

Deposition Testimony of:

Galina Skripnikova

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Page 15:15 to 15:17

15 Q. Can you state your name for the
16 record, please?
17 A. My name is Galina Skripnikova.

Page 17:21 to 18:11

21 Q. Okay. And I suspect your
22 English is a lot better than my Russian, but
23 if there is anything you just don't
24 understand that I'm asking, just ask me to
25 re- -- rephrase it or something like that and
1 I'll try to do that as well, okay?
2 A. I would like to say something,
3 if you don't mind. Russian is my first
4 language.
5 Q. Oh, I'm sorry, I apologize.
6 A. English is not my first
7 language, and I feel a bit nervous speaking
8 in public.
9 Q. Sure. Okay.
10 A. Please take that in
11 consideration.

Page 19:10 to 20:23

10 I am. Tell me about your background. Where
11 were you raised?
12 A. I was raised in Siberia.
13 Q. Okay. And how long were you
14 there?
15 A. I was there until I finished
16 high school, so around 16.
17 Q. Okay.
18 A. Then I went to -- to Moscow.
19 Q. Okay. And you went to a
20 university in Moscow?
21 A. I went to university in Moscow.
22 Q. Okay. And which of the
23 universities in Moscow did you attend?
24 A. I graduated from Moscow Oil &
25 Gas University named after Gubkin.
1 Q. Yes. And -- and when did you
2 attend that university?
3 A. 1985 to 1990.

4 Q. Okay. And you received what
5 degree from that university?
6 A. Engineering degree in
7 petrophysics.
8 Q. Engineering in petrophysics?
9 Okay. You received that degree in 1990?
10 A. Yes.
11 Q. Okay. And after you got your
12 degree in engineering and petrophysics what
13 did you do with it? What did you begin to do
14 at that time?
15 A. I went to -- to work for Okha
16 Marine Oil Logging Company. It's a little
17 town of Okha --
18 Q. Uh-huh.
19 A. -- located on the north part of
20 Sakhalin Island, far east of Russia.
21 Q. Okay.
22 A. And I worked there for three
23 years.

Page 21:12 to 22:11

12 Q. How long did you work for Okha?
13 A. It's Okha -- Okha Marine Well
14 Logging Company.
15 Q. Yes. How long did you work for
16 that company?
17 A. Three years.
18 Q. Three years. Okay. So that
19 will take us to about 1993. What did you do
20 at that time?
21 A. After that I moved back to
22 Moscow and starting working in the central
23 geophysical expedition.
24 Q. I'm sorry, say that again. I
25 didn't ---
1 A. Central geophysical
2 expedition --
3 Q. Okay.
4 A. -- as a petrophysicist.
5 Q. Okay. And how long did you work
6 as a petrophysicist for the central
7 geophysical expedition?
8 A. Until 2001 --
9 Q. Okay.

10 A. -- when I moved to the United
11 States.

Page 22:14 to 22:19

14 Q. Okay. So you moved to the
15 United States in December of 2001?
16 A. Yes.
17 Q. And did you have employment
18 lined up here that caused you to move?
19 A. Yes.

Page 22:23 to 23:01

23 Q. Who did you go to work for at
24 that time?
25 A. I went for a company, Chemist
1 Technologies, KGT Enterprises.

Page 23:05 to 23:24

5 A. I worked for a company, Chemist
6 Technologies, KGT Enterprises.
7 Q. Okay. KGT Enterprises?
8 A. Yes.
9 Q. And how long did you work for
10 KGT Enterprises?
11 A. For around four and a half years
12 until I started with BP in June 2006.
13 Q. Okay. And in June of 2006 what
14 position did you take with BP?
15 A. I took a position of
16 petrophysicist working a project BP had at
17 that time with Rosneft.
18 Q. Where -- where is that located?
19 A. It's -- it's a project. BP
20 worked together with Rosneft. It's a Russian
21 oil-based -- oil company.
22 Q. Yes.
23 A. We drilled exploration licenses
24 on north part of Sakhalin.

Page 25:01 to 26:07

1 Q. My apologies. When you started
2 at BP in June of 2006 and you were working on

3 this partnership with Rosneft with respect to
4 projects in eastern Russia, how long did you
5 work in that area geographically on projects
6 in that area?

7 A. Until December 2000 -- December,
8 January 2000 -- it was -- my train -- my -- I
9 moved from one team, from Rosneft team to
10 Gulf of Mexico exploration team early 2008, I
11 think.

12 Q. Okay. So in early 2008 you
13 transitioned to the --

14 A. Yes.

15 Q. -- Gulf of Mexico team?

16 A. Yes, because -- I don't know.

17 Q. Now, in early 2008, what did you
18 begin to work on for the Gulf of Mexico team?

19 A. I started working for the --
20 working in exploration team as a
21 petrophysicist. There were several
22 responsibilities I had to do. It was
23 evaluations of pro- -- of prospectivity of
24 prospects.

25 Q. Okay.

1 A. I did also involve into well
2 planning of one of the well BP were going to
3 drill at that time.

4 Q. What was the well that you were
5 involved in the well planning of?

6 A. In the well plan, it was Rutile
7 well, but we never drilled it.

Page 27:19 to 29:09

19 Q. What was your involvement --
20 when did you become informed that you were
21 going to become working on the Macondo
22 prospect, the Macondo well?

23 A. It -- it was my free will. I
24 didn't have to do it. There was -- the Gulf
25 of Mexico is divided into sections, areas.

1 All right. In BP three teams working on
2 that, central team, eastern team, and western
3 team. And I worked for central team. It's
4 "rim" canyon area. So it's not the area I
5 was supposed to work with --

6 Q. Uh-huh.

7 A. -- work for. And I was
8 geophysicist in eastern team where MC252 well
9 is.
10 But the -- around September of
11 2009, the petrophysicist moved to another
12 project, and there were lack of
13 petrophysicist, and there was nothing planned
14 to drill for in my team because the Rutile
15 project was closed.
16 Q. So you were available?
17 A. So I was available and I was
18 asked if I want to work on it and I agree.
19 Q. Was the petrophysicist that
20 moved to another project from the eastern
21 area, was that gentleman named Donald?
22 A. Donald -- Donald Charles.
23 Q. Okay. And so Donald moved, and
24 then you were slotted into his old position
25 to work on the eastern segment, which
1 included the Macondo 252 No. 1?
2 A. Yes.
3 Q. Okay. That makes sense.
4 A. So by the time everything was
5 planned, so the plan was that the data
6 acquisition was done by him. So I kind of
7 handed that and started attending the
8 meetings and getting familiar with the
9 project.

Page 30:14 to 33:19

14 Q. What was -- in your own words,
15 what was your scope of work on the Macondo
16 well, if you will?
17 A. As I said, if I was early with
18 the team, I would be doing the -- the
19 planning of the data acquisition.
20 Q. That had already been done by
21 the time you got there?
22 A. It had already been done.
23 Q. Okay.
24 A. So I started attending the
25 meetings, as I said, with drilling team, with
1 subsurface team. I went to the Marianas rig
2 with the plan to kind of drill back -- it's
3 one of those type spot, kind of overview, to

4 see everything -- is everything in place.
5 Q. You went out on the rig?
6 A. It was Marianas, yes.
7 Q. Okay.
8 A. It was when the rig was still in
9 the Gulf.
10 Q. And that would have been October
11 or before --
12 A. Yeah, something like that, yes.
13 Q. Okay. So you went out to the
14 Marianas. What else did you do?
15 A. Yes. So then we basically
16 started waiting for the spud. Then we
17 spudded. And during the drilling I was
18 looking after -- logging while drilling data,
19 which was submitted almost realtime to -- to
20 the office, and then provided the updates to
21 the team of -- to the subsurface team what
22 kind of -- what kind of logs we run, with the
23 response on the log, how it reflects the
24 lithogy we're going through.
25 Q. Uh-huh.
1 A. The lithology data was collected
2 on that while -- from cuttings while
3 drilling.
4 Q. Yeah.
5 THE REPORTER: From what?
6 MR. WATTS: Cuttings --
7 THE WITNESS: Cuttings.
8 MR. WATTS: -- from the well drilling.
9 A. I did the -- participated in all
10 the operations, morning calls with rig.
11 Q. (BY MR. WATTS) I'm sorry, say
12 that last sentence --
13 A. I participated in the
14 operation -- operation calls with rig every
15 morning.
16 Q. Okay. And there was a call
17 every morning that you were on?
18 A. Yes.
19 Q. Okay.
20 A. And every -- well, almost every.
21 I -- you have to --
22 Q. I'm with you.
23 A. It's -- and then after that we
24 usually had subsurface call, especially

25 when -- well, we had it every morning because
1 of discussions we had to have with well site
2 geologist and pore pressure prediction
3 specialist on the rig. I was doing pore
4 pressure detection realtime.

5 Q. You were or --

6 A. No.

7 Q. -- you were coordinating with
8 them?

9 A. The team, subsurface team
10 coordinating with them.

11 Q. Okay.

12 A. So then over the target section
13 we run wireline logs, and it was my
14 responsibility to go to the rig to witness
15 wireline operations.

16 Q. Okay.

17 A. And then to come to the office
18 and do the physical evaluation of the
19 collected data.

Page 34:25 to 35:06

25 Q. How many times did you go to the
1 Deepwater Horizon while it was drilling the
2 Macondo well?

3 A. One.

4 Q. Okay. And that would have been
5 in the month of April?

6 A. Yes.

Page 36:11 to 37:10

11 Q. Okay. Now, if you go to tab
12 107, please, 107. And this is Exhibit 3369.
13 What this is, it's a Transocean Personnel
14 On-Board log. And if you'll look at No. 17
15 on the first page, it lists you as a
16 petrophysicist. It says that you were put on
17 the -- or you came onto the Deepwater Horizon
18 on April the 9th and that as of the date of
19 this document, which is April 13th, you'd
20 been on the facility for four days. Do you
21 see that?

22 A. Yes.

23 Q. And my question is -- I should

24 have pulled a -- a later document, were you
25 on the rig after April 13th? Or how long
1 were you on the rig?
2 A. No, I left on April 13th --
3 Q. Okay.
4 A. -- which was Wednesday.
5 Q. Okay. Well, I got lucky, then,
6 I pulled the right one. So you were on the
7 rig from the 9th through the 13th of April,
8 to your recollection?
9 A. I think -- it's 9th here, it's
10 the date when I departed from New Orleans --

Page 37:12 to 37:12

12 A. -- to New Orleans from Houston.

Page 37:19 to 37:20

19 take you through about that. But, roughly,
20 you were there from the --

Page 37:22 to 39:07

22 Q. -- 10th through the 13th of
23 April?
24 A. Yes. Roughly, yes.
25 Q. Okay. Now, what did you do
1 while you were on the rig for those three or
2 four days?
3 A. When I arrived at the rig, I had
4 a safety moment with -- which everyone is
5 supposed to have.
6 Q. Sure.
7 A. Moment is, what, like, around
8 two hours. Then after that I met with
9 Stewart Lacy, who was well site geologist,
10 kind of went through -- went through them,
11 through -- through the things we need to do,
12 which included the witnessing the wireline
13 operations and making a diary, so -- which is
14 every hour, every -- hour and minute we put
15 the time and what's going on --
16 Q. Sure.
17 A. -- of the operations. I also
18 let them know that I wanted to go and look at

19 the tools and address how Schlumberger is
20 getting ready to -- with drilling and -- the
21 unit, the mud logging unit, Pencor
22 unit and --

23 Q. I'm sorry, what was the --

24 A. Pencor is --

25 Q. Pencor, yes, okay.

1 A. -- it's a -- it's a lab --
2 include laboratory. And we decide -- well,
3 one of the reasons the petrophysicist coming
4 on the rig, because it's a 24/7 operation,
5 around the clock, and one person is --
6 Stewart Lacy or any other, they all just
7 can't do that because you have to sleep.

Page 39:09 to 39:17

9 A. So we kind of discussed that we
10 will be shifting, and he asked me if I wanted
11 to have a preference. And I said that I
12 would think to choose a preference. I don't
13 recall -- recall right now, but he said let's
14 do morning or evening.
15 I said, I'll let you sleep as
16 you want to, but I would like to be up as
17 much as I can --

Page 39:22 to 40:01

22 Q. So for the three or four days,
23 you and Stewart Lacy, depending on what time
24 of day it was, were doing the activities that
25 you described for us?

1 A. Yes.

Page 40:11 to 43:25

11 Q. What other activities were you
12 involved in while you were on the rig?

13 A. I said that -- so I did the
14 tool, as I mentioned, around tools, around
15 the rig. And then the wireline run started.
16 So they were planned accordingly before, so
17 we had the schedule package. So the tools
18 were already on the rig in advance, and we
19 started -- they -- Schlumberger started

20 running in the hole and collecting data, and
21 we started witnessing it.

22 Q. Okay. Now, I know what this is
23 because I've read all these documents, but
24 somebody watching this video might not know.
25 What is the purpose of a wireline run?

1 A. Wireline run is -- is a --
2 wireline tool -- when -- when you see
3 wireline run it means running a tool in the
4 hole.

5 Q. Yes.

6 A. So the tool goes all the way
7 down to the bottom of the well and then
8 pulled up with speed, with certain speed, and
9 the tool -- there is several kinds of tool.
10 They're collecting data about dif- --
11 different physical properties of the rocks,
12 such -- natural rejectivity, resistivity,
13 acoustic data. There is also types of tool
14 that allow you to collect samples, such --
15 fluid samples and actual samples of the
16 rock --

17 Q. Uh-huh.

18 A. -- which drill from the wall of
19 the -- of a well. So --

20 Q. And what's -- what's the purpose
21 of doing this?

22 A. The purpose of collecting all
23 the data is at the end to -- to do the
24 evaluation of the petrophysical properties of
25 the rocks. The main, porosity, water
1 saturation, and permeability.

2 Q. Now, why do you want to know
3 that?

4 A. So -- porosity is a fluid
5 capacity parameter which allows -- we --
6 basically, tells you how much space you have
7 in the rock that can be filled with a
8 fluid --

9 Q. Uh-huh.

10 A. -- either water or oil.

11 Q. Okay.

12 A. And permeability is the fluid --
13 kind of like fluid movement. I can't find
14 the right word. It just --

15 Q. It's the capacity for fluid to

16 move through the rock?
17 A. Yes, it's the capacity of fluid
18 to move through the rock.
19 Q. Okay.
20 A. So they -- porosity and
21 permeability probably related , but not
22 directly.
23 Q. Okay. And then water
24 saturation, why do you want to know that?
25 A. Water saturation is a parameter
1 which allows us to see where -- where is the
2 water and where is the oil in that reservoir
3 and for the fol- -- following up the
4 summation of pay versus net.
5 Q. Okay. And we'll get into that
6 later, but through this wireline operation
7 and your evaluation of it you can make a
8 determination of what the prospective pay is
9 in the reservoir, right?
10 A. Yes.
11 Q. Okay. Now, as I understand, and
12 I don't want to oversimplify this because I
13 know this is very high-tech, but just so that
14 people can understand it, you're basically
15 lowering tools into the hole all the way down
16 to the level of the reservoir at -- as far as
17 you drill down, right?
18 A. Yes.
19 Q. Okay. And then when you get
20 into the reservoir -- I've seen documents
21 that you've written that says we got 90 feet
22 of pay or something like this. Do you go all
23 the way down to the bottom of the reservoir?
24 A. Yes, we went all -- all down to
25 the bottom of the hole.

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2 A. It's not reservoir. Okay. I
3 don't know whether there is more reservoir,
4 but the bottom of the hole --

Page 44:06 to 44:07

6 A. -- is the -- where the bottom of
7 the hole is.

Page 44:24 to 45:02

24 Q. Okay. And then my question, the
25 bottom of the well when -- when y'all sent
1 the wire down was about 18,360 feet?
2 A. I think -- yes.

Page 45:15 to 46:19

15 Q. (BY MR. WATTS) With respect to
16 whatever the machinery is doing at
17 18,360 feet, do you then slowly pull the
18 tools up and continue collecting that
19 information as you go up the wellbore?
20 A. Yes, that's how it works.
21 Q. Okay. And then my question is,
22 I know we go as far down as 18,360 feet.
23 When you're pulling the tool up and going
24 farther up towards the surface are you
25 collecting samples and information at depths
1 that are between the bottom of the hole and
2 the -- the surface of -- of the water?
3 A. There always will be gap from --
4 if you imagine the tool --
5 Q. Uh-huh.
6 A. -- just touching the hole, it's
7 what -- it doesn't mean that the data will be
8 at that depths.
9 Q. Right.
10 A. There will be, like, offset,
11 which is called -- there is a 2 -- like, 20,
12 I would say.
13 Q. Right.
14 A. And from there, it depends on
15 the tool configuration, you will start
16 collecting the data from kind of upper depth.
17 Q. Okay. And --
18 A. And so it's moving and then
19 collecting the data every depths with --

Page 46:22 to 48:18

22 Q. (BY MR. WATTS) And --
23 A. Yes, the -- it's not samples.
24 It's -- it's --

25 Q. It's data, yeah.
1 A. It's data.
2 Q. Yeah, and Walter's right, and I
3 agree with his comment.
4 But here is my question: With
5 respect to the data, are there various
6 intervals of elevation that you're trying to
7 collect the data or is it kind of a
8 continuous collection?
9 A. It's a -- it's -- the moving of
10 the tool is supposed to be and best with --
11 with constant speed.
12 Q. Okay.
13 A. There could be tension on the
14 cable or pulls, which we call it, but then
15 kind of -- so then the quality of the data
16 can be affected by that, those parts.
17 Q. Sure. But my understanding, for
18 example, you're on a -- a MODU that's
19 floating in the water. You're
20 4,900-and-something feet until you get to the
21 seabed, and then you're at basically an
22 elevation of zero, and then you go down to
23 18,360 feet below the seabed, right?
24 A. Yes.
25 Q. Okay. And so from the
1 standpoint of this wireline that's collecting
2 data, you're collecting data from 18,360 feet
3 below the seabed all the way up to the
4 seabed?
5 MR. LANCASTER: Object to form.
6 A. No.
7 Q. (BY MR. WATTS) When does the
8 data stop being collected?
9 A. The data is -- the collected
10 data is in open hole.
11 Q. Okay.
12 A. So the hole which is not covered
13 with -- with casing.
14 Q. Okay. So where -- where is the
15 open hole when this data is being collected,
16 in terms of the elevation?
17 A. The shoe point or the previous
18 section --

20 A. -- I think it's around -- it's
21 17,168 --

22 Q. Okay.

23 A. -- or so.

24 Q. I agree with you.

25 A. So from then -- from that depth
1 down we collect the data.

2 Q. So you're collecting data from
3 18,360 feet up to about 17,1 where the
4 previous shoe was?

5 A. Yes, you usually --

6 Q. Okay.

7 A. -- see the shoe on that
8 resistivity to data.

9 Q. All right. And then from
10 17,100 feet higher up the wireline operation
11 that was done while you were out at the
12 Deepwater Horizon is not collecting anything?

13 A. We did not do wireline data in
14 those sections.

15 Q. I understand. Okay. Thank you.
16 Now, I want to switch gears with you for a
17 second. In tab 1, the letter that the
18 lawyers wrote to us about your involvement,
19 it also says that you had involvement with
20 the post-incident response effort, including
21 providing petrophysical analysis of the
22 original Macondo well data for planning of
23 the relief wells and assisting the data
24 interpretation from relief well operations.
25 I want to visit with you just very briefly
1 about that.

2 It says that you provided
3 petrophysical analysis of the original
4 Macondo well data. Just in your own words
5 describe for me what you provided in that
6 regard.

7 A. It's basically evaluation of
8 those parameters I mentioned before, which is
9 porosity, water saturation, and resistivity,
10 using different types of logs; evaluation
11 of -- using the pressure data to see if
12 the -- looking at the compartmentalization of
13 the reservoir.

14 Q. The compartmentalization?

15 A. The compartmentalization if it
16 is the same or gradient or not within the
17 reservoir.

18 Q. All right. What did you
19 conclude in that regard?

20 A. I -- pardon?

21 Q. What did you conclude in that
22 regard with respect to the
23 compartmentalization of the reservoir?

24 A. The degree --

Page 51:01 to 54:01

1 Q. (BY MR. WATTS) Go ahead.

2 A. The data collected from one of
3 the wireline tool is pressure data.

4 Q. Yes.

5 A. And it's used for evaluation of
6 gradient, and the gradient is the same
7 between -- within the reservoir. It can
8 be -- fair sugges- -- assumption can be made
9 that it's connected.

10 Q. Okay.

11 A. That all the reservoir are
12 connected between. So that's pressure data
13 compilation.

14 Q. In other words, it's not
15 compartmentalized?

16 A. Yes, it's not compartmentalized.

17 Q. Okay. In other words, I think
18 what I'm hearing -- I'm visualizing, but I
19 want to make sure I'm seeing this correctly.
20 Because of the connectivity of the pressure
21 data, the data showed you that -- that the
22 reservoir, whatever size it was, was
23 connected; it wasn't compartmentalized,
24 right?

