 Q. Okay. If I could direct you to Page 6,
06 please. And this is a slide entitled "Rupture and
07 Burst Disk," and it's looking at -- it appears to be
08 looking at potential scenarios of rupture of the burst
09 disks. And at the first bullet point is out --
10 "Outward rupture of a burst disk," the second is
11 "Inward rupture of a collapse disk," and at the bottom
12 there's a "Conclusion" there that said: "An
13 event-related ruptured of a collapse disk can be
14 conjectured."
15 Was it your understanding that as of May 31st,
16 that an event-related rupture of a collapse disk could
17 be conjectured?
18 A. Yes, it was -- I think as I gave my earlier
19 testimony, we couldn't see how we had exceeded any
20 rating of the burst disks or -- in either direction.
21 And, in fact, I was surprised when I looked at the
22 integrity of the well to find that -- that unlike most

23 wells that are drilled, that even if we breached the
24 production casing in this case, the -- the -- the next
25 casing string could take the entire shut-in pressure of
00379:01 the well.

02 So the only -- the only thing we could do is,
03 say, if a -- if a rupture disk is done it -- it is --
04 it's conjecture rather than any scientific fact that --
05 that we could conjecture, it might have somehow
06 collapsed inwards.

07 Q. And the next slide is titled "Conclusions &
08 Path Forward." And despite the -- well, maybe as a
09 result of or in spite the con -- of the conjecture, I'm
10 looking at the third bullet point there. It says:
11 "Shutting the well in (via BOP on BOP) is no longer a
12 viable option." But you "Need to maintain BOP pressure
13 below 4,221 psi." And that "Relief wells are most
14 likely solution to kill the well completely."

15 Were -- was that BP's conclusion at this point
16 in time at the end of May?

Page 379:18 to 380:03

00379:18 A. That -- that appears to be what this --
19 this -- this slide is saying. I'm not sure that that
20 was -- what date was this? May the 31st. "Shutting
21 the well in" vi -- "is no longer a viable option," was
22 what it is says on this slide. I don't know that we
23 stayed with that view.

24 Q. (By Mr. Cernich) But if you had presented this
25 to -- in fact, someone from BP had presented this to
00380:01 Secretary zal -- Salazar, I imagine he would have been
02 left with the impression that shutting in the well via
03 BOP on BOP is no longer an option, correct?

Page 380:06 to 380:21

00380:06 A. I -- actually -- now -- now I -- I've read
07 more of this, I think I probably did see this, it's
08 because it was in black and white, I didn't -- didn't
09 recognize it. Yes, the -- if -- if this was presented
10 exactly as it says here, then that would be -- that
11 would be a conclusion you might draw, that you couldn't
12 shut the well in.

13 Q. (By Mr. Cernich) And then in the final bullet
14 point, that the relief wells are the -- are the most
15 likely option to -- option to shut the well in
16 completely or to -- to stop the -- stop the flow from
17 the well?

18 A. Yes. And I think this was our -- our review,
19 if -- if I recall correctly, immediately after, and
20 within hours of finishing top kill, so it was a -- very
21 early thoughts.

Page 380:24 to 380:24

00380:24 (Exhibit No. 6199 marked.)

Page 381:02 to 381:22

00381:02 Q. (By Mr. Cernich) And this is an E-mail dated
03 June 27, 2010, from Gary Wulf to a number of -- a
04 number of individuals at BP and a copy to yourself,
05 Mr. Tooms.
06 Do you recall this E-mail?
07 A. (Reviewing Exhibit 6199.) I -- I don't -- I
08 don't recall it, but it doesn't mean I didn't -- didn't
09 see it.
10 Q. And in this E-mail, Mr. Wulf is asking
11 Mike -- I'm not sure if that's Mike Mason or there's
12 also a Michael Levitan in the -- in the "To" line of
13 this E-mail, "One key question - do we need" to "know
14 the actual flow rate to estimate the final shut-in
15 pressure or determine the presence of leak in the well?
16 E.g. can we reasonably" expect "the final SIP" -- I
17 assume that means shut-in pressure -- "or determine if
18 a leak is present from" the "pressure data and only
19 knowing" the "relative rate reduction?"
20 So would it be your testimony that you don't
21 need to know the actual flow rate to estimate the final
22 shut-in pressure?

Page 381:24 to 383:02

00381:24 A. I think I've already given my testimony, which
25 is that they -- to -- to -- to know the -- to be able
00382:01 to accurately predict the final shut-in pressure before
02 you shut the well in, you would want to know the total
03 volume produced, as well as the size of the reservoir
04 and all the other variables that we -- that -- that we
05 discussed, so a single flow rate would be a -- a
06 datapoint. We would want an -- either an average flow
07 rate or a volume, would be more useful.
08 Q. (By Mr. Cernich) Okay. And if I could direct
09 you to the -- to the back side of that, that E-mail.
10 Which was forwarded as -- as part of this E-mail
11 string. This is an E-mail from Tony Liao to Mike
12 Mason, dated June 27, 2010. "Subject: Simulation of
13 Rupture Disks..."
14 And what I'm looking down is about six lines
15 down -- well, actually, it says: "Hi Mike, I have some
16 simulation results for the problems we discussed
17 yesterday." And it appears that Mr. Liao's doing some
18 flow rate calculations there. And about five lines
19 down he says: "If all the rupture discs are closed
20 (not burst), Qo_Annulus" -- and I assume that Qo is --
21 is flow rate -- "=26,314" barrels of oil per day,
22 "Qo_DrillPipe=26,620" barrels of oil per day "as the

23 base case. The total rate is ~63,000" barrels of oil
24 per day.

