

Deposition Testimony of:

Martin Albertin

Date: July 13, 2011

Created by:



www.indatacorp.com

Page 354:18 to 358:18

00354:18 Q. I want to start off talking a
19 little bit about Exhibit 3735 that Mr. Hauser
20 from DOJ marked yesterday. It was also his
21 tab 33. In that tab 33 there was a
22 spreadsheet, an Excel spreadsheet which I
23 believe you identified as being the fracture
24 gradient -- the final fracture gradient
25 pressures at all depths of the well, I think
00355:01 it's at 50-foot intervals.

02 A. Okay.

03 Q. Do you recall that?

04 A. Two -- two digital -- I mean,
05 columns of numbers.

06 Q. Correct.

07 A. Right.

08 Q. And I think the left-hand column
09 is -- is total depth, and the right-hand
10 column, I think you said, was psi values,
11 right?

12 A. That's correct.

13 Q. Okay. If I want to convert
14 those psi values to ppg in the final hole
15 interval, so let's just say at depths deeper
16 than 17,000 feet --

17 A. Okay.

18 Q. -- what is the formula I need to
19 use to do that?

20 A. Okay. Let's see, I would take
21 the depths in this column, which are TBD
22 subsea, add the rig datum to that depth, I
23 would take then the -- the pressure value,
24 divide it by that rig datum TVD, so I would
25 get a value in psi per foot. And I would use
00356:01 a conversion factor to mud weight equivalent
02 of 19.25. So I would take psi per foot,
03 multiply by 19.25 to get a mud weight
04 equivalent.

05 Q. And that's going to give you a
06 downhole mud weight equivalent?

07 A. Yes, these numbers from my
08 spreadsheet are downhole numbers. So the psi
09 that I'm expecting for the downhole.

10 Q. Okay. Is that going to be an
11 ESD value?

12 A. It would be a formation value --
13 I suppose you could say it's equivalent to a
14 static dens- -- it's not exactly the same.
15 ESD value would be a mud weight. There --
16 that's when you're not pumping.

17 Q. Uh-huh.

18 A. And so these values are actually
19 formation conditions. So if they're a pore
20 pressure psi value, it's what I'm portraying

21 as the formation pressure, and the fracture
22 gradient value would be what I -- I am
23 considering the minimum stress of the
24 formation.
25 Q. Okay. Okay. We've talked a
00357:01 little bit about Mr. Bobby Bodek, and I think
02 you referred to him as the operations
03 coordinator?
04 A. That's right.
05 Q. He's also the operations
06 geologist for the Macondo well?
07 A. Right. I -- I -- he does have
08 those interchangeable titles.
09 Q. Okay. In your opinion, is
10 Mr. Bodek a competent operations coordinator?
11 A. I believe he's competent.
12 Q. Have you had any problems with
13 his ability to interpret the PP -- PPF
14 information that was provided to him by you
15 or other members of the Tiger team?
16 A. I would say his responsibility
17 is not to interpret pore pressure fracture
18 gradient data. If he is looking at pore
19 pressure and fracture gradient data, I think
20 he had questions about the data he was
21 looking at. There were oftentimes where he
22 would ask me if he was interpreting it
23 correctly, so...
24 Q. At any time in April of 2010,
25 did -- did you read any correspondence or --
00358:01 or other papers produced by Mr. Bodek that
02 you had problems with his interpretation or
03 communication of PPF data?
04 A. I may not have agreed entirely
05 with the wording of -- of certain e-mails
06 that he may have sent, but I don't recall a
07 specific instance where I had a -- an issue
08 with something he was saying in -- in the
09 e-mail.
10 Q. Anytime in April of 2010, did
11 you ever have to -- or did you ever -- did
12 you ever talk to Mr. Bodek about problems you
13 had with the actual PPF numbers he was
14 communicating to -- to other people within
15 BP?
16 A. In April 2010?
17 Q. Right.
18 A. I don't recall an incidence.

Page 359:16 to 359:19

00359:16 Q. Okay. Both Mr. Bellow and
17 Mr. Vinson testified earlier that you had
18 some responsibility for preparing the PPF
19 portions of submissions to the MMS.

Page 359:21 to 359:23

00359:21 A. I would provide data to whoever
22 is putting those reports together, those
23 submittals together.

Page 360:01 to 362:10

00360:01 Q. And would you work with
02 Ms. Scherie Douglas or Heather Powell to
03 do -- to do that?
04 A. I -- I would not work with
05 Scherie -- it's -- it's not my responsibility
06 to put those documents together, so I
07 wouldn't work with her directly.
08 Q. Okay. Who would you work with?
09 A. I would provide pressure data
10 and fracture gradient estimates to --
11 depending on who's actually pulling the --
12 the form together, perhaps I'd provide it to
13 the drilling engineering team, if -- if they
14 are putting a -- whatever document together.
15 Q. So you would provide the PPFG
16 information to a drilling engineer like
17 Mr. Hafle or Mr. Morel, and then you would
18 not be a part of whatever document they
19 produced to pass on to Ms. Powell or Douglas;
20 is that right?
21 A. That -- that's correct.
22 Q. Okay. If you don't mind, turn
23 to tab 2 in your -- in your binder. This is
24 the March 26th, 2009 application for permit
25 to drill a new well, which has previously
00361:01 been marked as an exhibit in this case. It's
02 got Bates Nos. BP-HZN-CEC008683 through 87 --
03 8711.
04 A. Okay.
05 Q. If we look at Page 8 -- first of
06 all, are you -- are you familiar with --
07 with -- with this document?
08 A. I'm familiar with the document.
09 Q. Okay. If we look at Page 8, do
10 you see there is a presentation of what's
11 labeled as interval No. 6, and it's got some
12 general information, preventer information,
13 and test information in it -- in it?
14 A. Yes.
15 Q. In the general information
16 section, there is data for mud weight
17 fracture gradient. Do you see that?
18 A. Yes, I do.
19 Q. Is that the type of information
20 that you would be providing to the drilling

21 engineers, which would then be sub- -- which
 22 would then be incorporated into the document
 23 that would be submitted to the MMS?
 24 A. Yes, it would. I would submit
 25 probably a spreadsheet to them, and they
 00362:01 would select the values from the -- the
 02 spreadsheet readout.
 03 Q. Okay. And then, also, if you
 04 see on the -- on the far right-hand side,
 05 there is a pore pressure designation. Is
 06 that also the information that you would be
 07 giving to the drilling engineers?
 08 A. That -- that would come, I
 09 believe, from the data that I'm providing to
 10 them.

Page 363:22 to 364:01

00363:22 Q. (BY MR. THIBODEAUX) Okay. Is
 23 it your understanding that the drilling
 24 engineers select the mud weights to be used
 25 in the Macondo well based on the PPFG
 00364:01 information that you provide?

Page 364:03 to 364:18

00364:03 A. That's my understanding of how
 04 they would design a mud weight schedule.
 05 Q. (BY MR. THIBODEAUX) Do the
 06 drilling engineers work with you to evaluate
 07 whether the mud weight they select will --
 08 will comply with whatever the fracture
 09 gradients are in the open hole interval?
 10 A. Again, I would provide them with
 11 my estimates for what the fracture gradients
 12 are in that hole section or -- or at a
 13 proposed casing point and what the pressure
 14 would be at -- within that hole section, and
 15 they would choose appropriate mud weights for
 16 drilling that hole section. So I wouldn't
 17 get involved in the detailed discussions
 18 about that mud weight schedule.

Page 365:21 to 366:08

00365:21 Q. Turn to Bates number ending in
 22 706. This is identified as an MMS APD
 23 attachment, PP mud weight FG PPMWFG. Do you
 24 prepare the PPMWFG plots like the one set
 25 forth here?
 00366:01 A. No, I did not prepare this plot.
 02 Q. Okay. Who did?
 03 A. I believe it was Mark Hafle, but

04 I'm not sure if -- if he was entirely
05 responsible for it.
06 Q. Okay. Now, the data inputs used
07 to prepare this plot, though, would be
08 supplied by you?

Page 366:10 to 368:07

00366:10 A. I believe the pore pressure and
11 fracture gradient that I would supply to the
12 drilling engineers would be used as a basis
13 for a plot such as this.
14 Q. (BY MR. THIBODEAUX) Okay.
15 Let's turn to tab 3, please. This has also
16 previously been marked as an exhibit. It's
17 the March 26th, 2010, Application For Revised
18 Bypass. It's BP-HZN-2179MDL00001748 to 1763.
19 Are you familiar with this document?
20 A. I -- I believe I may have seen
21 this document before.
22 Q. If we turn to Page 8 of 9. If
23 we look at the column set forth for intervals
24 No. 7 and 8, do you see that?
25 A. Yes.
00367:01 Q. Again, the mud weight fracture
02 gradient pore pressure information would be
03 provided by you to be included in this
04 document?
05 A. Yeah. Again, I would probably
06 have provided my spreadsheet digits, and then
07 the -- the numbers would be picked from
08 the -- the spreadsheet digits at the
09 appropriate depths.
10 Q. There was nobody else on Macondo
11 that was responsible for providing such
12 information to be included in -- in MMS
13 documents, correct?
14 A. No, I would have provided the
15 pore pressure and fracture gradient
16 information that would probably be used as a
17 basis for -- for these numbers.
18 Q. Okay. If we turn to Bates
19 number ending in 760. This is a -- an
20 updated APD schematic like the one we looked
21 at before.
22 A. Okay.
23 Q. Do you recognize this document?
24 A. I -- I think I -- I probably
25 have seen the schematic for the -- the
00368:01 bypass.
02 Q. Okay. If we look at the final
03 two hole sections, there are the data input
04 for pore pressure and then also for FIT/LOT.
05 You would be responsible for providing the
06 information to be put into those sections of

07 the APD schematic; is that right?

Page 368:09 to 369:02

00368:09 A. Again, I would provide the pore
10 pressure fracture gradient information. I
11 may not provide the specific numbers that
12 show up in those boxes, but I would provide
13 the -- the entire data set, and the numbers
14 would be picked from it.
15 Q. (BY MR. THIBODEAUX) Okay. What
16 about the FIT/LOT information, is that
17 something that you also maintain and provide
18 to the drilling engineers?
19 A. I believe that the FIT/LOT
20 numbers for the schematics, if we haven't
21 drilled these hole sections, would be based
22 on my estimates for fracture gradient, shale
23 fracture gradient at those depths.
24 Q. So you think that the FIT/LOT
25 data would represent realtime data or
00369:01 fracture gradient data that's being
02 encountered as drilled?

Page 369:04 to 369:13

00369:04 A. I -- it -- depending on the -- I
05 guess the time that the document that we're
06 looking at was prepared, if it was prior to
07 drilling those hole sections, the -- I would
08 assume that the FIT/LOT numbers in there
09 would be based on estimates for what we think
10 the fracture gradient might be.
11 If it's a post hole section or
12 post well document, then they -- they may be
13 based on actual numbers, but...

Page 369:24 to 370:08

00369:24 All right. So before -- before
25 drilling an interval, you take the FIT/LOT
00370:01 after 10 feet from the previous shoe, right?
02 A. That's correct.
03 Q. And then if you're drilling down
04 and you encounter a fracture gradient that
05 you know to be lower than what the FIT/LOT
06 was at the previous shoe, would that number
07 ever be incorporated into an APD schematic
08 like this?

Page 370:10 to 373:04

00370:10 A. I -- my understanding would be

11 that it probably wouldn't be incorporated
12 into a document such as this. I couldn't say
13 that it would never have -- have occurred,
14 but that wouldn't be my understanding of how
15 typically those numbers are represented.

16 Q. (BY MR. THIBODEAUX) Okay. All
17 right. Let's turn to the Bates number ending
18 in 762, please. This document is identified
19 as a -- as a pressure profile. Did you
20 prepare this document?

21 A. Am I looking at the -- the
22 correct doc- --

23 Q. Yes.

24 A. I don't see pressure profile.

25 Q. I'm sorry, on the first -- on
00371:01 the previous page.

02 A. Oh, okay.

03 Q. It says "Attachment 2 Pressure
04 Profile."

05 A. Okay. Your question was did I
06 prepare this?

07 Q. Yes.

08 A. No.

09 Q. But, again, data from you would
10 be used to prepare this document?

11 A. That's my understanding.

12 Q. All right. If we look at the --
13 there are five lines plotted, five separate
14 lines plotted on this graph, correct?

15 A. That's correct.

16 Q. Okay. If we start from the one
17 to the far -- farthest to the left -- and --
18 and my questions will all be centered around
19 the -- the depths that are below the -- the
20 final shoe, so in the -- in the final
21 production interval.

22 A. Okay.

23 Q. And -- and you understand that
24 to be approximately 17,500 feet, correct?
25 I'm sorry, 17,200 feet?

00372:01 A. From where -- where the
02 9-and-7/8-inch casing shoe is?

03 Q. Right.

04 A. I think that sounds like
05 approximately right number.

06 Q. And there's actually a triangle
07 on the line to the farthest of the left --
08 the farthest left line which represents where
09 that shoe is, correct?

10 A. I believe that triangle
11 represents the depth at which the -- the
12 shoe -- the depth of the shoe, and the -- the
13 location on that line, I believe, represents
14 the mud weight equivalent of the pore
15 pressure that we expect at that depth.

16 Q. Okay. Now, the line farthest to
17 the left represents the pore pressure in the
18 open hole, correct?
19 A. It's -- yeah, the pore pressure
20 gradient, the mud -- mud weight equivalent.
21 Q. Now, the dashed line
22 immediate -- immediately to the right of that
23 line represents the pore pressure gradient
24 you just talked about plus .2 ppg, correct?
25 A. Looks to be
00373:01 approximately .2, .25 above that line.
02 Q. Now, that .2 ppg is a factor of
03 safety that is above the pore pressure
04 gradient, correct?

Page 373:06 to 373:09

00373:06 A. It's a number that's added to
07 the pore pressure line.
08 Q. (BY MR. THIBODEAUX) And why is
09 that?

Page 373:11 to 373:23

00373:11 A. I believe that when we add to
12 pore pressure or subtract from fracture
13 gradient lines, it's to -- to -- to allow us
14 to calculate conservative numbers for casing
15 seat depths, et cetera. So it is a margin
16 that we put on top of the pore pressure
17 fracture gradient window.
18 Q. (BY MR. THIBODEAUX) Correct.
19 And you do that, as you said, to maintain --
20 maintain a conservative approach to picking
21 mud weights so that you always maintain a mud
22 weight that is sufficient to overbalance the
23 pore pressure gradient, correct?

Page 373:25 to 374:11

00373:25 A. It would be a margin that's --
00374:01 that's applied to -- to calculate, I think, a
02 conservative casing program.
03 Q. (BY MR. THIBODEAUX) All right.
04 If we look at the line that's all the way to
05 the right, that line represents the fracture
06 gradient in the open hole, correct?
07 A. Yes, I believe that represents
08 the -- the shale fracture gradients in the
09 open hole.
10 Q. Okay. So it does not include
11 the sand fracture gradients, correct?

Page 374:13 to 375:08

00374:13 A. In -- in looking at this plot, I
14 don't believe that this does represent sand
15 fracture gradients or any weaker -- weaker
16 rock fracture gradients.
17 Q. (BY MR. THIBODEAUX) In the
18 Macondo production interval, the sand
19 fracture gradients were less than the shale
20 fracture gradients, correct?
21 A. That's correct.
22 Q. All right. The line that's
23 immediately -- the dashed line that's
24 immediately to the left of the fracture
25 gradient line is the -- represents the
00375:01 fracture gradient at that depth minus .5 ppg,
02 correct?
03 A. Yes, I believe so.
04 Q. Okay. That .5 -- minus .5 ppg
05 is also a factor of safety -- a factor of
06 safety that's incorporated so that you have a
07 conservative mud weight that's not
08 approaching the fracture gradient, correct?

Page 375:10 to 376:09

00375:10 A. That is my general understanding
11 of -- of those -- those margins applied to
12 the pore pressure and fracture gradient
13 lines.
14 Q. (BY MR. THIBODEAUX) Okay. And
15 then the -- the line that's in the middle of
16 the graph, which would be third from the
17 left, the -- the bolded black line, that
18 represents the anticipated mud weight that
19 will -- will be used in the open hole
20 section, correct?
21 A. It is labeled "Planned Mud
22 Weight." I would say that the -- the line
23 being kind of a smooth sloping line in
24 between casing points probably doesn't
25 represent the actual mud weight schedule.
00376:01 It's a linear interpolation between points.
02 So I -- I don't think that that represents
03 the exact mud weight schedule.
04 Q. The line, though, the -- the
05 planned mud weight line for the final hole
06 interval represents the -- that BP will
07 maintain a mud weight somewhere between the
08 pore pressure plus .2 and the fracture
09 gradient minus .5, correct?

Page 376:11 to 377:06

00376:11 A. The way it's portrayed here, I
 12 think that's a fair -- fair assumption, that
 13 the intent is to keep the mud weight between
 14 those lines.
 15 Q. (BY MR. THIBODEAUX) All right.
 16 Turn to tab 7, please. This is a April 15th,
 17 2010, Application For Revised Bypass. It's
 18 also been previously marked as an exhibit.
 19 It has Bates numbers BP-HZN-2179MDL00096724
 20 through 731.
 21 If you look at Page 8, again, we
 22 have interval information, and there is
 23 interval No. 7; do you see that?
 24 A. Yes.
 25 Q. Interval No. 7 was the final
 00377:01 production hole interval for the Macondo
 02 well, correct?
 03 A. I -- I believe it was. It's the
 04 section below the 9-and-7/8-inch casing shoe.
 05 Q. Okay. If you look at the depth
 06 column in that section --

Page 377:09 to 377:16

00377:09 Q. (BY MR. THIBODEAUX) -- do you
 10 see where it has a depth, 12,300, for the
 11 measured depth?
 12 A. I do see that.
 13 Q. That's -- that's a typo, right?
 14 A. It would appear to be, based on,
 15 I guess, my recollection of where the
 16 9-and-7/8-inch casing shoe is.

Page 377:23 to 378:10

00377:23 A. Can I, I guess, revisit your
 24 previous question about those depths?
 25 Q. (BY MR. THIBODEAUX) Sure.
 00378:01 A. Again, I -- I'm not sure if I --
 02 I understand exactly what those depths are
 03 meant to represent relative to that casing
 04 size. There may be an engineering reason to
 05 have those depths other than the depth of the
 06 casing seat, but -- that I don't understand,
 07 so if those are rep- -- intended to represent
 08 the depth of the casing shoe, it would appear
 09 to be a typo, but it may represent something
 10 else that I don't understand.

Page 378:24 to 379:03

00378:24 Q. Okay. Back to my previous
 25 question, though. The pore pressure of 13.9,

00379:01 mud weight of 14.0, and fracture gradient of
 02 16.0, that's information that you provided,
 03 correct?

