

Deposition Testimony of:

Michael Saucier

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Page 8:12 to 8:25

00008:12 MR. FLYNN: Before we start, I just
 13 wanted to point out that Mr. Saucier is being
 14 produced in his individual capacity as well as a
 15 30(b)(6) witness for two categories of BP's
 16 30(b)(6) deposition notice.
 17 MICHAEL SAUCIER,
 18 having been first duly sworn, testified as
 19 follows:
 20 E X A M I N A T I O N
 21 BY MR. LEGER:
 22 Q. Mr. Saucier, my name is Walter Leger. And
 23 along with Christine Sevin, we're members of the
 24 Leger & Shaw firm and here on behalf of the
 25 Plaintiffs' Steering Committee in this case.

Page 9:05 to 9:07

00009:05 Q. Okay. And you also testified, I believe,
 06 at the Marine Board of Inquiry, correct?
 07 A. Correct.

Page 10:17 to 19:01

00010:17 Q. Now, let me just get a little bit of
 18 information about your background. Will you
 19 please tell us about your educational background?
 20 A. I have a Bachelor of Science degree I
 21 received from LSU in 1984.
 22 Q. And is that your entire formal education?
 23 A. Yes. And that's in petroleum engineering.
 24 Q. In petroleum engineering.
 25 And do you have any other specialized
 00011:01 training in the context of what you do for a
 02 living?
 03 A. No.
 04 Q. Okay. What did you do -- where are you
 05 from originally, by the way?
 06 A. From Raceland, Louisiana.
 07 Q. And what did you do after graduating in
 08 1984?
 09 A. Went to work for the then Minerals
 10 Management Service and took a position in the
 11 Houma District.
 12 Q. And what -- what was your job when you
 13 started there?
 14 A. A staff engineer in the Houma District.
 15 Q. And as a staff engineer, what were your
 16 responsibilities?
 17 A. Helping other engineers review permits and
 18 kind of learning, at that point, the processes.
 19 Q. How long did you work as a staff engineer
 20 with MMS?

21 A. From '84 until '88.
22 Q. And, by the way, MMS is the Minerals
23 Management Service of the Department of Interior
24 of the United States of America, correct?
25 A. That is correct.
00012:01 Q. And MMS no longer exists, correct?
02 A. That's correct. The name changed.
03 Q. And is -- it's a name change, but also
04 there was an evolution of -- of splitting out of
05 some of the responsibilities, as I appreciate it,
06 correct?
07 A. Well, I guess MMS changed to the Bureau
08 of -- B-O-E-M-R-E, and then the royalty part of
09 MMS was split out. The rest of MMS stayed in
10 B-O-E-M-R-E.
11 Q. So you -- you work for -- we've been
12 calling it "BOEMRE." Is that what --
13 A. Yes.
14 Q. -- how you guys refer to it?
15 So, you work for BOEMRE now, correct?
16 A. Correct.
17 Q. But between 1984 and, say -- was it 2010
18 that the name changed?
19 A. Correct.
20 Q. -- you worked for MMS, correct?
21 A. That is correct.
22 Q. Okay. Now -- I'm sorry. How long again
23 did you work as a staff engineer?
24 A. Until 1988.
25 Q. And in your capacity of -- you say you
00013:01 were reviewing permits. What did you do in those
02 days in the context of reviewing permits?
03 A. I looked at drilling permits. I looked at
04 workover permits and production safety system
05 permits.
06 Q. Now, in '84 to '88, were there any
07 deepwater drilling permits being requested?
08 A. There may have been a couple. I don't --
09 Q. Okay. What were -- what was kind of the
10 general spread of the type of permits that you
11 were reviewing in those days?
12 A. Generally, it was shallow water permits.
13 Q. Shallow water and drilling vessels or
14 platforms, or what was it?
15 A. A combination --
16 Q. Combination.
17 A. -- of platform and vessel.
18 Q. Did you do only drilling permits?
19 A. No, sir. Also workover permits and
20 production safety system permits.
21 Q. Okay. Now, did you ever work as a
22 drilling inspector?
23 A. Well, as -- as an engineer in the
24 district, you would go out on inspections with the
25 inspectors but not officially called a drilling

00014:01 inspector; but you're still an engineer.
02 Q. Now, was that as part of your
03 responsibility, or was -- or was it more or less
04 part of training?
05 A. Part of training.
06 Q. Okay. So in 19 -- has there been a
07 substantial change in the context of what a staff
08 engineer would do in terms of reviewing drilling
09 permits since 1984 and, say, today?
10 A. Differences in technology.
11 Q. Okay. The -- have the regulations changed
12 significantly -- and let's talk about between 1984
13 and April of 2010. And -- was there any
14 significant change in -- in regulations on which
15 you reviewed drilling permits?
16 A. The review process, for the most part,
17 is -- I would say would be pretty much the same.
18 Q. And what is that process?
19 A. Well, the operator is submitting the
20 permit to drill, for example. And, of course, the
21 regulations -- it's stated in the regulations the
22 operator has to submit, and the engineer reviews
23 the permit and ensures that they are complying
24 with the regulations. When they review the permit
25 to see what -- you know, what they state in their
00015:01 permit.
02 Q. So -- and let's talk -- you know, let's
03 talk about back in that time, back in the '80s.
04 As I appreciate it now, permits were submitted
05 electronically; is that correct?
06 A. Correct.
07 Q. And they were submitted in 2009 or 2010
08 electronically, correct?
09 A. Correct.
10 Q. Meaning by -- I guess by Internet or by
11 E-mail, correct?
12 A. Yeah, by -- through the Internet.
13 Q. And -- and the software that's used, as I
14 appreciate it, is a software called e-Wells?
15 A. Correct, e-Well.
16 Q. And so, in that context -- when did --
17 when did MMS start using this electronic
18 submission of permits, approximately?
19 A. From what I recall, it was probably -- I
20 believe in about 2003 --
21 Q. Okay.
22 A. -- the operator had the ability to --
23 electronically or in paper form.
24 Q. Can they still do it in paper form today?
25 A. I think we're still at that point, but I
00016:01 know we either have transitioned or will
02 transition to where it has to be all electronic.
03 Q. Okay. So -- but if an operator -- say in
04 2009, 2010, if an operator wanted to submit it in
05 paper, he could do so, correct?

06 A. I think so.

07 Q. Okay. Now, back in the day -- in the --
08 in the '80s when you were reviewing permits -- you
09 described that you reviewed permits. The --
10 but -- but what did you physically and actually do
11 in that context?

12 Did you just look to see that the
13 paperwork they submitted complied with the
14 regulations, or did you do any further
15 investigation?

16 A. We actually ran calculations to determine
17 maximum anticipated surface pressures and compared
18 that to the BOP test and the casing test and just
19 ensured everything on the permit seemed in order
20 for the well they want to drill.

21 Q. Now, I'm assuming -- and we're going to
22 look in a few minutes, but I'm just trying to get
23 some general context at the actual applications
24 here in -- in the DEEPWATER HORIZON. But I -- I'm
25 assuming that in terms of the information provided
00017:01 back in the '80s and the information provided,
02 say, in 2009, 2010, in connection with the Macondo
03 Well, the type of information provided by the
04 operator or the lessee has remained pretty much
05 the same; is that correct?

06 A. For the most part. There has -- there has
07 been some changes.

08 Q. And -- and what are -- what are the
09 significant changes?

10 A. Probably more detailed information on some
11 cementing, I'd say, is probably one of the main
12 ones.

13 Q. What about in terms of pore pressure and
14 fracture gradient predictions? Is that pretty
15 much the same?

16 A. That's pretty much the same.

17 Q. Has the technology advanced that much
18 since the '80s and in -- into the 2000s in the
19 context of prediction of pore pressure and
20 fracture gradient?

21 A. That, I wouldn't know.

22 Q. Okay. Now, did -- let's do it this way,
23 too. As I appreciate it, you have been produced
24 by the United States of America in response to a
25 rule -- what we call a Rule 30(B)(6) Deposition
00018:01 Notice to testify regarding participation in the
02 inspection, audit, evaluation of, or any rig
03 business on TransOcean's DEEPWATER HORIZON rig,
04 including the blowout preventer on the DEEPWATER
05 HORIZON. Is that your understanding, sir?

06 A. Yes.

07 Q. I mean, that's been read to you and you
08 understand that you've been proposed as a
09 representative of the United States of America in
10 that regard?

11 A. Yes.

12 Q. You also are offered as a representative
13 in connection with the 30(b)(6) deposition, as I
14 appreciate it, in the context of the BOEMRE's --
15 B-O-E-M-R-E's -- policies, procedures, guidelines,
16 or requirements regarding maintenance, safety, and
17 equipment on deepwater drilling rigs in the Gulf
18 of Mexico, including blowout preventers. Is that
19 your understanding, sir?

20 A. Yes.

21 Q. So, as we talk about these things today,
22 we're going to assume you're -- you're speaking on
23 behalf of the United States and also on behalf of
24 yourself personally in the context of your
25 personal knowledge, correct?

00019:01 A. Correct.

Page 19:05 to 20:21

00019:05 Now, in -- after 1988, sir, what
06 did -- what did you do with MMS? And I assume
07 you've worked since -- continuously since '84 to
08 today with MMS and -- and its successor, BOEMRE,
09 correct?

10 A. Correct.

11 Q. What did you do after 1988?

12 A. In 1988, I became the Houma District
13 drilling engineer.

14 Q. And how did your responsibilities change
15 as the district drilling engineer?

16 A. I was the one responsible for reviewing
17 the permits for drilling in the Houma District
18 area.

19 Q. Now, up until then, you were a staff
20 engineer and you assisted the district drilling
21 engineer; is that correct?

22 A. The district drilling engineer and, at
23 times, the district workover engineer and at other
24 times the district production engineer.

25 Q. So, as the district drilling engineer,
00020:01 you're now focused entirely on drilling and not
02 workover and production; is that correct?

03 A. That's correct.

04 Q. Okay. And there was a separate workover
05 engineer -- district workover engineer and a
06 district production engineer; is that right?

07 A. Correct.

08 Q. Now, in the context of even back in the
09 '80s, the required inspections, were drilling
10 operations required to be inspected every
11 fourth -- I'm sorry, every 30 days back then?

12 A. Yes. That was the goal we tried to
13 accomplish.

14 Q. So, that -- that hasn't changed
15 significantly to today, correct?

16 A. Correct.
17 Q. And that has been the case with respect to
18 shallow water or marsh or deepwater drilling
19 operations, correct?
20 A. Our responsibility is offshore waters, not
21 in -- not inland marsh.

Page 23:03 to 28:09

00023:03 Q. Now, Louisiana -- and I say "Louisiana."
04 As I appreciate it, the New Orleans District today
05 also covers waters off the coast all the way to, I
06 guess, Key West; is that correct?
07 A. It would cover that area of the
08 operations.
09 Q. So that -- that is the -- and you're in
10 the New Orleans District today, right?
11 A. No, sir. I'm at the regional office.
12 Q. Okay. And did you ever -- were you --
13 were you ever involved in the New Orleans
14 District?
15 A. I never worked in the New Orleans
16 District --
17 Q. Okay.
18 A. -- no.
19 Q. Okay. We'll get to that, then. I'm
20 getting ahead of myself, I guess.
21 In the context of the work that you
22 did as sup -- as a drilling engineer for the Houma
23 District, you are now responsible for viewing all
24 drilling applications, correct?
25 A. In the Houma District.
00024:01 Q. In the Houma District.
02 You were also responsible for
03 reviewing any applications for modification; is
04 that correct?
05 A. That's correct.
06 Q. And -- and were there other applications
07 that you were responsible for? Like an
08 application for bypass, is that considered an
09 application for modification?
10 A. Anything with respect to drilling
11 operations.
12 Q. Now, beyond the permits themselves, did
13 you have any other responsibilities as a district
14 drilling engineer?
15 A. Primarily reviewing permits and, you know,
16 any operations that were going on.
17 Q. Now, do you have -- do you have any -- did
18 you have any supervisory responsibility over
19 drilling inspectors?
20 A. No.
21 Q. Do you today?
22 A. I guess, yes, indirectly, as I'm over all
23 the districts.

24 Q. Okay. But they don't report directly to
25 you, correct?

00025:01 A. Correct.

02 Q. Now, the drilling inspectors back in 1988
03 and forward when you were a drilling engineer did
04 they report to someone else in the Houma District?

05 A. Yes.

06 Q. And that person -- and -- and who did they
07 report to?

08 A. The supervisory inspector.

09 Q. Inspectors. And who did the supervisory
10 inspectors report to?

11 A. The district manager or district
12 supervisor at the time.

13 Q. So in '88, as district drilling engineer,
14 you reported to who -- who was your boss?

15 A. The district supervisor.

16 Q. Okay. So each of the drilling, workover,
17 and production engineers reported to the district
18 supervisor, correct?

19 A. Correct.

20 Q. The rig inspector reported to the
21 supervisor, correct?

22 A. The supervisor inspector.

23 Q. I'm sorry, supervisor inspector reported
24 to the --

25 A. Supervisor inspector --

00026:01 Q. -- supervisor of the district?

02 A. -- reported to the district supervisor.

03 Q. Okay. Now, how long did you remain in the
04 capacity as a drilling engineer?

05 A. Until 1995.

06 Q. And then what did you do in 1995?

07 A. In 1995, I became district supervisor.

08 Q. And how long were you in the position of
09 district supervisor?

10 A. Until 2007.

11 Q. And then you became?

12 A. In 2007, I became Deputy Regional
13 Supervisor For Field Operations; and I worked out
14 of the regional office here in New Orleans.

15 Q. And when did you become regional
16 supervisor?

17 A. In 2008.

18 Q. Forgive me if I don't quite follow all
19 that chronology, but -- but let me go back to --
20 in '95, you became district supervisor, correct?

21 A. Correct.

22 Q. And in your capacity as district
23 supervisor, how had your -- how -- did they and
24 how did your responsibilities expand?

25 A. They changed in that I was responsible for
00027:01 the whole district.

02 Q. And responsible in what way? What were
03 you responsible for?

04 A. The operation of the district over the
05 engineers and inspectors.
06 Q. Now, how many engineers would you say you
07 were responsible for at that time, between '95 and
08 2007, at any given time, roughly?
09 A. It's between four and six. It would vary.
10 Q. And how many inspectors?
11 A. Approximately 13.
12 Q. And were there other staff that -- that
13 you were responsible for?
14 A. The clerical staff.
15 Q. Okay. Now, in terms of day-to-day work as
16 district supervisor, what did you do? Did you
17 review permits then?
18 A. I did review some permits. After the
19 engineer would review the permit and deemed it was
20 ready for approval, I would --
21 Q. I'm sorry. Go ahead.
22 A. No, that would be it.
23 Q. Who would actually approve the permit?
24 A. It was either myself or the workover
25 drilling or production engineer, GS 13 engineer.
00028:01 Q. But it could be any one of you, correct?
02 A. Correct.
03 Q. In the context of inspections or record
04 inspections of, for example, BOPs, was there any
05 particular sign-off on those inspections?
06 A. The -- once the inspector came back from
07 offshore, he would hand in the inspection form to
08 the supervisory inspector, who would review the
09 form before it was filed.

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00028:18 As I appreciate it, one of the things
19 that was done -- done during that period of time
20 was that inspectors would go out to, say -- and
21 we're talking about -- I'm going to focus
22 particularly on drilling.
23 As I -- as I appreciate it,
24 inspectors would go out to a drilling vessel or a
25 drilling rig, and they would do their inspection
00029:01 following a -- a PINC list, correct?
02 A. Well, following their inspection form.
03 Q. Their inspection form and -- and using a
04 PINC list, correct?
05 A. They would -- they could reference a PINC
06 list, correct.
07 Q. Correct. And -- but their -- their actual
08 responsibility was to use the -- and fill out the
09 inspection form, right?
10 A. Correct.
11 Q. Now, part of the inspections were --
12 involved looking into records of maintenance and
13 testing of BOPs, correct?

14 A. They really wouldn't look at any records
15 for specific maintenance, but they would look at
16 the testing frequency of the BOPs and actual test
17 results of the BOP.

18 Q. So have -- have they never looked at
19 records of maintenance of BOPs?

20 A. Not that I'm aware of.

21 Q. Okay. So their job was to look at records
22 of actual testing of BOPs, whether on the surface
23 or subsea, correct?

24 A. Correct.

00030:01 Q. Okay. And then they would report -- on
02 their inspection report, they -- they would fill
03 out information on the inspec -- inspection report
04 regarding their inspection, correct?