25 A. Yes.

1 Q. Okay. In addition to that, in
2 looking at porosity and water saturation and
3 resistivity, I see from some of the documents
4 that you were providing information as to the
5 depth of pay that was in that reservoir that
6 was connected, right?

7 A. Not necessarily connected. The
8 depth of the reservoir, its porosity, its

9 water saturation, and average -- the
10 thickness, the thickness of sand, the
11 thickness of --
12 Q. Right.
13 A. -- pay, and then average
14 parameters.
15 Q. Why were you providing that
16 information in this regard?
17 MR. MONICO: Objection; form.
18 A. The data, especially, I think,
19 porosity and permeability, are used for
20 reserve engineer for evaluation of how
21 much --
22 Q. (BY MR. WATTS) Pay?
23 A. -- pay we have over the area.
24 Q. Okay.
25 A. So my evaluation is within the
1 well, and then it's applied to the reservoir.
2 Q. I'm with you. Okay. I want to
3 take you through several documents that deal
4 with this issue of the size of the pay that
5 was found. If you'll go to tab 73, please.
6 And this is a document that's written before
7 the explosion. It's dated March the 26th.
8 It's an e-mail chain that involves you. I'm
9 going to mark this Exhibit 3370. In the
10 middle of the page you receive an e-mail from
11 Charles Bondurant. Who was Mr. Bondurant?
12 A. He was geologist.
13 Q. Okay. And he says, Galina, can
14 you help with this? "We need to list the
15 massive hydrocarbon bearing sands that we
16 have encountered in the well."
17 Do you see that?
18 A. Yes.
19 Q. When he says "massive
20 hydrocarbon bearing sands," did you agree
21 with that?
22 A. I didn't know what -- when -- I
23 understand he's asking about massive. It's
24 about those two sand logs which are going
25 to -- basically was the target of the
1 exploration.

5 Q. And then -- and then you write
6 back, "We had sand in" and then there's a 1,
7 2, 3, and 4. Do you see that? And let me
8 just -- let me just read this in the record.
9 We had sand in No. 1 from 8949 to 8953 feet,
10 says gas and resistivity increase; No. 2,
11 from 12,120 and a half to 12,123 feet, tiny
12 but was gas increase; No. 3, 12,233 to
13 12,236, resistivity increase but don't see
14 gas, no cuttings sample taken there; and, 4,
15 and the one we took kick at, 13,248 to 13,252
16 and a half feet. What do you think? Can't
17 eliminate 2.

18 Is that what you wrote back? Do
19 you see that text there?

20 A. Yes, I see the text --

21 Q. Okay.

22 A. -- text there. I do not recall
23 why I'm not listing those two sands.

24 Q. Okay.

25 A. Probably was in a conversation
1 when I met him in person, and I gave him
2 this --

Page 55:06 to 57:07

6 Q. But let me take you to another
7 document, exhibit -- or tab No. 92, which I'm
8 going to mark as Exhibit 3371. And this is
9 an e-mail that you wrote on April the 4th,
10 which is 16 days before the explosion, to a
11 number of people, and it says -- it's got an
12 attachment, Macondo TD Section Drilling. And
13 then if we go to the attachment that was
14 attached to the e-mail, there is, looks like
15 a graphic with some logs on it.

16 A. Yes.

17 Q. And you write, Macondo M56 upper
18 load --

19 A. Lobe.

20 Q. -- lobe SW equals 0.16. What
21 does "SW" mean?

22 A. It's the -- that is water
23 saturation.

24 Q. Okay. So it says water
25 saturation 0.16, and then it has a statement

1 "full of hydrocarbons." Do you see that?
2 A. Yes, full to depths. There is
3 no water sand within this -- this log is made
4 while drilling. So it's realtime. And then
5 I'm sitting probably at home in the office
6 capturing these events.
7 Q. Right.
8 A. And sending it to the team.
9 Q. I've invested in enough oil
10 wells that you're looking for oil, you're not
11 looking for water.
12 A. Yes.
13 Q. And -- and when you say that
14 it's full of hydrocarbons, that's a good
15 thing as opposed to --
16 A. Yes.
17 Q. -- full of water, which is wet,
18 and that's a bad thing, right?
19 A. Yes.
20 Q. Okay. And so on April the 4th
21 we have a log that is at what el- -- what
22 depth; do you know? It says 18,000 and
23 change.
24 A. Are we still looking at the same
25 picture.
1 Q. Yes, we are. And if you look at
2 the left-hand side, we can see the log
3 appears to go from about 18,000 feet down to
4 about 18,200. Okay. And you find, for
5 example, a 20 to 22-foot stretch of pay
6 between about 18,800 and 18,120; do you see
7 that?

Page 57:09 to 60:05

9 A. Yes. I am talking about this --
10 Q. (BY MR. WATTS) Sure --
11 A. Sand here -- you are talking
12 about this --
13 Q. Okay. And you're saying that
14 sand is full of hydrocarbons, right?
15 A. Yes.
16 Q. Okay. Now, let's go to tab 136,
17 please. Tab 136 is an e-mail written by Walt
18 Bozeman to several people and you're copied
19 on it, dated April 21st.

20 A. Yes.

21 Q. This would be the day after the
22 explosion and let me start you -- this is
23 Exhibit 3372, for the record. Let me start
24 you at the e-mail at the bottom that you're
25 not copied on. Mr. Bozeman about four lines
1 down says, "The calculation is greatly
2 influenced by the permeability and we are
3 still using our pre-drill estimate in the
4 above calculation. Bryan has Galina et al.
5 tasked with re-assessing this and a couple
6 other key subsurface parameters."

7 When he talks about Galina, et
8 al, that would be you and your team, right?

9 A. I suppose so.

10 Q. Okay. And you were asked to
11 evaluate not only issues of permeability, but
12 porosity, water saturation, resistivity in
13 order to reach a -- a determination as to
14 what the pay was in this reservoir, right?

15 A. Yes.

16 Q. Okay. Now as we go to the top,
17 again, now we have an e-mail from Mr. Bozeman
18 that you're copied on, sent to Dave Rainey.
19 And it says, "Dave, We have updated the
20 earlier WCD calculation."

21 What does WCD stand for?

22 A. I don't know.

23 Q. Okay. If you go to the
24 attachment, it has something called WCD
25 plots. Maybe that will help you. What does
1 this first graphic show us on the attachment
2 that says WCD plot?

3 A. I don't know.

4 Q. Okay. Back to the e-mail. It
5 says, "We have updated the earlier WCD
6 calculation with new subsurface parameters
7 from the Macondo team and modeled the flow
8 rate at the sea floor, assuming riser falls
9 in Prosper with the latest wellbore
10 configuration. All the REs in GoMX
11 participated in this evaluation along with
12 numerous members of the Macondo team. We
13 calculate 100,000 BOPD and 300 MMCFPD based
14 on these parameters. This is shown in the
15 attached PowerPoint."

16 Okay. So here's my question:
17 With respect to what's shown in the attached
18 PowerPoint of the calculation of 100,000
19 BOPD, that is a calculation that was made
20 after you had already provided your thoughts
21 as to what the size of the pay zone was; is
22 that right?

23 A. Yes.

24 Q. Okay. And then based on the
25 information that you provided as to what the
1 size of the pay zone was, then somebody else,
2 my impression, calculated what the
3 probability flow rate was; is that fair?

4 MR. LANCASTER: Object to form.

5 A. Yes.

Page 61:05 to 63:16

5 Q. Okay. Now, here's my question:
6 I've already taken the deposition of the
7 gentleman that ran the Well Dynamics model
8 and these kind of things. Were you involved
9 with any of the analyses of the Well Dynamics
10 Flow model?

11 A. I was not.

12 Q. Okay. So would it be fair --
13 and I think I've already asked this question,
14 but I want to be certain. With respect to
15 the analyses that was done with respect to
16 the well flow dynamics model, the only extent
17 of your involvement was to provide the input
18 of the size of the reservoir in terms of net
19 pay?

20 A. Within the well.

21 Q. Okay, fair enough. Now, if we
22 would go to tab 140, please, the next
23 document. This is a document that I marked
24 as exhibit 3374, it's an e-mail written by
25 yourself to David Epps on May the 3rd of
1 2010. And it's also written to Kent Corser.
2 In fact, you say, Kent, My latest estimate
3 for the two main lobes together is 86 feet of
4 pay. There is 5 to 6 feet of pay below the
5 two main lobes and approximately 1 foot gas
6 charged sand above the 2 main lobes.

7 Do you see that?

8 A. Yes.

9 Q. Okay. Now, as we go down the

10 e-mail chain Mr. Epps writes an e-mail to Yun

11 Wang, copies you, and says, "Here is the net

12 pay summary from Galina Skripnikova." And

13 then there is a small graph there.

14 And with respect to the summary

15 it divides the M56 upper area from the M56

16 lower sand; is that right?

17 A. Can you please tell me what page

18 you're at?

19 Q. I'm sorry. I'm looking at the

20 bottom of the first page shaded area, where

21 at tab 14-- of the first page. Yeah, right

22 there.

23 A. Yeah.

24 Q. Okay. So looking at the bottom

25 of the first page of tab 140, which is

1 Exhibit 3374 --

2 A. Yes.

3 Q. -- it says, "Here is the net pay

4 summary from Galina Skripnikova." And then

5 we see an M56 upper sand and then an M56

6 lower sand; is that right?

7 A. Yes.

8 Q. Okay. And then in terms of the

9 second column it says MD feet. What does MD

10 stand for?

11 A. Measured depths.

12 Q. Measured depth feet. TVD feet,

13 what does that stand for?

14 A. True vertical depth.

15 Q. And TVDSS feet?

16 A. True vertical depth subsea.

Page 63:24 to 64:11

24 Q. I'm sorry, under TVDSS in the

25 shaded part it says 17,965 and then it goes

1 down to 17,991; is that right?

2 MR. MONICO: You can't -- you can't --

3 A. I can't see the shaded. It's --

4 Q. (BY MR. WATTS) Let me hand you

5 my copy. I'm sorry.

6 A. Yeah. I can see here.

7 Q. No wonder I couldn't get the

8 answer out of you. You couldn't see it. I
9 apologize. Do you see what I'm talking about
10 there?

11 A. Yes, I understand.

Page 65:08 to 67:04

8 Q. All right. And in terms of net
9 feet of pay you say 19 and a half feet, is
10 that right, on the upper sand?

11 A. Yes.

12 Q. If we go to the M56 lower sand
13 and what we see -- and I apologize for
14 this -- is that in terms of MD feet it goes
15 from 18,117 to 18,240?

16 A. Yes.

17 Q. On TVD feet it goes from 18,106
18 to 18,229, right?

19 A. Yes.

20 Q. And then from TVDSS feet it goes
21 from 18,017 to 18,140; is that right?

22 A. Yes.

23 Q. And in terms of the M56 lower
24 sand you say the net pay in feet is 68 and a
25 half feet, right?

1 A. Yes.

2 Q. And so if we add the 68 and a
3 half feet of net pay from the lower sand to
4 the 19 and a half feet of net pay in the
5 upper sand, we get approximately 88 feet of
6 pay; is that right?

7 A. Yes.

8 Q. Okay. Thank you. Now, what I
9 want to ask you about next is the same
10 document, but the e-mail above that, and it
11 says that your latest estimate for the two of
12 them is approximately 86 feet of pay. And
13 then you say there's 5 to 6 feet of pay below
14 the two main lobes. Now, would that be below
15 the M56 upper and the M56 lower sand?

16 A. The lower -- M56 lower.

17 Q. Right, okay. So there would be
18 5 to 6 feet below M56 lower. And then you
19 say there's approximately 1 feet of
20 gas-charged sand above the two main lobes,
21 and so that would be 1 feet of gas-charged

22 sand above the M56 upper?
23 A. Yes.
24 Q. Okay. Do you have the
25 approximate depth or elevation of that 1 foot
1 of gas-charged sand that's above the M56
2 upper sand?
3 A. I think, if I remember, it's
4 17,803.

Page 67:06 to 67:06

6 A. 17,803, yes.

Page 67:14 to 69:18

14 Q. It was 2 and a half feet?
15 A. Yeah.
16 Q. Okay. At approximately 17,802?
17 A. 17,803 plus, minus.
18 Q. Okay. When you say plus or
19 minus, would it be up from that or down from
20 that?
21 A. No, from -- from depth -- from
22 the wireline depth I see -- I thought that it
23 was 18 -- 17,803.
24 Q. I got you.
25 A. Plus 2 feet down. The thickness
1 goes down, stop.
2 Q. I'm with you. Same question
3 with respect to the 5 to 6 feet below the M56
4 lobe. Do you know what the elevation was of
5 that 5 to 6 feet of pay that was below the
6 M56 lower sand?
7 A. What do you mean "elevation"?
8 Q. I should say depth.
9 A. Depth?
10 Q. Yes, I'm sorry.
11 A. I don't remember.
12 Q. Okay.
13 A. I don't recall.
14 Q. All right. Now, if we could,
15 let's go to tab 141 and what this is, this is
16 a technical memorandum that is written by a
17 number of people, including yourself, and
18 it's dated May the 25th of 2010 and the title
19 is "Post-Well Subsurface Description of

20 Macondo well (MC 252)" and I'll mark this as
21 Exhibit 3375.

22 Were you one of the authors of
23 this technical memorandum?

24 A. I was.

25 Q. If you would go -- if you'll see
1 on the lower right-hand corner, there is
2 Bates stamp numbers that start with
3 BP-HZN-BLY00140873. Do you see that?

4 A. Yes.

5 Q. I'm going to call out the Bates
6 numbers just the last three so we don't have
7 to read them in. If you'll go to the Bates
8 page number ending in 875, or the third page
9 of the document.

10 There is a graphic and then
11 there is a statement made below the graphic.
12 It says, The Macondo well discovered greater
13 than 90 feet of hydrocarbons in the M57 and
14 M56 sands, the majority occurring in the
15 M56D, 22 feet, and the N 6 -- M56E, 64 and a
16 half feet sands, as shown in Figure 2.

17 Do you see that, ma'am?

18 A. Yes.

Page 70:01 to 72:18

1 Q. Now, the M57 refers to which
2 sand at which depth?

3 A. Oh, I can't -- I can't read it.
4 They say that it's shown in the Figures 3 and
5 4. So it was not plot -- put by me.

6 Q. Okay. Let me see if I can go
7 about it this way. Remember how you told me
8 about that 5 to 6 feet of sand that was below
9 the M56 lower?

10 A. Yes.

11 Q. Would the M57, just by virtue of
12 what it was called, be deeper than M56?

13 A. 57 is shallower.

14 Q. It's shallower?

15 A. 57 is shallower.

16 Q. So with respect to the M57,
17 would you expect it to be that 2 and a half
18 feet of gas-charged sand that you told me
19 about before?

20 A. Can I look at the next page?
21 Q. Sure.
22 A. That gas charge sand at 17,803
23 is M56A.
24 Q. Okay. But the document --
25 the -- the page before refers to an M57, and
1 on the next page the Bates number 876 I see
2 an M57C and an M57B that are referred to. Do
3 you see that?
4 A. Yes, but I did not put this
5 paragraph together, so I don't --
6 Q. No, I --
7 A. I understand the reference to
8 the --
9 Q. I'm not being critical of you.
10 What I'm trying to do is you took me to the
11 next page, and it's a better graph.
12 A. Oh, okay.
13 Q. So what I'm trying to say is
14 there is -- in the previous page there is a
15 reference to an M57 sand. When we go to the
16 next page we can see --
17 A. Yes.
18 Q. -- where those M57 sands are.
19 A. Yes, we can.
20 Q. Okay. And in terms of where
21 those sands are, we looking at Bates Stamp
22 No. 876 or Page 4 of this document that you
23 helped write. Can you tell me what the
24 approximate elevation of the M57C sand was?
25 MR. MONICO: Objection; form.
1 A. Well, I'll just use the graph.
2 It's about 17,700 feet.
3 Q. (BY MR. WATTS) Okay.
4 17,700 feet?
5 A. Measured depth.
6 Q. Measured depth is the location
7 of the M57C sand, right?
8 A. Yes.
9 Q. And then --
10 A. According to this document.
11 Q. And then according to this
12 document we can also see an M57B sand, and
13 what's the elevation of that sand?
14 A. The depth of this sand is
15 17,467.

16 Q. Okay. And from this document
17 can we tell what the pay, the amount of pay
18 is in the M57B sand that's located at 17,467?

Page 72:20 to 72:22

20 A. The -- the physical evaluation
21 over the sand is very uncertain due to
22 thickness of the sand, which is 2 feet.

Page 72:25 to 76:02

25 Q. So -- so the answer to my
1 question was is that the thickness of the
2 sand that's identified as M57B that's located
3 at 17,467 is approximately 2 feet?

4 A. Yes.

5 Q. Okay. What is the thickness of
6 the sand that is M57C?

7 A. I do not remember. Should be in
8 the paper.

9 Q. Okay. Can you find it for me,
10 please?

11 A. It's in the Page 905.

12 Q. 905, okay. And that's Page 33
13 of the document?

14 A. Yes.

15 Q. Okay. And the pending question
16 is what is the thickness of the sand M57C?
17 Approximately 8 and a half feet?

18 A. Yes.

19 Q. Okay. And as we look at 905
20 this would be the net pay summary graphic; is
21 that right?

22 A. Yes.

23 Q. And as we look at the net pay
24 summary it includes the M57B, which is
25 approximately 2 feet thick, at a depth of
1 approximately 17,489; is that right? Oh, I'm
2 sorry, actually, 17,4 -- let me re-ask the
3 question.

4 It includes M57B, which 2 feet
5 thick at a depth of approximately 17,467; is
6 that true?

7 A. Yes.

8 Q. Okay. It also includes M57C,

9 which is 8 and a half feet thick at
10 approximately 17,700 feet of depth?

11 A. Yes.

12 Q. It includes the M56A sand, which
13 is 2 and a half feet thick at approximately
14 17, looks like 804?

15 A. Yes.

16 Q. And then it includes the M56B,
17 which is approximately 5 feet thick at 17,975
18 and a half feet?

19 A. I can see that, yes.

20 Q. Okay. It also includes M56C,
21 which is 2 feet thick at 18,030 feet, right?

22 A. Yes.

23 Q. It includes M56D, which is
24 22 feet thick at 18,057 feet?

25 A. Yes.

1 Q. It includes the M56E, which is
2 69 and a half feet thick, which is at
3 18,120 feet?

4 A. Yes.

5 Q. And it includes the M56F, which
6 is 8 and a half feet thick at 18,217 and a
7 half feet?

8 A. Yes.

9 Q. Okay. And so what this
10 technical memorandum does, among other
11 things, is it sets forth what the pay zones
12 are that were identified by the BP -- what
13 would you describe this team as that wrote
14 this document?

15 A. It's exploration team.

16 Q. Okay. So the BP exploration
17 team --

18 A. Surface -- subsurface
19 exploration team.

20 Q. The BP subsurface exploration
21 team wrote this technical memorandum, and
22 among other things you set forth the
23 exploration team's conclusions as to what the
24 net feet of pay was and where they were
25 located?

1 MR. LANCASTER: Object to form.

2 A. Yes.

12 Q. (BY MR. WATTS) Ms. Skripnikova,
13 I want to refer you to tab 4, which I marked
14 as 3377. And tell you this came out of your
15 custodial file, I assume off of your
16 computer. This is a predrill data package
17 for the Macondo 252 No. 1, dated
18 September 3rd, 2009. Now, this document
19 would have been prepared before you were
20 transitioned over to work on the Macondo,
21 correct?

22 A. Yes.

23 Q. Okay. This would be an example
24 of the data acquisition that had been done
25 prior to your involvement, right?

1 A. Yes.

Page 79:13 to 80:13

13 Q. Okay. The original plan for the
14 Macondo well was to go at least as deep as
15 19,560 feet in order to drill down to that
16 M54 seismic event that's identified on
17 Figure 6 of this document, right?

18 A. Yes.

19 Q. Okay. In fact, the well was
20 never drilled that deep. There was a
21 decision to call total depth farther up the
22 wellbore; is that right?

23 A. It did not drill to -- to the
24 depths stated, in this document.

25 Q. All right. And my question is
1 do you recall who made the decision to
2 terminate the drilling at the 18,360 feet as
3 opposed to going down to 19,560, as
4 originally planned?

5 A. I do not recall.

6 Q. Do you recall when that decision
7 was communicated? Was it at a time when you
8 were on the rig between the 10th and the 13th
9 of April?

10 A. I do not recall.

11 Q. All right. If you would go to
12 the Bates page number ending 865 in this
13 document.

Page 80:18 to 81:05

18 Q. (BY MR. WATTS) All right. Now,
19 if we look at Bates number 865, there is a
20 table titled "Overall Drilling Hazards." Do
21 you see that?
22 A. Yes.
23 Q. And I want to ask you about four
24 of those hazards. The second one is listed
25 as "Charged Zones." What is a charged zone,
1 as you understand it?
2 A. I understand charged zone is a
3 zone charged with hydrocarbons.
4 Q. Okay. Charged with, means full
5 of hydrocarbons?

