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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG * Docket 10-MD-2179
DEEPWATER HORIZON IN THE *
GULF OF MEXICO ON APRIL 20, 2010 * Section J
*
Applies to: * New Orleans, Louisiana
*
Docket 10-CV-02771, * March 26, 2013
IN RE: THE COMPLAINT AND *
PETITION OF TRITON ASSET *
LEASING GmbH, et al *
*
Docket 10-CV-4536, *
UNITED STATES OF AMERICA v. *
BP EXPLORATION & PRODUCTION, *
INC., et al *
*
* * * * *

DAY 18, AFTERNOON SESSION
TRANSCRIPT OF NONJURY TRIAL
BEFORE THE HONORABLE CARL J. BARBIER
UNITED STATES DISTRICT JUDGE

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I N D E X

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1 **AFTERNOON SESSION**

2 **(March 26, 2013)**

3 **THE COURT:** Please be seated everyone.

4 **MS. CLINGMAN:** Your Honor, given the Court's ruling
5 at the break, I need to make one very brief proffer.

6 Mr. Ambrose would testify to one point about the
7 blowout preventer that is not cumulative, is a fact question
8 and therefore was not addressed by Mr. Childs. Specifically,
9 he would testify that the internal investigation team found
10 that (1) until about 2007, there was an annual reminder in the
11 EMPAC computer maintenance system to change the batteries on
12 each BOP pod every year, (2) in mid-2007, BOP maintenance was
13 divided between the subsea and the electrical crafts, and at
14 that time the annual reminder was inadvertently dropped from
15 the EMPAC maintenance system, (3) the scheduled annual reminder
16 was reinstated with the RMS system for each of the three pods
17 on the BOP of the *Deepwater Horizon*, (4) the prompt in the RMS
18 system had come due for two of the pods, but the prompt for the
19 third pod, it appears that that scheduled reminder had not yet
20 come due.

21 That concludes our proffer.

22 **THE COURT:** All right. Mr. deGravelles.

23 **MR. DEGRAVELLES:** Good afternoon, Your Honor.

24 **BILL AMBROSE,**

25 having been duly sworn, testified as follows:

CROSS-EXAMINATION

BY MR. DEGRAVELLES:

Q. Good afternoon, Mr. Ambrose. I think I can get along without the portable mic.

My name is John deGravelles, Mr. Ambrose, and I represent the Plaintiffs' Steering Committee and I'm going to be asking you some questions on cross-examination.

A. Okay.

Q. First of all, I know that the --

THE COURT: Why aren't you using the portable mic?

MR. DEGRAVELLES: I didn't need it last time. Do I need it, Judge?

THE COURT: Well, not for me, but sometimes we get complaints from the people -- I don't even know if we have people still in overflow rooms. We do? Sometimes they complain that they can't hear you-all. So if you could use it, it would probably be helpful.

MR. DEGRAVELLES: All right.

BY MR. DEGRAVELLES:

Q. I know that different investigations did different time lines on when certain things happened. Correct?

A. Yes. I haven't read them all, but I'm --

Q. You understand that Bly had a certain time line and you guys had a certain time line, true?

A. Are you talking about for the investigation report or

BILL AMBROSE - CROSS

13:08 1 the --

13:08 2 Q. Yes, the investigation reports.

13:08 3 A. Yes.

13:08 4 Q. And according to your time line, the Transocean
13:08 5 investigation time line, the mud hit the floor at 9:45. Is
13:08 6 that true, sir?

13:08 7 A. I would have to go back and look specifically at the
13:08 8 report for the exact minute, but it sounds correct.

13:08 9 Q. All right. And the general alarm went off after 9:49,
13:08 10 some four minutes plus later, correct, sir?

13:09 11 A. I would have to look at the exact time stamp, but it was
13:09 12 after the explosion.

13:09 13 Q. All right. And that's the important point I was going to
13:09 14 make here. The alarm, the general alarm sounded, but it
13:09 15 sounded after the explosion, correct?

13:09 16 A. I believe that's what we have in the report, yes.

13:09 17 Q. That's a little late for the folks that were involved in
13:09 18 the explosion, wouldn't you agree, sir?

13:09 19 A. Well, I don't know that the situation had been assessed
13:09 20 completely until that point, but for certain people died, sir.

13:09 21 Q. Well, exactly my point, sir. When you push the general
13:09 22 alarm after the explosion goes off, the general alarm doesn't
13:09 23 help the people that were killed in the explosion, right?

13:09 24 A. The general alarm went off after and we lost some people.

13:09 25 Q. Did you understand my question, sir?

BILL AMBROSE - CROSS

13:09 1 A. I'm saying we lost people.

13:09 2 Q. That's not the question. The question is: When the
13:09 3 person pushes the general alarm after the explosion, that's too
13:09 4 late to help the people who got killed in the explosion, true?

13:09 5 MS. CLINGMAN: Your Honor, I object on speculation
13:09 6 and asked and answered.

13:10 7 THE COURT: Overruled.

13:10 8 THE WITNESS: We lost the people, yes.

13:10 9 BY MR. DEGRAVELLES:

13:10 10 Q. Sir, I didn't ask you that. We know that we lost
13:10 11 11 people. That's not the question that I'm asking you. Let
13:10 12 me ask it one more time.

13:10 13 When a person presses the general alarm after the
13:10 14 explosion, the general alarm can't help the people who were
13:10 15 killed in the explosion, true?

13:10 16 A. That is true.

13:10 17 Q. All right. Now, let's talk a little bit about the
13:10 18 inspections and the maintenance. You mentioned that MMS,
13:10 19 Coast Guard, DNV, ABS all do inspections at various times of
13:10 20 the rigs, true?

13:10 21 A. Yes.

13:10 22 Q. But with respect to the *Deepwater Horizon*, you were not
13:10 23 present for any of those inspections, true, sir?

13:10 24 A. No, I have not attended any of those inspections.

13:10 25 Q. All right. One of the things that these agencies do when

BILL AMBROSE - CROSS

13:10 1 they come on the vessel is to look at the maintenance records,
13:10 2 correct?

13:10 3 A. Yes, that's true.

13:10 4 Q. Since they are relying on these records in rendering their
13:11 5 reports as to whether there's compliance or noncompliance, it's
13:11 6 important for those records to be accurate; isn't that true,
13:11 7 sir?

13:11 8 A. Yes. We want accurate records of our equipment.

13:11 9 MR. DEGRAVELLES: If you could then pull up, Carl,
13:11 10 TREX-6166. And then go to page 9, please.

13:11 11 BY MR. DEGRAVELLES:

13:11 12 Q. All right. I'm going to read this to you and ask your
13:11 13 comment. This is from the January 2008 technical rig audit.
13:11 14 Do you recognize that? I think you talked about it in your
13:11 15 direct exam. Correct?

13:11 16 A. Yes.

13:11 17 Q. All right. I'm going to read this.

13:11 18 "Despite some improvement regarding completion of
13:11 19 maintenance notes, significant improvement for many disciplines
13:11 20 is still required. All too frequently maintenance history
13:11 21 notes do not indicate the extent of the work performed or
13:11 22 record readings requested in the maintenance procedure, and as
13:12 23 such, they are all too frequently inconclusive."

13:12 24 Did I read that correctly?

13:12 25 A. That's what it states.

BILL AMBROSE - CROSS

13:12 1 Q. All right. You have no reason to dispute that, sir?

13:12 2 MS. CLINGMAN: Your Honor, I believe the witness is
13:12 3 being cut off. If we can allow him time to answer.

13:12 4 MR. DEGRAVELLES: I didn't think I was cutting him
13:12 5 off.

13:12 6 But if you have something else to add --

13:12 7 THE COURT: Go ahead and finish your answer, sir.

13:12 8 THE WITNESS: This is when it was in the EMPAC
13:12 9 system. The vessel was still using the EMPAC maintenance
13:12 10 system. It did require a lot of extra effort to put
13:12 11 information into the EMPAC system at the time. One of the
13:12 12 reasons why we were switching to the RMS program, because it
13:12 13 was a lot easier to do that and capture that kind of
13:12 14 information.

13:12 15 BY MR. DEGRAVELLES:

13:12 16 Q. Thank you, sir.

13:12 17 MR. DEGRAVELLES: If we could then go to the next
13:12 18 call-out, which is the next paragraph.

13:12 19 BY MR. DEGRAVELLES:

13:12 20 Q. "Although raised during previous audits, there is still a
13:12 21 tendency to close out maintenance routines even though not all
13:12 22 tasks or sometimes no tasks have been completed. Ongoing
13:12 23 operations are sometimes quoted as the reasons for this, but in
13:12 24 most cases it comes down to not completing all maintenance
13:13 25 procedure tasks. Critical checks and inspections are

BILL AMBROSE - CROSS

13:13 1 consequently being missed."

13:13 2 Did I read that correctly?

13:13 3 A. Yes. This is what I had talked about earlier, that at
13:13 4 times we can find this and we have to take actions on it.

13:13 5 Q. What this is saying, sir, is that the audit finds that the
13:13 6 records show that people are doing the maintenance, but they
13:13 7 are not actually doing the maintenance, correct?

13:13 8 A. If that specifically occurs, yes.

13:13 9 Q. Well, that's what this says, isn't it?

13:13 10 A. I'm taking the auditor for face value that, yes, that's
13:13 11 what they found.

13:13 12 Q. Well, you told us about how great these auditors were,
13:13 13 right? In the direct testimony you said how wonderful these
13:13 14 people that come on to the ship and do these audits are,
13:13 15 correct?

13:13 16 A. Yes.

13:13 17 Q. You've had no reason to doubt that this is true, correct?

13:13 18 A. That's what I'm saying, I agree with the auditor.

13:13 19 Q. And you have -- there's an old saying in computer land,
13:13 20 "garbage in, garbage out," right?

13:13 21 A. I've heard that.

13:13 22 Q. If you lie or you fudge or you don't tell the truth about
13:14 23 some -- having done something when you didn't really do it, you
13:14 24 can't really rely on that when you are an auditor. Isn't that
13:14 25 true, sir?

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13:14 1 Isn't it true?

13:14 2 A. I'm not sure I follow. Can you say that again?

13:14 3 Q. If the maintenance people are saying that they did
13:14 4 something on the records but they didn't really do it and the
13:14 5 auditor is relying on the maintenance records to say you did a
13:14 6 good job, then that's not proper reliance, is it, sir?

13:14 7 A. I think that it shows, and I think that's why this auditor
13:14 8 found that finding. If he didn't do a thorough inspection of
13:14 9 this particular rig and the equipment that it's relating to, he
13:14 10 wouldn't have been able to find that in this audit. So that's
13:14 11 why we do audits, to see if this is happening and to root it
13:14 12 out.

13:14 13 Q. I think you mentioned in direct exam that there's some bad
13:14 14 apples that do this. Correct? "Rogues," I think, is the word
13:14 15 that counsel used. Is that right?

13:14 16 A. I don't remember the word that she used.

13:14 17 Q. What word did you use? The people that did this kind of
13:14 18 thing just don't have a place at Transocean, right,
13:15 19 Mr. Ambrose?

13:15 20 A. I said that we need to take actions to stop that from
13:15 21 happening and that could be up to termination.

13:15 22 Q. So how many people did you fire as a result of this, sir?

13:15 23 A. I wasn't in charge of this rig at the time.

13:15 24 Q. So you don't know that anybody was fired, correct, sir?

13:15 25 A. I wasn't associated with the management team of this rig,

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13:15 1 so I don't know the answer to that.

13:15 2 Q. But surely somebody should have had heads rolling,
13:15 3 correct?

13:15 4 A. I don't know the extent of it. I can't say.

13:15 5 MR. DEGRAVELLES: All right. Let's go, then, to
13:15 6 3405, TREX-3405.

13:15 7 BY MR. DEGRAVELLES:

13:15 8 Q. Do you recognize that this is the September 2009 audit,
13:15 9 which is about a year and nine months after the January 2008
13:15 10 audit? Do you see that?

13:15 11 A. September 2009, yes.

13:15 12 Q. If we could go to page 2, the first bullet point.

13:16 13 "Findings of particular note were the following:
13:16 14 Closing out of the last audit recommendations had no apparent
13:16 15 verification by BP. Consequently, a number of the
13:16 16 recommendations that Transocean had indicated as closed out had
13:16 17 either deteriorated again or not been suitably addressed in the
13:16 18 first instance."

13:16 19 Did I read that correctly?

13:16 20 A. That's what it states.

13:16 21 Q. Absolutely the same thing that we saw in January of 2008,
13:16 22 correct?

13:16 23 A. I would have to go back. It seems to be worded
13:16 24 differently.

13:16 25 Q. Well, it may be worded differently, but it's the same

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13:16 1 substance, that is to say, people are saying they were doing
13:16 2 stuff and it wasn't really being done, true?

13:16 3 A. Or the deterioration --

13:16 4 Q. Or the deterioration, okay, one or the other.

13:16 5 MR. DEGRAVELLES: Let's go, then, to page 18. If you
13:16 6 could enlarge that.

13:16 7 BY MR. DEGRAVELLES:

13:16 8 Q. This is 1.1.6: "The rigour concerning close out of the
13:17 9 previous audit findings has generally been unsatisfactory.

13:17 10 There has been little sign of BP involvement evident and
13:17 11 consequently, many of the recommendations reported as closed
13:17 12 out could not be adequately demonstrated to the audit team
13:17 13 during this visit."

13:17 14 Did I read that correctly?

13:17 15 A. Yes, that's what it states.

13:17 16 Q. Again, Mr. Ambrose, what we are talking about is the audit
13:17 17 is finding that -- although the record says something was done,
13:17 18 the audit shows that it wasn't done, correct, sir?

13:17 19 A. That's what this states.

13:17 20 Q. Okay. And so these records upon which MMS, Coast Guard,
13:17 21 DNV, and American Bureau of Shipping, ABS, are relying upon are
13:17 22 unreliable; isn't that true, sir?

13:17 23 A. This is a different record than those, so I'm not sure I
13:17 24 can relate the two.

13:17 25 Q. But in any event, insofar as these records are concerned,

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13:17 1 we know that the maintenance is not being done, at least in
13:17 2 some instances, when the records show that it is being done,
13:18 3 correct, sir?

13:18 4 A. That was an audit finding in 2008.

13:18 5 Q. And it was also an audit finding in January of 2008 and
13:18 6 September of 2009, correct?

13:18 7 A. That's what this says, yes, sir.

13:18 8 Q. All right. Again, you have no reason to doubt that?

13:18 9 A. No.

13:18 10 **MR. DEGRAVELLES:** Let's go to TREX-5618. If you
13:18 11 could draw up the bottom e-mail from *DWH* maintenance
13:18 12 superintendent *Deepwater Horizon*.

13:18 13 **BY MR. DEGRAVELLES:**

13:18 14 Q. Do you know who that was in October, late October 2009?

13:18 15 A. This was Mr. Steve Bertone, I believe.

13:18 16 Q. Steve Bertone. Okay. I'm going to read this and ask you
13:18 17 for some comment.

13:18 18 Now, this is after the September 2009 audit that we
13:18 19 just talked about, correct? This would have been the following
13:18 20 month?

13:18 21 A. Yeah, right around the UWILD time. Yes.

13:18 22 Q. "The issues that the *Deepwater Horizon* is currently
13:19 23 experiencing, in my opinion, is a lack of proper maintenance on
13:19 24 the equipment for many years. The drive behind this has been
13:19 25 from a performance-induced standpoint. Historically, the rig

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13:19 1 has been a top performer that has traded performance and
13:19 2 staying in operation rather than maintaining the equipment."

13:19 3 Have I read that correctly?

13:19 4 A. It states that.

13:19 5 Q. "When the rig does receive maintenance time, that time is
13:19 6 generally taken up by repairing the equipment that was broke or
13:19 7 just limping along until we got to the maintenance period, thus
13:19 8 hindering the much-needed maintenance checks on the rest of the
13:19 9 equipment. This eventually results in other equipment failing
13:19 10 due to lack of proper maintenance to the equipment.

13:19 11 "I cannot rule out that the proper planning and
13:19 12 management did not have an adverse effect on this, as I am sure
13:19 13 there have been many bad decisions made in the past and present
13:19 14 on where to focus maintenance time, resources, and personnel
13:20 15 on.

13:20 16 "I cannot rule out as well that personnel over the
13:20 17 years have been, for a lack of better words, lazy and not very
13:20 18 motivated to contribute to the success of the *Horizon* team,
13:20 19 which, in turn, increases the workload on others that do care,
13:20 20 as well as hinder much needed maintenance on equipment when the
13:20 21 opportunity presents itself."

13:20 22 Did I read that correctly?

13:20 23 A. That's what it states.

13:20 24 Q. Now, Mr. Bertone -- you said that when you live on the
13:20 25 rig, you take care of that rig, correct?

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13:20 1 A. Yes.

13:20 2 Q. Mr. Bertone lived on this rig, correct?

13:20 3 A. He did.

13:20 4 Q. And the people that he is talking about in this paragraph
13:20 5 lived on the rig, didn't they?

13:20 6 A. Some of them, yes.

13:20 7 MR. DEGRAVELLES: Let's read the next sentence, and
13:20 8 highlight that, if you would, and bring it out, beginning with
13:20 9 "Currently."

13:20 10 BY MR. DEGRAVELLES:

13:20 11 Q. "Currently, on the *Deepwater Horizon*" --

13:20 12 MS. CLINGMAN: Your Honor --

13:20 13 MR. DEGRAVELLES: I'm sorry?

13:20 14 MS. CLINGMAN: Your Honor, this was the document to
13:21 15 which plaintiffs objected to me questioning Ambrose about
13:21 16 because he didn't receive this or in the chain of command, and
13:21 17 there was no foundation. That was sustained.

13:21 18 I now object to reading the entirety of it into
13:21 19 the record, as I was not able to --

13:21 20 THE COURT: This e-mail?

13:21 21 MS. CLINGMAN: Yes, sir.

13:21 22 MR. DEGRAVELLES: Here's the response, Judge. The
13:21 23 point is that he did not get it. This is the man that should
13:21 24 have been told about this and wasn't told about it.

13:21 25 THE COURT: Okay. So what are you going to ask him

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13 : 2 1 1 about it?

13 : 2 1 2 **MR. DEGRAVELLES:** Just this next sentence --

13 : 2 1 3 **THE COURT:** Go ahead. I overrule the objection.

13 : 2 1 4 **BY MR. DEGRAVELLES:**

13 : 2 1 5 **Q.** "Currently on the *Deepwater Horizon*, we are running casing
13 : 2 1 6 and, once again, limping along with equipment failures and
13 : 2 1 7 everyone doing their best to repair the equipment that we are
13 : 2 1 8 able to work on or at least come up with ideas that would allow
13 : 2 1 9 us to continue to operate."

13 : 2 1 10 Did I read that correctly?

13 : 2 1 11 **A.** That's what it states.

13 : 2 1 12 **Q.** You did not get this, did you, sir?

13 : 2 1 13 **A.** No. I wouldn't have.

13 : 2 1 14 **Q.** You had no idea that this was going on, did you, sir?

13 : 2 1 15 **A.** It's something that would have been handled in our
13 : 2 1 16 division because this rig crew, as we showed on the work charts
13 : 2 1 17 earlier, they report to a division operation structure, rig
13 : 2 2 18 managers, operations managers. And those are the accountable
13 : 2 2 19 people for making sure that the execution of our maintenance
13 : 2 2 20 plans and programs are in place.

13 : 2 2 21 **THE COURT:** Wait a minute. Remind me again. This is
13 : 2 2 22 dated October 29, 2009, correct?

13 : 2 2 23 **THE WITNESS:** Yes, sir.

13 : 2 2 24 **THE COURT:** What was your position at that time?

13 : 2 2 25 **THE WITNESS:** I was director of maintenance and

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13:22 1 technical support for Worldwide.

13:22 2 THE COURT: Located where?

13:22 3 THE WITNESS: In Houston.

13:22 4 BY MR. DEGRAVELLES:

13:22 5 Q. And the guy that wrote this, Mr. Bertone, was the
13:22 6 maintenance superintendent on the *Deepwater Horizon*, correct,
13:22 7 sir?

13:22 8 A. Yes.

13:22 9 Q. Let me ask you a question. You were asked in direct
13:22 10 examination --

13:22 11 MR. DEGRAVELLES: You can take that down, Carl.

13:22 12 BY MR. DEGRAVELLES:

13:22 13 Q. You were asked on direct examination about the rotary
13:22 14 table and the top drive, correct?

13:22 15 A. Yes.

13:22 16 Q. And it was your testimony that it was no big deal that the
13:22 17 rotary drive had not been fixed for years because nobody used
13:22 18 the rotary table; is that true?

13:23 19 A. I don't think that I said it was no big deal. I said it
13:23 20 was something that was not used very often anymore and it
13:23 21 didn't have the function it had 20 years ago.

13:23 22 Q. So it wasn't really important to fix it in a timely
13:23 23 fashion. Is that the message we were to get from your
13:23 24 testimony?

13:23 25 A. No. Actually, when we looked into that particular issue,

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13:23 1 they had been working very hard to fix that over a long period
13:23 2 of time, and they had the OEM and everybody involved. And
13:23 3 there was some control system issue with it, and they couldn't
13:23 4 quite get it to turn like it should have. But they had been
13:23 5 consistently working with the OEM to fix that.

13:23 6 Q. Do you concede, sir, that the rotary table -- despite the
13:23 7 presence of the top drive, that the rotary table was an
13:23 8 important working part of the rig?

13:23 9 A. It's not very often used, so it's not an essential key
13:23 10 piece of equipment anymore on ultra-deepwater rigs.

13:23 11 Q. Do you know who Ron Sepulvado is, sir?

13:23 12 A. I believe that's the name of the well site leader.

13:23 13 Q. For the *Deepwater Horizon*.

13:23 14 MR. DEGRAVELLES: If we could go to TREX-25188. No,
13:24 15 it's not -- yes, this is Volume 2. Go to page 492 and pull
13:24 16 out, if you would, lines 14 to line 10 on 493, if you can do
13:24 17 that, Carl.

13:24 18 BY MR. DEGRAVELLES:

13:24 19 Q. (Reading):

13:24 20 "QUESTION: There were some discussions yesterday
13:24 21 about the rotary table being out of service and waiting on
13:24 22 parts for an extended period of time. You were then asked
13:24 23 if the rotary table was a pretty important piece of
13:24 24 equipment, and you said it was.

13:24 25 "The *Deepwater Horizon* had a top drive; is that

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13 : 2 4 1 correct?

13 : 2 4 2 "ANSWER: Yes, they did.

13 : 2 4 3 "QUESTION: If you have a rig that has a top drive,
13 : 2 4 4 do you even need a rotary table?

13 : 2 4 5 "ANSWER: Yes, you do.

13 : 2 4 6 "QUESTION: For what?

13 : 2 4 7 "ANSWER: Sometimes you may have to torque pipe up
13 : 2 4 8 with tongs, and you need the rotary table to hold as a
13 : 2 4 9 backup. And sometimes you need to take a bit off,
13 : 2 4 10 breaking the bit out, and that's a problem.

13 : 2 4 11 "QUESTION: Were you able to do those jobs without
13 : 2 4 12 the rotary table?

13 : 2 5 13 "ANSWER: Yes, we could. It just made the job a lot
13 : 2 5 14 longer and a lot unsafer."

13 : 2 5 15 Did I read that correctly?

13 : 2 5 16 A. That's what it states.

13 : 2 5 17 Q. You disagree with the well site leader on the
13 : 2 5 18 *Deepwater Horizon*?

13 : 2 5 19 A. I just think that you can do those jobs safely without the
13 : 2 5 20 rotary table if you plan them well and use the risk assessment
13 : 2 5 21 process that we use.

13 : 2 5 22 Q. Mr. Ambrose, to answer my question, you disagree with
13 : 2 5 23 Mr. Sepulvado, though, the well site leader, correct?

13 : 2 5 24 A. Regarding that "safer" piece, yes.

13 : 2 5 25 Q. Let's talk about the investigation that Transocean did.

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13:25 1 First of all, you were asked to lead that
13:25 2 investigation, were you not?

13:25 3 A. Yes.

13:25 4 Q. When you gave your deposition on July 18, 2011, you were
13:25 5 testifying as a corporate representative of the Transocean
13:25 6 defendants, were you not?

13:25 7 A. Yes, I did.

13:25 8 MR. DEGRAVELLES: If we could, Carl, pull up
13:25 9 TREN-4246.

13:25 10 BY MR. DEGRAVELLES:

13:25 11 Q. That is a copy of the notice of deposition for the
13:26 12 corporation, the Transocean defendants, correct? Do you
13:26 13 recognize that document?

13:26 14 A. Yes.

13:26 15 Q. You were -- when you gave your testimony, you were doing
13:26 16 so as a designated representative of Transocean defendants,
13:26 17 correct?

13:26 18 A. I had some topics, yes.

13:26 19 MR. DEGRAVELLES: Let's, if you could, pull up
13:26 20 TREN-3808.6.1.

13:26 21 BY MR. DEGRAVELLES:

13:26 22 Q. This is in the executive summary, is it not, sir, from the
13:26 23 executive summary of the Transocean investigation?

13:26 24 A. Yes.

13:26 25 Q. I'm going to read the highlighted portion.

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13:26 1 "The Macondo incident was the result of a succession
13:26 2 of interrelated well design, construction, and temporary
13:26 3 abandonment decisions that compromised the integrity of the
13:26 4 well and compounded the risk of its failure."

13:27 5 Did I read that correctly?

13:27 6 A. That's what it states.

13:27 7 Q. That is a central -- was a central finding of the
13:27 8 Transocean investigation, correct?

13:27 9 A. Yes.

13:27 10 Q. When you say that these decisions "compounded the risk of
13:27 11 failure," you're saying in another way that these decisions
13:27 12 increased the risk of failure, correct?

13:27 13 A. The combination of them, yes.

13:27 14 Q. These decisions not only increased the risk of failure of
13:27 15 the well, but they also increased the risk of a blowout, of
13:27 16 deaths, and pollution, correct?

13:27 17 A. They could, yes.

13:27 18 Q. All of the decisions that you refer to in the executive
13:27 19 summary -- well design, construction, temporary abandonment --
13:27 20 all of these decisions that increase the risk -- blowout,
13:27 21 death, and pollution -- all of those were made by BP, correct,
13:27 22 sir?

13:27 23 A. I would have to read the full first page, but a lot of
13:27 24 those decisions were, yes.

13:27 25 Q. Let's see if we can refresh your memory.

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13:28 1 MR. DEGRAVELLES: Go to his deposition at page 753,
13:28 2 lines 11 to 18. 753, lines 11 to 18.

13:28 3 MS. CLINGMAN: Your Honor, I'm sorry to interrupt.
13:28 4 Just briefly.

13:28 5 Mr. Ambrose was deposed both as a corporate
13:28 6 representative and in his individual capacity. I do not
13:28 7 believe this current Q&A that is about to be cited was in his
13:28 8 corporate capacity. The question is fine, but I didn't want
13:28 9 the implication that this was as a corporate representative on
13:28 10 the topic on behalf of Transocean.

13:28 11 MR. DEGRAVELLES: Judge, I have read that very long
13:28 12 deposition. It's impossible to say what is --

13:28 13 THE COURT: Were there two separate depositions?

13:28 14 MR. DEGRAVELLES: No, sir.

13:28 15 THE COURT: It's all one deposition?

13:28 16 MR. DEGRAVELLES: It's all one long deposition.

13:28 17 THE COURT: Well, then, you know, we will go forward.

13:28 18 Ms. Clingman, you can either try to bring out
13:28 19 your point on redirect or in your post-trial briefings, I
13:29 20 suppose.

13:29 21 MR. DEGRAVELLES: If we could just bring up 753,
13:29 22 lines 11 to 18.

13:29 23 It's Volume 2. You don't have Volume 2? Okay.

13:29 24 BY MR. DEGRAVELLES:

13:29 25 Q. You are not denying, sir, that when you made that

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13:29 1 statement -- or that when Transocean made that statement, that
13:29 2 they were talking about BP decisions and not Transocean
13:29 3 decisions?

13:29 4 A. Are you talking about the previous . . .

13:29 5 Q. Yes.

13:29 6 A. Yes. Those decisions we were talking about there were
13:29 7 relating to decisions that would have been made by BP.

13:29 8 Q. And not Transocean -- that's the only point I'm trying to
13:29 9 make -- correct?

13:29 10 A. Yes.

13:29 11 Q. All of these decisions made by BP, as summarized in that
13:30 12 executive summary, gave rise to the catastrophic emergency on
13:30 13 the *Deepwater Horizon* on April 20, 2010; isn't that true, sir?

13:30 14 A. It contributed to it, yes.

13:30 15 Q. And the Transocean investigation concluded that these
13:30 16 risks that BP took were unnecessary risks, correct, sir?

13:30 17 A. Yes.

13:30 18 Q. All right. Let's go to some of the specifics of the well
13:30 19 design and construction decisions that BP made.

13:30 20 First of all, BP had exclusive responsibility and
13:30 21 control over where to drill, correct?

13:30 22 A. Yes. We would go where they needed to.

13:30 23 Q. BP retained full authority over the drilling operations
13:30 24 and casing decisions, correct?

13:30 25 A. Yes.

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13:30 1 Q. BP had exclusive access to the information -- or
13:30 2 predictions, I should say, of downhole conditions, correct?

13:30 3 A. Yes.

13:30 4 Q. There was something called a Tiger Team. Do you remember
13:30 5 the Tiger Team?

13:30 6 A. I remember that from the investigation, yes.

13:31 7 Q. It was a group of geologists, petrophysicists,
13:31 8 geophysicists whose job it was to take the data, interpret the
13:31 9 data, and then give that data to the drilling team, correct?

13:31 10 A. I don't know their full role. I just -- I remember that
13:31 11 they were on the rig at times, particularly looking at pore
13:31 12 pressures and looking for kicks.

13:31 13 Q. Do you remember that their job was to give this data to
13:31 14 the drilling team so that the drilling team could avoid getting
13:31 15 into trouble and getting -- with kicks and losses? Do you
13:31 16 agree with that?

13:31 17 A. I believe that was their role, yes, sir.

13:31 18 MR. DEGRAVELLES: If we could pull up TREX-3808.6.3.

13:31 19 BY MR. DEGRAVELLES:

13:31 20 Q. "While drilling the Macondo well, BP experienced both lost
13:31 21 circulation events and kicks and stopped short of its planned
13:31 22 total depth because of an increasingly narrow margin between
13:31 23 pore pressure and fracture gradients."

13:31 24 Did I read that correctly?

13:31 25 A. Yes.

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13:31 1 MR. DEGRAVELLES: If you could go to D-3126.

13:31 2 BY MR. DEGRAVELLES:

13:32 3 Q. Do you know, Mr. Ambrose, that there were people on the
13:32 4 rig that called the Macondo well "The Well From Hell"? Had you
13:32 5 heard that?

13:32 6 A. I had.

13:32 7 Q. Does this document, D-3126, TREX-2294, summarize the kicks
13:32 8 and mud losses that occurred during the course of the drilling
13:32 9 of the Macondo well?

13:32 10 A. I recognize some of them. I couldn't tell you if that's
13:32 11 all of them or not or if it's comprehensive, but I recognize
13:32 12 some of them.

13:32 13 Q. All right. And in any event, did Transocean in its
13:32 14 investigation attempt to estimate the total number of barrels
13:32 15 of drilling fluids which were lost at one time or another
13:33 16 during this operation?

13:33 17 A. No.

13:33 18 Q. Had you heard in your investigation estimates as high as
13:33 19 15,000 barrels?

13:33 20 A. No. We didn't look at that.

13:33 21 Q. Now, over the course of the drilling operation, BP made a
13:33 22 number of changes to its original drilling plan, did it not?

13:33 23 A. Yes.

13:33 24 MR. DEGRAVELLES: If you could, pull up D-3157, which
13:33 25 is TREX-22955.

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13:33 1 BY MR. DEGRAVELLES:

13:33 2 Q. If you could -- I will represent to you that this is a
13:33 3 demonstrative that was -- shows the "Planned" on the left and
13:33 4 the "Actual" on the right.

13:33 5 MR. DEGRAVELLES: If you could, Carl, go down to the
13:33 6 bottom and pull out the depth of -- the planned depth and then
13:33 7 the actual depth. It's still a little small.

13:33 8 BY MR. DEGRAVELLES:

13:33 9 Q. But did you understand from your own investigation that
13:33 10 the planned depth was 19,550 feet? Do you recall that?

13:34 11 A. I remember it being over 19,000. I can't remember the
13:34 12 exact.

13:34 13 Q. Do you recall that the actual depths, when total depth was
13:34 14 declared, was 18,360 feet?

13:34 15 A. This chart is a little different from that, but that's
13:34 16 approximately what the depth was, yes.

13:34 17 Q. Over a thousand feet shorter than planned, correct?

13:34 18 A. Yes.

13:34 19 Q. Did you also understand that during the course of the
13:34 20 drilling operation over 1800 feet of collapsed or lost hole
13:34 21 occurred?

13:34 22 A. I do remember a sidetrack, yes.

13:34 23 Q. In addition to the other changes, one of the things that
13:34 24 occurred was that they had to add an additional casing string.
13:34 25 Do you remember that, Mr. Ambrose?

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13:34 1 A. I believe that's the case, yes.

13:34 2 Q. So that at the bottom of the hole, rather than having 9
13:34 3 and 3/8-inch casing, which was the planned casing, they had
13:35 4 7-inch in diameter casing. Do you recall that?

13:35 5 A. I think that was the long string, yes.

13:35 6 Q. Do you recall that because of the smaller diameter casing
13:35 7 at the bottom of the hole, there was greater circulating
13:35 8 pressure in a formation which had essentially no safe drilling
13:35 9 margin?

13:35 10 A. Say that last piece one more time.

13:35 11 Q. Sure. Do you recall that because of the smaller casing at
13:35 12 the bottom of the hole, that meant there would be greater
13:35 13 circulating pressure in a formation which had essentially no
13:35 14 safe drilling margin?

13:35 15 A. Are you talking about while they were drilling ahead, or
13:35 16 are you talking about while they were running and circulating
13:35 17 casing --

13:35 18 Q. I'm talking about when they got to total death.

13:35 19 A. I knew it collapsed in on them. I couldn't tell you the
13:35 20 exact reason why. It sounds -- I mean, when you drill that
13:35 21 deep in the formation, you know, if they don't have the
13:36 22 strength you think they do, that margin between pore pressure
13:36 23 frac gradient is smaller.

13:36 24 Q. In fact, there was essentially no safe drilling margin at
13:36 25 the bottom after they had declared total depth; isn't that

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13:36 1 true, sir? They were in a fragile formation.

13:36 2 A. I think they were under .5 pounds per gallon.