25 So is it your understanding here that Mr. Liao
00383:01 was doing a -- a flow rate calculation and came up with
02 a flow rate of 63,000 barrels of oil per day?

Page 383:04 to 383:14

00383:04 A. No, it's my -- my understanding is that Tony
05 Liao was doing modeling work and simulating and try --
06 trying to understand what could have happened, and --
07 and in particular whether the -- the scenario of
08 rupture disks failing was -- was a -- was a possible
09 scenario. And -- and he made assumptions in -- in his
10 model that gave him those numbers.

11 Q. (By Mr. Cernich) Okay. But he modeled a flow
12 rate of 63,000 barrels of oil per day?

13 A. He did model a flow rate of 63,000 barrels a
14 day, yes.

Page 386:02 to 389:07

00386:02 (Exhibit No. 6200 marked.)

03 Q. (By Mr. Cernich) And this is an E-mail from
04 yourself to Mr. Gordon Birrell, dated November 22nd,
05 2010. Now, is Mr. Birrell your -- your Supervisor?

06 A. He was until April the 1st this year.

07 Q. And if I could direct you to the second
08 attachment to this E-mail, there's a -- it's after the
09 second blue sheet. And this document has a title of
10 "Annual Individual Performance Assessment," "Name:
11 Paul Tooms," "Line Manager: Gordon Birrell."

12 So do I take it correctly that this is a -- a
13 self-assessment that you would prepare and submit to --
14 to Mr. Birrell for his review?

15 A. That's right. This is the first part of a --
16 of a -- an annual assessment, and then when I've done
17 this, he puts his comments on, gives it back to me, and
18 we both sign it.

19 Q. Great. Thank you.

20 And if I move to Section No. 3, or Box No. 3,
21 of that first page, in the second section there's "Year
22 end assessment." "An enormous amount of personal
23 effort was spent on this from April 20th through
24 September, into October. I still have some
25 responsibilities for Flow Evaluation." And that's what

00387:01 you put in your -- your Performance Assessment
02 document, correct?

03 A. Correct.

04 Q. And the "responsibilities for flow
05 evaluation," are you referring there exclusively to
06 your work for the -- for the Technical Flow Assessment
07 Team?

08 A. That is what I'm referring to there.

09 Q. Okay. And then if I could direct you to the
10 second page of that document, and if we move down to
11 what I'll call the third paragraph, it starts: "For
12 the MC252 incident..."

13 And the last sentence there says: "I've
14 stayed engaged to some extent as leader of the
15 technical flow assessment team."

16 And -- and so you were telling Mr. Birrell
17 that as of when I believe this document was prepared,
18 November 22nd, that you were -- you were the Leader of
19 the Technical Flow Assessment Team, correct?

20 A. I -- I'm saying exactly what I said there. I
21 stayed engaged, to some extent. I think what I was
22 trying to convey was my involvement by this stage was
23 very limited, but -- but I was still notionally known
24 as the Leader of the Technical Flow Assessment Team.

00388:01 Q. Okay. So I'm just trying to establish a
02 timeline. So at some point between -- July 15th, I
03 believe, was the date that the well was shut-in; is
04 that correct?

05 A. Correct.

06 Q. And this document from -- that you sent to
07 Mr. Birrell on November 22nd -- at some point between
08 those dates, the Flow Assessment Technical Team was
09 assembled?

10 A. Ye -- yes, it was, yes.

11 Q. And -- and do you have some sense of whether
12 it was weeks or months after July 15th?

13 A. It was weeks after July 15th.

14 Q. Weeks after July 15th.

15 A. Okay.

16 Q. Thank you.

17 A. One or two weeks, I think.

18 Q. Okay. So late July, beginning of August?

19 A. Correct.

20 Q. Thank you.

21 I'm -- and I -- now I'll turn back to -- to a
22 few of the questions I had before about individuals
23 and -- and their -- their roles.

24 Douglas Wood, I believe we looked at a
25 document that had Mr. Wood's name on it a few moments
ago. What -- what did -- what is Mr. Wood's role?

00389:01 A. Mr. Wood's role at the time was he was leading
02 the Engineering on our Skarv project in Norway, and I
03 called him over to -- to fill in for Mr. Hill when
04 Mr. Hill was -- had to go away for personal reasons.

05 Q. So he was a Flow Assurance Engineer?

06 A. That's not his regular job, but he has Flow
07 Assurance capability.

Page 389:20 to 389:23

00389:20 Q. Trevor Smith. What was Mr. Smith's role in
21 the response effort?

22 A. In the response effort, Mr. Smith's major role

23 was getting the capping stack ready for installation.

Page 390:02 to 390:11

00390:02 Q. Okay. Tony Liao?
03 A. Tony Liao works for Mike Mason, and to my
04 knowledge, he was not and is not on the Flow Assessment
05 Team.
06 Q. Is he a Reservoir Engineer?
07 A. No. I think he is what -- what is -- I think
08 he's what is known as a Petroleum Engineer.
09 Q. Is Mike Mason a Reservoir Engineer?
10 A. No, I don't think so. Again, I think he's a
11 Petroleum Engineer.