Page 81:07 to 85:23

7 A. Not necessarily charged. Not
8 necessarily full.
9 Q. (BY MR. WATTS) Okay. What does
10 it mean to be charged?
11 A. To have hydrocarbons as a fluid
12 of the sand.
13 Q. Okay. And under "Potential" it
14 says "Yes." Under the remarks it says,
15 "Middle Miocene target sands are expected to
16 be oil or gas charged," and then it refers to
17 Appendix D; is that right? Appendix B,
18 excuse me.
19 A. Yes.
20 Q. Two column -- two rows down from
21 that it has a hazard of "Overpressure."
22 Potential is "Possible" and it says, "See
23 PP/FG attachment and it says see Appendix D.
24 PP/FG stands for pore pressure, slash, frac
25 gradient; is that correct?
1 A. Yes.
2 Q. And then the next hazard, it
3 says, "Abnormal Temperatures." Under the
4 potential it says, "No." And then under
5 remarks it says, BHT estimated at
6 approximately 239 degrees Fahrenheit. What
7 is BHT?
8 A. Bore hole temperature.
9 Q. Bore hole temperature? And it

10 refers you to Appendix C; is that right?

11 A. Yes.

12 Q. And then skip down one under
13 "Faults." It says, "Not expected." But
14 under the remarks it says, No faults appear
15 in the seismic data at the wellbore, but
16 there are faults in the area. It is possible
17 that they exist with throw less than 200
18 feet. And it refers to Appendix B, correct?

19 A. Yes.

20 Q. As a petrophysicist is part of
21 what you are involved with examining whether
22 there are faults in the area?

23 A. No.

24 Q. Okay. Somebody else does that;
25 is that right?

1 A. Yes.

2 Q. Who at BP would be responsible
3 for analyzing whether you're drilling into an
4 area that has faults appearing in the seismic
5 data?

6 MR. LANCASTER: Object to form.

7 A. I suppose it would be the
8 geologists and geophysicist.

9 Q. (BY MR. WATTS) Okay. Now, I
10 want to talk about each of those four that I
11 just identified. In terms of the charged
12 zones, at the time you became familiar with
13 the Macondo well when you first came over and
14 started reviewing the data was there an
15 understanding that you-all were going to be
16 drilling through certain charged zones where
17 there were sands that were expected to be oil
18 or gas charged?

19 A. Yes, I understood that.

20 Q. Did you understand that by
21 virtue of looking at data from other wells
22 that had been done previously in the area?

23 A. Yes, I looked at the data in the
24 area.

25 Q. Do you recall looking at the
1 data with respect to a Regal well that had
2 been done by Texaco back in 1999?

3 A. No, I do not.

4 Q. Okay. Do you recall looking at
5 the data from the Santa Cruz well that had

6 been performed?

7 A. Yes, I did.

8 Q. Okay. Now, if you would go to
9 tab 7, very briefly. And this is not an
10 e-mail that you're involved with, but I just
11 want to ask you about something since you
12 said you went out to the Marianas. Down at
13 the bottom of this document, which I'll mark
14 as Exhibit 3378 there is an e-mail from a
15 George Gray to an Earl Fly. Do you know
16 either of those gentlemen?

17 A. George Gray was, I think on-site
18 leader from the Marianas in the office and I
19 don't know the other gentleman.

20 Q. Okay. And the well site leader
21 for Marianas is writing to Earl Fly. "I'm
22 out here on the Marianas."

23 A. Where?

24 Q. I'm at the bottom. "Earl, I'm
25 out here at the Marianas. Alex is not
1 getting the job done for the team. We have
2 real concerns as we are less than 2 weeks
3 from drilling into a zone that could be
4 anywhere from high losses to a well control
5 situation."

6 Do you see that?

7 A. I see that.

8 Q. All right. And here's my
9 question: At the time that the well was
10 spudded by the Marianas you-all understood
11 that there was a charged zone that you were
12 drilling through that could cause some
13 problems; is that right?

14 A. Problems, usually as I
15 understand problems are related to the pore
16 pressure, not to the charged zone.

17 Q. Okay. We'll get to the pore
18 pressure in a second. But when -- when the
19 well site leader for the Marianas says I am
20 two weeks away from drilling into a zone that
21 could be anywhere from high losses to a well
22 control situation, how would a well site
23 leader know that?

25 A. I don't know.

1 Q. (BY MR. WATTS) Okay. Let's go
2 to the issue of pore pressure. And I agree
3 with you it's primarily related to pore
4 pressure. If you could go back to tab 4,
5 you'll recall the chart that we were looking
6 at on Bates Page 865 with respect to
7 overpressure the remark is see PP/FG
8 attachment in Appendix D, Bates 865. Okay.
9 You're on Page 865.

10 With respect to overpressure the
11 hazard is remark see the PP/FG attachments.
12 The PP/FG is a pore pressure/frac gradient
13 chart that is commonly developed before
14 you-all start drilling wells; is that right?

15 A. Yes, it's part of the predrill
16 data package.

17 Q. All right. And you said that
18 problems are generally associated with pore
19 pressure, right?

20 A. Generally.

21 Q. And the -- I think what you were
22 telling me is, look, if -- if we make a
23 prediction as to what the likely the pore
24 pressure is and we're wrong, because the mud
25 weight engineers are relying on our
1 prediction to set the weight of the mud, you
2 could end up with a situation where your mud
3 weight is not appropriate for the pore
4 pressure that you actually see, and you could
5 get a kick or a lost return, right?

Page 87:07 to 87:09

7 A. I'm not a pore pressure
8 specialist, and I was not involved in the
9 pore pressure.

Page 87:24 to 88:19

24 Q. (BY MR. WATTS) All right. How
25 would you call it? What would you say about
1 that topic?

2 A. I don't have much to say about
3 that, as I don't have enough expertise to --
4 to discuss it.

5 Q. When you told me -- when you
6 told me that problems are usually related to
7 pore pressure what did you mean?
8 A. Well, if it's part of the
9 subsurface team, if so, then people taking --
10 paying very huge attention to the pore
11 pressure on site. So there was a pressure
12 specialist on site in the well, in the office
13 following that pore pressure prediction, and
14 that's what my understanding that the major
15 risk of the well -- of the hazards described
16 here.
17 Q. Was related to the pore
18 pressure?
19 A. My -- it's my understanding.

Page 91:05 to 91:17

5 Q. Okay, fair enough. Let's go to
6 tab 83, if we could. This is an e-mail
7 written by Martin Albertin to a number of
8 people and you're copied on it on April 22nd
9 of 2010. Who is Martin Albertin?
10 A. Martin Albertin is a pore
11 pressure specialist and part of the
12 subsurface team who were in the office.
13 Q. Okay. So --
14 A. Pore pressure --
15 Q. Pore pressure specialist in the
16 office?
17 A. Yes.

Page 92:15 to 93:09

15 Q. Okay. But this e-mail which has
16 been marked as 3380 written on April the 2nd
17 and copied to you talks about managing the
18 last whole section with the expectation the
19 shales will fail at about the predicted
20 values less than overburden, which is about
21 15.5 PPG in the shoe.
22 What does it mean to you when it
23 somebody says the shales will fail?
24 A. I don't know what he means.
25 Q. Now, if we could go to tab 141,
1 which is something we've already looked at.

2 It's the technical memorandum that you helped
3 write. If you could go to the Bates page
4 beginning 883. And in this paragraph
5 entitled "Pore Pressure and Fracture
6 Gradient," this is in the document that you
7 helped write; is that right?

8 A. I wrote petrophysical part of
9 it.

Page 94:01 to 94:08

1 Q. All right. Now, from your
2 understanding as a petrophysicist when the
3 pore pressure prediction is lower than it
4 actually turns out to be, when the prediction
5 is lower than the actual pore pressure what
6 consequence can that have in terms of well
7 control events that you will sustain on the
8 rig?

Page 94:10 to 94:16

10 A. As I said, I'm not -- I'm not
11 the specialist in pore pressure prediction.
12 I have a basic knowledge of it, but to any
13 kind of -- I need to take time to -- to
14 un- -- to understand what it -- what it is.
15 So what was the question? Can you please
16 repeat?

Page 94:25 to 95:09

25 can keep talking. If your pore pressure
1 prediction is that the pore pressure is going
2 to be 15 PPG and, in fact, it's 16, okay, so
3 that the actual pore pressure is higher than
4 the predicted pore pressure -- are you with
5 me so far?

6 A. If -- if -- what numbers you
7 used, 15?

8 Q. In my hypothetical if you think
9 the pore pressure is going to be 16 PPG --

Page 95:11 to 95:14

11 Q. -- the -- that prediction is

12 utilized to plan the well and the mud weight
13 program? That's why you make the prediction;
14 is that right?

Page 95:16 to 96:10

16 A. Yes.
17 Q. (BY MR. WATTS) Okay So if
18 somebody is trying to create a hydrostatic
19 equilibrium and they think the pore pressure
20 is going to be 16 PPG and they put mud into
21 the well at 16 PPG to create that
22 equilibrium, you would have 16 PPG pore
23 pressure and a mud weight of 16 PPG, do you
24 see that in my hypothetical?
25 A. Yes, I see that.
1 Q. Okay. But if, in fact, your
2 prediction is incorrect and the actual pore
3 pressure is higher than it was predicted, you
4 are now in a well with 16 PPG mud, but a pore
5 pressure, to use my example, of 16 and a half
6 PPG. Okay. And my question is if you have
7 mud that weighs 16 PPG and an actual pore
8 pressure of 16 and a half PPG, you have a
9 higher pore pressure than the weight to keep
10 it down, right?

Page 96:12 to 96:20

12 A. In the common sense what you
13 explain, yes.
14 Q. (BY MR. WATTS) Okay. And if
15 you have a higher pore pressure than the mud
16 weight to keep the hydrocarbons down, that
17 can result in a kick, because you don't have
18 enough mud weight to keep the hydrocarbon
19 pore pressure from coming up the wellbore,
20 right, right?

Page 96:22 to 96:22

22 A. What you saying to me, yes.

Page 96:25 to 97:08

25 Q. In general.

1 A. -- I agree with you. But I'm
2 not a specialist to say -- to go into any
3 details of it.

4 Q. Now, the flip side of that is if
5 you have a mud weight that is heavier than
6 the pore pressure, then the mud will push the
7 hydrocarbons down into the wellbore and
8 you'll have lost returns, in general?

Page 97:10 to 97:10

10 A. In general, yes.

Page 97:12 to 97:12

12 A. I would agree with that.

Page 100:11 to 105:23

11 Q. Okay. If you would go to
12 tab 141, which is your technical memorandum
13 that you helped write, and go to Bates page
14 number ending in 906. It's Page 34 of the
15 document.

16 A. Yes.

17 Q. There is a figure 34 that is pre
18 versus post drill temperature comparison, and
19 it says, The reservoir temperatures were
20 predicted between 219 degrees and 248 degrees
21 Fahrenheit with a much likely case of
22 235 degrees Fahrenheit. The post well
23 temperatures, acquired from the MDT tool gave
24 a broad range between 230 and 242 degrees
25 Fahrenheit, as shown in Figure 34. Therefore
1 the post-drill temperature was similar to the
2 pre-drill temperature prediction.

3 Did I read that correctly?

4 A. You did.

5 Q. Okay. Just so we can transfer
6 that to Celsius, if we say is from
7 230 degrees Fahrenheit, 230 degrees would be
8 110 degrees Celsius, correct?

9 A. Yes.

10 Q. And 242 degrees Fahrenheit --
11 242 degrees Fahrenheit would be about
12 116.6 degrees Celsius, right?

13 A. Yes.

14 Q. Okay. So both the
15 pre-temperature estimate and the post
16 temperature measurement were beneath
17 120 degrees Celsius, agreed?

18 A. Yes.

19 Q. Okay, fair enough. Now, the
20 last hazard that was identified in the
21 Macondo pre-drill data package that I wanted
22 to talk to you about was faults. And here's
23 my question: As a petrophysicist do you play
24 any role in the identification of seismic
25 faults in the area where a well is about to
1 be drilled?

2 A. No, I don't.

3 Q. Is it important to you as a
4 petrophysicist to know whether or not you
5 were drilling in the area of a seismic fault?

6 A. I would not say it's important
7 to me, but if I see the strange response on
8 some pieces of data I'm collecting or looking
9 at and I have no lack of explanation with, I
10 would go to --

11 Q. Geologist --

12 A. A geologist or geophysicist and
13 ask if there's anything on seismic that
14 identify -- any record of fault, what was
15 wrong with it.

16 Q. In other words, you know that a
17 seismic fault is an explanation for why the
18 data may be unusual and --

19 A. No, I would not say so.

20 Q. Why would you go to ask about a
21 seismic fault if the data was unusual?

22 A. It's about -- not necessarily
23 about faults. Any issues, something on
24 seismic. It's not necessarily the fault.

25 Q. A fault would be one example,
1 but there may be others?

2 A. Some event or seismic.

3 Q. Okay, fair enough. Now, with
4 respect to this well, as it was being drilled
5 from October by Marianas, the hurricane
6 intermission, and then from late January to
7 April the 20th were you monitoring the well
8 data on pretty much a daily basis realtime?

9 A. Yes, I did.
10 Q. Okay. Where were you doing that
11 from? Where were you physically at as you
12 saw the realtime data coming in?
13 A. Either from the office or from
14 home.
15 Q. Okay. When you say "from the
16 office," could you be anywhere at the BP
17 facility and have that realtime data come to
18 your laptop?
19 A. I -- I could have it on my desk.
20 Q. Okay.
21 A. And I could have it in the
22 drilling operations room, but it's always
23 on -- in the way we have the drill --
24 meetings with drillers, there is equipment in
25 the room transmitting the data --
1 Q. Okay.
2 A. -- always, and I have it on my
3 computer.
4 Q. Where did you-all have these
5 meetings? What was the location of where
6 those meetings where the realtime data was
7 being transmitted?
8 A. It's called operations room in
9 office, second floor.
10 Q. Second floor, okay.
11 A. Where the team is.
12 Q. And the second floor, was that
13 office -- I know that occasionally you-all
14 would have drill team meetings, right?
15 A. It was operate -- it was morning
16 calls.
17 Q. Morning calls?
18 A. Yes.
19 Q. So you would go to that office
20 on the second floor to have your morning
21 calls?
22 A. I'm on second floor as well,
23 yes.
24 Q. But you would go into that
25 particular office?
1 A. Into that room, yes.
2 Q. Okay.
3 A. And then come back to my office.
4 Q. And then while you were in that

5 office there was realtime data available that
6 you could see up on the screen, and you-all
7 could discuss, right?
8 A. Yes, if necessary.
9 Q. Okay. Was there somebody in
10 that office at all times 24/7?
11 A. I don't know.
12 Q. Okay. Did you ever work on the
13 weekends?
14 A. Well, the -- there was critical
15 or any kind of -- well, I worked all weekends
16 when well operations.
17 Q. Sure.
18 A. It's not necessary from the
19 office, but I have my computer on all the
20 time.
21 Q. Right. But was there a
22 requirement that there be realtime monitoring
23 of the data 24/7 by somebody?

Page 105:25 to 106:12

25 Q. (BY MR. WATTS) Or was it just
1 available to you when you wanted to look at
2 it?
3 A. I don't know. I'm talking about
4 myself.
5 Q. Okay. Now, were there
6 difficulties during the drilling of this well
7 by way of well control events, such as kicks
8 and lost returns?
9 A. There were events of that during
10 the drilling.
11 Q. This was a tough well from the
12 standpoint of well control events?

Page 106:14 to 107:15

14 A. You need to ask drillers --
15 Q. (BY MR. WATTS) Okay.
16 A. -- about how it was for them.
17 Q. Did you work with a gentleman
18 named Bobby Bodek?
19 A. Yes.
20 Q. He was a member of the Tiber
21 team; is that right?

22 A. He was a member of the Tiber
23 team.
24 Q. Were you a member of the Tiber
25 team?
1 A. No.
2 Q. Okay. What was your
3 understanding as to the role of the Tiber
4 team?
5 A. Role -- role of the Tiber team
6 is kind of a team of high -- high experienced
7 operations people, which includes shallow
8 hazard, identification, pore pressure
9 prediction, and biostratigraphers, that a
10 team -- if a team between subsurface team and
11 drillers, we have all three teams together.
12 Tiber team is specialized operations and also
13 tools, kind of putting the orders of the
14 tools to be run in the hole, kind of serve --
15 serving subsurface team in that regard.

Page 108:02 to 108:17

2 Q. It was an interdisciplinary
3 team?
4 A. It's interdisciplinary.
5 Q. And you consulted with that team
6 from time to time with respect to what
7 analysis you were doing, right?
8 A. Not on Macondo.
9 Q. Okay. So they did not consult
10 with you with respect to the realtime
11 analysis that you were doing with respect to
12 what was going on on Macondo?
13 A. They did not.
14 Q. Okay. If you could go to tab --
15 by the way, who was Gord Bennett?
16 A. One of the shift well site
17 geologists.

Page 109:22 to 110:03

22 Q. Okay. And we'll go through
23 those in a second. But let me just ask you
24 about one other document. Exhibit -- or tab
25 119, please. This is Exhibit 3382. Now, as
1 we look at tab 119, if you start on the third

2 page, because this is an e-mail chain we need
3 to work backwards on.

Page 110:22 to 112:19

22 Q. Stuart Lacy is writing to Kelly
23 McAughan and Robert Bodek. In the second
24 sentence what he says is, As far as the fluid
25 analysis at 18,170 feet md, that should also
1 be okay, but we need to be aware of pumping
2 light formation fluid into the wellbore.
3 Inducing a kick would not make us very
4 popular.

5 Do you see that?

6 A. Yes.

7 Q. All right. Now, if you go to
8 the previous -- or to the next page, the
9 previous page, 055, that e-mail chain is
10 copied to you on April the 12th at 1:37. Do
11 you see that?

12 A. Yes.

13 Q. And in the e-mail that you
14 received a copy of Mr. McAughan says, "You
15 know what I don't think we have fluid
16 segregation especially after talking to David
17 Epps. I don't want to take a kick in that
18 lower zone so let's scrap that last idea and
19 just do the 3 samples," the last one at
20 18,140 feet.

21 Do you see that, ma'am?

22 A. Yes.

23 Q. All right. Again, from the
24 standpoint of the weight of fluid or mud as
25 opposed to pore pressure, what is being said
1 here is is that if you pump down a fluid that
2 is too light, that a pore pressure will cause
3 that fluid to be pushed up, and you could
4 induce a kick by virtue of the weight of the
5 fluid that you are pumping down into the
6 wellbore, right?

7 A. You need to talk to people who
8 are writing these conclusions --

9 Q. Well --

10 A. -- about collecting the data.
11 They don't reference to the -- to the -- to
12 the numbers of -- to -- it's very difficult

13 to take it out of context.

14 Q. Well, Ms. -- I'm sorry, I didn't
15 mean to interrupt.

16 A. And the discussion is about
17 taking sample, fluid sample. But why they go
18 into the discussions of kicks and losses, I
19 don't understand it.

Page 118:08 to 118:13

8 Q. Okay. Now, what I would like to
9 do is take you to tab 145 which I'm going to
10 mark as Exhibit 3384. And let me see if I
11 can go about it this way. This is a graphic
12 that I prepared and I want to take you
13 through --

Page 118:18 to 119:15

18 Q. (BY MR. WATTS) Can I see your
19 version of it real quick? We have a copy.

20 A. Okay.

21 Q. Can you just hold it up for a
22 second the version that you -- yeah, you have
23 a bad copy as well. Let me hand you this
24 one.

25 MR. WATTS: Make sure you copy this one
1 okay.

2 Q. (BY MR. WATTS) Go ahead and use
3 that one.

4 A. Is it the same?

5 Q. Yeah, it's the same. It's just
6 the copy machine kind of put a mark on it for
7 some reason. The version that we can see in
8 145 is Macondo history of kicks. Do you see
9 that?

10 A. Yes.

11 Q. Okay. Now, if you could I'd
12 like to start off with tab 11 in the
13 documentation if you could. And just keep
14 that one out and then go to tab 11 and I'll
15 take you through the documentation.

Page 119:19 to 120:11

19 Q. (BY MR. WATTS) Now, if we look

20 at tab 11 which is marked as 3385. Are you
21 on the first page of tab 11?
22 A. I think so.
23 Q. No, I don't think so. There you
24 go the first page there.
25 A. Oh.
1 Q. Do you see at the bottom of this
2 daily PPFG report for the date of October
3 25th two lines from the bottom it says,
4 increasing pore pressure estimate to 9.5 to
5 9.6 based on gas response?
6 A. Okay yes, I do.
7 Q. Okay. Now, if you would I want
8 to take you to tab 142 now that we're back in
9 October and this is your diary, your
10 notebook.
11 A. Yes.