13:36 3 Q. You do agree, though, that when you have a -- the smaller
13:36 4 of the casing at the bottom of the hole, the greater the
13:36 5 circulating pressure, correct? You agree with that principle?

13:36 6 A. It would depend on the pump speed you're using. So it
13:36 7 depends on the decisions for how fast you're pumping, how fast
13:36 8 you are drilling. That affects the --

13:36 9 Q. You have a 9 3/8 and you have a 7-inch and the pump speed
13:36 10 is the same, the smaller casing is going to have a higher
13:36 11 circulating pressure, correct?

13:36 12 A. Under that condition, yes.

13:36 13 Q. All right. And because of that, it was a factor in
13:36 14 driving some of the decisions you believe increased the risk of
13:36 15 a blowout and were contributing factors to the blowout,
13:36 16 correct?

13:37 17 A. Primarily, it was regarding how fast to pump the cement
13:37 18 and, you know, the height you would have to pump it and the
13:37 19 pressures that would put on the formation.

13:37 20 Q. In terms of those factors that you talked about, one of
13:37 21 them was using a lower circulating rate, correct?

13:37 22 A. That would help, actually, yes.

13:37 23 Q. That was one of the decisions that were made as a result
13:37 24 of having a small casing in a very fragile formation and using
13:37 25 long string rather than liner, correct?

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13:37 1 A. Which part of the operation are you talking about?

13:37 2 Q. I'm talking about in the final days, after total depth was
13:37 3 declared.

13:37 4 A. I'm having a hard time -- your question is about
13:37 5 circulating rates, but specifically which piece of the
13:37 6 operation?

13:37 7 MR. DEGRAVELLES: Let's go to tab 3808.196.6.

13:44 8 BY MR. DEGRAVELLES:

13:44 9 Q. Do you recall that part of the -- when you were talking
13:38 10 about changes that had a contributory role in what happened on
13:38 11 April 20?

13:38 12 A. Right.

13:38 13 Q. "Using a lower circulating rate than the parameters
13:38 14 specified to convert the float collar"; correct?

13:38 15 A. Right. That's what the clarification -- while converting
13:38 16 the float collar, it was a lower rate than what was required by
13:38 17 the manufacturer.

13:38 18 Q. Another one of those factors that increased the risk was
13:38 19 "Reducing the cement density with nitrogen foam."

13:38 20 That's the next item on this list, correct?

13:38 21 A. Yes.

13:38 22 Q. (As read): "Using a lesser quality of cement than that
13:38 23 specified in BP procedures"; correct?

13:38 24 A. "Quantity" not "quality."

13:38 25 Q. Okay.

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13:38 1 And "Deciding not to perform a complete bottoms-up
13:38 2 circulation before cementing"; correct?

13:38 3 A. Yes.

13:39 4 Q. Now, also, BP decided not to do a cement bond log,
13:39 5 correct?

13:39 6 A. That's correct.

13:39 7 Q. And a cement bond log is a procedure to test the integrity
13:39 8 of the cement. Is that true?

13:39 9 A. Over the formations where you could see it, yes.

13:39 10 Q. In fact, BP had done a cement bond log on the previous
13:39 11 three sections, correct?

13:39 12 A. I can't remember the records prior to that day, but -- I'm
13:39 13 not certain.

13:39 14 Q. BP had on the rig a Schlumberger crew that was there to do
13:39 15 a cement bond log, correct?

13:39 16 A. There was one on board, yes.

13:39 17 Q. BP sent them home, correct?

13:39 18 A. I remember they did, yes.

13:39 19 Q. That saved BP time and money, didn't it?

13:39 20 A. I can't qualify the amount of time or money that it saved.
13:39 21 I know that they couldn't see the lower part of the formation
13:39 22 because of where the float was, so they could only see the very
13:39 23 top of the cement.

13:39 24 Q. While you may not be able to quantify the amount of time
13:39 25 and money that it saved BP, sending the Schlumberger crew home

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13:39 1 saved BP time and money, didn't it?

13:40 2 A. It took a step out of the program.

13:40 3 Q. To answer my question, it saved them time and money.

13:40 4 Correct, sir?

13:40 5 A. It would have, yes.

13:40 6 Q. The resulting cement program was minimal in volume,
13:40 7 technically complex, difficult to execute, and left little to
13:40 8 no margin for error, correct?

13:40 9 A. That's what we found, yes.

13:40 10 Q. The compromised cement job that you've talked about in
13:40 11 some detail failed and allowed the kick and the blowout; isn't
13:40 12 that correct?

13:40 13 A. We believe that, yes.

13:40 14 Q. In fact, you believe the Transocean investigation found
13:40 15 that the precipitating cause of the blowout was the failure of
13:40 16 the cement, correct?

13:40 17 A. Yes, sir.

13:40 18 Q. Another point that's made in the investigation is that the
13:40 19 cement was pumped without having a test in hand that showed the
13:40 20 cement was stable, correct?

13:40 21 A. We couldn't find the compressive strength test. Yes,
13:40 22 that's correct.

13:40 23 Q. And so you would agree with me, sir, that it is -- it was
13:41 24 irresponsible on the part of BP to pump the cement on this
13:41 25 final cement job and not have a test result in hand that showed

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13 : 41 1 the cement was stable. Would you agree with me?

13 : 41 2 A. I would expect that that test should have been run, sir.

13 : 41 3 Q. So you agree with my statement that it would be
13 : 41 4 irresponsible -- it was irresponsible for BP to do it without
13 : 41 5 the test in hand. Correct?

13 : 41 6 A. I don't know irresponsible or not. They should have had
13 : 41 7 the test.

13 : 41 8 Q. It was unacceptable, correct?

13 : 41 9 A. I believe so, yes.

13 : 41 10 Q. And it was unacceptable for Halliburton to participate in
13 : 41 11 pumping the cement without a test result in hand showing that
13 : 41 12 the cement was stable, correct?

13 : 41 13 A. I would expect that they would know what was being pumped
13 : 41 14 downhole, sir.

13 : 41 15 Q. You would agree with me it is unacceptable -- or it was
13 : 41 16 unacceptable for Halliburton to participate in the cement job
13 : 41 17 without there being a test in hand that showed that the cement
13 : 41 18 was stable, correct?

13 : 41 19 A. I would agree with that.

13 : 41 20 Q. Let's talk about the March 8 kick. This is not just a
13 : 42 21 kick, but you mentioned earlier it involved a collapsed hole,
13 : 42 22 correct?

13 : 42 23 A. I can't remember if it was at that time or not.

13 : 42 24 Q. There was an event --

13 : 42 25 A. There was a March 8 kick, yes.

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13:42 1 Q. Yeah. March 8 kick, collapsed hole, stuck pipe bypass,
13:42 2 correct?

13:42 3 A. There you go.

13:42 4 Q. One of the points that you make on the Transocean
13:42 5 investigation is that you believe BP failed to communicate
13:42 6 important information that you thought Transocean ought to have
13:42 7 been made aware of. Isn't that true?

13:42 8 A. Yes, on some things.

13:42 9 MR. DEGRAVELLES: I would like you to pull up, if you
13:42 10 could, TREX-1072. And if we could go to the bottom e-mail.

13:44 11 BY MR. DEGRAVELLES:

13:44 12 Q. This is an e-mail, sir, from Jonathon Bellow to Stuart
13:42 13 Lacy and others, including John Guide, Mark Hafle, Brian Morel,
13:42 14 and members of the Tiger Team.

13:43 15 Have you seen this e-mail before?

13:43 16 A. I can't recall. I would have to read more detail.

13:43 17 Q. I will try to refresh your memory.

13:43 18 MR. DEGRAVELLES: If you can, Carl, go to the first
13:43 19 two lines there.

13:44 20 BY MR. DEGRAVELLES:

13:44 21 Q. Mr. Jonathon Bellow writes -- and this is on March 12 --
13:43 22 remember our March 8 kick. We are now four days later, on
13:43 23 March 12.

13:43 24 "As we have some time while we recover from the
13:43 25 Macondo stuck pipe and kick event, I want to spend some time

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1 reevaluating how we manage real time pore pressure detection
2 for Macondo-type wells."

3 Did I read that correctly?

4 A. Yes.

5 **MR. DEGRAVELLES:** If you could go, Carl, in that same
6 e-mail, the subject area.

7 **MS. KARIS:** Your Honor, I'm going to object to
8 foundation on the use of this document with this witness
9 without having established he has ever seen it before. And
10 this witness has previously testified he has not monitored or
11 followed any of the depositions or the use of these documents.
12 So there's no foundation for testifying about these documents.
13 He's not copied on them. It's an internal BP document. He has
14 no basis for speaking to what these people are talking about.

15 **MR. DEGRAVELLES:** My whole point, Judge, is this is
16 exactly the kind of thing that BP should have told. He didn't
17 get it. That's the point.

18 **THE COURT:** What was the date of this e-mail?

19 **MR. DEGRAVELLES:** This is March 12, 2010.

20 **THE COURT:** I overrule the objection.

21 **BY MR. DEGRAVELLES:**

22 Q. It is true, is it not, that the subject is "Some thoughts
23 and help requested, PP detection Macondo"?

24 Did I read that correctly?

25 A. Yes.

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13:44 1 MR. DEGRAVELLES: If we could go to the top of that
13:44 2 same exhibit, TREX-1072.

13:44 3 BY MR. DEGRAVELLES:

13:44 4 Q. Do you see --

13:44 5 MS. KARIS: Your Honor, I'm going to renew my
13:44 6 objection. I don't think this witness knows whether Transocean
13:44 7 got this document. This definitely isn't one of the documents
13:44 8 he speaks to in his report.

13:44 9 THE COURT: I'm going to renew my overruling of your
13:44 10 objection.

13:44 11 MS. KARIS: Fair enough. Thank you.

13:44 12 BY MR. DEGRAVELLES:

13:44 13 Q. Do you see that Mr. Lacy, on the same date, March 12,
13:44 14 2010, responds to Mr. Bellow? Do you see that? Same subject
13:45 15 line, same document?

13:45 16 A. Yes.

13:45 17 MR. DEGRAVELLES: If you could put up the highlighted
13:45 18 portion to that e-mail.

13:44 19 BY MR. DEGRAVELLES:

13:44 20 Q. Mr. Lacy says: "Likewise, drilling like a bat out of hell
13:45 21 in these PP narrow-window wells is perhaps not wise, especially
13:45 22 considering the drilling is a relatively low percentage of the
13:45 23 total time of these wells."

13:45 24 Did I did read that correctly?

13:45 25 A. It states that.

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13:45 1 Q. Do you believe, sir, that it would have been important for
13:45 2 Transocean to know that at least from the point of view of this
13:45 3 geologist on the Tiger Team, that BP was "drilling like a bat
13:45 4 out of hell" in pore pressure narrow-window -- this pore
13:45 5 pressure narrow-window well?

13:45 6 A. You have to know how fast you are supposed to drill in
13:46 7 order to prevent things like that from happening. So that's
13:46 8 good information to have.

13:46 9 Q. That would have been something that would have been good
13:46 10 for Transocean to know, correct, sir?

13:46 11 A. Yes.

13:46 12 MR. DEGRAVELLES: Let's go, then, to TREX-214. And
13:46 13 if you could highlight the . . .

13:44 14 BY MR. DEGRAVELLES:

13:44 15 Q. Do you see that this is an e-mail from Robert Bodek dated
13:46 16 March 18, 2010, to Mr. Bellow, Mr. Lacy, and the same folks
13:46 17 that were on the earlier e-mail? Do you see that?

13:46 18 A. Yes.

13:46 19 MR. DEGRAVELLES: Then if you could highlight the
13:46 20 text of that e-mail.

13:44 21 BY MR. DEGRAVELLES:

13:44 22 Q. "I've collated the responses to John's original e-mail
13:46 23 below. Please browse the attached lessons learned/plan forward
13:46 24 document and provide feedback should you feel obliged."

13:46 25 Did I read that correctly?

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13:46 1 A. It states that.

13:46 2 MR. DEGRAVELLES: If you could go to the next page.

13:44 3 BY MR. DEGRAVELLES:

13:44 4 Q. Do you see that he attaches lessons learned and path
13:46 5 forward: Macondo subsurface NPT events.

13:47 6 Do you see that?

13:47 7 A. Yes.

13:47 8 MR. DEGRAVELLES: If you could go to the next page,
13:47 9 and specifically Item 3.

13:44 10 BY MR. DEGRAVELLES:

13:44 11 Q. "The application of some traditional exploration drilling
13:47 12 practices needs to be considered. In wells with narrow
13:47 13 drilling margins, drilling techniques such as drilling at
13:47 14 reduced ROP, only having one connection in the hole at one
13:47 15 time, simulating connections, performing flow checks when a
13:47 16 sand interval is cut, and circulating to manage ECD should be
13:47 17 employed."

13:47 18 Did I read that correctly?

13:47 19 A. That's what it states.

13:47 20 Q. And with respect to that first suggestion where it says
13:47 21 "drilling techniques such as drilling at reduced ROP," ROP is
13:47 22 rate of penetration?

13:47 23 A. That's correct.

13:47 24 Q. That is a measure of drilling speed, correct, sir?

13:47 25 A. Yes.

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13:47 1 Q. What he is suggesting is that BP needs to slow down its
13:47 2 drilling, isn't he, sir?

13:47 3 A. In conditions for tight ECD margins, that's what it's
13:47 4 suggesting, yes.

13:47 5 Q. This is a well with tight ECD margins, correct, sir?

13:48 6 A. It was.

13:48 7 MR. DEGRAVELLES: If we could go to item -- the next
13:48 8 item.

13:44 9 BY MR. DEGRAVELLES:

13:44 10 Q. "I would like to propose the following for the remainder
13:48 11 of the Macondo well."

13:48 12 MR. DEGRAVELLES: Then go to the next page, which is
13:48 13 6.

13:44 14 BY MR. DEGRAVELLES:

13:44 15 Q. "Rate of penetration is such that all aforementioned
13:48 16 indicators can be adequately evaluated in realtime."

13:48 17 Do you see that?

13:48 18 A. Yes.

13:48 19 Q. What he is saying here, is he not, sir, is that you need
13:48 20 to slow down the drilling so that our Tiger Team can have time
13:48 21 to interpret the data and give you that data in time for you to
13:48 22 use it to avoid kicks and losses. Correct, sir?

13:48 23 A. I believe that's the direction this is recommending, yes.

13:48 24 Q. Do you know who Martin Albertin is?

13:48 25 A. No, sir.

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13:48 1 Q. A member of the Tiger Team, a geophysicist. You have not
13:48 2 heard that name?

13:48 3 A. I do not know him.

13:49 4 Q. We are going to pass on Mr. Albertin, then.

13:49 5 You noticed that when Mr. Bodek sent that e-mail out,
13:49 6 he sent it to a number of people asking for feedback, correct?
13:49 7 Do you remember that?

13:49 8 A. There were several people on it, yes.

13:49 9 **MR. DEGRAVELLES:** If you could go to TRES-1136. If
13:49 10 we could go to the section on top.

13:44 11 **BY MR. DEGRAVELLES:**

13:44 12 Q. This is from Kate Paine, an independent consultant who is
13:49 13 a member of the Tiger Team, in an e-mail dated March 19.
13:49 14 "Subject: Lesson learned/plan forward, Macondo."

13:49 15 Have you seen this before, sir?

13:49 16 A. I don't remember that I have seen this.

13:49 17 **MR. DEGRAVELLES:** In response to the feedback
13:49 18 requested by Mr. Bodek, could you please pull out the
13:49 19 highlight, Carl.

13:53 20 **BY MR. DEGRAVELLES:**

13:49 21 Q. "After deciding to drill ahead, we encountered the losses.
13:49 22 We were aware of the upper limit of the ECD and exceeded it
13:50 23 because we didn't believe the MWD LOT values. I'm not sure it
13:50 24 was a lack of communication or awareness as much as a 'we can
13:50 25 get away with this' attitude."

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13:50 1 Did I read that correctly?

13:50 2 A. That's what it states.

13:50 3 Q. Do you think Transocean would have wanted to know that BP
13:50 4 was drilling like a bat out of hell in a narrow-margin well
13:50 5 because of a "we can get away with it" attitude?

13:50 6 A. If you are proceeding too fast it's a good thing to know,
13:50 7 sir.

13:50 8 Q. That information would have been important for Transocean
13:50 9 to know, correct?

13:50 10 A. Yes.

13:50 11 Q. This is not information -- until I just shared it with
13:50 12 you -- that you had ever seen, correct, as part of your
13:50 13 investigation?

13:50 14 A. I don't personally remember seeing it. Others in my
13:50 15 investigation team may have, but I don't remember seeing it.

13:50 16 Q. All right. Let's go and talk about the temporary
13:50 17 abandonment decisions for a minute.

13:50 18 BP devised five temporary abandonment plans between
13:51 19 April 14 and April 20 without assessing the increasing risks.
13:51 20 Isn't that true, sir?

13:51 21 A. That's what we found.

13:51 22 Q. You believe that the final temporary abandonment plan
13:51 23 contained unnecessary risks that were not subject to a formal
13:51 24 risk assessment. Isn't that true?

13:51 25 A. Yes.

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13 : 5 1 1 MR. DEGRAVELLES: If we could pull up

13 : 5 1 2 TREX-3808.66.13.

13 : 5 3 3 BY MR. DEGRAVELLES:

13 : 5 3 4 Q. From your report, sir, it says: "The following outlines
13 : 5 1 5 the investigation team's finding that BP's final temporary
13 : 5 1 6 abandonment plan contributed to the cause of this incident. In
13 : 5 1 7 summary:"

13 : 5 1 8 And I'm going to go through one by one and ask you
13 : 5 1 9 some specific questions.

13 : 5 1 10 First bullet point: "Confusion existed among BP
13 : 5 1 11 personnel as to the proper design of the temporary abandonment
13 : 5 1 12 plan."

13 : 5 1 13 That was the finding that your investigation
13 : 5 1 14 had, correct?

13 : 5 1 15 A. It was.

13 : 5 2 16 Q. This confusion was one of the things that you believed, or
13 : 5 2 17 your investigation concluded, was a cause of the incident,
13 : 5 2 18 correct?

13 : 5 2 19 A. Yes. Some things got out of order in the procedure.

13 : 5 2 20 Q. All right. We are going to come back to that in a moment.

13 : 5 2 21 The second bullet point: "The operator did not
13 : 5 2 22 inform its own well site leader or the drill crew of the final
13 : 5 2 23 temporary abandonment plan until after the work had commenced;
13 : 5 2 24 there is no evidence that the associated risks were
13 : 5 2 25 communicated to the drill crew."

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- 13 : 5 2 1 Correct?
- 13 : 5 2 2 A. Yes.
- 13 : 5 2 3 Q. That is unacceptable behavior for an operator in the oil
13 : 5 2 4 and gas field in the Gulf of Mexico, is it not, sir?
- 13 : 5 2 5 A. We need to know what the plan is before we go.
- 13 : 5 2 6 Q. Next bullet point: "Risk resulting from the questionable
13 : 5 2 7 cement operations and float collar conversion were not
13 : 5 2 8 adequately accounted for by the operator."
- 13 : 5 2 9 Correct?
- 13 : 5 2 10 A. Yes. That's what it states.
- 13 : 5 2 11 Q. That was a contributing factor?
- 13 : 5 2 12 A. Yes.
- 13 : 5 2 13 Q. Next one: "The decision to displace and set a surface
13 : 5 2 14 cement plug in seawater rather than heavy drilling mud exposed
13 : 5 2 15 the well to an underbalanced state prior to the installation of
13 : 5 3 16 a secondary cement barrier."
- 13 : 5 3 17 That was a finding of the investigation?
- 13 : 5 3 18 A. It was.
- 13 : 5 3 19 Q. That is irresponsible and unacceptable, isn't it, sir?
- 13 : 5 3 20 A. It was something that we believe was missed in assessing
13 : 5 3 21 risk of changing those procedures.
- 13 : 5 3 22 Q. It should have been done, correct?
- 13 : 5 3 23 A. A second barrier, we believe, should have been in place.
- 13 : 5 3 24 Q. And was not done, was it?
- 13 : 5 3 25 A. No, it was not.

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13:53 1 Q. Next bullet point: "The underbalance was magnified
13:53 2 significantly by the decision to place the plug 3300 feet below
13:53 3 the mud line."

13:53 4 That was a finding of your investigation?

13:53 5 A. Yes, sir.

13:53 6 Q. And you found it to be a contributing factor to the
13:53 7 blowout?

13:53 8 A. The magnitude, yes, sir.

13:53 9 Q. Next bullet point: "The final procedure was never
13:53 10 approved by MMS."

13:53 11 That was a finding of the Transocean investigation,
13:53 12 correct, sir?

13:53 13 A. Based on the evidence available to us, yes.

13:53 14 Q. That's not only irresponsible, that's illegal, isn't it,
13:53 15 sir?

13:53 16 A. I don't know the legalities of it.

13:53 17 MS. KARIS: Object to form and foundation.

13:53 18 THE COURT: I sustain the objection.

13:53 19 BY MR. DEGRAVELLES:

13:53 20 Q. Next item is: "The final 'procedure' was merely a
13:53 21 bullet-point outline with minimal detail, as denoted by its
13:54 22 title: 'Quick Ops Note.'"

13:54 23 Did I read it correctly?

13:54 24 A. Yes, sir.

13:54 25 Q. That was a finding that you believe -- or that Transocean

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13:54 1 believed was a contributing factor, correct?

13:54 2 A. Yes, sir.

13:54 3 Q. Then the last bullet point: "The team found no evidence
13:54 4 that formal risk assessments were conducted on the viability,
13:54 5 safety, and alternative approaches to the various plans."

13:54 6 Did I read that correctly?

13:54 7 A. That's correct.

13:54 8 Q. Now, do you know who Greg Walz was?

13:54 9 A. I'm sorry. Say that name again.

13:54 10 Q. Greg Walz, W-A-L-Z.

13:54 11 A. It's a familiar name. I'm sure I've heard it before.

13:54 12 Q. Were you aware that Mr. Walz was the DP drilling
13:54 13 engineering team leader for the Macondo well?

13:54 14 A. I remember him being a BP employee. I don't know his -- I
13:54 15 can't remember his position.

13:54 16 Q. Were you aware that Mr. Walz told BP investigators that he
13:54 17 had been concerned about the last-minute changes that your
13:54 18 investigation found to have been made?

13:55 19 A. I believe I remember reading some things along those
13:55 20 lines.

13:55 21 **MR. DEGRAVELLES:** If you could, pull up
13:55 22 TREN-1694.1.1.

13:57 23 **BY MR. DEGRAVELLES:**

13:57 24 Q. You talked about confusion among the engineers. I want to
13:55 25 direct your attention to an e-mail dated April 17, 2010, from

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13:55 1 John Guide to David Sims.

13:55 2 I'm going to read pertinent portions of this, and
13:55 3 then I'm going to ask you some questions about it, Mr. Ambrose.

13:55 4 "David, over the past four days there has been
13:55 5 so many last-minute changes to the operation that the WSLs have
13:55 6 finally come to their wits' end. The quote is 'flying by the
13:55 7 seat of our pants' Brian has called me numerous times
13:55 8 trying to make sense out of all of this insanity.

13:55 9 "What is my authority? With the separation of
13:55 10 engineering and operations I do not know what I can and can't
13:55 11 do. The operation is not going to succeed if we continue in
13:55 12 this manner."

13:56 13 Did I read this correctly?

13:56 14 A. Yes.

13:56 15 Q. Had you seen this one before?

13:56 16 A. I've seen this before.

13:56 17 Q. Is this part of the foundation for the opinion of the
13:56 18 Transocean investigation that there was confusion among the
13:56 19 engineers in the last days prior to this blowout?

13:56 20 A. It's a piece of it, yes.

13:56 21 Q. Is this something that you believed Transocean should have
13:56 22 been aware of, was the kind of dysfunction that we see
13:56 23 reflected in this e-mail?

13:56 24 A. I don't know that we would necessarily need to understand
13:56 25 the inner workings of BP, but I think we should have at least

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13:56 1 understood some of the decisions and some of the concerns that
13:56 2 people had about cement or the procedure or those types of
13:56 3 things. It helps to understand what the overall situation is.

13:56 4 **MR. DEGRAVELLES:** If we could go to TREN-126.1.1.

13:57 5 This is a different one, Carl. This is an
13:57 6 e-mail.

13:57 7 Yeah. First of all, go into the -- who wrote
13:57 8 the e-mail, the bottom e-mail, if you can.

13:57 9 This is an e-mail from Brian Morel to Richard
13:57 10 Miller dated April 14, 2010.

13:57 11 If you could pull out the last sentence of that
13:57 12 e-mail.

13:57 13 **BY MR. DEGRAVELLES:**

13:57 14 **Q.** Do you see in the last sentence, sir, that Mr. Morel says,
13:57 15 "Sorry for the late notice. This has been a nightmare well
13:57 16 which has everyone all over the place"?

13:58 17 Did I read that correctly?

13:58 18 **A.** That's what it states.

13:58 19 **Q.** This is also, I assume, a part of the foundation for your
13:58 20 conclusion or Transocean's conclusion that we had confusion
13:58 21 among the engineers, correct?

13:58 22 **A.** Ours was more geared towards the change of that procedure.
13:58 23 I don't know that we based it on this particular e-mail.

13:58 24 **Q.** All right. Well, then go to the one next above it from
13:58 25 Richard Miller back to Brian Morel in response. He says: "We

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13:58 1 have flipped the design parameters around to the point that I
13:58 2 got nervous."

13:58 3 Did I read that correctly?

13:58 4 A. Yes.

13:58 5 Q. That certainly supports the concern that you had as
13:58 6 expressed in the Transocean investigation about the confusion
13:58 7 among the engineers, correct?

13:58 8 A. It would.

13:58 9 Q. Then if you could go to that last from Hafle to Richard
13:58 10 Miller. "Thanks, Rich. This has been a crazy well for sure."

13:58 11 Do you see that?

13:58 12 A. Yes.

13:58 13 Q. Let's talk about -- I know that there was a good bit of
13:58 14 discussion in the investigation about the issue of long strings
13:59 15 versus liner, correct?

13:59 16 A. Yes, there was.

13:59 17 Q. You are aware that over the course of four days, BP
13:59 18 flipped its decision three different times as to whether they
13:59 19 were going to use long string or liner?

13:59 20 A. I know there were several decision points that went back
13:59 21 and forth.

13:59 22 Q. You're aware that BP did not involve Transocean in any of
13:59 23 those decisions; is that correct?

13:59 24 A. No. That's not a decision that we would normally be
13:59 25 involved in from a well design standpoint.

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13:59 1 MR. DEGRAVELLES: All right. If we could go to
13:59 2 TREN-3808.34.16.

13:59 3 BY MR. DEGRAVELLES:

13:59 4 Q. Now, this is a part of your report in which you state:
13:59 5 "The advantages of running a liner over a conventional
13:59 6 long-string casing."

13:59 7 Correct?

13:59 8 A. Yes.

13:59 9 Q. I'm not going to go into each of these, but there is a
13:59 10 catalog of, looks like, six different points of advantage of
13:59 11 running the liner over the long string, correct?

14:00 12 A. Yes, about six.

14:00 13 Q. Did I count six?

14:00 14 A. Yes, six. Sorry, I had to count.

14:00 15 Q. No problem. Don't trust me. Verify it.

14:00 16 MR. DEGRAVELLES: Let's go to then TREN-3808.35.17.

14:00 17 BY MR. DEGRAVELLES:

14:00 18 Q. "The use of the design, however, drove other plan
14:00 19 departures that ultimately increased risk and contributed to
14:00 20 the incident."

14:00 21 You're talking about the long string versus the
14:00 22 liner, correct?

14:00 23 A. Yes, sir.

14:00 24 Q. It increased the risk and contributed to the incident,
14:00 25 correct?

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14:00 1 A. Yes.

14:00 2 Q. Were you aware, sir, that the decision to go with long
14:00 3 string rather than liner saved BP 7 to \$10 million?

14:00 4 A. I have heard that number before.

14:00 5 MR. DEGRAVELLES: If we could go to TREN-1693.2.1.

14:01 6 BY MR. DEGRAVELLES:

14:01 7 Q. This is from a memorandum of change analysis that was
14:01 8 done. Have you seen this document before?

14:01 9 A. Yes.

14:01 10 Q. All right. It does say: "The liner, if required, is also
14:01 11 an acceptable option but will add an additional 7 to
14:01 12 \$10 million to the completion cost."

14:01 13 Did I read that correctly?

14:01 14 A. It's blurry, but I think that's what it says.

14:01 15 Q. BP's decision to use long-string production casing led to
14:01 16 the need for a more complex cement job with little room for
14:01 17 error; isn't that true?

14:01 18 A. That's what we found, yes.

14:01 19 MR. DEGRAVELLES: Take that one down.

14:01 20 BY MR. DEGRAVELLES:

14:01 21 Q. And let's just talk for a minute about the centralization
14:01 22 of the well.

14:01 23 Without regard to the question of whether 21 or 6 or
14:01 24 what other number should have been used for centralizers, did
14:01 25 the Transocean investigation conclude that centralization above

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14:01 1 the production formations was poor and, therefore, gave an
14:01 2 increased probability of channeling contamination?

14:02 3 A. We found that there was likely a contaminate or channeling
14:02 4 above where the centralizers were.

14:02 5 Q. And specifically, though -- and I'm reading from -- if I
14:02 6 need to pull it up, it's 3808.35.18. "Centralization above the
14:02 7 production formations was poor and, therefore, gave an
14:02 8 increased probability of channeling contamination."

14:02 9 Did I read that correctly?

14:02 10 A. Yes, that's correct.

14:02 11 Q. That was a finding of the Transocean investigation,
14:02 12 correct?

14:02 13 A. Yes.

14:02 14 **MR. DEGRAVELLES:** You can take that down, Carl.

14:02 15 **BY MR. DEGRAVELLES:**

14:02 16 Q. You are also aware that on the night when they were doing
14:02 17 the displacement, there were a number of simultaneous
14:02 18 operations going on, correct?

14:02 19 A. Before the negative test, yes.

14:02 20 **MR. DEGRAVELLES:** If you could pull up -- I believe
14:02 21 it's a Halliburton Exhibit 8167.1. D-8167.1.

14:03 22 **BY MR. DEGRAVELLES:**

14:03 23 Q. If you would take a moment and see if you agree with me
14:03 24 that during displacement the items listed on this document
14:03 25 were, in fact, going on.

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14:03 1 A. I would say all of these items were done that day, but
14:03 2 they were not all going on at the same time. A lot of them
14:03 3 were sequential. So it's not really correct to put them all
14:03 4 together like that.

14:03 5 Q. Were they going on during displacement, sir?

14:03 6 A. Not all of them, no.

14:03 7 Q. Why don't you tell me which ones were going on at the same
14:03 8 time then.

14:03 9 A. Let's go in order here. So before the negative tests,
14:03 10 they were transferring between pits and going to the banks, and
14:04 11 that's really the period of time when there was what we call
14:04 12 simultaneous operations.

14:04 13 Things like emptying of the sand traps during
14:04 14 displacement, we found that that was actually done while they
14:04 15 were waiting for the negative pressure test. We don't think
14:04 16 that that was done during that final displacement from our --
14:04 17 the best of my recollection of our records.

14:04 18 The divert fluids overboard, bypassing Sperry's
14:04 19 sensor, they actually shut down pumping operations, then made
14:04 20 that change, then began pumping again, which was the standard
14:04 21 sequential sequence there.

14:04 22 Crane operations go on on the rig all the time. So,
14:04 23 I mean, in our terms that's not simultaneous operations.
14:04 24 That's more normal operations, and sometimes you have to ask
14:04 25 the crane to stop, but that's a normal type of operation on the

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14:04 1 rig.

14:04 2 I don't know the basis for the last bullet point.

14:04 3 Q. All right. Let's go then -- let's talk about --

14:05 4 MR. DEGRAVELLES: If you pull that one down.

14:05 5 BY MR. DEGRAVELLES:

14:05 6 Q. Let's talk about cumulative lack of barriers to flow.

14:05 7 Did your investigation find that a significant
14:05 8 deficiency in the final plan was the cumulative lack of
14:05 9 barriers to flow?

14:05 10 A. Again, there were not two barriers in place, that's
14:05 11 correct.

14:05 12 Q. That was a significant deficiency, correct?

14:05 13 A. We should -- there should have been two barriers in place.

14:05 14 Q. To answer my question, that was a significant deficiency,
14:05 15 correct?

14:05 16 A. Yes.

14:05 17 Q. The final plan required displacing the drilling mud to a
14:05 18 depth of 8367 feet, which was about 3300 feet below the mud
14:05 19 line, correct?

14:05 20 A. Yes. That was the change that really removed that second
14:05 21 barrier. Your primary barrier is the mud, and when they
14:05 22 decided to displace before setting the cement plug, that's when
14:05 23 the barrier order changed.

14:05 24 Q. That was much greater than the normal displacement depth
14:05 25 of between zero to 1000 feet below the mud line, correct?

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14:06 1 A. Yes, that's correct.

14:06 2 Q. In addition, the plan removed the mud before testing the
14:06 3 cement barrier with a negative pressure test and before setting
14:06 4 the cement -- surface cement plug, correct?

14:06 5 A. Yes, that's correct.

14:06 6 Q. The result of that is that there was no secondary barrier
14:06 7 in place during the negative pressure test and displacement,
14:06 8 correct?

14:06 9 A. That's correct.

14:06 10 Q. Now, that, sir, is unacceptable oil field practice. Isn't
14:06 11 it true, sir?

14:06 12 A. You needed to have two barriers, sir.

14:06 13 Q. To answer my question, that's unacceptable, correct?

14:06 14 A. By our requirements, yes, it's unacceptable.

14:06 15 MR. DEGRAVELLES: If we could then go to pull up
14:06 16 D-2445, which is TREX-20001.020.

14:06 17 BY MR. DEGRAVELLES:

14:06 18 Q. I'm going to tell you that this is a graph made as a part
14:06 19 of a report by Dr. Bob Bea. I want to go through these items
14:06 20 and see if you agree with -- I think you probably talked about
14:06 21 some of these things already -- where he says these are
14:07 22 decisions that were made by BP which increase risks and also
14:07 23 saved time and money for BP.

14:07 24 Do you agree that not using the correct number of
14:07 25 centralizers increased risk and saved time and money on the

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14:07 1 part of BP?

14:07 2 A. It would have increased the chance of channeling, so yes.

14:07 3 Q. So it did increase risk?

14:07 4 A. Yes.

14:07 5 Q. It did save time and money, correct?

14:07 6 A. By not having to run them, it did save some hours, yes.

14:07 7 Q. Not waiting for foam stability test increased the risk and
14:07 8 saved time and money, did it not?