Page 379:06 to 379:25

00379:06 A. (Continuing) I believe those
 07 numbers would have come from information that
 08 I provided to the engineering team.
 09 Q. (BY MR. THIBODEAUX) Okay. If
 10 you would look at tab 8, please. This is
 11 also a -- an April 15th, 2010, Application
 12 For Revised Bypass. It's been previously
 13 marked. It's BP-HZN-2179MDL00155415 through
 14 424.
 15 A. Okay.
 16 Q. If we look at Page 9 of 10. We
 17 have interval No. 8, which -- which
 18 represents the final production hole
 19 interval -- interval, right?
 20 A. I believe it does.
 21 Q. And, again, we have the -- the
 22 same pore pressure information from the
 23 previous AR -- ARB, 13.9 for pore pressure;
 24 and mud weight, 14.0; fracture gradient,
 25 16.0; and that's information you provided?

Page 380:02 to 383:03

00380:02 A. Again, that -- that would have
 03 been infor- -- information that's derived
 04 from the data that I'm providing to the --
 05 the engineering team.
 06 Q. (BY MR. THIBODEAUX) Okay.
 07 A. My understanding of those
 08 numbers is it -- it would have been derived
 09 from my pore pressure fracture gradient
 10 estimates.
 11 Q. Pleaseturn to tab 17 in your
 12 binder. Okay. Tab 17 is identified as
 13 BP-HZN-2179MDL00004909. I don't recall if it
 14 was marked yesterday, so I'm just going to
 15 mark it as Exhibit 3737.
 16 A. Where should I put the sticker?
 17 Q. Yeah. Just not -- not -- not on
 18 top of the Bates number. Yeah, that's fine.
 19 A. Okay.
 20 Q. Okay. This document includes
 21 two e-mail -- e-mails that you sent on
 22 April 5th, correct?
 23 A. Yes, that's correct.
 24 Q. All right. In the first e-mail
 25 down below, which has a time stamp of
 00381:01 11:20 a.m., you provide some information

02 that's set forth in columns. The fifth
03 column from the left is fracture gradient
04 information, correct?
05 A. I believe it is, yes.
06 Q. It says, "FG (est)." Is that
07 fracture gradient estimate?
08 A. Estimate.
09 Q. Okay. And then the numbers that
10 correspond to that are 13460 and 13912; is
11 that right?
12 A. That's correct.
13 Q. And those are at depths which
14 are set forth in the first two columns,
15 correct?
16 A. Yes.
17 Q. And the fracture gradient data
18 is given in psi; is that right?
19 A. That's correct.
20 Q. All right. If I give you a
21 calculator, can you calculate for me --
22 convert that to ppg?
23 A. I could attempt it.
24 Q. Let's try that.
25 A. All right. So which -- which
00382:01 numbers do you want me to --
02 Q. Both -- both fracture gradient
03 estimates. And I'm also going to want to do
04 the ones that are -- that are above that as
05 well, the -- the ones that the e-mail
06 represents are the corrected versions.
07 A. Okay. All right. So I'll -- do
08 you want me to start with the TVD subsea
09 17722 value?
10 Q. Sure, 13460 psi.
11 A. All right. So let me see how to
12 do this. 13460 divided by 17797 equals 17563
13 times 19.25. I get 14.5, I guess rounding to
14 the nearest tenth, 14.6.
15 Q. Okay. What -- what is it to the
16 hundredth? 14.5 what?
17 A. 14.56.
18 Q. Okay. And how about for the psi
19 that's 13912?
20 A. Okay. 13912 divided by 18079.
21 14.81.
22 Q. Okay. And if you don't mind,
23 just the ones at the top as well. There's
24 one for 13926.
25 A. Okay. 13926 divided by 17797.
00383:01 15.06.
02 Q. All right.
03 A. And for the deeper value, 14.35.

00390:01 Q. All right. Yesterday we talked
 02 a little bit about, you know, drilling
 03 margins; and I think you -- you talked about
 04 how sometimes there's some confusion over
 05 what you're defining as your margin.
 06 It's my understanding that it's
 07 standard industry practice to refer to the
 08 drilling window as being that between the
 09 pore pressure, the highest pore pressure in
 10 an open hole and the lowest fracture gradient
 11 in that open hole; is that right?
 12 A. It -- that would be a term I
 13 would use for that, also, yeah.
 14 Q. Okay. And it's also standard
 15 industry practice to refer to the drilling
 16 margin as being the mud weight that's being
 17 used to cover the highest pore pressure in
 18 the open hole relative to the lowest fracture
 19 gradient in that hole; is that right?

Page 390:22 to 391:12

00390:22 A. Yeah, again, I think I -- I
 23 would say that I -- I use the terms "window"
 24 and "margin" interchangeably for -- for the
 25 work that I do. There may be a specific
 00391:01 definition, as you stated, but it may not be
 02 exactly what I was referring to or would
 03 refer to in -- in the work that I'm doing.
 04 Q. (BY MR. THIBODEAUX) Okay. All
 05 right. We talked about -- a little bit about
 06 the -- about a .5 ppg drilling margin
 07 yesterday. When -- when calculating whether
 08 you are at or below or above your .5 ppg
 09 drilling margin, that determination is made
 10 based off the mud weight that's being used
 11 relative to the lowest fracture gradient in
 12 the hole, right?

Page 391:14 to 392:08

00391:14 A. You -- you know, by the
 15 definition you stated, margin being the
 16 difference between surface mud weight and the
 17 leak off value in surface terms, I -- I
 18 suppose you could calculate what the
 19 available margin is by -- by a simple
 20 subtraction of the two at any time.
 21 Q. (BY MR. THIBODEAUX) You're
 22 familiar with the concept of a safe drilling
 23 margin, correct?
 24 A. I think in general terms, I --
 25 I -- I know what people mean when they say
 00392:01 "safe drilling margin."

02 Q. And what do people mean when
03 they say "safe drilling margin"?
04 A. That you have enough room
05 between pore pressure and fracture gradient
06 to conduct your drilling operations.
07 Q. When does a drilling margin
08 become unsafe?

Page 392:10 to 392:20

00392:10 A. Presumably if you encountered
11 pore pressures that were higher -- that
12 required a mud weight higher than what the
13 weakest formation in the open hole section
14 could withstand.
15 Q. (BY MR. THIBODEAUX) So if you
16 had a mud weight that had a -- an ECD or ESD
17 value, depending on whether the pumps were
18 turned on or not, that exceeded the lowest
19 fracture gradient in that open hole, then
20 that would be an unsafe margin, correct?

Page 392:22 to 393:01

00392:22 A. I'm not sure if it would be
23 necessarily unsafe. If the ESD and ECD
24 values were -- were high at a given time,
25 there -- there may be things you can do to
00393:01 lower them.

Page 393:05 to 393:16

00393:05 A. I'm not a drilling engineer or
06 know specifically what you could do, but I
07 would make the assumptions that you could
08 reduce your -- your pump rates to reduce ECD,
09 drill slower to get cuttings out of the mud
10 weight, managing -- manage that -- that
11 pressure.
12 Q. (BY MR. THIBODEAUX) If the
13 minimum ECDs or ESD values that you can
14 maintain, though, still exceeded the lowest
15 fracture gradient in the open hole, that
16 would be an unsafe margin, correct?

Page 393:18 to 393:20

00393:18 A. Again, not necessarily so. It
19 would depend on the nature of the losses in
20 that hole section.

Page 393:23 to 394:07

00393:23 A. If, for example, the losses were
24 occurring in a formation that you could use a
25 stress cage formulation to strengthen, then
00394:01 you could cure the loss problem and -- and
02 get the well control sorted out.
03 Q. So you -- what you're saying is
04 if you could do something to the -- to the
05 hole to strengthen it so that you -- your
06 minimum ESD and ECD values no longer exceeded
07 your lowest fracture gradient; is that right?

Page 394:09 to 394:13

00394:09 A. Yeah, I believe the way -- the
10 way I would think about it, that would then
11 no longer be a problematic interval; and then
12 you could resume with subsequent operations,
13 whatever they may be.

Page 397:21 to 398:08

00397:21 Q. (BY MR. THIBODEAUX) Okay. Turn
22 to tab 4, please. Okay. Tab 4 includes an
23 April 2nd e-mail from you to multiple people
24 that I believe was previously marked as
25 Exhibit 1343. Do you recognize that
00398:01 document, Mr. Albertin?
02 A. Yes, I've seen these e-mails. I
03 remember these e-mails.
04 Q. At any point in April of 2010,
05 did you notify the MMS that BP did not
06 consider the FIT result to be an accurate
07 indication of the formation fracture
08 gradient?

Page 398:10 to 398:14

00398:10 A. No, I would -- wouldn't have
11 spoken to the MMS.
12 Q. (BY MR. THIBODEAUX) Are you
13 aware of anybody at BP that made such a
14 notification?

Page 398:16 to 398:16

00398:16 A. No, I'm not.

Page 399:01 to 399:23

00399:01 Q. (BY MR. THIBODEAUX)
02 Mr. Albertin, if you don't mind, turn to

03 tab 5 in your binder, please, the April 5th,
 04 2010 daily PPFG report. It's previously
 05 marked as Exhibit 1967. If you look in the
 06 "Additional Observations" section, do you see
 07 the second sentence where it says Geotap at
 08 18079 TVD 12.58 PPG, which has a
 09 corresponding sand FG of 14.4 ppg?
 10 A. Yes.
 11 Q. That FG is fracture gradient,
 12 correct?
 13 A. That's correct. And it's an
 14 estimate of the sand fracture gradient based
 15 on that pressure.
 16 Q. At that depth, correct?
 17 A. At that depth.
 18 Q. Of 18079?
 19 A. Correct.
 20 Q. At any point in April of 2010
 21 did you notify the MMS that the fracture
 22 gradient in the production interval was
 23 14.4 ppg?

Page 399:25 to 400:05

00399:25 A. No, it's -- I don't get involved
 00400:01 in the discussions with MMS about fracture
 02 gradient.
 03 Q. (BY MR. THIBODEAUX) Are you
 04 aware of anyone else at BP that made such a
 05 notification?

Page 400:07 to 401:07

00400:07 A. I'm -- I'm not aware of
 08 anything.
 09 Q. (BY MR. THIBODEAUX) All right.
 10 Turn to tab 11, please. This is April 15th,
 11 2010 management of change document, which has
 12 Bates numbers BP-HZN-CEC021656 through 658.
 13 It's also previously been marked. Have you
 14 seen this document before, Mr. Albertin?
 15 A. No.
 16 Q. If you look in the risk
 17 mitigation section, do you see that?
 18 A. Yes.
 19 Q. There is PPFG information set
 20 forth in that paragraph, including maximum
 21 ECD to be 14.583 and other ECD values. Do
 22 you see that?
 23 A. I do.
 24 Q. The -- I think it's the sixth
 25 sentence starts, "Since that second event we
 00401:01 have been using a 14.5 arbitrary frac
 02 gradient that we are attempting to abide by

03 based on actual circulating conditions. We
04 have put the wellbore under since having
05 losses and fixing them."
06 Do you see that?
07 A. I do see that sentence.

Page 403:05 to 405:09

00403:05 Q. All right. All right. Turn to
06 tab 20, please. This is a technical
07 memorandum that was marked as an exhibit in
08 the Skripnikova deposition. It is
09 BP-HZN-BLY00082874 through 914. Now, you
10 helped prepare this document, right?
11 A. Yes.
12 Q. Okay. Did you prepare -- did
13 you prepare the PPF section of this document
14 which starts with Page 11 and runs through
15 Page 12?
16 A. Yes.
17 Q. So you wrote the words that are
18 on Page 11 and also prepared the graph that
19 is on Page 12?
20 A. Yes.
21 Q. All right.
22 A. I believe so. I'm not aware of
23 any edits that would have occurred after I
24 submitted those words, but it looks like my
25 words.
00404:01 Q. All right. This is a
02 July 26th -- or the date -- the date of this
03 memorandum is July 26th. Is this the final
04 draft or final version of this document?
05 A. I assume it is. I don't know if
06 it's the final -- final version, but I assume
07 it is.
08 Q. Did you make any corrections or
09 changes to your pore pressure fracture
10 gradient section on Pages 11 and 12 after
11 July 26th of 2010?
12 A. It's possible that I may have
13 slightly revised individual sand depths in --
14 in the plot. I may have added additional
15 annotation to the plot, but I don't think I
16 made any substantive changes to the -- to
17 pressure forecast or the -- our
18 interpretation of the pressures represented
19 on this plot.
20 Q. Okay. On the -- so on the plot
21 that's on Page 12 you didn't make any changes
22 post July 26th to the pore pressure line or
23 the most likely sand frac line?
24 A. I -- I don't recall making any
25 changes to it that were substantive. I have
00405:01 gone back to look at it since then and so I

02 couldn't guarantee that I haven't changed
03 something that I would consider
04 insignificant, but I think this represents
05 the -- the final -- our final thinking on
06 pore pressure and fracture gradient. Yeah.
07 Q. Okay. What -- what was the
08 purpose of preparing this post well
09 subsurface description of Macondo?

Page 405:11 to 406:19

00405:11 A. I believe in this particular
12 case it served multiple purposes. Given the
13 relief effort, I think the intent was to draw
14 together this information to serve as a -- a
15 resource for relief efforts.

16 Q. (BY MR. THIBODEAUX) And what
17 information did you draw together to prepare
18 Pages 11 and 12?

19 A. I would talk with the
20 petrophysicists to get a table of sand depths
21 to input here so that the individual sand
22 depths and pressures associated with them, I
23 would -- I would base on Galina's final
24 interpretation of where the sands were in the
25 hole section.

00406:01 I would incorporate the MDT and
02 Geotap pressure measurements into the pore
03 pressure line. I would at least annotate the
04 FIT and leak off tests information that we
05 collected and show how it relates to my
06 interpretation for sand and shale fracture
07 gradients. There's no guarantee that they --
08 my shale fracture gradient estimates post
09 well would go through any of those points
10 exactly.

11 I may also compile drilling
12 events as annotation on the plot to highlight
13 areas where we had issues where we took kicks
14 or losses.

15 Q. Okay. On Page 12 in the
16 pressure plot I think you just said that --
17 that Ms. Skripnikova provided you with the
18 depths at which the hydrocarbon-bearing sands
19 were located; is that right?

Page 406:21 to 407:17

00406:21 A. Yes, she -- she would have
22 provided me a table of everything in the log
23 data from the shallowest logs we had through
24 TD hole section and an interpretation on
25 where the sands were at depths so that I
00407:01 could incorporate those into the final pore

02 pressure plot.
03 Q. (BY MR. THIBODEAUX) Okay. The
04 far left line of the -- of the graph
05 represents the Y axis and depth, correct?
06 A. The -- the vertical axis?
07 Q. Correct.
08 A. Yeah, that's depth TVD below KB.
09 Q. And then there's some notes
10 toward the bottom that are kind of smudged a
11 little bit where I think it says M57C, M56A,
12 M56D, and M56E. Do you see that?
13 A. Yes.
14 Q. Those represent
15 hydrocarbon-bearing sands, the depths at
16 which those hydrocarbon-bearing sands are, is
17 that right?

Page 407:19 to 407:22

00407:19 A. Yes, I -- I believe those are --
20 are designation -- are internal designations
21 for the -- the sand ages in the reservoir
22 section.

Page 407:24 to 408:11

00407:24 Was this technical memorandum prepared
25 specifically to assist the relief effort, or
00408:01 is this something that in the normal course
02 of business BP would prepare post well?
03 A. We do prepare post well
04 documents that summarize our -- our key
05 learnings, pore pressure fracture gradient,
06 geologic learnings, summarize what we found.
07 Q. What would you call that
08 document?
09 A. I'd call it a post well summary
10 document. I'm not sure if it's got an
11 official -- official name.

Page 408:22 to 412:05

00408:22 Q. Did you prepare a separate post
23 well pore pressure and pressure gradient
24 analysis of the Macondo well?
25 A. No, I think everything that I'm
00409:01 showing here on Page 12 would be my
02 collective thinking on post well pore
03 pressure fracture gradient.
04 Q. Yesterday, I think there was
05 some testimony when you were being showed
06 some of the daily PPFG reports and whatnot
07 and you were asked if you could calculate

08 a -- a drilling margin based on those and I
09 think you were reluctant to do that and you
10 said you'd rather see a PPFG plot; is that
11 right?

12 A. That's correct.

13 Q. Is the plot on Page 12 the type
14 of plot you were talking about that you would
15 like to see to be able to calculate drilling
16 margins accurately?

17 A. Right, I'm -- I would -- I would
18 tend to look at a pore pressure fracture
19 gradient plot like this for my own
20 determination of what I think that the window
21 is, and I -- I -- in my mind I use the terms
22 window and margin interchangeably because
23 I -- I really don't get involved in the -- in
24 the discussions or calculations of margin for
25 regulatory purposes. So I would look at pore
00410:01 pressure fracture gradient and determine
02 window or margin on the basis of -- of what
03 I'm estimating for fracture gradients and
04 pore pressure in that hole section.

05 Q. Okay. If we look at this --
06 this graph, there are four lines that are
07 plotted?

08 A. Am I looking at the same --

09 Q. Yes, we are.

10 A. Okay.

11 Q. Yeah, page Bates number ending
12 in 885.

13 A. Right.

14 Q. There are four lines that are
15 plotted, correct?

16 A. Yes.

17 Q. Okay. The line to the -- to the
18 left, the bolded line to the left represents
19 the ML shale and sand pressure, correct?

20 A. Right, ML stands for most
21 likely. So this would be my best estimate
22 interpretation of the pressures that we saw
23 in the Macondo wellbore.

24 Q. And -- and the second line from
25 the left represents the most likely sand
00411:01 frac, right?

02 A. Right, the very light line here
03 is a estimate of what I think the sand
04 fracture gradient would be at any particular
05 depth in the hole. It's -- in this case
06 since it's a post well document where we have
07 individual sands cut in at specific depths
08 it's technically only accurate -- or most
09 accurate where we actually have sands. It's
10 a continuous line even in the shale interval,
11 but the sand fracture gradient represents
12 just the value for the sand intervals.

13 Q. In the legend it's -- line that
14 is identified as "PR - most likely sand
15 frac." What does the PR stand for?
16 A. Poisson's ratio.
17 Q. Okay. And why is it -- what
18 does that mean?
19 A. It -- Poisson's ratio is
20 referring to a type of fracture gradient
21 model that we use to calculate the line. So
22 it's what I call a Poisson's ratio model.
23 It's an empirical model.
24 Q. Okay. The third line that's
25 plotted from the left is the most likely
00412:01 shale frac plot, correct?
02 A. That's correct.
03 Q. And the fourth from the left is
04 the most likely overburden; is that right?
05 A. Yes.