05 A. Correct.

06 Q. Now, back at the office, a supervisor
07 would review their inspections, right?

08 A. To ensure it was filled out correctly.

09 Q. Did any drilling engineers look at their
10 inspection reports?

11 A. Generally, no.

12 Q. Okay. Did drilling engineers have any
13 responsibility back then for review of -- of any
14 data provided by the lessee with respect to BOPs?

15 A. On the permits to drill. The -- the
16 operator would provide information on the BOPs on
17 the permits to drill, and that's the -- the
18 information they would review.

19 Q. And -- and what would the engineer do with
20 respect to the information on the permit to drill?

21 A. Ensure that, for example, the BOP test
22 pressures are above anticipated surface pressures.

23 Q. And where did the information for the test
24 pressures come from?

25 A. The operator would recommend the test
00031:01 pressure.

02 Q. Okay. So would the engineer do anything
03 to test or determine whether the operator's
04 reported test pressures were correct and accurate?

05 A. Well, what I'm saying is on the -- on the
06 permit they submitted, it's -- it's the proposed
07 test pressure, and it's compared to anticipated
08 surface pressure that MMS calculates. And so they
09 would verify the test pressure is sufficient for
10 that section of hole they were drilling.

11 Q. Now, as I appreciate it, also in those
12 applica -- we're going to look at one in a little
13 bit. I'm just trying to get some general
14 information.

15 As I appreciate it, in the context of
16 the application for permit to drill, the APD,
17 there is a worksheet for determination of MASP,
18 correct?

19 A. Well, in e-Well system, presently, that

19 MASP -- are you talking about the operator
20 submitted?
21 Q. Yes.
22 A. Yes.
23 Q. The application.
24 A. Yes.
25 Q. Because, I mean, that's -- back -- back
00032:01 then, was that done, also; that there would be a
02 worksheet with respect to the determination of
03 MASP?
04 A. Correct.
05 Q. Now, MASP is maximum anticipated surface
06 pressure, correct?
07 A. Correct.
08 Q. And the worksheet submitted -- would be
09 submitted by the operator and -- and demonstrate
10 the operator's calculations; is that right?
11 A. That's correct.
12 Q. Are you saying that the driller -- the
13 drilling engineers also do their own independent
14 calculations of MASP?
15 A. That's correct.
16 Q. And those calculations are based on what?
17 A. Well, they are based on the information
18 the operator provides on -- on pore pressures and
19 mud weights.
20 Q. Okay. So based on -- and -- and in the
21 initial -- and I'm talking about, at this point,
22 the initial application for permit to drill -- the
23 reported pore pressures and mud weight and
24 fracture gradients and that -- that stuff is all
25 reported as predictive by the lessee or the
00033:01 operator, correct?
02 A. Yes.
03 Q. And at the initial application, obviously,
04 it's not necessarily active -- actual pore
05 pressures and fracture gradients at different
06 levels or intervals; it's what is predicted by
07 whatever, I guess, geodetic processes the operator
08 has used, correct?
09 A. Correct.
10 Q. Is there a determination at a later time
11 whether the predictions of the operator have come
12 true in the context of actual pore pressure, mud
13 weights, fracture gradients per -- you know, per
14 given depths?
15 A. When they actually conduct their shoe test
16 is when they actually know what -- the true
17 formation.
18 Q. And they -- they have that information,
19 obviously, right?
20 A. Right.
21 Q. And do they transmit that information to
22 MMS regularly?
23 A. I guess in two manners: One, when an

24 inspector goes out and inspects, when he reviews
25 the IADC report, he'll pick up that information
00034:01 there. And with the e-Well system now and the
02 weekly activity report, which is submitted -- you
03 know, obviously, after the fact -- it's -- it
04 should be in there also.

05 Q. Okay. So in -- in that context, they are
06 reporting -- and -- and you -- and by "you," I
07 mean MMS engineers -- are, in that context,
08 relying on the lessee or the operator to be
09 reporting information accurately to you; is that
10 right?

11 A. Yes.

12 Q. And truthfully, right?

13 A. Yes.

14 Q. I mean, you obviously don't go in and --
15 and check the paperwork to see that the paperwork
16 was correct and accurate. You are relying on that
17 paperwork as being honest and accurate, right?

18 A. Correct.

19 Q. Okay. Now, back to the issue of the
20 calculation of the MASP.

21 Is there a -- what are the variables
22 in calculating MASP?

23 A. Well, it's based on -- on your -- your
24 pore pressure and depth, and -- it's been a long
25 time since I've calculated it.

00035:01 Q. Basically, there is a -- there's a
02 formula --

03 A. That is correct.

04 Q. -- a set formula?

05 And you plug in based on pore
06 pressures that have been predicted in the early
07 stage, relative to certain depths, what the MASP
08 should be, right?

09 A. Correct.

10 Q. And what is the significance of the
11 determination of the MASP?

12 A. It -- it gives us information to determine
13 if they're testing the BOPs to the proper test
14 pressure and the casing that's in the well is
15 sized correctly as far as pressures go.

16 Q. Okay. So, is -- is it fair to say that
17 what you are trying to determine is what is the
18 worst-case scenario at a given depth? At a
19 given -- I guess, is it -- is it pore pressure or
20 is it fracture gradient?

21 A. Well, at that point, we're trying to
22 determine what -- what -- what is the potential
23 highest pressure you can see and ensure the well
24 is designed to handle that.

25 Q. And so you're trying to see that the
00036:01 casing is designed to handle it, and you're also
02 trying to see that the BOP is designed to handle
03 it, correct?

04 A. That's right. The BOP is rated above that
05 pressure. That's correct.

06 Q. Okay. And -- and, now, they don't always
07 test the BOP to its rated capacity, do they?

08 A. Correct.

09 Q. And what do the MMS regulations require
10 that the BOP be tested to in terms of its capa --
11 at any given interval?

12 A. I'm trying to think how it's specified in
13 the regs. But I know the general -- the way we've
14 done it is at least 500 psi above the MASP.

15 Q. Okay. So, for example, if we have a rated
16 pressure of 10,000 but the MM- -- MASP has been
17 calculated to be 5,000, all they really have to
18 test it to, to satisfy your regs at that
19 particular level is 5500 or above, correct?

20 A. Correct.

21 Q. Okay. Now, if they are -- if the
22 operator -- if the lessee is providing you with a
23 calculation, a worksheet, do your engineers
24 today -- or in 2009, 2010, did they rely on those
25 calculations or did they run their own
00037:01 calculations?

02 A. Their own calculations are run.

03 Q. And if they determined that the
04 calculation is wrong as provided by the lessee,
05 what do they do about it?

06 A. They discuss with the lessee what they
07 came up with as compared to what the lessee came
08 up with and -- and resolve the issue.

09 Q. To try to determine if it's a math error
10 or if there's an error in the fracture gradient or
11 in the depth or whatever, whatever the variables
12 are, right?

13 A. Correct.

14 Q. Okay. Now, in 2007, you became deputy
15 regional supervisor, correct?

16 A. For field operations.

17 Q. For field operations.

18 And what does -- what does that mean?

19 A. Basically --

20 Q. A pretty fancy title.

21 A. Actually, I guess it's deputy regional
22 supervisor for the district part of field
23 operations, which I was -- I was kind of over the
24 districts more working with all five districts.

25 Q. Okay. And what -- what did you do? What
00038:01 were your responsibilities?

02 A. Handling any issues they had, any
03 questions they had, ensuring the districts had,
04 you know, what they need to operate.

05 Q. Did -- did you at that point have any
06 direct involvement in reviewing permits?

07 A. No.

08 Q. Did you have any direct involvement in

09 reviewing inspections?
10 A. No.
11 Q. And as deputy regional supervisor of field
12 operations over the districts, did you have --
13 basically, you had the district directors of the
14 district -- what do they call it, district
15 managers -- reporting directly to you?
16 A. Right. I just want to clarify one thing.
17 Q. Yeah.
18 A. In '95, when I became regional -- district
19 supervisor, that term changed to district manager,
20 so they use those terms interchangeably.
21 Q. And so -- so once you -- once you got
22 promoted in 2007, the district managers reported
23 to you, right?
24 A. Correct.
25 Q. The five district managers?
00039:01 A. That's right.
02 Q. And then you reported to the district
03 supervisor?
04 A. No, I reported to the regional
05 supervisor --
06 Q. I'm sorry.
07 A. -- for the -- for the field operations.
08 Q. Right. Which you -- and you became the
09 regional supervisor in 2008, right?
10 A. Correct.
11 Q. If you did all -- if everybody reported to
12 you in 2007, what did the district -- the regional
13 supervisor do?
14 A. Handled a lot of stuff with budget and
15 actually -- still did a lot of work with the
16 districts and -- on the district side and the
17 regional side.
18 Q. Okay. So your job as deputy regional
19 supervisor was a -- an operational role primarily?
20 A. It involved a -- yeah, a lot of things,
21 operations and a multitude of whatever needed to
22 be done.
23 Q. Did your responsibilities change
24 significantly when you became the actual regional
25 supervisor?
00040:01 A. Yes. In that I was now also in charge of
02 the district portion of field operations, which
03 included plans, pipelines, office of structural --
04 the structural office, technical assessment,
05 Office of Safety Management.
06 Q. Okay. So it was -- but it was in 2007
07 that you moved out of home land into offices in
08 New Orleans, right?
09 A. Correct.
10 Q. So at the time of the explosion of the
11 Macondo Well, you were the regional supervisor for
12 MMS, right?
13 A. For field operations, correct.

14 Q. For field operations.
15 And what is -- what is this region
16 referred to as?
17 A. The New Orleans -- Gulf of Mexico Region.

Page 42:21 to 42:23

00042:21 Q. Okay. Have you read the Presidential
22 Commission report?
23 A. No, I haven't.

Page 43:01 to 44:01

00043:01 Q. Have you read the report of BP -- what we
02 refer to as the Bly report -- of the explosion?
03 A. I think I read portions of it, from what I
04 recall.
05 Q. Okay. Do you remember the conclusions
06 that the BP investigation team reached with
07 respect to the cause of the blowout?
08 A. Not specifically.
09 Q. Do you remember when you read it whether
10 you agreed or disagreed with any of those
11 conclusions?
12 A. Neither.
13 Q. Okay. In other words, you don't remember?
14 A. Correct.
15 Q. Or you did not agree or disagree?
16 A. Correct.
17 Q. Did you -- have you read the -- the
18 Presidential Commission's chief counsel's report?
19 A. No, sir.
20 Q. Have you read TransOcean's report of the
21 investigation?
22 A. No, I haven't.
23 Q. Or any -- any other investigation reports?
24 A. No.
25 Q. Have you read any depositions taken in
00044:01 this case, transcripts or questions and answers?

Page 44:04 to 44:11

00044:04 Q. Okay. But you haven't reviewed actual
05 depositions?
06 A. No.
07 Q. Have you reviewed any statements of
08 witnesses, written statements of witnesses or
09 accounts of what they know or observed or
10 opinions?
11 A. Specific statements?

Page 44:14 to 44:14

00044:14 A. No.

Page 47:02 to 48:03

00047:02 Q. Now, when you say "the regional director,"
03 you -- so, you're the regional director of Field
04 Operations?
05 A. No. I'm the regional supervisor of Field
06 Operations.
07 Q. Okay. Well, who is the regional -- oh,
08 you mean, the regional directors?
09 A. Over the Gulf of Mexico region.
10 Q. The five regional directors?
11 A. No, no.
12 Q. Oh, someone above --
13 A. One region. I report to the regional
14 director of the Gulf of Mexico region.
15 Q. Gotcha. You're the regional supervisor of
16 Field Operations and you report to a guy who is
17 titled "regional director"?
18 A. Correct.
19 Q. And who is that? What's his name?
20 A. Lars Herbst.
21 Q. Okay. How do you spell that?
22 A. First name Lars, L-A-R-S; last name
23 Herbst, H-E-R-B-S-T.
24 Q. And is there -- is there anyone else -- as
25 regional supervisor for Field Operations -- are
00048:01 there other regional supervisors for something
02 other than Field Operations?
03 A. Yes.

Page 58:03 to 59:09

00058:03 Q. And an APD is an Application For Permit to
04 Drill, correct?
05 A. Correct.
06 Q. And that means -- that's a new
07 application?
08 A. And that's what I just want to clarify.
09 It probably included revised permits, also.
10 Q. Well, then, what is an APM?
11 A. Application for Permit to Modify.
12 Q. Okay.
13 A. And a lot --
14 Q. So, there's a distinction between a
15 revised permit and a modified permit?
16 A. Well, an Application for Permit to Modify
17 come in once you finish drilling the well and you
18 ain't going to do any type of modification to your
19 well, more after it's on completion -- after it's
20 been completed.
21 Q. What is a -- an Application for Bypass?
22 Is that an application for revision?

23 A. That -- that would go back under the --
24 probably -- the APD is probably included under
25 that category of APDs.
00059:01 Q. The original --
02 A. Yeah.
03 Q. So, for example, in Macondo, we had
04 several revisions to the original permit, correct?
05 A. That's from what I'm seeing, yes.
06 Q. Okay. Have you seen the file or the
07 permits on Macondo?
08 A. I've seen them but not specifically read
09 through each one.

Page 61:04 to 61:23

00061:04 But -- so, in any event, when we're
05 looking at APDs here on this page, of 235, that
06 would be original Applications For Permit to Drill
07 and revisions of Applications For Permit to Drill
08 that had already been approved, correct?
09 A. That is my understanding as to what it is
10 here.
11 Q. Now -- and APMs are modifications?
12 A. Right.
13 Q. An Application for Permit to Modify,
14 correct?
15 A. Yes.
16 Q. And tell me again what that would include.
17 A. Any modifications done to the well after
18 the drilling has been completed.
19 Q. And what would those modifications
20 include?
21 A. It could be changing out tubing,
22 recompleting a well, any type of workover activity
23 that needed to be done.

Page 62:07 to 63:02

00062:07 Q. Now, E -- and by the way, the DEEPWATER
08 HORIZON and the Macondo Well was in the New
09 Orleans District, right?
10 A. Yes.
11 Q. And by the way, EORs -- what is an EOR?
12 A. End of Operations Report.
13 Q. What is an End of Operations Report?
14 A. It summarizes basically the well, the --
15 the -- everything that had been done to the well.
16 It's kind of a summary of the casings, where it
17 was set, you know, for that particular well; but I
18 don't -- I don't -- I don't know specifically
19 everything in detail on that.
20 Q. Does that mean it would be like the end --
21 would you issue an End of Operations Report at the
22 end of a temporary abandonment?

23 A. I think the End of Operations Report do
24 come in after the well is -- you're finished with
25 the well. So, once the well is done after you
00063:01 temporary abandon -- plug and abandon, then you'd
02 send in the End of Operations Report.

Page 63:08 to 63:20

00063:08 Q. Okay. What -- W-A-R, what is a WAR?
09 A. Weekly Activity Report.
10 Q. Okay. So, what you're saying is you get
11 6,338 Weekly Activity Reports during the course of
12 a year?
13 A. That's what happened in 2009.
14 Q. Okay. For a total of 9,003, basically,
15 projects or interactions that the engineer has or
16 that the seven engineers share, right?
17 A. That's correct.
18 Q. And then 1286 per engineer, seven divided
19 into 9,003, right?
20 A. Correct.

Page 64:21 to 65:09

00064:21 Q. I'm going to ask you, sir, to take a look
22 at an exhibit that is found at Tab 53, which will
23 be marked for identification as Exhibit No. 4723.
24 (Marked Exhibit No. 4723.)
25 Q. (BY MR. LEGER) And I ask if you have seen
00065:01 that before, sir.
02 A. Yes.
03 Q. And were you involved in any way in the
04 drafting of this NTL?
05 A. I did comment on it.
06 Q. And -- and what does that mean, you
07 commented on it?
08 A. I did have an opportunity to review it and
09 present comments.

Page 66:07 to 66:09

00066:07 Q. And it's -- it's indicating the effective
08 date is June 1st, 2010, correct?
09 A. Yes.