Page 120:13 to 120:20

13 well, let me just show you the page out of
14 your diary so you don't have to flip around.
15 The Bates page ending 188. On October the
16 26th do your notes reflect well appeared to
17 be flowing?
18 A. These the comments I heard.
19 There probably was a meeting. I'm sitting at
20 a meeting and discussion.

Page 120:22 to 120:22

22 A. And I made those notes.

Page 121:08 to 121:12

8 Q. A day later on October the 27th
9 we have your notes and this is Bates page
10 ending 190 and one of the things that it says
11 is have to drill loss, question mark, before
12 we took the kick. Do you see that?

Page 121:24 to 122:12

24 Q. Does it say have to drill loss,
25 question mark, before we took the kick?
1 A. Yes, I see that.

2 Q. And then when we go down under
3 October 28th your notes say PP, that's pore
4 pressure, hyphen, kick, killed the kick, shoe
5 below the kick, right?
6 A. Yes.
7 Q. Okay. Can we take it from your
8 notes that sometime around the 26th or 27th
9 you wrote well appeared to be flowing and
10 then there is repeated references to a kick
11 that was taken, right?
12 A. Yes.

Page 122:17 to 122:24

17 Q. In addition to that, I want to
18 take you to tab 12 so we can prove up the
19 depth of it when the kick was taken, and tab
20 12 has been marked as Exhibit 3386. And on
21 the daily operations report to the partners
22 do you see the 24-hour summary says, "Drill
23 to 8970. Flow chec. Well flowing. Shut in
24 well"?

Page 123:03 to 127:12

3 A. Yes.
4 Q. On October the 26th there was a
5 kick where the well appeared to be flowing
6 agreed?
7 A. Yes.
8 Q. Okay. If we could go forward to
9 the 27th and on the 27th we're down a little
10 deeper go to tab 13 if you go to tab 13 this
11 is the daily operations report to the
12 partners. I've marked it as 3387. We are
13 now down at a measured depth of 9,071 feet.
14 You can see that from the daily operations
15 report right?
16 A. Yes.
17 Q. Under the 24-hour summary it
18 says, "Continue well control operation." Do
19 you see that?
20 A. Yes.
21 Q. If you go three pages in to the
22 Bates page ending 244?
23 A. Yes.

24 Q. Between 2300 and midnight while
25 at a depth of 9,071 feet it says, While
1 drilling gained 4 barrels in pits. And then
2 later it says, 4-barrel gain. Well not
3 static. Right?

4 A. Yes.

5 Q. That is the same date that your
6 notes say we took the kick. Do you remember?

7 A. Well, because there is a meeting
8 probably and I'm sitting in a meeting some
9 kind of -- putting down things.

10 Q. So both of your notes on October
11 the 27th and in the daily report to the
12 partners we show that we have a static -- a
13 non-static well where you're gaining barrels
14 and you write we took the kick well not
15 static right?

16 A. Yes.

17 Q. Okay. Now, if we could go
18 forward to the month of March and if you
19 could go to tab 43 please. And tab 43 which
20 I've marked as Exhibit 3388, if you go to
21 Page 2 there is an e-mail at the top from
22 Bobby Bodek to a number of people including
23 yourself, on March the 8th at 11:09 p.m. and
24 it's with respect to the Macondo kick. Do
25 you see that?

1 A. Yes.

2 Q. It says, Subsurface meeting
3 tomorrow at 0700 hours tomorrow morning.
4 Currently shut-in. Took a kick at
5 13,250 feet.

6 A. Yes.

7 Q. Please see below. The third
8 entry on my graphic about kick -- took a
9 kick at 13,250 feet is something that
10 occurred as well, right? Except that I just
11 noticed I've got a typo on the depth. It
12 should be 13,250 instead of 12,350; and my
13 apologies. I'll fix that.

14 A. Yes.

15 Q. Other than the change in the
16 depths, the graphic is correct from the stand
17 point that you took a kick at 13,250, right?

18 A. Yes.

19 Q. Okay. Now, if we go to

20 obviously April 20th, the total depth was
21 18,360 feet at that point right?

22 A. Yes.

23 Q. There was obviously a kick that
24 led to the explosion and this blowout, right?

25 A. There was fluid coming into the
1 well, yes.

2 Q. Sure. When fluid is coming
3 up --

4 A. Yes.

5 Q. -- into the well that's a kick,
6 right?

7 A. Yes.

8 Q. Okay. So with the exception of
9 the mistake that I made on the depth of the
10 kick on March the 8th where it should be
11 13,250, does tab 145 Exhibit 3384, correctly
12 summarize the history of kicks that were
13 sustained?

14 A. Can we -- can we look at the
15 history of the kick, of the last kick?

16 Q. The history of the last kick?

17 A. Yes.

18 Q. Well, I don't have a document
19 for it. I was asking are you aware that
20 fluid came up into the well on April the 20th
21 causing this blowout and explosion?

22 A. Well, I called it a kick.

23 Q. Yes.

24 A. After discussion in general. I
25 would like to see the documents.

1 Q. I think the Bly report calls it
2 a kick. Everybody calls it a kick. Do you
3 disagree it was a kick, a fluid that went up
4 through the well?

5 A. I don't disagree.

6 Q. Okay. So with that general
7 understanding -- and I realize we're relying
8 on others as well. Would you agree that with
9 the exception of the mistake that I made on
10 the depth, that the Exhibit tab 45, 3384
11 correctly set forth the history of the kicks
12 on the Macondo well?

14 A. Yes, and this document you tried
15 to put all the kicks and depths that --

Page 129:07 to 129:25

7 Q. (BY MR. WATTS) Ms. Skripnikova,
8 we're at tab 10, which I marked as 3390.
9 This is the daily operations report to the
10 partners on the Marianas on October the 23rd
11 of 2009; is that right?

12 A. Yes.

13 Q. On the 24-hour summary, it talks
14 about squeezing a 22-inch shoe with
15 165 barrels, 16.4 PPG cement, and then it
16 says, lost 63 barrels circulating in place.

17 A. Yes.

18 Q. Do you see that?

19 A. Yes.

20 Q. So during this operation
21 involving cement, there was a loss of
22 63 barrels, as is reflected on the graphic
23 for October 23rd at a depth of 8,050 feet,
24 right?

25 A. Yes, documented.

Page 130:07 to 131:07

7 So we'll go to 3386, which is
8 tab 12, the daily operations report to the
9 partners on October 26th of 2009 for the
10 Marianas. We are now at a depth of
11 8,970 feet, right?

12 A. Yes.

13 Q. And if you would go to, let's
14 see, this 8970 feet. In terms of the 24-hour
15 summary, it says well flowing and shut in the
16 well. Do you see that?

17 A. Yes.

18 Q. Okay. Now I'd like to take you
19 to tab 8, which is another document that
20 reflects this well control event. And there
21 is an e-mail, but then on the second page,
22 there is an attachment that says, Macondo
23 22-inch Open Hole Mud Loss Event Summary.

24 A. Yes.

25 Q. And if you look at the document,

1 this is an analysis of a mud loss event. And
2 if you'll go to the paragraph that begins
3 "Kick/Loss Event Summary." Do you see that?

4 A. Yes.

5 Q. And it talks about drilling
6 continued to 8970 feet, right?

7 A. Yes.

Page 131:13 to 133:08

13 Q. Okay. And when we look at this
14 event that occurred at 8970 feet, the last
15 line of the text on this document, which I've
16 marked as Exhibit 3391, says, The total mud
17 losses for the interval were 431 barrels
18 including 68 barrels lost while squeezing the
19 shoe and casing/cementing losses.

20 Right?

21 A. Yes.

22 Q. So the total losses there were
23 431 barrels at 8970 feet, as reflected in the
24 document, which is the graphic, you agree?

25 A. Looks like the graphic is just
1 stated in this case, yes.

2 Q. Right, it's an accurate summary
3 of what the document says ?

4 A. It's an accurate summary of the
5 document, yes.

6 Q. Okay, fair enough.
7 Let's go forward to October the
8 27th, and if you look at October the 27th, go
9 to tab 15, if you would, and that's going to
10 be marked as Exhibit 39 -- I mean, 3392.

11 Tab 15 is an e-mail written by
12 Trent "Flint" -- Trent -- Trent Fleece to a
13 number of people on October the 28th, and
14 you're one of the people copied on it, right?

15 A. It's part of the team, yes.

16 Q. Okay. And then it says, "Slight
17 note.....the comment below 'slight flow
18 noted' should read 'ballooning event
19 noted...' the well did balloon a little last
20 night."

21 Do you see that?

22 A. I see that.

23 Q. Okay. So he's writing this on

24 the 28th, but he's talking about a well
25 ballooning event that occurred last night on
1 the 27th, right?
2 A. Yes.
3 Q. Now, with respect to that
4 ballooning event that occurred, the
5 ballooning event led to a loss of fluids, and
6 what a ballooning event is is when -- when
7 the wellbore balloons, that leads to mud loss
8 and loss circulation, correct?

Page 133:10 to 134:02

10 A. I don't know the difference
11 between ballooning and mud -- mud
12 circulation, you said?
13 Q. (BY MR. WATTS) Right. Do you
14 know what a ballooning event will cause?
15 A. No.
16 Q. Okay. Let me just ask you
17 point-blank, I mean, ballooning is referenced
18 in a lot of these documents. You've seen
19 that before, right?
20 A. I've seen it, yes.
21 Q. Okay. But in terms of its
22 relations with mud loss, it -- if I Googled
23 the word "ballooning," and it said where
24 there's a wellbore balloons, it leads to a
25 mud loss and lost circulation, is that
1 something you have a thought on one way or
2 the other, or you just don't know?

Page 134:04 to 134:08

4 A. I didn't think about that.
5 Q. (BY MR. WATTS) Okay. So the
6 term "ballooning event" means nothing to you?
7 A. I understand it's not a good
8 event.

Page 176:07 to 176:16

7 Q. And so now I'm moving forward
8 three days to tab 121, which is Exhibit 3494,
9 and by this time, we have to still be at
10 18,360 because we drilled no deeper, right?

11 A. Yes.
12 Q. Okay. Now, looking at tab 121,
13 or Exhibit 3494, this is an e-mail chain that
14 ends with an e-mail that you wrote on April
15 the 12th, right?
16 A. Yes.

Page 176:20 to 178:11

20 The first e-mail is from Kelly
21 McAughan to yourself and Stuart Lacy on April
22 the 12th at 9:47 a.m., right?
23 A. Yes.
24 Q. It says, "From looking at logs
25 we have decided not to get a sample in that
1 lower zone because of the loss zone at the
2 bottom of the main pay."
3 Do you see that?
4 A. Yes.
5 Q. All right. Now, we know at this
6 point on April the 12th when this entry is
7 made, we are at 18,360 feet, and my
8 PowerPoint says the loss zone at the bottom.
9 A. Yes, you --
10 Q. That's correct, right?
11 A. PowerPoint says so.
12 Q. I'm sorry?
13 A. Your PowerPoint says the lowest
14 zone from the bottom --
15 Q. Okay.
16 A. -- as pulled from Kelly's
17 e-mail.
18 Q. Okay. And you agree I
19 accurately lifted that and that's -- that
20 would be accurate from the standpoint of
21 18,360 feet on April the 12th, right?
22 A. You took the phrase of "loss
23 zone" of -- at the bottom on April the 12th,
24 bottom of -- the depths of 18,360 from
25 Kelly --
1 Q. Okay.
2 A. -- McAughan, yes, and put it
3 into the --
4 Q. Okay. And did so accurately,
5 right?
6 A. And put into the PowerPoint.

7 Q. Okay, fair enough.
8 Now, here's my question: At the
9 time of this loss zone at the bottom, you
10 were on the rig, right?
11 A. I was on the rig.

Page 181:16 to 182:05

16 Q. -- after she has written, we've
17 "decided not to get a sample in that lower
18 zone because of the loss zone at the bottom
19 of the main pay," you respond, "why do you
20 think it's a loss zone?"
21 And she responds, "Around here
22 they are thinking because of the high
23 porosity on CMR that it looks frac' into.
24 The density was high too saying lots of LCM
25 material."
1 That's part of what she wrote,
2 right?
3 A. Yes, that's what she wrote.
4 Q. Okay. LCM material is what?
5 A. Lost circulation material.

Page 182:17 to 183:03

17 Okay. At tab 138, which is
18 Exhibit 3495, that's an e-mail that you wrote
19 to Brian Morel on April the 28th, and you
20 attach a document.
21 A. Yes.
22 Q. "Macondo_Resistivity_For_Losses_
23 at_TD," right?
24 A. Yes.
25 Q. And then the next document is
1 the PowerPoint that you attached and sent to
2 Mr. Morel, right?
3 A. Yes.

Page 189:05 to 189:11

5 Q. Right. And then with respect to
6 3497, which is the one regarding the history
7 of lost return, same question and that is
8 that you agree that each of the dates, each
9 of the depths, and each of the excerpts come

10 from the documents from BP that we discussed,
11 correct?

Page 189:13 to 190:05

13 A. Some of the events you put in
14 this PowerPoint are taken from the --
15 sometimes from drilling report or from
16 geological report and put in these documents.
17 There is some of them I do not know if you
18 can put them as a -- table name is lost
19 returns.
20 Q. (BY MR. WATTS) Uh-huh.
21 A. I don't know if the ballooning
22 event is the same as the lost returns.
23 Q. Okay.
24 A. Or lost returns, lost returns
25 and losses, I'm not sure it's the same
1 terminology used.
2 Q. Sure. Other than the concept of
3 lost returns versus losses, do you agree that
4 the quotations were properly excerpted from
5 the BP -- BP documents that we went through?

Page 190:07 to 190:23

7 A. This -- how this changed so all
8 the course of the well this 15,000 barrels
9 of -- I don't remember what he uses, as
10 hydrocarbons or whatever he uses volume for,
11 I think it's a question --
12 THE REPORTER: I'm not hearing.
13 MR. WATTS: She thinks it a question
14 about --
15 A. (Continued) It's a question to
16 him and how he came up with the number.
17 Q. (BY MR. WATTS) Completely agree
18 with you. My point is is that the documents
19 that we went through were BP documents and
20 those numbers were contained in those
21 documents and properly put into this
22 PowerPoint slide?
23 A. You took --

Page 191:01 to 191:14

1 Q. (BY MR. WATTS) Go ahead.
2 A. You took the number from Robert
3 Bodek e-mail --
4 Q. Right.
5 A. -- from a context which is not
6 stated here to the person, I don't know.
7 Q. Okay.
8 A. And I don't have reference to in
9 the e-mail.
10 Q. I agree. But you agree that I
11 took the -- the phrase out of the document in
12 the way that it was described in the
13 document? You I didn't change the number
14 from 15,000 to 3,000, right?

Page 191:16 to 194:13

16 A. You took that phrase from the
17 document, from that e-mail and put it into
18 the PowerPoint accurately.
19 Q. (BY MR. WATTS) Now, here's my
20 question: We have gone through the kicks and
21 we've gone through the lost returns. In the
22 e-mail that you and I looked at you had an
23 attachment where you provided the list of
24 lost returns based upon the analysis of the
25 well that you had done, right?
1 A. I did not provide list of
2 loss -- list of lost returns.
3 Q. What would you characterize the
4 attachment that you sent to the gentleman
5 with respect to lost returns?
6 A. It's a -- can we have as a
7 reference?
8 Q. Sure, I'm sorry.
9 A. To make sure that we talk about
10 the same.
11 Q. It's tab 138. Do you see that?
12 A. This plot -- this plot is an
13 overlay of tripping out of the resistivity
14 data.
15 Q. I'm sorry, can you say that
16 again? I couldn't understand you.
17 A. This plot is overlaying the time
18 lapsed resistivity data.
19 Q. Okay.

20 A. The data recorded on the way in
21 while drilling --
22 Q. Okay.
23 A. -- and on the way out, there is
24 a technique show -- it's used sometimes for
25 the identification of the losses zone, which
1 you can -- you can interpret. This picture
2 is not saying this is a loss zone.
3 Q. Okay.
4 A. This is showing the difference
5 between the resistivity and people who are
6 using the information drillers who -- it was
7 sent to Brian Morel on his request for --
8 I -- it was my job -- I would do this plot,
9 anyway.
10 Q. Okay.
11 A. I sent it to him showing that
12 there is a difference between trip in and
13 trip out resistivity.
14 Q. And what does that tell you when
15 there is a difference between trip in and
16 trip out resistivity?
17 A. It means that the zone is --
18 Q. Losing returns?
19 A. -- however, it's changed -- the
20 resistivity reading over time changed. So it
21 means that -- to me, I interpreted it as mud
22 filtrate invades the rocks, and that's why
23 later on LWD measurements, there is a high
24 number. That's how this technique works.
25 Q. So what you did is you overlaid
1 the in -- the trip in with the trip out. You
2 had different permeability reason --
3 readings, right?
4 A. It's not reading of
5 permeability. It's --
6 Q. It's resistivity?
7 A. It's resistivity reading.
8 Q. Okay. And the difference in the
9 resistivity can be explained by what
10 phenomenon?
11 A. Invasion of oil-based mud into
12 the -- into the formation, into the
13 formation.

24 Q. Okay. Did you learn -- you
25 know, we have the document from Mr. Bodek
1 saying there is 15,000 barrels of lost
2 returns. Did you ever learn how much LCM was
3 injected into this wellbore?

Page 198:06 to 198:11

6 A. No, I did not.
7 Q. (BY MR. WATTS) Okay. Did you
8 learn that, in fact, the samples that you
9 were taking down at the bottom of the
10 wellbore were incam- -- contaminated with LCM
11 material?

Page 198:13 to 198:15

13 A. I read it from -- from the
14 geological report, but I did not see it
15 myself.

Page 202:07 to 205:03

7 where Kelly McAughan says, "From looking at
8 the logs we have decided not to get a sample
9 in that lower zone because of the loss zone
10 at the bottom of the main pay"?
11 We discussed that before, right?
12 A. Yes, we looked at this e-mail
13 before.
14 Q. And then you -- and then you
15 said, "Why do you think it's a loss zone?"
16 And Kelly responds, in addition
17 to the high porosity on the CMR, it looks
18 frac'd into.
19 When something looks frac'd into
20 what does that mean?
21 A. I don't know what Kelly means
22 with it. To me it mean -- means that -- to
23 me it means that something is fractured.
24 Q. Fractured, okay. "The density
25 was high too saying lots of LCM material."
1 So Kelly is talking about the fact that
2 there's lots of LCM material here, right?
3 A. Yeah, it says so.

4 Q. Now, in addition to having lots
5 of LCM material down in the hole, one sample
6 is a hundred percent of it, can you tell the
7 members of the jury or the Judge why having
8 your samples heavily contaminated with LCM
9 can cause a problem?

10 A. I don't know if it can cause a
11 problem.

12 Q. Okay. Do you think heavy
13 contamination of your samples with LCM is a
14 good thing or a bad thing?

15 A. I don't know.

16 Q. Okay. Now, if you could go back
17 to tab 141 very briefly, and if you can find
18 the page where we had the pay zones in the
19 table that we discussed before. What page is
20 that on, Bates number?

21 A. 33.

22 Q. 33. I'm sorry, what is it in?
23 Oh, it's Page 33, thank you. Now -- now, all
24 of those zones that are referenced in
25 Figure 33 are within the net pay summary,
1 right?

2 A. Those zones I include in the net
3 pay summary table.

4 Q. Okay. Anything in a net pay
5 summary is a pay zone, right?

6 MR. LANCASTER: Object to form.

7 A. No.

8 Q. (BY MR. WATTS) Okay. Tell me
9 why that's not true.

10 A. Pay zone is, in my
11 understanding, the zone of major evaluation
12 of those three zones, M56C, D, E, and F. And
13 there is a zone with uncertain
14 interpretation, could be oil or gas. If you
15 ask me if the pay that's supposed will be
16 under development, I don't know, but it's
17 hydrocarbon-bearing zone.

18 Q. And let me see if I can follow
19 up with you. I think what you're saying is
20 when you say "pay under development," they
21 may not be commercially viable, but they're
22 all hydrocarbon-bearing zones?

23 A. Yes, yes.

24 Q. I see. So with respect to each

25 of the zones that are listed in Figure 33,
1 they each are hydrocarbon-bearing zones, but
2 BP may make a determination as to which ones
3 are commercially extractible, fair?

Page 205:05 to 213:05

5 A. I don't know. I have my own
6 opinion about this zone. So if I -- if --
7 they look like more like hydrocarbon-bearing
8 zone. Some of them have a -- the main thing,
9 the main objective we drilled for, those
10 three lower sands.

11 Q. (BY MR. WATTS) The three white
12 ones at 17,708, 17,975 and a half, and
13 18,030?

14 A. No, it's the zone -- the
15 three -- three lower zones.

16 Q. The three lower zones are the
17 ones that --

18 A. Each of the pay, kind of
19 commercial pay, commercial -- I can't say
20 commercial. Commercial evaluation of it.

21 Q. Okay. They're commercially
22 viable?

23 A. There are also -- there are also
24 two more zones which highlighted as
25 hydrocarbon bearing. One is at 7 -- 7800 and
1 something. I don't -- I don't see the number
2 well.