Page 412:12 to 414:02

00412:12 Q. (BY MR. THIBODEAUX) Okay.
13 Again, the Y axis is -- is depth. I think we
14 talked about that a second ago.
15 A. Yes.
16 Q. And it's broken down in
17 increments of a thousand feet; is that right?
18 So if we look at 15,000 feet that's noted and
19 we move down a block, that's 16,000 feet,
20 17,000 feet, 18,000 feet, right?
21 A. Correct.
22 Q. Okay. I want -- I want you to
23 focus on the sections between 17,000 feet and
24 18,500 feet, which I think would be roughly
25 represented by the triangle, which is 9 and
00413:01 7/8 in the triangle, which is FTD. Do you
02 see that?
03 A. Yes.
04 Q. Okay. FTD means final total
05 depth, right?
06 A. That's correct.
07 Q. All right. And the 9-and-7/8
08 notation is the 9-and-7/8 casing shoe, right?
09 A. Yes.
10 Q. Okay. So the area between the
11 9-and-7/8 and the FTD represents the final
12 production interval for the Macondo well,
13 correct?
14 A. Yes.
15 Q. All right. To the far right of
16 where the FTD triangle is there is a note
17 that says 4/4 RMW 14.4, comma, losses. Do
18 you see that?
19 A. Yes.
20 Q. What does that mean?

21 A. This would be my shorthand for
22 annotating the -- the issues that we were
23 observing at that time. So RMW would be
24 reduced mud weight to 14.4, and it's just an
25 annotation that the reduction in mud weight
00414:01 at that time was in response to losses that
02 we were observing.

Page 414:14 to 415:19

00414:14 Q. Okay. But it represents April
15 the 4th, that's what the "4/4" represents,
16 right?
17 A. Yes.
18 Q. Okay. If we look at the ML
19 shale and sand pressure line at approximately
20 17,800 feet or so, there is a circle
21 indicated. Do you see that?
22 A. Yes, a light circle.
23 Q. What is that?
24 A. I believe that is a realtime
25 pressure measurement that we took in the thin
00415:01 sand immediately above the reservoir
02 interval.
03 Q. That would be one of the Geotap
04 measurements that were taken, correct?
05 A. That's correct.
06 Q. And that Geotap measurement was
07 roughly 14.15 ppg?
08 A. Yes.
09 Q. Okay. If we look directly below
10 that on the most likely sand frac line, that
11 sand frac line is -- is equal to or less than
12 the PPG that's represented by the Geotap
13 circle, correct?
14 A. Yes, they are very close.
15 Q. So this represents -- this plot
16 represents that in the final production
17 interval the sand frac gradient approached or
18 was actually less than the Geotap pore
19 pressure in that interval, correct?

Page 415:21 to 416:10

00415:21 A. This should represents that
22 since we didn't have stable hole conditions,
23 that the sand fracture gradient is slightly
24 above, very slightly above the Geotap pore
25 pressure measurement.
00416:01 Q. (BY MR. THIBODEAUX) And by
02 "slightly above," what -- to what degree?
03 A. It's pretty close. You know,
04 I -- maybe a tenth of a pound per gallon, two
05 tenths of a pound per gallon, at most.

06 Q. Okay. So -- so you're saying,
07 then, that the drilling margin between the
08 pore pressure and the interval and the sand
09 frac gradient in the interval was between .1
10 and .2?

Page 416:12 to 416:14

00416:12 Q. (BY MR. THIBODEAUX) -- in the
13 final production interval of the Macondo
14 well?

Page 416:16 to 416:20

00416:16 A. So, yeah, what I would say based
17 on the Geotap pore pressure and what I'm
18 estimating for sand fracture gradients at the
19 window, between those two points is -- is
20 very small.

Page 416:24 to 417:01

00416:24 Q. (BY MR. THIBODEAUX) Okay. So
25 you're saying that -- that window is
00417:01 between .1 and .2 PPG; is that right?

Page 417:04 to 417:09

00417:04 A. Yeah, I don't know the exact
05 value, but the -- the sand fracture gradient
06 is very close to the -- the Geotap pressure
07 point.
08 Q. (BY MR. THIBODEAUX) Between .1
09 and .2 is your testimony, correct?

Page 417:12 to 418:01

00417:12 A. You know, I -- I don't know what
13 the exact value is, but it looks like it's
14 between .1 and .2, somewhere in that range.
15 Q. (BY MR. THIBODEAUX) Well, it's
16 certainly not .5, correct?
17 A. No, the -- the difference
18 between the -- the weakest sand frac in the
19 reservoir interval and that pressure in that
20 Geotap sand is -- the window is less than .5.
21 What I would say, I would bear
22 in mind that while drilling through that
23 interval we don't know what the reservoir
24 pressures are or the reservoir sand fracture
25 gradient is. This is a post well plot after
00418:01 collecting pressure information.

Page 418:05 to 418:13

00418:05 Q. (BY MR. THIBODEAUX) Well, based
06 on some of the documents that you've seen in
07 your deposition, including daily PPFG reports
08 and other daily geological reports and things
09 of that nature that set forth sand fracture
10 gradients in the realm of 14.5 to 14.4, this
11 plot would indicate that the sand fracture
12 gradients are actually lower than what the
13 realtime reports were indicating, correct?

Page 418:15 to 418:19

00418:15 A. This plot represents, you know,
16 my best thinking on what I believe the sand
17 fracture gradient under virgin -- the actual
18 pressures that we saw in the reservoirs would
19 be.

Page 418:22 to 418:24

00418:22 Q. (BY MR. THIBODEAUX) And those
23 fracture gradients are less than 14.4 or
24 14.5 ppg, correct?

Page 419:01 to 419:14

00419:01 A. My estimate is based on a loss
02 behavior, so I use that information to
03 calibrate the sand fracture gradient model
04 that I'm using. Once we acquire the pressure
05 measurements for the sand, then I can use the
06 calibrated fracture gradient to estimate what
07 the fracture gradient in those sands is.
08 Q. (BY MR. THIBODEAUX) And your
09 estimate is --
10 MS. KUCHLER: Object; nonresponsive.
11 Q. (BY MR. THIBODEAUX) And you're
12 estimate on Page 12 indicates that the sand
13 fracture gradient is less than 14.5 or 14.4,
14 correct?

Page 419:16 to 419:21

00419:16 A. For the low-pressure reservoir
17 sands, I am calculating a sand fracture
18 gradient that is less than 14.5.
19 Q. (BY MR. THIBODEAUX) Well, it's
20 clearly less than 14.4 as well, right?
21 A. Yeah.

Page 419:23 to 419:25

00419:23 A. (Continuing) I guess I wouldn't
24 argue based on this plot that it's less than
25 14.4.

Page 420:09 to 420:11

00420:09 MR. THIBODEAUX: What exhibit did I
10 assign to that one?
11 THE REPORTER: 3737.

Page 420:16 to 421:08

00420:16 MR. THIBODEAUX: No, this is the one,
17 3737.
18 Q. (BY MR. THIBODEAUX) Okay. In
19 the revised -- or, I'm sorry, in the second
20 set of fracture gradient information that you
21 circulated, at the top of the e-mail, the
22 calculation that we made earlier for the
23 18,004 depth was 14.35 ppg. Remember that?
24 A. Yeah, I don't remember the
25 numbers, but, yeah, if you kept track of
00421:01 them, yeah.
02 Q. Okay, we'll just assume.
03 A. Yeah.
04 Q. I think that's accurate. Based
05 on the plot on Page 12 post-incident you
06 determined that that -- that at that depth of
07 18,004 the fracture gradient was actually
08 lower than 14.35, right?

Page 421:10 to 421:18

00421:10 A. So you're asking me about
11 what -- what I have represented on this plot
12 relative to the -- the -- the numbers that I
13 provided in this e-mail?
14 Q. (BY MR. THIBODEAUX) Right, the
15 plot on Page 12 and the exhibit, what is it,
16 3737?
17 A. Okay. Yeah, they may be
18 slightly different.

Page 421:21 to 421:24

00421:21 Q. (BY MR. THIBODEAUX) Slightly
22 different in that the plot on Page 12 had a
23 depth of 18,000 feet, 18,004 feet is less
24 than 14.35 ppg as well, right?

Page 422:01 to 422:02

00422:01 A. It looks to be a little bit less
02 than 14.35.

Page 422:09 to 422:18

00422:09 Q. Yes, 21. Okay. I'd like to
10 mark this as Exhibit 3739. Do you recognize
11 this document, Mr. Albertin?
12 A. No, I don't believe I've ever
13 seen this document. I don't recall seeing
14 this document.
15 Q. Okay. Do you know who Bruce
16 Rogers is?
17 A. No, I don't know Bruce. I don't
18 know who Bruce Rogers is.

Page 423:04 to 425:07

00423:04 Q. Okay. If you'd look at Page 6
05 of 42.
06 A. 6, okay.
07 Q. Page 6 of 42 looks to me to be
08 very similar to Page 11 of the technical
09 memorandum that you wrote.
10 A. Right.
11 Q. Did you -- did you write a
12 separate write-up that was incorporated into
13 Exhibit 3749 -- 3739?
14 A. I don't recall writing a
15 separate write-up for this document.
16 Q. Okay. If you'd look on Page 7
17 of 42, that is your plot that we just looked
18 at on Page 12 of the technical memorandum,
19 right?
20 A. Yeah, it looks like the same
21 plot.
22 Q. If you'd go back to Page 6 of
23 42. Look at the last paragraph on that page.
24 It says, "The M56-F sand is particularly
25 vulnerable to lost returns. While drilling
00424:01 MC252 #1, mud losses were experienced in the
02 M56-F sand with a 14.5 ppge equivalent
03 circulating density (ECD)."
04 Do you see that?
05 A. I do see that.
06 Q. What is ppge?
07 A. Pounds per gallon equivalent.
08 Q. So that would be a downhole ESD
09 or ECD value?
10 A. I believe so. I actually don't

11 remember writing this, this last sentence or
12 couple sentences.

13 Q. Do you know who wrote it?

14 A. No, I don't. I'd have to go
15 back and look at the post well technical
16 document that we produced to see if it's the
17 same wording. I...

18 Q. Turn to Page 9 of 42, please.

19 Did you prepare this "Macondo Current
20 Depletion PPFG" plot?

21 A. Yes, this looks like something I
22 prepared.

23 Q. Okay. What is -- what is this
24 plot? What is it meant to convey?

25 A. This was a plot that we were
00425:01 prepare -- preparing during the relief well
02 efforts. It is attempting to convey what we
03 think the current reservoir sand interval
04 pressures are after flow of a certain number
05 of days and what we think the corresponding
06 fracture gradient then might be given the
07 depletion.

Page 426:18 to 427:07

00426:18 Q. At any point in the relief
19 effort -- effort post April 20th did you do
20 any analysis of -- of wellhead pressures?

21 A. I think there were occasions
22 where I was asked to estimate what I thought
23 the wellhead pressures would be from
24 reservoir level based on different fluid
25 gradients.

00427:01 Q. And did you document that
02 analysis?

03 A. It would -- I believe it would
04 be in my relief well PPFG plots as annotated
05 curves, some projected annotated curves. So
06 it should be documented in -- in my
07 spreadsheets.

Page 427:23 to 428:14

00427:23 Q. All right. In the middle of
24 this plot there is a note, "Sand FG." Do you
25 see that?

00428:01 A. Yes.

02 Q. And there are some Xs below it.
03 What do those Xs represent?

04 A. I believe they represent where
05 the actual sand fracture gradient curve is at
06 that depth. It's very difficult to see from
07 the plot exactly where that dotted line
08 crosses over.

09 Q. So the -- the Xs would represent
10 the lowest sand fracture gradient downhole
11 mud weight equivalent --
12 A. Yes.
13 Q. -- at those depths?
14 A. I believe so.

Page 428:19 to 429:07

00428:19 A. -- I told you the right thing
20 about the axis here.
21 Yeah, I believe the axis do
22 represent my estimates for the sand fracture
23 gradient is, at this time for the depletion.
24 Q. Yeah, and in the legend there
25 the X is identified as "Depleted Sand
00429:01 FG_LOT4"?
02 A. Right.
03 Q. What does that mean?
04 A. The depleted sand fracture
05 gradient is what I was computing with that --
06 the Xs there. The LOT 4 is my spreadsheet
07 suffix, just to give it a unique name.

Page 429:20 to 430:12

00429:20 Q. (BY MR. THIBODEAUX) Okay. Does
21 this plot represent that the fracture
22 gradient went down as the well was flowing?
23 A. Yes, that's our understanding,
24 that the fracture gradient would be
25 decreasing as the pressure in the reservoirs
00430:01 was depleting.
02 Q. Turn to tab 19, please. On the
03 front page -- well, this is document
04 BP-HZN-2179MDL02914458 through 471. Do you
05 recognize this document?
06 A. Yes.
07 Q. This is a -- a diary that you
08 kept beginning on April 21st -- April 21st,
09 2010?
10 A. That's correct, we were asked to
11 as responders to keep track of meetings
12 discussions we might have had.

Page 433:19 to 434:16

00433:19 Q. Now, it's my understanding that
20 pre-spudding the Macondo well in October
21 2009, part of your responsibility was to put
22 together a pore pressure prediction; is that
23 right?
24 A. That's correct.

25 Q. You took certain data and value
00434:01 inputs to predict what the pore pressure
02 would be at various formation levels in the
03 well that was going to be drilled; is that a
04 fair assessment?
05 A. Yes.
06 Q. And then once the Macondo well
07 was spudded in October of 2009 and drilling
08 commenced, you were the single point of
09 accountability for pressure detection?
10 A. That's correct.
11 Q. And what that means, if I
12 understand it correctly, is as the drilling
13 proceeded at every level, you were sort of
14 responsible for, in conjunction with
15 Ms. Paine on the rig, detecting the pore
16 pressure as the well proceeded downhole?

Page 434:19 to 435:10

00434:19 A. Kate Paine would have had the
20 primary responsibility for actually looking
21 at the realtime data. I would have had
22 discussions with Kate to compare notes with
23 her, and ultimately I would -- in the event
24 that we were thinking slightly differently
25 about any particular pore pressure at any
00435:01 depth, I would make a judgment call as to
02 what the -- the answer would be.
03 Q. (BY MR. HARTLEY) So -- so as a
04 single point of accountability, if I
05 understand it, then, you were sort of a
06 supervisory -- in a supervisory position with
07 respect to Ms. Paine in the sense that you
08 would obtain her values and inputs and make
09 your own independent determination based on
10 what she provided to you?

Page 435:12 to 435:22

00435:12 A. I wouldn't consider myself her
13 supervisor. I think we're -- we're teammates
14 in pressure detection, and I am just -- I'm
15 compiling her interpretations together with
16 data that we're collecting in the -- in the
17 well and collating that in the -- in the
18 while drilling spreadsheet.
19 Q. (BY MR. HARTLEY) As -- part of
20 your responsibility was to ensure that
21 accurate pore pressure detection was made on
22 a contemporaneous basis with drilling?

Page 435:24 to 436:08

00435:24 A. I would -- I would certainly
25 discuss with Kate models that we were using
00436:01 for pressure detection and the
02 interpretations that were being made and if
03 they were -- they were reasonable or not.
04 Q. (BY MR. HARTLEY) On behalf of
05 BP with respect to the Macondo well, were you
06 ultimately responsible for reasonably
07 accurate pore pressure detection on an
08 ongoing basis on the well?

Page 436:10 to 436:17

00436:10 A. I -- I was responsible for
11 making the ultimate update to the pore
12 pressure and fracture gradients on the basis
13 of the pressure detection, but I wouldn't
14 consider myself the pressure detection
15 expert. I would defer to Kate for realtime
16 pressure detection because of her pressure
17 detection expertise.

Page 436:19 to 436:23

00436:19 Q. (BY MR. HARTLEY) Was there
20 somebody with BP other than you who was
21 responsible ultimately for making sure there
22 were reasonably accurate pore pressure
23 detections as the well was being drilled?

Page 436:25 to 437:05

00436:25 A. I can't think of a specific
00437:01 person who -- who may have had discussions
02 with Kate regarding her -- her pore pressure
03 detections. It would primarily have been
04 myself and ops geologists that would have
05 been discussing things with -- with Kate.

Page 437:08 to 437:10

00437:08 Q. (BY MR. HARTLEY) Was Ms. Paine
09 a BP employee?
10 A. No.

Page 437:24 to 438:02

00437:24 Q. Did you communicate with anybody
25 else within BP about your disagreement with
00438:01 any pore pressure detection that Ms. Paine
02 made?

Page 438:04 to 438:21

00438:04 A. I think we would have had
05 discussions about differences of
06 interpretation about the current pore
07 pressure based on -- on data that would, in
08 my opinion, have been natural interpretive
09 differences, and those discussions would have
10 been with Bobby Bodek, the ops geologist, and
11 with Kate.
12 Q. (BY MR. HARTLEY) If I
13 understood correctly, you were maintaining
14 your own pore pressure frac gradient chart;
15 is that right?
16 A. That's correct.
17 Q. And what did you call it? Was
18 it while drilling pore pressure detection?
19 A. I call it the -- the while
20 drilling spreadsheet or the -- the while
21 drilling forecast.

Page 439:13 to 440:01

00439:13 Q. Did your while drilling forecast
14 include separate columns for the pore
15 pressure Ms. Paine arrived at and a separate
16 one for you, if it differed?
17 A. Yes, it would.
18 Q. To whom did you circulate your
19 while drilling forecast?
20 A. The -- the while drilling
21 forecast would be posted in the -- the ops
22 room in hard copy on the wall. I would
23 communicate changes to the while drilling
24 forecast during ops meetings generally by
25 showing either PowerPoint slides or referring
00440:01 to the -- the wall chart.

Page 440:23 to 441:05

00440:23 Q. (BY MR. HARTLEY) And you
24 understood, I think you testified yesterday,
25 that pore pressure detection was critically
00441:01 important to the -- to the well operations?
02 A. Yes, I do.
03 Q. You understood that drilling
04 decisions were based in part on pore pressure
05 detection numbers?

Page 441:07 to 441:23

00441:07 A. I do understand that to be a
08 general relationship there, yes.

09 Q. (BY MR. HARTLEY) Generally,
10 well designed is based in part, among other
11 factors, on pore pressure of various
12 formations in the well?

13 A. Yes.

14 Q. Casing depths are dictated, at
15 least in part, by pore pressure of various
16 formations in the well?

17 A. Pore pressure and fracture
18 gradient.

19 Q. Precisely. Ms. Paine provided
20 her daily pore pressure frac gradient reports
21 to BP's drilling engineers, didn't she?