Page 66:14 to 68:06

00066:14 Q. Did -- did this NTL change -- what was --
15 what was the significance of this NTL? It
16 obviously didn't change any regulations, right?
17 A. The basic -- the basic significance is --
18 is -- was to ensure safer operations, also.
19 Q. Well, what -- what in this NTL ensured

20 safer operations than what existed before?
 21 A. Requesting a BOP cer -- subsea BOP
 22 certification requirements.
 23 Q. Well, let's talk about that, first.
 24 In the context of No. 1 on page -- at
 25 the bottom, the first page -- the last three
 00067:01 numbers are 169 -- it says "Subsea BOP
 02 Certification Requirements," correct?
 03 A. Correct.
 04 Q. But -- and it reads: "Before resuming
 05 subsea drilling operations and prior to deploying
 06 the BOP, you must have an independent third party
 07 conduct a detailed physical inspection and design
 08 review of the BOP." Correct?
 09 A. Correct.
 10 Q. Was that not a rule or a requirement prior
 11 to June 1st of 2010?
 12 A. We didn't -- I don't know.
 13 Q. Okay. But the -- and there's a citation
 14 of a -- of a Federal regulation, Section
 15 250.446(a), correct?
 16 A. Yes.
 17 Q. Was there anything -- obviously, an NTL
 18 can't change a Federal regulation; is that right?
 19 A. Correct.
 20 Q. And what happens if a lessee doesn't
 21 comply with the requirements stated in an NTL?
 22 A. I guess potentially a permit may not be
 23 approved.
 24 Q. Now, it -- it also says that "The
 25 review" -- and presumably, the review of a -- an
 00068:01 independent third party requires "the BOP will
 02 operate as originally designed, and...any
 03 modifications or upgrades...after delivery have
 04 not" been compromised -- "have not compromised the
 05 design or operation of the BOP." Correct?
 06 A. Yes.

Page 68:11 to 69:02

00068:11 Q. Okay. Now, the next page, Page 170, the
 12 first complete paragraph says: "After you resume
 13 operations, if you need to activate your
 14 blind-shear rams or casing shear rams in a well
 15 control situation, you must inspect...the BOP
 16 stack and its components."
 17 Is that what it says?
 18 A. Yes.
 19 Q. Was -- was that a requirement before
 20 April 20th of 2010?
 21 A. No.
 22 Q. Would you agree -- why is that requirement
 23 made as of June 1st, 2010?
 24 A. Just to ensure if you had to activate your
 25 BOPs or your blind -- blind shear rams in a well

00069:01 control situation that there was no damage that
 02 occurred to them so they're fit to continue.

Page 69:09 to 69:15

00069:09 Q. And would you agree that without regard to
 10 whether the MMS requires it, the inspection in
 11 testing the BOP stack and its components after
 12 activation of blind shear rams or casing shear
 13 rams in a well control situation would be good,
 14 sound safety practice?
 15 A. Yes.

Page 69:25 to 70:05

00069:25 Q. (BY MR. LEGER) So, the -- the -- the
 00070:01 requirement in this notice to lessee that there be
 02 testing after the activation of these rams simply
 03 puts into requirement form by the MMS what would
 04 have been good, sound safety practice even before
 05 April of 2010, right?

Page 70:10 to 70:15

00070:10 A. It clarifies what we expect.
 11 Q. (BY MR. LEGER) Okay. And it also
 12 clarifies what would have been the opinion of --
 13 of yours and people at MMS as to what sound safety
 14 practice would have been even without a specific
 15 requirement of it, correct?

Page 70:17 to 71:25

00070:17 A. Yes.
 18 Q. (BY MR. LEGER) Now, No. 2 suggests
 19 comparable -- "Compatibility Verification for
 20 Every Well." It reads: "Your surface or subsea
 21 BOP stack must operate and be compatible with the
 22 specific well location, well design, and well
 23 execution plan." Correct?
 24 A. Yes.
 25 Q. And that's something that the lessee
 00071:01 would -- would be certifying to you even before
 02 April of 2010, correct?
 03 A. I guess indirectly, they would.
 04 Q. Is that something that before 2010, MMS
 05 would have tried to determine; or would that have
 06 been left in the hands of the operator?
 07 A. It would have been left in the hands of
 08 the operator.
 09 Q. Now, next at No. 3, it says: "Secondary
 10 Control System Requirements and Guidelines. For
 11 all subsea BOP stacks, you must have a secondary

12 control system with remote operated vehicle (ROV)
 13 intervention capabilities, including the ability
 14 to close all shear and pipe rams, close the choke
 15 and kill valves, and unlatch the lower marine
 16 riser package (LMRP)." Correct?

17 A. Yes.

18 Q. Wasn't that required prior to April of
 19 2010?

20 A. I don't know specifically.

21 Q. In other words, it may not have been a
 22 requirement for a backup control system, correct?

23 A. I don't know.

24 Q. Now, does that sound like good, sound
 25 safety practice, whether required or not?

Page 72:02 to 72:02

00072:02 A. Yes.

Page 72:09 to 72:12

00072:09 Q. (BY MR. LEGER) Did you know that the
 10 former CEO, Mr. Hayward, of BP has testified
 11 that -- that he considers that the BOP is a
 12 fail-safe mechanism to avoid blowouts?

Page 72:14 to 72:16

00072:14 A. No.

15 Q. (BY MR. LEGER) Is that a correct
 16 statement, that a BOP is a fail-safe --

Page 72:18 to 75:04

00072:18 Q. (BY MR. LEGER) -- to avoid blowouts?

19 A. No.

20 Q. No. 4 suggests "Deadman and Autoshear
 21 Requirements," correct?

22 A. Yes.

23 Q. (BY MR. LEGER) What is a "deadman
 24 system"? In fact, I refer you to Page 171 where
 25 it's defined.

00073:01 A. If you lose both hydraulic and electronic
 02 communication to your BOP, the system is supposed
 03 to take over and shut your stack in.

04 Q. So, the idea is if -- if -- am I correct
 05 that the idea is that if a person on board the
 06 vessel cannot activate the BOP, the deadman system
 07 is designed to automatically activate?

08 A. If you have a loss of hydraulic and
 09 electrical communication.

10 Q. And what is an "autoshear system"?

11 A. The autoshear is activated upon dis --

12 when you disconnect the lower marine riser --
 13 riser package.
 14 Q. And -- and that's something that would
 15 happen, for example, if the -- the drilling vessel
 16 itself and the riser moves off of location,
 17 correct?
 18 A. That would be a case where it --
 19 Q. Basically --
 20 A. -- it would activate -- it moves off
 21 location enough to pull the LMRP and activate the
 22 autoshear.
 23 Q. And so, the LMRP would be pulled off; and
 24 there should be an automatic shut-in, then?
 25 A. That's correct.
 00074:01 Q. Was that required before -- were those two
 02 systems required before April of 2010?
 03 A. I'm not sure.
 04 Q. "BOP Inspection, Maintenance, and Repair"
 05 at No. 5 on Page 171 provides: "You must maintain
 06 and inspect your BOP system according to
 07 requirements in Section 250.446(a)." Correct?
 08 A. Yes.
 09 Q. That regulation didn't change between
 10 April 20th and June 1st of 2010, did it?
 11 A. Before 46(a)?
 12 Q. Correct.
 13 A. I would have to read it and see if I
 14 recall if there was any changes made to it.
 15 Q. Okay. Are you -- are you aware, sitting
 16 here today, if there was any change between
 17 April 20th of 2010 and June 1st of 2010?
 18 A. I'd have to read what 446(a) states.
 19 Q. No. 6 provides for "ROV Performance
 20 Testing and Function Testing of the ROV
 21 Intervention Panel," correct?
 22 A. Yes.
 23 Q. Was that kind of testing required before
 24 April of 2010?
 25 A. Not that I'm aware of.
 00075:01 Q. What -- what type of inspection was done
 02 of the ROV systems by MMS inspectors before April
 03 of 2010?
 04 A. We didn't inspect the ROV systems.

Page 75:12 to 75:19

00075:12 Q. And does MMS do anything to -- or did MMS,
 13 before April of 2010, do anything to inspect
 14 whether or not the ROV's hot stab capacity was
 15 workable?
 16 A. No.
 17 Q. Now, would it have been good safety
 18 practice for the operator to make sure that it was
 19 workable?

Page 75:21 to 75:21

00075:21 A. Yes.

Page 83:06 to 83:08

00083:06 Q. Is an exploratory well a higher risk well
07 than a development well?
08 A. Typically, they are.

Page 83:12 to 83:20

00083:12 Q. It also says "Risk factors to be evaluated
13 will include the following" -- "Considerations
14 based on worst case scenarios for any given
15 drilling operation -- for example, once a
16 hydrocarbon bearing zone is penetrated, what is
17 the worst case scenario (production volume) if
18 there was a complete loss of well control."
19 Do you agree with that?
20 A. Yes.

Page 83:25 to 84:03

00083:25 Q. Would -- would you agree that the risk of
00084:01 a well control event increases once a hydrocarbon
02 bearing zone has been penetrated?
03 A. Yes.

Page 90:16 to 93:18

00090:16 Q. So I'm going to turn us now to Exhibit
17 4000, which -- a copy of which is located at
18 Tab 32, I believe.
19 Now, this is an -- an exhibit that's
20 been identified, among others, as an E-mail which
21 attaches to it at the next page, at 7055, with the
22 original approved application for permit to drill
23 a new well on the Macondo Well. Do you see that,
24 sir?
25 A. Yes.
00091:01 Q. Have you seen that before?
02 A. I've seen the application for permit to
03 drill before.
04 Q. Okay. Is that -- does that look like it?
05 A. Yes.
06 Q. I'm going to ask you some questions. And
07 bear with me. I'm trying to get an understanding
08 of what you guys do with this specific
09 application.
10 It -- it appears that -- as I
11 appreciate it, what would have happened here is

12 that BP, as the lessee and the operator, would
13 have submitted in the e-Well software an
14 application for permit to drill, correct?
15 A. Yes.
16 Q. And that application would have
17 electronically contained all of this information
18 except the approval, actual approval comments, and
19 other information, correct?
20 A. Right.
21 Q. And the things that -- that -- that MMS
22 put into this -- this document, correct?
23 A. Right.
24 Q. Now, this document would actually appear
25 in a computer and -- and would obviously have been
00092:01 printed, correct? I mean, does -- does it
02 ordinarily come out in hard copy? Does it -- do
03 you guys store it in hard copy?
04 A. It's stored in the e-Well system
05 electronically.
06 Q. It's stored electronically, not hard copy?
07 A. Correct.
08 Q. So this is an -- you know, a hard copy --
09 a printed production of what is electronically
10 stored at the MMS?
11 A. Yes.
12 Q. Okay. And would -- this particular
13 document indicates that a -- is that a Scherie
14 Douglas transmitted to -- on -- on May 26th to
15 others, noted on the first page, the Macondo APD
16 approval, correct?
17 A. Yes.
18 Q. Now, back to the front -- first page of
19 the approval, it suggests under "General Well
20 Information" that it was approved by Frank Patton?
21 A. Correct.
22 Q. And who is Frank Patton?
23 A. The New Orleans District drilling
24 engineer.
25 Q. And so that -- that indicates he would
00093:01 have reviewed the actual application, correct?
02 A. It indicates he approved it and by -- so
03 he would have reviewed it.
04 Q. I mean, you would assume --
05 A. Yeah.
06 Q. -- as his superior, that he didn't just
07 approve it; that he reviewed it, correct?
08 A. Yes.
09 Q. And ordinarily he or a staff -- or -- or
10 an engineer would have reviewed the application
11 and done what he was supposed to do, right?
12 A. That's correct.
13 Q. Unless they just didn't do what they were
14 supposed to do, right?
15 A. He would have reviewed it.
16 Q. Okay. You know he would have; you know

17 Frank Patton, right?
18 A. Yes.

Page 94:15 to 94:23

00094:15 Q. Now, down below, it says: "Approval
16 comments. The APD is approved with the following
17 cautions and conditions."
18 Correct?
19 A. Yes.
20 Q. Would you expect that those approval
21 comments be tailored to the particular well rather
22 than just boilerplate?
23 A. Yes, to the particular well.

Page 95:17 to 95:25

00095:17 Q. Okay. I'm going to ask you to turn to
18 Page -- it's Page 6 of 8 on Page 060. Under "Well
19 Design Information," it -- is this information
20 that an engineer at the MMS would be reviewing?
21 A. Yes.
22 Q. And what would he do with this
23 information?
24 A. Just, in general, he'd review it to ensure
25 that everything is in order.

Page 99:15 to 99:25

00099:15 Q. And this is showing a fracture gradient of
16 11.1, correct?
17 A. That's what it's showing.
18 Q. What's a fracture gradient?
19 A. My definition of the fracture gradient is
20 the point at which the formation fractures.
21 Q. In other words, at 11.1 pounds per
22 gallon -- at 11.1 pounds per gallon or more of
23 pressure of mud weight, you would fracture the
24 formation or the layer of ground, basically,
25 right?

Page 100:02 to 100:06

00100:02 A. At a 11.1 surface mud weight, that mud
03 weight at that point would start fracturing the
04 formation.
05 Q. (BY MR. LEGER) You would lose returns,
06 correct?

Page 100:08 to 100:13

00100:08 A. You probably will.

09 Q. (BY MR. LEGER) Okay. Is that a hazard?
10 A. Losing returns could be a hazard -- would
11 be a hazard.
12 Q. And is a determination of -- exceeding the
13 fracture gradient, is that a bad thing?

Page 100:15 to 100:21

00100:15 A. You prefer not to exceed the fracture
16 gradient.
17 Q. (BY MR. LEGER) And why?
18 A. So you can maintain control of your well.
19 Q. And the fear in losing control of the well
20 is that you have a blowout, right?
21 A. It could result in that.

Page 105:07 to 106:01

00105:07 Q. What is -- is there a term for the
08 difference between the mud weight and the fracture
09 gradient?
10 A. Is there a term for --
11 Q. A term. Yeah, is there a term, a drilling
12 margin?
13 A. You want to keep a drill -- a margin
14 between -- a safe drilling margin.
15 Q. And how is a safe drilling margin
16 determined?
17 A. We usually look at it as -- we look at it
18 as a half-a-pound difference.
19 Q. So, here the difference is 1.9 pounds,
20 correct?
21 A. That's what it's showing.
22 Q. So, that's within a safe drilling margin,
23 correct?
24 A. Yes.
25 Q. What -- what is the problem of -- of
00106:01 falling outside of a safe drilling margin?

Page 106:03 to 106:10

00106:03 A. You start getting -- becoming more
04 difficult to keep the well in control.
05 Q. (BY MR. LEGER) And, of course, these
06 numbers at Interval No. 6 of 14.2 mud weight and
07 fracture gradient of 16.1 at this point are
08 predictive; they aren't actually detected,
09 correct?
10 A. At this point, correct.

Page 107:02 to 107:23

00107:02 and tell us what that is, if you will.

03 A. If we look at the page -- I guess you
 04 referred to as 062, which is in Interval No. 6.
 05 Q. Yes, sir.
 06 A. Do you see that?
 07 Q. Uh-huh.
 08 A. Where we show the general information,
 09 hole size, 14; mud weight, 14.2; mud type,
 10 synthetic base; fracture gradient, 16.1?
 11 Q. Yes, sir.
 12 A. It was, I guess, inferred that we were
 13 comparing the 16.1 to the 14.2; but in actuality,
 14 the mud weight of 14.2 is compared to the fracture
 15 gradient of -- of the shoe test of the previous
 16 casing, which would have been shown on the
 17 previous page, of 14.7. So, that gives you
 18 half-a-pound difference.
 19 Q. Ah. And would that be true of every one
 20 of these? You refer to "the previous."
 21 A. Yes. Once your previous casing is set and
 22 that shoe test is taken, then you compare your mud
 23 weight of the next interval to that shoe test.

Page 108:04 to 108:09

00108:04 Q. Proposed. And what they -- what -- what
 05 BP suggested in this application was that there
 06 would be a fracture gradient of 14.7 at the same
 07 time there -- there would be a mud weight of
 08 4.2 -- 14.2, right?
 09 A. Yeah, the maximum mud --

Page 108:11 to 108:18

00108:11 A. The maximum mud weight to drill that next
 12 section of hole is indicated as a 14.2; and based
 13 on a shoe -- and then your shoe test -- proposed
 14 shoe test for Interval 5 is 14.7.
 15 Q. (BY MR. LEGER) So that the actual --
 16 what -- what you refer to as a safe drilling
 17 margin would have been just barely met, correct?
 18 A. It would have been --

Page 108:20 to 108:25

00108:20 A. -- half a pound, which is sufficient.
 21 Q. (BY MR. LEGER) And if, in fact, it turned
 22 out that the fracture gradient in the real world,
 23 once it's really done, was 14.6 and the mud weight
 24 was 14.2, then that would have violated the safe
 25 drilling margin requirement, correct?

Page 109:02 to 109:02

00109:02 A. Yes.