14:07 9 A. That would increase the risk by not knowing what you
14:07 10 pumped in the hole. Proceeding ahead saved some time.

14:07 11 Q. Not running the cement bond log increased the risk and
14:07 12 saved time and money, did it not?

14:07 13 A. This one, maybe not so much the risk, because they
14:07 14 couldn't really see the formations because of the location of
14:07 15 the float collar. They couldn't get deep enough with that
14:08 16 tool. Time and money, it did take some steps out of the
14:08 17 program.

14:08 18 Q. Displacing the riser before the cement plug -- I'm sorry,
14:08 19 skipped one.

14:08 20 Using spacer made from lost circulation materials
14:08 21 increased risk and saved time and money, did it not?

14:08 22 A. We think it did increase the risk some because of the way
14:08 23 the pressures behaved in the well. As far as the time,
14:08 24 probably not; but the money for the disposal, yes.

14:08 25 Q. Displacing the riser before setting the cement plug

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14:08 1 increased risk and saved time and money, did it not?

14:08 2 A. The risk part, yes; time and money, maybe not. I don't
14:08 3 know that you can equate that to an increase in time.

14:08 4 Q. Not sure about that one?

14:08 5 A. No.

14:08 6 Q. Not installing additional physical barriers during
14:08 7 temporary abandonment increased risk and saved time and money,
14:08 8 correct?

14:09 9 A. Yes. We think this was more of a misunderstanding of what
14:09 10 constitutes a barrier, but not having that second barrier
14:09 11 increased the risk. Not having to make the trip to put it into
14:09 12 the hole would be saving the time to do that.

14:09 13 Q. Not circulating bottoms-up prior to cement job increased
14:09 14 risk and saved BP time and money, did it not?

14:09 15 A. From the standpoint of the hole wasn't conditioned and
14:09 16 cleaned before that, yes. On the risk part, it made a more
14:09 17 risky cement job, but -- and it would reduce the time.

14:09 18 Q. Using long string casing instead of liner increased the
14:09 19 risk and saved BP time and money, did it not?

14:09 20 A. I remember the decision point presentations, and I
14:09 21 remember it calling out savings and money.

14:09 22 Q. \$7 to \$10 million?

14:09 23 A. Yes.

14:09 24 Q. I think you disagreed with the simultaneous operations
14:09 25 being performed that evening, but converting the lower ram on

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14:09 1 the BOP to a test ram, that was BP's choice, was it not, sir?

14:10 2 A. It was.

14:10 3 Q. That increased risk and saved time and money, did it not?

14:10 4 A. I don't think that that increased risk. It does save time
14:10 5 in the drilling process, but we still met regulatory
14:10 6 requirements when you had to do that and that change didn't
14:10 7 affect that risk.

14:10 8 MR. DEGRAVELLES: If we could go to TREN-6120.

14:10 9 BY MR. DEGRAVELLES:

14:10 10 Q. And do you see --

14:10 11 MR. DEGRAVELLES: Pull up the top of that so we can
14:10 12 see.

14:10 13 BY MR. DEGRAVELLES:

14:10 14 Q. This is a letter from Transocean to BP America Production
14:10 15 dated October 11, 2004. Do you see that?

14:10 16 A. Yes.

14:10 17 Q. Do you see that the subject is "Letter agreement for
14:10 18 conversion of a VBR to a test ram"?

14:10 19 MS. KARIS: Your Honor, I'm going to object to
14:10 20 questions about the BOP.

14:10 21 MR. DEGRAVELLES: I withdraw the question.

14:10 22 THE COURT: All right.

14:10 23 BY MR. DEGRAVELLES:

14:11 24 Q. Thank you, sir.

14:11 25 Let's talk about the day of the accident. Transocean

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14:11 1 had no written policies or procedures for negative pressure
14:11 2 testing, correct?

14:11 3 A. No, we did not.

14:11 4 Q. Transocean acknowledges that its employees misinterpreted
14:11 5 the negative pressure tests, correct?

14:11 6 A. Yes, they misinterpreted it.

14:11 7 Q. Jason Anderson came up with the notion of "bladder
14:11 8 effect," correct?

14:11 9 A. We never ran that to ground because we couldn't talk to
14:11 10 the people that were on the drill floor that night. We have
14:11 11 heard that term, but nobody that we talked to had heard that
14:11 12 term.

14:11 13 Q. If it was Jason Anderson or anybody else who came up with
14:11 14 the notion of bladder effect, that simply doesn't exist, does
14:11 15 it, sir?

14:11 16 A. We couldn't find any reference to that term.

14:11 17 Q. With respect to monitoring the well, Transocean identifies
14:11 18 the driller as the person responsible for monitoring the well
14:11 19 at all times, identifying when the well is to be shut in, and
14:11 20 shutting in the well quickly and safely, correct?

14:11 21 A. Yes, sir.

14:11 22 Q. By Transocean's own calculation, this well had flowed
14:12 23 500 barrels into the wellbore by the time that this kick was
14:12 24 detected, correct?

14:12 25 A. That was the number, yes.

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14:12 1 Q. There have been other estimates as high as a thousand
14:12 2 barrels, correct?

14:12 3 A. I think you're referring to the BP report, but yes.

14:12 4 Q. I'm just saying, you may not agree with it, but there are
14:12 5 estimates as high as a thousand barrels before the kick was
14:12 6 detected?

14:12 7 A. I have seen that, yes.

14:12 8 Q. You admit that the failure -- Transocean's failure to shut
14:12 9 in the well quickly was a contributing cause to the blowout,
14:12 10 correct?

14:12 11 A. We admit they missed signs during that last hour of
14:12 12 anomalies that should have been acted on.

14:12 13 Q. All right. But my question is, you admit that the failure
14:12 14 to shut in quickly was a contributing cause to the blowout,
14:12 15 correct?

14:12 16 A. By having not shut in before the hydrocarbons hit the
14:12 17 riser, that's what released the blowout, so yes.

14:12 18 Q. Was that a contributing cause to the blowout?

14:13 19 A. Yes.

14:13 20 Q. Then let's talk about the diversion. Transocean's well
14:13 21 control handbook states that if gas is expanding in the riser,
14:13 22 then you must divert overboard, correct?

14:13 23 A. It does.

14:13 24 Q. That's to vent the flow safely away from the rig and
14:13 25 personnel, correct?

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14 : 13 1 A. Yes.

14 : 13 2 Q. Although there was a rapid expansion of gas in the riser,
14 : 13 3 the driller on the *Deepwater Horizon* did not divert overboard,
14 : 13 4 but rather diverted to the mud-gas separator, correct?

14 : 13 5 A. We believe that they did divert to the mud-gas separator
14 : 13 6 by all the evidence that we looked at.

14 : 13 7 Q. You admit that by diverting to the mud-gas separator, the
14 : 13 8 Transocean crew created an unsafe situation by venting gas
14 : 13 9 directly onto the rig. Isn't that true?

14 : 13 10 A. Well, it happened relatively quickly, and when they
14 : 13 11 initially saw a decreasing pressure there towards the end, they
14 : 13 12 went through the normal responses of closing in the well. They
14 : 13 13 closed the upper annular. And when that -- it didn't capture
14 : 14 14 the initial gas that went past the BOPs. So as it started
14 : 14 15 coming up, they may have thought they had caught it and they
14 : 14 16 diverted then to the mud-gas separator.

14 : 14 17 They had done a flow check at that point, because we
14 : 14 18 saw signals coming in -- fluid coming into the trip tank on the
14 : 14 19 Sperry data; and unfortunately, that flow rate they saw was
14 : 14 20 underneath the limit for the mud-gas separator, so they may
14 : 14 21 have thought it was okay. We don't know.

14 : 14 22 But he -- they did go to the mud-gas separator, and
14 : 14 23 it did exceed the limit of the mud-gas separator.

14 : 14 24 Q. You admit that by diverting it to the mud-gas separator,
14 : 14 25 the Transocean crew created an unsafe situation, correct, sir?

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14:14 1 A. By definition of the incident, sir, it was unsafe.

14:14 2 Q. I'm not talking about the incident, the incident was
14:14 3 unsafe. I'm talking, do you admit that by diverting to the
14:14 4 mud-gas separator, the Transocean crew created an unsafe
14:14 5 situation?

14:14 6 A. In this case it should have gone overboard, and it was an
14:15 7 unsafe condition.

14:15 8 Q. Do you agree that it created an unsafe situation?

14:15 9 A. I just said it created an unsafe condition.

14:15 10 Q. Thank you, sir.

14:15 11 You agree that diverting to the mud-gas separator was
14:15 12 a precipitating cause of this accident, do you not?

14:15 13 A. To the explosion, yes; but to the blowout, no.

14:15 14 Q. Let's talk about the investigation itself. I think you
14:15 15 said that you were asked early on, within the first week, to
14:15 16 head this investigation. True?

14:15 17 A. Yes.

14:15 18 Q. The investigation was to gather, review, and analyze the
14:15 19 facts and information surrounding the incident to determine its
14:15 20 causes, correct?

14:15 21 A. That sounds correct, yes.

14:15 22 Q. You would agree with me that an investigation into the
14:15 23 causes of an accident this serious, this complex, you would
14:15 24 have to consider all of the causes, not just the immediate
14:15 25 causes, correct?

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14:15 1 A. Yes. We looked at the facts around the case and what
14:15 2 caused it.

14:15 3 Q. Not just immediate causes, but underlying causes and root
14:16 4 causes, correct?

14:16 5 A. That's what we were looking for.

14:16 6 Q. Indeed, that's what Transocean's health and safety
14:16 7 policies and procedure manuals requires in any Level 1
14:16 8 accident, correct?

14:16 9 A. Yes.

14:16 10 Q. Despite that fact, Transocean never looked at process
14:16 11 safety causes, did they, sir? I'm talking about Transocean's.
14:16 12 I know you looked at BP's process safety. But Transocean never
14:16 13 looked at Transocean's process safety problems, did they, sir?

14:16 14 A. I wouldn't say it was excluded. I'm not certain what
14:16 15 particular part you are talking about that we did not look at.

14:16 16 Q. I'm talking about I looked at that long report, and I
14:16 17 didn't see any discussion whatsoever about Transocean's process
14:16 18 safety. Did I miss something, Mr. Ambrose?

14:16 19 A. Well, we did look at maintenance. We did look at the BOP,
14:16 20 the fire and gas system, the sensors and did they work, did
14:17 21 they sound the general alarm. Those are the kinds of pieces of
14:17 22 process safety that we are responsible for, and we did look
14:17 23 into that.

14:17 24 Q. You did not look at Transocean's systemic problems and
14:17 25 whether they played a contributing role in this accident, did

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14:17 1 you, sir?

14:17 2 A. I'm sure we looked at a lot of things.

14:17 3 Q. You didn't look at that, though, did you, Mr. Ambrose?

14:17 4 A. Systemic problems?

14:17 5 Q. Yes, sir.

14:17 6 A. If you can give me an example of what you are talking
14:17 7 about.

14:17 8 Q. I intend to in a moment, but let's just ask this next
14:17 9 question. There was no examination of whether Transocean's
14:17 10 management failures made any kind of contributing role in this
14:17 11 accident; isn't that true?

14:17 12 A. No. We didn't limit ourselves to just what happened on
14:17 13 the rig. We looked at training. All the rig crew had all
14:17 14 their training. There was one or two junior crew levels that
14:17 15 didn't have a well control certificate, but they weren't in
14:17 16 charge of anything. We didn't see anything with regards to the
14:18 17 management system that had an impact here.

14:18 18 I wish I could point to one thing that we could say
14:18 19 that's it and we could fix it, but we couldn't. We did make --

14:18 20 Q. I'm sorry. Go ahead.

14:18 21 A. We looked at these kind of incidents. We want to make a
14:18 22 few changes or improvements, and we did do that with regards to
14:18 23 giving guidelines to people with negative pressure tests
14:18 24 because we realized we didn't have guidelines. So in the
14:18 25 absence of somebody giving us those guidelines, now we have

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14:18 1 firm guidelines for those negative pressure test procedures.

14:18 2 We have clarified exactly what can and cannot be constituted as
14:18 3 a barrier.

14:18 4 So we have looked at those things, but they are all
14:18 5 pieces that were already in our management system that we have
14:18 6 now clarified further, but they were all there. So there's
14:18 7 just not one thing that I can point to.

14:18 8 **Q.** So it was the conclusion of the Transocean investigation
14:18 9 that there were no management failures that contributed to this
14:18 10 accident; is that true, sir?

14:18 11 **MS. CLINGMAN:** Your Honor, I object. It's been asked
14:18 12 and answered.

14:19 13 **THE COURT:** Overruled.

14:19 14 **THE WITNESS:** We didn't find any.

14:19 15 **BY MR. DEGRAVELLES:**

14:19 16 **Q.** You found no significant systemic safety problems that
14:19 17 played any contributing role in this accident, correct?

14:19 18 **A.** No, sir.

14:19 19 **MR. DEGRAVELLES:** Let's go to TREN-5479. Pull into
14:19 20 the top there, Carl.

14:19 21 **BY MR. DEGRAVELLES:**

14:19 22 **Q.** This is an e-mail that went to, among others, you,
14:19 23 correct, dated May 20, 2009; is that correct?

14:19 24 **A.** It looks like it, yes.

14:19 25 **Q.** The subject is -- even though this is a May 20, 2009

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14:19 1 e-mail, its subject is a "2004 Task Planning and Risk
14:19 2 Management Survey Questionnaire." Do you see that?

14:19 3 A. Yes.

14:19 4 Q. This actually attached to the e-mail a December 2004
14:19 5 survey of how task planning and risk management is being
14:20 6 conducted on rigs globally, did it not, sir?

14:20 7 A. I can't remember what was attached to it. It was a long
14:20 8 time ago.

14:20 9 **MR. DEGRAVELLES:** If you could then go to the second
14:20 10 page at the top. Just enlarge that.

14:20 11 **BY MR. DEGRAVELLES:**

14:20 12 Q. Do you see the first paragraph says, "As you know, in
14:20 13 December 2004 we carried out a survey of how task planning and
14:20 14 risk management is being conducted on our rigs globally"?

14:20 15 Then you say in the second paragraph: "Please ensure
14:20 16 that the attached results of the survey are distributed within
14:20 17 your unit."

14:20 18 Do you see that?

14:20 19 A. Yes.

14:20 20 Q. So does that refresh your recollection that in this e-mail
14:20 21 from Mr. Cabucio to you and others, the 2004 survey
14:21 22 questionnaire was attached?

14:21 23 A. Yes.

14:21 24 **MR. DEGRAVELLES:** Let's go back to page 1 and pull up
14:21 25 the first paragraph.

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14:21 1 BY MR. DEGRAVELLES:

14:21 2 Q. These are a bunch of acronyms, and the judge has already
14:21 3 expressed some unhappiness about acronyms, so we have to get
14:21 4 you to interpret as we go through this first paragraph.

14:21 5 "During the recent Q1 PMAA conference call, the TSTPs
14:21 6 and THINK plans were noted to be of mixed quality, and the use
14:21 7 of the SLT was in some instances not progressing as well as it
14:21 8 could."

14:21 9 Did I read that correctly?

14:21 10 A. That's what it states.

14:21 11 Q. Can you interpret what all those letters mean.

14:21 12 A. PMAA is our performance monitoring audit and assessment
14:21 13 process, so that was a conference call to discuss that, it
14:22 14 looks like.

14:22 15 Q. Uh-huh.

14:22 16 A. TSTPs are task-specific THINK plans. And THINK is our
14:22 17 acronym for risk assessment.

14:22 18 Q. He notes the conference call you had showed that the TSTPs
14:22 19 and the THINK plans were of mixed quality.

14:22 20 He goes on to say: "I had a moment of déjà vu while
14:22 21 listening to each of you provide feedback in these areas.

14:22 22 "In late 2004, we carried out a survey with the OIMs
14:22 23 related to these very same topics. Bob Scott and Steve Newman
14:22 24 at the time were frustrated with our results, and we recognized
14:22 25 the difficulties we were experiencing with the task planning

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14:22 1 and risk management."

14:22 2 Did I read that correctly?

14:22 3 A. That's what it states.

14:22 4 Q. Do you remember that e-mail?

14:22 5 A. Honestly, I don't, sir.

14:22 6 Q. Do you remember -- who is Mr. Cabucio?

14:22 7 A. At the time I believe he was our director of QHSE. I
14:23 8 can't remember his exact title.

14:23 9 Q. That's health, safety, and environment?

14:23 10 A. Yes.

14:23 11 Q. Is that sort of another acronym for the head safety guy?

14:23 12 A. He wasn't the vice president of QHSE, but he was our
14:23 13 director.

14:23 14 Q. Safety director above you, correct?

14:23 15 A. No, I didn't report to him.

14:23 16 Q. In any event, let's go on, then.

14:23 17 "The results of the 2004 survey were the topic of a
14:23 18 division manager's meeting earlier in 2005.

14:23 19 "I thought I would share these results with you today
14:23 20 in 2009, since the recent Q1 PMAA results resonated to me of
14:23 21 many of the same results noted in 2005.

14:23 22 "The definition of insanity - Doing the same things
14:23 23 over and over and expecting a different result."

14:23 24 Did I read that correctly?

14:23 25 A. It does state that.

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1 Q. It is true, sir, that he is expressing in May of 2009 that
2 for four years before that, there have been problems in risk
3 management that are essentially the same in 2009 that were
4 there in 2004 and 2005? Correct, sir?

5 A. Yes.

6 You have to understand the history here. They had
7 rolled out a new risk assessment process, which was the THINK
8 process. I can't remember the exact year they rolled it out.
9 So the first couple of years it was a challenge, and then they
10 had these new SLT, safety leadership training, courses that
11 they were starting to put all the crews through so they could
12 train them on this process. So I think that's what this is
13 referring to.

14 Q. It's referring to the fact that between 2004 and 2009 --
15 we are talking about five years, it's a moment of déjà vu.
16 Insanity is doing the same thing over and over and expecting a
17 different result, correct?

18 A. That's what it states.

19 Q. About the same time that that questionnaire was
20 circulating, in August of 2004 there was a blowout on
21 Transocean semisubmersible *Jim Cunningham*, resulting in a fire;
22 isn't that true?

23 A. I do remember that incident, yes.

24 Q. You do remember that?

25 A. I remember the *Cunningham*.

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14:25 1 **MR. DEGRAVELLES:** If you could pull up

14:25 2 TREX-7134.12.1.

14:25 3 **BY MR. DEGRAVELLES:**

14:25 4 **Q.** Do you see, sir, that under the supporting facts in that
14:25 5 investigation it showed that procedures were not set up to
14:25 6 effectively detect kicks? Do you see that?

14:25 7 **A.** That's what it states.

14:25 8 **MR. DEGRAVELLES:** If you could then go on to
14:25 9 7134.16.2.

14:25 10 **BY MR. DEGRAVELLES:**

14:25 11 **Q.** "The team did not heed warnings in the drilling program."
14:25 12 Do you see that?

14:25 13 **A.** That's what it states.

14:25 14 **Q.** And then in the next call-out, which is .3: "The team did
14:26 15 not use disciplined coordinated procedures to monitor for well
14:26 16 influxes."

14:26 17 Did I read that correctly?

14:26 18 **A.** That's what it states.

14:26 19 **Q.** You also know that in March of 2008, Mr. Larry McMahan,
14:26 20 Transocean vice president of performance, wrote a memo to TO
14:26 21 management, Transocean management.

14:26 22 **MR. DEGRAVELLES:** Can you pull up TREX-2189.1.1.

14:26 23 Can you pull back and show the whole e-mail.

14:26 24 **BY MR. DEGRAVELLES:**

14:26 25 **Q.** This is an e-mail dated March 18, 2008, with the subject

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1 of "Loss of Control Events." Have you seen that before today,
2 sir?

3 A. I don't remember seeing it.

4 **MS. CLINGMAN:** Your Honor, I don't believe
5 Mr. Ambrose is copied on this. Mr. Newman is. And I believe
6 this is cumulative. I will object on that basis. I believe
7 this was gone into extensively with Steven Newman as the
8 witness.

9 **MR. DEGRAVELLES:** Of course, here's the point, Judge.
10 This is the guy that conducted the Transocean investigation
11 supposedly looking into systemic programs, and he is not aware
12 of this? I think this is an important point.

13 **THE COURT:** Overruled.

14 **MR. DEGRAVELLES:** Thank you, Judge.

15 **BY MR. DEGRAVELLES:**

16 Q. You don't remember getting -- but let me read this to you,
17 sir. He says: "We cannot ignore what has happened in the area
18 of loss of control. This is very concerning to me."

19 This is the first time you have seen this document,
20 sir?

21 A. I've not seen this document. I guess what I would say is
22 it's not that we didn't look at similar events. In this
23 particular case, if I remember from just looking now at that
24 one e-mail, they were boosting the risers. They were tripping
25 out of the hole. And that's something -- that's something --

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14:27 1 that's not what happened on the *Horizon*, so it really wasn't a
14:27 2 similar event.

14:27 3 We did look at some of these events to say, "Are they
14:27 4 similar or interrelated?" and we didn't see that because
14:28 5 specifically it was a different type of operation and it was a
14:28 6 different cause.

14:28 7 Q. All right. Well, that's not really the question I asked.

14:28 8 The question I asked was: This is the first time you
14:28 9 have seen this document, isn't it, sir?

14:28 10 A. This particular one, yes.

14:28 11 Q. You have seen other documents similar to this one?

14:28 12 A. I don't know what that means.

14:28 13 Q. Well, you said "not this one," suggesting that there
14:28 14 perhaps was another one like this one.

14:28 15 A. I haven't seen this document.

14:28 16 MR. DEGRAVELLES: Then let's pull up the next
14:28 17 call-out from this e-mail.

14:28 18 BY MR. DEGRAVELLES:

14:28 19 Q. Which is: "The problem is that we are having events at a
14:28 20 rate that is overwhelming."

14:28 21 First time you have seen that, true?

14:28 22 A. Is this a different e-mail or the --

14:28 23 Q. The same e-mail.

14:28 24 A. I haven't seen this e-mail before.

14:28 25 MR. DEGRAVELLES: Then let's go on to the next

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14:28 1 call-out.

14:28 2 **BY MR. DEGRAVELLES:**

14:28 3 Q. "We would be better off investing that time in the
14:29 4 prevention side and more effective risk assessments as well as
14:29 5 adherence to procedure."

14:29 6 That's what it says?

14:29 7 A. Yes.

14:29 8 Q. The last call-out: "My bottom line is that we are better
14:29 9 than what these incidents reveal, and if we do not change the
14:29 10 way we operate, we will continue to have these train wrecks."

14:29 11 Did I read that correctly?

14:29 12 A. Yes, that's what it states.

14:29 13 Q. You don't know what he is talking about, do you, sir,
14:29 14 because you didn't consider it as a part of your investigation,
14:29 15 correct?

14:29 16 A. We did look across it. I'm just saying I haven't seen
14:29 17 this document.

14:29 18 Q. You don't know what he is talking about when he says
14:29 19 "these incidents reveal . . . and if we do not change the way
14:29 20 we operate, we will continue to have train wrecks," correct?

14:29 21 A. As I said, I have not looked at this e-mail before. So I
14:29 22 don't know what he was meaning by that.

14:29 23 Q. In February of 2009, there was a well control event aboard
14:30 24 the *MG Hulme*, correct, sir?

14:30 25 A. Yes, I have heard of that.

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14:30 1 MR. DEGRAVELLES: If we could go to 5650.14.1.

14:30 2 BY MR. DEGRAVELLES:

14:30 3 Q. It found, did it not, in its investigation, that there was
14:30 4 "no specific training given for handling a kick in the riser
14:30 5 and a lack of explanation about the proper use of the
14:30 6 diverter"?

14:30 7 Do you see that?

14:30 8 A. It states that.

14:30 9 Q. It's not something you considered in your investigation,
14:30 10 is it, sir?

14:30 11 A. We looked at what was in the well control manual and, you
14:30 12 know, it's consistent with what we train our drillers to do
14:30 13 with regard to kicks and getting gas into the riser. So what's
14:30 14 in the manual we looked at, and that's what we did.

14:30 15 This case, if memory serves, I think there was a
14:30 16 training deficiency of the person that was on the drill floor
14:30 17 of this particular case, and that was one of the big issues.
14:31 18 That wasn't really the case on the *Horizon*; everybody had all
14:31 19 the training that we would provide, and they were very well
14:31 20 trained.

14:31 21 Q. Let's go then to October 21, 2009 -- I'm sorry, the
14:31 22 December of 2009 with the *Sedco 711*. Are you familiar with
14:31 23 that?

14:31 24 A. Yes.

14:31 25 Q. A well control event?

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14:31 1 A. Yes, I am.

14:31 2 Q. You have an uncontrolled release of hydrocarbons onto the
14:31 3 drill floor, correct?

14:31 4 MR. DEGRAVELLES: Let's go to TREN-17.60.2.1.

14:31 5 BY MR. DEGRAVELLES:

14:31 6 Q. And a failure to notice kick indicators, correct?

14:31 7 A. Yes, that's what it stated.

14:31 8 We looked at this one as well. The results of this
14:31 9 were basically covered in our policies and procedures, and so
14:31 10 there were no real new learnings. I know there was an alert
14:31 11 that came out after this, and we looked at that and how it was
14:31 12 transmitted. It didn't make it to the *Horizon*; we know that.

14:32 13 When we looked at it, we said, "Would they have used
14:32 14 it? Would that alert or that" -- it was actually an advisory;
14:32 15 it wasn't even an alert. Alerts are our highest level. This
14:32 16 was an advisory.

14:32 17 We said, "Would they have used that in the *Horizon*
14:32 18 incident?" So that's the way we looked at that particular
14:32 19 incident when we were doing the investigation. And in this
14:32 20 case it was a completion operation, which is different than
14:32 21 drilling operation. And I'm not saying there weren't some
14:32 22 similarities; I think there were. But the fact was it was a
14:32 23 downhole valve, a mechanical valve that failed; it wasn't a
14:32 24 cement barrier.

14:32 25 When we went back and we looked at two days before

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1 the incident, on the 18th, at their drill crew safety meeting
2 they actually reviewed not this advisory; they reviewed an
3 advisory about a cement barrier failure. This is what we ask
4 people to do at the safety events -- at their safety meetings
5 each week.

6 So from that standpoint, in the mind-set of a drill
7 crew, would this have applied to what they were about to go in
8 and do, we don't think it would have because it was related to
9 completion operations on a totally different failure mode from
10 what they were about to do.

11 Q. Was there a discussion -- again, I have read it and maybe
12 I missed it. Was there a discussion anywhere in your
13 Transocean investigation of any of these events?

14 A. Again, we didn't find a relationship to what we thought
15 happened on the *Horizon*. So we didn't write up everything we
16 looked at. This was just something we did discuss but we just
17 didn't include because we didn't find a link.

18 MR. DEGRAVELLES: Let's go to 3505A, TREX-3505A.

19 BY MR. DEGRAVELLES:

20 Q. E-mail from Mr. Neil Clyne to Ed Moro regarding the 711
21 well control incident.

22 Second paragraph: "Our mind-set is certainly less
23 vigilant regarding well control preparedness during the
24 completion phase of the well compared to the drilling phase."

25 That certainly applies to the *Deepwater Horizon*,

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14:34 1 doesn't it, sir?

14:34 2 A. No, they weren't completing the well. Completions is a
14:34 3 whole separate operation, where you purposely underbalance the
14:34 4 well to make it flow.

14:34 5 Q. They were not in the drilling phase, though, were they,
14:34 6 sir?

14:34 7 A. Yes, they were. Until the rig came off this well, it's
14:34 8 the drilling phase.

14:34 9 Completion is coming back with a whole different set
14:34 10 of tools, running them in the hole, getting the well ready to
14:34 11 flow back and produce. That's a completely different
14:34 12 operation.

14:34 13 **MR. DEGRAVELLES:** Let's go to 5486.17.1.

14:34 14 **BY MR. DEGRAVELLES:**

14:34 15 Q. Are you familiar with a health and safety environmental
14:34 16 meeting at Transocean engineering and technical support that
14:35 17 was done in December of 2009?

14:35 18 A. I'm sorry? I don't know what --

14:35 19 **MR. DEGRAVELLES:** Go back to the first page, if you
14:35 20 could, the cover page, Carl.

14:35 21 **BY MR. DEGRAVELLES:**

14:35 22 Q. Engineering and technical support, HSE meeting,
14:35 23 December 2009. Is that a document that you looked at in
14:35 24 connection with your investigation?

14:35 25 A. I don't remember looking at this, no.

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14:35 1 MR. DEGRAVELLES: Could we go to TREN-5486.17.1.

14:35 2 BY MR. DEGRAVELLES:

14:35 3 Q. "What you said" -- this is in December, maybe six months
14:35 4 before the *Deepwater Horizon* explosion: "First: admit that we
14:35 5 have lost our safety culture. There is no quick fix; we have
14:35 6 to rebuild it!"

14:35 7 Did you see that and did you take that into account,
14:35 8 sir?

14:35 9 A. I don't remember seeing this during the course of the
14:35 10 investigation. I don't know the background for this document
14:35 11 and who put it together.

14:35 12 Q. Do you know who Larry McMahan is, sir?

14:36 13 A. Yes.

14:36 14 MR. DEGRAVELLES: If you could go to 5486.6.2.

14:36 15 BY MR. DEGRAVELLES:

14:36 16 Q. Do you know who Jimmy Moore is?

14:36 17 A. Yes, I do.

14:36 18 Q. Who is Jimmy Moore, sir?

14:36 19 A. He was in our QHSE department at the time.

14:36 20 Q. Larry McMahan, vice president of performance?

14:36 21 A. I think that was his title at the time, yes.

14:36 22 Q. Do you see that they gave presentations at this meeting
14:36 23 and wish -- they said there was a lost safety culture? Did you
14:36 24 see that, sir?

14:36 25 A. Talking about the quote on the previous page?

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14:36 1 Q. Yes, sir.

14:36 2 A. Yes, I saw that.

14:36 3 Q. Do you want to go back to it?

14:36 4 A. I said, yes, I saw that.

14:36 5 MR. DEGRAVELLES: Let's go then to TREX-26052.

14:36 6 BY MR. DEGRAVELLES:

14:36 7 Q. It's dated October 21, 2009. I assume you got this e-mail
14:36 8 from Mr. Newman on October 21, 2009?

14:37 9 A. Yes, I believe I did.

14:37 10 Q. You have some hesitancy. Is there some doubt that you got
14:37 11 it or didn't get it?

14:37 12 A. I was just reading it, sorry, just seeing what it was.

14:37 13 Q. "In less than four months four of our friends and
14:37 14 colleagues . . . died while at work on different Transocean
14:37 15 rigs."

14:37 16 Do you see that?

14:37 17 A. Yes, I remember that.

14:37 18 Q. Second paragraph: "We are deeply concerned about these
14:37 19 fatalities as well as the nature and increasing number of
14:37 20 high-potential incidents and personnel injuries we are
14:37 21 experiencing across our fleet."

14:37 22 Do you see that?

14:37 23 A. Yes.

14:37 24 Q. "This tells us something's not right. We're clearly not
14:37 25 executing our safety processes as well as we once thought - and

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1 we need to find out why. It is vital that we learn from these
2 recent experiences so that no one else is injured or killed."

3 Do you see that?

4 A. Yes.

5 Q. Then two paragraphs down, "We must learn why we cannot
6 seem to operate without serious incidents and injury to our
7 people"; correct?

8 A. Yes.

9 Q. And this is six, seven months before the
10 *Deepwater Horizon*, correct?

11 A. October, yeah, about seven months.

12 Q. This is not a document that you considered in your
13 Transocean investigation, is it, sir?

14 A. We didn't specifically look at this document, no.

15 Q. You didn't specifically look at the increasing number of
16 high potential incidents, did you, sir? That you were
17 experiencing across your fleet?

18 A. Well, I remember this period of time.

19 Q. Could you answer my question, and then you can explain.

20 You didn't consider the high potential serious
21 incident, did you sir?

22 MS. CLINGMAN: Your Honor, I ask that the witness be
23 allowed to give his answer.

24 MR. DEGRAVELLES: If he can answer and then explain,
25 Judge.

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14:38 1 THE COURT: If you can answer his question and then,
14:39 2 if you want to explain, go ahead.

14:39 3 THE WITNESS: Okay. Can you --

14:39 4 BY MR. DEGRAVELLES:

14:39 5 Q. Sure. You did not, as a part of your Transocean
14:39 6 investigation, consider the increasing number of high potential
14:39 7 incidents that Mr. Newman is referring to, did you, sir?

14:39 8 A. We didn't look at these particular incidents because what
14:39 9 they are referring to are primarily dropped object-type events.
14:39 10 We suffered a period where we lost four people and it was a
14:39 11 very bad time and we needed to raise awareness and get people
14:39 12 refocused. That's what a lot of these e-mails are, people
14:39 13 overreacting, which they very well should have and did, to get
14:39 14 back on track with personal safety-related issues that were
14:39 15 happening in the company.

14:39 16 This particular period of time -- and they are
14:39 17 talking about dropped objects, people having cut fingers or
14:39 18 things that are personal safety in nature, and that's what a
14:39 19 lot of this was geared -- a lot of this was about.

14:40 20 So did we look at things like that in relation to a
14:40 21 major blowout? We didn't.

14:40 22 Q. Let me make sure the judge understands your testimony,
14:40 23 sir. You are saying that when Mr. Newman, seriously concerned
14:40 24 about high potential incidents, he is talking about dropped
14:40 25 objects, right?

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14:40 1 A. To my best of my recollection, in this period of time
14:40 2 that's what a lot of these types of incidents were. We call
14:40 3 those "high potential incidents."

14:40 4 Q. You also called this an "overreaction," correct, sir?

14:40 5 A. I'm saying we necessarily overreacted.

14:40 6 Q. I see.

14:40 7 A. That's what you do in these kind of things.

14:40 8 Q. How many of those four fatalities were dropped objects,
14:40 9 sir?

14:40 10 A. I can't remember the number, sir.

14:40 11 Q. In addition to all of this, we have -- between December of
14:40 12 2008 and December of 2009 -- six separate riser unloading
14:40 13 events, do we not, sir?

14:40 14 A. I don't remember the number, but there were some.

14:40 15 Q. Do you remember anything about riser events between
14:41 16 December 2008 and December 2009?

14:41 17 A. Yes. We just talked about two or three of them.

14:41 18 Q. You didn't look at the *Well Control Events and Statistics*
14:41 19 publication from 2005 to 2009 as a part of your investigation
14:41 20 into this event, did you, sir?

14:41 21 A. I didn't personally, but I know that some people on the
14:41 22 team looked at that document.

14:41 23 Q. It certainly is not included anywhere in the discussion of
14:41 24 any of the many pages of that investigation, correct, sir?