22 A. I believe they would have had
23 access to her daily reports.

Page 442:16 to 442:23

00442:16 Q. (BY MR. HARTLEY) You understood
17 that -- that well design issues were still
18 being decided as the Macondo well was being
19 drilled towards final total depth?

20 A. That's my understanding, yes.

21 Q. Various changes were made in the
22 well design and the plan and casing lengths,
23 depths, long string versus liner and such?

Page 443:01 to 443:13

00443:01 A. Except for that last one, you
02 know, I -- that's a more specific engineering
03 thing that I -- I'm not aware of. But in
04 general, casing seat depths and its
05 relationship to pore pressure and fracture
06 gradients, yes, I understand that -- that
07 those two are -- are related.

08 Q. (BY MR. HARTLEY) And both pore
09 pressure and fracture gradient go into the
10 decisions made as the well is progressing and
11 as changes may be made in well design, well
12 construction?

13 A. Yes.

Page 443:15 to 444:11

00443:15 Q. (BY MR. HARTLEY) Do you think
16 it's important for the BP drilling engineers
17 to have a reasonably accurate understanding
18 of what the pore pressure and frac gradient
19 is of the formation through which they're
20 drilling?

21 A. I think it is important for them
22 to understand what our -- our -- under -- our

23 interpretation is of -- of what we think the
24 most likely case is, and it's also important
25 for them to understand what the -- the
00444:01 uncertainty is in that estimate. So we
02 usually carry also a high side and low side
03 pressure case that accompanies that most
04 likely interpretation.
05 Q. So if I understand what you're
06 saying, then, it's important to convey to the
07 drilling engineers both the reasonably
08 accurate estimate of pore pressure frac
09 gradient as well as the uncertainties that
10 lie within those estimates?
11 A. Yes.

Page 444:13 to 444:18

00444:13 Q. (BY MR. HARTLEY) Did you ever
14 do that with the BP drilling engineers
15 working on the Macondo well?
16 A. As -- certainly, as part of the
17 preparatory work for drilling the well and
18 the --

Page 444:23 to 445:16

00444:23 A. Okay. So let me -- let me try
24 and finish. The peer-reviewed pore pressure
25 forecast incorporates uncertainty into it.
00445:01 We have high side pressure, low side
02 pressure, and a most likely interpretation
03 and the -- the related fracture gradient
04 curves based on those, and that information
05 is communicated to the drilling engineering
06 team and incorporated, my understanding is,
07 in the basis of design.
08 Q. (BY MR. HARTLEY) That's the
09 pre-spudding prediction, pore pressure
10 prediction aspect of your responsibility,
11 correct?
12 A. Correct.
13 Q. With respect to pore pressure
14 detection, did you do that same sort of
15 exercise with respect to the BP drilling
16 engineers working on the Macondo well?

Page 445:18 to 446:07

00445:18 A. Yes, we would have updated both
19 the most likely curve on the basis of the
20 pressure detection efforts, and we would also
21 be updating the -- what we think -- we
22 project the high side pressure or low side

23 pressure to be on the basis of any data that
24 we were -- we were interpreting.
25 Q. (BY MR. HARTLEY) In what
00446:01 documents are those updates conveyed to the
02 BP drilling engineers?
03 A. I maintain that while drilling
04 spreadsheet. That's -- that's the main
05 document where I -- I collect all that
06 interpretive data and -- and actual drilling
07 data.

Page 447:05 to 447:09

00447:05 Q. (BY MR. HARTLEY) Are you aware
06 of anybody else employed by BP who was
07 responsible for accurate pore pressure
08 detection while the Macondo well was being
09 drilled?

Page 447:11 to 447:21

00447:11 A. The pore pressure detection team
12 that was working on the Macondo well was Kate
13 and myself primarily and the related people
14 on the team, well site geologists, ops
15 geologists, et cetera. I -- I'm trying to
16 remember if John Brannen ever had an active
17 role in pressure detection on Macondo, but
18 I -- I don't believe he did. He may have
19 reviewed some of the pressure detection
20 reports, but I -- I don't remember if he was
21 ever out on the rig.

Page 447:24 to 448:14

00447:24 Q. (BY MR. HARTLEY) On an ongoing
25 basis while the well was being drilled, what
00448:01 data, if any, did you rely on for pore
02 pressure detection?
03 A. Primary data sets that I would
04 rely on for establishing pore pressure while
05 drilling would be the transform of
06 resistivity, shale resistivities, shale sonic
07 log values if we're collecting realtime sonic
08 in a particular hole interval, and then gas
09 behavior may also be an indicator of giving
10 us pressure information.
11 Q. You had access, if I understand
12 correctly, to both WellSpace and INSITE
13 Anywhere, right?
14 A. That's correct.

Page 448:23 to 451:18

00448:23 Q. (BY MR. HARTLEY) How often did
24 you access WellSpace while the Macondo well
25 was being drilled?

00449:01 A. Periodically through probably
02 every hole section I would access data that's
03 posted out on -- on WellSpace.

04 Q. What data were you accessing?

05 A. I would look at time data that's
06 posted out there, PW pressure information --
07 the digital readouts of hole TVD, bit TVD,
08 flow in, flow out, gas data, if I could get
09 my hands on -- on the time data, and then
10 the -- the realtime resistivity, gamma ray,
11 sonic log.

12 Q. You did that on essentially a
13 hole-section-by-hole-section basis?

14 A. Yes.

15 Q. Was this more or less as each
16 hole section was coming to its T -- its
17 individual TD?

18 A. Yes, I -- I'd be most interested
19 in the post hole section -- for the post --
20 the hole section reviews to get the complete
21 data set, which includes mem- -- any memory
22 data that might be on -- on the downhole
23 instruments.

24 Q. Similarly for INSITE Anywhere,
25 how often did you access that?

00450:01 A. I -- I would look at INSITE
02 occasionally, but I relied primarily on
03 WellSpace for downloading data. I didn't
04 make it a practice of looking at INSITE or
05 having a display on my desk open at -- at
06 every minute.

07 Q. And unlike WellSpace, INSITE
08 Anywhere was a realtime transmission of data
09 while operations were going on?

10 A. That -- that's correct. INSITE
11 is a -- just a display tool. I'm not sure of
12 all the -- the other things it can do, but
13 when I'm looking at INSITE I'm looking at it
14 as a display tool of realtime information
15 that's being collected.

16 Q. While operations are going on on
17 the rig, it's showing you certain parameters
18 and information?

19 A. That's right. You can also back
20 up and look at historical data, but, yes.

21 Q. That would include the sort of
22 information in which you were interested for
23 pore pressure detection, right?

24 A. You could certainly look at
25 resistivity and gamma ray information that
00451:01 would -- would relate to interpreting pore
02 pressure, detecting pore pressure.

03 Q. Did -- did you use INSITE
04 Anywhere for that purpose to as operations
05 were going on, evaluate pore pressure and
06 detect it on sort of a contemporaneous basis
07 with operations?

08 A. I think the answer really would
09 be no. I could look at trends in the
10 resistivity and sonic data, but if I was
11 actually doing an estimate myself based on
12 the data, I would download the digits either
13 from INSITE or from WellSpace, and then take
14 that data into our pressure analysis
15 software.

16 Q. Why would you rely more on data
17 from operations already completed rather than
18 a more contemporaneous basis?

Page 451:20 to 452:17

00451:20 A. It really depends on the -- the
21 time that I'm looking at the data. Post well
22 section, when we get the bottom-hole assembly
23 up, we can download memory data. So there
24 will be additional data in there for pumps
25 off times that might be useful for

00452:01 interpreting conditions, pore pressure and
02 fracture gradient conditions in the
03 subsurface.

04 Q. (BY MR. HARTLEY) And we talked
05 yesterday, or you did, I was silent over in
06 the corner -- you talked yesterday about --
07 with Mr. deGravelles about the rate of
08 penetration. Do you recall that?

09 A. I recall discussions about ROP.

10 Q. You disagreed with the sort of
11 pejorative term of "drilling like a bat out
12 of hell," but I think, if I understood
13 correctly, you agreed that there were times
14 where the drilling exceeded -- the drilling
15 rate of penetration exceeded the ability
16 to -- to accurately or have the time to
17 accurately detect pore pressure?

Page 452:19 to 453:02

00452:19 A. Yeah, we -- what I would say is
20 that I think it's a good idea to drill at a
21 rate that allows adequate interpretation of
22 the data, but I don't know specifically what
23 ROP that might be.

24 Q. (BY MR. HARTLEY) And that --
25 that grew as a concern after the March 8th
00453:01 well control event; is that fair?

02 A. There was --

Page 453:04 to 453:07

00453:04 A. (Continuing) There was
05 certainly a lot of discussion about the ROP
06 or the rate at which we were acquiring data
07 after that kick event.

Page 453:15 to 454:13

00453:15 Q. Do you know whether anybody else
16 within BP was then charged with the
17 responsibility to monitor the INSITE Anywhere
18 data for pore pressure detection?
19 A. No, I believe the same people
20 that were doing pressure detection before the
21 kick were still doing pressure detection
22 after the kick. Kate, myself. I don't think
23 there were any -- there were no changes in
24 the team.
25 Q. I think you testified yesterday
00454:01 that there was a -- there was a screen or
02 monitor in the ops room on the second floor
03 of Westlake 4 where the INSITE Anywhere
04 realtime data could be monitored.
05 A. That's -- that's correct.
06 Q. Was anybody charged with the
07 responsibility for monitoring that data?
08 A. No.
09 Q. Okay. Even after the March 8th
10 kick event, when it became more important in
11 your mind to monitor and get pore pressure
12 detection right, was anybody then charged
13 with that responsibility?

Page 454:15 to 454:17

00454:15 A. My recollection is that there
16 was no one sitting in front of those screens
17 24/7 after the kick event.

Page 455:11 to 456:12

00455:11 Q. I'm going to hand you what was
12 previously marked as Exhibit 1323. It's in
13 tab 78. We looked at this yesterday, and I'm
14 not going to ask the same questions, but I do
15 have some follow-up.
16 This is the March 18th e-mail
17 from Mr. Bodek responding to Mr. Bellow's
18 e-mail about the March 8th kick event. Do
19 you -- do you recall a discussion about this?
20 A. Yes.

21 Q. And in Mr. Bodek's response, he
22 includes some -- some lessons learned and
23 other information from the well control event
24 on March 8th; is that right?
25 A. Yes.
00456:01 Q. Do you know whether after
02 March 18th, 2010, the Tiger team or anybody
03 else within BP reevaluated how they managed
04 realtime pore pressure detection for Macondo
05 type wells?
06 A. I -- I would say in general, it
07 served as a reminder -- that we all needed to
08 be looking at the data carefully and that
09 there -- there may be times where you -- you
10 have elements of the data that are pointing
11 to pore pressure increases that could be
12 useful in helping to eliminate future kicks.

Page 456:21 to 458:09

00456:21 Q. (BY MR. HARTLEY) Other than
22 being reminded that we really need to look at
23 this information for pore pressure detection,
24 did you do anything differently?
25 A. I certainly looked at the -- the
00457:01 kick date -- the data leading up to the kick
02 to see how long we -- if there were
03 indicators, how long we might have had to
04 respond to pressure increases. Not to say
05 that we could have eliminated the kick had we
06 interpreted those trends correctly, but,
07 again, I think the -- the general procedure
08 of pressure detection was similar before and
09 after the kick.
10 Q. You didn't add any members to
11 the pore pressure detection team after
12 March 8th, 2010?
13 A. I don't believe so.
14 Q. Didn't change your mode of
15 accessing INSITE Anywhere for pore pressure
16 detection purposes?
17 A. I don't recall downloading data
18 more often. I think I used INSITE and
19 WellSpace similarly.
20 Q. Did you pay any closer attention
21 to specific indicators of pore pressure
22 changes in the well?
23 A. I think it's fair to say that we
24 were paying closer attention to the data
25 because we had an -- an event, and we all
00458:01 take it personally. So, yeah, I would say we
02 were probably looking at the data more
03 carefully.
04 Q. Okay. And I think, if I recall
05 correctly, there would -- was discussion that

06 each of the well control events had been
07 preceded by subtle indicators of pore
08 pressure changes. Do you recall that?
09 A. Yes.

Page 458:11 to 458:25

00458:11 Q. (BY MR. HARTLEY) What do --
12 what were those subtle indicators of pore
13 pressure changes?
14 A. There might be changes in
15 resistivity or changes in sonic values that
16 might give some indication that pressure was
17 increasing, and you'd have to interpret what
18 the magnitude of pressure increase would be
19 on the basis of that data. There may be
20 indications of drilling gas that you may be
21 approaching balance with mud weight versus
22 pore pressure.
23 Q. Did you direct anybody to focus
24 on those indicators after the March 8th kick
25 of 2010?

Page 459:02 to 459:08

00459:02 A. No more than we would normally
03 direct pressure detection to looking at those
04 indicators.
05 Q. (BY MR. HARTLEY) Did you
06 actually watch or monitor those indicators
07 while drilling was ongoing after March 18th
08 of 2010?

Page 459:10 to 459:14

00459:10 A. I monitored them occasionally
11 before and after the kick.
12 Q. (BY MR. HARTLEY) On a realtime
13 basis, or was this through WellSpace for
14 information that had already been posted?

Page 459:16 to 460:10

00459:16 A. Mostly -- mostly the latter. So
17 near realtime, where we had collected enough
18 data so that I could actually evaluate
19 trends. But I would also be looking at the
20 realtime data feeds occasionally in INSITE
21 just to see what was going on.
22 Q. (BY MR. HARTLEY) What do you
23 mean by "near realtime"?
24 A. What I mean by "near realtime"
25 is not getting that data point immediately as

00460:01 it's transmitted from the rig and doing
02 something with it, but waiting for a period
03 of time until we have collected a larger data
04 set, maybe a -- a stand's worth or half a
05 stand's worth of data so that I can actually
06 interpret a trend in it.
07 Q. Okay. How much time would that
08 typically take, in your experience, before
09 you develop a sufficient trend for you to --
10 to do a pore pressure detection analysis?

Page 460:12 to 460:21

00460:12 A. For me, it might take several
13 hours' worth of data to feel comfortable that
14 we're seeing a trend that -- that is
15 meaningful.
16 Q. (BY MR. HARTLEY) Did you feel
17 that the -- the rate of penetration during
18 drilling operations after March 18th was too
19 fast for you to have that several hours of
20 data to adequately predict or detect pore
21 pressure?

Page 460:23 to 462:01

00460:23 A. You know, we had a lot of
24 discussion about the ROP and what role that
25 it -- it may have played in our ability to --
00461:01 to adequately interpret the data.
02 Q. (BY MR. HARTLEY) When you say
03 "we" had those discussions, who is the "we"?
04 A. Collective team. I think the
05 people that John Bellow is cc'ing on his
06 original e-mail and the people that -- that
07 Bobby is cc'ing on his e-mail. So that the
08 team, the entire drilling team -- members of
09 the Tiger team, the ops geologists, the wells
10 team.
11 Q. Did you have those conversations
12 with the -- the well site leaders on the rig?
13 A. I didn't communicate with the
14 well site leader on the rig, but the -- I
15 don't know what discussions were had.
16 Q. Do you know whether that
17 information was conveyed to the well site
18 leaders on the rig?
19 A. I don't know.
20 Q. Did you have those conversations
21 with the Transocean drilling crew on the rig?
22 A. I did not.
23 Q. Do you know whether that
24 information was conveyed to the Transocean
25 drilling crew on the rig?

00462:01 A. No, I don't.

Page 462:03 to 462:09

00462:03 Q. (BY MR. HARTLEY) Did you have
04 any of those conversations about pore
05 pressure detection, rate of penetration with
06 Halliburton employees who were on the rig,
07 either cementing side or the mud loggers?
08 A. I didn't communicate with them
09 directly.

Page 462:15 to 462:25

00462:15 Q. (BY MR. HARTLEY) When you
16 maintained this while drilling forecast, did
17 you ever communicate that to anybody on the
18 rig?
19 A. It's my understanding that the
20 pressure forecast would have gone out to the
21 rig periodically and particularly after we
22 made changes to the -- the while drilling
23 forecast.
24 Q. Who on the rig would that go to,
25 as you -- as far as you understand it?

Page 463:02 to 463:13

00463:02 A. I don't know who exactly
03 would -- would receive it.
04 Q. (BY MR. HARTLEY) Was that sent
05 by you or somebody at your direction?
06 A. I would give the -- the data to
07 Bobby Bodek, our ops geologist, and Bobby
08 would send it to the right people.
09 Q. Who are the right people?
10 A. I -- I don't know.
11 Q. Do you know whether the
12 information was conveyed to the Transocean
13 drilling crew?

Page 463:15 to 463:15

00463:15 A. I -- I don't know.

Page 464:01 to 464:06

00464:01 Q. (BY MR. HARTLEY) If there are
02 conversations about rate of penetration being
03 too high to accurately detect pore pressure
04 leading to potential lost control events, do
05 you think it would be important to the crew

06 actually drilling the well to know that?

Page 464:09 to 464:21

00464:09 A. Yeah, again, because those
10 discussions are always so subjective, I'm not
11 sure how useful our discussions about
12 adequate ROP for interpretation would be to
13 the rig personnel.
14 Q. (BY MR. HARTLEY) Did you ever
15 convey your while drilling forecast to the
16 Sperry mud loggers or the LWD MWD guys?
17 A. I didn't directly.
18 Q. Do you know whether Mr. Bodek
19 ever sent your while drilling forecast to the
20 Sperry mud loggers or the MWD LWD guys?
21 A. No, I don't.

Page 464:23 to 465:10

00464:23 Q. (BY MR. HARTLEY) I want to
24 direct your attention to -- in Exhibit 1323
25 in front of you -- the page with the Bates
00465:01 ending 395. Are you there, Mr. Albertin?
02 A. Yes.
03 Q. The top of this page includes
04 Nos. 2, 3, and 4 of learned -- Lessons
05 Learned and Path Forward after the March 8th
06 kick event. Do you see that?
07 A. Yes.
08 Q. Do you know whether BP
09 implemented any of these three suggested
10 lessons learned or paths forward?

Page 465:12 to 466:14

00465:12 A. I think, in general, we were
13 implementing most of the things that we
14 identified as being important after
15 evaluating that -- the kick at 13-and-5/8.
16 Q. (BY MR. HARTLEY) I want to
17 direct your attention to the paragraph after
18 the No. 4.
19 Starting in the middle of that
20 paragraph reads, "It seems that the
21 accelerated rate of penetration and the
22 resulting onslaught of drilling indicators
23 exceeded the ability of all team members to
24 effectively recognize, properly communicate,
25 and decisively act upon available data."
00466:01 Do you see that sentence?
02 A. Yes.
03 Q. Do you agree with that?