Page 109:10 to 110:06

00109:10 While we're talking about that, let
11 me refer you to Exhibit No. 4122, which is the
12 "National Office Potential Incident of
13 Noncompliance PINC List --
14 MS. SEVIN: At Tab 10.
15 Q. (BY MR. LEGER) -- at Tab 10. And I'm
16 going to ask you: Does that look familiar to you?
17 Have you seen that before?
18 A. Yes.
19 Q. And what is that? What is that National
20 Office Potential Incident of Noncompliance (PINC)
21 List?
22 A. It's the -- the actual potential incident
23 of noncompliance listed that we could actually
24 issue -- issue citations for.
25 Q. Now, the -- the -- the drilling engineers
00110:01 follow this?
02 A. It's used -- if they found a
03 noncompliance, it can refer back to this to see
04 what INC to issue --
05 Q. Okay.
06 A. -- for that particular noncompliance.

Page 110:23 to 111:03

00110:23 Q. And that -- both production and
24 environmental and -- are contained in this same
25 list with the drilling PINC's, right?
00111:01 A. Well, your specific drilling, we call the
02 "D PINC's," the environmental under the E PINC's,
03 production under the P, and so on.

Page 111:17 to 112:08

00111:17 Q. Okay. I'm going to refer you to Page 30
18 of 69. It appears to be numbered D-831 under
19 "Well Control." Do you see it?
20 A. Yes.
21 Q. And it reads: "Are drilling operations
22 suspended when the safe margin, as approved in the
23 APD, between the drilling fluid weight in use and
24 the equivalent drilling fluid weight at the casing
25 shoe is not maintained"; is that correct?
00112:01 A. Yes. That's what it states.
02 Q. So, a little while ago, you and I were
03 talking about -- in the instance where we had --
04 we might have a -- a mud weight of 14.2, but the
05 fracture gradient at the casing shoe dropped to
06 14.6. That would be an incident of violating that

07 0.5 rule, correct?
 08 A. It puts you --

Page 112:10 to 112:22

00112:10 A. -- within that 0.5, but they don't -- they
 11 haven't violated a regulation as long as they
 12 don't drill past that point.
 13 Q. (BY MR. LEGER) Okay. But -- and -- and
 14 the regulation or the PINC provides are drilling
 15 operations suspended when the safe margin --
 16 A. Correct.
 17 Q. -- has been exceeded, right?
 18 A. Yes.
 19 Q. So, the question is -- your point is, it's
 20 not bad to get there; you've got to stop when you
 21 get there, right?
 22 A. That's correct.

Page 112:24 to 113:01

00112:24 Q. (BY MR. LEGER) Now, if you -- if you
 25 drill through it, then you've violated the
 00113:01 regulation, correct?

Page 113:03 to 114:20

00113:03 A. If you know you're within that half a
 04 pound and you continue drilling, then you're
 05 violating the regulation --
 06 Q. (BY MR. LEGER) Now --
 07 A. -- unless you get approval.
 08 Q. So, the question really is: Knowledge on
 09 the part of the -- the operator, right, in terms
 10 of a violation?
 11 A. Excuse me?
 12 Q. That the -- the driller must have
 13 information to suggest that they know that they
 14 are drilling while there is no -- while they are
 15 beyond the safe drilling margin, correct?
 16 A. They need to know what their previous shoe
 17 test is and what the mud weight they can -- the
 18 maximum mud weight they can drill with.
 19 Q. And how is a shoe test performed? How do
 20 they determine the fracture gradient at the shoe?
 21 A. By pressuring up on the formation once you
 22 drill out approximately 20 feet of formation,
 23 10 to 20 feet of formation.
 24 Q. Okay. You can do an FIT?
 25 A. Right.
 00114:01 Q. Or an LOT, correct?
 02 A. Correct.
 03 Q. And that should give you the fracture

04 gradient at the shoe, correct?
 05 A. Well, if you do a formation integrity
 06 test, it -- those tests would tell -- whatever one
 07 they end up doing will tell you what the shoe test
 08 to be used to determine what maximum mud weight
 09 you can continue drilling with.
 10 Q. Now, if the operator -- the operator can
 11 do other tests that might indicate fracture
 12 gradients as well, correct?
 13 A. I guess they could.
 14 Q. Now, if there is other testing which
 15 indicates that their FIT or their LOT is not
 16 accurately depicting the fracture gradient, would
 17 that suggest they ought to suspend operations
 18 until they can determine the accuracy of the
 19 fracture gradient?
 20 A. Yes.

Page 114:22 to 115:09

00114:22 Q. (BY MR. LEGER) Now, the term used in
 23 the -- in D-831 is: "Are drilling operations
 24 suspended when the safe margin...is not
 25 maintained?" Correct?
 00115:01 A. That's what it states.
 02 Q. It -- how is the operator supposed to know
 03 what the safe margin is?
 04 A. It's -- they have to indicate where their
 05 shoe test is going -- their proposed shoe test
 06 will be and indicate what the maximum mud weight
 07 is going to be. And it's, I guess, general
 08 information; and operators know that. We are
 09 looking for half-a-pound difference at a minimum.

Page 115:20 to 116:05

00115:20 Q. Okay. And -- and what we've -- what we've
 21 just been looking at, what we've been going
 22 through for a while that you basically corrected
 23 me more than you corrected you on, was that --
 24 what Exhibit No. 4000, which is the actual APD on
 25 Macondo, suggests is that with respect to the --
 00116:01 Interval 5 and Interval 6, the approved safe
 02 margin was 0.5, correct?
 03 A. Right.
 04 Q. Now, how does BP know that 0.5 is a
 05 generally accepted safe margin by the MMS?

Page 116:07 to 116:19

00116:07 Q. (BY MR. LEGER) Is there an NTL, or is
 08 there a regulation?
 09 A. There isn't. But it's -- it's widely

10 known, and the permit wouldn't be approved if they
 11 don't have at least a half-a-pound difference.
 12 Q. So -- and in -- in this case, what they
 13 know and what you know and the MMS knows is that
 14 if that margin that we just talked about, the 14.7
 15 at Interval -- a fracture gradient at Interval 5
 16 is approved with respect to a mud weight at
 17 Interval 6 of 14.2, if -- if the margin gets to be
 18 less than that, they're supposed to stop and
 19 suspend, right?

Page 116:21 to 116:23

00116:21 A. Yes.
 22 Q. (BY MR. LEGER) If they have any question
 23 about that margin, should they stop and suspend?

Page 116:25 to 117:04

00116:25 A. Yes.
 00117:01 Q. (BY MR. LEGER) And that's because the
 02 dangers associated with -- with -- with going
 03 beyond a safe drilling margin are catastrophic,
 04 potentially, correct?

Page 117:06 to 117:22

00117:06 A. Potentially.
 07 Q. (BY MR. LEGER) Now, with respect to,
 08 again, the -- the PINC list, Exhibit No. 4122, we
 09 were just looking at "Well Control," D-831. It
 10 refers to -- there's authority for the requirement
 11 to suspend when the safe margin is maintained as
 12 CFR 30 -- I'm sorry 30 CFR 250.427(b), correct?
 13 A. Correct.
 14 Q. And I'm going to read to you -- I don't
 15 know if anybody wants to attach it, but I'm going
 16 to read that CFR at (b). It says: While
 17 drilling, you must maintain the safe drilling
 18 margin identified in the approved APD. "When you
 19 cannot maintain a safe margin, you must suspend
 20 drilling operations and remedy the situation."
 21 Is that what the regulation says,
 22 sir?

Page 118:07 to 118:20

00118:07 A. That's what it states.
 08 Q. (BY MR. LEGER) Is that what it says?
 09 A. Yes.
 10 Q. And that's the portion that you just said,
 11 that if you -- that the safe drilling margin has
 12 been identified in the APD, and if you can't

13 maintain it, you must suspend drilling operations
14 and remedy the situation, right?
15 A. Correct.
16 Q. Have you been provided any information by
17 BP to suggest that, at any point in the drilling
18 of this well, they exceeded the -- did not
19 maintain a safe drilling margin?
20 A. I haven't.

Page 120:07 to 120:10

00120:07 Q. Okay. Back to Exhibit No. 4000. Let me
08 refer you to -- let's see -- Page 076. This is --
09 "BP Gulf of Mexico - MMS APD worksheet," correct?
10 A. That's what it states, yes.

Page 120:24 to 121:05

00120:24 Q. Does this appear to be a -- a worksheet
25 for the calculation of MASP?
00121:01 A. That's what it looks like.
02 Q. And in the context of BP presenting this
03 in their application for permit to drill, would --
04 would this information, this formula, be the type
05 of -- of information that MMS would rely upon?

Page 121:07 to 122:07

00121:07 Q. (BY MR. LEGER) Or would MMS do its own
08 calculations?
09 A. MMS does their own calculations for MASP.
10 Q. Okay. Now, let me ask you to turn to
11 Page 7078. And this appears to be a graph which
12 is called "MMS APD Attachment PP/MW/FG," correct?
13 A. Yes.
14 Q. Bottom right-hand is the name "Mark Hafle
15 5/11/09," correct?
16 A. Yes.
17 Q. What does this document or this page mean
18 to you?
19 A. It's showing the estimated pore pressure,
20 mud weight, frac gradient of the formation.
21 Q. At certain levels, correct?
22 A. At certain -- at -- yeah --
23 Q. Certain depths, rather?
24 A. -- throughout the -- throughout the -- the
25 well.
00122:01 Q. And so, obviously, since this is provided
02 at the point when the well hasn't been drilled,
03 this is what BP is representing to you they are
04 predicting the pore pressures, mud weights, and
05 fracture gradients will be at certain depths,
06 correct?

07 A. Correct.

Page 123:22 to 124:01

00123:22 Q. (BY MR. LEGER) Now, with respect to the
23 actual drilling of the well, is BP, as the lessee,
24 required to advise you of the actual findings of
25 pore pressure and mud weight and fracture gradient
00124:01 as the well is drilled?

Page 124:03 to 124:22

00124:03 A. They record the -- the shoe test in the
04 IADC report.
05 Q. (BY MR. LEGER) And the inspectors can
06 review that when they're on board, correct?
07 A. That's correct.
08 Q. Do they deliver that to your engin- --
09 does BP deliver that information to your engineers
10 during the course of the drilling of a well or
11 test?
12 A. Through -- through the submittal of the
13 weekly activity report, it should be in there
14 also.
15 Q. Okay. What is -- what's the significance
16 of -- of the pore pressure relative to mud weight?
17 A. You just want to ensure your mud weight is
18 above your pore pressure.
19 Q. And -- and you also want to ensure that
20 your mud weight is below -- and below by .5 pounds
21 per gallon -- the fracture gradient, correct?
22 A. Yes.

Page 125:13 to 125:19

00125:13 Q. (BY MR. LEGER) 30 CFR 250.427(b) and
14 D-831 under the -- in the PINC list suggests the
15 term "safe margin," correct?
16 A. Yes.
17 Q. And that safe margin is defined as the
18 distance between mud weight and -- and fracture
19 gradient, correct?

Page 125:21 to 125:21

00125:21 A. Yes.

Page 126:05 to 126:14

00126:05 Q. Is there any significance in the con- --
06 in the context of the safety of the well to the --
07 the difference between pore pressure and fracture

08 gradient?
 09 A. Well, you want to stay above your pore
 10 pressure and you want to stay below your fracture
 11 gradient by at least a half a pound.
 12 Q. And so, certainly, if your pore pressure
 13 and your fracture gradient get below 0.5, there's
 14 a safe margin problem, correct?

Page 126:16 to 127:08

00126:16 A. Yes.
 17 Q. (BY MR. LEGER) There's also -- there's
 18 also a problem if your mud weight ex- -- is less
 19 than your pore pressure, correct?
 20 A. Correct.
 21 Q. And what's that risk?
 22 A. The well starts to flow.
 23 Q. Now, when you -- when a -- when you
 24 experience a kick, is that a result of the mud --
 25 of the well being, I guess, underbalanced?
 00127:01 A. Yes.
 02 Q. Does that generally mean that the mud
 03 weight is probably lower than the pore pressure?
 04 A. That's correct.
 05 Q. And if you experience a loss of returns,
 06 is that generally an indication that your mud
 07 weight relative to fracture gradient is -- is too
 08 small in terms of its margin?

Page 127:10 to 127:20

00127:10 A. It means you encounter a formation that's
 11 accepting fluid readily.
 12 Q. (BY MR. LEGER) So, whatever -- whatever
 13 the fluid is, whether it's water or mud or
 14 whatever, the -- the fluid is -- is -- the
 15 pressure of the fluid is stronger than the
 16 formation, correct?
 17 MR. KEEGAN: Objection; form.
 18 A. It -- it's -- it's frac'ing the form --
 19 potentially frac'ing or leaking into the
 20 formation.

Page 137:04 to 138:01

00137:04 Q. Okay. As part of the audits that you --
 05 that MMS performs related to rigs in the Gulf of
 06 Mexico, is the training and education that the rig
 07 personnel receive -- is that part of the audit?
 08 A. Actually, it's inspections that we
 09 perform --
 10 Q. Inspections, I'm sorry.
 11 A. -- on the rig. The training -- you're

12 referring to the training that the personnel on
 13 the rig receives?
 14 Q. Yes, sir.
 15 A. Then that goes back to an audit. We could
 16 conduct a Subpart O audit, but that's not actually
 17 done on the rig. It's typically done when we go
 18 into an operator's office and conduct a Subpart O
 19 audit.
 20 Q. Okay. And can you explain what a
 21 Subpart O audit is?
 22 A. Subpart O refers to the training section
 23 of our regulations --
 24 Q. Okay.
 25 A. -- and whether the operator has to have
 00138:01 the training planned and --

Page 139:19 to 139:24

00139:19 Q. Okay. You don't know who conducted those
 20 audits?
 21 A. No.
 22 Q. And you don't know when the last one was
 23 performed?
 24 A. No.

Page 142:22 to 143:02

00142:22 Q. Okay. You're familiar with the API, I
 23 assume?
 24 A. Yes.
 25 Q. Okay. And you're familiar with the
 00143:01 recommended practices?
 02 A. I'm aware of them.

Page 143:14 to 144:06

00143:14 Does MMS have a view one way or
 15 another whether API recommended practices are
 16 mandatory or advisory as it relates to operators
 17 in the Gulf of Mexico?
 18 MR. KEEGAN: Objection; form.
 19 Q. (BY MR. KRAUS) You can go ahead and
 20 answer.
 21 A. The -- the API documents that are
 22 referenced in the regulations, those, you know,
 23 are adopted in the regulations.
 24 Q. Yes, sir.
 25 A. But -- and it could only be parts of a
 00144:01 document, but it has to be referenced in the
 02 regulations to be a document in effect that we
 03 reference.
 04 Q. All right. And my question is: Are
 05 they -- are those mandatory or are those advisory

06 as they relate to operators in the Gulf of Mexico?

Page 144:08 to 144:12

00144:08 A. They're required.
09 Q. (BY MR. KRAUS) Manda --
10 A. Yes.
11 Q. Mandatory? Is that a "yes"?
12 A. Yes.

Page 156:19 to 158:19

00156:19 Q. And this is the CFR regulation related to
20 a pressure integrity test, correct?
21 A. Yes.
22 Q. And just to be clear, the safe drilling
23 margin is tied to the result of the pressure
24 integrity test, correct?
25 A. And the mud weight, yes.
00157:01 Q. And the mud weight, correct?
02 A. Yes.
03 Q. And the result of the pressure integrity
04 test is a fracture gradient measurement at a
05 specific point, correct?
06 A. As if -- it's formation integrity of the
07 formation at -- at the casing shoe.
08 Q. And the formation integrity could be
09 higher 100 feet down -- further down the hole?
10 Stronger 100 feet down the hole?
11 A. Yes.
12 Q. And it could be weaker 100 feet further
13 down the hole, right?
14 A. Yes.
15 Q. And even if it's weaker, your safe
16 drilling margin under the regulation is still the
17 measurement between the pressure integrity test at
18 the casing shoe and the mud weight, correct?
19 A. Unless hole conditions dictate something
20 different.
21 Q. And where in 427(a) or (b) does that
22 exception appear?
23 A. It's actually 427(a).
24 Q. "To adjust the drilling fluid program and
25 the setting depth of the next casing string."
00158:01 Is that the part that you're reading?
02 A. No.
03 Q. Which part?
04 A. "You must use the pressure integrity test
05 and related hole-behavior observations."
06 Q. And where are the pressure integrity tests
07 results recorded under 427(a)?
08 A. Generally in -- in IADC.
09 Q. And where are the downhole observations
10 recorded under 427(a)?

11 A. I'm not sure.
12 Q. The last sentence of 427(a), did I read
13 this correctly: "You must record all test results
14 and hole-behavior observations made during the
15 course of drilling related to formation integrity
16 and pore pressure in the driller's report."
17 A. (Witness nods.)
18 Q. So the conditions of the hole are reported
19 in the driller's report, correct?