14:41 25 A. No. If there had been a similarity, we would have

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14:41 1 included it, but we didn't see any.

14:41 2 MR. DEGRAVELLES: Let's pull up TREN-36070.7.1.

14:41 3 BY MR. DEGRAVELLES:

14:41 4 Q. "The frequency of riser unloading events is the biggest
14:41 5 concern with six separate instances recorded between
14:41 6 December 2008 and December 2009. These can be avoided through
14:41 7 the application of fundamental well control practices such as
14:42 8 treating every positive indicator as a kick, shutting in
14:42 9 quickly, and taking returns through the choke whenever in any
14:42 10 doubt whatsoever."

14:42 11 Did I read that correctly?

14:42 12 A. That's what it states.

14:42 13 Q. The *Deepwater Horizon* was a riser unloading event, was it
14:42 14 not, sir?

14:42 15 A. It was, and it manifested itself in a different way than,
14:42 16 you know, some of these others.

14:42 17 Q. But you didn't know that because you didn't look at this
14:42 18 document; isn't that true, sir?

14:42 19 A. I didn't look at this specific document, but some of my
14:42 20 team members had looked at some of these events.

14:42 21 Q. So what you are telling us is that you headed this
14:42 22 investigation and you saw absolutely no connection between the
14:42 23 system-wide safety problem that we have just been talking about
14:42 24 and what happened on the *Deepwater Horizon*; is that true, sir?

14:42 25 A. Which are we talking about? These six events or the --

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1 Q. Talking about -- I'll tell you exactly what I'm talking
2 about. I'm talking about the total loss of safety culture
3 identified in December of 2009 at the health, safety, and
4 environment meeting.

5 You saw no connection between what happened on
6 April 20 and that, correct, sir?

7 A. I will say it again: No, we did not find -- that was a
8 different set of issues that was happening in the company than
9 what we found in this.

10 Q. Well, you don't know what he was talking about when he
11 said "lost safety culture," sir, do you?

12 A. I'm just talking about what I remember in that period of
13 time and what these incidents were about, sir.

14 Q. But you have no idea what the man was talking about.
15 That's the first time you saw that document; isn't that true,
16 Mr. Ambrose?

17 A. I don't remember seeing that specific document before.

18 Q. You made no connection between the increasing number of
19 high potential incidents referred to by Steve Newman in October
20 of 2009 and what happened on April 20; isn't that true, sir?

21 A. Just from my recollection, I will say it again: Those
22 were different types of incidents than what we are talking
23 about with the particular *Horizon* incident.

24 Q. You saw no connection between the loss of control events
25 occurring -- in Mr. McMahon's words, "at an overwhelming rate,"

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14:44 1 in his March of '08 e-mail; isn't that true, sir?

14:44 2 A. I'm sorry, which e-mail are you talking about again?

14:44 3 Q. The March of '08 e-mail when Mr. McMahon talks about "loss
14:44 4 of control events occurring at an overwhelming rate." You saw
14:44 5 no connection between that and April 20, 2010, right, sir?

14:44 6 A. Again, I don't know the basis for that specific e-mail, so
14:44 7 I -- no.

14:44 8 Q. So you didn't look into it?

14:44 9 A. No.

14:44 10 Q. And you didn't make any connection between the four
14:44 11 fatalities in four months and what happened on
14:44 12 October [*sic*] 20, 2010; isn't that true, sir?

14:44 13 A. I just say that we knew of that, but no, we did not use
14:44 14 that with regards to the *Horizon* -- finding out the facts of
14:44 15 what happened on the *Horizon*.

14:44 16 Q. You made no connection between what happened on the
14:44 17 *Jim Cunningham*, the *M.G. Hulme* and the *Sedco 711* and what
14:45 18 happened on April 20, 2010; isn't that true, sir?

14:45 19 A. As I explained to you, we did look at those. We did not
14:45 20 see any similarities that would cause us to look at a systemic
14:45 21 type of issue with regards to those events and the *Horizon*.

14:45 22 Q. You saw no connection between the déjà vu moment by
14:45 23 Mr. Cabucio when, for five years, there is no improvement. And
14:45 24 the definition of insanity is doing the same thing over and
14:45 25 over again and expecting a different result, correct?

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14:45 1 A. I repeat, I -- again, we were rolling out initially a new
14:45 2 program, and we recognized that we needed to continue that
14:45 3 training; and they were rolling out a new safety leadership
14:45 4 training program that year to reinforce that and improve it.

14:45 5 Q. Five years to roll it out?

14:45 6 A. It does take some time, sir, to roll out new programs.

14:45 7 Q. Thank you, sir.

14:45 8 MR. DEGRAVELLES: I pass the witness.

14:45 9 THE COURT: All right. Let's take about a 15-minute
14:45 10 recess.

14:45 11 THE DEPUTY CLERK: All rise.

14:45 12 (Recess.)

15:04 13 THE COURT: Please be seated.

15:04 14 MR. BAAY: Your Honor, David Baay for Transocean. At
15:04 15 this time I would just like to quickly offer the exhibits and
15:04 16 demonstratives used for Greg Childs' direct examination into
15:04 17 evidence.

15:04 18 THE COURT: Any objection to Transocean's exhibits?

15:04 19 Without objection, they're admitted.

15:04 20 MR. BAAY: Thank you, Your Honor.

15:04 21 MR. LI: Your Honor, Luis Li on behalf of Transocean.
15:04 22 I would like to offer the exhibits of David Young that we used
15:04 23 yesterday.

15:04 24 THE COURT: Any objections?

15:04 25 Hearing none, those are admitted.

15:04 1 **MR. HERMAN:** Steve Herman for the plaintiffs,
15:04 2 Your Honor. There are some bundles for people that were on
15:04 3 live witness lists that now are not going to appear live, and
15:04 4 some of them were conditionally admitted.

15:04 5 We would like to unconditionally offer, file,
15:04 6 and introduce the bundles of Lindner, Meinhart, Neal, Murry
15:05 7 Sepulvado, Daun Winslow, and Larry McMahan.

15:05 8 **THE COURT:** Any objection?

15:05 9 **MR. BRIAN:** Brad Brian for Transocean, Your Honor. I
15:05 10 think the only person we would raise an issue with would be
15:05 11 Daun Winslow. I think -- we are not going to call Mr. Winslow,
15:05 12 but I think BP is considering calling him. We are still in
15:05 13 discussions with that. So I think until that's resolved, I
15:05 14 would suggest that --

15:05 15 **THE COURT:** We'll reserve that, and I will admit the
15:05 16 others. Okay?

15:05 17 **MR. BRIAN:** And I guess the other was -- I think that
15:05 18 no one is calling Larry McMahan. We have no objection, subject
15:05 19 to that.

15:05 20 **MR. BROCK:** We reserved on McMahan.

15:05 21 **THE COURT:** I will withhold ruling on those two, but
15:05 22 other than that, those are -- the others I admit.

15:05 23 **MR. BRIAN:** Your Honor, Brad Brian for Transocean. I
15:05 24 have here what I think is a thumb drive. I'm not a very
15:05 25 electronic person. But this is for the videotapes we played

15:05 1 yesterday of Mr. Williams, Mr. Meinhart, Mr. Wolfe, Mr. Odom,
15:05 2 and Mr. Neal. I need to offer this in evidence.

15:05 3 **THE COURT:** Those are admitted.

15:06 4 **MR. BRIAN:** Finally, Your Honor, we circulated
15:06 5 earlier today by e-mail a list of exhibits we would offer from
15:06 6 Mr. Wolfe's expert report, including his report and rebuttal
15:06 7 report. I don't know that all counsel had a chance to review
15:06 8 those or not. I would offer them, but they were circulated
15:06 9 probably about noon or 1:00.

15:06 10 **THE COURT:** Why don't we hold off until tomorrow
15:06 11 morning. It looks like somebody was going to comment. So we
15:06 12 will give everyone until tomorrow morning. Reraise that in the
15:06 13 morning.

15:06 14 **MR. BRIAN:** I will provide Ben and your clerk with
15:06 15 the list and also the four demonstratives that are contained in
15:06 16 it that I showed yesterday.

15:06 17 **THE COURT:** Why don't you hold off giving that to us
15:06 18 until everybody has looked at it.

15:06 19 **MR. BRIAN:** That's fine, Your Honor.

15:06 20 **MR. IRPINO:** Anthony Irpino for the PSC, Your Honor.
15:06 21 We are going to send our exhibits around, for Young, in a
15:06 22 little bit. So we will introduce those tomorrow morning as we
15:06 23 come back in.

15:06 24 **THE COURT:** One other matter. Someone raised earlier
15:07 25 whether we will have or should have an exhibit marshaling

15:07 1 conference tomorrow afternoon since we are not working Thursday
15:07 2 of this week. I think there was some sense by at least some
15:07 3 parties that perhaps it would make sense just to defer that and
15:07 4 do it all next week together.

15:07 5 Anybody want to say anything else on that? If
15:07 6 that's the consensus, that's fine with me.

15:07 7 Okay. We will just say we will not have a
15:07 8 marshaling conference this week, and I'm sure Judge Shushan
15:07 9 will be happy to get back next week and have something to do
15:07 10 since she is still not answering my e-mails.

15:07 11 **MR. BRIAN:** Brad Brian again for Transocean. I know
15:07 12 you were kind enough to give us off this Thursday and Friday.
15:07 13 Do you know what time we are going to go to until tomorrow? I
15:07 14 ask that because since you said we are off on Thursday and
15:07 15 Friday, I've got a flight at 7:30. Would you consider ending
15:08 16 at 5:30 instead of 6:00?

15:08 17 **THE COURT:** It's always dangerous to make flight
15:08 18 plans when you don't know what time --

15:08 19 **MR. BRIAN:** I was expecting some applause, by the
15:08 20 way, from that --

15:08 21 **MS. KARIS:** That's the "ask for forgiveness" rather
15:08 22 than "permission" mentality.

15:08 23 **THE COURT:** After the fact. So your motion is that
15:08 24 we recess at 5:30 tomorrow?

15:08 25 **MR. BRIAN:** I would probably describe it as an

1 unopposed motion, Your Honor, but I have lost unopposed motions
2 before.

3 **THE COURT:** All right. If there's no opposition to
4 that motion, I will grant that.

5 **MR. BRIAN:** Thank you.

6 **THE COURT:** Anybody have anything else?
7 Who is up next? United States have any
8 questions for this witness?

9 **MS. HANKEY:** No questions.

10 **THE COURT:** Alabama?

11 **MR. MAZE:** No questions.

12 **THE COURT:** Louisiana?

13 **MR. KANNER:** No questions, Your Honor.

14 **THE COURT:** So we are to Halliburton?

15 **MR. HILL:** Thank you, Your Honor. May I proceed?
16 Gavin Hill for Halliburton, and I have
17 Mr. Ambrose on cross-examination.

18 **CROSS-EXAMINATION**

19 **BY MR. HILL:**

20 **Q.** Good afternoon, Mr. Ambrose.

21 **A.** Hello.

22 **Q.** I have a very narrow subject matter from your report that
23 I'd like to talk to you about and just a few items in response
24 to questions that you were asked before.

25 Let me just ask you, first of all, you don't consider

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15:09 1 yourself an expert in cementing, do you?

15:10 2 A. No, sir.

15:10 3 Q. You're not -- don't have any expertise in cement
15:10 4 chemistry, right?

15:10 5 A. No, sir.

15:10 6 Q. You don't have any cement -- or expertise in cement slurry
15:10 7 design, do you?

15:10 8 A. No, sir.

15:10 9 Q. You have no cementing expertise in slurry testing,
15:10 10 correct?

15:10 11 A. No, sir.

15:10 12 Q. That's correct?

15:10 13 A. That's correct.

15:10 14 Q. You have no cementing -- or any expertise in modeling
15:10 15 cement jobs through a program such as OptiCem and some of the
15:10 16 programs we have heard about in court, right?

15:10 17 A. I do not.

15:10 18 Q. In fact, to the extent that there are opinions about
15:10 19 cement in your report, you relied primarily on the work of
15:10 20 George Birch, correct?

15:10 21 A. That's correct.

15:10 22 Q. And as far as you know, George Birch has not been
15:10 23 designated as an expert in this case?

15:10 24 A. That's correct.

15:10 25 Q. A couple of things I want to touch on with respect to

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1 something you said in response to -- I believe it was
2 plaintiffs' counsel's questioning about the CBL. Do you recall
3 being asked about the cement bond log?

4 A. Yes.

5 Q. I think you had testified that the cement bond log,
6 because of the location of the float collar, was not capable of
7 actually seeing, for lack of a better word, the entire
8 formation. Correct?

9 A. Correct.

10 Q. However, regardless of the location of the float collar,
11 you would agree that a cement bond log had the opportunity to
12 see and evaluate the top of cement in the annulus, correct?

13 A. Yes, it would have been able to see the top.

14 Q. You would agree that the top of cement -- or evaluation of
15 the top of cement can tell you, just as a matter of common
16 sense, about whether or not there were any issues with the
17 placement of cement after cement displacement, correct?

18 A. Yes, you can see that.

19 Q. I also want to confirm that you -- when your team did its
20 investigation at Transocean, your team did not have the benefit
21 of reviewing all of the MDL deposition transcripts, correct?

22 A. No, sir.

23 Q. So to the extent that there is testimony in the MDL that's
24 inconsistent with some of the factual things that your team
25 came up with while reviewing documents, you would agree that

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15:12 1 there's a legitimate dispute, correct?

15:12 2 A. That would make sense.

15:12 3 Q. Well, let me give you an example. We'll save that for the
15:12 4 end, if it's even necessary.

15:12 5 Well, let's talk about -- what I want to talk to you
15:12 6 about is the float collar. And did you participate in the
15:12 7 drafting of the section of the report, Chapter 3, that talked
15:12 8 about the float collar and whether or not -- in Transocean's
15:12 9 findings with respect to whether it converted?

15:12 10 A. Yes.

15:12 11 Q. So you're familiar generally with the function of a float
15:12 12 collar, correct?

15:12 13 A. Yes, sir.

15:12 14 Q. And its purpose?

15:12 15 A. Yes, sir.

15:12 16 Q. You are familiar with the Transocean findings with respect
15:12 17 for the float collar, correct?

15:12 18 A. Yes, sir.

15:12 19 **MR. HILL:** Why don't we start by bringing up
15:12 20 Transocean's report, TREX-4248. And let's go to page 213,
15:12 21 please.

15:12 22 Can we bring out this paragraph right here, the
15:13 23 last paragraph of Section 4.2.

15:13 24 **BY MR. HILL:**

15:13 25 Q. In your Transocean report it says: "The investigation

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1 team found it likely that debris in the wellbore may have
2 plugged the shoe track assembly and float collar and blocked
3 circulation during the first eight attempts to convert the
4 float collar. The increase to 3142 psi may have cleared debris
5 from the system without converting the float collar. If the
6 float collar failed to convert, the cement program may have
7 been further compromised."

8 That was a finding in the Transocean report, correct?

9 A. Yes.

10 Q. What I would like to do is just ask you some questions
11 that kind of break that down a little bit about how you came to
12 that conclusion. Okay?

13 A. Okay.

14 MR. HILL: To assist us, can we bring up
15 Demonstrative 8015, please.

16 BY MR. HILL:

17 Q. This is a demonstrative that Halliburton has prepared, and
18 it is obviously the casing already set at total depth.

19 For the Court's benefit, would you agree with me, in
20 explaining how it gets to this situation, that that casing is
21 lowered down to the bottom; and when it's set at the bottom,
22 that's when you begin this operation of attempting to convert
23 the float collar? Correct?

24 A. Yes, you have the casing in place.

25 Q. This right here where it's identified as a float collar --

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15:14 1 we're going to get a better picture of it -- but that's the
15:14 2 float collar that's located at the top of the shoe track,
15:14 3 correct?

15:14 4 A. Yes.

15:14 5 Q. Down at the bottom, this reamer shoe is the bottom of the
15:14 6 shoe track, correct?

15:14 7 A. Yes.

15:14 8 Q. In between, that distance from the float collar down to
15:14 9 the bottom of the casing, that is typically called the shoe
15:14 10 track. Fair?

15:14 11 A. Yes.

15:14 12 Q. Now, when this casing is run into the hole, that float
15:14 13 collar is in what they call an unconverted or an untripped
15:14 14 condition. Fair?

15:14 15 A. Yes.

15:14 16 Q. At least with respect to the operation that was run at
15:14 17 Macondo, right?

15:14 18 A. Yes.

15:15 19 Q. You would agree with me that what that essentially does is
15:15 20 allow the mud, the drilling mud that's in the hole, to pass
15:15 21 through these skirts at the bottom of the reamer shoe, pass
15:15 22 through the float collar, and on up the casing as the casing is
15:15 23 being descended, correct?

15:15 24 A. Yes.

15:15 25 MR. HILL: Can we get Demonstrative 8036, please.

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15:15 1 BY MR. HILL:

15:15 2 Q. What I have put up here, Mr. Ambrose, is the Weatherford
15:15 3 float collar, the M45AP, which was the specific float collar
15:15 4 that was used at Macondo, correct?

15:15 5 A. I believe this is it, yes.

15:15 6 Q. Your report cites it as this, correct?

15:15 7 A. Yes.

15:15 8 Q. So that the Court understands exactly what the internal
15:15 9 guts or the functioning parts of the float collar are, there
15:15 10 are two flapper valves right here, correct?

15:15 11 A. Yes.

15:15 12 Q. Those flapper valves are locked open in the open position
15:15 13 by the insertion of this auto-fill tube, correct?

15:15 14 A. That's correct.

15:15 15 Q. As it's being run into the hole in the manner that we just
15:15 16 discussed. That is the tube through which this drilling mud
15:16 17 flows, correct?

15:16 18 A. It is.

15:16 19 Q. Once it's set in place, this ball down here falls to the
15:16 20 bottom, correct?

15:16 21 A. Yes, the ball's down at the bottom.

15:16 22 Q. And there are two little ports next to the ball. Fair?

15:16 23 A. Yes.

15:16 24 Q. I would like to explain to the Court this process of
15:16 25 converting the float collar and what is supposed to happen.

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15:16 1 Okay? This is something that your team, your investigative
15:16 2 team looked at with respect to the operations at Macondo,
15:16 3 right?

15:16 4 A. Yes.

15:16 5 Q. When you circulate mud through this, the mud goes through
15:16 6 those two little holes above the ball and creates a pressure
15:16 7 differential, correct?

15:16 8 A. That's correct.

15:16 9 Q. Do you know, is there a -- does Weatherford provide
15:16 10 specifications about how to convert this float collar?

15:16 11 A. Yes, it does.

15:16 12 Q. Do you recall what they are?

15:16 13 A. I think this was 4- to 8-barrels-per-minute flow rates.

15:16 14 **MR. HILL:** Why don't we pull up TREN-2562.

15:16 15 **BY MR. HILL:**

15:17 16 Q. I am not trying to ask you -- this isn't a memory quiz.
15:17 17 There are places in your report I could point you to, but I'm
15:17 18 trying to move it along in the interest of time.

15:17 19 Have you seen the Weatherford specifications
15:17 20 themselves?

15:17 21 A. I think we had this as part of our investigation, yes.

15:17 22 **MR. HILL:** Could we please pull up that line right
15:17 23 there, "5 to 8."

15:17 24 **BY MR. HILL:**

15:17 25 Q. In order to activate this float collar, Weatherford

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15:17 1 specifies that you need to generate 5 to 8 barrels per minute
15:17 2 of flow, and that is supposed to generate 500 to 700 psi of
15:17 3 pressure, correct?

15:17 4 A. That's correct.

15:17 5 Q. So would you agree with me that the way Weatherford says
15:17 6 you are supposed to trip or activate this float collar is to
15:17 7 circulate at anywhere from 5 to 8 barrels per minute in order
15:17 8 to create a pressure differential of between 500 and 700 psi?

15:17 9 A. That's correct.

15:17 10 **MR. HILL:** Now, if we could go back to D-8036.

15:33 11 **BY MR. HILL:**

15:33 12 Q. Mr. Ambrose, when your team investigated this, you know
15:18 13 that if you achieve that pressure differential, that
15:18 14 essentially shears the pins off right here, holding this
15:18 15 autofill tube in, correct?

15:18 16 A. That's right.

15:18 17 Q. This autofill and this actuator ball fall to the bottom of
15:18 18 the casing, correct?

15:18 19 A. Yes, they would.

15:18 20 Q. What happens to the valves?

15:18 21 A. The two flaps then close.

15:18 22 Q. They're spring-loaded, correct?

15:18 23 A. Yes.

15:18 24 Q. That essentially creates a one-way valve out of what used
15:18 25 to be a two-way valve when the tube was inserted, correct?

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15:18 1 A. Correct.

15:18 2 Q. The purpose of actually going through this process of
15:18 3 converting the float collar is to set up for the cement job,
15:18 4 right?

15:18 5 A. You would do it before the cement job, yes.

15:18 6 Q. Can you explain to the Court why that's necessary? What
15:18 7 is its relation to the cement job?

15:18 8 A. Normally what you would have is a heavier cement. So when
15:18 9 you pushed it to the annulus side, it would -- you would have a
15:18 10 lift pressure which would want to move the cement back into the
15:19 11 wellbore.

15:19 12 So they would call that lift pressure, viewed as a
15:19 13 balance scale. You want it heavier on the annulus side so the
15:19 14 floats would close, and then they wouldn't be able to move back
15:19 15 into the casing.

15:19 16 Q. Right. So basically, after you have pumped the cement
15:19 17 into place it prevents the U-tubing of the cement and any other
15:19 18 fluids back up past the float collar. Fair?

15:19 19 A. Correct.

15:19 20 Q. Did your investigation look into whether or that
15:19 21 activation actually occurred at Macondo?

15:19 22 A. We tested the -- the identical, actually, float collar.

15:19 23 Q. You got some of these M45AP float collars and actually
15:19 24 conducted a series of tests on them, didn't you?

15:19 25 A. We did.

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15:19 1 Q. I'm going to talk to you about a couple of those. But
15:19 2 before we do that, you learned a few things about the way this
15:19 3 operation went at Macondo. You learned that BP didn't follow
15:19 4 Weatherford specifications for float collar conversion,
15:19 5 correct?

15:19 6 A. No, it didn't convert at the -- the rate wasn't right and
15:19 7 it didn't convert the pressure.

15:19 8 Q. In fact, when BP attempted to actually circulate in order
15:20 9 to convert the float collar they could not achieve any
15:20 10 circulation at all, could they?

15:20 11 A. Initially, no. Correct.

15:20 12 Q. In fact, they had to pressure up nine times prior to
15:20 13 actually getting any circulation to occur, right?

15:20 14 A. The ninth time is when we believe, you know, something
15:20 15 happened.

15:20 16 Q. Do you recall what the pressure reading was -- or what the
15:20 17 static pressure was on the ninth attempt?

15:20 18 A. 3100-something psi. 3140? I can't remember.

15:20 19 Q. 3142 psi?

15:20 20 A. Yes.

15:20 21 Q. Does that sound right?

15:20 22 A. Yes.

15:20 23 Q. This float collar was designed to be converted by
15:20 24 flow-rate-induced pressure differential, correct?

15:20 25 A. Correct.

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15:20 1 Q. But since BP could not obtain any circulation at all
15:20 2 through it, they built up nine times, with nine peaks of static
15:20 3 pressure, up to 3142 psi, correct?

15:20 4 A. That's correct.

15:20 5 Q. On that ninth attempt it broke circulation, it all gave
15:20 6 way, and they were able to get circulation, correct?

15:20 7 A. That's correct.

15:20 8 Q. Every time that they asked the rig crew to pump in order
15:21 9 to achieve these nine attempts, they never asked them to pump
15:21 10 more than two barrels per minute, correct?

15:21 11 A. That's right. On one attempt it was two barrels. The
15:21 12 rest were at one barrel per minute.

15:21 13 Q. Those are definitely below the five to eight barrels per
15:21 14 minute that is specified in the Weatherford specifications for
15:21 15 conversion, correct?

15:21 16 A. That's correct.

15:21 17 Q. Even after circulation was obtained, BP then circulated
15:21 18 mud, correct?

15:21 19 A. Yeah. I believe they did, yes.

15:21 20 Q. We can go to the drilling reports. But you would agree
15:21 21 with me that what they actually did was circulate up to maybe
15:21 22 four barrels per minute but never in the range of five to
15:21 23 eight. Correct?

15:21 24 A. I don't remember the numbers after they converted. We
15:21 25 would have to look at that.

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15:21 1 MR. HILL: Can you bring up TREN-1455, please.

15:33 2 BY MR. HILL:

15:33 3 Q. Now, this is the --

15:21 4 MR. HILL: If you can pull that out up there at the
15:21 5 top, just the whole top header.

15:33 6 BY MR. HILL:

15:33 7 Q. This is the April 19 daily drilling -- or April 19 Daily
15:22 8 Drilling Report 2010.

15:22 9 Do you see that date up there?

15:22 10 A. Yes.

15:22 11 Q. That was the date that they attempted this operation to
15:22 12 convert the float collar, correct?

15:22 13 A. Yes, it was.

15:22 14 MR. HILL: Can you go to the second page please,
15:22 15 Bates ending in 6941. Let's just pull this up right here.

15:33 16 I know this is really small print. Is there any way
15:22 17 to make it bigger?

15:33 18 BY MR. HILL:

15:22 19 Q. And you have that in front of you on the screen.

15:22 20 Does this identify the nine pressure attempts, up to
15:22 21 3142 psi, that BP used to attempt to convert the float collar?

15:22 22 A. It looks like that period of time and that conversion in
15:22 23 the nine attempts, yes.

15:22 24 Q. I would like you to look at the last four or five lines in
15:23 25 the noted entry here and tell me if, after obtaining

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15:23 1 circulation after the ninth attempt, BP ever circulated
15:23 2 anything above four barrels per minute.

15:23 3 A. It looks like four was the most.

15:23 4 Q. Four barrels per minute is less than the five to eight
15:23 5 recommended by Weatherford to convert, correct?

15:23 6 A. That's right.

15:23 7 Q. In fact, you would agree that at no time during this
15:23 8 operation did BP request that the mud that's being pumped be
15:23 9 pumped at a rate that achieved the specified conversion rate
15:23 10 that Weatherford gave them. Correct?

15:23 11 A. That's correct.

15:23 12 Q. Now, your team also looked at why BP may have had trouble
15:23 13 converting the float collar, right?

15:24 14 A. Yes, we did.

15:24 15 Q. One of the things you found, that there was likely debris
15:24 16 in the wellbore as they brought this casing down with the
15:24 17 open -- with the float collar in its untripped mode, correct?

15:24 18 A. Yes.

15:24 19 Q. That debris came up into the casing and likely got into
15:24 20 the float collar equipment and/or reamer shoe. Fair?

15:24 21 A. That's our theory, yes.

15:24 22 Q. In fact, you know the purpose of conducting a bottoms-up
15:24 23 circulation, correct?

15:24 24 A. Condition the hole to get ready for a cement job.

15:24 25 Q. One of the things the bottoms-up circulation does is clean

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15:24 1 the hole of this debris, right?

15:24 2 A. Yes. It would get the cuttings out of the hole.

15:24 3 Q. If this operation took place on April 19, do you know the
15:24 4 last time prior to this time that BP actually conducted a full
15:24 5 bottoms-up circulation in the Macondo well?

15:24 6 A. You know, I don't remember the exact date. It was several
15:24 7 days before, I think, or more. I can't remember.

15:24 8 MR. HILL: Can you bring up TREC-60465, please.

15:33 9 BY MR. HILL:

15:33 10 Q. This is a Daily Drilling Report from April 16. And you
15:25 11 can see the date right there, correct?

15:25 12 A. Yes.

15:25 13 MR. HILL: If you would go to the second page,
15:25 14 please. Let's pull up this item right here, starting at 4:30.

15:25 15 Let's also pull up the one down below starting
15:25 16 at 12:00 noon. Stack them together.

15:33 17 BY MR. HILL:

15:33 18 Q. At 4:30 on the 16th, until 12:00 noon, for a period of
15:25 19 approximately 7 1/2 hours, BP circulated -- BP did a high
15:25 20 viscous sweep and circulated bottoms-up.

15:25 21 Do you see that?

15:25 22 A. Yes.

15:25 23 Q. That operation continued from noon until 2:00. So you add
15:25 24 another two hours, it took nine and a half hours to conduct a
15:25 25 full bottoms-up circulation, right?

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15:26 1 A. Looks like it, yes.

15:26 2 Q. When Transocean investigated this operation, did they find
15:26 3 any other time that BP had circulated bottoms-up in order to
15:26 4 clean debris out of the wellbore between April 16 and the time
15:26 5 they attempted to convert the float collar on April 19?

15:26 6 A. I don't remember seeing that in the IADC reports, but I
15:26 7 would have to go back and really check, to be honest.

15:26 8 Q. I assume we'll hear about it if I'm wrong. All right.

15:26 9 Now, one of the things -- and just to make sure we
15:26 10 are on the same page.

15:26 11 MR. HILL: Can we bring up D-8038, please.

15:33 12 BY MR. HILL:

15:33 13 Q. This is another demonstrative that Halliburton has
15:26 14 produced. And this is -- while I understand this is not your
15:26 15 graphic, do you agree this is consistent with the type of
15:26 16 debris that you were talking about and that the Transocean
15:26 17 investigation team considered likely to have blocked the float
15:26 18 collar conversion, specifically up in the float collar assembly
15:27 19 area and down in the reamer shoe area?

15:27 20 A. That's our theory, it was one of those two places, yes.

15:27 21 Q. Could it have been both?

15:27 22 A. Yes.

15:27 23 Q. All we know is something was plugged, right?

15:27 24 A. Yes.

15:27 25 Q. Let me ask you, Mr. Ambrose --

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15:27 1 MR. HILL: You can take that down --

15:33 2 BY MR. HILL:

15:33 3 Q. -- did your team at Transocean look at documents that
15:27 4 looked at BP's reaction to what happened when they achieved
15:27 5 circulation at 3142 psi?

15:27 6 A. We did.

15:27 7 MR. HILL: Can you bring up 4457, please. Pull that
15:27 8 up right there, please.

15:33 9 BY MR. HILL:

15:33 10 Q. This is an e-mail, on top, to Mark Hafle to -- I will
15:27 11 admit I don't know who that is.

15:27 12 But on April 9 Mark Hafle sent an e-mail saying
15:28 13 "shifted at 3140 psi. Or we hope so."

15:28 14 Did you see -- have you seen this document before?

15:28 15 A. It looks familiar. I think I've seen something like it
15:28 16 before.

15:28 17 Q. In your report you actually acknowledge that based on the
15:28 18 documents that you reviewed, there was concern expressed at BP
15:28 19 from documents as to whether or not what they had actually done
15:28 20 when they achieved circulation at 3140 psi, correct?

15:28 21 A. Yes. There were some questions, I think, in some of the
15:28 22 e-mail traffic about whether or not it converted.

15:28 23 Q. This e-mail was consistent with that, correct?

15:28 24 A. Yes.

15:28 25 MR. HILL: Can you bring up TREN-2584, please. Bring

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15:28 1 up this right here, please, and the one above it.

15:33 2 **BY MR. HILL:**

15:33 3 **Q.** Have you seen this e-mail exchange between Brian Morel and
15:28 4 Bryan Clawson at Weatherford?

15:28 5 **A.** I think I've seen this before.

15:29 6 **Q.** So on April 19, the same day of the float collar
15:29 7 operation, Mr. Morel writes to Bryan Clawson at Weatherford and
15:29 8 said: "Yah, we blew it at 3140. Still not sure what we blew
15:29 9 yet."

15:29 10 Is this a document that you reviewed?

15:29 11 **A.** I believe I've seen this before, yes.

15:29 12 **Q.** Is this a document that supports your conclusion that
15:29 13 expressed -- that concern was expressed by BP after obtaining
15:29 14 circulation on the ninth attempt?

15:29 15 **A.** Yes.

15:29 16 **Q.** One of the things I noted that you relied on in this
15:29 17 section quite a bit was Mr. Bob Kaluza's interview notes.
15:29 18 Right?

15:29 19 **A.** Yes.

15:29 20 **Q.** Have you seen those interview notes?

15:29 21 **A.** I read them a long time ago, yes.

15:29 22 **MR. HILL:** Can we bring up TRES-3188, please.

15:33 23 **BY MR. HILL:**

15:33 24 **Q.** One of the things your team also noted was that
15:29 25 immediately after obtaining circulation by pressuring up to

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1 3140 psi, that BP noticed another anomaly, correct?

2 A. You have to refresh my memory. Which one is it?

3 Q. Sure. Did you note that BP thought that it was anomalous
4 that there was a low circulating pressure after having -- after
5 circulation broke?

6 A. Yes. I think it was low by 100 or maybe 150 psi.

7 MR. HILL: Let's actually bring up Mr. Kaluza's
8 interview notes at TREC-3188. Let's bring up from here to
9 here. You can bring that down.

10 BY MR. HILL:

11 Q. You note at the top that these are Mr. Bob Kaluza's
12 interview notes from Wednesday, April 28, 2010, which I will
13 represent to you are interview notes conducted in association
14 with the Bly investigation. Okay?

15 A. Yes.

16 Q. In describing this operation, Mr. Kaluza talked about
17 "after shearing, kept going at one barrel per minute and had
18 128 psi. My opinion is that after it sheared, the flow came
19 back real quick. I said, 'Wow. Look at how much fluid we got
20 back.'

21 "Halliburton had modeled at four barrels per minute,
22 min pressure should be 570 psi." Correct?

23 A. Yes.

24 Q. Does that refresh your recollection of what the model
25 circulating pressure should have been?

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15:31 1 A. Yes. And I've seen this.

15:31 2 Q. They ramped up in one-barrel increments to get up to four
15:31 3 barrels per minute, and they were only able to read 350 psi
15:31 4 circulating pressure, correct?

15:31 5 A. That's correct.

15:31 6 Q. That's a difference of, what, 225 psi, right?

15:31 7 A. Yes.

15:31 8 Q. And this includes, then, in the interview, "I said, 'this
15:31 9 is odd, you guys. This is very low.'" Correct?

15:31 10 A. Yes.

15:31 11 Q. Now, Mr. Kaluza then discussed this with John Guide and
15:31 12 Keith Daigle. "John said, 'pump cement.'" Correct?

15:31 13 A. Yes, it says that.

15:32 14 Q. You don't have to be an expert. It's just common sense.
15:32 15 If your circulating pressures are low and you're pumping it
15:32 16 through a pressurized system, a lower circulating pressure
15:32 17 indicates that something has opened up in a larger geometry
15:32 18 than what you expected, correct?

15:32 19 A. Yes, that's true.