04 A. I would say that there were
05 enough people involved in the discussions
06 that highlighted that to agree that -- that
07 there was -- there was something to it, that
08 we needed adequate time to evaluate the data,
09 and slowing down would be one way to achieve
10 that.
11 Q. Did you agree that as of
12 March 8th that accelerated rate of
13 penetration was not giving you enough time
14 for pore pressure detection?

Page 466:16 to 466:25

00466:16 A. It's easier in hindsight to see
17 the indicators in realtime data. So it's not
18 clear to me, again, what -- exactly what the
19 ROP is. Maybe I forgot exactly what your --
20 your question was. If you don't mind
21 repeating it.
22 Q. (BY MR. HARTLEY) Did you agree
23 that as of March 8th, the accelerated rate of
24 penetration compromised your ability to
25 accurately detect pore pressure --

Page 467:02 to 467:03

00467:02 Q. (BY MR. HARTLEY) -- on a timely
03 basis?

Page 467:05 to 467:08

00467:05 A. It's -- it's not clear to me
06 exactly how ROP factored into our
07 interpretation of pore pressure prior to the
08 kick.

Page 467:10 to 467:25

00467:10 Q. (BY MR. HARTLEY) I -- I'm not
11 sure I understand. You say you're not clear
12 how the rate of penetration affects your pore
13 pressure detection?
14 A. It's not clear that if we would
15 have slowed down -- to me, it's not clear
16 that if we would have slowed down, that we
17 would have avoided the kick or interpreted
18 the pressure differently. In hindsight, we
19 can see indicators of it, but to me, in
20 hindsight, and -- and realtime, things are --
21 are often interpreted differently.
22 Q. You would certainly agree that
23 you would want a slower rate of penetration

24 to give you more time to make a better
25 detection?

Page 468:03 to 469:15

00468:03 A. In -- in general, I think that
04 sounds like a good idea to -- to drill at an
05 ROP that is giving us time to evaluate the
06 data that we're collecting.
07 Q. (BY MR. HARTLEY) I'm going to
08 hand you, Mr. Albertin, what was previously
09 marked as Exhibit 1532.
10 A. Thank you.
11 Q. This is "Group Practice 10-15,
12 Pore Pressure Prediction." I think yesterday
13 you mentioned that you're familiar with this
14 group practice; is that right?
15 A. Yes.
16 Q. And this would relate to the
17 pore pressure prediction undertaking you
18 engaged in pre-spudding; is that right?
19 A. That's correct.
20 Q. Okay. I want to turn your
21 attention to the third page of this exhibit
22 ending with Bates 126.
23 Under the section description of
24 the risk it reads, "The prediction of pore
25 and fracture pressures in wells is considered
00469:01 a zero tolerance activity within BP. Errors
02 associated with the prediction of pore and
03 fracture pressures could lead to the harm to
04 people, damage to the environment, and
05 undermine BP's operational reputation."
06 Do you see those two sentences?
07 A. Yes.
08 Q. Do you agree with those?
09 A. Yes.
10 Q. And I think this relates to some
11 of the comments you made at the very end
12 of -- of Mr. deGravelles' examination about
13 your sense of -- your appreciation for
14 heightened importance of pore pressure
15 prediction; is that right?

Page 469:17 to 471:10

00469:17 A. If I recall that discussion --
18 I'm not sure I recall the exact discussion,
19 but, again, I agree with the -- the
20 statements made in this GP 10-15 in that
21 paragraph.
22 Q. (BY MR. HARTLEY) And in all
23 events, you would expect your pore pressure
24 prediction work on the Macondo well to comply

25 with this group practice?
00470:01 A. Yes.
02 Q. Turning your attention to
03 Page 12 with the Bates ending 135.
04 A. Okay.
05 Q. Under "Minimum Requirements" it
06 includes "Every well operated by BP shall
07 have a pressure profile which shall include
08 pore, sand, fracture, shale fracture, and
09 overburden pressures."
10 Do you see that requirement?
11 A. Yes.
12 Q. That, as I understand, was
13 included in your pore pressure prediction
14 that was peer reviewed?
15 A. Yes.
16 Q. Then the next requirement is
17 that "The pressure profile shall express the
18 uncertainties associated with the
19 prediction."
20 Is that what you were talking
21 about a few moments ago that when you convey
22 the information about your prediction, you
23 should also convey the uncertainties
24 associated with it?
25 A. Yes.
00471:01 Q. Do you convey that information
02 also to the contractors working for you on
03 the wells?
04 A. They may have access to the pore
05 pressure prediction that I create, but I -- I
06 don't necessarily send it to contractors.
07 It's not my -- my role.
08 Q. Do you send it to Mr. Bodek to
09 distribute?
10 A. Yes.

Page 471:17 to 473:08

00471:17 Q. (BY MR. HARTLEY) And let me
18 hand you what's marked Exhibit 1533. I'm
19 sure that will come as no surprise to you.
20 This is "GP 10-16 Pore Pressure Detection
21 During Well Operations."
22 You're familiar with this group
23 practice, too, aren't you?
24 A. Yes.
25 Q. Now, this would relate to your
00472:01 work in pore pressure detection as the well
02 is being drilled, right?
03 A. That's correct.
04 Q. Okay. On the -- on Page 2
05 the -- the very first numbered statement
06 there reads, "A Single Point of
07 accountability (SPA) shall be defined for the

08 delivery of a real-time pore and fracture
 09 gradient analysis for any given well."
 10 That was used for the Macondo
 11 well, wasn't it?
 12 A. Yes.
 13 Q. Turning to the next page, which
 14 is similar to Group Practice 10-15, the
 15 prediction methodology.
 16 Under "Description of Risk,"
 17 "The real-time detection of pore and fracture
 18 pressures in wells is considered a zero
 19 tolerance activity within BP."
 20 You would agree with that
 21 statement, wouldn't you?
 22 A. Yes.
 23 Q. Because of the -- the magnitude
 24 of what can happen with a well control event,
 25 it is critically important to get the pore
 00473:01 pressure detection right?
 02 A. The pore pressure detection is a
 03 critical component of -- of not getting into
 04 those well control events to begin with.
 05 Q. Avoiding both kicks --
 06 A. Right.
 07 Q. -- and lost returns?
 08 A. Right.

Page 473:12 to 473:25

00473:12 Q. I'm going to hand you another
 13 document that you've seen before, including
 14 earlier today, which was previously marked as
 15 Exhibit 3532. It's the technical memorandum
 16 that Mr. Thibodeaux discussed with you a
 17 little bit.
 18 You were involved -- you helped
 19 write this document?
 20 A. Yes.
 21 Q. I think in response to
 22 Mr. Thibodeaux's questions, you said you --
 23 you basically drafted Pages 11 and 12?
 24 A. The pore pressure fracture
 25 gradient pages, yes.

Page 474:12 to 477:07

00474:12 Q. Aside from that, in working with
 13 the other group of people who wrote this
 14 technical memorandum, did you offer input on
 15 other sections?
 16 A. The only other area that I may
 17 have offered some input into would have been
 18 time depth curves and opinions about what
 19 velocities we should be using or how to

20 calibrate seismic velocities. So that --
21 that's the only other area that I may have
22 had some input into.

23 Q. Okay. Can you explain what time
24 depth curves are?

25 A. Time depth curves are the
00475:01 relationship between seismic time or the --
02 the -- the amount of time it takes for a
03 sound wave to travel to a reflector, a
04 horizon in the subsurface back to the
05 surface. And then the velocities that we use
06 to convert that time information to a depth
07 that we think that same reflector -- what the
08 depth of that reflector is.

09 Q. Okay. So you may have had some
10 input or involvement in -- with respect to
11 the provision of time depth curves and
12 velocity information?

13 A. Yes.

14 Q. Was this technical memorandum a
15 group effort that involved meeting with the
16 other authors?

17 A. No, it was more of a
18 disseminated document in that I would send
19 my -- my piece into maybe Brian Ritchie,
20 who's compiling it, and I think the other
21 authors for their section would send things
22 in, and I think -- I don't -- I'm not sure
23 who compiled it all into the final report,
24 but we did not get together to discuss
25 individual sections. It was -- it was put
00476:01 together by individual efforts.

02 Q. Did you review the other
03 sections before it was compiled together?

04 A. I -- I don't recall reviewing
05 the other sections once it was put together.

06 Q. Did you consult with
07 Mr. Bondurant, Ms. McAughan, or the other
08 authors about the sections they were
09 drafting?

10 A. Not to my recollection, no.

11 Q. In -- in the preparation of this
12 technical memorandum, did you obtain new
13 information on the Macondo well to -- to
14 input for your pore pressure frac gradient
15 analysis?

16 A. There would not have been any
17 new information from the time that we
18 finished our wireline logging infor- --
19 program. We -- we may have interpreted that
20 data slightly differently leading up to this,
21 but there wouldn't have been any -- I don't
22 believe any new data that we would have
23 acquired.

24 Q. Do you know when that wireline

25 logging was completed?
00477:01 A. I don't remember the exact date.
02 Sometime in -- in early, mid April.
03 Q. Prior to April 20th, 2010?
04 A. Yes.
05 Q. Do you know whether any new
06 information was obtained by BP to prepare
07 this technical memorandum?

Page 477:09 to 477:21

00477:09 A. Yeah, again, I don't know if
10 there was any other new information that was
11 used to compile this data. For -- for my
12 part of it, I'm -- there was no new pore
13 pressure fracture gradient data.
14 Q. (BY MR. HARTLEY) I mean, I
15 guess another way of saying it is, is you
16 already had all the information prior to --
17 to April 20th to prepare this technical
18 memorandum. You may have interpreted things
19 differently given the course of time and --
20 in your effort to prepare this?
21 A. Yes, I --

Page 477:23 to 478:03

00477:23 A. (Continuing) I think that's a
24 fair summary.
25 Q. (BY MR. HARTLEY) So it's --
00478:01 it's fair to say that you already had
02 everything as of April 20th to prepare this
03 technical memorandum, your parts of it?

Page 478:05 to 481:05

00478:05 A. I think for my parts of it, my
06 pore pressure fracture gradient
07 interpretation in here, yes, I would have had
08 all the -- the data elements as of the
09 completion of the -- the wireline logging
10 program.
11 Q. (BY MR. HARTLEY) Do you know
12 what a triple combo log is?
13 A. I have heard of triple combo
14 logs. I'm not a logging expert or a tool
15 expert, but it is a common logging tool and
16 data that -- that we collect.
17 Q. Did you ever review the triple
18 combo log for the Macondo well?
19 A. If it means reviewing
20 resistivity and sonic, then, yes; but, again,
21 I'm not sure exactly what triple -- I don't

22 recall exactly what the data sets are in the
23 triple con- -- triple combo.

24 Q. They include gamma, resistivity,
25 and density neutron crossover.

00479:01 A. Okay. All right. Yeah, I -- I
02 may have looked at the data from that to
03 incorporate into the pressure forecast.

04 Q. What -- did -- do you recall
05 looking at that triple combo log in your
06 preparation of the material on Pages 11 and
07 12 of the technical memorandum?

08 A. I would have used the density
09 data to help calibrate the overburden curve.
10 I would have used resistivity data as a check
11 against the realtime resistivity information
12 just to see how those -- those data compared.

13 Q. Now, I think when you were
14 responding to Mr. Thibodeaux's questions, you
15 said you talked to the petrophysicists to get
16 sand depths. Did I hear that correctly?

17 A. That's correct.

18 Q. What did you mean by the "sand
19 depths"?

20 A. The depths in the logs, the TVD
21 depths in the logs at which sands were
22 interpreted to -- to be present.

23 Q. And were those the -- the M56,
24 M57 that you discussed with Mr. Thibodeaux?

25 A. Yeah, those would be the sands

00480:01 in the reservoir interval, and there were
02 many other shallower sands.

03 Q. Right. Focusing primarily on
04 that 17,000 to 18,5 section, you were
05 generally aware, based on your conversations,
06 of what the sand formations were?

07 A. After talking with Galina about
08 her interpretation of the logs, you know, she
09 makes the interpretation for lithology. I'm
10 not a petrophysicist. So I would -- I would
11 hesitate to do it myself but -- so I would
12 rely on her interpretation for lithology and
13 put that into the forecast.

14 Q. Now, when you were talking with
15 Ms. Skripnikova about the -- the sand depths,
16 did you also have a conversation with her
17 about the -- the fluids contained within
18 those various sands in the production
19 interval?

20 A. I may have talked to her about
21 the fluids that she was interpreting to be
22 present in those intervals.

23 Q. Did you have a general
24 understanding of -- of whether the -- each of
25 those intervals included gas, sand, or brine,

00481:01 gas, oil, or brine?

02 A. That would be part of the
03 interpretation, yes.
04 Q. Okay. When did you have that
05 conversation with Ms. Skripnikova?

Page 481:07 to 483:20

00481:07 A. I -- I think the earliest
08 conversation I may have had with Galina about
09 the sands, namely, that the depth to the
10 sands would have been within days after the
11 blowout.
12 Q. (BY MR. HARTLEY) Okay. Turn to
13 tab 19 in the Transocean notebook that
14 Mr. Thibodeaux left in front of you.
15 A. This one, okay.
16 Q. If I could, I'm going to ask you
17 to mark that as Exhibit 3740.
18 A. The "Responder Logbook"?
19 Q. Yes, sir.
20 A. Okay.
21 Q. You discussed that with
22 Mr. Thibodeaux for a few minutes near the end
23 of his examination, but it wasn't actually
24 marked. I'm going to direct your attention
25 to the third page of that document. I think
00482:01 it ends with the Bates 460. Do you see that?
02 A. Yes.
03 Q. And I think, as you were just
04 telling me, that on April 21st it looks like
05 you had a discussion with Ms. Skripnikova
06 about the permeable zones and the fluid
07 identification from those zones; is that
08 right?
09 A. That's correct.
10 Q. Do you recall any details about
11 that conversation with Ms. Skripnikova and
12 others that are not included on your notes in
13 Exhibit 3740?
14 A. I do recall some discussions
15 with Pinky Vinson also about the
16 interpretation of the petrophysical data.
17 Q. What were those conversations
18 about?
19 A. My recollection would be on the
20 interpretation of fluid content in intervals
21 above the reservoir section.
22 Q. Is that above the 17,000-foot?
23 A. I don't recall exactly which
24 sand that they were focusing on, but I think
25 it would have been above the main reservoir
00483:01 pay -- pay intervals.
02 Q. Was it in that final production
03 zone?
04 A. It was immediately above what I

05 would call the -- the -- the main reservoir
 06 section. I don't think it was considered pay
 07 sand.
 08 Q. Okay. Keeping -- keeping that
 09 Exhibit 3740 open, let's turn briefly back to
 10 3532, the technical memorandum.
 11 A. Okay.
 12 Q. I want to direct your attention
 13 to Page 4. And at the top of that page
 14 includes a chart within the production
 15 interval with these various sand formations.
 16 Do you see that?
 17 A. Yes.
 18 Q. Which one of those would you
 19 refer to as the main production zone?
 20 A. It would have been the --

Page 483:22 to 484:19

00483:22 A. (Continuing) What I would --
 23 and I'm -- again, I'm not a petrophysicist.
 24 Q. (BY MR. HARTLEY) Understood.
 25 A. But the bottom three, the ones
 00484:01 that are labeled oil, oil, oil.
 02 Q. M60 -- M56D, E, and F?
 03 A. That's correct.
 04 Q. Which of these formations were
 05 you discussing with Mr. Vinson?
 06 A. I believe we were either talking
 07 about the -- the one labeled probable gas at
 08 measured depth of just above 17,5; and it's
 09 possible that we may -- we may have also
 10 discussed the oil or gas, 13.1 MDT labeled
 11 point at 17,800 feet M -- MD.
 12 Q. Those would be the M57B and M56A
 13 formations or sands?
 14 A. That's correct, that's my
 15 recollection, that there was some discussion
 16 about the interpretation of the fluids there.
 17 Q. Okay. What -- can you relay to
 18 me the substance of those conversations or
 19 that conversation with Mr. Vinson?

Page 484:21 to 487:07

00484:21 A. Again, not -- not being a
 22 petrophysicist, a lot of it was over my head,
 23 but they were looking at the resistivity
 24 response and the thinness of the interval to
 25 try and determine whether or not the
 00485:01 resistivity was accurately reflecting or it
 02 could be used to make an interpretation of
 03 the fluid type.
 04 Q. (BY MR. HARTLEY) Why were you

05 involved in that discussion; do you know?
06 A. I don't remember why I got
07 pulled into the discussion, but --
08 Q. Probably wish you hadn't.
09 A. I -- my role was really just
10 to -- to put in -- in the pressure forecast
11 where the sands were and also have an
12 assignment of whether they were oil, gas, or
13 brine. So it's to try and get them annotated
14 correctly in the plot. I think that's
15 what -- how I got involved in the discussion.
16 Q. So as far as you understand it,
17 in preparing your pressure profile that's on
18 Page 12, you were having this discussion so
19 you could insert where those sand levels were
20 in your chart?
21 A. Right. Right. First and
22 foremost, to get the -- the TVD depths
23 correct in the plot or as close as I -- I
24 could get them in -- in the plot. And then
25 subsequently in the relief operations, I
00486:01 think I also had annotated specifically for
02 those sands, which ones were brine, which
03 ones were oil, and which ones were gas.
04 Q. Does that make a difference in
05 your pore pressure detection what the com- --
06 fluid composition of the sands are?
07 A. If we're drilling through a --
08 an interval that has gas sands -- we're not
09 detecting pressure based on the -- the sand
10 property specifically. We're trying to
11 confer pressure in the shales, so gas may
12 influence your interpretation of the
13 pressures in the shales. But, again, sand
14 pressure itself is inferred from our
15 interpretation of the shale pressure. It's
16 not something that's detected using the sonic
17 or resistivity response.
18 Q. Does the fluid composition of
19 the sands through which you're drilling
20 influence the pore pressure detection?
21 A. If there is a -- an elevated
22 hydrocarbon saturation in the shales, it may
23 influence the resistivity and sonic and cause
24 some ambiguity and doubt how to interpret
25 the -- the results.
00487:01 Q. When you had your conversation
02 with Ms. Skripnikova and others on
03 April 21st, the day after the incident, did
04 you discuss with her each of these sand
05 levels and formations that -- that are
06 represented on Page 4 of the technical
07 memorandum?

00487:09 A. I would have taken her -- her
10 sand table and her interpretation for where
11 the sands were and really wouldn't have
12 questioned it too much because I -- I just
13 don't have the expertise to make the
14 interpretation myself.
15 Q. (BY MR. HARTLEY) Did she
16 actually hand you a written document or chart
17 showing the sands?
18 A. She provided me, I think, with a
19 digital table from her petrophysical analysis
20 software that I used to incorporate in the
21 spreadsheet.
22 Q. Do you know whether it resembled
23 this chart that is shown on Page 4 of the
24 technical memorandum?
25 A. I think it was very similar.
00488:01 I'm not sure if it was exactly the same.
02 There were minor modifications at -- to the
03 sand interpretation in those first few days.
04 So, I think, ultimately what ended up in the
05 pore pressure forecast was based on her best
06 interpretation of -- of the sand intervals.
07 Q. Okay. On the left-hand side of
08 this chart, it includes the fluid composition
09 of the designated formation sands; is that
10 right?