Page 391:03 to 392:21

00391:03 Q. Farah Saidi, we discussed yesterday, and I'm
04 trying to remember -- was Ms. Saidi on the Flow
05 Assessment Team?
06 A. As I think I said yesterday, I think she may
07 be, but I'm not -- not -- not certain whether she's on
08 it or just peripherally involved.
09 Q. Chris Cecil?
10 A. Chris Cecil, again, to my knowledge, also
11 works in support of Mike Mason and was only
12 peripherally involved in the Macondo incident and is
13 not part of the Flow Assessment Team.
14 Q. Okay. Kelly McAughan?
15 A. Kelly, I believe, works with Cindy Yeilding,
16 and she's not -- if it's -- if it's a she -- is not
17 and -- and has not been, as far as I'm aware, part of
18 the Flow Assessment Team.
19 Q. But you don't know for -- for certain whether
20 Ms. Yeilding may have -- excuse me -- Ms. Yeilding may
21 have called on her services as part of Ms. Yeilding's
22 work on the Flow Assessment Team?
23 A. I can't remember exactly what Kelly does.
24 Q. Okay. Debbie Kercho?
25 A. Debbie, I believe, is -- I'm not sure if
00392:01 she -- she's a Reservoir Engineer, but she works in
02 that -- that -- that field, and to the best of my
03 knowledge, she's not and hasn't been a part of the Flow
04 Assessment Team.
05 Q. Okay. Gordon Birrell?
06 A. Gordon Birrell is the Technology -- was the
07 Technology Vice President for HSSE and Engineering
08 and -- and Operations, in fact, and he was not part of
09 the Flow Assessment Team.
10 Q. Leith McDonald?
11 A. Leith McDonald is a Pipelines Engineer from
12 the U.S. Pipelines side of the business and so not part
13 of E&P. He assisted me on the response, and he was not
14 part of the Flow Assessment Team.

15 Q. How did he assist you on the response?
16 A. Initially looking at whether we could do hot
17 taps into the -- into the riser when it was folded over
18 and before it had sprung leaks, and then after that,
19 actually, just general supporting. He, in particular,
20 did a lot of liaison with Government Sector II, in
21 particular.

Page 395:11 to 395:17

00395:11 Q. Bernard Looney?
12 A. Bernard Looney, at the time, was the SPU
13 Leader for the North Sea. He came across to assist
14 Mr. Inglis on the -- Mr. Inglis -- la -- la -- largely,
15 Mr. Inglis on the management of the -- of the response,
16 and he was not part of the -- to -- to my knowledge,
17 part of the Flow Assessment Team.

Page 396:05 to 397:09

00396:05 Q. Tom Knox?
06 A. Tom Knox is a -- an Engineer that works in our
07 Sunbury Technical -- Technology Group, and he was
08 focused on inspection.
09 Q. I -- I -- I believe I -- I saw some work by
10 Mr. Knox related to modeling of the -- the riser. Do
11 you recall that?
12 A. I don't recall. I don't think that Tom Knox
13 would have been able to do any modeling of the riser.
14 He may have been included on the -- on -- on E-mails,
15 because Mr. Knox in -- inspected the riser when we
16 first cut it off and recovered it at the surface.
17 Q. Okay. David Brookes?
18 A. David Brookes was my Chief Engineer for
19 Subsea, and he was occasionally involved in the
20 response and -- and is not part and was not part of the
21 Flow Assessment Team.
22 Q. Okay. And after going through these -- these
23 names and -- and documents we've discussed today,
24 did -- does any other names come to mind of anyone else
25 who has ever or currently works on the Flow Assessment
00397:01 Team?
02 A. I -- I gave you some names yesterday, and I
03 think they're included in -- in that list. I th -- oh,
04 I also gave you Andrew -- Andrew Hill.
05 Q. Okay. Yeah, I recall that name from -- from
06 yesterday.
07 A. And other than a bunch of lawyers -- and I
08 don't -- there's so many lawyers now, I don't remember
09 all their names.

Page 397:17 to 398:08

00397:17 MR. CERNICH: This is Exhibit 6201.
18 (Exhibit No. 6201 marked.)
19 Q. (By Mr. Cernich) And this is an E-mail from
20 Doug Suttles, dated May 19th, 2010, to John Lynch and
21 Andy Inglis, forwarding a -- a flow rate note. And
22 you -- you're -- you're not on this E-mail, but
23 earlier -- the -- the E-mail before this note had been
24 forwarded to Admiral Allen and Admiral Landry from
25 the -- from the Coast Guard.

00398:01 I'd like you to look at the first attachment
02 to that -- that E-mail. This was a -- a -- a memo that
03 Mister -- Mr. Rainey testified that -- that he had
04 prepared at some point around this -- this middle of --
05 this date in the middle of May.
06 Have you ever seen this memo before?
07 A. No, I have not.
08 Q. This was never shared with you at any time?

Page 398:10 to 398:16

00398:10 A. No. I've never seen it before. That I --
11 that I recall, at least.
12 Q. (By Mr. Cernich) So if there were -- if -- if
13 there was work being done on -- on flow rate by another
14 part of the -- the BP Organization, would you have
15 wanted to -- would you have wanted to see that -- that
16 flow rate work --

Page 398:18 to 398:19

00398:18 Q. (By Mr. Cernich) -- in order to assist you
19 with -- with your efforts on the response?

Page 398:21 to 399:11

00398:21 A. If there was flow rate estimates and those --
22 somebody had any confidence in those estimates -- and
23 those estimates were significantly higher than -- than
24 what we were working with -- it -- it -- it might have
25 been useful. It would have been useful. But that's a
00399:01 lot of if's, and the -- it's the confidence that would
02 have been what mattered.
03 Q. (By Mr. Cernich) And this -- this memo has
04 included some -- some estimates that went from 60,000
05 barrels per day. There was a -- a -- some worst-case
06 scenarios, one of casing flow with -- with the BOP
07 removed, no downhole restrictions, of a hundred
08 thousand barrels per day.
09 Would -- would those -- would those -- those
10 estimates have been useful to you, in your -- in your
11 work on the response?