3 Q. Okay. It's the third zone
4 listed?

5 A. It's the third zone listed from
6 the top.

7 Q. Okay. And what's the other zone
8 that's hydrocarbon bearing?

9 A. The gas -- to fit gas zone,
10 possible gas zone.

11 Q. Okay. So you have a zone at
12 17,487 that contains 2 feet of gas?

13 A. This interpretation of this zone
14 is not certain due to wireline logs
15 resolution.

16 Q. (BY MR. WATTS) The document
17 says that at 17,487 you have 2 feet of gas
18 listed in the Macondo net pay summary table,

19 right?

20 A. This zone is listed there --

21 Q. Okay.

22 A. -- as gas zone.

23 Q. Okay.

24 A. It's a progression of the
25 report. It seems to change it to possible
1 zone because of uncertainty.

2 Q. Well, that's interesting. So
3 this version of the report shows that it is a
4 hydrocarbon-bearing zone, right?

5 A. It's gas -- possible gas in this
6 zone.

7 Q. Okay. Where does it say
8 "possible gas"?

9 A. Possible gas is that -- we
10 highlighted the zones probably hydrocarbon
11 bearing, but due to the resolution of the
12 logs, we can't say more certain about that.

13 Q. Okay. All right. I'm trying to
14 interpret this particular table. Let me see
15 if I -- I understand it. There are a total
16 of one, two, three, four, five, six, seven,
17 eight zones listed, right?

18 A. Yes.

19 Q. All right. Zone one is at
20 17,487 feet, and it says gas --

21 A. 67.

22 Q. 17,467?

23 A. I think so.

24 Q. Okay. Zone one is 17,467, and
25 it says gas 2 feet and it is highlighted as
1 probably containing hydrocarbons, right?

2 A. It is highlighted --

3 Q. Now, the --

4 A. -- probably containing
5 hydrocarbons.

6 Q. Now, the second zone is at
7 17,708 and it says 8 and a half feet, but
8 that one's uncertain, right?

9 A. It's uncertain because
10 absolutely below the log resolutions and we
11 could not come to any kind of conclusion what
12 the saturation of that zone is.

13 Q. The third zone is at 17,000 as
14 you say, 800 and something feet. And is that

15 one uncertain or is it probable?
16 A. It's oil or gas zone.
17 Q. And it's probably containing
18 hydrocarbons?
19 A. It's probably oil or probably
20 gas.
21 Q. Okay. The fourth zone is 17,975
22 and a half. And it says brine, right?
23 A. Yes.
24 Q. 5 feet, right?
25 A. Yes.
1 Q. The fifth zone is 18,030 and it
2 says, brine, 2 feet, right?
3 A. Yes.
4 Q. And then the sixth zone and the
5 seventh zone and eighth zone are all zones
6 where you say that there is oil in those
7 zones, right?
8 A. Yes.
9 Q. So of the eight zones there are
10 five that the team that wrote this technical
11 memorandum wrote contain hydrocarbons, and it
12 highlighted those five, right?
13 A. Team highlighted those five
14 zones.
15 Q. Okay. Now, with respect to tab
16 124, this is an e-mail that I've marked as
17 Exhibit 3512. Mr. Bodek writes you on April
18 13th and he says, "The drilling team, in
19 their cement procedure preparations, needs to
20 know the depth of the shallowest
21 hydrocarbon-bearing interval in the open
22 hole."
23 Do you see that?
24 A. Yes, I do.
25 Q. You respond, I think the
1 shallowest hydrocarbon-bearing sand is at
2 17,803, right?
3 A. Yes.
4 Q. Now, 17,803, as we go back to
5 the technical memorandum, is the third of
6 eight zones, right?
7 A. It's the third of those -- of
8 those eight zones.
9 Q. You did not include in your
10 e-mail to Mr. Bodek on April the 13th the

11 zones that the technical memorandum
12 identified in zone 1 and 2, right, because
13 those are higher up the hole than what you're
14 saying is the shallowest hydrocarbon sand,
15 correct?

16 A. This e-mail of Tuesday April 13
17 is when I answered Mr. Bodek about the
18 shallowest hydrocarbon-bearing sand, 8 --
19 17,807 is where I interpreted from them,
20 printout I had of that week. So when I came
21 back to -- to the office there was more
22 information available and we put the logs in
23 zone -- into those to fit of sand, and we had
24 several engineers looking at this because of
25 the challenge issue.

1 Q. Sure.

2 A. Such a tiny, small zone. We
3 decide to highlight it, as a probable gas.

4 Q. Okay. So as I understand it, on
5 April 13th you told Mr. Bodek the shallowest
6 hydrocarbon sand is 17,803 feet. After you
7 got back to the office and you looked at the
8 logs more closely you-all highlighted and
9 determined at 17,487 there was probable gas,
10 right?

11 MR. LANCASTER: Object to form.

12 A. Based on the data I had on the
13 rig --

14 Q. (BY MR. WATTS) Okay.

15 A. -- this 17 -- this 17,803 sand
16 is the hydrocarbon zone I sent in that
17 e-mail.

18 Q. Sure, I know that. But the
19 point is is after you sent that e-mail you
20 came back to the office, you looked at the
21 log, and determined that it was probably,
22 because you highlighted it, that there was
23 2 feet of gas at 17,467 feet?

24 MR. LANCASTER: Object to form.

25 A. There was more data available
1 and more people in the room. We decided
2 to -- to highlight the zone as a possible
3 hydrocarbon -- possible gas bearing zone.

4 Q. (BY MR. WATTS) Okay. So here's
5 my question: When was this more data
6 available such that this analysis which

7 caused you-all to highlight as a probable
8 hydrocarbon zone, the one at 14,467, when was
9 that analysis done?
10 A. The analysis was done the day of
11 the incident.
12 Q. The day of the incident?
13 A. Yes.
14 Q. After the cement job was done,
15 right?
16 A. Yes.
17 Q. Okay. You are aware from the
18 e-mails, if not from other, that there are
19 MMS regulations as to where the top of cement
20 needs to be located relative to the
21 shallowest hydrocarbon-bearing sand, right?
22 A. As I know from MMS regulations,
23 it's 500 above the shallowest
24 hydrocarbon-bearing zone.
25 Q. Okay. So do you believe that BP
1 complied with MMS regulations with its
2 selection of where the top of cement should
3 go in the cement job that was done on April
4 the 19th?
5 A. I don't know.

Page 215:09 to 219:12

9 Now, tell us what a Sonic
10 Scanner is.
11 A. Sonic Scanner is a sonic tool
12 which you run in the well to -- to acquire
13 acoustic data.
14 Q. Was a Sonic Scanner run on the
15 Macondo well?
16 A. DSI is a tool which was run on
17 the Macondo well.
18 Q. I'm not asking about DSI. I'm
19 asking whether a Sonic Scanner was run on the
20 Macondo well. I know that DSI was.
21 A. I don't remember.
22 Q. Okay. Let's look at some of the
23 documents about why you don't remember.
24 Tab 27, please. This is Exhibit 3514. This
25 is an e-mail chain that if you would go to
1 Page 2 of the document, you receive an e-mail
2 from Robert Elliott on February the 19th of

3 2010. He says, "Hi Galina, We have routinely
4 run SonicScanner through openhole and cased
5 hole intervals for well tie, geomechanics,
6 and rock properties work in Trinidad. We
7 have them across 5 key wells and the data
8 quality, including azimuthal anisotropy has
9 been -- has been excellent. There is, of
10 course, a lower signal/noise in the cased
11 hole and some occasional loss of shear data
12 but the SonicScanner definitely represents an
13 improvement over the DSI in this regard.

14 Do you recall receiving this
15 e-mail?

16 A. I do.

17 Q. If we go back to Page 1, at the
18 top you forward this e-mail chain to Robert
19 Bodek and Charles Bondurant on October 22nd
20 and you say, "Bobby, I am quite convinced we
21 should run this mode of Sonic Scanner:
22 Advanced service (WL-OH-0080)."

23 Is that what you wrote to Bobby
24 Bodek?

25 A. Yes, I wrote to Bobby Bodek.

1 Q. Now, if you would go to tab 42,
2 please. Tab 42 is an e-mail that you wrote
3 on March the 8th of 2010 to
4 Alexander Zamorouev. I'm going to mark it as
5 Exhibit 3515, and it has attachments remitted
6 to the Sonic Scanner, right?

7 A. Yes.

8 Q. And you write to Sasha --

9 A. Yes.

10 Q. -- third line, "We have an
11 option to run DSI a Sonic Scanner. The
12 second is \$86,000 more expensive."

13 Do you see that?

14 A. Yes.

15 Q. Now, go down to the next -- the
16 full paragraph beginning with please on the
17 third line. "Long story short: Sonic
18 Scanner is a new generation of DSI with
19 deeper depths of investigation - reading
20 un-altered by drilling and mud invasion
21 rocks - more accurate measurements, and
22 anisotropy understanding."

23 Is that what you wrote?

24 A. Yes.

25 Q. Now, despite writing that, if
1 you would go to tab 51, tab 51 is an e-mail
2 chain that I'm going to mark as Exhibit 3516.
3 In the beginning of Page -- the end of Page 1
4 we see the e-mail that you sent to Sasha, and
5 it goes on on Page 2. Do you see that? It's
6 the same e-mail, right?

7 A. Yes.

8 Q. Where you're saying, "Long story
9 short: Sonic Scanner is a new generation of
10 DSI with deeper depths to investigation -
11 reading un-altered by drilling and mud
12 invasion rocks - more accurate measurements
13 and anisotropy understanding," but it's
14 \$86,000 more expensive.

15 A. Yes.

16 Q. That e-mail is forwarded by
17 Sasha to Sarah Dobbs and Francisco Pineda.
18 And it says, "Below is a request from Galina,
19 petrophysicist with the Macondo well. Any
20 input on the sonic tool that can give you
21 more information for completion?"

22 That's what Sasha wrote, right?

23 A. Yes.

24 Q. And then we go up to -- to the
25 top. We have an e-mail from Sarah Elizabeth
1 Dobbs, which is a completion engineer with BP
2 Gulf of Mexico Deepwater and Sarah writes,
3 "Sasha - It would be nice to have, but for
4 \$86,000 and rig time, we can't justify it.
5 The DSI has enough detail for what we need
6 for the frac design."

7 Did I read that correctly?

8 A. You did.

9 Q. Now, we know that the cost
10 penalty for doing a Sonic Scanner is \$86,000.
11 What would the rig time penalty be to use the
12 Sonic Scanner as opposed to the DSI?

Page 219:14 to 220:02

14 A. I don't know.

15 Q. (BY MR. WATTS) Well, in the
16 discussions that you had in trying to get
17 this company to use the Sonic Scanner instead

18 of DSI there was an understanding that it was
19 going to take more time?

20 A. What I was doing putting this --
21 this first e-mail you referenced to is I put
22 on a global BP Website. Everybody is always
23 trying to use new tools to see the advantage
24 of it. So I saw that there was new Sonic
25 Scanner available.

1 Q. Clear advantage.

2 A. And --

Page 220:04 to 223:15

4 Q. (BY MR. WATTS) You agree, clear
5 advantage?

6 A. I don't know. I didn't run it,
7 so --

8 Q. Well, you were convinced that
9 you should use it?

10 A. I ask --

11 MR. MONICO: Objection; form.

12 A. (Continuing) I ask globally,
13 the people with advice because the -- I was
14 told that on Kodiak and analogs around they
15 used the DSI and they were happy with it,
16 analog wells in Gulf of Mexico.

17 So I put it globally the
18 question trying to convince the team for the
19 money and --

20 Q. (BY MR. WATTS) Rig time.

21 A. -- rig time, and they told me
22 yes, we will, if you prove us the advantage
23 of it, so what the major usage of it. So,
24 one of the usage, which the pumping team will
25 be using this Sonic Scanner is for frac
1 gradient -- frac design. So I wanted to hear
2 from them that can -- since I didn't have my
3 own examples showing that on this log, on DSI
4 we have these and it's worse than -- the
5 quality of it.

6 Q. Well --

7 A. So that's why I forward the
8 question to -- to pumping team and that's why
9 they reply.

10 Q. The documents that we've seen,
11 you already told Bodek, I'm quite convinced

12 we should run this mode the Sonic Scanner,
13 right? That's what you said?

14 A. I did say so.

15 Q. Okay. And then those requests
16 go up to Sarah Dobbs and she says, it would
17 be nice to have. She's not saying it was
18 running worse. She's not saying it wasn't
19 preferable. She said it would be nice to
20 have, right?

21 A. She says so.

22 Q. But she says for \$86,000 and rig
23 time we can't justify it. That's what she
24 said, right?

25 A. That's what she said.

1 Q. And so the Sonic Scanner was not
2 utilized on the Macondo well, was it?

3 A. It was not.

4 Q. Okay. In addition to the Sonic
5 Scanner not being utilized, there was a
6 discussion about whether or not to core the
7 M56 sand; do you recall that?

8 A. In the drill data package there
9 was a comment when I had that document I saw
10 at the end of the data plan acquisition there
11 was a comment about the core -- taking a core
12 option will be discussed later while
13 drilling.

14 Q. Let's go to that document,
15 tab 2, which I'm going to mark as
16 Exhibit 3517 and let me just state for the
17 record the first two pages of it are
18 generated from our database based on the
19 document management system because the
20 document is an attachment and it doesn't have
21 any dates or references. So I went ahead and
22 attached the -- the document information as
23 the first two, just for reference.

24 You were shown as the custodian
25 of this document. And the document, if you
1 go to Page 2, was created on June the 10th,
2 2004 and was last modified on July 20th,
3 2009, according to the computers, which are a
4 lot smarter than I am. Okay.

5 But as we go to the next page,
6 you'll see the PowerPoint it's entitled,
7 "Well Objective." Do you see that?

8 A. Yes.
9 Q. Okay. And just for reference,
10 because this is produced in its native
11 format, it doesn't come with Bates numbers.
12 So in the lower right-hand corner I handwrote
13 page numbers that go from Page 1 through
14 Page 15 of the document so you could find
15 it --

Page 223:17 to 227:13

17 Q. -- since we wouldn't have a
18 Bates number. All right. Now, if you could,
19 what I would like you to do is to go to
20 Page 12 of 15 so we can discuss what's
21 written in there. There is a big title that
22 says, "Coring M56, question mark, right?"
23 A. Yes.
24 Q. And then there is a bullet point
25 that says "Coring Cost," right?
1 A. Yes.
2 Q. And the third bullet point says,
3 "BHI costs to cut core," and it's about
4 \$200,000, according to this document, right?
5 A. Yes.
6 Q. What's BHI?
7 A. Baker Hughes, Inc.
8 Q. Okay. So Baker Hughes was going
9 to charge BP \$200,000 to cut the core on M56
10 if there was a core done, right?
11 A. It says so in this document.
12 Q. Okay. "OMNI costs well site
13 handling & processing" was going to be
14 \$125,000, right?
15 A. Yes, yes.
16 Q. OMNI is the one that processes
17 the data from the cores, right?
18 A. It handles the cores and take to
19 the land and --
20 Q. Okay. So between BHI and OMNI
21 the third-party contractor costs for running
22 cores on the M56 was going to be \$325,000,
23 right?
24 A. Yes.
25 Q. And in addition to that it was
1 going to take rig time to TIH, cut core, CBU,

2 and TOOH here. Do you know what "TIH" means?
3 A. Trip in hole.
4 Q. Rig time to trip in hole, cut
5 core. "CBU," what does that mean?
6 A. I'm not sure what it stands for.
7 Q. And "TOOH"?
8 A. Trip out of hole.
9 Q. Trip out of hole. So rig time
10 to TIH, cut core, CBU, and TOOH was going to
11 be 48 hours. So plug in the rig rate here,
12 right?
13 A. Yes, that's the rig rate.
14 Q. So the third -- the third-party
15 contractor cost of cutting a core in the M56
16 sand was going to be \$325,000 and the rig
17 time cost was going to be two days?
18 A. Yes.
19 Q. Okay. And then under drilling
20 it says, Plan on a all-in-spread rate of
21 \$1 million a day during core operations.
22 Best guess for me would be a minimum of 7
23 days for a bypass core.
24 Do you see that?
25 A. Yes, I see that.
1 Q. All right. And so according to
2 this note on the drilling it would take seven
3 days for a bypass core a at million dollars a
4 day. So the rig time would be \$7 million to
5 run a bypass core in the M56 sand, right? Is
6 that correct?
7 A. Yes.
8 Q. Okay. So we have \$7 million in
9 rig costs, plus \$325,000 in third-party
10 contractor costs. So in order to run a
11 bypass core in the M56 it was going to cost
12 \$7.325 million to BP, right?
13 A. Who --
14 Q. According to this document?
15 A. 7? Did you do that calculation
16 yourself?
17 Q. Sure. Seven times 1 million is
18 7 million --
19 A. 7 million, okay.
20 Q. -- plus 200,000, plus 125 would
21 be \$7.325 million.
22 A. Yes.

23 Q. All right. Now, with respect to
24 whether or not a core was run on the M56, you
25 wanted a core being done, right?

1 A. As petrophysicist I always want
2 to core data -- to have core data.

3 Q. You received cost tension from
4 management that kept you from doing that?

5 A. I did not.

6 Q. Okay. Let's go to a document
7 that I've marked as tab 24. I'm going to
8 mark this as 3518. This is an e-mail from
9 Bruce Wagner to three people, including
10 yourself, on February 17th with respect to
11 core logs from Macondo. If you go down to
12 the last final paragraph, it says, if there
13 is a cost tension from management --

Page 227:18 to 228:06

18 you may consider lightening up on the
19 original hole evaluation, however there is no
20 guarantee of getting things in the cored hole
21 so a comprehensive analysis in the open hole
22 is advantageous.

23 Do you see that?

24 A. Yes.

25 Q. Now, after February the 17th,
1 two days later there was only a 10 percent
2 chance of a bypass core; did you know that?

3 A. I don't recall that.

4 Q. Let's go to tab 26. It's 3519.
5 No. 1, it says that you are the petro, the
6 petrophysicist --

Page 228:08 to 228:16

8 Q. -- from exploration following
9 the well, right? It says that you contacted
10 Fisher and Jennifer Nelson on Thursday --

11 A. Yes.

12 Q. -- and there is now a 10 percent
13 chance of a bypass core; do you see that?

14 A. Yes, I do.

15 Q. You wanted the bypass core, and
16 you were told it's not going to happen?

Page 228:18 to 228:18

18 A. I was not --

Page 228:20 to 229:06

20 A. -- told. I don't remember I was
21 not told. There was a decision made by team,
22 but I was not in charge of -- or I was not
23 part of the decision.

24 Q. Persons other than yourself made
25 the decision that your request for a bypass
1 core was not going to be granted, right?

2 A. I did not request the bypass
3 core. The request -- it was not clearly
4 stated in the PDDP document what -- what the
5 contingencies, contingencies why not to do
6 it.

Page 229:11 to 231:21

11 Tab 21, which I've marked as Exhibit 3520, is
12 an e-mail from Brad Simpson to a number of
13 people, including yourself, dated Monday,
14 February 15, right?

15 A. I see that.

16 Q. Now, if you look at the e-mail
17 down below, Mr. Simpson writes an e-mail and
18 says, "Let's get together to discuss the plan
19 for determining whether to run a core in
20 Macondo."

21 Do you see that?

22 A. Yes.

23 Q. So you get an e-mail on the
24 15th. Tab 24 with respect to cost tension
25 from management is on the 17th. That would
1 be a Wednesday. On the 19th, tab 26, says on
2 Thursday you contacted Mr. Fisher and
3 Jennifer Nelson and now there is a 10 percent
4 chance of a bypass core?

5 A. Well, there was no
6 percentages -- percentages of coring in, I
7 think, original document PDDP. There was no
8 put direct from 50 percent, 75 percent, like,
9 of coring, what the contingency. So I don't
10 know what was the original percentage --

11 original chance of running it.
 12 Q. Sure.
 13 A. It was put as a discussion.
 14 Q. Well --
 15 A. -- while drilling.
 16 Q. The original document with
 17 respect to well objective says a bypass core
 18 is going to cost BP \$7.35 million, you recall
 19 that, right?
 20 A. Look through the presentation
 21 where it's stated how much it would be.
 22 Q. \$7.35 million, we added it up,
 23 right?
 24 A. Yes, we did.
 25 Q. On the 15th let's get together
 1 to discuss --
 2 A. What -- what the date is this.
 3 Q. It's back in the summer, okay.
 4 A. Yes, it's back in the summer,
 5 okay.
 6 Q. On the 15th of 2010 in February
 7 it says, Lets get together to discuss the
 8 plan whether to run a core. On that
 9 Wednesday, the 17th, we've already looked at
 10 a document about if there is a cost tension
 11 from management. The next day on the 18th
 12 you come to see Fisher and Jennifer Nelson.
 13 On that Thursday and according to tab 26 it
 14 says there is a 10 percent chance of a bypass
 15 core.
 16 Do you recall that?
 17 A. I recall it on that term.
 18 Q. Okay.
 19 A. Can we open it again? What tab
 20 is it?
 21 Q. Tab 26.