Page 158:22 to 159:25

00158:22 Q. (BY MR. KEEGAN) Correct?
23 A. Yes.
24 Q. They're not required to be reported --
25 under this regulation, not required to be reported
00159:01 on an Application for Permit to Drill?
02 A. Correct.
03 Q. They're not required to be -- you're not
04 required to amend a permit if you have different
05 downhole conditions than your casing integrity
06 shoe, correct?
07 A. Indirectly. If it makes you set casing
08 early, then you're going to submit a revised
09 permit to adjust the -- in the rest of the hole.
10 Q. Indirectly, though?
11 A. Yeah.
12 Q. It's not -- if you have a loss zone 200
13 feet below your casing shoe, you don't need to
14 file an amended permit if you can regain control
15 of the hole?
16 A. Correct.
17 Q. Okay. 427(b) says: "While drilling, you
18 must maintain the safe drilling margin identified
19 in the approved APD."
20 Do you see that there?
21 A. Yes.
22 Q. And the drilling margin to find in the
23 approved APD is between the casing integrity test
24 and the mud weight, correct?
25 A. Yes.

Page 160:18 to 161:06

00160:18 Can you circle for me in purple
19 where -- what value the MMS expects its operators
20 to report as a result of a pressure integrity
21 test?
22 A. They're supposed to result -- report the
23 results of their pressure integrity test.
24 Q. And -- and that's a -- that's a fair way
25 to put it.
00161:01 What is the result that is required
02 to be reported?

03 A. According to the regulations, it's the
04 formation integrity test or leak-off --
05 Q. Okay.
06 A. -- test.

Page 161:21 to 161:23

00161:21 Q. Do you know what the leak-off point is?
22 A. The point -- the point at which you start
23 leaking into the formation --

Page 162:02 to 162:05

00162:02 which one -- which one do you expect an operator
03 to report to you?
04 A. According to the regulations, it would be
05 either integrity or leak-offs.

Page 165:20 to 170:17

00165:20 There's a dispute in this case about
21 whether BP is required to report the leak-off
22 value or the maximum surface pressure value. In
23 your opinion, what value is BP required to report?
24 A. According to the regulations, it says the
25 leak-off.
00166:01 Q. It says the result of the pressure
02 integrity test.
03 A. Or leak-off.
04 Q. Okay. Are there any MMS policy guidelines
05 related to the interpretation of leak-off tests
06 that you're aware of?
07 A. No.
08 Q. Okay. Can you turn to Tab -- well, let's
09 see here -- Tab 9, please. That's an E-mail from
10 David Trocquet; is that correct? The "From" line
11 says from David Trocquet at MMS.gov, right?
12 A. Yes.
13 Q. Okay. And in the first line there, he
14 says: "Glenn: We do not have any written policy
15 on FIT's and there is nothing in FOPOTS to my
16 knowledge."
17 Do you agree with Mr. Trocquet's
18 statement in 2006 that there was nothing in FOPOTS
19 related to FITs at that time?
20 A. As far as I know, that's correct.
21 Q. Is there anything in FOPOTS today related
22 to the interpretation of FITs?
23 A. Not that I'm aware of.
24 Q. And FOPOTS isn't something that operators
25 have access to regardless, correct?
00167:01 A. Correct.
02 MR. KEEGAN: Yeah, I'll mark that

03 Tab 9, which is IMS026-018023 [sic] as 4731.
04 (Marked Exhibit No. 4731.)
05 Q. (BY MR. KEEGAN) Do you know what value
06 Exxon reports to the MMS, whether it's the
07 leak-off value or the maximum surface pressure?
08 A. I don't know.
09 Q. Do you know what value Shell reports to
10 the MMS, whether it's the leak-off or the maximum
11 surface?
12 A. I don't know.
13 Q. Do you know what value Chevron reports,
14 whether it's the leak-off or maximum surface?
15 A. I don't know.
16 Q. Do you know if there's any standard in the
17 industry related to what value is reported for a
18 leak-off test result?
19 A. I don't know.
20 Q. Do you know what measurement Anadarko
21 reports related to leak-off tests or -- the
22 leak-off or the maximum surface pressure?
23 A. No.
24 Q. Do you know who Scherie Douglas is?
25 A. Yes.
00168:01 Q. Who is Scherie Douglas?
02 A. Regulatory agent for BP.
03 Q. And how do you know Scherie Douglas?
04 A. We've been in meetings and telephone
05 calls.
06 Q. You've worked with Scherie Douglas?
07 A. Through meetings and telephone calls.
08 Q. You've found her to be honest?
09 A. From my work with her, yes.
10 Q. Found her to be trustworthy?
11 A. I have no reason to doubt.
12 Q. How about Terry Jordan, do you know who
13 Terry Jordan is?
14 A. Yes.
15 Q. And who is Terry Jordan?
16 A. He works at BP.
17 Q. And have you worked with Terry Jordan in
18 the past?
19 A. A limited amount.
20 Q. And do you have any reason to doubt
21 Mr. Jordan's honesty?
22 A. No.
23 Q. Do you have any reason to doubt
24 Mr. Jordan's trustworthiness?
25 A. No.
00169:01 Q. Never had any problems dealing with either
02 Scherie or Terry?
03 A. I haven't.
04 Q. Okay. Can you take a look at Tab 43 in
05 there for me. And I'm going to mark this,
06 IMS059-000399.
07 MR. KEEGAN: Sir, if you can put that

08 sticker on there, it's 4732.
09 (Marked Exhibit No. 4732.)
10 Q. (BY MR. KEEGAN) Does this appear to be
11 your calendar for April through June of 2010?
12 A. Yes.
13 Q. And do you -- is it your standard practice
14 to keep your meetings on an electronic calendar?
15 A. Yes.
16 Q. And would you have that calendar going --
17 dating back to 2008?
18 A. I don't know.
19 Q. Is it possible that you still have your
20 calendar dating back to 2008?
21 A. Probably not, because I usually clear it
22 out to save space on the computer.
23 Q. Makes sense.
24 Any kind of paper copy of your
25 calendar? Do you keep, as the British like to
00170:01 say, a "diary" of your meetings?
02 A. A daily log.
03 Q. And would you have that dating back to
04 2008?
05 A. Yes.
06 Q. Okay. And would you keep notes from
07 meetings that you had with industry
08 representatives in that daily log?
09 A. Yes.
10 Q. Do you recall a meeting in February of
11 2008 with Scherie Douglas and Terry Jordan of BP?
12 A. I don't actually recall it, but I do have
13 it documented.
14 Q. You do have it documented? What's the
15 document you have regarding that meeting?
16 A. It's in my logbook.
17 Q. Okay.

Page 170:25 to 171:05

00170:25 Q. (BY MR. KEEGAN) Have you reviewed that
00171:01 logbook recently?
02 A. Yes.
03 Q. And have you reviewed the notes of that
04 meeting?
05 A. Yes.

Page 171:09 to 175:01

00171:09 Q. (BY MR. KEEGAN) To the best of your
10 recollection, what were the subject matters
11 discussed at that meeting?
12 A. Concerning leak-off tests.
13 Q. Okay. And did you take any notes in there
14 regarding what BP was going to report to the MMS
15 related to leak-off tests?

16 A. No.

17 Q. And you took contemporaneous notes in

18 2008, right? Those were contemporaneous notes at

19 the meeting, right?

20 A. What do you mean?

21 Q. Those were notes from 2008.

22 A. Yes.

23 Q. Okay. And -- and common practice to

24 record, to the best of your ability, what actually

25 happened at the meetings?

00172:01 A. I usually record. We have a meeting, and

02 sometimes it's detailed at the time.

03 Q. And was this a detailed entry in your

04 logbook?

05 A. No, it wasn't.

06 Q. And do you recall that that meeting was

07 attended by David Trocquet?

08 A. I don't recall.

09 Q. Do you recall that that meeting was

10 attended by Robert Martinez?

11 A. I don't recall.

12 Q. Do you know who Robert Martinez is?

13 A. Robert Martinez?

14 Q. Yes, a trainee engineer at the time.

15 A. I'm not familiar with that person.

16 Q. Okay. Can you turn to Tab 40, please?

17 This is Bates No. IMS056-000104.

18 Do you see that there?

19 A. Yes.

20 MR. KEEGAN: We'll mark this as

21 Exhibit 4733.

22 (Marked Exhibit No. 4733.)

23 Q. (BY MR. KEEGAN) The bottom E-mail is from

24 Scherie Douglas to yourself, Terry Jordan, and

25 James Grant. Do you see that there?

00173:01 A. Yes.

02 Q. And the last line is: "Just let me know

03 and I will set something up. Thanks, and thanks

04 again for taking time to see us last week."

05 Do you see that line there?

06 A. Yes.

07 Q. Did I read that correctly?

08 A. Yes.

09 Q. And is that reference referencing the

10 meeting about the leak-off test that you recall

11 from reviewing your logbook?

12 A. That's what it seems to be referencing to.

13 Q. Okay. Can you turn to Tab 41, please.

14 And this is BP-HZN-2179MDL03199425, and it's

15 Exhibit 4735 -- 34.

16 (Marked Exhibit No. 34.)

17 Q. (BY MR. KEEGAN) Sir, who is Ian Little?

18 A. I don't know.

19 Q. Michael Leary?

20 A. He works at BP.

21 Q. Keith Daigle?
22 A. I don't know him.
23 Q. Mark Alberty?
24 A. I don't know him.
25 Q. And this is an E-mail dated February 7th,
00174:01 2008, correct?
02 A. Correct.
03 Q. And in the one, two, three -- fourth
04 paragraph down, Mr. Jordan writes to Mick and Ian,
05 he says -- talking about the meeting with Mike
06 Saucier, David Trocquet, and an engineer trainee,
07 he says: "They understood taking a leak-off test
08 to the point where the pressure curve clearly
09 breaks over and to report the maximum pressure."
10 Do you see that there?
11 A. Yes, I see that.
12 Q. And then the next paragraph: "They agreed
13 that what we state to report on the IADC is clear,
14 and prefer the use of surface mud weights as we
15 have noted for the IADC."
16 You see that there?
17 A. Yes.
18 Q. And the next paragraph: "They confirmed
19 they still want to approve drilling if our mud
20 weight is (less than) 0.5 ppg of FIT/LOT value but
21 will grant approvals down to 0.3 or 0.2 ppg if a
22 case can be made."
23 Do you see that there?
24 A. Yes.
25 Q. Do you disagree with any of those three
00175:01 statements?

Page 175:03 to 177:11

00175:03 A. Again, I don't specifically remember the
04 meeting.
05 Q. (BY MR. KEEGAN) Do you have any reason to
06 dispute that those three subjects were discussed
07 at that meeting?
08 A. No.
09 Q. And do you have any reason to believe that
10 on February 7th, 2008, Terry Jordan was lying to
11 four people at BP about what happened at your
12 meeting?
13 A. No.
14 Q. Can you turn to Tab 42, please? And it's
15 BP-HZN-2179MDL013199423, which is Exhibit 4735;
16 and if you'll turn to the second page of that
17 exhibit, please.
18 MR. KEEGAN: Do you have a copy of
19 that?
20 (Marked Exhibit No. 4735.)
21 Q. (BY MR. KEEGAN) And do you see there that
22 it's "Regulatory Meeting/Trip Report" with the BP
23 logo in the upper left?

24 A. Yes.
 25 Q. And it's from Scherie Douglas. Actually,
 00176:01 it doesn't say that. The attendees are: "MMS:
 02 Michael Saucier, David Trocquet, Robert Martinez."
 03 You see that there?
 04 A. Yes.
 05 Q. BP is Terry Jordan and Scherie Douglas?
 06 A. Yes.
 07 Q. And the message is: "Presented to MMS BP
 08 efforts to standardize drilling procedures across
 09 the SPU and even worldwide. In particular for
 10 this meeting, a standard LOT procedure has been
 11 developed which mandates how data is recorded,
 12 interpreted, and reported."
 13 Did I read that correctly?
 14 A. Yes, it was read correctly.
 15 Q. Any reason to disagree with that summary
 16 of the meeting that you had in February of 2008?
 17 A. No.
 18 Q. And if you can, turn to Tab 39, please,
 19 which is BP-HZN2179MDL00091810.
 20 Do you see that there?
 21 A. Yes.
 22 Q. And this is an E-mail from Susan Wilson to
 23 Mark Hafle, George Gray, Jake Skelton dated
 24 February 11th, 2008; is that correct?
 25 A. Yes.
 00177:01 MR. KEEGAN: And this is
 02 Exhibit 4736.
 03 (Marked Exhibit No. 4736.)
 04 Q. (BY MR. KEEGAN) If you can, turn to the
 05 PowerPoint on the next page. Have you seen that
 06 PowerPoint before?
 07 A. I don't recall seeing this.
 08 Q. Is it possible that you saw this?
 09 A. Yes.
 10 Q. Is it standard for these Lunch & Learn
 11 meetings that a presentation is made?

Page 177:13 to 178:02

00177:13 A. At a meet- -- I wouldn't say a Lunch &
 14 Learn meeting. I would say, at a meeting, it's
 15 standard that a presentation would have been
 16 presented.
 17 Q. (BY MR. KEEGAN) Okay. And if you go back
 18 to the cover E-mail on this, the first page of
 19 this Tab 39, at the bottom E-mail from Scherie to
 20 an E-mail list at BP is: "Some of you requested
 21 to look at the presentation we made to MMS
 22 regarding the standardized LOT procedure. Terry
 23 has provided the slides attached."
 24 Any reason to believe that this is
 25 not the presentation that was made to you at that
 00178:01 February meeting?

02 A. No.

Page 178:04 to 179:23

00178:04 Q. (BY MR. KEEGAN) If you turn to Page 13,
 05 please, of the PowerPoint.
 06 A. (Witness complies.)
 07 Q. And do you see the header on that
 08 PowerPoint, "Record on IADC (official MMS
 09 record)"? Did I read that correctly?
 10 A. Yes.
 11 Q. And the -- the "Formation Pressure
 12 Integrity Test (PIT) data" that's being recorded
 13 is the "Maximum Surface Pressure."
 14 Do you see that there?
 15 A. Yes.
 16 Q. Any reason to dispute that, in 2008, BP
 17 told you and David Trocquet that they would be
 18 reporting maximum surface pressure as their
 19 Pressure Integrity Test result?
 20 A. No.
 21 Q. And one of those E-mails we just looked at
 22 referenced the possibility of moving from a 0.5
 23 ppg drilling margin to a 0.3 ppg drilling margin.
 24 Do you recall that?
 25 A. Yes.
 00179:01 Q. And it's a common practice in the Gulf of
 02 Mexico to move from a 0.5 to a 0.3 ppg drilling
 03 margin from approval of the MMS?
 04 A. I wouldn't say it's common.
 05 Q. You're aware that the MMS approves a 0.3
 06 ppg drilling margin when an operator requests it?
 07 A. I'm aware we get requests for it.
 08 Q. And are you aware that the MMS approved a
 09 0.3 drilling margin on three different occasions
 10 during the MC252, No. 1, well?
 11 A. I'm not aware of that.
 12 Q. Would you be surprised that Frank Patton
 13 approved a 0.3 ppg drilling margin on the MC252
 14 No. 1, well?
 15 A. No.
 16 Q. Would you be surprised if Leonard Carter
 17 approved a 0.3 ppg drilling margin on the MC252
 18 No. 1, well?
 19 A. No.
 20 Q. Would you be surprised if Tom Meyer
 21 approved a 0.3 ppg drilling margin for the MC252
 22 No. 1, well?
 23 A. No.

Page 181:07 to 182:25

00181:07 Q. Are you aware of any wells that have been
 08 shut in for a failure to maintain a safe drilling

09 margin?
10 A. No.
11 Q. Your instructor -- your inspectors are
12 instructed to give a warning, correct?
13 A. When you're -- when you're auditing the
14 records because you more than likely already
15 passed that point. If they would be on the rig at
16 the time it occurred, they could shut it in.
17 Q. They could.
18 But the instructions in the PINC book
19 are to provide a warning if they audit the records
20 and see that it's -- it's been -- the safe
21 drilling margin was not maintained?
22 A. Yes.
23 Q. Are you aware of anyone losing a permit
24 because they invaded the safe drilling margin?
25 A. No.
00182:01 Q. Are you aware of anybody losing the right
02 to have an exploration plan in effect because they
03 invaded the safe drilling margin?
04 A. No.
05 Q. And if it was determined that an operator
06 invaded the safe drilling margin, they would
07 receive a -- a -- an INC, correct?
08 A. Yes.
09 Q. And they would be allowed to remedy the
10 situation?
11 A. If the situation occurred in a section of
12 casing or hole that's already been drilled, we
13 would -- we would require a letter of explanation
14 as to why it occurred --
15 Q. And -- and --
16 A. -- and make a determination from that.
17 Q. And if it occurred while the inspectors
18 were on the rig, the operator would suspend
19 operations and then remedy the situation, correct?
20 A. Once the operator gets within the safe
21 drilling margin, it's required to suspend
22 operations, yes.
23 Q. And -- and there's all sorts of ways to
24 remedy the situation. You can lower the mud
25 weight, correct?