Page 399:13 to 400:05

00399:13 A. Just a -- I -- I -- just read it. (Reviewing
14 document.)
15 No. What I read here was consistent with --
16 with what we thought was -- as -- as I read it. And, I
17 mean, I'm reading it very -- very quickly. But we were
18 always concerned with what the worst case might be --
19 or not -- not the wor -- necessarily the worst case
20 might be, but what the -- the flow might turn into,
21 because at this -- at this stage, we were -- strongly
22 believed that the -- that the flow had been severely
23 constrained when the rig sank, and everything we were
24 doing was trying to understand what might happen if --
25 if those constraints were removed, either by erosion or
00400:01 by us removing parts of the BOP stack.
02 So the absolute worst case of 60,000 barrels a
03 day and reasonable worst case scenario of 40,000
04 barrels a day were the sort of numbers that we had in
05 our minds that might happen.

Page 400:07 to 400:19

00400:07 Q. (By Mr. Cernich) You -- you -- do you recall
08 having Mister -- Mr. Pattillo put together a memo for
09 you regarding Post-Event Flow Scenarios?
10 A. I had Mr. Pattillo put together several memos
11 for me, I think. One of them was certainly looking at
12 the -- trying to justify his assertion that the hanger
13 may have lifted -- if -- if it's that one.
14 Q. If I could direct you to Tab 36.
15 (Exhibit No. 6202 marked.)
16 Q. (By Mr. Cernich) All right. This is an E-mail
17 from Mr. Pattillo to yourself, dated July 3rd. If
18 you'll just flip to the -- the attachment there. And
19 this is a memo entitled "Post-Event Flow Scenarios"?

Page 400:22 to 401:23

00400:22 Q. (By Mr. Cernich) And I'm not going to ask you
23 any detailed information about this -- this mem -- the
24 specifics of this memo, but what -- what I would like
25 to know is whether, either prior to or after -- the --
00401:01 the shut-in of the -- the Macondo Well, you came into
02 any con -- came to any conclusions regarding the -- the
03 flow path from the bottom of the well to the -- to the
04 BOP.
05 For example, was the flow up the casing? Was
06 the flow through the -- up through the annulus? Was
07 the flow from the -- did it come up the -- the shoe
08 track from the bottom of the well? Did you believe
09 that it crossed over at one of the casing strings?
10 A. My belief -- or my -- my preference was that
11 it was flowing up the casing and -- and entirely up the
12 casing. I didn't come to any conclusion until we

13 finally killed the well with heavy mud, and then it
14 became clear that -- that the only flow path was --
15 from -- just from the volumes we pumped, the flow path
16 was up the casing at that point.

17 Q. And when you say "up the casing," from the --
18 from the very bottom of the -- the casing through
19 the -- through the -- the shoe at the bottom?

20 A. That -- that was -- that was our conclusion.
21 There -- there was -- the -- there were still other --
22 other possibilities that we -- that we can't measure,
23 but --

Page 402:08 to 402:20

00402:08 Q. (By Mr. Cernich) Before the break, we were
09 discussing the -- the flow path up the -- up the
10 casing. Did -- do you know whether BP has reached any
11 other conclusions regarding a -- a different flow path
12 other than up the -- up the production casing from
13 the -- from the shoe of the production casing?

14 A. I don't know that BP has re -- reached any
15 conclusions. Those -- those -- those were my
16 conclusions and what -- what I saw at the time.

17 Q. And you used those -- you used those
18 conclusions in developing your -- your opinions or
19 decisions related to well -- Well Integrity; is that
20 correct?

Page 402:22 to 405:11

00402:22 A. Well, those -- those conclusions, by the time
23 I -- by the time I got the -- the direct evidence of
24 pumping in fluid, that it was at least coming up --
25 mostly up the casing, we already had the well shut-in,
00403:01 we have it in -- established integrity, and -- and
02 that's why we were killing the well.

03 Q. (By Mr. Cernich) Could I direct you to Tab 13,
04 please, in your binder?

05 (Exhibit No. 6203 marked.)

06 Q. (By Mr. Cernich) And this is marked as
07 Exhibit 6203. This is an E-mail at the top from John
08 Lynch to David Rainey and -- and Doug Suttles. It's
09 been redacted as privileged. But what I'd like to do
10 is to direct you to the portion at the bottom which had
11 been forwarded a couple of times from -- and that's
12 from Mike Mason dated May 15th, 2010, to -- to Andy
13 Inglis and copied to Jasper Peijs.

14 Do you know Mr. Peijs?

15 A. Well, we discussed Jasper yesterday, yeah.

16 Q. And did -- is Mr. Peijs on the Flow Assessment
17 Team?

18 A. No, he's not or -- or hasn't been.

19 Q. And thank you. Thank you for that.

20 And Mike Mason writing to -- to Andy Inglis

21 says: "I just read an article in CNN (May 14, 2010
22 1:00pm) stating that a researcher at Purdue believes
23 that the Macondo well is leaking up to 70,000" barrels
24 of oil per day "and that BP stands by a 5,000" barrel
25 of oil per day "figure."

00404:01 Mr. Mason goes on to say that: "With the data
02 and knowledge we currently have available we can not
03 definitively state the oil rate from this well. We
04 should be very cautious standing behind a 5,000" barrel
05 of oil per day "figure as our modelling shows that this
06 well could be making anything up to" approximately
07 100,000" barrels of oil per day "depending on a number
08 of unknown variables, such as: flow path either through
09 the annulus behind the production casing or through the
10 production casing float shoe, the height of the
11 reservoir exposed, if drill pipe is suspended in the
12 BOP and sealed by V" -- "VBR rams, reservoir skin
13 damage, choking effects and etcetera. We can make the
14 case for 5,000" barrels of oil per day "only based on
15 certain assumptions and in the absence of other
16 information such as a well test."