15:32 20 Q. Did you at Transocean do anything to discount the
15:32 21 possibility or to rule out that there could have been an
15:32 22 opening in the casing after this operation?

15:32 23 A. As far as the casing goes, we looked at -- there was a
15:32 24 test done at 11:30 that morning of the 20th. It was a positive
15:32 25 casing pressure test that we would have done before. And it

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15:32 1 was a good test. It passed.

15:32 2 Q. That positive pressure test actually pressures up from the
15:32 3 plugs on top of the float collar up to the BOP, correct?

15:32 4 A. That's correct.

15:32 5 Q. That does not look at what happened below the float collar
15:32 6 in the area of the shoe track, does it?

15:32 7 A. That's correct.

15:32 8 Q. So did you at Transocean do anything to rule out the
15:32 9 possibility that something opened up below the float collar
15:33 10 after the attempt to convert the negative -- the attempt to
15:33 11 convert the float collar?

15:33 12 A. Open up, as far as the shoe track, you mean?

15:33 13 Q. Yes, sir.

15:33 14 A. No. There's no way for us to have known that one.

15:33 15 Q. It's possible, isn't it, that something opened up below
15:33 16 the float collar?

15:33 17 MS. KARIS: Objection, calls for speculation. The
15:33 18 witness just said there's no way to know.

15:33 19 THE COURT: Sustained.

15:33 20 BY MR. HILL:

15:33 21 Q. Let's talk --

15:33 22 MR. HILL: About let's go back to demonstrative
15:33 23 D-8036, please.

15:33 24 BY MR. HILL:

15:33 25 Q. One of the conclusions that the Transocean investigative

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15:33 1 team came up -- came to was that they believe that because BP
15:33 2 pressurized up to 3142 psi without circulation, that they
15:34 3 likely shot that actuator ball out of the bottom of the tube.
15:34 4 Correct?

15:34 5 A. Yes, that's one option.

15:34 6 Q. So to understand what that means, if the ball is shot out
15:34 7 of the actuator tube, the autofill tube actually stays in place
15:34 8 and keeps those flapper valves open, correct?

15:34 9 A. That's correct.

15:34 10 Q. You had done some -- your team, I should say -- has done
15:34 11 some testing on actual float collars, correct?

15:34 12 A. Yes, we did.

15:34 13 Q. You guys actually applied pressure to that ball to find
15:34 14 out what pressures it would take to push it out of the autoflow
15:34 15 tube, correct?

15:34 16 A. We did it mechanically, then converted it back to a
15:34 17 pressure. Yes, we did that test.

15:34 18 Q. Understood. So you -- basically what that means is you
15:34 19 had to calculate what the psi would be based from that test,
15:34 20 correct?

15:34 21 A. You got it. Yes.

15:34 22 Q. You found out that in one of those tests you shot that
15:34 23 ball out of the tube at a pressure of 1477 psi, correct?

15:34 24 A. I believe that's the number, yes.

15:34 25 Q. We can look at page 53 of your report, if you are

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15:35 1 comfortable.

15:35 2 A. You're in the ballpark. I think one was at 1300-something
15:35 3 and one was at 1400-something.

15:35 4 Q. One was at 1477, according to your report, and one of them
15:35 5 was at 1840 psi. Okay?

15:35 6 A. Yes.

15:35 7 Q. Those two numbers are clearly lower than 3142 psi,
15:35 8 correct?

15:35 9 A. They are.

15:35 10 Q. In fact, your investigative team concluded that the likely
15:35 11 failure of the float collar was due to the fact that that high
15:35 12 pressure on the ninth attempt actually shot that ball out of
15:35 13 the tube and left the tube in place, correct?

15:35 14 A. That's our theory, yes.

15:35 15 Q. The effect of that is that the float collar never
15:35 16 converted?

15:35 17 A. Yes.

15:35 18 Q. And it retained its capacity of being a two-way valve,
15:35 19 essentially, right?

15:35 20 A. It would, yes.

15:35 21 Q. It wasn't converted to a one-way valve, correct?

15:35 22 A. That's correct.

15:35 23 Q. I noted you also previously testified that the fact that
15:35 24 during the negative pressure test that there was communication
15:35 25 with the wellbore or pressure being communicated from the

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15:36 1 formation is pretty good evidence that that float collar never
15:36 2 did convert.

15:36 3 A. Yes. In the testing we did, we closed the flaps on one
15:36 4 test just to see what kind of back pressure it could hold. I
15:36 5 believe the number was over 3000 psi.

15:36 6 Q. You would agree with me that the whole purpose of having
15:36 7 the shoe track is to be a gateway, or to help regulate
15:36 8 placement of the cement during the cement job. Correct?

15:36 9 A. That's what this is for, yes.

15:36 10 Q. You would agree with me that if you lose integrity of the
15:36 11 shoe track, you lose the ability to predict where you're
15:36 12 placing cement. Correct?

15:36 13 A. It could be somewhere other than where you think it is.
15:36 14 It could come back up into your casing.

15:36 15 Q. In fact, if the CBL had been -- if BP had chosen to do a
15:36 16 CBL and looked at the top of the cement, we would have an
15:36 17 indication of whether placement was compromised, right?

15:36 18 A. It would be an indication, yes.

15:37 19 Q. There's just one other thing I need to clean up. Okay?

15:37 20 In your report, if you had cited something -- let me
15:37 21 ask you, if you had -- you put appendices and you put end notes
15:37 22 and you put footnotes citing to support for some of the factual
15:37 23 things that you were relying on in your investigative report,
15:37 24 correct?

15:37 25 A. Yes.

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15:37 1 MR. HILL: Can we bring up --

15:33 2 BY MR. HILL:

15:33 3 Q. There's a difference in one aspect that I want to talk to
15:37 4 you about, and it's between page 52 and page 213.

15:37 5 MR. HILL: Can you bring up page 52 of TREN-4248?

15:37 6 THE COURT: It's page 40 on the screen.

15:38 7 MR. HILL: It goes by the page number of the report,
15:38 8 Your Honor, up there on the left-hand corner.

15:38 9 THE COURT: That doesn't help our record. You need
15:38 10 to have the exhibit number.

15:38 11 MR. HILL: The exhibit number is TREN-4248.

15:38 12 THE COURT: Page 40 or .40 or whatever you all are
15:38 13 calling it.

15:38 14 MR. HILL: Honestly, I don't know why that is.
15:38 15 There's no Bates number on it.

15:38 16 THE COURT: I'm looking at the top of the screen.
15:38 17 That's what it has on it.

15:38 18 MR. HILL: Okay. We'll call it out as TREN-4248,
15:38 19 page 40 on the file, and the actual page, though, that
15:38 20 Transocean drafted is page 52 of the report. Fair?

15:38 21 Bring up the bottom paragraph, please.

15:38 22 BY MR. HILL:

15:38 23 Q. Now, in the Transocean investigative report, after
15:38 24 noticing these low circulating pressures that we have been
15:38 25 talking about, your team wrote, "The BP well site leader

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15:39 1 discussed the concerns over low pressure with BP onshore well
15:39 2 management, but they ultimately decided to proceed with
15:39 3 cementing"; correct?

15:39 4 A. It states that, yes.

15:39 5 Q. There is a citation there of 32 and what you relied on was
15:39 6 Brian Kaluza's notes. Okay? I can show you that, or do you
15:39 7 want to take my word for it?

15:39 8 A. Okay.

15:39 9 Q. These are the same notes that we just looked at. All
15:39 10 right? And I would like to bring that up and ask you if
15:39 11 anywhere in those notes does it show that the BP well site
15:39 12 leader actually discussed this with any Halliburton cement
15:39 13 engineer? Okay?

15:39 14 MR. HILL: Can you please bring back up TREC-3188.
15:39 15 Bring up the bottom half, please.

15:39 16 BY MR. HILL:

15:39 17 Q. I'll give you a minute to review that. What I want to
15:39 18 know is -- according to Mr. Kaluza when he gave this interview
15:39 19 that you have cited -- for this proposition, whether Mr. Kaluza
15:40 20 ever went and discussed this with any Halliburton cement
15:40 21 engineer.

15:40 22 MS. KARIS: I object to foundation. He can certainly
15:40 23 speak to whether the notes contain such a conversation --

15:40 24 MR. HILL: Fair.

15:40 25 MS. KARIS: -- but whether Kaluza went and spoke to

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15 : 40 1 somebody from Halliburton --

15 : 40 2 **MR. HILL:** I can rephrase.

15 : 40 3 **THE COURT:** All right. Go ahead.

15 : 40 4 **BY MR. HILL:**

15 : 40 5 **Q.** According to your review of these notes, do these notes
15 : 40 6 reflect that Mr. Kaluza ever spoke to any Halliburton cement
15 : 40 7 engineer about the low circulating pressures?

15 : 40 8 **A.** The notes don't indicate that.

15 : 40 9 **Q.** Later in your report, there is almost the --

15 : 40 10 **MR. HILL:** Bring that back down. Why don't we go to
15 : 40 11 page 213. TREN-4248. So this is TREN-4248.197, and on the
15 : 40 12 document it's page 213 of the Transocean investigative report.
15 : 40 13 Can you please bring up this part right here, the bottom of
15 : 40 14 that first paragraph. No, the bottom of the first paragraph
15 : 40 15 please. That's good.

15 : 40 16 **BY MR. HILL:**

15 : 40 17 **Q.** Right here, it says: "The BP well-site leader expressed
15 : 41 18 concern about the issue, took steps to investigate it, and
15 : 41 19 discussed the question of whether the float collar had
15 : 41 20 converted with the Halliburton cementing engineer and BP's
15 : 41 21 shore team."

15 : 41 22 There is no citation for that, and I was wondering if
15 : 41 23 you could please tell us the basis for that conversation or the
15 : 41 24 basis for this factual assertion in the report?

15 : 41 25 **A.** I don't know that I could remember exactly where that came

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15 : 41 1 from, so I would have to ask the member of the team that wrote
15 : 41 2 this section.

15 : 41 3 **Q.** Fair enough.

15 : 41 4 Mr. Ambrose, I think you indicated that you didn't
15 : 41 5 have the benefit of reading deposition testimony in the MDL
15 : 41 6 proceeding. Correct?

15 : 41 7 **A.** Yes. I did not.

15 : 41 8 **Q.** You did not.

15 : 41 9 So to the extent the Halliburton engineer who was
15 : 41 10 actually there testified that he never spoke to Kaluza, but he
15 : 41 11 actually spoke to Halliburton onshore after observing it, you
15 : 41 12 would have no basis to dispute that, would you?

15 : 42 13 **A.** I wouldn't know.

15 : 42 14 **MR. HILL:** That's all the questions I have. Thank
15 : 42 15 you.

15 : 42 16 **THE COURT:** BP.

15 : 43 17 **MS. KARIS:** May I proceed, Your Honor?

15 : 43 18 **THE COURT:** Yes.

CROSS-EXAMINATION

15 : 43 19
15 : 43 20 **BY MS. KARIS:**

15 : 43 21 **Q.** Good afternoon, Mr. Ambrose. Hariklia Karis conducting
15 : 43 22 your cross-examination on behalf of BP.

15 : 43 23 You testified earlier this morning that you
15 : 43 24 investigated this incident over a 14-month period; is that
15 : 43 25 fair?

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15:43 1 A. Yes, it was conducted over that period.

15:43 2 Q. There were 50 to 70 different members to your team from
15:43 3 various disciplines and expertise, correct?

15:43 4 A. Yes.

15:43 5 Q. That included some cement experts?

15:44 6 A. A cement expert.

15:44 7 Q. A cement expert, excuse me.

15:44 8 A drilling engineering expert?

15:44 9 A. Yes.

15:44 10 Q. And then a variety of other disciplines. Fair enough?

15:44 11 A. Yes.

15:44 12 Q. Is it accurate to say that after 14 months of
15:44 13 investigation, the question you were asked to answer is to find
15:44 14 the truth -- I think you told us this morning -- as to what
15:44 15 happened, correct?

15:44 16 A. Yes.

15:44 17 Q. That's what Mr. Newman charged you with: Find the truth
15:44 18 as to what happened?

15:44 19 A. Yes.

15:44 20 Q. Is it correct that after all that work the truth that you
15:44 21 found is that this incident involved multiple actions by
15:44 22 numerous parties or mistakes that were made to lead to the
15:44 23 Macondo blowout?

15:44 24 A. We did find multiple causes, yes.

15:44 25 Q. So is it correct that you didn't identify any single

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15:44 1 action or inaction that caused this incident?

15:45 2 A. There were several things that contributed to it.

15:45 3 Q. The multiple companies and work teams and circumstances
15:45 4 that were involved included Transocean, BP, and Halliburton?

15:45 5 A. Those were all the involved parties.

15:45 6 Q. So the truth that you found is that Halliburton,
15:45 7 Transocean, and BP's conduct combined on the evening of
15:45 8 April 20 to cause this horrific event?

15:45 9 A. We found areas for -- you know, that everybody was
15:45 10 involved in.

15:45 11 Q. Now, is it correct to say that you did not look at how the
15:45 12 conduct -- strike that.

15:45 13 You talked about some design decisions that you
15:45 14 looked at, well design decisions, well construction decisions.
15:45 15 Do you recall that?

15:45 16 A. Yes.

15:45 17 Q. Is it correct that you did not look to see how BP's
15:45 18 decisions with respect to the Macondo well compared to industry
15:46 19 practice?

15:46 20 A. We did consider options that are typical industry
15:46 21 practices.

15:46 22 Q. You considered industry practice, but you didn't look at
15:46 23 how BP's conduct compared to the standard of care, if you will,
15:46 24 in the industry, correct?

15:46 25 A. We didn't look at the conduct, no.

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15:46 1 Q. So with respect to the issue of how conduct compared to
15:46 2 the standard of care that the industry applies, that's
15:46 3 something that your team didn't undertake; you left that to
15:46 4 others?

15:46 5 A. We didn't look at that.

15:46 6 Q. Now, you did work a little with Mr. Barnhill. Do you know
15:46 7 who Mr. Barnhill is? Calvin Barnhill?

15:46 8 A. I know Calvin, yes.

15:46 9 Q. You would consider him to be somebody who has extensive
15:46 10 expertise and experience in the area of drilling engineering,
15:46 11 including well design and construction?

15:46 12 A. He is, yes.

15:46 13 Q. So you would defer to him with respect to the issue of
15:46 14 whether BP's conduct met the standard of care in the industry
15:47 15 for various things, including things you looked at like
15:47 16 temporary abandonment, well design, and construction?

15:47 17 A. He wasn't part of our investigation team, so I don't know
15:47 18 what his opinions are on that.

15:47 19 Q. Now, you were asked several questions about what
15:47 20 communication or information was provided to BP -- or by BP to
15:47 21 Transocean, and I want to follow up a little bit on that.

15:47 22 First, is it correct to say that in the course of
15:47 23 drilling the Macondo well BP did provide Transocean with
15:47 24 information regarding various features of the well?

15:47 25 A. Various features?

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15:47 1 Q. Yes.

15:47 2 A. They would have to know certain things, yes.

15:47 3 Q. And that information that BP provides regarding the well
15:47 4 design begins with the pre-spud meeting before the
15:47 5 *Deepwater Horizon* ever begins any activity at the Macondo well,
15:47 6 correct?

15:47 7 A. That's usually a starting point for a well.

15:48 8 Q. In fact, Transocean has a policy.

15:48 9 MS. KARIS: If we can bring up 1454.9.3, please.

15:48 10 BY MS. KARIS:

15:48 11 Q. You're familiar with Transocean's well control handbook
15:48 12 and policy, correct?

15:48 13 A. Yes.

15:48 14 Q. These are procedures that Transocean requires.

15:48 15 "Prior to spudding, it is the responsibility of the
15:48 16 Rig Manager Performance, in conjunction with the OIM, to review
15:48 17 the well program and ensure that well control issues have been
15:48 18 addressed."

15:48 19 That's what Transocean requires, correct?

15:48 20 A. Yes.

15:48 21 Q. And that rig manager performance, that would be
15:48 22 Mr. Johnson, Paul Johnson, correct?

15:48 23 A. Yes.

15:48 24 Q. And the OIM here, one of them was Jimmy Harrell and the
15:48 25 other one was Rodney Ryan?

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15:48 1 A. Yes.

15:48 2 Q. So at least pursuant to Transocean's policy before the
15:48 3 *Deepwater Horizon* ever began, these individuals -- Mr. Johnson
15:49 4 as well as Mr. Harrell and Mr. Ryan -- were required to ensure
15:49 5 that well control issues could be addressed and that they had
15:49 6 reviewed the well program, correct?

15:49 7 A. Yes.

15:49 8 Q. Did you look at the information that BP provided as
15:49 9 required by Transocean's policy here?

15:49 10 A. Thinking back, I think we did see the original well plan
15:49 11 that was given to Paul Johnson.

15:49 12 Q. Okay.

15:49 13 MS. KARIS: If we can turn to 3324.1.1, please.

15:49 14 BY MS. KARIS:

15:49 15 Q. January 30, 2010, that's about the time that the
15:49 16 *Deepwater Horizon* was going to spud at the Macondo well,
15:49 17 correct? About six days before?

15:49 18 A. Well, they weren't spudded because they were coming back
15:50 19 on a well that was already drilled --

15:50 20 Q. Fair enough.

15:50 21 Before they were going to splash the BOP and actually
15:50 22 begin activities?

15:50 23 A. That's right.

15:50 24 Q. This is information that BP provided or communicated to
15:50 25 Transocean prior to any activity beginning by the

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15:50 1 *Deepwater Horizon* on the Macondo well for BP, correct?

15:50 2 A. I haven't reviewed in particular that, but it looks like
15:50 3 it's a drilling program.

15:50 4 Q. You see there where it references -- let me see if I can
15:50 5 get this to work.

15:50 6 Do you see where it says "Macondo Drilling Program"?
15:50 7 Do you see that?

15:50 8 A. Yes.

15:50 9 Q. Attached to this --

15:50 10 **MS. KARIS:** If we can go to 3324.2.1 please.

15:50 11 **BY MS. KARIS:**

15:50 12 Q. That shows the permit to drill a new well that had been
15:50 13 approved by the MMS in May of 2009, when this design was
15:50 14 originally put together, correct? If you know.

15:50 15 A. I'm just looking for a date.

15:51 16 Q. So am I.

15:51 17 I will represent to you that this is dated May 2009.
15:51 18 Does that sound about the time that this well was originally
15:51 19 designed and approved by the MMS?

15:51 20 A. Yeah, I remember an APD was in 2009.

15:51 21 Q. We were talking about what information BP provides as part
15:51 22 of the pre-spud materials.

15:51 23 **MS. KARIS:** So if we can go to 41208.2.2.

15:51 24 **BY MS. KARIS:**

15:51 25 Q. Have you seen BP's well design plan that it provided to

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15:51 1 Transocean prior to splashing at this well?

15:51 2 A. I looked at it a long time ago, yes.

15:51 3 Q. Just to summarize, some of the information that's provided
15:51 4 here would include pore pressure curve; it would include
15:51 5 formation tops and other seismic information, correct?

15:51 6 A. Yes, it would.

15:51 7 Q. You have no reason to doubt that BP provided this to
15:52 8 Mr. Johnson and Mr. Harrell for their review, correct?

15:52 9 A. I believe we saw that they did.

15:52 10 Q. Now, if we can look at some of the specific information
15:52 11 that was provided with one of the drilling programs at?

15:52 12 MS. KARIS: 7685.1.4, please.

15:52 13 BY MS. KARIS:

15:52 14 Q. Do you see the bottom e-mail here? This is from Murry
15:52 15 Sepulvado -- he was one of the well site leaders at the Macondo
15:52 16 well on the *Deepwater Horizon* -- on February 12 and he is
15:52 17 forwarding a final signed Macondo drilling program. Do you see
15:52 18 that?

15:52 19 A. Yes.

15:52 20 Q. He is forwarding it to the *Deepwater Horizon* OIM, who then
15:52 21 goes on to forward it to Mr. Johnson. Do you see that?

15:52 22 A. Yes.

15:52 23 Q. This would have been February 13, 2010, well before any of
15:52 24 the activities that you spoke about today regarding production
15:53 25 casing was run or tight pore pressure, fracture gradient, or

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15:53 1 foam cement being pumped, or any of that, correct?

15:53 2 A. That's correct.

15:53 3 MS. KARIS: Now, if we can turn to 291.58.4.

15:53 4 BY MS. KARIS:

15:53 5 Q. Mr. deGravelles asked you about some changes in decisions
15:53 6 regarding the production casing.

15:53 7 Mr. Ambrose, you know from your review of this file
15:53 8 that it was always BP's plan and intention to run a long-string
15:53 9 production casing interval for the final string here, correct?

15:53 10 A. I can't remember what the original design was.

15:53 11 Q. Well, the 9 7/8-inch casing interval that we have up here,
15:53 12 that would be the final production string, correct?

15:53 13 A. That's what was run.

15:53 14 Q. It says, "The objective of this interval is drill through
15:53 15 the production interval and set 9 7/8-inch long string at
15:53 16 19,650 MD/TVD" -- total vertical depth -- "if a thick enough
15:54 17 productive sand is found," correct?

15:54 18 A. It states that.

15:54 19 Q. So fair to say that no later than February of 2010
15:54 20 Transocean was aware that it was BP's plan to run a production
15:54 21 long string for the final interval?

15:54 22 A. That's in the document, yes.

15:54 23 Q. You were asked some questions about whether you would have
15:54 24 liked to know about the tight pore pressure/frac gradient
15:54 25 margin. Mr. deGravelles asked you some questions about that

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15:54 1 and put up some documents.

15:54 2 **MS. KARIS:** If we can call out the section right
15:54 3 here, which is 291.58.1.

15:54 4 **BY MS. KARIS:**

15:54 5 **Q.** From the same document, same paragraph, BP tells
15:54 6 Transocean in this drilling plan, "As with all sections of this
15:55 7 well, the fracture and pore pressure margins are tight.

15:55 8 Therefore, mud weights and ECD should be managed to permit
15:55 9 drilling as deep as possible without requiring any extra
15:55 10 strings of casing"; correct?

15:55 11 **A.** It states that.

15:55 12 **Q.** Now, would you agree with me that narrow pore pressures
15:55 13 and fracture gradients are common in deepwater wells in the
15:55 14 Gulf of Mexico?

15:55 15 **A.** In some, yeah.

15:55 16 **Q.** That's a common occurrence, as you have previously told
15:55 17 us, correct?

15:55 18 **A.** Yes.

15:55 19 **Q.** So there was nothing unusual about operating in this
15:55 20 environment in the Gulf of Mexico, where they have a tight pore
15:55 21 pressure/fracture gradient margin, correct?

15:55 22 **A.** That's correct.

15:55 23 **Q.** In this document, it goes on to identify some concerns or
15:55 24 hazards as part of a risk assessment, correct?

15:55 25 **MS. KARIS:** If we can look at 291.58.2.

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15:56 1 BY MS. KARIS:

15:56 2 Q. You were asked about BP conducting risk assessments. The
15:56 3 same document that was forwarded in February of 2010, BP
15:56 4 identifies, under "Concerns or Hazards," pore pressure and
15:56 5 fracture gradients, correct?

15:56 6 A. Yes.

15:56 7 Q. That's what you would expect to see in a risk assessment,
15:56 8 a hazard identified and then a mitigation plan put in place,
15:56 9 correct?

15:56 10 A. That's what you would do.

15:56 11 Q. That's what prudent practice is, identify your hazard and
15:56 12 then put a plan in place?

15:56 13 A. Yes.

15:56 14 Q. The plan that's put in place here, under "Mitigation of
15:56 15 Concerns/Hazards" -- if we can call out this second
15:56 16 paragraph -- includes "Well site leaders, toolpushers,
15:56 17 drillers, and crews are responsible for monitoring drilling
15:57 18 trends and will have an active role in ECD management";
15:57 19 correct?

15:57 20 A. Yes.

15:57 21 Q. ECD management is equivalent circulating density
15:57 22 management, correct?

15:57 23 A. Yes, that's what it means.

15:57 24 Q. That's basically controlling your mud weights?

15:57 25 A. Mud weights plus your pressure from pumping.

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15:57 1 Q. Fair enough.

15:57 2 Your mud weights plus your pressure from pumping, and
15:57 3 that's the mitigation plan in place that was communicated to
15:57 4 Transocean in February of 2010 in connection with the Macondo
15:57 5 well, correct?

15:57 6 A. Yes.

15:57 7 Q. Now, is it fair to say through the entire investigation
15:57 8 that you conducted over 14 months you found no evidence that
15:57 9 any employee from Transocean raised any concerns to BP about
15:57 10 the drilling plan or program that had been communicated here?

15:57 11 A. I know that on the morning of, there were some concerns
15:57 12 from the OIM, but that's the instance that we found.

15:58 13 Q. We will get to those discussions the morning of, and that
15:58 14 would be Mr. Harrell's conversation with Mr. Kaluza the morning
15:58 15 of, correct?

15:58 16 A. Yes.

15:58 17 Q. We will get to that.

15:58 18 Is it fair to say if Mr. Harrell was not comfortable
15:58 19 proceeding, he had not only the authority but the
15:58 20 responsibility to stop the job?

15:58 21 A. Yes.

15:58 22 Q. Unless he was comfortable proceeding, his obligation as
15:58 23 the senior-most member of that crew was to not proceed with any
15:58 24 operations, correct?

15:58 25 A. That's correct.

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15:58 1 Q. Nobody could make him proceed. The well site leader
15:58 2 couldn't make him proceed if he thought there was an unsafe
15:58 3 environment or condition, correct?

15:58 4 A. That's correct.

15:58 5 Q. You know Mr. Harrell. You don't think he's somebody that
15:58 6 would allow BP to tell him to proceed if he thought it was
15:58 7 unsafe?

15:58 8 A. I don't know Mr. Harrell, but I would assume that.

15:58 9 Q. Right. Would you expect of any Transocean OIM, if they
15:58 10 had a concern about safety, that they would not proceed with
15:58 11 operations?

15:58 12 A. That's the expectation.

15:59 13 Q. Now, in addition to talking about tight pore pressure
15:59 14 fracture gradients -- margins, I should say, as well as the
15:59 15 production casing, this plan also disclosed that it was
15:59 16 intended to pump foam cement for the final production interval,
15:59 17 correct?

15:59 18 A. I can't remember what the original document says.

15:59 19 Q. Sure. Let's take a look at it. 291.68.1, please.

15:59 20 This is the plan circulated in February of 2010 for
15:59 21 the Macondo well for the 9 7/8 casing interval. And you see
15:59 22 here under 10.5.3 for cementing that casing, what's identified
15:59 23 is to "mix and pump foam cement (per Halliburton's detailed
15:59 24 program)," correct?

15:59 25 A. It states that.

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16:00 1 Q. Again, if anybody had any concerns about using foam
16:00 2 cement, because it requires precision and carefulness, if
16:00 3 anybody from Transocean had those concerns, they certainly
16:00 4 could have raised them, correct?

16:00 5 A. Yes.

16:00 6 Q. You saw no evidence that anybody raised any concern about
16:00 7 using a production long string and a foam cement to achieve the
16:00 8 cementing of that casing string, correct?

16:00 9 A. We did not see any.

16:00 10 Q. Now, I recognize that this information was circulated in
16:00 11 February, several months before they ran the production casing.
16:00 12 But you would agree with me that after Transocean receives this
16:00 13 plan, they receive on a daily basis ongoing operational
16:00 14 information in a variety of different forms and formats?

16:00 15 A. Yes.

16:00 16 Q. And some of that includes what's called the five-day
16:00 17 planner. Are you familiar with the five-day planner?

16:01 18 A. I've seen that, yes.

16:01 19 Q. What a five-day planner does is it's distributed by BP's
16:01 20 well site leader to many members of the Transocean crew, as
16:01 21 well as third-party contractors like Halliburton, that
16:01 22 discusses what the critical operations are coming forward for
16:01 23 the next five days, correct?

16:01 24 A. Yes.

16:01 25 Q. You have no reason to think -- strike that.

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16:01 1 Do you have any reason to believe that BP didn't
16:01 2 continue distributing these five-day planners through the
16:01 3 morning of April 20?

16:01 4 A. I don't remember seeing one. I don't know if they did or
16:01 5 didn't.

16:01 6 Q. Certainly nobody ever told you, "We didn't get any
16:01 7 five-day planners," correct?

16:01 8 A. No, I did not hear that.

16:01 9 Q. You talked to a number of Transocean's drilling team as
16:01 10 well as several other folks who have survived this incident in
16:01 11 your interviews, correct?

16:01 12 A. Yes. I don't know if we were asking that question.

16:01 13 Q. Let's look at TREN-540.2.4. This is a forward plan.

16:02 14 Do you recognize this as the type of document that BP
16:02 15 would circulate to Transocean's crew as well as others, along
16:02 16 with the five-day planner?

16:02 17 A. I'm not familiar with this.

16:02 18 Q. Well, this is some of the information. You talked about
16:02 19 communication that BP provided or didn't provide.

16:02 20 You would agree with me that on April 16 -- this is
16:02 21 part of a five-day plan that BP provided. And what's
16:02 22 communicated here, if I can get the pointer in order -- let's
16:02 23 try another one. If at first you don't succeed, what do they
16:02 24 say, try and try again.

16:02 25 April 16, "circulate B/U." Do you know what that is?

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16:02 1 A. Bottoms-up.

16:03 2 Q. And so at least from April 16, it's known what the
16:03 3 circulate bottoms-up, pump 100 barrels, high viscosity pill,
16:03 4 after ECD level out. Do you see that?

16:03 5 A. Yes.

16:03 6 Q. Then keep ECD below 14.4 pounds, correct?

16:03 7 A. Yes.

16:03 8 Q. So that fact was known to anybody that received this
16:03 9 forward plan through no later than April 16, correct?

16:03 10 A. Yes, it looks like that's that day's plan.

16:03 11 Q. We will come back to bottoms-up. But I know there was
16:03 12 some questioning about whether or not bottoms-up had any effect
16:03 13 here, so I wanted to make sure we were on the same page.

16:03 14 This information was communicated by April 16,
16:03 15 correct?

16:03 16 A. I believe that job was done on April 16, yes.

16:03 17 Q. That's the last time they circulated this bottoms-up,
16:03 18 correct?

16:03 19 A. I believe so.

16:03 20 Q. Now, if we can go to 540.3.2, again, same part of this
16:04 21 five-day plan. And you see here on what -- what is noted is --
16:04 22 in the plan BP circulates, they say: "Remember the BP 8 golden
16:04 23 rules of safety in your jobs."

16:04 24 Then at the bottom it says: "Take time out for
16:04 25 safety. Stop the job."

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16:04 1 Do you see that?

16:04 2 A. Yes.

16:04 3 Q. That would be a reminder to anybody receiving this plan
16:04 4 that if they have any questions or concerns about the plan,
16:04 5 they can certainly take time out for safety and stop the job?

16:04 6 A. It would.

16:04 7 Q. You agree with me that that's prudent practice for an
16:04 8 operator, to remind folks to stop the job if they have any
16:04 9 concerns or feel they don't have any information they need?

16:04 10 A. Yes.

16:05 11 Q. Without going through all the details in that five-day
16:05 12 plan, you have no reason to think that anyone stopped the job
16:05 13 or raised any concerns with what was in that five-day plan that
16:05 14 BP circulated on April 16, correct?

16:05 15 A. I think that it was a one-day plan. I didn't see the rest
16:05 16 of it.

16:05 17 Q. All right. Let me help you here.

16:05 18 MS. KARIS: If we can go to TREN-41139.20.2.

16:05 19 BY MS. KARIS:

16:05 20 Q. We certainly won't go through all of these. But do you
16:05 21 see where it starts on the top on the 15th and goes through the
16:05 22 18th, and it actually goes farther down? Is this what a
16:05 23 five-day plan would look like?

16:05 24 A. It covers five days, yes.

16:05 25 Q. So it's got "run the casing" there.

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16:05 1 If you look at the very bottom, it says, "Perform
16:05 2 foam cement job," on the 18th of April at 2300 hours.

16:05 3 Do you see that?

16:05 4 A. Yes.

16:05 5 Q. So this would be the five-day plan that communicated
16:06 6 information of what was to transpire over the next five days.
16:06 7 And if anybody had any concerns, BP reminded them they should
16:06 8 stop the job or take a timeout for safety, correct?

16:06 9 A. Yes.

16:06 10 Q. Do you know who Micah Burgess is?

16:06 11 A. I remember the name, but I can't place it.

16:06 12 Q. He is one of Transocean's drillers who was on the
16:06 13 *Deepwater Horizon* that evening. Do you recall that?

16:06 14 A. Yes.

16:06 15 Q. He was on the day tour, so he was --

16:06 16 A. Sleeping, yeah.

16:06 17 Q. -- sleeping at the time of the incident.

16:06 18 Are you aware that Mr. Burgess has acknowledged -- or
16:06 19 did you interview Mr. Burgess?

16:06 20 A. I can't remember if we did or didn't, because there were a
16:06 21 lot of people we interviewed.

16:06 22 Q. Fair enough. Do you have any reason to doubt -- if
16:06 23 Mr. Burgess said he received this five-day plan plus the cement
16:06 24 procedures for cementing the production interval, do you have
16:06 25 any reason to doubt that?

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16:07 1 A. I don't know if he did or didn't, what information was
16:07 2 given to him.

16:07 3 Q. Fair enough. Fair enough.

16:07 4 MS. KARIS: In the interest of time, if we could put
16:07 5 up D-4369.

16:07 6 BY MS. KARIS:

16:07 7 Q. This is in response to the questions you were asked about
16:07 8 information being communicated by BP to Transocean,
16:07 9 Halliburton, and other contractors about operational decisions.

16:07 10 Did your team look at the various meetings that took
16:07 11 place throughout the course of a single day in which BP
16:07 12 communicated information to Transocean about operational
16:07 13 decisions, including the ones you were evaluating in your
16:07 14 report?

16:07 15 A. We didn't look at specifically the onboard communication.
16:08 16 It was more the communication from in town.

16:08 17 Q. You are aware that on board on the rig is actually where a
16:08 18 lot of the communication takes place where BP tells --
16:08 19 communicates to Transocean's OIM, senior toolpusher, or
16:08 20 toolpusher what the operational plan is going to be, correct?

16:08 21 A. Sure. A lot of communication happens on the rig every
16:08 22 day.

16:08 23 Q. Fair enough. I don't mean to quibble with you. I just
16:08 24 want to confirm that a lot of communication takes place on the
16:08 25 rig every day where people speak to each other. So just

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16:08 1 because there's no written document doesn't suggest that folks
16:08 2 hadn't communicated on what the plan was, correct?

16:08 3 A. I agree with you.

16:08 4 Q. You don't know whether this represents all the meetings
16:08 5 that take place throughout the day?