Page 231:24 to 232:03

24 Tab 26 says there is a 10 percent chance of a
 25 bypass core, right?
 1 A. 10 percent chance of for bypass
 2 core in February 19th, right?
 3 Q. Yeah.

Page 232:06 to 232:13

6 A. So it -- as I recall, if you
7 look at the e-mail which Brad Simpson is
8 writing with the questions: Walt, would you
9 bring economical model; and, Chuck, would you
10 bring the latest estimate.
11 I don't recall attending the
12 meeting they're talking -- unfortunately, I
13 don't recall it.

Page 232:15 to 232:17

15 A. But I guess they presented some
16 kind of materials that convinced the team not
17 to run it.

Page 232:25 to 233:23

25 Q. (BY MR. WATTS) Ms. Skripnikova,
1 if you could go to tab 130, which is
2 Exhibit 3521. This is an e-mail chain that
3 I'd like to ask you about dated April the
4 14th.

5 And if you'd go to Page 2, I
6 want to start you in the middle -- or in the
7 bottom. Charles Bondurant writes an e-mail
8 to several people, including Robert Bodek,
9 Stuart Lacy, Kelly McAughan, and yourself
10 regarding a rotary side wall.

11 First of all, what is the
12 difference between a bypass core and a rotary
13 side wall?

14 A. A rotary side wall core is a
15 wireline tool where when the tool goes down
16 to the -- into the hole, it stops at a
17 certain depth. There is a little drill bit
18 coming out of it, drills into the formation,
19 retracts the core in that barrel, then goes
20 to the next point.

21 Q. A rotary side wall core is much
22 cheaper to do than a bypass core?

23 A. It is --

Page 233:25 to 240:22

25 Q. (BY MR. WATTS) Go ahead.

1 A. It is cheaper.
2 Q. Okay. Now, with respect to
3 rotary side wall core, as we look at
4 Mr. Bondurant's e-mail on April the 14th, he
5 says, We had over 2 months of nonproductive
6 time on this well. It does not make sense to
7 blow off retrieving core plugs because the
8 tool is PoC. We should at least retrieve our
9 minimum of 15 unless Galina demands more.
10 That's what BP geologist Chuck
11 Bondurant had to say, right?
12 A. That's his e-mail.
13 Q. And then Mr. Bodek writes back
14 13 minutes later at 1:08 p.m., Not a problem.
15 Just let me know, and we'll make it happen.
16 Please just keep in mind the difference
17 between, quote, must have, close quote, and,
18 quote, would be nice to have, close quote,
19 data. So far the 7 core plugs we have have
20 cost about \$175,000 each.
21 Now, did I read that correctly,
22 first of all?
23 A. Yes.
24 Q. As of April the 14th, there had
25 been seven core plugs run at a cost of
1 \$175,000 apiece, right?
2 A. I didn't know how he compiles
3 it.
4 Q. That's what he says, right?
5 A. That's what he says.
6 Q. If Mr. Bodek is correct, seven
7 core plugs at \$175,000 apiece would cost
8 \$1.225 million?
9 A. I don't know what it means, how
10 he calculates it, does it include what --
11 time of the run, time of -- I don't know how
12 he calculates this number exactly.
13 Q. Okay. Well, let me just ask a
14 more basic question. 175,000 times seven is
15 \$1,225,000; do you agree?
16 A. You must -- I agree with your
17 math.
18 Q. All right.
19 A. What he puts in that e-mail, I
20 don't know.
21 Q. All right. You wanted to run

22 more rotary side wall cores than had been run
23 as of April the 14th, correct?

24 A. I do. I did.

25 Q. All right. And you wanted to
1 run a minimum of 15, and I think you wanted
2 to run more than that, didn't you?

3 A. There is a plan of the coring in
4 PDDP.

5 Q. Yeah.

6 A. And I don't recall exactly what
7 it -- I think it -- like, 40 -- I think, one,
8 rube holds 50 core blocks.

9 Q. Uh-huh.

10 A. And there is always a little
11 bit -- not a little bit. There is recovery.
12 So if you took the core, it doesn't -- it
13 doesn't mean it's fully recovered. Again,
14 something can go wrong with the drill bit or
15 you lose the core. So it's -- it's very
16 seldom, to my experience, when it's 50. It's
17 always a little bit less.

18 Q. Okay.

19 A. I think --

20 Q. You're saying 50, 5-0, right?
21 15?

22 A. 5-0, 50, yes.

23 Q. 50. Okay.

24 A. So that -- that was the number.
25 And I think it's mentioned also in PDDP what
1 the recovery, so what the minimum recovery
2 you want to have.

3 Q. Okay. How many core plugs were
4 in the plan?

5 A. I don't remember. We got
6 open -- I think it was at least 50 --

7 Q. Okay.

8 A. -- it's my guess and --

9 Q. Okay. And after Mr. Bodek
10 wrote, Please keep in mind what must have
11 versus what would be nice to have, how many
12 core plugs were run?

13 A. That's what Bobby Bodek's
14 opinion on how important the core information
15 is and how -- if he wants to try taking more
16 or not. I always try to keep in mind there
17 is a plan, drill package data acquisition

18 plan, and I try to follow that. So that's
19 why I -- I was for -- I was insisting on
20 taking more core plugs.

21 Q. All right. I know you wanted to
22 follow the plan. My question was, was the
23 plan followed? How many core plugs were
24 actually run at a cost of \$175,000 apiece?

25 A. We -- we -- there were -- there
1 were three runs.

2 Q. Okay.

3 A. Three runs in all.

4 Q. All right.

5 A. Through the -- okay.

6 Q. That was less than what was
7 called for in the plan, agreed?

8 A. Well, I said three runs. It
9 doesn't mean the core plugs.

10 Q. How many core plugs were run?

11 A. There were -- in the last core
12 plug, there was 30 -- 40 -- 40 plugs, and
13 then there was plugs from the previous two
14 runs.

15 Q. Okay.

16 A. At one point, he says there were
17 two more runs. There were problems with the
18 runs. They had to come out of hole. There
19 was a problem with the -- with the bit to get
20 it -- the little bit kept sticking in the
21 hole.

22 Q. Uh-huh.

23 A. And there was one run, then they
24 came out of hole, there was another run, then
25 it end -- the end of the story was they had
1 to request another type of bit for the tool,
2 and, finally, we collected a sufficient
3 amount of core data.

4 Q. All right. Well, let's go to
5 the e-mail in the first page of this document
6 from Stuart Lacy, you're copied on it about
7 rotary side wall, four lines down.

8 It says, "The high perm nature
9 of the lower lobe means that with the high
10 overbalance the coring is very difficult
11 (it's to do with the cuttings being sucked
12 back towards the formation so that much of
13 the coring is re-drilling cuttings - poorly

14 explained but you get my drift hopefully) so
15 the probability is the coring motor will quit
16 coring that lobe."

17 Did I read that correctly?

18 A. Yes.

19 Q. Now, the high perm nature of the
20 lower lobe, when something has got a high
21 perm nature, that means it has high
22 permeability, right?

23 A. Yes.

24 Q. That means it's soft?

25 A. It means it's -- there is the
1 rock.

2 Q. It means it's not rock?

3 A. No, it doesn't, I'm sorry.

4 Q. I'm sorry?

5 A. It doesn't mean it's -- it's not
6 rock.

7 Q. Okay. Was it rock or was it
8 mush?

9 MR. LANCASTER: Object to form.

10 A. You can tell that it was mush at
11 the time, take a core plug from there, take
12 it to the surface, and see that it's mush and
13 you can see it's mush.

14 Q. (BY MR. WATTS) Okay. When you
15 got core plugs back you saw that some of them
16 were fractured, right?

17 A. Some of them were fractured due
18 to operations.

19 Q. When you say "due to
20 operations," that means they were fractured
21 due to mud weight that was heavier than the
22 pore pressure, which fractured the formation?

Page 240:24 to 241:01

24 A. No, I don't mean that.

25 Q. (BY MR. WATTS) Okay. What
1 fractured the formation?

Page 241:03 to 241:24

3 A. The -- the core plugs can be
4 fractured due to drilling -- when the bit is
5 drilling and then trying -- when there was an

6 attempt to construct it, then it can be
7 fractured.

8 Q. (BY MR. WATTS) You reached the
9 conclusion that the formation had been
10 fractured, right, by operations?

11 A. I didn't know. I need to look
12 through every core one by one to see if it
13 was due to operations or it was formation --
14 originally plug. And I guess the best person
15 who can try to identify the nature of the
16 structures is who doing the core -- core
17 analysis.

18 Q. Okay. Let's see if we can go
19 about it this way: The core plugs came out
20 fractured, you agree with that?

21 A. No.

22 Q. Well, you just told me that
23 several of the core plugs came out fractured,
24 right?

Page 242:01 to 243:06

1 A. I don't recall if it was
2 several.

3 Q. (BY MR. WATTS) Well, you had
4 fracture and loss zones farther up the
5 formation as well, right?

6 A. There was a potential. I
7 reported the lobe plot --

8 THE REPORTER: I can't hear -- "I
9 reported the" --

10 A. (Continued) I reported the lobe
11 plot showing overlaying time lapse data,
12 which can help to identify the low zones.

13 Q. (BY MR. WATTS) Well, let me
14 take you back to tab 33, and let's see if we
15 can short-circuit this instead of going
16 through every zone again. Tab 33.

17 This is an e-mail that you wrote
18 on March the 1st to Martin Albertin, and on
19 the third line, you say, I think there is
20 probably another fractured loss zone. See
21 the last slide.

22 Remember, we went through this
23 before and identified the probable fracture
24 and loss zone? Do you recall that discussion

25 we had?

1 A. I don't think we discussed this
2 zone.

3 Q. Well, my point is, is that in
4 multiple zones there were losses to the
5 formation and in multiple zones there were
6 fractures to the formation?

Page 243:08 to 244:02

8 A. This zone is, what, 6,000 feet
9 we're talking about?

10 Q. (BY MR. WATTS) We're up the
11 hole. We fractured the formation up the
12 hole, right?

13 A. We didn't take core plugs from
14 there.

15 Q. But you said the -- you said it
16 was fractured in the e-mail. There is
17 probably another fractured loss zone.

18 A. It's a probable. They can
19 interpret it as a loss zone and put, like,
20 tops only if there is a additional
21 information to --

22 Q. Sure.

23 A. -- additional supportive
24 information about timing to the losses,
25 about -- I guess I'm asking Martin Albertin
1 how this is consistent with his opinion about
2 where the losses are.

Page 244:05 to 244:13

5 Q. Down at total depth, you reached
6 the conclusion that that zone was fractured
7 as well in the wellbore; did you not?

8 A. I did not. I said it's
9 probably. And as I said --

10 Q. You said it's probably
11 fractured?

12 A. I said it's probably
13 fractured --

Page 244:15 to 244:24

15 A. -- low zone, which would require

16 additional input from other people who are
17 looking at this zone.

18 Q. Yeah. I don't want to be unfair
19 to you. You did use the phrase -- you
20 reached the conclusion the zone down at total
21 depth was probably fractured, you didn't say
22 it was certainly fractured, I agree with you.

23 A. I said probably another
24 fractured loss zone.

Page 247:12 to 247:14

12 Q. Well, a cement bond log was
13 supposed to have been run according to the
14 plan?

Page 247:20 to 247:21

20 A. It was in the predrill data
21 acquisition plan package.

Page 248:10 to 248:25

10 Q. (BY MR. WATTS) Okay. We're
11 going to tab 4, which is Exhibit 3377,
12 Page 29, with Bates Page No. 888.

13 A. Yes.

14 Q. The Macondo well evaluation plan
15 had certain things that were planned and
16 other things that were optional, right?

17 A. Yes.

18 Q. The things that were planned on
19 the far right include a cement bond log,
20 right?

21 A. Yes.

22 Q. That was part of the well plan
23 that BP management approved before the start
24 of the Macondo well being drilled, right?

25 A. Yes.

Page 250:06 to 250:09

6 Q. And you were aware that the plan
7 called for the Schlumberger cement bond log
8 personnel to -- to run a cement bond log with
9 respect to the final cement job, right?

Page 250:11 to 250:13

11 A. I was not.
12 Q. (BY MR. WATTS) Well, you were
13 aware that was in the plan?

Page 250:15 to 250:23

15 A. I was aware it was -- it was in
16 the plan.
17 Q. (BY MR. WATTS) Now, here's my
18 question: Were you ever made aware of a
19 management of change that was conducted when
20 somebody made the decision to deviate from
21 the well plan and to not do a cement bond log
22 with respect to the final cement job that was
23 done on April the 19th?

Page 250:25 to 251:19

25 A. I was not involved in management
1 of change because I was not responsible
2 neither for putting a cement log evaluation
3 in the program, like what tools to use, and I
4 was not supposed to evaluate that we have a
5 special dedicate -- we have a special
6 dedicated specialist who was supposed to put
7 the order for the logs saying Schlumberger
8 what logs to use and goes through and -- I
9 don't know if he was supposed to go through
10 the decision tree to run it or not to run it
11 and then interpret the logs. I would be
12 probably assisting him, but not -- I don't
13 have enough expertise in case hole
14 evaluation.
15 Q. (BY MR. WATTS) Did you assist
16 the person who was performing the decision
17 tree in order to reach a determination of
18 whether to deviate from the well plan and not
19 run a cement bond log?

Page 251:21 to 251:22

21 A. I was not in the discussion at
22 all.

Page 252:12 to 256:14

12 Q. Okay. Well, let's talk about
13 Exhibit 116, tab 116, which is Exhibit 3523.
14 And 116, this is an e-mail that
15 you wrote on April the 11th to Bobby Bodek
16 and Jonathan Bellow.

17 It says, Hi, "Bobby, Jon, The
18 drilling is successfully finished. I am
19 trying to summarize Halliburton LWD
20 performance"...

21 What is LWD performance?

22 A. Logging while drilling
23 performance.

24 Q. I'm sorry, say again.

25 A. Logging while drilling
1 performance.

2 Q. Logging well drilling
3 performance?

4 A. While, uh-huh.

5 MR. LANCASTER: While, w-h-i-l-e.

6 MR. WATTS: Logging while drilling
7 performance. Thank you.

8 Q. (BY MR. WATTS) The second
9 paragraph says, "Real time sonic performance
10 was disappointing. Sperry recently has
11 problems with it globally and we should do
12 something with it."

13 And then in italices, it says,
14 Real time sonic failure analysis,
15 explanation, lessons learned and looking
16 forward plan to avoid it in the future. The
17 failures happened in 12 and a quarter, 14 and
18 a half, and 18 and a half and 9 and 7/8-inch
19 sections of the hole.

20 Did you --

21 MR. MONICO: Objection; form.

22 Q. (BY MR. WATTS) Did you write
23 that on April the 11th?

24 A. I did write that.

25 Q. Now, the failures that happened
1 at the 12-and-a-quarter-inch,
2 14-and-a-half-inch, 8-and-a-half-inch, and
3 9-and-7/8-inch sections of the hole related
4 to what?

5 A. It's 12-and-a-quarter by
6 14-and-a-half, so it's one case -- it's one
7 section.
8 Q. I'm sorry.
9 A. Second section is 1-and-a-half
10 by 9-and-7/8.
11 Q. That wasn't intentional. I'm
12 getting tired, and I apologize. Let me read
13 it again.
14 In italices, you write, Real
15 time sonic failure analysis, explanation,
16 lessons learned and looking forward plan to
17 avoid it in the future. The failures
18 happened in the 12-and-a-quarter-inch by
19 14-and-a-half-inch and 8-and-a-half-inch by
20 9-and-7/8-inch section of the hole. I would
21 like to have the failure report per section
22 and in writing.
23 That's what you wrote on April
24 the 11th of 2010, correct?
25 A. Yes, I did.
1 MR. WATTS: And I -- and I apologize to
2 the room. I was not trying to mislead
3 anybody.
4 Q. (BY MR. WATTS) With respect to
5 those two sections, the 12-and-a-quarter by
6 14-and-a-half-inch and the 8-and-a-half-inch
7 by 9-and-7/8-inch sections, what were the
8 failures that were identified?
9 A. Because on the realtime, the
10 sonic data did not look as it's supposed to
11 be. It was erratic. That's why I'm asking
12 Bobby -- the well site -- the operation
13 geologist to push it to the vendors.
14 Q. Okay. Now, you were on the rig
15 at the time that you learned that the
16 realtime data was not matching what was
17 actually happening, right?
18 A. I was not -- it does not --
19 doesn't mean matching. It's --
20 Q. There were problems with it?
21 A. There was problems with its
22 realtime.
23 Q. You were concerned with being
24 able to interpret what was occurring because
25 of the problems with the realtime data,

1 right?
2 A. I don't --
3 MR. LANCASTER: Object to form.
4 A. I was concerned the data is not
5 delivered.
6 Q. (BY MR. WATTS) Okay. If the
7 data is not delivered, it cannot be analyzed?
8 A. If -- I guess if it's erratic
9 response, you cannot analyze it in any
10 meaningful -- meaningful way.
11 Q. Now, who had access to the
12 realtime data on the Macondo well in order to
13 be able to make sure it was being drilled
14 safely?

Page 256:18 to 256:22

18 Q. (BY MR. WATTS) Do you know?
19 A. Well, subsurface team did.
20 Q. Was the access to the realtime
21 data to be shared only with exploration
22 management and the team drilling the well?

Page 256:24 to 260:10

24 A. I don't know. I didn't kind of
25 create that file with the -- all the people
1 who have access. It's operate -- operation
2 geologist's duty --
3 Q. (BY MR. WATTS) Well --
4 A. -- to manage who can have access
5 to the data. I was one of those people.
6 Q. Let's go to tab 113, which is
7 Exhibit 3524. At the bottom of the first
8 page, a gentleman by the name of Jay Thorseth
9 writes an e-mail on April the 8th of 2010.
10 Who was Jay Thorseth?
11 A. He's exploration manager.
12 Q. And if we go to what he wrote,
13 on Line 4 he says, we absolutely have to
14 be -- to better control the information on
15 these wells.
16 Three lines down from that, he
17 writes, People who don't really need the
18 information get it, and also SPU and
19 corporate upper management get information

20 before top exploration management.
21 Therefore, starting tomorrow, the daily
22 one-line updates should only go to the
23 following people: Dave Rainey, Pete Zwart,
24 Jay Thorseth, Cindy Yeilding, Pinky Vinson,
25 and the TL working the prospect.
1 Any information regarding shows,
2 pays, et cetera, should only be shared with
3 the exploration management and the team
4 drilling the well. If someone else needs the
5 information, then it should be signed off by
6 me. If people complain, please send
7 questions my way.
8 Do you see that?
9 A. Yes, I do see that.
10 Q. Now, this e-mail was forwarded
11 up the chain from Mr. Richie to Mr. Bodek and
12 Mr. Bondurant. Mr. Bondurant sent it to you,
13 when he said, it "looks like the second sand
14 is pay. Sweet."
15 And then you follow up, at the
16 top of the first page, says, "All with wire
17 logs I will send to exploration team only.
18 Right?
19 A. Yes, that is what I wrote.
20 Q. You ask still -- you ask still
21 to the exploration team only, and that's in
22 response to the e-mail that you got sent from
23 Jay Thorseth, right?
24 A. When I said the "exploration
25 team only," I don't think I was clear enough
1 that I was supposed to send it to drilling
2 team as well.
3 Q. Uh-huh.
4 A. And there -- there was
5 probably -- it said initiation of the Jay --
6 e-mail from Jay Thorseth, it's probably
7 because someone, I don't know whom, send data
8 to the -- to the people who are not supposed
9 to have data or some plat -- slide packs or
10 something, and it could be made some kind of
11 conversation going which is probably too
12 early to talk about the --
13 Q. Sure.
14 A. -- about the prospect itself
15 because it's -- it's confidential

16 information.
17 Q. You remember when you told me
18 that you would go to the second floor office
19 during the morning meetings and look at the
20 realtime data?
21 A. No.
22 Q. That you had access to the
23 realtime data on your computer?
24 A. I had realtime -- I didn't -- I
25 would not go to the second floor operations
1 rooms to look at realtime data.
2 Q. You had access to --
3 A. I had instant -- always access.
4 Q. Okay. What kind of data did you
5 have access to?
6 A. I had access to all, basically
7 data transmitted by INSITE the -- INSITE
8 Anywhere in realtime mode, and then we had a
9 special -- I had a special Website -- Website
10 called Well Space.