17 Did -- did Mr. Mason ever have any
18 conversations with you regarding the concerns he ex --
19 expressed here to Mr. Inglis?

20 A. He didn't have any conversations directly with
21 me about this E-mail.

22 Q. Did you ever have any conversations with
23 Mr. Inglis or -- or Mr. Peijs regarding the
24 observations in Mr. Mason's E-mail?

25 A. I -- I -- no. I didn't see this -- this

00405:01 particular E-mail --

02 Q. Well, the --

03 A. -- or I don't -- certainly don't recall seeing
04 this particular E-mail.

05 Q. The -- the information that's -- that's in the
06 E-mail regarding the -- the -- the flow paths --
07 well -- well, I guess my question isn't so much whether
08 you discussed this particular E-mail, but Mr. Mason
09 lays out some concerns here. Did you ever discuss with
10 Mr. Inglis, Mr. Peijs that Mike Mason had raised some
11 concerns about the 5,000 barrel of oil per day number?

Page 405:13 to 405:21

00405:13 A. I had conversations with -- with Mr. Inglis
14 to -- to reinforce the sorts of things that Mike Mason
15 was saying here, that -- that we couldn't measure --
16 we -- we couldn't give a number for a flow rate because
17 there were so many variables and assumptions, and you
18 could pick a flow rate and then I could change the
19 assumptions or Mike Mason could change the assumptions
20 and arrive at a flow rate. So yes, we -- we had
21 that -- that sort of discussion.

Page 409:02 to 410:04

00409:02 Q. (By Mr. Cernich) This will be marked as 6204,
03 and this is an E-mail from Kate Baker dated August 1st,
04 2010, to yourself and a Benjamin Thurmond.
05 Do you know who Mr. Thurmond is?
06 A. I do know Ben Thurmond, yes.
07 Q. And what -- what does Mr. Thurmond do?
08 A. I'm not sure exactly what he does now. He was
09 a -- an Engineer on our Staff Project and -- and came
10 over to assist.
11 Q. And how did he assist on the -- on the
12 response?
13 A. Generally running things backwards and
14 forwards.
15 Q. Okay. And Ms. Baker is providing you with
16 some information regarding the Macondo methane
17 signature here. Can you explain to me what -- what
18 Ms. Baker is communicating to you?
19 A. I can explain the -- the general context. I'd
20 need to read this in some depth to -- to know exactly
21 what she's saying. But we had -- during the -- the
22 Well Integrity test when the well was shut-in, we had
23 some bubbles appear, and from, I think, around the --
24 the wellhead. We also had some bubbles appearing from
25 the -- the BOP. We wanted to know whether the bubbles
00410:01 appearing around the wellhead were to do with the --
02 the -- the gas that -- that results from the surface
03 casing cement job, and/or whether they were signs of --
04 of gas coming up from below the -- much deeper down.

Page 416:11 to 416:19

00416:11 Q. All right. Now, I want to understand a little
12 bit more about the structure of the E&P Group as of the
13 date you joined around -- you know, in the beginning of
14 2010.
15 A. (Nodding.)
16 Q. Was Drilling & Completions a part of
17 Exploration & Production?
18 A. Drilling & Completions was part of the
19 Exploration & Production Operating Company.

Page 417:02 to 417:18

00417:02 Q. (By Ms. Hertz) What were you?
03 A. I was the -- either known as the Head of
04 Engineering for E&P or VP of Engineering for E&P. And
05 I didn't have a -- any oversight over Drilling
06 Engineering nor Reservoir Engineering nor all the other
07 types of Engineering. It was limited to Discipline
08 Engineering.
09 Q. Okay. And what does that mean, "Discipline
10 Engineering"?

11 A. It's generally taken to mean the traditional
12 Engineering that we would do on -- on projects and
13 structures and would include -- I have five Chief
14 Engineers that cover the various disciplines, and so
15 that would include Civil Engineering, Pipelines,
16 Mechanical Engineering, Process and Process Safety,
17 Instrument Control, Electrical. And that's what I mean
18 by "Discipline Engineering."

Page 418:02 to 418:03

00418:02 And I should add that the fifth one I forgot
03 was Subsea and Floating Systems.

Page 445:09 to 445:14

00445:09 Q. (By Ms. Hertz) Actually, turn to Tab 25,
10 please. This is an E-mail from yourself to Gordon
11 Birrell regarding Tooms Performance Review Material,
12 dated November 22nd, 2010. This is going to be
13 Exhibit 6211.
14 (Exhibit No. 6211 marked.)

Page 473:07 to 473:23

00473:07 Q. (By Mr. Roberts) All right. One other
08 question, a BOP, you said was a barrier to the well?
09 A. I actually said that a BOP -- closed and
10 tested BOP could be a barrier to the well.
11 Q. Yeah. That's what I was going to come to, and
12 I'm glad you corrected me on that. A BOP during
13 Drilling Operations isn't closed, is it?
14 A. During normal Drilling Operations the BOP
15 would not be closed.
16 Q. So during Drilling Operations, the BOP cannot
17 possibly act as a barrier under your criteria, if it's
18 open?
19 A. If the BOP is open, I wouldn't regard it as a
20 barrier.
21 Q. What happened to the -- the BOP on BOP process
22 that was being considered during the post-Macondo well
23 incident?

Page 474:01 to 474:02

00474:01 A. Nothing happened with the BOP on BOP.
02 Q. (By Mr. Roberts) Was that ever considered?