16:08 6 A. I'm not certain on the *Deepwater Horizon* exactly.

16:08 7 Q. Fair enough. Do you know, based on your own experience,
16:08 8 whether it is the practice to have multiple meetings a day
16:08 9 where the operator communicates with the contractor about
16:09 10 operational decisions?

16:09 11 A. It's typical to have a morning meeting and maybe an
16:09 12 evening shift handover meeting.

16:09 13 Q. There was nothing in your investigation that led you to
16:09 14 conclude that wasn't occurring on the *Deepwater Horizon*,
16:09 15 correct?

16:09 16 A. No. It was occurring.

16:09 17 Q. In fact, quite the opposite. You know that it was
16:09 18 occurring, correct?

16:09 19 A. Yes. We know it was occurring.

16:09 20 Q. We are going to come back to temporary abandonment in a
16:09 21 short while. But do you know whether the temporary abandonment
16:09 22 procedure, including the negative pressure test that was
16:09 23 performed on the evening of April 20, was discussed in one of
16:09 24 these daily meetings or in at least one of these daily
16:09 25 meetings?

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16:09 1 A. We don't know if it's discussed. We couldn't talk with
16:10 2 some of those individuals.

16:10 3 Q. How about Mr. Harrell? Did you speak with him?

16:10 4 A. No, ma'am.

16:10 5 Q. Did you speak with Mr. Ezell?

16:10 6 A. Previously, but I can't remember the topic of that one.

16:10 7 Q. If Mr. Ezell says the temporary abandonment procedure was
16:10 8 discussed with him, do you have any reason to doubt that?

16:10 9 A. No.

16:10 10 Q. You were asked some questions about the long string, and
16:10 11 you talked about when BP communicated to Transocean its
16:10 12 intention to use a long string. But I want to follow up now
16:11 13 with respect to the decision to use the long string.

16:11 14 Your team did evaluate the decision to use long
16:11 15 string at the Macondo well, correct?

16:11 16 A. Yes.

16:11 17 Q. The conclusion of your team was that the production long
16:11 18 string at Macondo did, in fact, have integrity to serve its
16:11 19 purpose and function, correct?

16:11 20 A. Structurally it was sound, yes.

16:11 21 Q. Your team's conclusion was that the investigation
16:11 22 confirmed that BP's long string line design met the loading
16:11 23 conditions that were experienced prior to and during the well
16:11 24 control incident, correct?

16:11 25 A. Yes.

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16:11 1 Q. Now, in assessing the decision to use the production long
16:11 2 string, did you look at how -- strike that.

16:12 3 In assessing the decision to use the long string, did
16:12 4 you determine how often production long string casing is used
16:12 5 in the Gulf of Mexico where, as you told us, tight pore
16:12 6 pressure frac gradient margins are not uncommon?

16:12 7 A. I can't remember if we put a number to that.

16:12 8 Q. Did you look at the internal investigation report
16:12 9 conducted by BP, now come to be known as the Bly report?

16:12 10 A. I did.

16:12 11 Q. Did you see Appendix O of that report where Mr. Bly and
16:12 12 his team did look at how often a long string -- production long
16:12 13 string is used in the Gulf of Mexico in similar environments?

16:12 14 A. I don't remember that section.

16:12 15 MS. KARIS: If we can go to 4743.1.1, please.

16:12 16 BY MS. KARIS:

16:12 17 Q. Does this refresh your memory that Appendix O of the
16:13 18 internal investigation report for BP, the Bly report, has an
16:13 19 industry comparison of data on long string casing and casing
16:13 20 liners in the Macondo well area? Does this refresh your
16:13 21 memory?

16:13 22 A. I don't remember specifically reading this appendix of it,
16:13 23 but it's there, obviously.

16:13 24 Q. You read the whole Bly report and its appendices, correct?

16:13 25 A. I read the main text. I don't know that I read every

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16:13 1 appendices.

16:13 2 Q. Fair enough. You see in Appendix O where BP's
16:13 3 investigation team did look at this issue of how does the long
16:13 4 string compare to the industry. What they concluded is that
16:13 5 long strings were installed in 57 percent of the wells in the
16:13 6 Gulf of Mexico in the region they looked at, while 36 percent
16:13 7 used liners or liners with tiebacks, correct?

16:13 8 A. That's what it states.

16:13 9 Q. You have no evidence to dispute the accuracy of that.
16:13 10 That's not something your team looked at, correct?

16:13 11 A. No, we did not.

16:13 12 Q. Is it fair to say that whatever the challenges were with
16:14 13 running a long string that you identified in your report,
16:14 14 nobody from Transocean, Halliburton, or any other company to
16:14 15 your knowledge ever raised any concerns with running that long
16:14 16 string?

16:14 17 A. I don't remember any.

16:14 18 Q. Certainly you have no evidence of anybody stopping the job
16:14 19 or elevating to any level of management concerns or even
16:14 20 communicating to BP any concerns about running that design,
16:14 21 correct?

16:14 22 A. No.

16:14 23 Q. Is my statement correct? We have a double negative.

16:14 24 A. I don't remember.

16:14 25 Q. Fair enough. Enough about the long string. Let's talk

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16:14 1 about the cement.

16:14 2 You told us earlier today, and then again when
16:14 3 Mr. Hill questioned you, that you did have a cementing expert
16:15 4 on your investigation team, correct?

16:15 5 A. Yes.

16:15 6 Q. He was a gentleman from Schlumberger?

16:15 7 A. He retired.

16:15 8 Q. Retired. How many years had he been with Schlumberger; do
16:15 9 you know?

16:15 10 A. I don't know the exact. I think over 35.

16:15 11 Q. Over 35 years. Was he somebody who had experience in
16:15 12 evaluating slurry designs such as the one Halliburton
16:15 13 recommended and pumped at Macondo?

16:15 14 A. He had pretty extensive experience in various cement jobs.

16:15 15 Q. Based on your investigation, would you agree that
16:15 16 Halliburton was fully involved in the cementing design
16:15 17 decisions at -- that took place at Macondo?

16:15 18 A. I don't know that I'm in a position to say they were fully
16:15 19 involved.

16:15 20 Q. Fair enough. Would you certainly say that Halliburton
16:15 21 recommended the cement slurry that was pumped at Macondo based
16:15 22 on whatever information your team reviewed?

16:15 23 A. We saw communications going back and forth between BP and
16:15 24 Halliburton in some of the documents. I wouldn't say we had it
16:16 25 all, by the way.

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16:16 1 Q. Understood.

16:16 2 A. We saw recommendations going both directions.

16:16 3 Q. Okay. Based on your experience in the industry, is
16:16 4 Halliburton recognized as a leader in the area of cementing?

16:16 5 A. They are.

16:16 6 Q. Based on your experience again, does Halliburton have
16:16 7 experience in designing and executing foam slurry on cement
16:16 8 jobs?

16:16 9 A. They do.

16:16 10 Q. Based on your review of the file in this case, whatever
16:16 11 information you looked at, you would agree that Halliburton
16:16 12 provided the cementing products and cementing expertise at the
16:16 13 Macondo well?

16:16 14 A. I believe that's why you hired them, yes. BP hired them.

16:16 15 Q. Correct. You agree that Halliburton, as a cementing
16:16 16 contractor was aware of what cement testing it had performed?

16:16 17 A. I would assume.

16:16 18 Q. Right. And based on your review, again, of the materials
16:17 19 in this case and the investigation you conducted over
16:17 20 14 months, you agree that Halliburton controlled the testing
16:17 21 that it ran?

16:17 22 A. They conducted the testing.

16:17 23 Q. Did you become aware that Halliburton canceled certain
16:17 24 tests?

16:17 25 A. Again, that was a piece that we didn't -- knowingly we

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16:17 1 didn't have all the communications. So I couldn't tell you if
16:17 2 they did or didn't cancel tests.

16:17 3 Q. All right.

16:17 4 MS. KARIS: If we can pull up TREN-713.8.1, please.

16:17 5 BY MS. KARIS:

16:17 6 Q. As part of the materials that you reviewed, did you review
16:17 7 Halliburton's post-job report for the production casing, the
16:17 8 9 7/8 production casing?

16:17 9 A. Yes. I think we had this.

16:17 10 Q. That's what we are looking at, right? This is the report
16:18 11 that Halliburton created after it pumped the job at Macondo.
16:18 12 And one of the pages identifies significant points.

16:18 13 Do you see that?

16:18 14 A. Yes.

16:18 15 Q. They report that the cement job was pumped as planned,
16:18 16 correct?

16:18 17 A. Yes.

16:18 18 Q. A couple bullets down, that full returns were seen
16:18 19 throughout the entire job, correct?

16:18 20 A. Yes.

16:18 21 Q. They report the lift pressures being estimated at 100 psi,
16:18 22 correct?

16:18 23 A. Yes.

16:18 24 Q. And then they report that the "floats held after job,"
16:18 25 correct?

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16:18 1 A. That's what it states.

16:18 2 Q. Those would be the floats from the float collar?

16:18 3 A. Yes.

16:18 4 Q. We will get back to the float collar. But it's fair to
16:18 5 say that what Halliburton told BP, after the job was pumped,
16:18 6 was that the floats held, correct?

16:18 7 A. Yes.

16:19 8 THE COURT: What is that document, Ms. Karis?

16:19 9 MS. KARIS: I'm sorry. I should have called up -- if
16:19 10 we could call up Exhibit 708, please.

16:19 11 BY MS. KARIS:

16:19 12 Q. This is an e-mail from Mr. Nathaniel Chaisson, of
16:19 13 Halliburton, dated April 20, at 5:45 -- at least that's the
16:19 14 stamp on the top -- to Jesse Gagliano. So it's an internal
16:19 15 BP -- I mean, strike that -- internal Halliburton e-mail.

16:19 16 And it says -- I guess we should go through it.

16:19 17 "Jesse" --

16:19 18 THE COURT: Wait, wait, wait. What you had up on the
16:19 19 screen is what?

16:19 20 MS. KARIS: It's attached to this. It's part of
16:19 21 Exhibit 708.

16:19 22 THE COURT: Oh, it's an attachment? Okay. That's
16:19 23 all I need to know. Thank you.

16:19 24 MS. KARIS: Let me back up. My fault for not
16:19 25 establishing this properly.

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16:25 1 BY MS. KARIS:

16:19 2 Q. Mr. Chaisson, he's with Halliburton, correct?

16:19 3 A. I believe so, yes.

16:19 4 Q. He was on the rig and one of the cement specialists that
16:19 5 Halliburton had on *Deepwater Horizon* on the evening of
16:19 6 April 20. He was involved in the cement job, correct?

16:19 7 A. I believe he was, yes.

16:20 8 Q. You know who Mr. Gagliano is. He was Halliburton's cement
16:20 9 specialist that worked in Houston with BP's drilling engineers,
16:20 10 correct?

16:20 11 A. Yes.

16:20 12 Q. He sends a report on April 20, after the cement job is
16:20 13 pumped, for the 9 7/8-inch casing production job. And he
16:20 14 attaches the results of that job, correct?

16:20 15 A. Yes.

16:20 16 Q. He says: "Jesse, we have completed the job, and it went
16:20 17 well. Full returns were observed throughout, and I estimated
16:20 18 about 100 psi of lift pressure before we bumped the plug."

16:20 19 Do you see that?

16:20 20 A. It states that, yes.

16:20 21 Q. Right. So what Mr. Chaisson is doing is he is reporting
16:20 22 internal to Halliburton how he believed this cement job went.
16:20 23 And he reports that those floats held, correct, as we
16:21 24 previously saw?

16:21 25 A. Yes, on the report.

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16:21 1 Q. Yes.

16:21 2 MS. KARIS: And I'll represent that 713.8.1 that we
16:21 3 previously looked at is found at page 5 of the post-job report
16:21 4 attached to this e-mail.

16:25 5 BY MS. KARIS:

16:21 6 Q. You were asked about cement bond logs. Do you know
16:21 7 whether lift pressures and bumping plugs, having proper lift
16:21 8 pressures and bumping your plugs on time, are two of the
16:21 9 criteria that BP's well team used in making a decision as to
16:21 10 whether they would run a cement bond log?

16:21 11 A. I can't recall all of the decision points.

16:21 12 Q. Do you know whether, in the industry, those are two
16:21 13 criteria that are typically used as an operator is deciding
16:21 14 whether or not to run a cement bond log; that is, whether they
16:21 15 bump their plugs on time and what kind of lift pressures they
16:22 16 achieve in the course of this operation?

16:22 17 A. To be honest, I'm not an expert in this area, so I
16:22 18 couldn't tell you what the decision points are.

16:22 19 Q. Okay. We will ask the cement experts. But I'm just
16:22 20 wondering, in connection with the CBL decisions, cement bond
16:22 21 log decisions, whether you know if those were two criteria
16:22 22 used.

16:22 23 A. I can't remember.

16:22 24 Q. Fair enough. Now back to the cement.

16:22 25 We were talking about the evaluation by your team of

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16:22 1 the Halliburton cement job.

16:22 2 MS. KARIS: If we can go to 4248.44.1, please.

16:25 3 BY MS. KARIS:

16:25 4 Q. Again, this is from your report where you are talking well
16:22 5 design. You note here: "To achieve this" -- and that would be
16:22 6 cementing the production interval -- "Halliburton proposed a
16:23 7 program that used a nitrified cement slurry to obtain the
16:23 8 desired density; thus, increasing technical complexity."

16:23 9 Correct?

16:23 10 A. That's what we state, yes.

16:23 11 Q. You found in your investigation that Halliburton included
16:23 12 an antifoaming agent in the design of the cement slurry, and
16:23 13 that that was not compatible with the foam cement, correct?

16:23 14 A. That's correct.

16:23 15 MS. KARIS: If we can look at 4248.44.2, please.

16:25 16 BY MS. KARIS:

16:25 17 Q. Again, from your report, what you concluded with the
16:23 18 assistance of the former Schlumberger cementing expert, is that
16:23 19 "Anti-foaming agents are not compatible with foamed cement, as
16:23 20 they can act as a destabilizing agent."

16:23 21 Correct?

16:23 22 A. That's correct.

16:23 23 Q. You go on to say: "There is no evidence that use of D-Air
16:23 24 products in foamed cement is recommended by Halliburton in its
16:24 25 Foam Cementing Operations Manual. Therefore, the anti-foaming

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1 agent (D-Air 3000) should not have been included in the slurry
2 without performing extensive laboratory testing."

3 That was the conclusion of your team, correct?

4 A. Yes, it was.

5 Q. And in evaluating the -- your team did evaluate the
6 stability of Halliburton's foam cement job, correct?

7 A. We had to rely on the work that was done by the
8 President's Commission with Chevron, because we had no access
9 to that kind of information.

10 Q. So you relied on some of the Chevron testing. You also
11 looked at some of the testing that CSI had performed on behalf
12 of the Bly team, correct?

13 A. Yes.

14 Q. In evaluating both Chevron testing as well as the testing
15 that had been done on behalf of the Presidential Commission,
16 your team reached a conclusion regarding the stability of the
17 foam cement that was pumped at the Macondo well, correct?

18 A. We did.

19 Q. What was your conclusion as to whether that cement slurry
20 was stable or not?

21 **MR. HILL:** Your Honor, I have an objection. He has
22 already identified that he's not an expert in foam. He has
23 relied on the work of someone who is not a designated expert.
24 And he has obviously testified that he doesn't know how to
25 evaluate cement slurry testing already on the stand.

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16:25 1 **MS. KARIS:** Your Honor, I'm asking him about the work
16:25 2 that his team did and --

16:25 3 **THE COURT:** I'm going to allow him to testify. We
16:25 4 have had a lot of this from Mr. Bly and from this witness about
16:25 5 what the team found or didn't find, and understanding that he's
16:25 6 not the expert in this area.

16:25 7 **MS. KARIS:** Thank you, Your Honor. Let me re-ask the
16:25 8 question.

16:25 9 **BY MS. KARIS:**

16:25 10 **Q.** After your team evaluated the foam cement job that was
16:25 11 recommended and pumped by Halliburton, based on testing that
16:25 12 had been done by the Presidential Commission, as well as
16:26 13 testing that had been done by CSI, what was the conclusion of
16:26 14 your team regarding the stability of that foam cement?

16:26 15 **A.** It was likely unstable.

16:26 16 **MS. KARIS:** If we can look at 4248.5.0.

16:25 17 **BY MS. KARIS:**

16:25 18 **Q.** Is this where you state, "Evidence from post-incident
16:26 19 testing performed by CSI Technologies, on behalf of BP, suggest
16:26 20 that the defoamer had a negative effect on the foam stability"?

16:26 21 Then you go on to say at the end of that "Evidence
16:26 22 presented by Chevron from tests using representative samples
16:26 23 confirmed that the slurry designed by Halliburton was
16:26 24 unstable."

16:26 25 That was your team's conclusion, correct?

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16:26 1 A. That's correct.

16:26 2 Q. We won't go through the evaluation that you did, all the
16:26 3 evaluations. But your report contains an evaluation of the
16:27 4 rheology testing that was performed, the compressive strength
16:27 5 testing and a variety of other static gel strength testing and
16:27 6 a variety of other testing performed, correct?

16:27 7 A. Yes, that's correct.

16:27 8 Q. After evaluating all of that testing, does this line that
16:27 9 we have up here about the slurry designed by Halliburton being
16:27 10 unstable, is that the conclusion of your team?

16:27 11 A. It is.

16:27 12 Q. Mr. Ambrose, is it correct that your team concluded that
16:27 13 the precipitating cause of the Macondo incident was the failure
16:27 14 of the cement designed by Halliburton in the shoe track and
16:27 15 across the production formation?

16:27 16 A. The failure of the cement was a precipitating cause.

16:27 17 Q. That failed cement allowed hydrocarbons to flow into the
16:27 18 well on the evening of April 20 to set off a series of events
16:28 19 we have seen here, correct?

16:28 20 A. Yes.

16:28 21 Q. There's been a lot of testimony already about what the
16:28 22 flow track was, so I'm not going to go -- flow path, excuse me.
16:28 23 I'm not going to go back into it, except Mr. Hill asked you
16:28 24 about whether you evaluated if the production casing gave way
16:28 25 to allow flow somehow to be compromised and come up the annulus

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16:28 1 as well as the center of the wellbore.

16:28 2 So can you just tell us, after 14 months of
16:28 3 investigation, what was your team's conclusion regarding the
16:28 4 flow path for hydrocarbons to get to the rig floor on the
16:28 5 *Deepwater Horizon* on the evening of April 20?

16:28 6 A. Through the casing wellbore, not the casing annulus.

16:29 7 Q. You spoke about the float collar. And again, just
16:29 8 briefly, you were asked several questions both by
16:29 9 Mr. deGravelles and Mr. Hill about the float collar.

16:29 10 I believe you testified that in your team's opinion,
16:29 11 the float collar did not convert.

16:29 12 A. That's our theory, yes.

16:29 13 Q. That's your theory. Are you aware that Stress
16:29 14 Engineering, an entity you told us you respected and relied on,
16:29 15 conducted testing of the M45AP float collar after the incident?

16:29 16 A. I believe that they were doing that for BP, yes.

16:29 17 Q. The M45AP float collar is the same type of float collar
16:29 18 that was used at the Macondo well, correct?

16:29 19 A. I think that's the number, yes.

16:29 20 MS. KARIS: If we can pull up 3308.1.1.

16:25 21 BY MS. KARIS:

16:25 22 Q. Before we get into the results of Stress Engineering's
16:30 23 work on the float collar, you yourself relied on Stress
16:30 24 Engineering for a variety of different opinions and conclusions
16:30 25 in Transocean's investigation report, correct?

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16:30 1 A. Yes, that's correct.

16:30 2 Q. We have here what is Exhibit 3308 and call-out 3308.1.1.
16:30 3 This is the report from that testing that Stress Engineering
16:30 4 performed for BP on the float collar, correct?

16:30 5 A. It looks like that, yes.

16:30 6 Q. You're aware that the purpose of this testing was to
16:30 7 assess whether the float collar converted?

16:30 8 A. I believe that was the goal.

16:30 9 MS. KARIS: If we can look at the executive summary,
16:30 10 3308.6.1, please.

16:25 11 BY MS. KARIS:

16:25 12 Q. Reading from the executive summary, it says: "Stress
16:30 13 Engineering Services was contracted by BP America, Inc., to
16:31 14 conduct various performance tests on the Weatherford 7-inch
16:31 15 model M45AP float collar with dual valve seats and an auto-fill
16:31 16 tube.

16:31 17 "The objective of the test program is to evaluate the
16:31 18 performance and design limits of various aspects of the float
16:31 19 collar and to document its performance under conditions similar
16:31 20 (according to information provided to SES) to those downhole in
16:31 21 the Macondo well before, during, and after the cementing
16:31 22 operation."

16:31 23 Correct?

16:31 24 A. That's what it states.

25

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16:31 1 MS. KARIS: Now, if we can look at what the results
16:31 2 showed, 33.8.1 -- I'm sorry, 3308.8.1.

16:25 3 BY MS. KARIS:

16:25 4 Q. When Weatherford tested these float collars, what it found
16:32 5 is that "The performance tests consisted of flow endurance
16:32 6 tests, steady-state flow conversion tests, flow-surge
16:32 7 conversion tests, flow-surge tests on converted float collars,
16:32 8 and mechanical failure tests on auto-fill tubes. The
16:32 9 flow-surge test represented the sudden clearance of a blockage
16:32 10 in the flow path, such as a blockage at the reamer shoe."

16:32 11 Correct?

16:32 12 A. That's what it states.

16:32 13 MS. KARIS: And then if we can go to 3308.2.2, which
16:32 14 is just at the bottom of the same page.

16:25 15 BY MS. KARIS:

16:25 16 Q. Based on all that testing, what Stress Engineering
16:32 17 concluded with respect to the float collar was that they found
16:32 18 that, quote, For all test scenarios executed in this program
16:32 19 conversion of the float collar occurred.

16:32 20 Correct?

16:32 21 A. That's what it states.

16:32 22 Q. So the testing that Stress Engineering performed for BP on
16:33 23 the float collar that was used at Macondo -- the same type of
16:33 24 float collar, to be clear, that was used at Macondo -- was that
16:33 25 there was no damage or anomalies to the float collar when they

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1 pumped it up to a certain pressure and, in fact, it converted,
2 correct?

3 A. I'm not sure I see that wording here, so . . .

4 Q. Well, what they found is "for all test scenarios executed,
5 conversion of the float collar occurred," correct?

6 A. Yes, it states that.

7 Q. Do you know who Mr. Calvert is? Is that somebody who is
8 familiar to you?

9 A. No.

10 Q. So I won't ask you about his opinions.

11 Now, in addition to Weatherford, with -- after the
12 incident testing concluding that the float collars converted,
13 Halliburton had reported to BP that the float collars had
14 converted and held, as we saw in the prior document, correct,
15 as part of this post-job report?

16 A. Yes.

17 Q. We won't look at that again, but you are aware that
18 Transocean also reports what occurred with respect to these
19 float collars and the cement job as part of their daily
20 drilling report, correct?

21 A. They would log it on the daily drilling reports.

22 MS. KARIS: And if we can look at 820.2.1, please.

23 BY MS. KARIS:

24 Q. This is from the April 20 daily report. It's reported
25 here that "plug with 750 psi over circulating pressure, bled

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16:34 1 pressure off, bled back 5 barrels, floats holding."

16:34 2 Do you see that?

16:34 3 A. Yes, I see that.

16:34 4 Q. That would be the equivalent of saying that the float has
16:34 5 converted and it's holding?

16:34 6 A. And they likely relied on the cementer or somebody for
16:35 7 that information.

16:35 8 Q. Fair enough. Somebody else was communicating that
16:35 9 information to them?

16:35 10 A. Yes.

16:35 11 Q. So what had been reported by the cementer who had
16:35 12 performed this job was that the floats had held and that's what
16:35 13 Transocean was documenting?

16:35 14 A. That's correct.

16:35 15 Q. Now, you testified earlier this morning that you yourself
16:35 16 had some testing performed on the float collar. Do you recall
16:35 17 that?

16:35 18 A. Yes.

16:35 19 Q. I may have misheard. Did you testify that the collar you
16:35 20 used was identical to the one that was used at Macondo?

16:35 21 A. I believe it was the same model, yes.

16:35 22 Q. Same model, but there certainly were differences between
16:35 23 the float collar that you tested and the one that was used at
16:35 24 Macondo, correct?

16:35 25 A. We had the same model number.

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16:35 1 Q. Well, let's see if we can talk about some of the
16:35 2 differences. You had the same model number.

16:35 3 Are you aware that the float collar that was tested
16:36 4 by Transocean differed from the float collars used at Macondo
16:36 5 in the following respects?

16:36 6 First, the float collar that you used had -- there
16:36 7 was one flow port on the test auto-fill tube versus two flow
16:36 8 ports that were on the Macondo well's float collar. Were you
16:36 9 aware of that?

16:36 10 A. Yes. You can take off the opening on the other one, and
16:36 11 then it's identical to the one that was used with two flow
16:36 12 ports.

16:36 13 Q. One of the effects of using the one-flow versus the
16:36 14 two-flow port is it reduces the conversion flow rate from five
16:36 15 to eight barrels down to two to four barrels. It changes that
16:36 16 feature of it, doesn't it?

16:36 17 A. It does.

16:36 18 Q. Another feature that was different is that the float
16:36 19 collar that you tested had different connections. You used an
16:36 20 LTC connection as opposed to the Hydril 513 that was used at
16:36 21 Macondo, correct?

16:36 22 A. I think that's the outer connection to the casing you're
16:36 23 talking about?

16:37 24 Q. Correct.

16:37 25 A. It doesn't change the internals.

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16:37 1 Q. Was it different, is my question.

16:37 2 A. It's just the connection to the casing that's different.

16:37 3 Q. One of the other differences, a third difference, if you
16:37 4 will, is that the float collar you used had a different grade
16:37 5 of steel that was used. You used a P110 grade of steel versus
16:37 6 the Q125 grade that was used at Macondo, correct?

16:37 7 A. I would have to go back and check that.

16:37 8 Q. Do you know whether using a different grade of steel
16:37 9 affects the collapse, the burst, and the tensile ratings?

16:37 10 A. It depends on which component that was in. My
16:37 11 understanding is the internal components were the same.

16:37 12 Q. Did you yourself perform that testing?

16:37 13 A. No. We hired Stress.

16:37 14 Q. Were you aware that Stress had already performed testing
16:37 15 for BP?

16:37 16 A. I didn't know at the time.

16:37 17 Q. Do you now know that Stress performed testing for BP which
16:38 18 used the same model with the same features, same connections,
16:38 19 same number of ports, same steel type, and concluded that the
16:38 20 float converted?

16:38 21 A. I'm aware of that now.

16:38 22 Q. We didn't talk about a fourth feature, just to put it out
16:38 23 there, that the float collar you used had three shear screws
16:38 24 secured to the auto-fill tube rather than four that were on the
16:38 25 Macondo well, correct?

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16:38 1 Macondo well's float collar, to be clear.

16:38 2 A. There's a difference, but you can -- again, it's an

16:38 3 adjustable float collar, so you can make it like the same.

16:38 4 Q. You can make it like the same, but it's not identical?

16:38 5 A. Just the outer casing is different.

16:38 6 Q. One of the things these different -- the different number

16:38 7 of shear screws results in is that it changes the shear rating

16:38 8 for the autofill tube, correct? It changes it from 500 to

16:38 9 700 psi versus 300 to 400 psi, correct?

16:39 10 A. That's correct.

16:39 11 Q. So those, at least, would be some differences in the float

16:39 12 collar that you had Stress Engineering test, correct?

16:39 13 A. Yes.

16:39 14 THE COURT: Let me see if I understand. Stress

16:39 15 Engineering did your testing on the float collar?

16:39 16 THE WITNESS: Yes, they did.

16:39 17 THE COURT: They also did BP's?

16:39 18 MS. KARIS: They did.

16:39 19 THE COURT: They came up with different results?

16:39 20 MS. KARIS: They tested different types of float

16:39 21 collars, that's --

16:39 22 THE WITNESS: They were two separate teams.

16:39 23 MS. KARIS: Not doing a good job of communicating

16:39 24 that.

16:39 25 THE COURT: I understand that.

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16:39 1 MS. KARIS: They came up with different results on
16:39 2 different float collars.

16:39 3 MR. REGAN: I think they got paid for both.

16:39 4 MS. KARIS: More to come on the float collars, I
16:39 5 promise, but not today.

16:39 6 THE COURT: I can't wait.

16:39 7 MS. KARIS: You and me both, Your Honor.

16:39 8 BY MS. KARIS:

16:39 9 Q. Okay. Is it fair to say, Mr. Ambrose, that there's at
16:39 10 least a dispute, based on what you have read in the Bly report
16:40 11 and from various other reports, including Stress' report, as to
16:40 12 whether those float collars did, in fact, convert?

16:40 13 A. Sure. I mean, that's the whole -- nobody knows for
16:40 14 certain whether or not they did or did not convert.

16:40 15 Q. Enough about float collars, because I know everybody is
16:40 16 looking forward to what's coming on those. Let's talk about
16:40 17 bottoms-up.

16:40 18 You saw previously that some information had been
16:40 19 communicated with respect to the plan for conducting
16:40 20 bottoms-up, correct? Communicated from BP to Transocean and
16:40 21 whoever else received that critical path forward document?

16:41 22 A. It looked like it, yes.

16:41 23 Q. And as part of your investigation, did you investigate
16:41 24 whether Transocean's crew had performed other jobs or was
16:41 25 involved in running other production strings where no

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16:41 1 bottoms-up had been performed immediately prior to running the
16:41 2 production casing?

16:41 3 A. I don't know that we looked at that.

16:41 4 Q. Did you look at whether anyone from Transocean's crew --
16:41 5 after learning at whatever point in time that they weren't
16:41 6 going to run a full bottoms-up immediately prior to running a
16:41 7 production casing -- whether anyone from Transocean expressed
16:41 8 any concerns about that decision?

16:41 9 A. I don't know.

16:41 10 Q. You would agree with me, though, if anybody did have a
16:41 11 concern, they had the obligation and the responsibility to stop
16:41 12 that job?

16:41 13 A. Yes, they would.

16:41 14 Q. And they certainly knew that the plan was to not run a
16:41 15 full bottoms-up immediately prior to the production casing --
16:42 16 running the production casing as we saw in that document,
16:42 17 correct?

16:42 18 A. They would have known that, yes.

16:42 19 Q. They would have known that several days prior to actually
16:42 20 running the casing, correct?

16:42 21 A. I don't know when that decision was made. I can't
16:42 22 remember.

16:42 23 Q. Well, we know, at least by April 16, they have a document
16:42 24 that demonstrates what the plan is, correct?

16:42 25 A. I can't remember what that document said, if it was full

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16:42 1 bottoms-up or if it was the abbreviated bottom.

16:42 2 Q. Now, is it correct that you are not aware of any
16:42 3 circulation being performed -- or any drilling being performed,
16:42 4 I should say, after April 16? Let's start with that.

16:42 5 A. I can't remember. I don't think there was.

16:42 6 Q. You're not aware of any new cuttings being generated by
16:42 7 any process or procedure after April 16, correct?

16:42 8 A. No, I don't believe they did any drilling.

16:42 9 Q. But you do know that on April 16, a full bottoms-up was
16:42 10 performed?

16:43 11 A. Yes.

16:43 12 Q. So after performing a full bottoms-up on April 16, you're
16:43 13 not aware of anything that would have generated new cuttings or
16:43 14 debris, correct?

16:43 15 A. No.

16:43 16 Q. Is my statement correct?

16:43 17 A. That's correct.

16:43 18 Q. Thank you.

16:43 19 Did you look at what the industry practice is for
16:43 20 whether you would perform bottoms-up when you have concern
16:43 21 about the downhole conditions and potentially deteriorating
16:43 22 your downhole?

16:43 23 A. By "deteriorating," what do you mean?

16:43 24 Q. By causing any further losses.

16:43 25 A. We were circulating, so you could still circulate.

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16:43 1 Q. Did you look at what the industry practice is as to
16:43 2 whether they would have run bottoms-up in this circumstance?

16:43 3 A. I can't recall. We had several people looking at that. I
16:44 4 don't know if they did or did not.

16:44 5 Q. That's not something you are aware of, sitting here now?

16:44 6 A. No, I can't remember.

16:44 7 Q. I want to talk to you a little bit about the negative
16:44 8 pressure test. But before we get to the negative pressure
16:44 9 test, you would agree with me that regardless of what the
16:44 10 individual decision was with respect to well design with
16:44 11 production casing or cementing, Transocean's drilling crew was
16:44 12 required to monitor the well at all times?

16:44 13 A. That's in our policies.

16:44 14 Q. So none of the decisions --

16:44 15 MS. CLINGMAN: Your Honor, I object to this as
16:44 16 cumulative. All he said about the negative pressure test is,
16:44 17 "This is our conclusion, and we accept multi-fault
16:44 18 responsibility."

16:44 19 THE COURT: So what's your question for him?

16:44 20 MS. KARIS: My question started with whether or
16:44 21 not -- there was some testimony, and certainly testimony
16:44 22 elicited by Mr. deGravelles about communications of information
16:45 23 from BP with respect to well design, production casing, and
16:45 24 cement. And my question --

16:45 25 THE COURT: I overrule the objection.

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16:45 1 MS. KARIS: Thank you.

16:45 2 BY MS. KARIS:

16:45 3 Q. None of the decisions with respect to well design,
16:45 4 production casing, or cementing in any way changed that
16:45 5 responsibility, if you will, to monitor the well, correct?

16:45 6 A. No.

16:45 7 Q. I know there's been a lot said about the negative pressure
16:45 8 test and I will promise to move as quickly as I can, but there
16:45 9 has been some questions elicited about it.

16:45 10 The purpose of the negative -- let's back up.

16:45 11 We talked about the temporary abandonment procedure
16:45 12 and the fact that there were multiple -- or you saw at least
16:45 13 multiple iterations of a temporary abandonment procedure,
16:45 14 correct?

16:45 15 A. Yes.

16:45 16 Q. And the temporary abandonment procedure is where you would
16:45 17 find the negative pressure test being listed, correct?

16:45 18 A. Yes.

16:45 19 Q. So the purpose of a negative pressure test is to simulate
16:46 20 the condition of the well that would exist after the riser and
16:46 21 the BOP are disconnected from the well, correct?

16:46 22 A. That's correct.

16:46 23 Q. So whatever negative pressure tests you are going to
16:46 24 conduct, you wanted to simulate those conditions so that you
16:46 25 can confirm that the well has integrity before you unlatch your

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16:46 1 BOP?

16:46 2 A. That's correct.

16:46 3 Q. You agree that there is no industry standard for how to
16:46 4 run a negative test?

16:46 5 A. At the time, no, there was not.