Page 183:02 to 183:17

00183:02 A. If it's possible, you can -- you can stay
03 under control with that -- in that manner, yes.
04 Q. (BY MR. KEEGAN) And you can set the
05 casing depth at that point?
06 A. Right.
07 Q. Okay. It's not the case that BP would
08 lose a permit if it was found to have invaded a
09 safe drilling margin?
10 A. How do you mean by "lose a permit"?
11 Q. The MMS would not revoke a permit if BP

12 failed to maintain a safe drilling margin?
13 A. We would ensure BP understands that you
14 cannot drill within the safe drilling margin.
15 Q. And that would be by issuing an INC and
16 asking for a letter of explanation?
17 A. Correct.

Page 184:04 to 187:03

00184:04 Q. (BY MR. KEEGAN) If you can turn back to
05 Tab 8, please. The regulation related to the safe
06 drilling margin, 427(b), says: "While drilling,
07 you must maintain the safe drilling margin... When
08 you cannot" -- dot, dot, dot -- "When you cannot
09 maintain" the "safe" drilling "margin, you must
10 suspend drilling operations and remedy the
11 situation."
12 Not everything that happens on the
13 rig is while drilling, correct?
14 A. Correct.
15 Q. Well control incidents are not while
16 drilling?
17 A. It could be.
18 Q. Could be, but it's more important to get
19 the well control -- well under control than it is
20 to maintain the mud weight within .5 of the
21 fracture gradient, right?
22 A. Correct.
23 Q. And that would -- if you were doing well
24 control operations and suspending drilling
25 operations, that would not be an INC-able offense?
00185:01 A. Correct.
02 Q. Okay. Cementing is not a -- a
03 while-drilling operation?
04 A. How do you mean?
05 Q. Can -- can you spot a heavy pad of mud
06 prior to cementing, for example, without violating
07 427(b)?
08 A. As long -- oh, yes.
09 Q. For example, the -- the permit that you
10 looked at earlier references setting 17.0 ppg mud
11 pads, very, very shallow in the well. That
12 wouldn't be a violation of the safe drilling
13 margin, right?
14 A. I haven't seen that specifically.
15 Q. Why don't we take a look at Tab 13, which
16 is in your binder there. So if you turn to the
17 summary, "Drilling Plan Summary," which is -- on
18 that binder version, it's Bates number -- last
19 number is 130.
20 The bottom of that page, it says
21 at -- "An 18" and a half -- "1/8 inch x 22-inch
22 hole will be drilled with SOBM to a depth of 9,900
23 md/tvd. At section TD, a 17.0 ppg mud pad will be
24 spotted..."

25 Do you see that there?
00186:01 A. Yes.
02 Q. And a 17.0 ppg mud pad is a heavier-weight
03 mud than the fracture gradient at that interval,
04 right?
05 A. I don't know. I'd have to go back and
06 look.
07 Q. In your experience, does an interval at
08 9,900 feet have a fracture gradient strength
09 greater than -- than 17.0?
10 A. Usually not.
11 Q. Usually not. And I'm happy to have you
12 look at it. It's Page 7 of -- 7 of 8. It's
13 Interval No. 3.
14 A. What page?
15 Q. 7 of 8. It's the Bates No. 128. It's
16 Interval No. 3, is 9,900 feet? See that there?
17 A. Yes.
18 Q. And the fracture gradient measurement
19 is -- is estimated to be 12.3?
20 A. Correct.
21 Q. So that 17.0 ppg mud pad is not a
22 violation of the safe drilling margin, right?
23 A. Correct.
24 Q. It's fair to say that not everything that
25 happens on the rig is while drilling?
00187:01 A. As long as you're not drilling forward.
02 Q. As long as the bit is not moving?
03 A. Right.

Page 188:01 to 189:23

00188:01 Q. Okay. At the time of the incident, there
02 was no MMS regulation mandating a cement bond log,
03 correct?
04 A. I think you may find a regulation that, if
05 you have problems with cementing, it is one of the
06 recommended practices that you can run a cement
07 bond log.
08 Q. But it's not -- it was not a mandatory
09 requirement to run a cement bond log on each
10 cement job?
11 A. Yeah, correct.
12 Q. If you want to turn to Tab 23 for me --
13 sorry, Tab 24, please. And that's Bates No.
14 IMS172-051743.
15 MR. KEEGAN: We'll mark that as
16 Exhibit 4738.
17 (Marked Exhibit No. 4738.)
18 Q. (BY MR. KEEGAN) Do you recall sending
19 this E-mail on August 22nd, 2010? Any reason to
20 believe that you didn't send this E-mail on August
21 22nd, 2010?
22 A. No.
23 Q. Okay. And in this E-mail, you say:

24 "Title 30 CFR 250.248, entitled 'What must I do in
25 certain cementing and casing situations?'" -- and
00189:01 I think you meant 428. Does that sound --
02 A. I'd have to look at the regs to verify.
03 Q. Chapter 400 is the drilling regs?
04 A. Yes.
05 Q. Okay. You say, "State the following: (C)
06 Have indication of inadequate cement job (such as
07 lost returns, cement channeling, or failure of
08 equipment). Star, star, star. Then you must"
09 one, two, three or four.
10 Right?
11 A. Yes.
12 Q. So it was not the policy that -- that a
13 cement bond log was mandated for a cement job?
14 A. Correct.
15 Q. And it's not the policy or the regulation
16 at the time that a cement bond log was necessary,
17 even if there were inadequate -- signs of
18 inadequate cement job, correct?
19 A. According to the regulations, correct.
20 Q. And is there any -- at the time of the
21 incident, was there any MMS policy that was
22 contrary or different than the regulations?
23 A. Not that I'm aware of.

Page 190:12 to 191:14

00190:12 Q. Okay. And prior to the incident on
13 April 20th, 2010, there were no requirements for a
14 negative pressure test in the MMS regulations,
15 correct?
16 A. Correct.
17 Q. And there were no guidelines on how a
18 negative pressure test should be conducted?
19 A. Correct.
20 Q. And no guidelines on when a negative
21 pressure test was required to be run?
22 A. Correct.
23 Q. No guidelines on what a successful
24 negative pressure test would be?
25 A. Correct.
00191:01 Q. And it was common for operators to
02 temporarily abandon wells without running a
03 negative pressure test?
04 A. I'm not sure if it was common.
05 Q. Are you aware that operators temporarily
06 abandoned wells without running a negative
07 pressure test?
08 A. Yes.
09 Q. Because it wasn't a required operation
10 under the regulations?
11 A. Right.
12 Q. Okay. BP could have decided not to
13 conduct a negative pressure test before leaving

14 the MC252 No. 1 well, right?

Page 191:16 to 192:24

00191:16 A. Correct. They could have.
17 Q. (BY MR. KEEGAN) I think you testified
18 earlier that exploration wells were riskier than
19 development wells. Do you recall that?
20 A. They -- they could be.
21 Q. They can be riskier. And that's because
22 you have less offset data than -- in an
23 exploration well than a downhole well -- or a
24 developmental well?
25 A. That's part of it.
00192:01 Q. Okay. And will you agree that loss
02 circu- -- circulation events are -- are more
03 common while drilling exploration wells than
04 development wells?
05 A. Yes.
06 Q. And -- and it's not a surprise that --
07 when a loss circulation event occurs on an
08 exploration well?
09 A. No.
10 Q. It's not an anomaly when a loss
11 circulation event occurs on an exploration well?
12 A. No.
13 Q. That's why there are mudloggers and
14 drillers and other personnel monitoring the
15 downhole conditions on an exploration well?
16 A. On -- on every well.
17 Q. On every well, but particularly for an
18 exploration well, you want to have extra
19 vigilance --
20 A. I'm sure -- yes.
21 Q. -- and redundant systems to monitor the
22 well?
23 The driller is one person that
24 monitors the well, right?

Page 193:01 to 194:07

00193:01 A. Yes.
02 Q. (BY MR. KEEGAN) And the mudloggers who
03 are monitor- -- are people who monitor the well
04 conditions, correct?
05 A. To my knowledge, yes.
06 Q. And it's your expectation that the driller
07 or the drilling crew continuously monitor well
08 conditions while -- while the rig is latched up?
09 A. That's expect- -- it's my expectation that
10 someone is monitoring the well condition.
11 Q. And that's in the regulations, right?
12 A. The well shall be monitored.
13 Q. Agree that kicks are more common while

14 drilling exploration wells than development wells?
 15 A. It's possible.
 16 Q. It's not a surprise when a kick occurs on
 17 an exploration well?
 18 A. No.
 19 Q. It's not an anomaly when a kick occurs on
 20 an exploration well?
 21 A. No.
 22 Q. And not every kick turns into a blowout,
 23 correct?
 24 A. Yes.
 25 Q. Because people on the rig are well control
 00194:01 certified?
 02 A. It -- it was controlled.
 03 Q. Right. You can control a kick before it
 04 becomes a blowout, right?
 05 A. That's the expectation.
 06 Q. And whose responsibility is it to identify
 07 a kick on a well?

Page 194:09 to 194:11

00194:09 A. That, I don't know specifically.
 10 Q. (BY MR. KEEGAN) Whose responsibility is
 11 it to shut in the well when a kick is detected?

Page 194:13 to 194:23

00194:13 A. I don't know.
 14 Q. (BY MR. KEEGAN) There's no regulation
 15 that requires a revised APD when a loss
 16 circulation event occurs, right?
 17 A. Correct.
 18 Q. And there's no regulation that requires a
 19 revised APD when a kick event occurs, right?
 20 A. Just for the event, that's correct.
 21 Q. Under the regulations, those items are all
 22 recorded in the IADC, right?
 23 A. Yes.

Page 195:19 to 195:25

00195:19 Q. You can identify a fracture gradient in a
 20 point in the rock by running a -- a pressure
 21 integrity test, right?
 22 A. Yes.
 23 Q. And you can identify a fracture gradient
 24 at a different point in the rock if you measure a
 25 loss zone, correct?

Page 196:02 to 197:14

00196:02 A. If you say you are taking another pressure

03 integrity test?

04 Q. (BY MR. KEEGAN) No, sir. There are tools
05 to measure downhole conditions at a loss zone,
06 correct?

07 A. I'm not familiar with them.

08 Q. So you wouldn't know whether one is
09 required to be reported and the other -- or the
10 other is required to be reported?

11 A. Well, you should monitor your well at all
12 times. Therefore, any indications of, you know,
13 reduced frac gradient or whatever, needs to be
14 taken into consideration.

15 Q. Taken into consideration, absolutely.

16 What about reported?

17 A. Well, if you have indications that your
18 formation strength is different in which you are
19 using as a standard for your margin, then you
20 would have to use that new formation strength.

21 Q. And you report that in the IADC?

22 A. It -- I would suspect -- expect it to be
23 documented there.

24 Q. It's documented in the IADC, and your
25 inspectors on the rig are looking at drilling
00197:01 margin by comparing pressure integrity test
02 results and mud weight, right?

03 A. Yes.

04 Q. Okay. They're not looking at loss zones
05 and mud weight, right?

06 A. They could be.

07 Q. But the -- the PINC instructions are for
08 them to compare the pressure integrity test
09 results, right?

10 A. That's what the PINC says, but you
11 remember the -- the PINC's only reference specific
12 items in the regulations. If you were to have a
13 PINC for every reg, you would just basically write
14 a PINC for every sentence in the regs.

Page 197:18 to 197:20

00197:18 Q. No, I'm sorry. There were no INCs for
19 the -- the operations on the MC252 No. 1, right?

20 A. I'm not aware of any.

Page 198:10 to 198:12

00198:10 Q. Okay. Do you know that BP Gulf of Mexico
11 operations was a candidate for the National Safe
12 Award by -- from the MMS in 2009?

Page 198:17 to 198:21

00198:17 A. Not specifically.

18 Q. Do you know that BP was a nominee for the
 19 National SAFE Award for Gulf of Mexico operations
 20 in 2010?
 21 A. Yes.

Page 198:25 to 203:02

00198:25 Q. (BY MR. KEEGAN) And do you know who the
 00199:01 winner of the National SAFE Award in 2010 was?
 02 A. I don't recall.
 03 Q. Do you know if a winner was announced?
 04 A. No winner was announced.
 05 Q. Do you know if BP was the winner, but it
 06 just wasn't announced?
 07 A. I don't recall.
 08 Q. What are the -- tell me a little bit about
 09 the National SAFE Award.
 10 A. The National SAFE Award is -- is an award
 11 presentation for different operators, large
 12 operators and moderate operators, along with
 13 drilling contractors and production contractors,
 14 based on the activities of the previous year.
 15 Q. And the SAFE Award selection criteria is
 16 the result of MMS inspections?
 17 A. Part of it.
 18 Q. And the -- the company's record of events?
 19 A. Part of it.
 20 Q. And operational considerations?
 21 A. Part of it.
 22 Q. And technology?
 23 A. Part of it.
 24 Q. Are there any other parts besides those
 25 for the award's selection criteria?
 00200:01 A. That seems to cover all of the areas.
 02 Q. I'm at Tab 58, if you want to follow along
 03 with me.
 04 MR. KEEGAN: I -- we'll mark this as
 05 Exhibit 4739. It's IMS063-004475.
 06 (Marked Exhibit No. 4739.)
 07 Q. (BY MR. KEEGAN) And I'm on Page 4481 now.
 08 You see there where it says "District
 09 SAFE Award Process"? Can you explain to me how
 10 you -- a company goes from a District SAFE Award
 11 nominee to a National SAFE Award nominee?
 12 A. An operator or anyone nominated or wins
 13 the SAFE Award in a district could potentially be
 14 a candidate for the National SAFE Award.
 15 Q. And do you have any involvement in
 16 nominating companies for either the District,
 17 Regional, or National SAFE Award?
 18 A. I don't have any involvement with the
 19 nomination for district, but I usually sit in on
 20 the meeting to discuss the potential candidates
 21 for the national.
 22 Q. And can you turn to Tab 54, which is

23 BP-HZN-2179MDL00302808.
24 MR. KEEGAN: And mark that as
25 Exhibit 4740.

00201:01 (Marked Exhibit No. 4740.)
02 Q. (BY MR. KEEGAN) And if you'll see there,
03 the -- the first sort of underlined entry, "High
04 OCS Activity."
05 It says above that: "The MMS has
06 announced the finalists for the MMS SAFE" Awards
07 "to be presented on OTC on May 6."
08 "The 2010 SAFE finalists are: BP
09 Exploration & Production, Inc."
10 Is that the first one there?
11 A. Yes.
12 Q. And does that refresh your recollection
13 that they were a nominee for the 2010 National
14 SAFE Award?
15 A. Yes.
16 Q. And if you turn to the next page, 2809,
17 and a March 22nd, 2010, E-mail from James Grant to
18 a number of people, the second full sentence:
19 "This award recognizes and commends companies for
20 exemplary conduct of safe and pollution-free
21 operations by adhering to all regulations,
22 employing trained and motivated personnel, and
23 going the extra mile to enhance safety and
24 environmental production."
25 Did I read that correctly?

00202:01 A. Environmental protection, yes.
02 Q. Protection, yes.
03 And do you agree with Mr. Grant's
04 description of the SAFE -- National SAFE Award?
05 A. Yes.
06 Q. And the next line there says: "This is
07 the second year in a row that BP has been a
08 National SAFE Award finalist."
09 Do you see that there?
10 A. Yes.
11 Q. Does that refresh your recollection that
12 BP was also a 2009 National SAFE Award finalist?
13 A. I guess they could have been.
14 Q. No reason to dispute that?
15 A. No.
16 Q. Just don't recall?
17 A. Right. Correct.
18 Q. Does it surprise you that prior to the
19 incident, BP was a nominee two years in a row for
20 a National SAFE Award?
21 A. No.
22 Q. They had safe operations?
23 A. Based on the criteria, yeah.
24 Q. And you're not aware of any problems with
25 BP prior to the incident related to its operations

00203:01 in the Gulf of Mexico?
02 A. No.