Page 488:12 to 488:17

00488:12 A. The labels on Figure 2 on the
13 left?
14 Q. (BY MR. HARTLEY) Yes.
15 A. Yeah, I think that includes the
16 interpretation of what the fluid is in the
17 sands at those intervals.

Page 488:21 to 489:05

00488:21 Q. (BY MR. HARTLEY) So where this
22 chart reads probable gas, brine, oil or gas,
23 brine, brine, then the last three are oil,
24 that's Ms. Skripnikova's interpretation of
25 the fluids contained within those sand
00489:01 intervals?
02 A. That's my understanding, yes.
03 Q. And is that how you would refer
04 to the -- the various formations designated
05 M57B, 57C, et cetera, as a sand interval?

Page 489:07 to 490:08

00489:07 Q. (BY MR. HARTLEY) I feel like I

08 keep using different terminology. So I'm
09 trying to get what -- what you understand
10 that reference to be.

11 A. Yeah, at this point, I think
12 that's an accurate statement that we would
13 refer to the sands by their age nomenclature
14 here.

15 Q. Did you have any conversations
16 with Ms. Skripnikova after April 21, 2010,
17 regarding those sand intervals, M57B,
18 et cetera, and/or the interpretation of
19 fluids in those intervals?

20 A. The -- the only discussions I
21 recall with her after that date were on -- on
22 minor changes to the depth interpretation or
23 if she had actually added additional
24 intervals that she had now interpreted as
25 sand or shallower in the wellbore above this
00490:01 final hole section.

02 Q. Because that would relate to --
03 to the depth of the sand intervals primarily?

04 A. Right. She may have made minor
05 changes to her top base picks, and so those
06 minor changes, I would have then updated
07 the -- the spreadsheet on the basis of her
08 latest interpretation.

Page 490:23 to 491:09

00490:23 Q. Was the M57B interval included
24 in the -- in the material she provided you on
25 April 21st, 2010?

00491:01 A. I -- I -- I believe it was. I
02 don't -- don't recall if that was one that
03 came out later in -- in -- in the analysis of
04 the petrophysical data. My recollection is
05 that it was highlighted early on as -- as a
06 probable gas interval, very thin sand.

07 Q. Okay. And that would be the
08 shallowest hy- -- hydrocarbon-bearing
09 interval in the production zone?

Page 491:11 to 491:14

00491:11 A. I -- I don't know if it's the --
12 the shallowest one.

13 Q. (BY MR. HARTLEY) Are you aware
14 of one shallower than M57B?

Page 491:16 to 491:24

00491:16 A. It's really just -- I just don't
17 know. It's not my -- my role to identify the

18 hydrocarbon-bearing zones, and I don't recall
19 what -- what may have been identified a
20 little bit shallower in this interval.
21 Q. (BY MR. HARTLEY) Do you recall
22 Ms. Skripnikova providing you any sand
23 interval above or shallower than M57B that
24 she interpreted as including hydrocarbons?

Page 492:01 to 492:04

00492:01 A. I don't recall it. I'd have to
02 go back and look at my -- my annotated
03 pressure forecasts to see if there were
04 shallower intervals.

Page 492:06 to 492:13

00492:06 Understanding that -- that the depths at
07 these various intervals might have changed
08 between April 21st and at some point when the
09 technical memorandum was provided, were each
10 of these intervals, M57C, 56A, 56B, 56C, 56D,
11 E, and F all included in the information
12 Ms. Skripnikova provided you on April 21st,
13 2010?

Page 492:15 to 493:10

00492:15 A. I believe they were included,
16 but, again, I'd have to go back and look at
17 the table she provided me to make -- just to
18 double-check to make sure each of the ones
19 labeled here actually were in that table.
20 Q. (BY MR. HARTLEY) Do you recall
21 specifically any sand interval
22 Ms. Skripnikova identified for you after
23 April 21st that was not included in the
24 original information she provided?
25 A. I recall that there were sands
00493:01 in shallower hole sections, but I don't
02 recall a specific one in the final hole
03 section.
04 Q. Nothing in that final production
05 interval below about 17,000 feet?
06 A. Yeah, I don't recall there being
07 major changes to that.
08 Q. Okay.
09 A. The -- the depth
10 interpretations.

Page 494:01 to 494:13

00494:01 I want to start off with

02 Exhibit 3740 that's the responder logbook.
03 A. Okay.
04 Q. Still on Page 3 of that
05 document. And under the summary of that
06 meeting you had with Ms. Skripnikova and
07 others on April 21st it reads, "looked at log
08 data for entire wellbore," that's the first
09 bullet point; is that right?
10 A. Yes.
11 Q. And then the second bullet point
12 is, all sandy materials identified and fluid
13 type estimated; is that right?

Page 494:15 to 494:23

00494:15 A. All sandy intervals.
16 Q. (BY MR. HARTLEY) Intervals,
17 thank you. "All sandy intervals identified
18 and fluid type estimated"?
19 A. Yes.
20 Q. And that relates to what we were
21 discussing in the technical memorandum and
22 the various M56B and M57 intervals; is that
23 right?

Page 494:25 to 495:09

00494:25 A. Among all the other ones, but,
00495:01 yes, those:
02 Q. (BY MR. HARTLEY) Right in that
03 meeting you identified the entire wellbore --
04 A. Right.
05 Q. -- from top to bottom?
06 A. Right.
07 Q. And that would include the
08 production interval at the bottom?
09 A. Yes.

Page 495:15 to 495:17

00495:15 Q. Look at the technical
16 memorandum.
17 A. Where is that? Okay.

Page 495:19 to 496:01

00495:19 Q. (BY MR. HARTLEY) Still on
20 Page 4 and focus on that chart we've been
21 discussing. In that April 21st meeting with
22 Ms. Skripnikova where you looked at the log
23 data for the entire wellbore and looked at
24 all sandy intervals and fluid type estimated,
25 do you recall her identifying M57B as a

00496:01 gas-bearing formation?

Page 496:03 to 496:06

00496:03 A. I recall there being discussions
04 about the interpretation of that interval. I
05 don't recall at that date what her -- her
06 thinking was as to fluid type.

Page 496:13 to 496:18

00496:13 Q. (BY MR. HARTLEY) Did you see
14 any prior drafts of this technical memorandum
15 prior to the July 26th one that's in front of
16 you?
17 A. I don't -- I don't believe I saw
18 any prior drafts.

Page 497:08 to 498:11

00497:08 Q. (BY MR. HARTLEY) Did you have a
09 sense of what her interpretation of the
10 fluids contained within M57B were as of
11 April 21st?
12 A. Not really. I was just
13 interested in telling me what -- what the
14 interpretation is, and I -- I'll put it in
15 the pressure forecast.
16 Q. Okay. Keep the technical
17 memorandum open. I'm going to hand you now
18 what I've marked as Exhibit 3741.
19 MR. HARTLEY: And I think I distributed
20 copies to everybody at the break.
21 Q. (BY MR. HARTLEY) This is an
22 e-mail from you to Mr. Johnston and others,
23 copying Ms. Skripnikova and others, on
24 April 22nd, 2010; is that right?
25 A. Yes.
00498:01 Q. And with this e-mail you attach
02 sand -- a detailed sand pressure table that
03 you updated as of April 22nd, 2010; is that
04 fair?
05 A. The date of the e-mail is
06 April 22nd. I may have finished the update
07 prior to that, the e-mail.
08 Q. Okay. Do you know whether the
09 attachment to this e-mail that's -- that's
10 Page 2 of Exhibit 3741 is your last sand
11 pressure table, for the Macondo well?

Page 498:13 to 498:17

00498:13 A. No, I don't know if it's the --

14 the last sand table.
15 Q. (BY MR. HARTLEY) Was this the
16 most revised sand pressure table as of
17 April 22nd, 2010?

Page 498:20 to 501:05

00498:20 A. I believe it would have been.
21 Q. (BY MR. HARTLEY) Okay. I want
22 you to look at the second page of
23 Exhibit 3741, and this identifies various
24 intervals and includes an interpretive fluid
25 type column; do you see that?
00499:01 A. Yes.
02 Q. The second column from the right
03 says "estimated formation pressure." What
04 does that number represent?
05 A. I would -- for that -- that
06 identified sand I would pick the associated
07 pressure from the most likely pressure curve
08 at that depth.
09 Q. That represents the pore
10 pressure?
11 A. Right, the -- the thinking on --
12 post well pore pressure interpretation.
13 Q. And this number is represented
14 in -- in psi per gallon; is that right?
15 A. That's correct.
16 Q. So to get the --
17 A. No, psig, excuse me, is not psi
18 gallon. It's psi gauge.
19 Q. psi gauge.
20 A. Yeah.
21 Q. Thank you. So the number of
22 pore pressure on this document is depicted in
23 pounds per square inch, psi?
24 A. Yes, that's correct.
25 Q. Were you involved in the process
00500:01 of converting your pore pressure numbers from
02 psi to a mud weight equivalency?
03 A. In my spreadsheet I have both
04 mud weight equivalent and psi values for
05 these -- for these curves.
06 Q. Okay. How would you convert the
07 estimated formation pressure, psig, you have
08 on here to a mud weight equivalency?
09 A. I would take the pressure and
10 the TVD KV depth to get a pressure gradient
11 and psi per foot and then multiply it by
12 19.25.
13 Q. That's something you can do with
14 a calculator?
15 A. I could try it, yeah.
16 Q. Okay. We'll get there in just a
17 minute. Before we do that, I want to focus

18 on the bottom series of intervals on this
19 page. At the very bottom of the chart on the
20 left-hand column it says 18232. What does
21 that number represent for this interval?
22 A. It's the -- the deepest sand top
23 that I have in the sand table --
24 Q. Okay.
25 A. -- in -- in measured depth.
00501:01 Q. And comparing this document to
02 the chart on Page 4 of the technical
03 memorandum, that I think you still have open,
04 that bottom row would correlate to the M56F
05 sand interval, wouldn't it?

Page 501:07 to 501:12

00501:07 A. It looks like it approximately
08 correlates to the one labeled M56F.
09 Q. (BY MR. HARTLEY) I understand
10 there may be some differences in the depth as
11 things were revised. That -- that is the
12 M56F formation, right?

Page 501:14 to 501:20

00501:14 A. It looks like, yes, there is a
15 M56F sand that corresponds roughly to the --
16 the depths that I've got in the sand table.
17 Q. (BY MR. HARTLEY) And the row
18 right above that, second from the bottom,
19 with 18120, that would correlate to the M56E
20 sand; is that right?

Page 501:22 to 502:12

00501:22 A. I believe it does.
23 Q. (BY MR. HARTLEY) Okay. The one
24 above that would be the M56D sand?
25 A. It looks like it.
00502:01 Q. Okay. Then above -- above that
02 the one that has gas interpreted fluid type
03 with the 17804 in the left-hand column would
04 be the M56A sand interval, right?
05 A. Yes, it looks like there --
06 that's the corresponding sand.
07 Q. Immediately above that the brine
08 would be the M57C?
09 A. That looks right.
10 Q. And that then above that the gas
11 interval at 17467 would be the sand
12 designated M57B?

Page 502:14 to 502:18

00502:14 A. It looks like approximately that
15 same -- that same M57B sand.
16 Q. (BY MR. HARTLEY) Do you know
17 why your sand pressure table doesn't include
18 intervals for M56B or C?

Page 502:20 to 502:22

00502:20 A. I don't know why it -- it -- it
21 wouldn't contain those sands. No, I don't
22 know.

Page 503:03 to 503:19

00503:03 Q. (BY MR. HARTLEY) Were you aware
04 of the M56B and C sand intervals as of
05 April 22nd 2010, when you circulated your
06 sand pressure table?
07 A. If they weren't in the sand
08 table, I suppose I may not have been aware of
09 sands at that -- that interval.
10 Q. (BY MR. HARTLEY) Okay. I'm
11 going to hand you, if I can Ms. Kuchler's
12 generously loaned iPad --
13 A. Okay.
14 Q. -- with a calculator feature on
15 there. I'm going to ask, if you would, to
16 convert your estimated formation pressure in
17 psi for the sand formation M57B to a mud
18 weight equivalency.
19 A. M57B. All right.

Page 503:22 to 503:25

00503:22 Q. (BY MR. HARTLEY) The interval
23 at 17467, using the numbers in the left-hand
24 column.
25 A. Okay.

Page 504:04 to 504:23

00504:04 A. Okay. Messed it up.
05 14.15 is the answer I get.
06 Q. (BY MR. HARTLEY) Okay.
07 A. 14.16, if you round up.
08 Q. Thank you. Do you have any
09 information or way of calculating the pore
10 pressure for the sand intervals M56B and C
11 that are depicted in the technical
12 memorandum, but that were not included in
13 Exhibit 3741?
14 A. I would have to go back to the

15 MDT pressure measurements that were made in
16 the bottom hole interval to see if we had a
17 pressure measurement at those intervals.
18 Q. Do you know whether a pressure
19 measurement was taken for those intervals, as
20 you sit here today?
21 A. I don't recall as I sit here
22 today whether we have MDT pressures for those
23 intervals.

Page 505:08 to 505:22

00505:08 Q. (BY MR. HARTLEY) Have you --
09 have you made an effort to convert any
10 estimated formation pressure in psi for these
11 sand intervals to a mud weight equivalency?
12 A. In taking MDT pressures I --
13 in -- in the spreadsheet the -- the mud
14 weight equivalent calculation is done by --
15 by formulas. So I think the answer is the
16 spreadsheet does it, so I guess I would -- I
17 would by extension do it.
18 Q. Right. Do you know whether you
19 have -- or have you engaged in any attempt to
20 establish the pore pressure in mud weight
21 equivalency for either the M56B or M56C sand
22 intervals?

Page 505:25 to 507:08

00505:25 A. I -- I would have to go back to
00506:01 my pressure forecasts to see if I have sands
02 in the final post well pressure forecast at
03 those depths. I just don't recall if --
04 again, if they were in the -- the final table
05 that I have for the technical memorandum.
06 Q. (BY MR. HARTLEY) Are they
07 included in the pressure forecast on Page 12
08 of the technical memorandum?
09 A. Those ones -- what were the --
10 the names for the ones you were asking for?
11 Q. M56B and C.
12 A. I do have a label for M57C. I
13 can't tell because the -- the labels are very
14 close together, whether I have a -- an M57B
15 in that listing.
16 Q. Okay. I may have misspoken. I
17 see on Page 12 an M57C, M56A, and then M56D
18 and M56E seem to be overlaid; do you see
19 that?
20 A. Yes.
21 Q. Do you see an M56B or M56C in
22 there?
23 A. I don't see it in that

24 collection of labels, but that -- those
25 labels don't necessarily correspond exactly
00507:01 one for one with every sand that's in the
02 forecast. So I -- I may have additional
03 sands in the forecast that don't show up as
04 labels on the left side of that plot.
05 Q. Is the pressure forecast
06 included on Page 12 of the technical
07 memorandum the most updated pressure forecast
08 you prepared for the Macondo well?

Page 507:10 to 507:17

00507:10 A. I -- I may have gone back to
11 revisit it after the technical memorandum to
12 make minor adjustments to it.
13 Q. (BY MR. HARTLEY) What sort of
14 adjustments would you have made?
15 A. If we had any revisions to exact
16 tops and bases of sands, I may have put those
17 revisions in there.

Page 508:18 to 508:24

00508:18 Q. (BY MR. HARTLEY) As you revised
19 your pressure forecasts after July 26th of
20 2010 did you make revisions to any sand
21 intervals above the final production interval
22 at or about 17,200 feet?
23 A. I don't recall making revisions
24 to the sand table.

Page 509:03 to 509:06

00509:03 Q. Do you specifically recall
04 making any revisions to your pressure
05 forecast included on Page 12 of the technical
06 memorandum?

Page 509:08 to 509:22

00509:08 A. Again, I may have made minor
09 revisions to the fracture gradient models,
10 that's a possibility. Whether or not I
11 changed individual sand tops or bases or cut
12 more in or -- or resampled it so that they
13 show up more clearly, I just don't recall.
14 There may have been very minor revisions to
15 it, but I think this was a good
16 representation of the -- the final product.
17 Q. (BY MR. HARTLEY) As you made
18 revisions to your pressure forecast or your
19 modifications, as you refer to them, was

20 there any change in the interpretation of
21 fluids contained within any sand interval
22 included in your pressure forecast?

Page 509:25 to 510:08

00509:25 A. (Continuing) My recollection is
00510:01 that after the first few weeks after the
02 incident that there were no -- no revisions
03 to the interpretation of fluid type.
04 Q. (BY MR. HARTLEY) Did you ever
05 hear of additional information being
06 identified with respect to the fluid type of
07 sand intervals in the final production
08 interval?

Page 510:10 to 510:10

00510:10 A. No.

Page 510:21 to 511:15

00510:21 Q. (BY MR. HARTLEY) With respect
22 to your work on the relief wells, did you
23 obtain any information that you used to
24 revise or modify your pressure forecast?
25 A. During drilling of the relief
00511:01 wells I don't recall any modifications to
02 the -- the predrill forecast used for the --
03 the basis of the design for those wells.
04 Q. Then if I understand, when you
05 created your pressure forecast on or about
06 July 26th, 2010 to be included in the
07 technical memorandum you had all the
08 information you needed to make your -- your
09 forecast?
10 A. For my piece of it, my pressure
11 forecast I felt I had all the information I
12 needed.
13 Q. You didn't obtain additional
14 information after April 20th, 2010 that
15 influenced your pressure forecast?

Page 511:17 to 511:19

00511:17 A. No additional information.
18 Perhaps more interpretation time, but no
19 additional information.