16:46 6 Q. At least as of April 20, there was no industry standard.
16:46 7 That's something you guys looked at and you concluded there was
16:46 8 no established industry standard?

16:46 9 A. That's correct.

16:46 10 Q. There were a variety of different ways to perform a
16:46 11 negative test, correct?

16:46 12 A. There were.

16:46 13 Q. And you know that Transocean's crew had, in fact,
16:46 14 performed negative pressure tests using a variety of different
16:47 15 ways?

16:47 16 A. They had.

16:47 17 Q. Transocean's crew was experienced in both performing
16:47 18 negative pressure tests and interpreting the negative pressure
16:47 19 tests, correct?

16:47 20 A. They had done them before, yes.

16:47 21 Q. And the same is true of BP's crew, well site leaders that
16:47 22 were on the rig that night, they were experienced in
16:47 23 interpreting negative pressure tests, correct?

16:47 24 A. Through experience, but they are not engineers, they
16:47 25 wouldn't necessarily know the end results.

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16:47 1 Q. The end result of the negative pressure test that was
16:47 2 performed on the evening of April 20 is several individuals
16:47 3 with over 100 years of collective experience made a mistake in
16:47 4 how they interpreted the results of that negative pressure
16:47 5 test?

16:47 6 A. We believe they misinterpreted it.

16:47 7 Q. Unfortunately, they concluded that that test was
16:47 8 successful when, in fact, it wasn't?

16:47 9 A. That's what we believe, yes.

16:48 10 Q. Now, you testified about the setting up the test on the
16:48 11 kill line versus the drill pipe, and I want to follow up a
16:48 12 little bit on that.

16:48 13 First of all, you agree with me, regardless of
16:48 14 whether you set up the test on the drill pipe or the kill line,
16:48 15 that test can certainly be conducted in a way that answers the
16:48 16 question of whether your well has integrity?

16:48 17 A. Yes.

16:48 18 Q. In fact, on the evening of April 20, when the test was set
16:48 19 up initially on the drill pipe and then stopped and set up on
16:48 20 the kill line, that test answered the question of whether the
16:48 21 well had integrity, correct?

16:48 22 A. I'm not sure I follow you.

16:48 23 Q. The test that was conducted indicated that there was
16:48 24 1400 psi on the drill pipe and zero on the kill line, correct?

16:49 25 A. Yes, that's where it was.

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16:49 1 Q. And what that tells you is the well does not have
16:49 2 integrity?

16:49 3 A. That's correct.

16:49 4 Q. So there was nothing about the way the test was performed
16:49 5 that didn't reveal that you have pressure on your drill pipe
16:49 6 and no pressure on your kill line and, therefore, your well
16:49 7 doesn't have integrity?

16:49 8 A. Can you say that again.

16:49 9 Q. Sure. That was a bad question.

16:49 10 What I'm trying to get at is: Regardless of how this
16:49 11 test was set up or performed -- because you talked about
16:49 12 setting it up on the drill pipe versus the kill line -- the
16:49 13 test answered the question; it was just misinterpreted?

16:49 14 A. Yes, that's what we state.

16:49 15 Q. Now, you talked about when they were setting up the test,
16:49 16 that the crew performed some displacement calculations. Do you
16:49 17 recall that?

16:49 18 A. For the displacement prior to the negative test?

16:50 19 Q. Yes.

16:50 20 A. Yes.

16:50 21 Q. Prior to conducting the negative pressure test, the crew
16:50 22 had to displace mud to seawater as part of the test procedure?

16:50 23 A. Yes.

16:50 24 Q. And your conclusion was that there was a mistake made in
16:50 25 that displacement procedure, correct?

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16:50 1 A. Yes.

16:50 2 Q. And the displacement was erroneously calculated, I think
16:50 3 is the word you used?

16:50 4 A. From the M-I SWACO engineer -- I think it was the M-I
16:50 5 engineer that was on board -- that's what the calculation
16:50 6 confirmed.

16:50 7 Q. But the displacement figures are actually performed by the
16:50 8 assistant driller or the driller of Transocean's crew, correct?

16:50 9 A. Yes, they would have likely been confirmed.

16:50 10 MS. KARIS: If we can pull up 7532.4.2.

16:50 11 BY MS. KARIS:

16:50 12 Q. Was there a gentleman by the name of Bob Scott on your
16:51 13 investigation team?

16:51 14 A. Yes.

16:51 15 MS. KARIS: Can we go to the first page, please.

16:51 16 BY MS. KARIS:

16:51 17 Q. Do you see these are the interview notes of Mr. Wheeler,
16:51 18 who was the toolpusher on the rig on the evening of April 20?

16:51 19 A. Yes.

16:51 20 Q. He was one of the people your team interviewed in
16:51 21 connection with reaching your opinions and conclusions in this
16:51 22 case, correct?

16:51 23 A. Yes.

16:51 24 MS. KARIS: Now, if we can go back to 7532.4.2.

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16:51 1 BY MS. KARIS:

16:51 2 Q. In connection with looking at how this displacement was
16:51 3 calculated, at least according to these notes, Mr. Scott, Bob,
16:51 4 asked Wyman, quote, Who calculates the displacement figures?

16:51 5 And Wyman said: "We all do . . . the AD" -- that
16:51 6 would be assistant driller, correct?

16:51 7 A. Yes.

16:51 8 Q. -- "the driller, and I do, and everyone agrees."

16:51 9 Correct?

16:51 10 A. Right. The number we found was in a tally book for the
16:51 11 mud engineer, and we think that was probably checked but
16:52 12 erroneously accepted.

16:52 13 Q. So to the extent the test was erroneously set up because
16:52 14 of the displacement calculations, those would have been
16:52 15 calculations that would have been performed by Transocean's
16:52 16 crew?

16:52 17 A. Probably verified by, yes.

16:52 18 Q. Now, Mr. Ambrose, after interviewing a number of
16:52 19 individuals who were on the rig that evening, is it correct to
16:52 20 say that to the best of your knowledge, everyone that evening
16:52 21 involved in the test thought that they had achieved a
16:52 22 successful negative pressure test?

16:53 23 A. We believe that, yes.

16:53 24 Q. And that included information that had been communicated
16:53 25 to Mr. Ezell and Mr. Harrell on the evening of the incident,

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16:53 1 correct?

16:53 2 A. I don't know what information was communicated, but they
16:53 3 were all -- they all accepted it was a positive test.

16:53 4 MS. KARIS: Let's look at 50296.3.1, please. First,
16:53 5 if we can go to the cover of this.

16:53 6 BY MS. KARIS:

16:53 7 Q. Again, these are interview notes from your team of
16:53 8 Mr. Ezell. Do you the recognize this document?

16:53 9 A. Yes.

16:53 10 Q. He was one of the individuals you guys interviewed on
16:53 11 May 28, 2010?

16:53 12 A. Correct.

16:53 13 MS. KARIS: Now, if we can go to the call-out again.

16:53 14 BY MS. KARIS:

16:53 15 Q. "He made a call to Jason Anderson" -- "he" being Randy
16:53 16 Ezell -- "made a call to Jason Anderson at approximately
16:53 17 9:20 p.m. and then asked how the negative test went. Jason
16:54 18 said they had a full stop and would discuss and figure how to
16:54 19 proceed. Jason told Randy that the negative test went great.
16:54 20 He was told that they bled down and observed for 30 minutes and
16:54 21 had no flow." Correct?

16:54 22 A. That's what it states, yes.

16:54 23 Q. That's the most accurate or recent information we have of
16:54 24 what Mr. Anderson said on the evening of April 20 with respect
16:54 25 to the negative pressure test, correct?

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16:54 1 A. That's the most accurate information we had as an
16:54 2 investigation team.

16:54 3 Q. So at least this indicates that Jason Anderson felt fully
16:54 4 comfortable and confident with the results of those tests?

16:54 5 A. That's what Randy is implying here, yes.

16:54 6 Q. He goes on to say at the end: "Randy asked Jason how the
16:54 7 displacement did, and Jason replied 'good' and that the spacer
16:55 8 would be back soon. He asked Jason if he needed help, and
16:55 9 Jason replied that he did not need any."

16:55 10 Correct?

16:55 11 A. That's what it states.

16:55 12 Q. I asked you previously if you interviewed Mr. Harrell. Do
16:55 13 you recall that?

16:55 14 A. I do.

16:55 15 MS. KARIS: If we can look at 30025.2.2, please. The
16:55 16 cover, please, first. Sorry.

16:55 17 BY MS. KARIS:

16:55 18 Q. Again, these are the interview notes from Mr. Harrell on
16:55 19 April -- excuse me, May 20 to your team. Were you aware they
16:55 20 interviewed Mr. Harrell?

16:55 21 A. You know, I had forgotten they had before all the legal
16:55 22 stuff happened.

16:55 23 Q. Understood. I know lots of people were interviewed.

16:55 24 A. Yes.

16:55 25 Q. Does this indicate to you, though, that Mr. Harrell was,

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16:55 1 in fact, interviewed?

16:55 2 A. Yes.

16:55 3 Q. He was the offshore installation manager on the
16:55 4 *Deepwater Horizon* or the OIM?

16:56 5 A. Yes.

16:56 6 MS. KARIS: If we can now go to 30025.2.2.

16:56 7 BY MS. KARIS:

16:56 8 Q. Mr. Harrell says: "At about 2140, checked in with the
16:56 9 night toolpusher, Randy Ezell, to see if everything was okay on
16:56 10 the rig floor operation. He advised me that the negative test
16:56 11 had been good after being held static for 30 minutes, and that
16:56 12 they were now shut down circulating to take a sheen test. If
16:56 13 that was okay, they would then continue with the T&A as
16:56 14 planned."

16:56 15 Correct?

16:56 16 A. Yes, that's what it states.

16:56 17 Q. Now, you agree with me that if anyone on Transocean's
16:56 18 crew, Mr. Harrell, Mr. Ezell, Mr. Anderson, Mr. Revette, or
16:56 19 anyone else, had any concerns about the results of the negative
16:56 20 pressure test, BP could not make them move forward with
16:57 21 displacement?

16:57 22 A. No. They would stop.

16:57 23 Q. I apologize if I asked you this before, but I want to turn
16:57 24 to the temporary abandonment procedure. And to be clear, you
16:57 25 did not evaluate as part of your work whether the temporary

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16:57 1 abandonment procedure that was used at the Macondo well met the
16:57 2 standard of care for temporary abandonment procedures, correct?

16:58 3 A. I'm not sure what you mean by the term, so . . .

16:58 4 Q. You didn't compare it to how the industry sets up and
16:58 5 performs temporary abandonment procedures, correct?

16:58 6 A. We did compare it to regular or normal depths of negative
16:58 7 tests and surface plugs.

16:58 8 Q. Okay. Now, Mr. Barnhill, I will represent to you,
16:58 9 testified that the temporary abandonment procedure met the
16:58 10 standard of care for an operator in the way the negative test
16:58 11 is written and was performed. Do you have any reason to
16:58 12 disagree with that?

16:58 13 A. For the "negative test" piece?

16:58 14 Q. Yes, let's start first with the negative test.

16:58 15 A. I would agree with that.

16:58 16 Q. Likewise, he testified that with respect to the temporary
16:58 17 abandonment procedure, "Do you have any criticism of the
16:58 18 temporary abandonment procedure that was used?"

16:58 19 And he said, no. I believe it was interpreted
16:58 20 correctly" -- I'm sorry.

16:59 21 MS. KARIS: Let's put it up so I'm not paraphrasing
16:59 22 here. 5015.1.

16:59 23 BY MS. KARIS:

16:59 24 Q. (Reading):

16:59 25 "QUESTION: "If the negative test had been

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16:59 1 interpreted correctly" -- and you nodded -- "would you
16:59 2 have any criticism of the temporary abandonment procedure
16:59 3 that was used? Do you see that?"
16:59 4 He is being shown his testimony.
16:59 5 "ANSWER: I do.
16:59 6 "QUESTION: And your answer is 'No,' correct?
16:59 7 Because I believe if it had been interpreted correctly, we
16:59 8 wouldn't be here.
16:59 9 "ANSWER: Correct. That's what I think I said."
16:59 10 Do you see that?
16:59 11 A. I see that's what it says.
16:59 12 Q. What I started to ask was, Mr. Barnhill had no criticism
16:59 13 of the temporary abandonment procedure and testified that it
16:59 14 met the standard of care. Would you disagree with that?
16:59 15 A. Well, this is a different question. It's saying, if the
16:59 16 negative test had been interpreted correctly, then there would
16:59 17 have been remedial actions on the well.
17:00 18 Q. Do you see where it says, "Would you have any criticism of
17:00 19 the temporary abandonment procedure?"
17:00 20 A. Again, I don't know the whole sequence of -- it's assuming
17:00 21 that the test is accurate, which means the cement is set and
17:00 22 then would it work. The answer is yes. And I agree with that
17:00 23 piece of it, but this is very weirdly worded, let me just say
17:00 24 that.
17:00 25 Q. We will let Mr. Brock resolve that. Let's put this to the

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17:00 1 side.

17:00 2 Is it correct to say that after reviewing the
17:00 3 temporary abandonment procedure as performed -- even though you
17:00 4 said you liked a different one better -- that the temporary
17:00 5 abandonment procedure as written and performed, if interpreted
17:00 6 correctly, would have achieved its purpose?

17:00 7 A. If the plan itself was interpreted or the negative test?

17:00 8 Q. The negative test in the plan.

17:00 9 A. If the negative test was interpreted correctly, then the
17:01 10 operations would have stopped at that point and a remedial
17:01 11 cement job would have been done.

17:01 12 MS. KARIS: Let's go to 97.1.1 to see if I can
17:01 13 clarify this.

17:01 14 BY MS. KARIS:

17:01 15 Q. Are you familiar with this document? This is from
17:01 16 Exhibit 97.

17:01 17 A. Yes, I've seen this.

17:01 18 Q. This is what's called the "ops" note or the operations
17:01 19 note for the temporary abandonment procedure sent from
17:01 20 Mr. Morel to the rig on the morning of April 20 at 10:43 --
17:01 21 actually, Mr. Morel was on the rig at that time. Do you see
17:01 22 that?

17:01 23 A. Yes.

17:01 24 Q. Is this the temporary abandonment procedure that was in
17:01 25 place and followed later that day?

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17:01 1 A. No.

17:01 2 Q. Tell me what wasn't followed.

17:01 3 A. The spacer was added after this. The spacer is not
17:01 4 included in this plan. The viscous spacer was put in and the
17:02 5 two lost circulation pills were added after this.

17:02 6 Q. Okay.

17:02 7 A. And we know that was done. I think there's another plan
17:02 8 that came after this one.

17:02 9 Q. There's a separate procedure for that, M-I SWACO's
17:02 10 procedure, correct?

17:02 11 A. That's incorporated into this, yes.

17:02 12 Q. Correct. So SWACO's procedure called for the viscous
17:02 13 spacer, and then this set out the rest of the steps for the
17:02 14 temporary abandonment procedure; is that accurate?

17:02 15 A. There's is a step in between one of those, after number 2.

17:02 16 Q. You told me earlier that there was a discussion about this
17:02 17 plan at the 11:00 meeting that morning. Do you recall that?

17:02 18 A. Yes.

17:02 19 Q. That was a discussion between whom?

17:02 20 A. I believe it was the OIM and -- I can't remember if it was
17:02 21 Kaluza or Vidrine.

17:03 22 Q. So there was a discussion after this plan was circulated
17:03 23 for the ops note, for the temporary abandonment. There was a
17:03 24 conversation between Mr. Kaluza, or one of the BP well site
17:03 25 leaders, and Mr. Harrell, the OIM, correct?

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17:03 1 A. Yes. We know there was a conversation.

17:03 2 Q. Would you agree with me that if Mr. Harrell had any
17:03 3 concerns about this temporary abandonment procedure performed
17:03 4 in this way, he would have raised those -- he had a
17:03 5 responsibility to raise those concerns with BP's well site
17:03 6 leader?

17:03 7 A. Yes, he should have.

17:03 8 Q. And if he had any concerns about performing this
17:03 9 procedure, he certainly had the authority to stop the job,
17:03 10 correct?

17:03 11 A. Yes, he would.

17:03 12 Q. And if he had any confusion about how this is supposed to
17:03 13 take place, likewise, he had authority to stop the job?

17:03 14 A. Yes, he did.

17:03 15 Q. Mr. Ezell testified that he was at that meeting, and you
17:03 16 know that from your interview of him, correct?

17:04 17 A. I believe that was in there, yes.

17:04 18 Q. Same thing. If Mr. Ezell had any concerns, he could have
17:04 19 stopped the job. And you are not aware of anyone who did,
17:04 20 correct?

17:04 21 A. That's correct.

17:04 22 MS. KARIS: Just to be clear, if we can pull up
17:04 23 567.1.12, is this the displacement procedure that you were
17:04 24 referencing?

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17:04 1 BY MS. KARIS:

17:04 2 Q. Do you see where it says "No. 5. Build 525 [*sic*]
17:04 3 barrels"?

17:04 4 A. Yes. I think this is it.

17:04 5 Q. So this procedure was also -- you know from your
17:04 6 investigation this procedure was put together and circulated
17:04 7 among BP's well site leaders, among the SWACO engineers, as
17:04 8 well as amongst Transocean's drilling crew, correct?

17:04 9 A. I don't know if we saw all of those communication paths,
17:04 10 because we didn't have access to a lot of that e-mail at the
17:04 11 time we were doing this.

17:04 12 Q. Do you know whether this procedure was part of the morning
17:04 13 discussion?

17:04 14 A. I don't.

17:04 15 Q. You have no criticism, though, that this was not
17:05 16 communicated to Transocean?

17:05 17 A. It had to have been at some point because this is what
17:05 18 they did.

17:05 19 Q. Exactly. Transocean's crew actually had to execute this,
17:05 20 correct?

17:05 21 A. Yes.

17:05 22 Q. You see at the beginning of this procedure where it says,
17:05 23 "Before displacing to seawater, conduct a THINK drill with
17:05 24 all"?

17:05 25 A. Yes.

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17:05 1 Q. What is a THINK drill that needed to be conducted before
17:05 2 displacing to seawater for the negative pressure test?

17:05 3 A. It's basically a job risk assessment.

17:05 4 Q. I'm sorry.

17:05 5 A. A job risk assessment.

17:05 6 Q. What is that? What is a job risk assessment under
17:05 7 Transocean's policy?

17:05 8 A. So they would look at how are they going to set up the
17:05 9 valves, how are they going to line up, what do they need to
17:05 10 mix, what do they need to move, and assess what are the risks
17:05 11 of doing that particular job in setting those things up.

17:05 12 Q. If anybody had any concern about using a 425-barrel spacer
17:05 13 as part of this procedure, that would be something that would
17:05 14 be discussed in the THINK drill, correct?

17:06 15 A. Probably not. Not from our end, at least, because our
17:06 16 guys wouldn't have known necessarily the materials or
17:06 17 properties of that spacer. Those kinds of risks would have to
17:06 18 be assessed by somebody else.

17:06 19 Q. But clearly if anyone had any concern about any risks
17:06 20 posed, one of the purposes of a THINK drill is to identify any
17:06 21 concerns or hazards with upcoming operations, correct?

17:06 22 A. It is. Again, I don't know that they would have the
17:06 23 background to know that.

17:06 24 Q. You're not aware of anyone, after receiving this procedure
17:06 25 and conducting the THINK drill, raising any concerns about that

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- 17:06 1 spacer; is that correct?
- 17:06 2 A. I don't know of any.
- 17:06 3 Q. You are aware that M-I SWACO -- they were the mud
17:06 4 engineers that were out there that recommended this
17:06 5 displacement procedure?
- 17:06 6 A. I'm not sure who recommended it. I just know that this
17:06 7 was the procedure that was used.
- 17:06 8 Q. Do you know who Mr. Lindner is? Leo Lindner?
- 17:06 9 A. Yeah. I believe he was the mud engineer on the rig.
- 17:06 10 Q. And did you have an opportunity to speak to Mr. Lindner?
- 17:07 11 A. No, we did not.
- 17:07 12 Q. Do you know whether Mr. Lindner, who wrote this
17:07 13 displacement procedure, had any concerns on behalf of the mud
17:07 14 engineer with proceeding with using this 425-barrel spacer?
- 17:07 15 A. We weren't able to talk to him. I don't know what he
17:07 16 had -- his opinion is.
- 17:07 17 Q. But you're not aware of anyone, at least, that said
17:07 18 Mr. Lindner had any concerns with this procedure that he put
17:07 19 together?
- 17:07 20 A. I don't know.
- 17:07 21 Q. You don't know either way?
- 17:07 22 A. No.
- 17:07 23 Q. Enough of the negative pressure test. Let's go to the
17:07 24 last hour.
- 17:07 25 You offered some testimony, both in connection to

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17:07 1 Ms. Clingman's questions this morning as well as subsequent
17:07 2 questions about the actions that the drill crew was to take --
17:08 3 or did take, I should say.

17:08 4 Is it correct that one of the questions that you set
17:08 5 out to answer is, what actions did the drill crew take on the
17:08 6 evening of April 20?

17:08 7 A. Yes.

17:08 8 Q. In fact, that's specifically in your report as one of the
17:08 9 critical questions you were trying to assess?

17:08 10 A. Yes.

17:08 11 Q. In answering the question of what actions did the drill
17:08 12 crew take, did you review Transocean's policies with respect to
17:08 13 well control?

17:08 14 A. That was a piece of the investigation, yes.

17:08 15 Q. In the course of reviewing those policies, do you agree
17:08 16 with me that Transocean communicates to its drill crew that if
17:08 17 there's any doubt whatsoever as to whether a kick is occurring,
17:08 18 they should shut in the well?

17:08 19 A. Yes, that's the policy.

17:09 20 Q. This is made clear in Transocean's handbook as well as a
17:09 21 variety of other Transocean documents for the drilling crew,
17:09 22 correct?

17:09 23 A. Yes, it is.

17:09 24 Q. We can look at -- did you look to the question of who has
17:09 25 responsibility for shutting in that well and detecting the

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17:09 1 kick -- monitoring, detecting, and then shutting in?

17:09 2 A. The driller.

17:09 3 Q. So that's a question you looked at, correct?

17:09 4 A. Yes. From the Transocean side, it's the driller for
17:09 5 shutting in.

17:09 6 MS. KARIS: If we can go to 1454.18.5, please.

17:09 7 BY MS. KARIS:

17:09 8 Q. This is from Transocean's well control manual. That's
17:09 9 what makes clear in the very first bullet, "The driller is
17:10 10 responsible for monitoring the well at all times, identifying
17:10 11 when the well is to be shut in, and shutting in the well
17:10 12 quickly and safely"; correct?

17:10 13 A. Yes.

17:10 14 Q. I don't want to belabor the point, but Transocean has
17:10 15 multiple documents that say the driller has 100 percent
17:10 16 responsibility for that action. Correct?

17:10 17 A. They are talking about our crew, yes.

17:10 18 Q. You say -- talking about your crew, are you aware that
17:10 19 Transocean's policy is that you don't rely on the company man
17:10 20 for purposes of shutting in -- detecting a kick and shutting in
17:10 21 the well?

17:10 22 A. No. I'm saying the monitoring piece. There are other
17:10 23 people that monitor the well. You asked about shutting in. We
17:10 24 have the responsibility to shut in and we have the
17:10 25 responsibility to monitor.

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17:10 1 Q. Who else has responsibility for monitoring?

17:11 2 A. There are screens all over the rig. You have the mud
17:11 3 engineer, and the company man could do it as well.

17:11 4 Q. It's one thing to say who has screens, but who is charged
17:11 5 with. What's your understanding, when conducting this
17:11 6 investigation, who was charged with the responsibility of 24/7
17:11 7 monitoring that well?

17:11 8 A. The driller.

17:11 9 Q. And is it also true that Sperry-Sun has a mud logger who
17:11 10 has that responsibility?

17:11 11 A. Yes, they would.

17:11 12 Q. You have testified earlier about some of the kick
17:11 13 indicators that were seen the morning of, and I want to follow
17:12 14 up on some of that testimony.

17:12 15 Do you agree that trends and signals are an important
17:12 16 part of monitoring well parameters?

17:12 17 A. Yes.

17:12 18 Q. Trends and signals can occur over a few minutes and give
17:12 19 you the most meaningful indications of a well control event,
17:12 20 correct?

17:12 21 A. Yes.

17:12 22 Q. Your investigation report concluded that on the evening of
17:12 23 April 20, there were several indications of a kick during the
17:12 24 final displacement operations, correct?

17:12 25 A. Yes, there were.

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17:12 1 Q. Let's look at a couple of those indications.

17:12 2 MS. KARIS: If we can pull up D-4319, please.

17:12 3 BY MS. KARIS:

17:12 4 Q. Is it correct that the first indicator that your
17:13 5 investigation team identified was an anomaly between what you
17:13 6 called 9:02 to 9:07? I know this has different times, but just
17:13 7 to orient us.

17:13 8 A. Yes. We believe the well went underbalanced about
17:13 9 8:50 p.m.

17:13 10 Q. Between 9:02 and 9:07, when the trend line began being
17:13 11 flat or down -- when it should have been going flat or down, it
17:13 12 was actually rising, correct?

17:13 13 A. Yes, there was a slight increase in pressure.

17:13 14 Q. What you concluded --

17:13 15 MS. CLINGMAN: Your Honor, I'm going to object that
17:13 16 it's outside the scope. We did not go through the numerous
17:13 17 Sperry charts and Sperry data in the report. We just read the
17:13 18 conclusion and left that to Mr. Barnhill.

17:13 19 THE COURT: Overruled. But we have been through
17:13 20 this. I have seen this chart numerous times in this trial. So
17:14 21 let's . . .

17:14 22 MS. KARIS: I promise to move along.

17:14 23 BY MS. KARIS:

17:14 24 Q. Mr. Ambrose, just to be clear, what your investigation
17:14 25 concluded as the first indicator of a kick was at 9:02 to 9:07;

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17:14 1 is that correct?

17:14 2 A. No. I believe we said that a kick came in prior to that,
17:14 3 when they were dumping the trip tank. That's when the first
17:14 4 indication was. The flow was a little bit masked?

17:14 5 And the interesting thing is the flow came back down
17:14 6 to where it should have been after the trip tank was complete.
17:14 7 That's one of the reasons why it was missed. But there was a
17:14 8 time prior to the period that you just said.

17:14 9 Q. What you have seen from 9:02 to 9:07 is that a period when
17:14 10 the drill pipe pressure should be going down, instead, it
17:14 11 actually starts increasing, correct?

17:14 12 A. Yes, there was a slight increase. This exaggerates it a
17:14 13 bit, but yes.

17:14 14 Q. That's an indicator of a kick?

17:14 15 A. Yeah. It's interesting. It's an indication of an
17:14 16 anomaly. Kicks tend to go down in pressure versus up when you
17:15 17 are drilling. So, you know, it's not your normal kick
17:15 18 indicator, but it is a sign there is something going on.

17:15 19 Q. Just to move past this pretty quickly, you identified
17:15 20 another indicator of a kick from 9:08 to 9:13, correct?

17:15 21 A. That was when they were shut down for the sheen test.

17:15 22 Q. Right.

17:15 23 A. Another really strange nuance of that is the pumps shut
17:15 24 down but the pressure was actually flat for about 30 seconds
17:15 25 and then slowly started to build. And so the end of that flow

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17:15 1 check -- it's an interesting anomaly that there was constant
17:15 2 pressure there for a little bit. But yes, there was about
17:15 3 180-psi increase.

17:15 4 Q. What you saw between 9:08 -- 9:09 and 9:13 was an
17:15 5 indication of a kick, correct?

17:15 6 A. It could have been a kick or it could have been something
17:15 7 else. It was an anomaly that should have been investigated,
17:15 8 yes.

17:15 9 Q. Look at page 428, line 7 to 11 of your deposition.

17:16 10 "QUESTION: Now, the next indicator of a kick is at
17:16 11 9:08 to 9:13, when the pumps are shut off for the sheen
17:16 12 test, correct?

17:16 13 "ANSWER: That's an indication there as well, yes."
17:16 14 Correct?

17:16 15 A. Sure. And I'm speaking with 20/20 hindsight, knowing it
17:16 16 was a kick. From a driller's point of view, it's an anomaly
17:16 17 and it could be a kick. I'm just saying that.

17:16 18 Q. Is it fair to say that if there's an anomaly, what should
17:16 19 be done is you should stop, shut in, and then investigate?

17:16 20 A. I don't know if that's exactly the steps, but stop, flow
17:16 21 check -- that would be what our procedure says -- and then shut
17:16 22 in, if you would need to, because the well is flowing.

17:16 23 Q. So it's your testimony that your well control procedure is
17:16 24 to flow-check before you shut in?

17:16 25 A. I believe the step is flow-check, then shut in.

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17:16 1 Q. How long does it take to flow-check?

17:16 2 A. It would depend. It could take a minute or less.

17:17 3 Q. A minute or less. That's something you can do pretty
17:17 4 quickly, correct?

17:17 5 A. Yes.

17:17 6 Q. Once you do a flow check, then you should shut in if you
17:17 7 see an anomaly and can't figure out what it is, correct?

17:17 8 A. That's correct.

17:17 9 Q. Without going through all these indications, is it fair to
17:17 10 say that over the course of that last hour, there were multiple
17:17 11 indications of a kick that went undetected?

17:17 12 A. There were several.

17:17 13 MS. KARIS: Your Honor, if I can have just one
17:17 14 minute.

17:18 15 BY MS. KARIS:

17:18 16 Q. Mr. Ambrose, I think I have two more questions for you and
17:18 17 I'm done. I know those are famous last words.

17:18 18 Mr. Ambrose, is it fair to say that over the
17:19 19 14 months that you investigated this incident, you did not see
17:19 20 any actions by anyone involved in this operation that you
17:19 21 thought were taken intentionally compromising the safety?

17:19 22 A. I don't think anybody had any intent for this to happen.

17:19 23 Q. You didn't see any actions that you believed were made to
17:19 24 save time and money at the expense of safety, correct?

17:20 25 A. I don't think so, no.

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17:20 1 MS. KARIS: I have nothing further. Thank you.

17:20 2 THE COURT: All right. Cameron.

17:20 3 MR. BECK: May it please the Court. David Beck for
17:20 4 Cameron.

5 CROSS-EXAMINATION

17:20 6 BY MR. BECK:

17:20 7 Q. I know it's been a long day. I don't have many questions,
17:21 8 but the bad news is I have a few.

17:21 9 Let me begin by focusing on the drill contract
17:21 10 between Vastar and R&B Falcon. The Court has already heard
17:21 11 that you were with R&B Falcon back in 1999; is that correct?

17:21 12 A. Yes, sir.

17:21 13 MR. BECK: Could we bring up, please, 1356A .2.1.
17:21 14 1356A .2.1, Paul.

17:21 15 BY MR. BECK:

17:21 16 Q. You see at the top of the page it has RBS-8D. Do you see
17:21 17 that, sir?

17:21 18 A. Yes.

17:21 19 Q. That eventually became the *Deepwater Horizon*, did it not?

17:21 20 A. Once the vessel had a name, yes.

17:21 21 Q. Pardon me?

17:21 22 A. Once we named the vessel, yes.

17:21 23 Q. Correct. The Court has already heard that Vastar was
17:22 24 acquired by BP, R&B Falcon was acquired by Transocean. So when
17:22 25 I refer to these documents, do you mind, for simplicity sake,

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17:22 1 if I refer to Transocean and BP?

17:22 2 A. Works for me.

17:22 3 **MR. BECK:** Let's bring up 1356A.2.1.

17:22 4 **BY MR. BECK:**

17:22 5 **Q.** Just to refresh your recollection, this is the -- 15.2 of
17:22 6 the drilling contract between BP and Transocean. Okay, sir?

17:22 7 Just so you can get oriented.

17:22 8 A. Okay.

17:22 9 **Q.** All right. You see that in Section 15.2, it specifically
17:22 10 says: "Contractor," which would be Transocean, "shall use the
17:22 11 blowout prevention equipment specified in Exhibit B hereof on
17:22 12 all strings of casing unless otherwise directed by the
17:22 13 company."

17:22 14 Do you see that, sir?

17:23 15 **MS. CLINGMAN:** Your Honor, I believe we have a ruling
17:23 16 that we are not discussing the BOP equipment and testing with
17:23 17 this witness. So I will object it is beyond the scope of
17:23 18 direct pursuant to the Court's instructions.

17:23 19 **MR. DEGRAVELLES:** I join in that objection.

17:23 20 **MR. BECK:** Your Honor, I'm not asking him anything
17:23 21 about testing. I'm just asking him what the original documents
17:23 22 provided.

17:23 23 **THE COURT:** I'll overrule the objection.

17:23 24 **BY MR. BECK:**

17:23 25 **Q.** Do you see that, sir, 15.2?

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17:23 1 A. Yes.

17:23 2 Q. Then there's a reference in there to Exhibit B. Do you
17:23 3 see that?

17:23 4 A. Yes.

17:23 5 Q. Exhibit B is the material equipment list, is it not?

17:23 6 A. It usually is.

17:23 7 MR. BECK: Let's bring up 1356A.48.1.

17:23 8 BY MR. BECK:

17:23 9 Q. Do you see at the top it says, "Exhibit B-2 Material
17:23 10 Equipment List"?

17:23 11 A. Yes.

17:23 12 Q. Then if you scroll down a little bit, there's a Section E
17:23 13 that says "Well Control/Subsea Equipment."

17:24 14 Do you see that, sir?

17:24 15 A. Yes.

17:24 16 Q. That would necessarily include the BOP, would it not?

17:24 17 A. Yes.

17:24 18 Q. And so that the Court might know, this contract is dated
17:24 19 December 9, 1998, is it not?

17:24 20 A. I don't see the date on this page. I didn't --

17:24 21 Q. If the record shows that's the date, then you wouldn't
17:24 22 dispute that?

17:24 23 A. Sure.

17:24 24 Q. That would, of course, be before anybody ordered the BOP
17:24 25 stack from Cameron or anyone, correct?

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17:24 1 A. I don't know the dates of order versus the dates of this
17:24 2 document, sir, so I can't confirm that.

17:24 3 Q. I'll show you a document in just a moment.

17:24 4 But in any event, let's look at 1356A.86.1. I am
17:24 5 going to go through this very quickly, but it specifies the
17:24 6 type of equipment to be used on the BOP that eventually was
17:24 7 going to end up on what eventually became the
17:24 8 *Deepwater Horizon*; is that correct, sir?

17:25 9 A. It would, yes.

17:25 10 MS. CLINGMAN: Your Honor, I object again. If we
17:25 11 want to go into the specifications and the performance of the
17:25 12 blowout preventer, we can, but we were precluded from doing
17:25 13 that both in our case and in the DF crosses so far.