Page 474:07 to 474:08

00474:07 THE COURT REPORTER: 6212.
08 A. The answer to your question is --

Page 474:10 to 474:12

00474:10 Q. (By Mr. Roberts) I haven't an -- I haven't
11 asked a question yet.
12 A. You asked was it considered --

Page 474:17 to 474:17

00474:17 A. No, I didn't.

Page 474:20 to 477:23

00474:20 Q. (By Mr. Roberts) Go ahead.
21 A. The answer to the question is the concept of
22 BOP on B -- BOP was considered, yes.
23 Q. What happened to the concept?
24 A. It didn't -- it didn't take place.
25 Q. All right. Let me hand you what I've marked
00475:01 as 6212. And can you identify that, please, sir?
02 (Exhibit No. 6212 marked.)
03 A. Yes, I have it.
04 Q. (By Mr. Roberts) What is it? And for the
05 benefit of those in the audience, it's MDL01793905
06 through 929. And I'm sorry, I don't have a bunch of
07 copies of it.
08 A. This appears to be the -- No. It's an E-mail
09 from me to Harry Thierens, forwarding on an E-mail from
10 Jon Turnbull to me, which looks like the outcome from
11 the peer assist that we had on BOP on BOP.
12 Q. And looking at Page 909, the lower right-hand
13 corner, Bates page, it's -- the first -- the top bullet
14 point is: "Overall Feedback BOP on BOP and Ram/Valve"
15 or "flex joint." Do you see that, sir?
16 A. I do.
17 Q. Says: "Key risks had all been identified - no
18 significant additional risks identified by review
19 team." Next one: "Review team believes that...BOP on
20 BOP has a" greatest "probability of successful
21 installation than the ram/valve on Flex joint.
22 Do you see that, sir?
23 A. I do.
24 Q. Was the BOP on BOP ever attempted, and if not,
25 why not?
00476:01 A. It was not attempted, and the why not is
02 because after having done this review, when we cut off
03 the -- the riser joint off the top kill, the -- it was
04 evident that we had more than one piece of drill pipe
05 in the BOP stack, and there was a belief or a -- a --
06 an assessment that the risk of taking the BOP off with
07 the drill pipes in there may have led to the BOP
08 getting stuck.
09 Q. Say that again, the risk of taking --

10 A. The BOP off --

11 Q. Uh-huh.

12 A. -- the top part of the BOP off, in fact, the
13 lower marine riser package off of the Macondo BOP or
14 the HORIZON BOP, because there were two -- or at least
15 two drill pipes going through that BOP stack, and we
16 didn't understand the configuration of the rest of it,
17 there was a concern that the -- the BOP might get stuck
18 part way off.

19 Q. Were there any other concerns about the BOP on
20 BOP?

21 A. There were other risks that we -- that we
22 identified. Hydrates was -- was one risk. The ability
23 to unlatch the -- the BOP was another risk. And the
24 third risk was there was a -- a view that there was
25 already a leak between the two parts of the BOP, that
00477:01 the gasket wasn't sealing effectively between the two
02 parts of the BOP.

03 Q. M-h'm.

04 A. And that -- that it may not be possible to --
05 to -- to operate that, to -- to -- to -- to get a --
06 reget a seal on that -- on that flange.

07 Q. Who made the decision not to try the BOP on
08 BOP?

09 A. Well, by this stage, the -- the Unified
10 Command was making decisions, and they were being
11 driven, to a certain extent, by the -- the U.S.
12 Administration.

13 Q. Did you suggest to the U.S. Administration
14 that the BOP on BOP be attempted or not attempted?

15 A. My personal suggestion was that we should
16 attempt it.

17 Q. Well, who -- who from BOP made
18 whatever this -- excuse me, too many acronyms -- who
19 from BOP -- who from BP -- can I say British Petroleum?

20 A. No.

21 Q. She'll get mad at me. All right.

22 Who from BP made the final recommendation from
23 BP about the use of the BOP on a BOP --

Page 477:25 to 477:25

00477:25 Q. (By Mr. Roberts) -- to the U.S. Govt?

Page 478:02 to 478:07

00478:02 A. The recommendation -- the person who -- who
03 voiced recommendations in general to the Government was
04 Andy Inglis.

05 Q. (By Mr. Roberts) What was the final
06 recommendation from the company to the Government about
07 whether or not a BOP should be used on top of a BOP?

Page 478:09 to 478:12

00478:09 A. I don't know, so I don't know whether it was a
10 joint decision or a -- or a recommendation.
11 Q. (By Mr. Roberts) What was Andy's
12 recommendation to the Government?

Page 478:14 to 478:16

00478:14 Q. (By Mr. Roberts) As best you know it.
15 A. As best I know it, Andy outlined the risks of
16 the various options to the Government --

Page 478:18 to 478:22

00478:18 A. -- and the various options, and -- so I don't
19 know that he made a firm recommendation one way or the
20 other.
21 Q. Well, when he went into the meeting, was he
22 pro it or again' it?