Page 516:09 to 518:22

00516:09 Q. Okay. All right. As the single

10 point of accountability for pore pressure
11 prediction, were you the person ultimately
12 responsible for pore pressure prediction for
13 the Macondo well?
14 A. For the predrill forecasting,
15 yes. Was there more to your question that I
16 missed?
17 Q. Well, I'd also like to know
18 whether you were the person ultimately
19 responsible for pore pressure detection
20 during well operations for the Macondo well?
21 A. Yes, as my role as SPA, yes.
22 Q. Okay. So let's look at the
23 document behind tab 51 in your binder there.
24 It had previously been identified as
25 Exhibit 1532, and you've discussed it over
00517:01 the course of the past day and a half. It's
02 GP 10-15, which is entitled "Pore Pressure
03 Prediction." And I'd just like to walk
04 through some of the provisions there.
05 On Page 2 of 19 under bullet
06 point 1 it says, A single point of
07 accountability shall be defined for the
08 preparation of a pore fracture gradient
09 prediction for any given well.
10 For the Macondo well, then,
11 would this be you?
12 A. Yes.
13 Q. Okay. Let's turn over, then, to
14 Page 3 of 19. Or, actually, let's skip over
15 to Page 7, then we'll come back to Page 3.
16 On Page 7 of 19 under Section 3, terms and
17 definitions the very first definition that is
18 set out here is of accountable person, and
19 GP 10-15 says that the accountable person is
20 the, quote, The person in the organization
21 who has ultimate responsibility, close quote.
22 So for the pore pressure
23 prediction issues discussed in GP 10-15 were
24 you the accountable person for the Macondo
25 well?
00518:01 A. Yes, I believe I was.
02 Q. And then if we turn over to
03 Page 9, this is still part of Section 3,
04 definitions. Do you see the definition there
05 about halfway down the page of single point
06 accountable? It says, quote, The person in
07 the organization, open paren, site, slash,
08 business unit, close paren, who has been
09 appointed as being accountable for the
10 delivery and performance of an activity,
11 close quote.
12 Would that be you with respect
13 to pore pressure prediction for the Macondo
14 well?

15 A. Yes.
16 Q. So with respect to pore pressure
17 prediction for the Macondo well did the buck
18 stop with you?
19 A. I was the single point of
20 accountability for pore pressure and fracture
21 gradient, as we've discussed.
22 Q. So the answer is yes?

Page 518:24 to 518:24

00518:24 A. The answer is I was the SPA.

Page 519:08 to 519:12

00519:08 Q. (BY MS. KUCHLER) Was there
09 anybody with BP other than you who was
10 responsible higher up the line of authority
11 with respect to pore pressure prediction for
12 the Macondo well?

Page 519:15 to 523:20

00519:15 A. (Continuing) Not to my
16 knowledge.
17 Q. (BY MS. KUCHLER) Now, let's
18 turn over to tab 52, which is GP 10-16, which
19 had previously been listed as Exhibit 1533,
20 and it's entitled "Pore Pressure Detection
21 During Well Operations."
22 Can you first explain for us,
23 what's the difference between pore pressure
24 prediction as set out in GP 10-15 and pore
25 pressure detection during well operations as
00520:01 set out in GP 10-16?
02 A. The difference would be for
03 GP 10-15, pressure prediction, we are trying
04 to build a forecast of what conditions to
05 expect in the subsurface at the well location
06 that we're planning, pore pressure fracture
07 gradient conditions. For pressure detection
08 you're actually drilling at that location or
09 you're acquiring data that you can use to
10 refine our predrill forecast of pressure and
11 fracture gradient conditions at the
12 subsurface.
13 Q. Does GP 10-15, to your
14 understanding apply once the well begins to
15 be drilled, or do we then switch over to
16 GP 10-16?
17 A. My understanding is that
18 GP 10-16 pressure detection would be the
19 document that would support the detection

20 activities.

21 Q. Okay. So in the predrill phase

22 we would look to GP 10-15 for the minimum

23 requirements and recommended practices for

24 pore pressure prediction, right?

25 A. That's correct.

00521:01 Q. But once the well starts to be

02 drilled such that there is actual data

03 available, then GP 10-16 would come into

04 play?

05 A. That's correct.

06 Q. Okay. So if we look at GP

07 10-16, Page 2 of 17, it says under bullet

08 point 1, "A single point of accountability,

09 (SPA) shall be defined for the delivery of a

10 realtime pore and fracture gradient analysis

11 for any given well."

12 And, again, with respect now to

13 pressure detection during well operations,

14 would that have been you for the Macondo

15 well?

16 A. Yes.

17 Q. If we turn over, please, to

18 Page 5 of 17 under Section 3, at the bottom

19 of the page it gives the definition of

20 accountable person as, quote, the person in

21 the organization who has ultimate

22 responsibility, close quote.

23 Would that be you with respect

24 to pore pressure detection during well

25 operations, for the Macondo well?

00522:01 A. Yes, I believe it would be.

02 Q. And on Page 8 of 17, about a

03 third of the way down, GP 10-16 gives the

04 definition of single point accountable as,

05 quote, the person in the organization, open

06 paren, site, slash, business unit, close

07 paren, who has been appointed as being

08 accountable for the delivery and performance

09 of an activity, close quote.

10 Would that have been you with

11 respect to pore pressure detection during

12 well operations, for the Macondo?

13 A. For the delivery of the pore

14 pressure detection during Macondo.

15 Q. Okay. And why do you make that

16 distinction?

17 A. I think that's the -- the

18 defined SPA role in this document, in the --

19 in the -- early on in the definition of it.

20 Q. And so what do you understand

21 delivery to mean?

22 A. What I understand that to mean

23 is that I do not necessarily perform the

24 pressure detection. I'm not the rig site

25 pressure detection specialist, but I would be
00523:01 accountable for taking the interpretations of
02 realtime pressure, incorporating that with my
03 predrill forecast to issue an update to the
04 pressure forecast. So I would maintain the
05 official while drilling record of what we
06 think the pore pressure fracture gradient is.
07 Q. That's helpful, thank you. Was
08 there anyone higher than you in the chain of
09 command at BP who was responsible for the
10 delivery of pore pressure detection
11 information for the Macondo?
12 A. I don't believe so.
13 Q. So that leads into the -- the
14 next point about which I was a little bit
15 confused from your prior testimony. How was
16 your job different with respect to
17 responsibility? And let's take pore pressure
18 prediction first and then we'll discuss pore
19 pressure detection second, but let's do pore
20 pressure prediction.

Page 523:24 to 528:08

00523:24 A. In term of pressure prediction,
25 Kate Paine would not have been involved in my
00524:01 pressure prediction work predrill. Galina
02 would also not have been involved directly in
03 my interpretation of what pressure and
04 fracture gradient conditions would exist at
05 the Macondo wellbore. So that was my primary
06 responsibility, to build that forecast.
07 Q. (BY MS. KUCHLER) Okay. And how
08 about with respect to pore pressure
09 detection, how did your job differ from their
10 responsibilities?
11 A. The main distinction between
12 Kate Paine's job and my job as SPA would be
13 Kate Paine is the pressure detection
14 specialist, so she would have more hands-on,
15 everyday, realtime look at the -- the data
16 that's coming in. She would be making
17 interpretations based on the data that's
18 coming in in realtime and would communicate
19 her interpretation of what the data was
20 suggesting regarding pore pressure to me via
21 the morning calls or -- or e-mails.
22 And then I would incorporate her
23 interpretations, I may check the data myself
24 to see if I'm seeing it the same way to come
25 up with a final interpretation of what I
00525:01 think, based on her work, the pore pressure
02 might be.
03 Q. Okay. And then what was
04 Ms. Skripnikova's role?

05 A. Galina would not have an active
06 role in -- on the pressure detection team in
07 looking at the realtime log data. There
08 wouldn't be any specific reason to prevent
09 her from looking at the realtime log data,
10 but it wasn't her -- her job to do pressure
11 detection work.

12 Q. Okay. So going back to Kate
13 Paine, then, on the pressure detection
14 issues, when Kate would give you the results
15 of her realtime monitoring and you would
16 consider it, analyze it yourself, or
17 whatever, but from -- once the information
18 was delivered to the BP drilling engineers I
19 take it that you were the one who did that
20 delivery; is that right?

21 A. The delivery of my pressure
22 detection interpretation would occur through
23 Bobby or in operations meetings in the
24 morning. I don't know if Kate had her own
25 communications with the drilling engineers,
00526:01 but as the SPA I think the official
02 communication as I saw it was either
03 through -- through Bobby Bodek communicating
04 updates to the pressure forecast that -- that
05 I would -- I would provide him with the
06 updated forecast, or I would present the
07 updated forecast during the morning calls or
08 the operations meetings in the morning.

09 Q. And then what would happen if
10 you disagreed with Kate Paine's
11 interpretation of the data?

12 A. We would compare
13 interpretations. I would read her reports on
14 why she was interpreting pressure trends
15 based on the data. Oftentimes I -- I might
16 make a change to my own interpretation on the
17 basis of her -- her -- her opinion on it. In
18 the cases where we didn't agree on the
19 pressure interpretation ultimately I would
20 choose what pressure interpretation is
21 represented on the pressure forecast.

22 Q. And the choice you made is what
23 you communicated up the line through Bobby
24 Bodek, and then he communicated it on to the
25 drilling engineers?

00527:01 A. Yes.

02 Q. All right. Let -- let's walk
03 through a couple other issues in GP 10-15 in
04 Exhibit 32 behind tab 51. On Page 3 of 19
05 you were asked earlier, so I won't repeat it
06 here, whether you agreed with the first
07 sentence under description of risk. But I'd
08 like to know whether you also agree with the
09 second sentence there on Page 3 which says,

10 quote, Errors associated with the prediction
 11 of pore and fracture pressures could lead to
 12 the harm of people, damages to the
 13 environment, and undermine BP's operational
 14 reputation.

15 A. I do agree with that statement.

16 Q. For these reasons, it goes on to
 17 say, pressure prediction requires a
 18 definition of practices that establish the
 19 minimum requirements for performing pressure
 20 prediction.

21 Do you agree with that as well?

22 A. Yes.

23 Q. It goes on to say that the
 24 purpose of this document, which is GP 10-15,
 25 is to establish the minimum requirements in
 00528:01 the prediction of pore and fracture pressures
 02 in planned wells.

03 Is that what you understood the
 04 purpose of GP 10-15 to be?

05 A. Yes.

06 Q. And by "minimum practices," that
 07 means that you have to at least do as much as
 08 what is set forth in 10-15; is that right?

Page 528:10 to 528:14

00528:10 A. That's my understanding.

11 Q. (BY MS. KUCHLER) In other
 12 words, you can do more in order to accurately
 13 predict pore pressure, but you can't do less
 14 than what's set out in GP 10-15?

Page 528:16 to 532:06

00528:16 A. I would agree with that.

17 Q. (BY MS. KUCHLER) And I think
 18 the document actually supports that as well
 19 on page 10, if you were to flip over, in
 20 Section 5 under practice structure, 5.1, the
 21 first sentence there says, quote, Minimum
 22 requirements describe the minimum processes
 23 and activities that shall be completed to
 24 deliver the intent of this practice.

25 Do you see that there?

00529:01 A. Yes.

02 Q. And was that your understanding
 03 of the way GP 10-15 was to be applied for the
 04 Macondo well?

05 A. Yes.

06 Q. And if we look under
 07 Section 5.2, it gives us the difference
 08 between shall and should when used in the
 09 documents, and it says, "Shall is used where

10 a provision is a minimum requirement of the
11 practice and is mandatory."
12 Did you understand that?
13 A. Yes.
14 Q. Okay. And on Page 6 of 19 of GP
15 10-15 under "Scope" it says, "This practice
16 applies to work on any BP-operated well."
17 Are you there with me at the
18 top?
19 A. 6 of 19?
20 Q. Correct.
21 A. Yes.
22 Q. And so GP 10-15 applied to the
23 Macondo well; would you agree with that?
24 A. Yes.
25 Q. And over on Page 8 under the
00530:01 definition of minimum requirements, about
02 two-thirds of the way down it says, quote,
03 The activities, tasks, or deliverables that
04 shall be completed to comply with this
05 practice.
06 Is that how you understood the
07 term minimum requirements as used in GP
08 10-15?
09 A. I'm sorry, I didn't see where
10 you're reading from.
11 Q. On Page 8, about two-thirds of
12 the way down under "Minimum Requirements."
13 A. Okay, I see.
14 Q. Was that your understanding of
15 the term minimum requirement as used in GP
16 10-15?
17 A. Yes.
18 Q. And then if we turn over to
19 Page 11 under Section 6.1, it says, quote, A
20 single point of accountability shall be
21 defined for the preparation and up take of a
22 pore and fracture gradient prediction for any
23 given well and its associated uncertainties.
24 So did you understand that it
25 was mandatory that a single point of
00531:01 accountability be defined for the Macondo
02 well?
03 A. I did.
04 Q. And that -- that person was you,
05 as we've said?
06 A. Yes.
07 Q. Okay. And then if we go on
08 under "Recommendations," it seems like
09 GP 10-15 makes a distinction between some
10 things that are minimum requirements and
11 other things that are recommendations. Is
12 that how you understand it?
13 A. The way I -- Paragraph 6.2?
14 Q. Yes.

15 A. Recommendations. How I
16 understand that paragraph to read is that we
17 have a SETA, segment engineering technical
18 authority, who I need to consult if I have
19 any confusion about what's contained in this
20 document.

21 Q. And who is the SETA? Is there
22 one for each well, or is there one for
23 GP 10-15?

24 A. There is one. It was Mark
25 Alberty, at this time.

00532:01 Q. So if you had any questions
02 about the application of GP 10-15, you would
03 go to -- or you should go -- it wasn't
04 required, but it was recommended that you go
05 to Mark Alberty?

06 A. Yes.

Page 533:11 to 533:15

00533:11 Q. Okay. And so this is about six
12 months before the Macondo well was actually
13 spudded. You were in the process of
14 undergoing a peer review for the pressure
15 predictions for that well; is that right?

Page 534:23 to 535:10

00534:23 Q. That was the one that I had
24 highlighted. You had said that you thought
25 there might have been five analogy wells, and
00535:01 this lists four. Is one missing, or after
02 looking at this list do you think that it was
03 these four?

04 A. I think these four -- are the
05 four primary offset wells that we relied on
06 or that I relied on for the forecast.

07 Q. Okay. So that would be the
08 Rigel Field, the Yumuri, and Arial and the
09 Isabela?

10 A. That's correct.

Page 535:18 to 536:15

00535:18 Q. All right. And then if we turn
19 over and address our attention to GP 10-16,
20 which is Exhibit 1533 behind tab 52, I have a
21 couple of follow-up questions here. On
22 Page 3, the second sentence under
23 "Description of Risk," do you agree with the
24 statement, quote, Errors associated with the
25 detection of pore and fracture pressures
00536:01 could lead to the harm to people, damage to

02 the environment, and undermine BP's
 03 operational reputation, close quote?
 04 A. I do agree with that statement.
 05 Q. And do you agree that for these
 06 reasons pressure detection requires a
 07 definition of practices that establishes the
 08 minimum requirements for performing pressure
 09 detection?
 10 A. I agree with that statement.
 11 Q. Do you agree that the purpose of
 12 GP 10-16, as you understood it, was to
 13 establish the minimum requirement and the
 14 realtime detection of pore and fracture
 15 pressures in BP-operated wells?

Page 536:17 to 538:21

00536:17 A. That's how I understand it.
 18 Q. (BY MS. KUCHLER) And, again,
 19 the use of word, minimum requirements means
 20 you can do more than what's outlined here,
 21 but you can't do less; is that right?
 22 A. That's my understanding.
 23 Q. If we turn over to Page 5 of 17
 24 of GP 10-16 under Section 1, scope, it says,
 25 "This practice applies to work on any
 00537:01 BP-operated well."
 02 So is it your understanding that
 03 GP 10-16 applied to the Macondo well?
 04 A. Yes.
 05 Q. If we look over to Page 9 of 17
 06 under Section 5, with respect to pore
 07 pressure detection during well operations
 08 GP 10-16 states under Section 5.1, "Minimum
 09 requirements describe the minimum processes
 10 and activities that shall be completed to
 11 deliver the intent of this practice."
 12 Is that how you understood it?
 13 A. Yes.
 14 Q. And did you understand that in
 15 terms of GP 10-16 when the word "shall" is
 16 used it is defined in Section 5.2 to be where
 17 a provision is a minimum requirement of the
 18 practice and is mandatory?
 19 A. That is my understanding.
 20 Q. On Section 6.1, Page 10 of 17,
 21 we've already talked about the fact that you
 22 were the SPA for the delivery of a -- of a
 23 realtime pore and fracture gradient analysis
 24 for the Macondo, but I'd like to look at
 25 Section B under 6.1 where it says, quote, The
 00538:01 SPA shall be responsible to ensure that all
 02 contractors and employees involved in the
 03 realtime detection of pressure meet the
 04 minimum requirements set out in this

05 engineering technical practice, close quote.
06 Was that your responsibility?
07 A. I understood this to mean my
08 responsibility was to assure that Kate Paine
09 had the adequate requirements to be a
10 pressure detection specialist for the well.
11 Q. Okay. And be- -- that's because
12 she was a contractor; is that right?
13 A. That's correct.
14 Q. Okay. Was -- were there any
15 other contractor who was involved in the
16 realtime detection of pressure for the
17 Macondo well?
18 A. Kate Paine was the -- the only
19 contractor I had direct contact with,
20 communications with regarding pressure
21 detection.

Page 538:25 to 539:24

00538:25 Q. The fact that you only had
00539:01 contact with her doesn't tell me if she was
02 the only contractor who had responsibilities
03 for realtime detection of pressure for the
04 Macondo.
05 A. I view her as the only
06 contractor who has responsibility for
07 pressure detection the way I understand it,
08 using realtime log information, looking at
09 drill gas.
10 Q. Were there any BP employees who
11 were involved in the realtime detection of
12 pressure who would fall under this
13 responsibility for you to ensure that they
14 complied with GP 10-16?
15 A. Not to my knowledge.
16 Q. And tell us what you did to
17 ensure that Kate Paine as the only contractor
18 with whom you had contact was actually
19 fulfilling the minimum requirements set out
20 in GP 10-16.
21 A. I had worked with Kate Paine on
22 previous wells, and so through my -- my work
23 relationship with Kate I -- I found her to be
24 competent.

Page 540:06 to 540:11

00540:06 Q. What training did you provide to
07 her or are you aware of that BP may have
08 provided to her as to how she was to be
09 expected to fulfill the minimum requirements
10 set out in this engineering technical
11 practice?

Page 540:13 to 540:17

00540:13 A. I believe Kate attended our
14 internal pore pressure prediction school and
15 was trained in the use of Presgraf, the
16 software that we use to analyze pressure from
17 logs.

Page 541:05 to 541:21

00541:05 Q. Was a copy of GP 10-15 or 10-16
06 kept in a central location where those who
07 were working on issues covered by those
08 practices could readily avail themselves of
09 it?
10 A. These documents are stored on a
11 central server or Website, our pore
12 pressure -- I don't remember the name of the
13 Website, but our pore pressure Website. I
14 don't believe contractors would have access
15 to that directly. So if they required or
16 asked to see the documents, we could download
17 copies of those and provide them to -- to the
18 contractors.
19 Q. So as we sit here today you
20 don't know whether or not Kate Paine ever
21 actually read GP 10-16?