Page 260:18 to 261:24

18 Q. (BY MR. WATTS) You had access
19 to the Sperry Sun data from the rig,
20 realtime?
21 A. I had time -- to Sperry Sun
22 data --
23 Q. Okay.
24 A. -- wireline or -- and wireline,
25 too.
1 Q. Okay. Did you have access to
2 information with respect to the drill pipe
3 pressure?
4 A. I suppose if I had to find it
5 somewhere, I would, but I didn't.
6 Q. Did you have access to the data
7 with respect to active pit volumes?
8 A. There is -- there is data
9 transmitted always together with -- as the
10 drilling parameters.
11 Q. All of the data that is
12 necessary to determine whether there was a
13 well control situation was available to you
14 and other members of the team on land
15 realtime, right?

16 A. I did not use the information
17 so --

18 Q. That wasn't my question. My
19 question was, was the information available
20 to BP's exploration team in Houston, Texas,
21 realtime?

22 MR. LANCASTER: Object to form.

23 A. I saw the realtime data, and it
24 was available to me.

Page 262:02 to 262:05

2 Q. How many other people in Houston
3 at the office had access to that realtime
4 data that would allow somebody to see whether
5 or not there was a well control situation?

Page 262:07 to 262:14

7 A. I think biggest question is
8 to -- to the person who send a request to the
9 rig to -- to whom to give an access, to whom
10 not to.

11 Q. (BY MR. WATTS) Okay.

12 A. To whom not to.

13 Q. Who made that decision?

14 A. Who made the --

Page 262:16 to 264:25

16 A. (Continuing) I don't know who
17 made the decision, but if I need an access
18 and I had that support from -- from my team
19 leader that I do need an access --

20 Q. (BY MR. WATTS) Uh-huh.

21 A. -- I would ask operation
22 geologist.

23 Q. How many people were working on
24 the Macondo well there at the BP office there
25 in Houston?

1 MR. LANCASTER: Object to form.

2 A. I don't know. I can -- I can
3 calculate -- I can tell you how -- what --
4 who were in the exploration team --

5 Q. (BY MR. WATTS) Sure.

6 A. -- in subsurface team.

7 Q. Okay. That's what I want. The
8 people that you know had access to the
9 realtime data like you did. Yourself. Who
10 else?

11 A. I -- well, I will tell only
12 about the people that I could -- I came to
13 the desks and I saw them --

14 Q. Right.

15 A. -- watching the realtime data.

16 Q. Who did you see with access to
17 the realtime data from the well --

18 A. Watching it.

19 Q. -- watching it that would allow
20 them to know whether or not there was a well
21 control situation?

22 A. Because there was a screen. I
23 said Bobby Bodek.

24 Q. Bobby Bodek.

25 A. Because I came to ask questions,
1 and I always saw him watching.

2 Q. Okay.

3 A. Martin Albertin.

4 Q. Martin Albertin. Who else?

5 A. Chuck Bondurant.

6 Q. Mr. Bondurant?

7 A. Yes.

8 Q. Okay. What was his first name?

9 A. Chuck.

10 Q. Chuck, yeah, okay, I'm sorry, I
11 didn't hear you. Who else?

12 A. That's only those people I saw
13 looking at the screens, at the realtime data.

14 Q. Those are all of them?

15 A. There are probably more -- more
16 of them.

17 Q. Okay.

18 A. But I can't say that I saw them
19 watching data.

20 Q. Now --

21 A. But it's very easy to understand
22 who had an access from -- from the
23 information from operation geologist.

24 Q. Did BP maintain records as to
25 who was on their computer when?

2 A. I don't know.
3 Q. (BY MR. WATTS) Do you know
4 whether it was tracked when you were on your
5 computer looking at the realtime data and
6 when you weren't?
7 A. I don't know.
8 Q. Were you looking at the realtime
9 data during the evening of April 20, 2010?
10 A. I don't remember, but mostly --
11 I don't remember.
12 Q. You were about to say but most
13 likely --
14 A. But most likely not because --
15 Q. Because why?
16 A. Because there is no data
17 available for me anymore that I would need
18 right now --

Page 265:20 to 266:08

20 A. -- not realtime data, not
21 realtime logs. The well integration is over,
22 so...
23 Q. Were -- were you in the office
24 on the evening of April 20th, 2010?
25 A. I don't remember exactly, but
1 probably was when working -- working hours.
2 Q. What time do working hours stop?
3 A. Probably 5:30, 6:00, when I
4 leave home.
5 Q. 5:30 or 6:00? Did BP have a
6 policy requiring that there were always
7 people monitoring the realtime data, even
8 after hours?

Page 266:11 to 266:12

11 A. I don't know. I -- I was not
12 watching the data at that time --

Page 266:14 to 267:16

14 A. -- because I did not expect to
15 have anything related to my responsibilities
16 and job.

17 Q. Well, did you come -- I'm sorry,
18 I didn't mean to cut you off. I apologize.

19 A. During all days before I was
20 working after hours --

21 Q. Sure.

22 A. -- at night.

23 Q. When you -- I assume you came to
24 the office on April the 21st after the
25 explosion?

1 A. Yes.

2 Q. That was a day you probably
3 won't soon forget?

4 A. I will never forget that day.

5 Q. When you were in the office on
6 April the 21st, did you hear from anybody who
7 said, "I had my computer on and I was looking
8 at the realtime data the previous evening
9 before this explosion occurred"?

10 A. I do not recall.

11 Q. Can you give me the name of one
12 person at BP who communicated to you or
13 anybody else that you heard that said, I was
14 looking at the realtime data on the evening
15 of April the 20th?

16 A. No, I can't give you the name.

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21 Q. All right. And then after this
22 data was run on April the 11th, somebody made
23 a decision to run a cement job and to not do
24 a cement bond log. Were you part of any of
25 those discussions?

1 A. I was not.

Page 275:11 to 275:12

11 Q. Okay. But the cement bond log
12 was also planned, and it was not done, right?

Page 275:14 to 275:18

14 A. It was in the predrill --
15 predrill data package.

16 Q. (BY MR. WATTS) And it was not
17 done?

18 A. Not to my knowledge.

Page 279:22 to 280:20

22 Q. Thank you for being here. I
23 wanted to do start off in the beginning just
24 talking a little more generally about what
25 the role of a petrophysicist is and more
1 particularly what your role was in the Gulf
2 of Mexico.

3 So are you -- how frequently do
4 you go out on the rig, generally?

5 A. If there is -- if there is a rig
6 which is -- if there is a well which is
7 drilled by exploration team in Gulf of
8 Mexico, I'm talking about Gulf of Mexico,
9 usually the petrophysicist goes for wireline
10 log job.

11 Q. And primarily only for wireline
12 log -- the wireline logging?

13 A. That is as I know. I did go for
14 wireline logging.

15 Q. Okay. And is the wireline
16 logging done only at the end of the well?

17 A. Sometimes there are sections
18 which when you do -- when you have two
19 targets and it's divided in two logging runs,
20 so drilling, logging, then drilling ahead.

Page 280:22 to 280:25

22 Q. Is it -- is it fair to say that
23 the wireline is run when there are potential
24 targets, pay sands?

25 A. Pay sands and wet sands, too.

Page 282:24 to 284:08

24 is what is your involvement in submitting
25 data or other information to MMS?

1 A. There is no formal role I'm
2 aware of.

3 Q. And informally you -- would you
4 review some of the this data we just talked
5 about?

6 A. I would suppose, if -- if there

7 is data delivered on the CDs and the
8 gentleman who compiles the CD for MMS doesn't
9 understand what it is, he would come to me
10 and ask what it is, is it that. And that's
11 how I -- I could be involved in that.

12 Q. Do you recall specific instances
13 when you were involved in reviewing data that
14 was going to MMS?

15 A. No.

16 Q. What about drilling plans, do
17 you typically review drilling plans for a
18 well?

19 A. Drilling plans in what form?

20 Q. Well, any form, really. We --
21 we talked a little bit about the pre- -- the
22 pre-drill package, and you testified you did
23 review that, correct?

24 A. Pre- drill package is a data
25 acquisition plan. It's not drilling plan.
1 It's acquisition, data while drilling --

2 Q. Okay.

3 A. -- and after drilling.

4 Q. Do you have any involvement in
5 reviewing where casing strings will be set?

6 A. I would attend those meetings,
7 but I would not input anyhow because it's not
8 my area of expertise.

Page 284:17 to 284:18

17 Q. And were you at those's -- at
18 meetings where casing depths were discussed?

Page 284:23 to 285:13

23 A. There was a pore pressure
24 presentations before drilling start, and
25 there was a -- when the pore pressure
1 displayed there is also casing points, and
2 that's how I review them, if you want -- if
3 you will and looking with rest of the team.
4 As I said, I cannot input into that.

5 Q. Let's talk a little bit about
6 the pore pressure presentations that you just
7 talked about. Those were prior to drilling?

8 A. Yes.

9 Q. And who would -- who gave those
10 presentations?

11 A. For this well there was Martin
12 Albertin, the pore person specialist for the
13 team. They call them review or, I don't

Page 285:15 to 286:23

15 Q. Who else was involved in those
16 meetings that you can recall?

17 A. I remember one of those meetings
18 in the beginning, there would be -- the one I
19 recall, the meeting I recall, I think there
20 was Kate Paine. I remember there was a Bruce
21 Wagner was another pore pressure specialist
22 on the Tiber team. Those people I
23 remembered. There was probably more people
24 from subsurface team who would be invited to
25 the meeting by the presenter.

1 Q. And that meeting took place
2 before the well was spudded?

3 A. The meeting I'm talking about
4 exactly as I recall, that was before spud.

5 Q. Okay. Did -- do you recall any
6 discussion about there being a narrow
7 drilling window during that meeting?

8 A. I don't remember that.

9 Q. Do you know what a narrow
10 drilling window is?

11 A. It's not my area of expertise.
12 I would not -- I would prefer not to speak
13 about that. Like, I -- I don't feel
14 comfortable discussing because I don't -- I'm
15 not a specialist in that area.

16 Q. Understood. But you have a
17 general idea --

18 A. I have a general idea.

19 Q. -- what it means?

20 A. I have general idea how the plot
21 looks like, what we are looking at, what we
22 are looking at while drilling. I mean, I
23 have an idea, I would say.

Page 287:05 to 291:09

5 So at this point the meeting

6 that you're -- that you recall, do you recall
7 what month it was in?

8 A. I started with the team in
9 September -- I mean, started, included in the
10 list of team members in September, October,
11 probably.

12 Q. September, October 2009?

13 A. Well, this -- yes, 2009.

14 Q. And at that point did they have
15 pore pressure predictions for the entire
16 length of the well?

17 A. I remember the plot showing
18 his -- his pre- -- his prediction of pore
19 pressure.

20 Q. Was it your understanding that
21 Mr. Albertin prepared the pore pressure plot?

22 A. Yes, it was my understanding.

23 Q. Do you recall whether there was
24 also a fracture gradient represented on the
25 plot that he showed?

1 A. Yes, I do remember that.

2 Q. Do you recall what -- where the
3 basis for that fracture gradient plot came
4 from?

5 A. I -- I know from my basic
6 knowledge how to calculate it, but I don't
7 know how he did it for this well.

8 Q. Okay. Generally when -- you
9 know, prior to the well-being spudded these
10 are all just estimates; is that right? The
11 pore pressure is just an estimate, and the
12 fracture gradient is just an estimate?

13 A. It's estimate based on the all
14 information available, all modeling done by
15 the Tiber team.

16 Q. And that's what I'm trying to
17 get at. What information is available for
18 them to base the estimates of the fracture
19 gradient on?

20 A. I can tell you in general case.

21 Q. Right.

22 A. I don't know exactly what Martin
23 Albertin used.

24 Q. Okay.

25 A. For the prediction you usually
1 use analogs of all data in the vicinity, like

2 those data is either we have -- on our
3 server, like, collected before; if not, we
4 are trying to -- to -- to trade in the data
5 or -- just to get as much in- -- well
6 information which is considered analog
7 available. So it's a first because there is
8 a pressure data measurement in those wells.
9 The mud weight, MMS, probably even the logs
10 of ECDs or other source of pressure data --

11 Q. From other wells?

12 A. From other wells. So those --
13 that data "photographically" adjusted to the
14 well, to the well trajectory. So that's one
15 of the -- to my knowledge, it's one of the
16 sources of information. Do you want me to
17 finish?

18 Q. Yes, please. Sorry.

19 A. Another source of information is
20 seismic volume. So it's -- when there is a
21 velocity data available there is modeling
22 software which allows you to model. So -- so
23 the velocity model and there is data in
24 other -- in different wells, right, which
25 operated there in the model based on that
1 data, and so you can model data -- predict
2 the pressure within the well trajectory,
3 along the well trajectory. So that's another
4 source.

5 That's the sources I know. And
6 I'm not sure what Martin Albertin used.

7 Q. And using these two sources of
8 information and any other sources of
9 information, you might -- you -- you would be
10 able to predict possible pore pressures and
11 fracture gradients for the upcoming well?

12 A. For the -- for the well plan you
13 can use that information predict those --
14 that pore pressure with some level of
15 certainty, I guess.

16 Q. Do you recall anyone raising
17 concerns about the pore pressure or the
18 fracture gradient during this meeting in
19 September or October of 2009?

20 A. No, I don't.

21 Q. Do you remember the discussions
22 generally regarding the pore pressure and the

23 fracture gradient at this meeting in
24 September and/or October 2009?

25 A. I don't remember the discussion,
1 but I suppose there was. People were asking
2 questions, but I don't remember myself asking
3 questions because I have quite fear
4 understanding questions to ask if I don't
5 know the subject well.

6 Q. Did you have a sense that --
7 that the drilling margin or the drilling
8 window was narrower than usual at the Macondo
9 well?

Page 291:12 to 292:09

12 A. I don't have a sense at all
13 because I have nothing to compare to, like my
14 experience with looking at the pore pressure
15 occurs in that case for well you're about to
16 drill, it's very limited. So I can't say for
17 that well I set that margin and then for
18 another well I set smaller margin. I can't.

19 Q. (BY MS. CHANG) You didn't have
20 any role at all in estimating the pore
21 pressures, did you?

22 A. No.

23 Q. Did you have any role at all in
24 estimating the fracture gradients?

25 A. No.

1 Q. Did you have any role at all in
2 determining the actual pore pressures?

3 A. No.

4 Q. And did you have any role
5 determining the actual fracture gradients?

6 A. No.

7 Q. Did you have any involvement in
8 choosing mud weights?

9 A. No.

Page 309:12 to 309:22

12 Q. After the spill -- after the
13 blowout and spill are you aware of a team
14 that was headed up by Paul Tooms to determine
15 the flow rate?

16 A. I didn't -- I do not exactly the

17 name of the team or who was the leader of the
18 team, but I -- I suppose that a team like
19 that existed.

20 Q. Were you involved with that
21 team's work?

22 A. I was not part of the team.

Page 310:04 to 311:09

4 Q. Well, why don't we talk about
5 the work that you did with respect to the --
6 trying to estimate the flow rate from the
7 well. Did you do any work relating to
8 estimating the flow rate?

9 A. My work includes evaluation some
10 of the parameters that can be used to as one
11 of the input for the flow rate estimation.

12 Q. Did you have an understanding
13 whether any of your work was going to be used
14 to help estimate the flow rate from the well?

15 A. As I said, one of the
16 parameters -- there is a set of parameters I
17 do while performing the petrophysical
18 evaluations, and some of them can be used for
19 flow rate estimate.

20 Q. Okay. What many parameters are
21 those?

22 A. Well, the parameters I do
23 evaluation for is porosity, water saturation,
24 permeability, thicknesses of -- of the zones,
25 potentially hydrocarbon-bearing zones or wet
1 sands, and average parameters of -- over
2 those zones for -- yes. Average parameters
3 of porosity, permeability, and water
4 saturation.

5 Q. And all those parameters would
6 be used to determine a flow rate?

7 A. I don't know about all of them,
8 but I suppose that the permeability is used
9 for flow rate estimation.

Page 311:13 to 316:24

13 Q. Did you do any evaluation of the
14 porosity of the formation at the Macondo
15 well?

16 A. I did.

17 Q. Do you recall when you did that?

18 A. There was several passes of
19 calculating porosity. So one was before core
20 data was available, without calibration of
21 fluid density to core. And then the second
22 pass -- second, third, I can't tell you
23 exactly how many versions they had. Then
24 there is another pass evaluating porosity to
25 calibration to core, making sure that the
1 porosity in the -- porosity determined in the
2 laboratory core samples is very close or if
3 it's not close, should be explained why it's
4 not close to lower frac zone.

5 Q. Were those all done after
6 April 20th?

7 A. It was done after April 20th,
8 but it could be my pre- -- prior to that
9 slides showing preliminary what I would say
10 numbers.

11 Q. If you would flip to tab 18 for
12 me, and that's previously been marked as
13 Exhibit 3372, Bates No. 2179MDL02314243.

14 A. You're looking at the --

15 Q. April 21, 2010.

16 A. Yes.

17 Q. Who is Walt Bozeman?

18 A. He's a senior reservoir
19 engineer.

20 Q. And Bryan Richie?

21 A. Is eastern team exploration team
22 leader.

23 Q. Do you know what his specialty
24 is? Is he a --

25 A. By education?

1 Q. Yeah.

2 A. I would say he's a geologist,
3 but -- because once I attended his talk in a
4 geology society. So I suppose his background
5 is geology.

6 Q. How about Terry Rooney, do you
7 know who that is?

8 A. No, I don't.

9 Q. Graham Vinson, do you know who
10 he is?

11 A. Graham Vinson is the Tiber

12 team -- team leader.
13 Q. And Jay Thorseth we talked about
14 earlier. What about David Epps?
15 A. David Epps is reservoir
16 engineer.
17 Q. Debbie Kercho?
18 A. Reservoir engineer.
19 Q. Tanner Gansert?
20 A. Reservoir engineer.
21 Q. Had you worked with these people
22 before?
23 A. Yes, I worked with most of them,
24 on a regular basis.
25 Q. And as I recall -- you indicated
1 you did not know what a WCD plot was; is that
2 correct?
3 A. No.
4 Q. Do you know what a WCD plot is?
5 A. No.
6 Q. Okay.
7 A. No.
8 Q. Okay. So --
9 A. Maybe if I -- when I look at the
10 plot -- can I look at the plot?
11 Q. Yes, this is --
12 A. Okay.
13 Q. I believe this is a WCD plot,
14 based on the -- the e-mail and the
15 production.
16 A. Okay.
17 Q. But I was going to ask you.
18 A. No, since I was -- I'm not
19 familiar with the plot.
20 Q. Okay.
21 A. With the parameters.
22 Q. Okay. And to your knowledge did
23 you provide any of the information that's
24 contained in this plot?
25 A. Yes, I remember the reservoir
1 engineering team asked me about permeability,
2 average permeability --
3 Q. Okay.
4 A. -- for the reservoir.
5 Q. And did you -- what information
6 did you provide to them?
7 A. There was update of those

8 numbers, too. As I mention that -- about the
9 porosity, how we calibrate porosity, the core
10 data, we do the same to permeability. And so
11 when permeability measured on the core is not
12 available, all you can provide is your
13 estimate.

14 So I'm not sure what they used
15 at that moment where there was no core yet.
16 So they could use an analog data, make a
17 predic- -- or prediction, you know, like most
18 likely predicted number for permeability.

19 Q. The -- the e-mail on the bottom
20 of that page also -- or says, "Bryan has
21 Galina, et al, tasked with reassessing this
22 and a couple other key subsurface
23 parameters." And if you look at the
24 sentence -- sentence above that, the "this"
25 appears to be referring to permeability.

1 Do you recall what the other key
2 subsurface parameters that you and others
3 were tasked with reassessing?

4 A. I do not know what would be
5 other parameters they would use, but I know
6 parameters what I would provide, I list them
7 to you. Those -- those you wrote down.

8 Q. Okay. So to the best of --
9 so -- so do you recall providing them with
10 the porosity information, "them" being Walt
11 Bozeman, David Rainey, the folks on this
12 Exhibit 3372?

13 A. I would be the person they would
14 ask for porosity estimation.

15 Q. Do you recall whether they did
16 ask you for porosity information?

17 A. I don't remember the date it
18 would -- I do not remember whether they were
19 asking about porosity data. I remember they
20 asked me about permeability data by -- very
21 close to the after -- the next day after the
22 incident where we all got together and they
23 would be asking me about the average
24 permeability.

Page 317:01 to 317:05

1 A. And not average. Estimate.

2 Q. Okay. Do you recall whether
3 they asked you for information on water
4 saturation?

5 A. I do not remember.

Page 319:23 to 320:02

23 Q. Did you provide them with the
24 numbers in the table above?

25 A. I didn't see my e-mail attached
1 here, but I suppose it was copied and pasted
2 into the e-mail and told it came from me.

Page 320:12 to 320:24

12 Q. (BY MS. CHANG) Okay. So we are
13 still at tab 19, which was Exhibit 3379, and
14 we were looking on the first page there at
15 the chart of numbers there, the net pay
16 summary which David Epps says was from you.
17 If you flip to the very last page if here,
18 it's a chart -- oops, I think you went one
19 too far.