Page 204:02 to 205:11

00204:02 Q. And you understand that BP owns the lease
03 at the MC252 No. 1 well, right?
04 A. Yes.
05 Q. And you understand that Anadarko was a
06 co-lessee of the MC252 No. 1 well?
07 A. Yes.
08 Q. And you understand that BP contracted with
09 TransOcean to drill the MC252 No. 1 well?
10 A. Yes.
11 Q. And BP contracted with Halliburton to
12 provide the cement services for the MC252 No. 1
13 well?
14 A. Yes.
15 Q. And BP contracted with Sperry-Sun to
16 provide mud logging services on the MC252 No. 1
17 well?
18 A. Yes.
19 Q. And that's common in the Gulf of Mexico
20 deepwater drilling practice, right?
21 A. Yes.
22 Q. To hire outside expert contractors to
23 provide specialized services?
24 A. Yes.
25 Q. There's nothing unusual about BP retaining
00205:01 TransOcean for its expertise in running the rig
02 and conducting drilling operations?
03 A. No.
04 Q. And there's nothing unusual about BP
05 retaining Halliburton's expertise in designing,
06 developing, and pouring cement jobs?
07 A. No.
08 Q. And there's nothing unusual about BP
09 retaining Sperry-Sun for its expertise in
10 providing mud logging services, right?
11 A. Correct.

Page 205:21 to 206:22

00205:21 Q. But you do agree that there's nothing
22 unusual about the owner of a lease retaining
23 expert services from third-party contractors to
24 drill a deepwater well in the Gulf of Mexico?
25 A. Correct.
00206:01 Q. And, in fact, the MMS regulations
02 anticipate this, correct?
03 A. In what manner?
04 Q. The MMS regulations that we've been
05 discussing today apply to all of those contractors
06 and co-lessees, right?
07 A. That's the way I see it.
08 Q. Pardon?
09 A. That's the way I see it.

10 Q. It says it in -- in 250.400, which is
11 Tab 14.
12 MR. KEEGAN: Which I'll mark as
13 Exhibit 4742.
14 (Marked Exhibit No. 4742.)
15 Q. (BY MR. KEEGAN) "The requirements of this
16 subpart apply to lessees, operating rights owners,
17 operators, and their contractors and
18 subcontractors." Correct?
19 A. Yes.
20 Q. And the subpart is the Chapter 400
21 relating to drilling activities?
22 A. Yes.

Page 207:02 to 207:09

00207:02 Q. Another common practice in the Gulf of
03 Mexico is for companies to use a production
04 long-string casing design?
05 A. Companies do use that, from what I -- from
06 what I understand.
07 Q. Nothing unusual about a production
08 long-string casing design?
09 A. Not that I'm aware of.

Page 209:16 to 210:18

00209:16 Q. Did somebody on your staff review BP's
17 exploration plan?
18 A. Yes.
19 Q. Who was that?
20 A. I don't know specifically who it was.
21 Q. But somebody within the MMS approved BP's
22 exploration plan, correct?
23 A. Yes.
24 Q. And it's your understanding that, by
25 approving the exploration plan, the MMS determined
00210:01 that it was consistent with all applicable
02 regulations?
03 A. For approval of the exploration plan, yes.
04 Q. All right. MMS personnel would not
05 approve the exploration plan if it wasn't
06 consistent with MMS regulations, right?
07 A. They would not knowingly approve it if it
08 wasn't.
09 Q. At the time it was approved, any reason to
10 believe that the MMS didn't believe the
11 exploration plan was consistent with all
12 regulations?
13 A. No.
14 Q. Okay. As you sit here today, do you have
15 any reason to believe that the exploration plan
16 that was submitted by BP and approved by the MMS
17 was not consistent with all MMS regulations?

18 A. No.

Page 216:09 to 216:17

00216:09 Q. Would it surprise you that a company like
10 TransOcean that runs drilling rigs has its own
11 well control policy manual?
12 A. No.
13 Q. In fact, you would expect that, right?
14 A. Yes.
15 Q. You would expect that TransOcean trains
16 its rig crew to be well-control certified?
17 A. Yes.

Page 217:01 to 219:07

00217:01 Q. Okay. And -- and part of your work at the
02 BOEM has been tied to testing of rig personnel,
03 correct?
04 A. Mine, specifically?
05 Q. Yes.
06 A. I have a group that -- that is in charge
07 of that.
08 Q. And what's the name of that group?
09 A. Office of Safety Management.
10 Q. And can you turn to Tab 21.
11 MR. KEEGAN: Mark this as
12 Exhibit 4744. It's IMS023-041850.
13 (Marked Exhibit No. 4744.)
14 Q. (BY MR. KEEGAN) Is Joseph Levine in the
15 Office of Safety Management?
16 A. No.
17 Q. What is Joseph Levine's position?
18 A. He's in our headquarters. I don't know
19 his specific title.
20 Q. Okay. And you received this E-mail -- if
21 you look one -- quite a few lines down. Where did
22 you go? You've got a line that starts with John
23 McCarroll, and right beneath that is your E-mail
24 address; is that right?
25 A. Yes.
00218:01 Q. Okay. All right. And in this, the -- the
02 E-mail says: "This past week, John McCarroll, Jim
03 Hall, Jarvis Outlaw and myself met with IADC in
04 Houston to discuss the development of MMS
05 Subpart O hands on well control scenarios."
06 A. Yes. Jim Hail, yes.
07 Q. Jim Hail. Is John McCarroll, Jim Hail, or
08 Jarvis Outlaw part of your Office of Safety
09 Management?
10 A. No.
11 Q. Are they national, at the national
12 headquarters?
13 A. They're district, Lake Jackson District.

14 Q. Lake Jackson District. Okay.
15 And the MMS Subpart O hands on well
16 control scenarios, do you recall the development
17 of MMS Subpart O hands on well control scenarios?
18 A. Those are developed from headquarters and,
19 I would suspect, with help from the Office of
20 Safety Management.
21 Q. Okay. And if you look down under the
22 first paragraph under "Other points of discussion
23 included," the first one there is: "IADC stated
24 that in addition to focusing on tool pusher and
25 driller...we should also be looking at the
00219:01 assistant driller (AD). The AD is performing a
02 lot of the actual work on the rig."
03 Did I read that correctly?
04 A. Yes.
05 Q. And does it surprise you that the IADC is
06 focusing on the tool pusher, driller, and
07 assistant driller for well control training?

Page 219:09 to 219:09

00219:09 A. No.

Page 219:24 to 220:03

00219:24 Q. (BY MR. KEEGAN) Why don't we take a look
25 at Tab 16, which is previously marked as 4136.
00220:01 Do you recognize this document?
02 A. I've probably seen it. That's about as
03 much involvement as I've had with it.

Page 220:08 to 221:23

00220:08 Q. Level 2, the first question, No. 6: "In
09 accordance with MMS regulations where shall the
10 well control procedures be posted?"
11 Do you see that there?
12 A. Yes.
13 Q. And the -- the possible answers are:
14 Driller console, dog house, mud logging unit, rig
15 floor, or both dog house and mud logging unit.
16 What is the correct answer to where
17 the well control procedures should be posted?
18 A. I'm not going to speculate.
19 Q. Do you see the front page of this that
20 says "Test C-Key"?
21 A. Yes.
22 Q. Do you see the answer written in?
23 A. Yes.
24 Q. Do you have any reason to disagree that
25 the answer to that question is the rig floor, "D"?
00221:01 A. No.

02 Q. These get easier once you know that. If
 03 you can take a look at Tab 17, which is a document
 04 previously marked as Exhibit 4137. And if you
 05 turn to IMS-16649, it's the "Subpart O Written
 06 Testing Program" page; and at the bottom, there's
 07 a note that says that Level 1 is for the floor
 08 hand, derrickman. Do you see that there? Very
 09 bottom.
 10 A. Yes.
 11 Q. And Level 2 is for the driller and
 12 assistant driller. Do you see that there?
 13 A. Level 1 and Level 2?
 14 Q. Yes.
 15 A. Yes.
 16 Q. And Level 1, Level 2, and Level 3 are for
 17 the tool pusher and company man. Do you see that
 18 there?
 19 A. Yes.
 20 Q. Do you agree with me that the floor hand,
 21 derrickman, driller, assistant driller, and tool
 22 pusher on the DEEPWATER HORIZON were all
 23 TransOcean employees?

Page 221:25 to 222:19

00221:25 A. Yes.
 00222:01 Q. (BY MR. KEEGAN) And that the company man
 02 was BP's employee?
 03 A. Yes.
 04 Q. Can you turn to Tab 18, which is Test A,
 05 Drilling, Bates No. IIG013-001437, Bates number --
 06 or Exhibit No. 4745.
 07 (Marked Exhibit No. 4745.)
 08 Q. (BY MR. KEEGAN) Do you see that there?
 09 A. What was the last three?
 10 Q. Sorry. The exhibit number was 4745. If
 11 you want to turn to Level 1, Question 5.
 12 Question 5 on the Level 1 Test for
 13 Drilling Test A: "What is the first step in
 14 controlling a kick?" Possible answers are, "A.,
 15 increase the mud weight; B., decrease mud weight;
 16 C., shut the well in as quick as possible; or D.,
 17 circulate the gas out of the well."
 18 Do you know the answer to "What is
 19 the first step in controlling a kick"?

Page 222:21 to 222:24

00222:21 A. The key indicates "C."
 22 Q. (BY MR. KEEGAN) And do you agree that
 23 shutting the well in as quick as possible is the
 24 appropriate first step in controlling a kick?

Page 223:01 to 223:03

00223:01 A. Yes.
02 Q. (BY MR. KEEGAN) And who is responsible
03 for shutting in the well as quickly as possible?

Page 223:05 to 223:13

00223:05 A. Based on the previous tests, it could be
06 floor hand, derrickman, driller, assistant
07 driller, tool pusher, or company man.
08 Q. (BY MR. KEEGAN) And earlier you testified
09 that the risks increase in a hydrocarbon zone,
10 right? The risks of a well control event increase
11 in a hydrocarbon zone?
12 A. Once you have a hydrocarbon zone open,
13 yes.

Page 223:15 to 223:17

00223:15 Q. (BY MR. KEEGAN) And at that point, people
16 with well control responsibility should be more
17 vigilant, correct?

Page 223:19 to 223:21

00223:19 A. You should always be vigilant.
20 Q. (BY MR. KEEGAN) But if the risks are
21 greater, you should be more vigilant?

Page 223:23 to 223:25

00223:23 A. You should always be vigilant.
24 Q. (BY MR. KEEGAN) Always be vigilant. So,
25 the driller should always be vigilant?

Page 224:02 to 224:05

00224:02 Q. (BY MR. KEEGAN) And the mud loggers --
03 A. Everyone --
04 Q. -- should always be vigilant?
05 A. Everyone should be.

Page 224:10 to 224:12

00224:10 Q. The people who are responsible to be --
11 continuously monitor the well 24 hours a day,
12 seven days a week, should always be vigilant?

Page 224:14 to 224:16

00224:14 A. Yes.
15 Q. (BY MR. KEEGAN) And that doesn't matter
16 whether it's drilling ahead?

Page 224:18 to 224:18

00224:18 Q. (BY MR. KEEGAN) Or after a cement job?

Page 224:20 to 224:20

00224:20 A. Correct.

Page 224:25 to 225:23

00224:25 Q. (BY MR. KEEGAN) Are you aware that well
00225:01 control drills occur on the rigs?
02 A. Yes.
03 Q. And that's a MMS requirement, right?
04 A. Yes.
05 Q. And that's one of the things that the
06 inspectors review when they do audits of the rigs?
07 A. When they inspect the rig, yes.
08 Q. And the purpose of a well control drill is
09 to ensure that people on the rig understand their
10 roles and responsibilities in a well control
11 situation?
12 A. That would be a correct characterization,
13 yes.
14 Q. And -- and the purpose of a well control
15 drill is so that people are aware of potential
16 risks related to certain drilling operations?
17 A. It's to make sure they know what to do in
18 case of a well control situation.
19 Q. And if -- if the drill covers certain
20 additional risks, then those people who
21 participated should be even more aware of what to
22 do in those situations, correct?
23 A. Yes.

Page 225:25 to 226:21

00225:25 Q. (BY MR. KEEGAN) Can you turn to Tab 19?
00226:01 It's Bates No. TRN-INV-00018723 [sic]. I believe
02 it's been previously marked as an exhibit, but I
03 don't have that with me here.
04 MR. KEEGAN: So, we will mark it as
05 4746.
06 (Marked Exhibit 4746.)
07 Q. (BY MR. KEEGAN) Sir, have you ever seen a
08 "Safety Drill Report" like this before?
09 A. No.
10 Q. Okay. Can you turn to the Bates
11 Nos. 18285 for me?

12 A. (Witness complies.)
13 Q. And this is the Safety Drill Report dated
14 April 18th, 2010. Do you see that there?
15 A. Yes.
16 Q. And further down, it's "Drill Type, Well
17 Control Drill." Do you see that there?
18 A. Yes.
19 Q. And is it your understanding that this
20 would be one of the types of well control drills
21 that are done to comply with MMS regulations?

Page 226:23 to 227:02

00226:23 A. That's what it looks like.
24 Q. (BY MR. KEEGAN) And this is one of the
25 records that would be kept so that the inspectors
00227:01 could audit the well control drills that were
02 conducted on the rig?

Page 227:04 to 227:18

00227:04 A. They have to be able to document that they
05 conducted a well control drill.
06 Q. (BY MR. KEEGAN) Okay. And if you see
07 here in the "Comments," can you read that comment
08 into the record for me?
09 A. "Discuss roles and responsibilities with
10 the crew. Also discuss kick during cement jobs.
11 Kicks that occur while cementing are the results
12 of reducing the hydrostatic pressure during the
13 operation. Well have been lost due to improperly
14 designed cement slurries and spacers."
15 Q. Agree with me that the 16 people who
16 attended this were given a well control drill on
17 April 18th that highlighted the possibility for
18 kicks during and after cement jobs?

Page 227:20 to 227:24

00227:20 A. That's what it seems like.
21 Q. (BY MR. KEEGAN) And the purpose of these
22 well control drills -- drills is to ensure that
23 people are aware of the risks of those drilling
24 operations?

Page 228:01 to 228:05

00228:01 A. Yes.
02 Q. (BY MR. KEEGAN) And the purpose of these
03 drills is to make sure that everybody understands
04 what their roles and responsibilities are during a
05 kick?

Page 228:07 to 229:08

00228:07 A. Yes.
08 Q. (BY MR. KEEGAN) Are you aware that Frank
09 Patton approved the applications and revisions to
10 the applications for the MC252 No.1 well?
11 A. Yes.
12 Q. And are you aware that Robert Neal
13 inspected the DEEPWATER HORIZON in 2010?
14 A. Yes.
15 Q. And are you aware that Eric Neal inspected
16 the DEEPWATER HORIZON in 2010?
17 A. Yes.
18 Q. And are you aware that no INCs were issued
19 for any of the operations related to the MC252 No.
20 1 well?
21 A. I'm not aware of any that were issued.
22 Q. Have there been any disciplinary actions
23 against Frank Patton related to his work on the
24 MC252 No. 1 well?
25 A. No.
00229:01 Q. Have there been any disciplinary actions
02 related to the work of Robert Neal tied to the
03 MC252 No. 1 well?
04 A. No.
05 Q. Have there been any disciplinary actions
06 to Eric Neal related to his work on the MC252
07 No. 1 well?
08 A. No.

Page 230:01 to 230:15

00230:01 Q. Okay. As you sit here today, any reason
02 to believe that Frank Patton didn't properly do
03 his job as the drilling -- district drilling
04 engineer related to the MC252 No. 1 well?
05 A. No.
06 Q. As you sit here today, any reason to
07 believe that Robert Neal didn't properly do his
08 job as a rig inspector related to his work at the
09 MC252 No. 1 well?
10 A. No.
11 Q. And as you sit here today, any reason to
12 believe that Eric Neal didn't properly do his job
13 as a rig inspector related to his work at the
14 MC252 No. 1 well?
15 A. No.

Page 232:20 to 233:02

00232:20 Q. How did you first become aware of the
21 DEEPWATER HORIZON explosion?
22 A. I received a phone call from James Grant.

23 Q. James Grant is a BP employee?
24 A. Yes.
25 Q. And do you recall when that was?
00233:01 A. Approximately between 5:15, 5:30,
02 April 21st.