Page 541:23 to 542:18

00541:23 A. I don't know if she ever read
24 GP 10-16.
25 Q. (BY MS. KUCHLER) Okay.
00542:01 Switching topics, and we're -- we're not
02 really discussing a specific document here.
03 You had said several times in your previous
04 testimony when looking at the PPFG drilling
05 reports that you didn't feel very comfortable
06 commenting about the drilling margin based on
07 those PPFG drilling reports. Why not?
08 A. It's not my job function to
09 calculate margin for reporting purposes. I
10 look at pore pressure fracture gradient
11 differences and try to understand what window
12 we have to work with. But the margin that we
13 were discussing is maybe a little bit
14 different or I may have a different
15 definition of -- of what I look at for pore
16 pressure fracture gradient versus what's --
17 what margin is defined as for -- for
18 regulatory purposes.

Page 548:01 to 548:03

00548:01 Q. (BY MS. KUCHLER) So if you had
02 to do it all over again, what, if anything,
03 would you do differently?

Page 548:06 to 548:18

00548:06 A. There are emerging technologies
07 that I think show promise for pressure
08 detection; namely, the interpretation of --
09 of gas data. And I think what we may do
10 differently on -- on future wells is to try
11 and use gas data more effectively in giving
12 us hints about what the pore pressure might
13 be.
14 Q. (BY MS. KUCHLER) Well, assuming
15 you had the very same technology available in
16 2009 and 2010, what, if anything, would you
17 do differently if you had to do it over
18 again?

Page 548:20 to 549:07

00548:20 A. You know, we -- we had a lot of
21 discussions after the kick events about, you
22 know, really keeping a keen eye on the data,
23 looking at it, perhaps drilling a little bit
24 slower to give -- give ourselves adequate
25 time at the -- at -- toward the TD of hole
00549:01 sections to interpret the data, and I think
02 all those things are -- are -- are good
03 advice for -- for future wells and things
04 that we'll keep in mind.
05 Q. (BY MS. KUCHLER) Did you not
06 keep a keen eye on the data as the Macondo
07 was being drilled?

Page 549:09 to 549:18

00549:09 A. I felt that we were doing an
10 adequate job of pressure detection, and in
11 hindsight there are indicators of pore
12 pressure, arguable indicators of pore
13 pressure that you can look at. But hindsight
14 is different than in practice, understanding
15 trends as you're drilling. So there is a
16 great deal of difficulty in -- in pressure
17 detection from data. It's an inexact
18 science, and there is uncertainty in it.

Page 550:11 to 551:06

00550:11 Q. (BY MS. KUCHLER) Okay. Well,
12 help me here, then, because I'm listening to
13 your answers and what I think I hear you
14 saying, correct me if I'm wrong, is that you
15 wouldn't do anything differently than what
16 you did as the Macondo was being drilled. Is
17 that what you're saying?
18 A. I think we had a sound pressure
19 detection approach during Macondo. We had
20 events that caused us to -- to look at what
21 we were doing and came up with suggestions
22 about what we could do after the events that
23 might -- might help and those are all good
24 suggestions, but I don't know if I would
25 necessarily agree with the way you phrased
00551:01 your question that we weren't doing anything
02 differently. We are using the same
03 techniques, and we're just highlighting the
04 need to always pay attention to the data and
05 use it to the best of your ability to
06 interpret conditions as you're drilling.

Page 551:11 to 551:15

00551:11 Q. (BY MS. KUCHLER) So what
12 specifically, if anything, are you telling
13 Judge Barbier or the jury that listens to
14 this testimony that you would do differently
15 if you had to do it again?

Page 551:24 to 552:11

00551:24 A. I would hope for new techniques
25 that might help us in pressure detection for
00552:01 future wells, but the current state of
02 pressure detection, we have set techniques
03 that we use. We want to make sure that we
04 use those techniques effectively, that we're
05 all trained to -- to use the data to the --
06 to the utmost, but it is in the end an
07 interpretations that we're making and there
08 are geological conditions that make it
09 difficult to -- to eliminate all events such
10 as kicks on the basis of pressure detection
11 alone.

Page 559:01 to 559:07

00559:01 Q. (BY MS. KUCHLER) So are you
02 saying that it's not a hundred percent
03 avoidable to eliminate kicks and losses?
04 A. In my opinion, pressure
05 detection does not -- even perfect pressure

06 detection would not eliminate the -- the
07 chance that you might take a kick.

Page 561:11 to 562:02

00561:11 Q. (BY MS. KUCHLER) Okay. You
12 also said in response to a question by
13 counsel for the State of Alabama that you
14 would access realtime data on INSITE Anywhere
15 or on WellSpace. And I wanted to clarify
16 that because WellSpace not realtime data, is
17 it?
18 A. Technically, no, it's -- it's a
19 repository for documents and -- and so I
20 might call that near realtime. So if someone
21 collect -- we're collecting data and it's
22 posted out there, the next day, I might get
23 it. So it's not technically realtime
24 information.
25 Q. Okay.
00562:01 A. It's near realtime.
02 Q. Got you. Thank you for

Page 567:11 to 568:03

00567:11 Now, we -- changing topics back
12 to the technical memorandum that you
13 discussed earlier today, which was 13 -- I'm
14 sorry, 3551. And it had also been listed as
15 Exhibit 3532, I believe. It's July 26th,
16 2010, technical memorandum. We also have in
17 your binder, behind tab 49, an earlier
18 version of that technical memorandum which
19 had been marked Exhibit 1330, dated May 25th,
20 2010.
21 And I was interested in having
22 you compare the graph on Page 12 of the
23 May 25th version at Exhibit 1330 with the
24 graph that you discussed earlier with counsel
25 for Halliburton on Page 12 of Exhibit 3551
00568:01 and tell me whether they are identical or
02 whether any changes were made between May
03 25th and July 26th.

Page 568:05 to 568:15

00568:05 A. You're asking me to compare the
06 PPFG plots from these two reports on Page 12?
07 Q. (BY MS. KUCHLER) Correct,
08 correct.
09 A. And look for -- for differences
10 between them?
11 Q. Right. Or if you recall, off

12 the top of your head, we can go faster, is
 13 the chart in the final version dated
 14 July 26th in Exhibit 3551 the same as the
 15 chart in Exhibit 1330, dated May 25th?

Page 568:17 to 571:05

00568:17 A. It looks the same to me.
 18 Q. (BY MS. KUCHLER) Then if you
 19 turn back a page in each report to the
 20 paragraph entitled "Pore Pressure and
 21 Fracture Gradient," you told us that you
 22 wrote those photographs. I'm interested in
 23 the last sentence.
 24 In the May draft of the report,
 25 dated May 25th, Exhibit 1330, the last
 00569:01 sentence said, "The narrower than predicted
 02 PPFG window above the reservoir level led to
 03 shallower than planned shoes and use of
 04 contingency liners."
 05 Do you see that?
 06 A. In -- right, in this version of
 07 it, in the -- in the big binder?
 08 Q. Correct, in -- in
 09 Exhibit 1330 --
 10 A. Right.
 11 Q. -- your May 25th draft.
 12 A. Okay.
 13 Q. And then in the Exhibit 3551,
 14 the July 26th draft, the last sentence says,
 15 The narrow PPFG window above reservoir level
 16 and weak formations exposed at the 22-inch
 17 shoe, led to shallower than planned casing
 18 depths, and the use of contingency liners.
 19 Why did you change the wording,
 20 and -- and what different information were
 21 you trying to convey?
 22 A. I -- I don't remember why I
 23 changed the wording of it or what different
 24 information I was trying to convey.
 25 Q. Okay. And if you would turn
 00570:01 back, please, in your binder to tab 2. It's
 02 your annual individual performance assessment
 03 for 2010, which I don't think has been
 04 attached as an exhibit, so we will label it
 05 Exhibit 3743. Did you write the information
 06 that's contained in your performance
 07 assessment?
 08 A. Not all of it.
 09 Q. Which parts did you write?
 10 A. I would have written the --
 11 the -- the bulleted items and -- yeah, the --
 12 the bulleted items, in particular, would have
 13 been the -- the elements that I wrote.
 14 Q. Do you agree with the statement

15 about two-thirds the way down under "Mid-year
 16 performance conversation" where it -- second
 17 sentence, "Macondo was an extremely
 18 challenging well" ? Do you agree with that?
 19 A. There are adjectives that are
 20 debatable, but it was -- I would agree that
 21 it was a challenging well.
 22 Q. But not an extremely challenging
 23 well?
 24 A. Yeah, debatable adjective. I
 25 would call it a challenging well.
 00571:01 Q. Would that part of the report
 02 have been written by your line manager,
 03 Graham Vinson?
 04 A. Yes, I believe it would have
 05 been.

Page 571:19 to 573:09

00571:19 Q. Mr. Albertin, good afternoon.
 20 My name is Greg Lembrich with the New York
 21 office of Law firm Pillsbury Winthrop Shaw
 22 Pittman. My firm represents MOEX Offshore
 23 2007, L.L.C., and MOEX USA Corporation. For
 24 purposes of my questions today I'm going to
 25 refer to them collectively as MOEX. Is that
 00572:01 okay with you?
 02 A. Yes.
 03 Q. And if necessary, I'll phrase
 04 the question to specify which of those
 05 individual entities I'm asking about. Is
 06 that okay with you?
 07 A. That's fine.
 08 Q. Have you ever heard of either
 09 MOEX Offshore 2007, L.L.C., or MOEX USA
 10 Corporation?
 11 A. I have heard of MOEX as our
 12 partner in -- in Macondo.
 13 Q. Okay. In what context have you
 14 heard of MOEX?
 15 A. Just that they're partners with
 16 us, but that's it.
 17 Q. Do you personally have any
 18 knowledge of the operating agreement between
 19 BP, Anadarko, and MOEX Offshore?
 20 A. No.
 21 Q. Have you read that agreement?
 22 A. No.
 23 Q. Do you have any knowledge that
 24 under the operating agreement BP would -- was
 25 designated as the operator of the Macondo
 00573:01 well project?
 02 A. I don't have knowledge of -- of
 03 the document you're refusing referring to. I
 04 understand that BP was the operator of the

05 Macondo well.
06 Q. Do you have any knowledge that
07 under that agreement MOEX Offshore was a
08 nonoperating party with respect to the
09 Macondo well?

Page 573:11 to 573:25

00573:11 A. I don't have any knowledge.
12 Q. (BY MS. LEMBRICH) Did you ever
13 have any personal contact or communication
14 with MOEX or any of its representatives in
15 connection with the Macondo well?
16 A. No.
17 Q. Are you aware of any
18 communications that others had with MOEX or
19 its representatives regarding the Macondo
20 well?
21 A. No.
22 Q. To your knowledge, did BP as
23 operator ever consult with MOEX or its
24 representatives with respect to any technical
25 issues related to the Macondo well?

Page 574:02 to 574:06

00574:02 A. Not to my knowledge.
03 Q. (BY MS. LEMBRICH) To your
04 knowledge, did MOEX or its representatives
05 ever provide any technical input related to
06 the Macondo well?

Page 574:08 to 574:15

00574:08 A. I don't know.
09 Q. (BY MS. LEMBRICH) Not to your
10 knowledge?
11 A. Not to my knowledge.
12 Q. To your knowledge, did MOEX or
13 its representatives provide any technical
14 input related to the drilling of the Macondo
15 well.

Page 574:17 to 574:22

00574:17 A. Not to my knowledge.
18 Q. (BY MS. LEMBRICH) To your
19 knowledge, did MOEX or its representatives
20 receive any information with regarding to the
21 pore pressure forecast or prediction for the
22 Macondo well?

Page 574:24 to 575:09

00574:24 A. Not to my knowledge.
25 Q. (BY MS. LEMBRICH) To your
00575:01 knowledge, did MOEX or its representatives
02 provide any input or information with
03 regarding to the pore pressure forecast or
04 prediction for the Macondo well?
05 A. No, not to my knowledge.
06 Q. To your knowledge, did MOEX or
07 its representatives receive any information
08 with regard to pore pressure detection for
09 the Macondo well?

Page 575:11 to 575:25

00575:11 A. I don't know what information
12 they might have received.
13 Q. (BY MS. LEMBRICH) But to your
14 knowledge did MOEX or its representatives
15 receive any such information?
16 A. Not to my knowledge.
17 Q. To your knowledge, did MOEX or
18 its representatives provide any input or
19 information with regard to pore pressure
20 detection for the Macondo well?
21 A. Not to my knowledge.
22 Q. To your knowledge, did MOEX or
23 its representatives receive any information
24 with regard to fracture gradients for the
25 Macondo well?

Page 576:02 to 576:17

00576:02 A. Again, I don't know what
03 information they with might have received
04 regarding our FITs and leak off tests.
05 Q. (BY MS. LEMBRICH) But to your
06 knowledge did they receive any?
07 A. I have no specific knowledge of
08 them receiving any.
09 Q. To your knowledge, did MOEX or
10 its representatives provide any input or
11 information with regard to fracture gradients
12 for the Macondo well?
13 A. Not to my knowledge.
14 Q. To your knowledge, did MOEX or
15 its representatives receive any information
16 with regard to mud weights to be used in the
17 drilling of the Macondo well?

Page 576:19 to 576:24

00576:19 A. Yeah, I don't -- not to my
20 knowledge.
21 Q. (BY MS. LEMBRICH) To your
22 knowledge, did MOEX or its representatives
23 provide any input or information with regard
24 to mud weights for the Macondo well?

Page 577:01 to 577:06

00577:01 A. Not to my knowledge.
02 Q. (BY MS. LEMBRICH) To your
03 knowledge, did MOEX or its representatives
04 receive any information with regard to
05 drilling windows or drilling margins for the
06 Macondo well?

Page 577:08 to 577:13

00577:08 A. Not to my knowledge.
09 Q. (BY MS. LEMBRICH) To your
10 knowledge, did MOEX or its representatives
11 provide any input or information with regard
12 to drilling windows or drilling margins for
13 the Macondo well?

Page 577:15 to 578:01

00577:15 A. I don't know. Not to my
16 knowledge.
17 Q. (BY MS. LEMBRICH) To your
18 knowledge, did anyone from MOEX ever visit
19 the Deepwater Horizon in connection with
20 drilling or the attempted temporarily
21 abandonment of the Macondo well?
22 A. I don't know.
23 Q. To your knowledge, did MOEX or
24 its representatives express any concerns to
25 BP with regard to any of the operations or
00578:01 equipment at the Macondo well?

Page 578:03 to 578:07

00578:03 A. Not to my knowledge.
04 Q. (BY MS. LEMBRICH) To your
05 knowledge, did BP express any concerns to
06 MOEX with regard to any of the operations or
07 equipment at the Macondo well?

Page 578:09 to 578:14

00578:09 A. I don't know.
10 Q. (BY MS. LEMBRICH) Are you aware

11 of any concerns expressed by BP to MOEX with
12 regard to any of the operations or equipment
13 at the Macondo well?
14 A. Not to my knowledge yes.

Page 582:06 to 582:10

00582:06 Q. And so information about the
07 sands in the interval that you're drilling,
08 is that acquired while you drill or is that
09 something you can determine before you drill
10 that interval?

Page 582:13 to 582:22

00582:13 A. We have an estimate for what we
14 think the pressure is in the sands and shales
15 prior to drilling in the hole section. And
16 we might acquire data after finishing
17 drilling the hole section that gives us more
18 information about the sand pressures.
19 Q. (BY MR. CHEN) And can you
20 explain for us why it's difficult to predict
21 the pore pressures fracture gradients for
22 sand?

Page 582:25 to 583:09

00582:25 A. Pressure prediction techniques
00583:01 aren't specifically tailored to predicting
02 sand pressures. We predict shale pressures
03 and then infer from the shale pressures and
04 our understanding of the geology what sand
05 pressures might be.
06 Q. (BY MR. CHEN) So before you
07 drill an interval you don't have a needily
08 defined drilling window for that -- for that
09 interval you're about to drill?

Page 583:12 to 583:18

00583:12 A. I will have an estimate for what
13 I think the sand and shale pressures are
14 likely to be and an estimate for what the
15 sand and shale fracture gradients are likely
16 to be.
17 Q. (BY MR. CHEN) But you don't
18 have the actual sand or fracture gradients?

Page 583:22 to 584:07

00583:22 A. No, it will be an estimate.

23 Q. (BY MR. CHEN) Now, there were
24 some questions about the formation integrity
25 test for the 11 -- for the shoe of the
00584:01 11-and-7/8-inch casing and the shoe for the
02 9-and-7/8-inch casing. Do you remember that?
03 A. Yes, I -- I recall discussions
04 about those -- those leak off tests and FITs.
05 Q. Now, those leak off tests and
06 FITs, the results were higher than the
07 overburden pressure, correct?

Page 584:09 to 584:15

00584:09 A. The results of the tests for
10 those -- those two shoes were that the -- we
11 deemed the formation strength to be higher
12 than overburden.
13 Q. (BY MR. CHEN) Did you believe
14 that those formation strength tests were
15 incorrect or invalid for any reason?

Page 584:17 to 585:01

00584:17 A. We had discussions about it, but
18 after discussions we felt that the -- the
19 tests were valid.
20 Q. (BY MR. CHEN) So based on -- so
21 based on those test results you had
22 discussions with others who would an- -- and
23 then got together and discussed possibilities
24 for whether this was a valid or invalid test
25 result, correct?
00585:01 A. Yes.

Page 585:03 to 585:14

00585:03 Q. (BY MR. CHEN) And based on
04 the -- what was the result of your
05 discussions?
06 A. During the discussions we -- we
07 looked at -- at reasons for questioning the
08 test and convinced ourselves that the tests
09 were valid, and we -- we discussed reasons
10 that the -- the rock strength might be as
11 high as what we were observing.
12 Q. Was there anyone in the group
13 discussions that believed that those test
14 results were not valid?

Page 585:17 to 586:18

00585:17 A. I -- I --
18 Q. (BY MR. CHEN) To your

19 knowledge?

20 A. To my knowledge, after we had
21 discussed the -- the possibilities and the
22 uncertainties about the tests that we had
23 collectively agreed that the tests were
24 valid.

25 Q. Mr. Albertin, you were asked a
00586:01 lot of questions about the different forms
02 and applications that BP submitted to the MMS
03 for the Macondo MC 251 No. 1 well. Do you
04 remember those questions?

05 A. Yes.

06 Q. Did you have any responsibility
07 for submitting documents to the MMS for the
08 MC 252 No. 1 well?

09 A. No.

10 Q. Did you have any responsibility
11 for providing specific numbers that went into
12 those applications and different filings with
13 the MMS for the MC 252 No. 1 well?

14 A. I would have provided data that
15 was used to derive the values that -- that
16 were in the report, but I didn't provide
17 specific numbers for those reports. It
18 wasn't my responsibility.