Page 478:24 to 480:06

00478:24 A. I don't know. I think you need to ask Andy
25 Inglis that.
00479:01 Q. (By Mr. Roberts) You don't know one way or the
02 other? He's never expressed his personal view to you?
03 A. Andy and I talked about the BOP on BOP, and we
04 discussed the -- discussed the risks. And I -- I don't
05 know. He was -- he under -- appreciated the risks
06 and -- and all the things we were doing.
07 Q. Did he ever express his view one way or the
08 other to you about whether he was for or against the
09 use of a BOP on BOP?
10 A. No, he didn't.
11 Q. And this concern about the lower marine riser
12 removal and the stuck pipe, all of that had to come out
13 anyway, didn't it?
14 A. The concern was very much that if the BOP got
15 halfway off, we wouldn't be able to go up or down with
16 the --
17 Q. Sir --
18 A. -- with the BOP, and then we'd have a
19 situation that we had no means of controlling.
20 Q. Was there a saw device that was used to
21 remove -- to assist in the removal of the LMRP and to
22 cut through the pipe that was at the top of the BOP?
23 A. A saw device that got jammed in the --
24 Q. Yeah.
25 A. -- drill pipe they were trying to cut.
00480:01 Q. Yes.
02 A. Yes, there was.
03 Q. And it -- and it got unjammed and it finished

04 the job, didn't it, to be precise?
05 A. No. I think to be precise, I think we
06 actually used shears --

Page 480:08 to 480:20

00480:08 A. -- to -- big -- very large shears to -- to cut
09 that pipe in the end.
10 Q. Did that in any way prevent you from putting a
11 BOP on top of a BOP?
12 A. I think that experience of getting the saw
13 jammed in cutting the drill pipe and realizing that --
14 that whilst there were technical solutions to all these
15 risks, that they -- they may lead to make the situation
16 worse, and that factored into people's assessment of
17 the risk.
18 Q. Well, wait a minute. That fact didn't come in
19 until after the BOP on BOP solution had been dis --
20 discarded, did it?

Page 480:22 to 481:04

00480:22 A. From my memory, the -- the planned sequence of
23 events was to -- after top kill, remove the riser, take
24 a pause while we reorganized things, and go into
25 collection mode, and then subsequently do the BOP on
00481:01 BOP, or -- or other remediation.
02 So, yes, effectively the -- the decision not
03 to do BOP on BOP would have been after we'd cut the
04 riser off.

Page 575:10 to 575:13

00575:10 We learned over the course of these two days
11 that BP had some estimates about the amount of flow
12 coming out of the -- out of the Macondo Well; isn't
13 that true?

Page 575:16 to 575:17

00575:16 A. We -- I shared with you, we had -- I -- I had
17 one back-of-the-envelope estimate before --

Page 575:19 to 576:01

00575:19 A. -- the -- after the well was shut-in.
20 Q. No, I meant there was a variety of thoughts
21 about how much oil was coming out of that well before
22 the well was shut-in. And I believe that we learned
23 that at some point BP had thought that the flow could
24 be as little as 5,000 barrels a day or that the flow
25 could be as much as a hundred thousand barrels a day,

00576:01 but, of course, it couldn't confirm either one of them?

Page 576:04 to 576:05

00576:04 Q. (By Mr. Bruno) Isn't that true? Isn't that
05 what you told us over the past couple of days?

Page 576:07 to 576:16

00576:07 A. I don't recall telling you that. I -- I --
08 I recall that we had been given estimates of 1,000
09 barrels a day, which may or may not have been correct,
10 then we have estimates of 5,000 barrels a day, which
11 may or may not have been correct, and then we had a
12 Flow Rate Technical Group that -- that supplied
13 estimates thereafter.

14 Q. (By Mr. Bruno) Didn't we have some -- some --
15 some thoughts that the flow might be as high as a
16 hundred thousand barrels a day?

Page 576:21 to 577:08

00576:21 A. I -- I don't think so. I -- I -- all I've
22 seen is modeling numbers that -- that go up to a
23 hundred thousand barrels a day, and I think you even
24 showed me a number that was -- was higher than that,
25 but that's not the same as that's what -- that -- that
00577:01 wasn't the same as an estimate.

02 Q. (By Mr. Bruno) Okay. Well, maybe I'm using
03 the words incorrectly. BP did not know how much oil
04 was coming out of that well from the time of the
05 catastrophe until the time that the well was capped;
06 isn't that true?

07 A. In fact, I -- I'd put it stronger than that.
08 I'd say that BP could not know.

Page 577:22 to 578:05

00577:22 Q. (By Mr. Bruno) Well, an -- any period of time.
23 I mean, I hate to have to haul out the documents again,
24 but there were some folks -- and I think you even
25 testified today -- you said today that you only need to
00578:01 change a few variables and you could change the flow
02 immensely. Didn't you say that today?

03 A. I did.

04 Q. All right. And we didn't know what the
05 variables were, correct?

Page 578:08 to 578:18

00578:08 A. I was referring to the modeling efforts that
09 we were -- that we were doing that made assumptions as

10 to what was coming out the reservoir, and it was in
11 reference to whether the flow up the annulus or up the
12 casing could be larger or smaller. That was what that
13 comment was in reference to, so far as I remember.

14 Q. (By Mr. Bruno) Exactly. But the point I'm
15 making is that it's still the -- the case that BP had
16 some ideas of a high and a low with regard to the
17 potential range of the flow that may be coming out of
18 the well before it was capped?

Page 578:21 to 578:25

00578:21 A. We had some -- a -- a range of highs and lows
22 of the potential of the well, should the well be
23 unrestricted. We did not have any -- any range of
24 highs and lows of what the well was actually producing
25 at.

Page 581:10 to 581:15

00581:10 Q. (By Mr. Bruno) All I'm trying to establish,
11 Mr. Tooms, is that during this period of time when you,
12 BP, were undertaking an effort to kill the well, cap
13 the well, whatever terminology that you want to
14 utilize, BP had a -- an idea of a range of flow that
15 may be coming out of that well; isn't that true?

Page 581:17 to 582:03

00581:17 A. I don't think we -- we -- we didn't focus on
18 what we thought the range of flow was in those --
19 particularly in those early days, simply because all of
20 our efforts were focused on shutting-in the well --

21 Q. (By Mr. Bruno) M-h'm.

22 A. -- and we were focused on what the flow might
23 become if -- if we let things happen, such as erosion
24 or removing obstructions in the BOP stack.