Page 233:08 to 233:19

00233:08 Q. And what was your first role when you went
09 to the regional office on April 21st, 2010?
10 A. To just assess what was going on.
11 Q. When were you appointed as the deputy to
12 Lars?
13 A. You talking about for a Unified Command?
14 Q. Yes, sorry.
15 A. That would have been as soon as Unified
16 Command was established.
17 Q. And do you recall roughly when that was?
18 A. It would have been approximately either
19 the 22nd or 23rd.

Page 235:15 to 236:11

00235:15 Q. (BY MR. KEEGAN) A few more questions
16 about Subpart O and the Subpart O audits. The
17 Subpart O audits are done by inspectors that go to
18 the rig?
19 A. They're typically done by some engineers
20 and maybe some inspectors from the districts in
21 conjunction with potentially someone from the
22 Office of Safety Management.
23 Q. It's both. To use oil field terminology,
24 it's people on the rig and people on the beach?
25 A. It's inspectors and engineers.
00236:01 Q. Okay. And part of the subpart audit, they
02 are both verifying that people attended certain
03 training courses or -- or had certain drills,
04 right?
05 A. That's what I understand part of the audit
06 is.
07 Q. And they're also verifying that they're
08 actually qualified to do the job they're in,
09 correct?
10 A. To ensure that they went through proper
11 training for the position they hold.

Page 243:14 to 243:18

00243:14 Q. And the source control teams were working
15 on the capping -- on various capping ideas from
16 the very beginning of the UAC?
17 A. I don't know when it began, but early on
18 at the beginning.

Page 249:01 to 249:22

00249:01 Q. And what were the dates of the inspections
02 of the DEEPWATER HORIZON, to the best of your
03 recollection?
04 A. One was on April 1st, and there was one
05 in -- I guess one in February and one in March,
06 but I don't remember the specific dates.
07 Q. And you recall that there were no INCs
08 issued after those inspections, correct?
09 A. I don't specifically recall them.
10 Q. Okay. Let's talk about Topic 5 as well.
11 Topic 5 is the policies, procedures, guidelines,
12 or requirements regarding maintenance, safety, and
13 equipment on deepwater drilling rigs in the Gulf
14 of Mexico, including blowout preventers.
15 Are you prepared to testify on
16 Topic 5?
17 A. Yes. I have limited knowledge of that,
18 but yes.
19 Q. And what is your limited knowledge of the
20 policies relating to maintenance, safety, and
21 equipment on deepwater drilling rigs in the Gulf
22 of Mexico?

Page 249:24 to 252:24

00249:24 A. The regulations require that they have to
25 adhere by APRP53, the maintenance of the BOP.
00250:01 Q. (BY MR. KEEGAN) Did you review any of the
02 FOPOTS manual in preparation for your testimony?
03 A. Yes.
04 Q. And that is a policy, procedure, or
05 guideline regarding maintenance, safety, and
06 equipment on the deepwater drilling rigs; is that
07 right?
08 A. Yes.
09 Q. Do you remember what sections of FOPOTS
10 you looked at?
11 A. I kind of glanced at all of them.
12 Q. How many section are there in FOPOTS?
13 A. There's different topics.
14 Q. Okay. And do you recall what topics you
15 looked at?
16 A. I just looked -- actually, I didn't even
17 look at anything concerning maintenance, not
18 concerning this topic. I was looking at if we had
19 anything on leak-off tests.
20 Q. And were there anything on leak-off tests?
21 A. No.
22 Q. Do you have a hard copy of FOPOTS in your
23 office?
24 A. No.
25 Q. It's all on the computer?

00251:01 A. Correct.
02 Q. If you wanted to print out any specific
03 policy or guideline, could you do that?
04 A. Yes.
05 Q. How long would it take, do you think, to
06 print out all of FOPOTS?
07 A. Several hours.
08 Q. Okay. Let's talk about the inspections of
09 the DEEPWATER HORIZON.
10 What is the experience level of the
11 auditors who audited the DEEPWATER HORIZON?
12 A. The experience level of the inspectors?
13 Q. Uh-huh.
14 A. Bob Neal was considered an experienced
15 drilling inspector. Eric Neal's primary area was
16 production, but he did perform several drilling
17 inspections. And as we've seen that, he did
18 perform some drilling inspections.
19 Q. And what steps go on during a drilling
20 inspection? Do they interview crew members?
21 A. Primarily, the paperwork check of -- from
22 the last time they were there on an inspection,
23 you know, going back in -- from the inspection
24 form and filling in what occurred since the last
25 time they were there.
00252:01 Q. And what paperwork are they inspecting?
02 A. They're looking at the IADC report, the
03 mud report, the BOP test; and it's recording now
04 what has been performed since the last time they
05 were there.
06 Q. And -- and is it your testimony that,
07 prior to April 20th, 2010, they were not looking
08 at maintenance records on the rig?
09 A. Correct.
10 Q. And today, after April 20th, 2010, you're
11 instructing the inspectors to review maintenance
12 records?
13 A. No. I don't think we've specifically
14 instructed them to review maintenance records.
15 Q. Are you familiar with the Federal
16 regulations for BOPs and BOP systems?
17 A. I've seen them, yes.
18 Q. And the MMS auditors should be familiar
19 with the Federal regulations for a BOP?
20 A. The inspectors, yes.
21 Q. And if you turn to Tab 44, I've included
22 that CFR 250.440 through 250.450. These are the
23 regulations that relate to BOPs, to the best of
24 your recollection?

Page 253:01 to 253:01

00253:01 (Marked Exhibit No. 4748.)

Page 253:07 to 253:09

00253:07 Q. The MMS inspectors verify a rig's
08 compliance with these Federal regulations during
09 their inspections, right?

Page 253:12 to 253:14

00253:12 A. On the inspection, they check some of
13 these items but not all of them.
14 Q. (BY MR. KEEGAN) Which ones do they check?

Page 253:16 to 253:18

00253:16 A. Reviewing the IADC report, you're going to
17 know that they did install the BOP stack before
18 you drilled below surface casing.

Page 254:08 to 259:20

00254:08 Q. If you can, look at CFR 250.446; and the
09 first line of Paragraph A is: "You must maintain
10 your BOP system to ensure that the equipment
11 functions properly."

12 Do you see that there?

13 A. Yes.

14 Q. What do the MMS inspectors do to ensure
15 that the BOP system is functioning properly?

16 A. Review the BOP tests.

17 Q. Anything else?

18 A. No.

19 Q. And reviewing BOP tests is sufficient to
20 show an MMS inspector that the BOP is being
21 maintained to ensure that the equipment functions
22 properly?

23 A. It's the operator's responsibility to
24 ensure that's being done, but the check we're
25 doing is ensuring that the BOP tests are being

00255:01 conducted.

02 Q. And that's what the MMS does to ensure
03 that the BOP is being maintained to ensure that
04 the equipment functions properly?

05 A. And this was being done to ensure that BOP
06 tests have been properly performed and the BOP
07 stack performed -- you know, passes the test.

08 Q. Well, then, my question is a little
09 different: What does the MMS do to ensure that
10 the BOP is being maintained so that the equipment
11 functions properly?

12 A. It's not an item that's checked on the
13 inspection.

14 Q. If the MMS inspectors believe that the BOP
15 was not functioning properly, they would have

16 issued an INC, correctly -- correct?
17 A. That's correct.
18 Q. And they may have shut in the well, right?
19 A. That's correct.
20 Q. And they didn't do that, right?
21 A. That's correct.
22 Q. Okay. So, fair to say that the MMS
23 inspectors concluded that the -- that this
24 regulation, 250.446, was being complied with?
25 A. I would say that they didn't have any
00256:01 reason to think -- at that time, they didn't have
02 any -- anything that indicated to them that it --
03 that it stood out that it wasn't being complied
04 with.
05 Q. Did the MMS inspectors make any finding
06 that you're aware of that the DEEPWATER HORIZON's
07 BOP was not in compliance with Federal regulations
08 regarding maintenance or testing?
09 A. They didn't find anything.
10 Q. And it's MMS policy that a BOP stack have
11 at least one annular, correct?
12 A. It's -- the regulations require that.
13 Q. And it's MMS policy as well?
14 A. As part of the regulations, yes.
15 Q. Okay. And if the DEEPWATER HORIZON BOP
16 did not have at least one annular ram -- or one
17 annular, your inspectors would not -- would have
18 shut in the well, right?
19 A. If they would have found that, that's
20 correct.
21 Q. And the Application for Permit to Drill
22 includes a BOP schematic, correct?
23 A. Yes.
24 Q. And it identifies the two annulars on the
25 DEEPWATER HORIZON BOP?
00257:01 A. It probably did, yes.
02 Q. If you want to take a look at Tab 45, it's
03 been previously marked as Exhibit 4008; and if you
04 turn to the second-to-the-last page there. You
05 see that schematic?
06 A. Yes.
07 Q. And on it, it says "10K upper annular"?
08 A. Yes.
09 Q. And "5K lower annular"?
10 A. Yes.
11 Q. And as you sit here today, you understand
12 that there are two annulars disclosed on this BOP
13 schematic?
14 A. Yes.
15 Q. And there's a blind shear ram disclosed on
16 this schematic?
17 A. Yes.
18 Q. Casing shear ram?
19 A. Yes.
20 Q. Two VBRs?

21 A. Yes.
 22 Q. And what's a VBR?
 23 A. Variable bore ram.
 24 Q. And then a third variable bore test ram,
 25 correct?
 00258:01 A. Yes.
 02 Q. Okay. It's -- regulations require that
 03 there be two sets of variable bore rams, correct?
 04 A. I have to go back and look.
 05 It requires two rams, not necessarily
 06 two sets of variable bore rams; but that depends
 07 on which piping is going to be used.
 08 Q. You would consider the casing shear, blind
 09 shear, and the two VBRs to all be rams?
 10 A. Rams in general, yes.
 11 Q. And would you agree that the DEEPWATER
 12 HORIZON BOP met the requirement of 30 CFR 250.442
 13 that a BOP have two sets of pipe rams?
 14 A. Yes.
 15 Q. Would you agree that the DEEPWATER HORIZON
 16 BOP met the requirement of 30 CFR 442 -- 250.442,
 17 that a BOP have at least one set of blind shear
 18 rams?
 19 A. Yes.
 20 Q. And would you agree that the BOP --
 21 DEEPWATER HORIZON BOP had two independent control
 22 pods intended to function the BOP?
 23 A. Yes.
 24 Q. And that's -- the DEEPWATER HORIZON BOP
 25 met the federal regulation in 30 CFR 250.442
 00259:01 related to independent control pods?
 02 A. Yes.
 03 Q. And that the DEEPWATER HORIZON BOP had an
 04 accumulator closing system to provide fast closer
 05 of the BOP components and to operate all critical
 06 functions in case of a loss of power fluid
 07 connection to the surface?
 08 A. I don't have anything here that I could
 09 tell you that it would indicate that.
 10 Q. And you're -- you're aware that the
 11 inspectors reviewed the BOP schematic, your
 12 drilling engineers reviewed the BOP schematic, and
 13 that they approved the permits and issued no INCs,
 14 right?
 15 A. I'm aware the drilling engineer reviewed
 16 the schematics, and, again, I'm not sure if -- I
 17 don't think any INCs were issued, but I'm not --
 18 Q. And if there were no INCs issued, that
 19 means that the MMS believed that the DEEPWATER
 20 HORIZON BOP met the regulations?

Page 259:22 to 259:23

00259:22 A. It meant that the item they had checked,
 23 they didn't find any instance of noncompliance.

Page 261:06 to 263:12

00261:06 Q. And this is the -- if you look at the
07 cover, this is the APD approved by Frank Patton on
08 February 22nd, 2009, correct?
09 A. Yes.
10 Q. And you agree with me that the maximum
11 anticipated surface pressure disclosed by BP was
12 8,490 psi?
13 A. Excuse me. What date did you say the
14 approval was?
15 Q. I believe it was May 22nd, 2009, and the
16 maximum anticipated surface pressure disclosed by
17 BP was actually 7,990 plus a 500 psi safety
18 factor.
19 A. For the test pressure.
20 Q. Yes.
21 Now, if you can turn back to the
22 January APD, which I think is Tab -- Tab 45.
23 If you turn to the second page, this
24 is "Application For Revised New Well," approved by
25 Frank Patton on January 14th, 2010, correct?
00262:01 A. Yes.
02 Q. And if we go back to that
03 second-to-the-last page, the HORIZON BOP
04 schematic, do you see that there?
05 A. Page 782, yes.
06 Q. Yes. And the upper annular is rated to
07 10 K, right?
08 A. Yes.
09 Q. And that means 10,000 psi?
10 A. Yes.
11 Q. And that 10,000 psi is higher than the
12 anticipated -- maximum anticipated surface
13 pressure of the reservoir?
14 A. From what I've seen referencing back to
15 the calculations in here, that would be it.
16 Q. And the lower annular is rated to 5 K,
17 correct?
18 A. Yes.
19 Q. And that's lower than the maximum
20 anticipated surface pressure disclosed in May of
21 2009, right?
22 A. Yes.
23 Q. Are you aware that Frank Patton approved
24 the use of the DEEPWATER HORIZON BOP?
25 A. Yes.
00263:01 Q. And he did so because the upper annular
02 was higher than the MASP?
03 A. Part of the reason, yes.
04 Q. And do you agree that under the
05 regulations, the DEEPWATER HORIZON BOP was
06 required to have one annular that was above the
07 anticipated surface pressure of the reservoir?

08 A. Yes.
09 Q. And you would have approved the use of
10 this BOP based on these documents as well?
11 A. From what I have seen right here, seems to
12 comply, yes.

Page 264:23 to 265:01

00264:23 Q. (BY MR. KEEGAN) And as far as drilling
24 operations, is there any MMS policy, procedure or
25 guideline related to the -- the process safety
00265:01 aspects of drilling operations?

Page 265:03 to 265:03

00265:03 A. None that I can think of.

Page 266:07 to 266:09

00266:07 Q. Do you have to run a negative pressure
08 test before you produce a well?
09 A. No.

Page 266:14 to 267:11

00266:14 I think I've got your -- your notes
15 of -- of the February 2008 meeting. Thank you.
16 Sir, does this appear to be a -- a --
17 what is this?
18 A. It's a copy of one page in my general
19 notes, days' activities.
20 Q. And on February 6th, 2008, it says:
21 "Meeting with" B -- "with BP on LOT"?
22 A. Yes.
23 Q. And what are the -- what are the -- does
24 that say "Scherie" on the right?
25 A. Yes.
00267:01 Q. And "Terry Jordan" underneath that?
02 A. Correct.
03 Q. Can you read the next two lines for me?
04 A. "Need to input in system, performance
05 review system."
06 Q. Is that related to the meeting with the BP
07 regarding the -- the LOT?
08 A. Yes.
09 Q. And does that relate to the LOT discussion
10 that you had?
11 A. Apparently so.

Page 268:16 to 268:20

00268:16 Q. And I think we went through this earlier,

17 but sitting here today, you don't have any reason
18 to disagree with the contemporaneous E-mails from
19 BP about what was discussed at that meeting?
20 A. No.

Page 269:01 to 269:01

00269:01 (Marked Exhibit No. 4749.)

WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
11/9,10,11	Add the following before line 9	
	"went to work for Saucier's	
	Auto Repair for approximately	More Accurate
	3 months then went to work for	
	Welex for approximately 2 weeks	
	then " continue w/ line 9.	
25/25	Replace "Supervisor inspectors"	was not
	with "District Managers."	Accurate
26/2	Replace "district" with "Regional."	not accurate
27/11	Replace "13" with "11."	more accurate
38/13	Replace "directors" with "managers."	not accurate
46/7	Replace "home land" with "Huma."	was not correct


MICHAEL SAUCIER

PURSUANT TO CONFIDENTIALITY ORDER

WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
40/24	Replace "drilling" with "Joint."	more accurate
51/23	Add the following statement before the line already there: "It was to be presented to the Regional Director not to the district."	clarification
58/19	Replace "well, more" with "wellbore."	clarification
74/11	Replace "46(a)" with "446(a)."	clarification
121/9	Replace "MASP" with "MAWP." MAWP is Maximum Allowable Wellhead Pressure	clarification
248/8	Replace "Blackland" with " Blazquet " "Blazquet."	correction


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PAGE/LINE	CORRECTION	REASON FOR CHANGE
251/21-25	Replace "Primarily, the papers with "They perform a" then add the following sentence After the last sentence (line 25): "Then they walk outside and look for safety issues and required items they are to check for ."	Clarification
254/16	Add "Results" behind "test."	clarification
258/7	Replace "piping" with "site pipe."	correction
264/21	Add "and they" between "Area" and "didn't."	correction
267/24	Replace "TL" with "NTL."	correction


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