20 A. Last page of this document?

21 Q. Last page of 19. It's before
22 the plastic insert, before.

23 A. Before the plastic insert?

24 Q. Yeah. The last page of tab 19.

Page 321:12 to 324:03

12 Q. (BY MS. CHANG) Yeah, that chart
13 there entitled "Summaries."

14 A. Yes.

15 Q. Do you know if that is
16 information that you provided to them?

17 A. Yes.

18 Q. And where did you get this
19 information from?

20 A. I calculated it using software
21 we have, had, used to have in our company for
22 petrophysical evaluation.

23 Q. Do you recall what the name of
24 that software was?

25 A. It's Geolog.

1 Q. I'm sorry?

2 A. Geolog, G-e-o-l-o-g.
3 Q. And that software is no longer
4 being used by BP?
5 A. We use Techlog now.
6 Q. What is that?
7 A. Techlog, T-e-c-h-l-o-g.
8 Q. Do you know why that change was
9 made?
10 A. I don't know.
11 Q. Do you know when the change was
12 made?
13 A. The change was made -- I recall
14 I took classes, formal classes on Techlog
15 sometime before Macondo, before I was going
16 to the rig probably, so -- but for the
17 Macondo, for this evaluation I used Geolog
18 only because I didn't want to play with the
19 new software with the well I'm working on
20 currently.
21 Q. To the best of your knowledge,
22 was the -- is the information that you
23 provided in response to this e-mail accurate?
24 A. It can be different versions
25 of -- of the summary like that I made,
1 because the interpretation was progressing
2 when more data available. So, I can't tell
3 exactly if this approximate permeability was
4 average and this was previously calibrated to
5 core data. So I can't -- since there is no
6 date here, I cannot tell you exactly
7 that's -- that's what absolutely this same --
8 this same version of -- of my evaluation. I
9 can compare the numbers.
10 Q. But any --
11 A. What I'm trying to say, because
12 there were several versions of estimation,
13 basically the difference is before having
14 core data and after -- after having core
15 data. I can't tell you exactly that, but
16 I -- I can say that I provided the team with
17 tables like -- like that, estimations of
18 petrophysical parameters from -- from the
19 logs.
20 Q. But at the time that you
21 prepared these tables the data, to the best
22 of your knowledge, was accurate; is that

23 correct? It may have changed later, but when
24 you prepared it, prepared the -- the
25 information for the team you gave them
1 accurate information?

2 A. As accurate I could at this
3 moment and with the amount of data I had.

Page 324:06 to 327:03

6 Why don't we jump to tab 30 and
7 it is Bates No. MDL02176694, and it's a
8 document entitled "Macondo Technical Note,"
9 dated May 19, 2010. Do you recall having
10 seen this document before?

11 A. Yes, I saw the document.

12 Q. And you are listed as one of the
13 contributors to this document; is that
14 correct?

15 A. Yes.

16 Q. Do you recall what -- what you
17 contributed to this technical note?

18 A. Permeability averages.

19 Q. And is that -- where is that
20 information found?

21 A. It's in the Page 5 of 6, there
22 is a table.

23 Q. Okay. The table entitled "Layer
24 Properties Used For Calculations"?

25 A. Yes.

1 Q. Did you provide the entire table
2 or just portions of the information within
3 the table?

4 A. Portions of the information.

5 Q. Okay. And which portions?

6 A. Tops.

7 Q. The top of sand?

8 A. Top of sand in measured depths
9 and TVDSS.

10 Q. Okay. And that's the left-hand
11 column of the two --

12 A. The two -- two column -- two
13 left column.

14 Q. Okay.

15 A. Four left -- four left columns.
16 One, two, three, four.

17 Q. Okay. So the top of sand,

18 bottom of sand for the left two columns; is
19 that right?

20 A. The first two columns it's top
21 of sand and base of sand in measured depths.
22 The second two columns after that is top of
23 sand and bottom of sand in TVDSS.

24 Q. And you provided the information
25 in both of those --

1 A. Yes.

2 Q. -- columns?

3 A. Yes.

4 Q. The top and the bottom for each,
5 for measured depth and TVDSS?

6 A. Yes.

7 Q. Did you provide any other
8 information in this chart?

9 A. Fluid content.

10 Q. Anything else?

11 A. Probably sand name, unless we
12 typed it in there. Gross sand, net sand, pay
13 sand, average gross, average net, average
14 pay, average net SW, net SW, average pay SW,
15 average arithmetic permeability, and
16 average -- an average geometric permeability.
17 I'm not sure about the temperature. And
18 that -- I don't think I did the pressure.

19 Q. At the time you provided this
20 information was it accurate, to the best of
21 your knowledge?

22 A. It was accurate to the best of
23 my interpretation. It was the best
24 interpretation I could come at this point of
25 time.

1 Q. Was there information that you
2 would have liked to have had at this point,
3 but did not have?

Page 327:05 to 337:21

5 A. Can you clarify the question?

6 Q. (BY MS. CHANG) Sure. Was --
7 were you missing information that would have
8 allowed you to do a more accurate job in
9 preparing this chart?

10 A. We need to kind of track it back
11 to -- I -- I would need to track it back to

12 understand if it's, again, before using
13 record data or after, when the evaluation was
14 done.

15 Q. Okay. We may be able to do
16 that. If you flip to tab 31 --

17 A. Yes.

18 Q. And the Bates number there is
19 MDL02181151 and it's dated May 20, 2010 and
20 version is B draft?

21 A. Start from the beginning.
22 They're all -- so I have the -- we looked at
23 this table, and then we go back?

24 Q. Well, tab 30 is --

25 A. Yes.

1 Q. The table at tab 30 is what we
2 were just looking at?

3 A. Yes, okay.

4 Q. And then tab 31, I believe, is a
5 second version. That one's dated May 20.

6 A. Uh-huh.

7 Q. And then if you flip to tab 32,
8 it looks to me like a third or fourth version
9 dated May 22nd, 2010. So does looking at the
10 three of these together give you a better
11 sense of the timing and --

12 A. It's quite close time. It -- if
13 I remember wrong -- right, we got core data
14 on a weekend the incident already, at least
15 part of it. And so it's end of April, and
16 this document's at end of May. I think I had
17 core data already by that time. So the
18 average parameters were probably best to the
19 knowledge. Yes.

20 Q. Were you involved in -- in
21 determining what the likely range of shut-in
22 pressure at the wellhead was?

23 A. No.

24 Q. So aside from providing the
25 numbers in the chart, you were not -- you had
1 no further involvement?

2 A. I was sitting in the meeting, I
3 don't remember if it was one or several of
4 them, and there was a reference e did they
5 have any questions to me inquiring findings,
6 and I was there. I did not participate in
7 the calculations.

8 Q. Did you have any opinion on what
9 the shut-in pressure at the wellhead would
10 be?

11 A. No, I did not.

12 Q. Who is Kate Baker?

13 A. Kate Baker is senior
14 geoscientist in BP, at the point of where
15 there was an incident -- to my understanding
16 there was a team -- like, team of senior
17 geoscientists formed that would be working on
18 these issues, and Kate Baker was one of them.

19 Q. And who is Mike Levitan?

20 A. Mike Levitan is a well test
21 specialist, a well test.

22 Q. Farah Saidi, do you know who she
23 is?

24 A. I don't know exactly what her
25 title is or what her area of expertise is,
1 but I remember that she was in the room
2 calculating one of the models. I'm not sure
3 what model it is.

4 Q. How about Simon Bishop, do you
5 know who he is and what his area of expertise
6 is?

7 A. Simon Bishop and Yun Wang are
8 also kind of geoscientists. I'm not sure
9 about their area of expertise.

10 Q. Andrew Sweeney?

11 A. I don't know. I don't
12 remember -- recall him.

13 Q. How about David Grass?

14 A. David Grass is petroleum system
15 specialist.

16 Q. And Pierre Andre Depret?

17 A. He's a petroleum system
18 specialist work on Macondo. I guess David
19 Grass, like, senior pore pressure -- I mean,
20 pore pressure -- petroleum system analyst
21 here as well.

22 Q. How about Tony Laio, do you know
23 who he is?

24 A. Tony, Chris, and Bob Merrill is
25 one of the high experience specialist in
1 estimate. The flow rate estimate is
2 technical -- the shut-in pressure specialist,
3 I guess, and I suppose it -- experienced

4 specialist you can get. They all work there.
5 But there was no time for any introduction,
6 you know, like, introduction and --
7 Q. You had work to do?
8 A. Yes. They did, too.
9 Q. Yeah. Did you have an
10 understanding what this -- what the work you
11 were doing was going to be used for?
12 A. Not exactly, to be honest. I
13 can speak why I say, but I would not -- I
14 know that they use my permeability numbers
15 and pay estimation and for flow rate, but how
16 the flow rate can be connected to shut --
17 shut-in pressure, I don't know.
18 Q. Did you have an understanding
19 that the flow rate estimate was somehow going
20 to be related to efforts to kill the well?
21 A. Yes, I understood that.
22 Q. At the time that you prepared
23 the charts for these technical notes was
24 there any information that you requested that
25 you were not able to get?
1 A. No, I did not. I think I had
2 all information I requested. I probably
3 requested some information after, but I -- I
4 can't say that after this date I did not
5 request any other information.
6 Q. After the date --
7 A. Yes. I had the all information
8 relevant by that time. I don't remember
9 exactly was it all information. I don't
10 remember. Maybe I was getting some more
11 information after that.
12 Q. Do you recall whether you
13 updated these charts after May 22nd, 2010?
14 A. These charts, this table?
15 Q. Yeah.
16 A. There was -- I'm not sure about
17 the numbers itself. We probably need to go
18 look to the number because shortly after that
19 work started moving memo -- technical
20 memorandum together?
21 THE REPORTER: Are you saying "move
22 around"?
23 THE WITNESS: Memorandum.
24 Q. (BY MS. CHANG) Technical

25 memorandum?

1 A. Yes.

2 Q. Is it the technical memorandum
3 that we -- that you looked at earlier, one
4 draft is at 30 -- tab 33?

5 A. Yes, this is one of the -- I
6 don't know if you have the latest version of
7 it. There was several versions.

8 Q. Okay. So this technical
9 memorandum at tab 33 --

10 A. Yes.

11 Q. -- which is Bates No.

12 HZN-OSC-00005378 --

13 A. 5378.

14 Q. -- through 5418 --

15 A. Yes.

16 Q. -- this is at least one version
17 of a technical memorandum you started putting
18 together, "you" being a team of people
19 starting putting together after the technical
20 note --

21 A. Yes.

22 Q. -- that we were looking at
23 earlier?

24 A. Yes.

25 Q. So is it your understanding that
1 this technical memorandum was supposed to
2 include the information that you had gathered
3 in May 2010 and had set forth in these
4 technical notes?

5 A. The numbers has to be either
6 exact or close to -- to this table. And
7 there is a change in the table in the
8 memorandum. I don't know let me look at the
9 version -- if you -- okay. So there is --
10 the average -- average parameters --

11 Q. Okay.

12 A. -- here in this table.

13 Q. What page are you on?

14 A. I'm looking at memorandum now.

15 So the question was if anything in this
16 table --

17 Q. Changed?

18 A. -- changed after -- changed to
19 be -- to compare to the version of the
20 similar, not the same exactly, but similar

21 table in memorandum.

22 Q. Right. Whether there -- whether
23 you obtained any information after you
24 prepared the charts in the technical notes
25 that would have changed your evaluation?

1 A. I don't -- I don't remember --
2 remember exactly. There could be some
3 polishing of the data, you know, like that's
4 slightly changed average parameters or --
5 but, basically, this should -- should be very
6 close.

7 There is one parameter, it's
8 changed in the memorandum to compare to this
9 table, is if -- is the fluid type of zone at
10 17,467.

11 Q. And do you know why that
12 changed?

13 A. The -- for this technical
14 memorandum we put more explanation together
15 about the uncertainty of evaluating that sand
16 and included a different interpretation of --
17 made by Schlumberger, which is wireline
18 company, and there was a team decision to be
19 more accurate to the text to change the fluid
20 content of that to wet sand from gas to
21 probable gas.

22 Q. Okay. And the date of this
23 technical memorandum that we're looking at
24 now is July 26th, 2010. Do you know whether
25 a final version of this technical memorandum
1 was ever issued?

2 A. I don't know if it's final.

3 Q. Did you review the technical --
4 this technical memorandum when it came out?

5 A. I did not review the other
6 parts. I viewed my part. I didn't review --
7 I wrote my part. This was mine.

8 Q. Was there any text in the report
9 that you were responsible for writing?

10 A. All the text I wrote, but I
11 asked -- with this text in petrophysical, the
12 part from Page 13 to Page 36 I wrote, but I
13 also had asked people to review it because
14 English is my -- not my first language, and I
15 wanted to be clear, so I was asked -- weeks
16 and they -- when we wrote the final version

17 I -- I put everything together and then
18 asking, is it clear, and -- but that's how it
19 was.

20 Q. Got it. Do you recall whether
21 you received any -- any additional data from
22 the core samples after July 26th?

23 A. I don't remember exactly, but I
24 went for vacation around the time, and when I
25 came back I was told, but the data is
1 subpoena. So we can't -- we don't get any
2 more data until it's released. That's what I
3 was told by peers, that the -- so the core
4 analysis is done by only -- so they -- when
5 they put new data, tables, comments, any --
6 they didn't do the reports on the Website. I
7 always got an update.

8 But to my understanding they
9 were told not to release it anymore. So
10 since I came back from vacation I was told
11 that there is no data until special -- I
12 don't know how you call it, special
13 permission or -- so I did not get -- there
14 was special core analysis plan in the plan,
15 but I don't know how it was progressing now,
16 did it stop it, did it -- I don't know what
17 was going on, because the data, we don't have
18 enough data.

19 Q. Did they tell you why you
20 were -- you would no longer get access to
21 that data?

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23 A. They call this word, the data is
24 subpoena. Subpoena.

25 Q. (BY MS. CHANG) Subpoenaed.

1 A. Subpoenaed. That's all I was
2 told. That's the word they used.

3 Q. And who is -- who is "they"?
4 Who told you that?

5 A. I think I heard it while I was
6 away for the vacation. Karen Harris in BP
7 stayed in touch with OMNI Laboratory with
8 updates. She didn't do any additional
9 information, but she kept -- she kept update
10 of the data coming.

11 And then when -- then when they
12 came back, as I remember, either her or Brian
13 Richie, who was the team leader of eastern
14 team told me that told me that we can't use
15 the data anymore until special announcement.

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22 Q. (BY MS. CHANG) Was it your
23 understanding that there was more data coming
24 in at the time you went on vacation, or had
25 all the data about received by BP?

1 A. I think there is more data
2 coming, but not related to porosity,
3 permeability which I need. There is many
4 tests were planned, as I said. I don't know
5 if they stopped doing it. The core blocks,
6 what's going on with them, they out of -- I
7 don't know.

8 Q. Do you know whether there was
9 more data coming in related to permeability?

10 A. No.

11 Q. No, you don't know or no, there
12 was not more data coming in relating to
13 permeability?

14 A. I'm not sure.

15 Q. Did you have any concerns about
16 the accuracy of the data that you received
17 relating to permeability?

18 A. No, I didn't.

19 Q. And sitting here today, have you
20 learned anything that would cause you to be
21 concerned about the accuracy of any of the
22 data that you used in preparing the technical
23 memorandum?

24 A. Can you please rephrase the
25 question?

1 Q. Sure. Have you learned anything
2 since preparing the technical memorandum that
3 would cause you to question the reliability
4 of the information within the technical
5 memorandum?

6 A. No.

7 Q. Have you learned anything since
8 preparing the technical memorandum that would
9 cause you to question any of the data

10 relating to the permeability evaluation that
11 you did?

12 A. Since -- I can't say no. Yes,
13 it concerned me because -- I was not
14 concerned, but I did learn some more about
15 permeability since that time.

16 Q. What -- what additional -- what
17 else did you learn since that time about
18 permeability?

19 A. Can you please look at the
20 Page 30?

21 Q. Which tab are we at?

22 A. 33.

23 Q. Okay. So 33, tab 33, Page 30,
24 okay.

25 A. So if you look at ax- -- axis of
1 risk plot, it's average of permeability from
2 log date. If you look at the vertical scale,
3 it's permeability measured on core data.
4 Okay?

5 Q. Uh-huh.

6 A. So -- and this is plot showing
7 how close they are.

8 Q. Okay.

9 A. So this plot -- this -- you -- I
10 don't know, do I need to go into details how
11 permeability from logs calculated?

12 Q. Sure.

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4 A. This is -- excuse me.

5 Q. I'm sorry, go ahead.

6 A. So if you open Page 18.

7 Q. 18 of tab 30 -- 33, I'm sorry.

8 Yes.

9 A. This plot is data points of the
10 core data on the X axis is porosity and then
11 the Y axis is permeability and the line
12 showing the correlation of it. So we can
13 calibrate our log porosity to core porosity.

14 Q. Okay.

15 A. Then we take this equation and
16 calculate permeability, and that's how we
17 get -- we estimate lat/lon permeability.
18 Okay?

19 Q. Uh-huh.

20 A. Now, if you look at the plot

21 now --

22 Q. This is the one on Page 30?

23 A. Yes.

24 Q. Okay.

25 A. So on the X is that lat/lon
1 direct permeability and then the Y is core
2 direct permeability. And so if your
3 equation -- it should be -- if you evaluation
4 is accurate, should be close to one to one
5 correlation or should see the trend. And you
6 can't actually do much with it. That's what
7 you get with this amount of data. There is
8 the best estimate I could do at that point.

9 So but this plot, I was thinking
10 so how accurate my permeability is. And
11 after Macondo all the events slowed down and
12 approximately in August or September I
13 attended a class which called rock diving
14 class in then new software we just got. So
15 there is a technique which allows you to
16 create different models of permeability for
17 the plots like that. Instead of using one
18 equation, one equation, you can see there are
19 different equation. That technique is
20 published and well known.

21 It's usually used on a big
22 amount of data, like when you have whole core
23 data which covers lots of kind of depth.
24 Here we have very limited amount of data. So
25 when you do the rock typing based on core
1 data and then you use special programs tying
2 to recognize those types from log data, then
3 you are -- well, I don't want to go into lots
4 of detail. You can get a closer, more
5 accurate permeability estimate, and so when
6 you plot it on data like that where you have
7 it in log, it will be close to what --

8 Q. Closer to the one to one?

9 A. Yes, close to one to one. And
10 so I did that technique and I put in addition
11 to some other and then I did the average
12 numbers. Permeability exactly same way it
13 was done for the memorandum. And the average
14 numbers have not changed much.

15 The type is changed. So in the
16 pore -- points of core it's close, but in
17 summary of -- but this plots -- plots like
18 that gives me more assurance that my work is
19 done well. There is a core. This is direct
20 measurements. And this is what I've done.
21 Nobody asked me. It's my own will.

22 Q. Did you need the new software in
23 order to do that calculation?

24 A. Yes, I did.

25 Q. So was it Geolog that you had
1 before?

2 A. It was Geolog I had before.

3 Q. And --

4 A. It was Techlog I had after. I
5 first needed the software, and second I
6 needed the class.

7 Q. So with Geolog you could not do
8 that cal- -- that type of plotting or that
9 type of calculation?

10 A. That type of calculation, no.

11 Q. Okay. But you could with the
12 Techlog after you had the class?

13 A. After I had the class.

14 Q. And I think you said that you
15 updated the technical memorandum after you
16 had done that?

17 A. I did not update the technical
18 memorandum. I wrote couple of pages of
19 addition.

20 Q. Okay. And that would have been
21 sometime after August, September?

22 A. Yes.

23 Q. Do you know who you provided
24 that update to?

25 A. The person aware of it, that
1 I've done that, I did not kind of present it
2 to -- to the public. I -- I showed it to the
3 gentleman who was -- who was a teacher in the
4 class. So it's not very common to use such a
5 small set of data for a work like that. As I
6 said, I did it mostly out of curiosity, not
7 because I wanted to -- because I wanted to be
8 happy with the job I do, not thinking of
9 changing the numbers. And as soon as I got
10 this technique I try to do it and -- and then

11 after that I -- I show it to Bob Morrell,
12 because he's aware I have this addition done.

13 Q. Did doing that calculation
14 change your -- your evaluation of the
15 permeability of the formation?

16 A. The average numbers changed,
17 yes. The curve itself, log draft
18 permeability with a different technique is
19 changed. The average number I provided for
20 those calculation earlier, they did not
21 change significantly to the extent I
22 understand the permeability ranges, I would
23 say. So it didn't go from one to thousand,
24 things like that. That's what I mean, those
25 ranges.

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17 Tab 30 will be Exhibit 3529,
18 Bates No. MDL02176694.
19 30 -- tab 31 is 3530,
20 MDL02181151.
21 Tab 32 is Exhibit 3531,
22 MDL02178046.
23 And tab 33 is 3532,
24 HZN-OSC-00005378. -done.