25 Q. Mr. Tooms, you testified that if, in fact, the
00582:01 flow from the well exceeded 15,000 barrels per day,
02 that it was unlikely that the top kill would work;
03 isn't that true?

Page 582:05 to 582:15

00582:05 A. I testified -- I testified quite precisely,
06 actually, that -- that -- that given the pump-in rates
07 that were assumed, that 15,000 barrels a day, that was
08 the modeling that Ole Rygg had -- had produced that
09 would say that it was unlikely. And I also testified
10 that if you pump -- that -- that we actually pumped at
11 a higher rate, I think, so --

12 Q. (By Mr. Bruno) So is it true or not true that
13 if more than 15,000 barrels a day were flowing out of

14 the well, that it was unlikely that the top kill was
15 going to work?

Page 582:17 to 583:18

00582:17 A. There was a -- a -- an assessment done by Ole
18 Rygg --
19 Q. (By Mr. Bruno) M-h'm.
20 A. -- that -- that -- that made that -- that made
21 that statement, and we took that at face value.
22 Q. All right. All I'm trying to get at is that
23 at the time, BP had a spokesman who was speaking to the
24 public and giving information to the public about BP's
25 efforts to cap the well, and that person was Kent
00583:01 Wells; isn't that true?
02 A. Yes, Kent Wells was -- was our spokesman.
03 Q. He was the spokesman.
04 A. Yes.
05 Q. Okay. And did you speak to Kent Wells about
06 the plan to use the top kill as a -- as a potential
07 method of sealing the well?
08 A. I can't remember.
09 Q. Okay. Well, Mr. Tooms, did you disclose to
10 anyone, including Mr. Wells, that if the flow out of
11 the well exceeded 15,000 barrels a day, that it was not
12 likely to work?
13 A. No, I did not.
14 Q. Do you know, sir, if Kent Wells disclosed that
15 information to the public?
16 A. I don't know.
17 Q. Do you believe, Mr. Tooms, that that is
18 information that the public was entitled to have?

Page 583:21 to 583:22

00583:21 A. I -- I don't have any opinion on that.
22 Q. (By Mr. Bruno) Why not?

Page 583:24 to 584:03

00583:24 A. Because I don't know what -- what the public
25 should or shouldn't have.
00584:01 Q. (By Mr. Bruno) Well, do you have some
02 understanding of why it was that Mr. Kent Wells was
03 doing what he was doing?

Page 584:05 to 584:06

00584:05 A. He's just trying to keep the public informed,
06 I think.

Page 584:22 to 584:25

00584:22 Q. (By Mr. Bruno) All right. In fact, BP
23 appointed him to be the spokesperson for the company so
24 that the public would be as fully informed about what
25 BP was doing as BP possibly could; isn't that true?

Page 585:02 to 585:03

00585:02 A. I don't know why -- the -- the -- the details
03 of why BP appointed him as spokesman.

Page 585:11 to 585:17

00585:11 Q. Right. And insofar as -- I -- I mean, you had
12 interaction with -- with -- with the Government. You
13 had act -- interaction with the scientists. And, in
14 fact, I detected a great deal of frustration in both
15 your presentations and in your testimony with how
16 difficult it probably was to deal with those folks;
17 isn't that true?

Page 585:19 to 586:03

00585:19 A. I think it is true that you detected some
20 frustration.
21 Q. (By Mr. Bruno) And that's fine. No -- no harm
22 or no ill intent, you know, in -- meant, but all I'm
23 trying to say is you certainly understood that there
24 was a need -- and I think you even put it in a
25 PowerPoint presentation -- to communicate with people
00586:01 in order to persuade them, and you even communicated
02 that there was a need to do it in such a way that you
03 would not put them off. Do you recall that testimony?

Page 586:05 to 587:02

00586:05 A. I -- I, in fact, said that -- that persuasion
06 was not the best tool.
07 Q. (By Mr. Bruno) Right. But logic was?
08 A. No. I said persuasion and logic, in my view,
09 isn't a very good way of changing people's opinions.
10 Q. What is a good way?
11 A. I went through this in my testimony yesterday,
12 but it was to appreciate where the other person was
13 coming from, be generous to their -- to their -- their
14 level of intellect and their motivations, and
15 understand their point of view.
16 Q. Exactly. And given that as a premise, doesn't
17 it follow that it would be extremely important for BP
18 to tell the public exactly what we just discussed; and
19 that is: One, BP had no way of ascertaining the amount
20 of hydrocarbons flowing from that well; two, that there
21 was a large range of possible flows; three, that there

22 were flows that were possible that would make the top
23 kill impossible to work?
24 Isn't it a fact that that's the kind of
25 information that should have been conveyed to the
00587:01 public, based upon what you've just told me is a proper
02 method of trying to persuade people?

Page 587:05 to 587:21

00587:05 A. All I know, really, is that we certainly
06 shared the information that you're talking about with
07 the Government, specifically Secretary Salazar and
08 others, and I don't know who should have done what from
09 that point. It's not for me to decide.
10 Q. (By Mr. Bruno) The junk shot, is it also the
11 case that there were potential flow rates that would
12 have made the junk shot impossible to kill the well?
13 A. Well, no, I don't think so.
14 Q. All right.
15 A. I think the flow ra -- I think junk shot was
16 relatively insensitive to flow rate.
17 Q. Okay. Why didn't it work?
18 A. I -- I don't know, for sure. Having seen
19 the -- the BOP and the arrangement of pipes in the BOP,
20 I think it's due to the way that the plumbing happened
21 through the BOP with the drill pipes and so forth.