17:25 14 MR. BECK: Judge, again, I'm not going into
17:25 15 performance. I'm just showing what the contract specified.

17:25 16 MS. CLINGMAN: We were -- he already showed the
17:25 17 design and everything else, and the topic area was precluded.

17:25 18 THE COURT: I overrule the objection.

17:25 19 BY MR. BECK:

17:25 20 Q. You see that there are various items that are prescribed
17:25 21 and specified. You see that, sir?

17:25 22 A. Yes.

17:25 23 Q. For example, there's been some testimony in this case
17:25 24 about the hose reels and the moon pool. Do you see that?

17:25 25 A. I see they are listed.

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17:25 1 Q. It specifies the location, too, does it not?

17:25 2 A. Yes.

17:25 3 Q. The MUX cables, so that the Court might know, are the
17:25 4 electrical and communication cables that go from the rig to the
17:25 5 BOP; is that correct?

17:25 6 A. Yes.

17:25 7 Q. And the contract specifies -- or the material equipment,
17:25 8 Exhibit B, which is part of the contract, specifies they shall
17:26 9 be located in the moon pool, correct?

17:26 10 A. Yes.

17:26 11 Q. That's where they were ultimately installed; is that not
17:26 12 right?

17:26 13 A. Yes, they would have been.

17:26 14 Q. There is also a contract specification that calls for a
17:26 15 hotline in the moon pool, correct?

17:26 16 A. Yes.

17:26 17 Q. That is a hydraulic line that goes from the rig to the
17:26 18 BOP, right?

17:26 19 A. Yes.

17:26 20 Q. That is where it was installed on the BOP on the
17:26 21 *Deepwater Horizon*, correct? There was a hotline located in the
17:26 22 moon pool?

17:26 23 A. It was installed in the moon pool, not on the BOP.

17:26 24 Q. Yes, sir.

17:26 25 A. Yes.

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17:26 1 MR. BECK: Now, let's turn quickly to Section E.12,
17:26 2 and that's 1356A.86.2.

17:26 3 There's been some evidence in this case about an
17:26 4 acoustic emergency BOP control.

17:27 5 If we could blow that up.

17:27 6 BY MR. BECK:

17:27 7 Q. You see where it says acoustic emergency BOP control and
17:27 8 you see where it says N/A?

17:27 9 A. Yes.

17:27 10 Q. That means "not applicable," does it not?

17:27 11 A. Yes, it does.

17:27 12 Q. In other words, an acoustic emergency BOP control system
17:27 13 was not specified in the contract, correct?

17:27 14 A. It does not look like it was.

17:27 15 Q. Now, so that the Court might know, an acoustic system
17:27 16 could have been included in the BOP if it were specified in the
17:27 17 contract, correct?

17:27 18 A. It could have been, yes.

17:27 19 Q. Based on -- it also could have been included if it was
17:27 20 required by regulation, correct?

17:27 21 A. Yes.

17:27 22 Q. Now, based -- the Court has already heard that your
17:27 23 deposition was taken for two reasons. You were being asked
17:27 24 questions based on your personal knowledge and also as the
17:27 25 corporate representative of Transocean. You recall that?

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17:28 1 A. Yes.

17:28 2 Q. In order to prepare for your corporate rep deposition, you
17:28 3 had to do certain research to familiarize yourself with certain
17:28 4 facts, right?

17:28 5 A. Yes.

17:28 6 Q. Now, based on your research, you're not aware of any
17:28 7 request for an acoustic system for the *Deepwater Horizon* all
17:28 8 the way up through April 20, 2010, correct?

17:28 9 A. That was two years ago. I don't remember anything --

17:28 10 Q. Okay. Fine.

17:28 11 MR. BECK: Let's go to 1356A.78.1.

17:28 12 BY MR. BECK:

17:28 13 Q. You see that this is a specification, which is part of the
17:28 14 drilling contract, for the primary BOP stack. Do you see that?

17:28 15 A. Yes.

17:28 16 Q. It prescribes such things as working pressure and H2S
17:28 17 service. Do you see that, sir?

17:28 18 A. Yes.

17:28 19 Q. So what that tells you is that the equipment must be
17:28 20 capable of being used in an H2S environment, right?

17:29 21 A. That's correct.

17:29 22 Q. We all know H2S is hydrogen sulfide, which is a colorless
17:29 23 gas?

17:29 24 A. Right.

17:29 25 Q. Smells like rotten eggs?

BILL AMBROSE - CROSS

17:29 1 A. It does.

17:29 2 Q. It's very poisonous and corrosive, is it not, sir?

17:29 3 A. Yes, it is.

17:29 4 Q. Not all BOP components are suitable for use when you
17:29 5 expect to encounter sour gas [verbatim] that might include
17:29 6 hydrogen sulfide?

17:29 7 A. Not all metals are good for that, that's correct.

17:29 8 MR. BECK: Now, let's look at 1356A.79.1.

17:29 9 BY MR. BECK:

17:29 10 Q. This is a specification which is part of the drilling
17:29 11 contract that provides for the ram type preventers. Do you see
17:29 12 that?

17:29 13 A. Yes.

17:29 14 Q. Some rigs have BOPs with two sets of blind shear rams,
17:29 15 correct?

17:29 16 A. Some are equipped that way, yes.

17:29 17 Q. Some Transocean rigs are equipped that way?

17:30 18 A. Yes.

17:30 19 Q. In fact, Transocean, they've had rigs operating with two
17:30 20 sets of blind shear rams for years, have they not?

17:30 21 A. Years, yes.

17:30 22 Q. Now, the contract specifications for this BOP was to have
17:30 23 one set of blind shear rams. Is that not reflected on this
17:30 24 document here?

17:30 25 A. It is.

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17:30 1 Q. There is no reason why more than one set of blind shear
17:30 2 rams could not have been included in the contract
17:30 3 specification, is there?

17:30 4 A. No.

17:30 5 MR. BECK: Let's bring up TREX-5094.

17:30 6 BY MR. BECK:

17:30 7 Q. You have seen a number of these. I think you identified a
17:30 8 number of them in your deposition. This is a technical
17:30 9 position paper. Do you see that, sir, Vastar *Deepwater Horizon*
17:31 10 BOP stack design?

17:31 11 A. Yes.

17:31 12 Q. This is a document in which Vastar and, I guess, BP and
17:31 13 Transocean, outlined various requirements for the BOP, correct?

17:31 14 A. Yes.

17:31 15 MR. BECK: If we could pull up 5094.1.1.

17:31 16 BY MR. BECK:

17:31 17 Q. It expressly says that the issue is the "Overall design of
17:31 18 the BOP stack for the *Deepwater Horizon*," correct?

17:31 19 A. Yes.

17:31 20 Q. If we go to 5094.9.1, we see that it is signed, correct?

17:31 21 A. It is.

17:31 22 Q. It is signed by a Mr. Metcalf on behalf of Vastar, right?

17:31 23 A. Yes.

17:31 24 Q. Mr. Dan Welch on behalf of Vastar?

17:31 25 A. Yes.

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17:31 1 Q. Mr. Don Weisinger on behalf of Vastar?

17:31 2 A. Yes.

17:31 3 Q. Mr. Kevin Wink as rig manager on behalf of R&B Falcon?

17:31 4 A. Yes.

17:31 5 Q. There is no signature block for Cameron, is there?

17:32 6 A. No, there's not.

17:32 7 Q. Like the drilling contract, this technical position paper
17:32 8 specifies that there will be five ram preventers in the BOP.

17:32 9 MR. BECK: We can turn the page, please. Let's go to
17:32 10 5094.2.1.

17:32 11 BY MR. BECK:

17:32 12 Q. You see where at the top it talks about the "Lower Stack
17:32 13 Configuration (Bottom to Top)"?

17:32 14 A. I see that.

17:32 15 Q. Now, I want to ask you whether or not that when Cameron
17:32 16 originally quoted or made a bid on the BOP to what was then
17:32 17 R&B Falcon, it offered both shearing blind rams and DVS rams.
17:33 18 Do you recall that?

17:33 19 A. I remember that issue in my deposition, but I don't recall
17:33 20 it from the time.

17:33 21 Q. Let me refresh your recollection.

17:33 22 MR. BECK: Let's bring up 4276, please.

17:33 23 BY MR. BECK:

17:33 24 Q. Do you see where this talks about "Attachment 1.2A -
17:33 25 Pricing Format"?

BILL AMBROSE - CROSS

17:33 1 A. Yes.

17:33 2 Q. And it says in the first sentence, "Note: Your bid must
17:33 3 be submitted in the following format."

17:33 4 Do you see that, sir?

17:33 5 A. Yes.

17:33 6 MR. BECK: Then if we can go to page 9 of this
17:33 7 exhibit, Paul.

17:33 8 BY MR. BECK:

17:33 9 Q. This is a letter from Cameron dated March 1, 1999, to what
17:33 10 was then R&B Falcon. Do you see that?

17:33 11 A. Yes.

17:33 12 Q. That's almost three months after the drilling contract had
17:34 13 been executed by the parties?

17:34 14 A. Yes.

17:34 15 Q. "The parties" being R&B Falcon and Vastar, right?

17:34 16 A. Yes.

17:34 17 MR. BECK: Then if we can go scroll down, Paul, to
17:34 18 4276.9.1.

17:34 19 BY MR. BECK:

17:34 20 Q. It says: "We have enclosed technical and commercial
17:34 21 information within our proposal for your consideration."

17:34 22 Then it goes on to page 62, which is 4276.62.1, and
17:34 23 it provides a description of the types of rams included within
17:34 24 the information. Do you see that?

17:34 25 A. Yes.

BILL AMBROSE - CROSS

17:34 1 Q. We first start with what Cameron calls shearing blind
17:34 2 rams. A lot of people call them blind shear rams, but Cameron
17:34 3 refers to them as shearing blind rams.

17:35 4 Now, it talks about some of the features of these
17:35 5 shearing blind rams, does it not?

17:35 6 A. Yes, it does.

17:35 7 Q. We talked about the hydrogen sulfide earlier, and you see
17:35 8 that one of the features of the shearing blind rams are that
17:35 9 they have replaceable blade inserts for H₂S compatibility and
17:35 10 suitable for H₂S service. Do you see that, sir?

17:35 11 A. Yes.

17:35 12 Q. Then if we go to the next page, 4276.63.1, there's a
17:35 13 description of Cameron DVS shear rams. Do you see those
17:35 14 features?

17:35 15 A. This is the same, isn't it?

17:35 16 Q. No, sir, a little bit different.

17:35 17 **MR. BECK:** Excuse me. Paul, we need to go to the
17:35 18 next one, which is 4276.63.1.

17:36 19 **BY MR. BECK:**

17:36 20 Q. Those are the DVS shear rams. Do you see those?

17:36 21 A. Yes.

17:36 22 Q. And without going through all these, in the interest of
17:36 23 time, you will note that unlike the shearing blind rams, the
17:36 24 DVS rams do not state that they were suitable for H₂S service,
17:36 25 do they?

BILL AMBROSE - CROSS

17:36 1 A. No, they do not.

17:36 2 Q. One of the other features is that it has a large blade
17:36 3 width to fit within existing ram bores, right?

17:36 4 A. Yes.

17:36 5 Q. It has two V-blades for more effective shearing. Do you
17:36 6 see that?

17:36 7 A. I'm not sure. Where is that?

17:36 8 Q. First sentence.

17:36 9 A. Oh. Yes.

17:36 10 Q. The point being that information was furnished back in
17:36 11 1999 that talked about the features of the shearing blind rams
17:37 12 and the DVS rams, correct?

17:37 13 A. Yes, it was.

17:37 14 Q. Now, the shearing blind rams were ordered, were they not?

17:37 15 A. Yes. That's what was outfitted, I believe.

17:37 16 Q. The DVS rams were not ordered, were they?

17:37 17 A. To the best of my recollection, I don't think they were,
17:37 18 because that's not what was in the --

17:37 19 Q. I take it based upon all the research you have done to
17:37 20 prepare for your deposition, prepare for trial, do you have any
17:37 21 idea who made that decision?

17:37 22 A. No. I wasn't part of that team doing that.

17:37 23 **MR. BECK:** That's all I have, Your Honor. Thank you.

17:37 24 **THE COURT:** Back to Transocean.

17:37 25 **MS. CLINGMAN:** Redirect, Your Honor.

REDIRECT EXAMINATION

BY MS. CLINGMAN:

Q. Mr. Ambrose, let me jump around a bit and cover just a few things.

But to clarify, who specified the configuration of the BOP in the drilling contract?

A. It was requested by Vastar at the time.

Q. The operator?

A. Yes.

Q. When the operator later requested modifications to the BOP, in terms of replacing rams and things, did Transocean comply with the operator's request?

A. Yes. We would change the rams out to meet whatever the well requirements were.

Q. If the operator had specified different configurations, would Transocean comply with that request?

A. Certainly, as long as it met regulations and it was prudent to do that.

Q. Let me turn briefly to displacement calculations.

Do you remember that series of questions? Transocean employees, as you have testified, do have the authority and the obligation to stop work if they see something that is unsafe or risky, right?

A. That's correct.

Q. With respect to displacement calculations and proceeding

BILL AMBROSE - REDIRECT

17:39 1 with displacement, they could stop work, but they could not go
17:39 2 forward without approval from the BP well site leader; is that
17:39 3 correct?

17:39 4 A. That's true.

17:39 5 Q. The PSC quoted the BP 2009 audit, one entry from that,
17:39 6 Mr. Ambrose. But again, I don't think the Court saw the
17:39 7 close-out spreadsheet, so just one entry there about closing
17:40 8 out tags in a computer but not doing the work.

17:40 9 Do you remember that discussion about maintenance
17:40 10 items?

17:40 11 A. Yes.

17:40 12 Q. You said it was not widespread. Whatever it was, it was
17:40 13 enough that both Transocean and BP audited well enough to
17:40 14 figure that out; is that right?

17:40 15 A. Yes.

17:40 16 Q. You were asked about the BP audit.

17:40 17 MS. CLINGMAN: I don't have the item number, but
17:40 18 let's look at the close-out spreadsheet, document
17:40 19 TREN-1381.3.2.

17:40 20 BY MS. CLINGMAN:

17:40 21 Q. Did BP also find, as you indicated, that it was not
17:40 22 widespread, but it was evident that some maintenance routines
17:40 23 were being closed out with the tasks not being performed?

17:40 24 A. Yes.

17:40 25 Q. Was it noted as the practice of closing incomplete

BILL AMBROSE - REDIRECT

17:40 1 maintenance work orders?

17:41 2 A. Yes.

17:41 3 Q. You were asked -- Mr. Ambrose, when you said that the
17:41 4 company forbid this and took this seriously, you were asked if
17:41 5 you had ever fired anyone personally on the *Deepwater Horizon*.

17:41 6 And you said no, right?

17:41 7 A. Correct.

17:41 8 Q. If you look at the close-out spreadsheet, did Transocean
17:41 9 accept this finding and state that "all departments notified
17:41 10 that this would not be tolerated"?

17:41 11 A. They did.

17:41 12 Q. Is this entire document, the BP 2009 audit and the
17:41 13 close-out spreadsheet, related solely to the *Deepwater Horizon*?

17:41 14 A. It is.

17:41 15 Q. Is this signed off on by Steve Bertone, the maintenance --
17:41 16 one of the maintenance supervisors on the *Deepwater Horizon*?

17:41 17 A. It is.

17:41 18 Q. Thank you.

17:41 19 Mr. Ambrose, you were asked about Stress Engineering,
17:42 20 and I just want to clarify.

17:42 21 Stress is a leading industry expert in a number of
17:42 22 areas; is that right?

17:42 23 A. Yes, they are.

17:42 24 Q. Did you know that they had been hired by both BP and
17:42 25 Transocean for some of the complex engineering analysis in this

BILL AMBROSE - REDIRECT

17:42 1 case?

17:42 2 A. We were aware that they were doing some work for BP. We
17:42 3 also didn't know the topic. They made it clear that they would
17:42 4 make sure that there was no conflict.

17:42 5 Q. They also declined, though, to be testifying experts for
17:42 6 anyone, didn't they?

17:42 7 A. Yes, they did.

17:42 8 Q. Did Stress Engineering produce a report for you and your
17:42 9 internal team on flow analysis and fluid dynamics?

17:42 10 A. Yes, they did.

17:42 11 Q. Did you rely on that report?

17:42 12 A. We did.

17:42 13 Q. Is that Stress report attached to your Transocean report?

17:42 14 A. It is.

17:42 15 MS. CLINGMAN: Your Honor, we have nothing further.

17:42 16 THE COURT: All right. You are done, sir.

17:42 17 THE WITNESS: Thank you.

17:42 18 THE COURT: Thank you.

17:43 19 Transocean, any further witnesses or evidence?

17:43 20 MS. CLINGMAN: I think we do not. I will hand this
17:43 21 over to Brad. I think we probably have some administrative
17:43 22 evidentiary matters.

17:43 23 THE COURT: All right.

17:43 24 MS. CLINGMAN: May Mr. Ambrose be excused?

17:43 25 THE COURT: Sure.

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1 **MR. BRIAN:** Brad Brian for Transocean.
2 We are now going to play two short depo clips.
3 The first will be Paul Johnson, and the other one will be a man
4 named David McKay. I keep pronouncing it McKay. I think he
5 actually may pronounce it David McKay. He's Scottish,
6 Your Honor.
7 And I would offer into evidence the thumb drive
8 that will contain the two videos we are playing today, on the
9 26th.
10 **THE COURT:** How long will these take?
11 **MR. BRIAN:** I think they are a total of about 12 or
12 13 minutes, Your Honor.
13 **THE COURT:** Okay.
14 **MR. BRIAN:** If I may approach, I will show you -- I
15 will produce the excerpts we are playing, Your Honor.
16 Here's Mr. Johnson.
17 (Paul Johnson testified by video deposition.)
18 **MR. BRIAN:** Now we are going to play the David McKay,
19 if I may approach, Your Honor, and pass out the short excerpts
20 of that.
21 **THE COURT:** Sure. This is McKay, spelled like McKay?
22 **MR. BRIAN:** I've always been pronouncing it McKay,
23 Your Honor.
24 **THE COURT:** I just wanted to make sure this is the
25 one we --

17:53 1 **MR. BRIAN:** It is, and I've removed -- per
17:53 2 Your Honor's ruling, I removed the highlighted excerpts that
17:53 3 you had ruled would not be included.

17:53 4 **THE COURT:** Thank you.

17:53 5 (David McKay testified by video Deposition.)

18:00 6 **THE COURT:** We are not going to identify all those
18:00 7 voices on there.

18:00 8 **MR. BRIAN:** I was going to propose a stipulation that
18:00 9 there was an error in the transcript when he said he was
18:00 10 educated in Oslo. I think he said Glasgow, which seemed
18:01 11 apparent from his accent.

18:01 12 Your Honor, we have no further witnesses to
18:01 13 call, either live or by video clip. We cannot formally rest
18:01 14 yet. We need to keep the record open. We have 28 deposition
18:01 15 bundles that, my understanding from Carter Williams, were going
18:01 16 to be offered tomorrow during the marshaling conference.
18:01 17 There's no marshaling conference, so we want to discuss whether
18:01 18 you want to set aside time to do that tomorrow or do it next
18:01 19 week. That's up to the Court.

18:01 20 **THE COURT:** You can do it next week. You might want
18:01 21 to just submit a list of what you plan to introduce, and then
18:01 22 we can take care of the formal introduction next week.

18:01 23 **MR. BRIAN:** One party, Cameron, has objected with
18:01 24 respect to two of the bundles, so we are trying to work that
18:01 25 out with them today.

18:01 1 In addition, of course, we have to offer the
18:01 2 exhibits through for Mr. Wolfe -- we are discussing that with
18:01 3 the PSC -- and Mr. Ambrose.

18:01 4 In addition, Your Honor, I think all parties
18:01 5 have talked about whether we should agree upon a set of core
18:01 6 exhibits. I know Your Honor has expressed a strong preference,
18:02 7 and we've tried to comply with it, of using call-outs in a
18:02 8 particular case. But there may be some exhibits that we want
18:02 9 to go back where we've offered a page or call-out where it's
18:02 10 appropriate to offer the full exhibit.

18:02 11 So with those caveats, we are not putting any
18:02 12 more evidence on, but we do need to keep the record open to
18:02 13 complete that.

18:02 14 **THE COURT:** You want to clutter up the record with
18:02 15 thousands of pages of stuff that I will not be asked to look
18:02 16 at?

18:02 17 **MR. BRIAN:** No, we don't want to clutter it up. We
18:02 18 want to make sure we haven't missed something, Your Honor.

18:02 19 **THE COURT:** You have to understand, if it's not
18:02 20 something that's pointed out, I'm not going to go root through
18:02 21 hundreds of thousands of pages looking for something. I hope
18:02 22 everybody understands that.

18:02 23 **MR. BRIAN:** We do understand, Your Honor, and that's
18:02 24 the process we have tried to adhere to as well.

18:02 25 **THE COURT:** Very well. So with those caveats,

18:02 1 Transocean has basically wrapped up its case.

18:02 2 You have no more witnesses, correct?

18:02 3 **MR. BRIAN:** That's correct, Your Honor.

18:02 4 **THE COURT:** Let's talk about HESI's -- Halliburton's
18:03 5 lineup for tomorrow.

18:03 6 **MR. GODWIN:** Yes, Your Honor. Don Godwin for
18:03 7 Halliburton.

18:03 8 Judge, we will begin tomorrow morning with
18:03 9 Mr. Nathaniel Chaisson. We anticipate, Judge -- we would think
18:03 10 that with our direct examination and with the cross, it would
18:03 11 be a half-a-day witness. Of course, we have no way of knowing
18:03 12 what the cross is going to be. They have been lengthy thus
18:03 13 far, but we would hope that he would be on and off in a half a
18:03 14 day.

18:03 15 We will follow up with Mr. Richard Strickland.
18:03 16 We would think that he should be a half a day. He may go into
18:03 17 Tuesday, Judge. But we, of course, are going to move our part
18:03 18 forward, but he will be our second witness tomorrow. We don't
18:03 19 think we will get to a third one.

18:03 20 **THE COURT:** If you did, who would it be?

18:03 21 **MR. GODWIN:** If we did, Your Honor, the next one
18:03 22 would be Mr. Glen Stevick, S-T-E-V-I-C-K.

18:03 23 And we will send out a list tomorrow by noon,
18:03 24 your Honor, of our witnesses for next week, as required.

18:03 25 **THE COURT:** All right. Very well.

18:03 1 MR. GODWIN: Thank you, Judge.

18:03 2 THE COURT: Anybody have anything else? If not, we
18:03 3 will see everyone at 8:00 in the morning.

18:04 4 Have a good evening.

18:04 5 (Proceedings adjourned.)

13:57 6 * * *

7 CERTIFICATE

8 I, Toni Doyle Tusa, CCR, FCRR, Official Court
9 Reporter for the United States District Court, Eastern District
10 of Louisiana, do hereby certify that the foregoing is a true
11 and correct transcript, to the best of my ability and
12 understanding, from the record of the proceedings in the
13 above-entitled matter.

14
15
16 s/ Toni Doyle Tusa
17 Toni Doyle Tusa, CCR, FCRR
18 Official Court Reporter
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\$	14 [6] 6085/16 6107/19 6113/10 6183/12 6193/8 6215/2	6147/19 6148/6 6149/3 6149/20 6188/13 6188/17 6188/20 6265/5 6266/12
\$10 [3] 6116/3 6116/12 6122/22	14 months [2] 6206/20 6250/19	2010 [20] 6063/5 6090/13 6101/19
\$10 million [3] 6116/3 6116/12 6122/22	14-month [1] 6182/24	6102/14 6103/16 6111/25 6113/10
\$7 [1] 6122/22	14.4 pounds [1] 6197/6	6150/5 6150/12 6150/18 6167/8 6173/12
'	1400 psi [1] 6229/24	6187/15 6189/23 6190/19 6192/3 6193/4
'08 [2] 6150/1 6150/3	1400-something [1] 6177/3	6194/20 6233/11 6257/8
'flying [1] 6112/6	14271 [1] 6065/22	2011 [1] 6087/4
'good' [1] 6234/7	1454.18.5 [1] 6245/6	2013 [2] 6063/7 6070/2
'No,' [1] 6237/6	1454.9.3 [1] 6186/9	20th [1] 6174/24
'procedure' [1] 6110/20	1455 [1] 6167/1	21 [4] 6116/23 6139/21 6144/7 6144/8
'pump [1] 6174/12	1477 [1] 6177/4	213 [4] 6158/20 6179/4 6181/11 6181/12
'Quick [1] 6110/22	1477 psi [1] 6176/23	214 [1] 6103/12
'this [1] 6174/8	15,000 barrels [1] 6092/19	2140 [1] 6235/8
'we [1] 6106/24	15-minute [1] 6151/9	2179 [1] 6063/4
'Wow [1] 6173/19	15.2 [3] 6252/5 6252/9 6252/25	2189.1.1 [1] 6135/22
.	150 psi [1] 6173/6	2211 [1] 6067/20
.2.1 [2] 6251/13 6251/14	15th [1] 6198/21	2216 [1] 6065/6
.3 [1] 6135/14	16 [14] 6169/10 6170/4 6196/20 6196/25	225 psi [1] 6174/6
.40 [1] 6179/12	6197/2 6197/9 6197/14 6197/16 6198/14	2294 [1] 6092/7
.5 [1] 6095/2	6224/23 6225/4 6225/7 6225/9 6225/12	22955 [1] 6092/25
0	1601 [1] 6064/3	22nd [1] 6064/10
02771 [1] 6063/7	1665 [1] 6068/12	2300 [1] 6199/2
1	1693.2.1 [1] 6116/5	23451 [1] 6064/10
1.1.6 [1] 6079/8	1694.1.1 [1] 6111/22	24/7 [1] 6246/6
1.2A [1] 6260/24	16th [1] 6169/18	2445 [1] 6120/16
10 [1] 6085/16	17 [1] 6111/25	25188 [1] 6085/14
10-CV-02771 [1] 6063/7	17.60.2.1 [1] 6140/4	2562 [1] 6162/14
10-CV-4536 [1] 6063/9	1700 [1] 6068/9	2584 [1] 6171/25
10-MD-2179 [1] 6063/4	18 [8] 6063/14 6079/5 6087/4 6089/2	26 [2] 6063/7 6070/2
10.5.3 [1] 6194/22	6089/2 6089/22 6103/16 6135/25	26052 [1] 6144/5
100 [2] 6173/6 6229/3	18,360 feet [1] 6093/14	2615 [1] 6064/6
100 barrels [1] 6197/3	180-psi [1] 6249/3	26th [1] 6268/9
100 percent [1] 6245/15	1800 feet [1] 6093/20	28 [3] 6173/12 6233/11 6269/14
100 psi [2] 6207/21 6209/18	1840 psi [1] 6177/5	29 [1] 6083/22
1000 [2] 6067/17 6119/25	1885 [1] 6066/12	291.58.1 [1] 6191/3
1001 [1] 6067/10	18th [3] 6141/1 6198/22 6199/2	291.58.2 [1] 6191/25
101 [1] 6064/16	19 [6] 6106/13 6167/7 6167/7 6169/3	291.58.4 [1] 6190/3
1072 [2] 6100/10 6102/2	6170/5 6172/6	291.68.1 [1] 6194/19
10:43 [1] 6238/20	19,000 [1] 6093/11	2:00 [1] 6169/23
11 [5] 6089/2 6089/2 6089/22 6123/15 6249/9	19,550 feet [1] 6093/10	3
11 people [1] 6073/11	19,650 [1] 6190/16	3/8 [1] 6095/9
1100 [1] 6067/6	1998 [1] 6253/19	3/8-inch [1] 6094/3
1110 [1] 6067/20	1999 [3] 6251/11 6261/9 6263/11	30 [2] 6187/15 6235/11
1136 [1] 6106/9	1:00 [1] 6153/9	30 minutes [1] 6233/20
11:00 meeting [1] 6239/17	2	30 seconds [1] 6248/24
11:30 [1] 6174/24	20 [31] 6063/5 6090/13 6096/11 6107/19	300 [2] 6066/23 6222/9
12 [6] 6100/21 6100/23 6101/19 6102/13 6189/16 6268/11	6130/23 6130/25 6149/6 6149/20 6150/5	3000 [1] 6212/1
1201 [2] 6067/3 6068/9	6150/12 6150/18 6184/8 6196/3 6201/23	3000 psi [1] 6178/5
1221 [1] 6068/5	6208/13 6209/6 6209/12 6214/18 6215/5	30025.2.2 [2] 6234/15 6235/6
126.1.1 [1] 6113/4	6218/24 6228/6 6229/2 6229/18 6231/18	3089 [1] 6067/17
128 psi [1] 6173/18	6233/24 6234/19 6238/20 6244/6	3100-something [1] 6165/18
12:00 [1] 6169/18	6246/23 6249/15 6257/8	3126 [2] 6092/1 6092/7
12:00 noon [1] 6169/16	20 years [1] 6084/21	3140 [2] 6165/18 6172/8
13 [1] 6189/23	20/20 [1] 6249/15	3140 psi [3] 6171/13 6171/20 6173/1
13 minutes [1] 6268/12	20001.020 [1] 6120/16	3142 [1] 6167/21
1300-something [1] 6177/2	20004 [2] 6065/22 6067/4	3142 psi [6] 6159/4 6165/19 6166/3
1308 [1] 6064/19	2004 [10] 6123/15 6131/1 6131/4	6171/5 6176/2 6177/7
1331 [1] 6068/12	6131/13 6131/21 6132/22 6133/17	3157 [1] 6092/24
1356A [2] 6251/13 6251/14	6134/4 6134/14 6134/20	3188 [3] 6172/22 6173/8 6180/14
1356A.2.1 [1] 6252/3	20044 [2] 6065/17 6066/6	32 [1] 6180/5
1356A.48.1 [1] 6253/7	2005 [4] 6133/18 6133/21 6134/4	33.8.1 [1] 6217/2
1356A.78.1 [1] 6257/11	6147/19	3300 feet [2] 6110/2 6119/18
1356A.79.1 [1] 6258/8	2007 [2] 6070/10 6070/12	3308 [1] 6216/2
1356A.86.1 [1] 6254/4	2008 [10] 6074/13 6078/9 6078/21	3308.1.1 [2] 6215/20 6216/2
1356A.86.2 [1] 6256/2	6080/4 6080/5 6135/19 6135/25 6147/12	3308.2.2 [1] 6217/13
1381.3.2 [1] 6265/19	6147/16 6148/6	3308.6.1 [1] 6216/10
	2009 [30] 6078/8 6078/11 6080/6	3308.8.1 [1] 6217/2
	6080/14 6080/18 6083/22 6130/23	3324.1.1 [1] 6187/13
	6130/25 6133/20 6134/1 6134/3 6134/14	3324.2.1 [1] 6188/10
	6138/23 6139/21 6139/22 6142/17	3405 [2] 6078/6 6078/6
	6142/23 6144/7 6144/8 6147/12 6147/16	35 [2] 6205/10 6205/11

<p>3</p> <p>350 psi [1] 6174/3 3505A [2] 6141/18 6141/18 355 [1] 6067/14 35th [1] 6067/14 36 percent [1] 6204/6 36028 [1] 6065/10 36070.7.1 [1] 6148/2 36130 [1] 6066/10 36604 [1] 6064/4 3668 [1] 6063/20 3700 [2] 6067/6 6067/10 3808.196.6 [1] 6096/7 3808.34.16 [1] 6115/2 3808.35.17 [1] 6115/16 3808.35.18 [1] 6117/6 3808.6.1 [1] 6087/20 3808.6.3 [1] 6091/18 3808.66.13 [1] 6108/2</p>	<p>540.2.4 [1] 6196/13 540.3.2 [1] 6197/20 546 [1] 6067/23 5479 [1] 6130/19 5486.17.1 [2] 6142/13 6143/1 5486.6.2 [1] 6143/14 556 [1] 6063/20 5618 [1] 6080/10 5650.14.1 [1] 6139/1 567.1.12 [1] 6240/23 57 percent [1] 6204/5 570 psi [1] 6173/22 589-7778 [1] 6068/16 5:30 [2] 6154/16 6154/24 5:45 [1] 6208/13</p>	<p>8167.1 [2] 6117/21 6117/21 820 [1] 6063/23 820.2.1 [1] 6218/22 8367 feet [1] 6119/18 8:00 in [1] 6272/3 8:50 p.m [1] 6247/9 8D [1] 6251/16</p>
<p>4</p> <p>4.2 [1] 6158/23 40 [3] 6179/6 6179/12 6179/19 400 psi [1] 6222/9 402 [1] 6064/10 406 [1] 6068/15 41139.20.2 [1] 6198/18 41208.2.2 [1] 6188/23 4246 [1] 6087/9 4248 [5] 6158/20 6179/5 6179/11 6179/18 6181/11 4248.197 [1] 6181/11 4248.44.1 [1] 6211/2 4248.44.2 [1] 6211/15 4248.5.0 [1] 6213/16 425-barrel [2] 6242/12 6243/14 4276 [1] 6260/22 4276.62.1 [1] 6261/22 4276.63.1 [2] 6262/12 6262/18 4276.9.1 [1] 6261/18 428 [1] 6249/9 4310 [1] 6065/3 4319 [1] 6247/2 435 [1] 6064/16 4369 [1] 6200/5 4457 [1] 6171/7 450 [1] 6065/10 4500 [1] 6068/5 4536 [1] 6063/9 4743.1.1 [1] 6203/15 492 [1] 6085/15 493 [1] 6085/16 4:30 [2] 6169/14 6169/18</p>	<p>6</p> <p>600 [3] 6064/10 6064/13 6067/17 601 [1] 6064/6 60465 [1] 6169/8 60654 [1] 6066/24 6120 [1] 6123/8 6166 [1] 6074/10 618 [1] 6064/22 62 [1] 6261/22 6268 [1] 6069/7 6269 [1] 6069/8 6941 [1] 6167/15 6:00 [1] 6154/16</p>	<p>9</p> <p>9 7/8 [2] 6194/21 6207/8 9 7/8-inch [2] 6190/11 6209/13 90071 [1] 6067/14 94005 [1] 6066/13 94102 [1] 6065/11 97 [1] 6238/16 97.1.1 [1] 6238/12 9:02 [4] 6247/6 6247/10 6247/25 6248/9 9:07 [4] 6247/6 6247/10 6247/25 6248/9 9:08 [3] 6248/20 6249/4 6249/11 9:09 [1] 6249/4 9:13 [3] 6248/20 6249/4 6249/11 9:20 p.m [1] 6233/17 9:45 [1] 6072/5 9:49 [1] 6072/9 9th [1] 6064/13</p>
<p>5</p> <p>50 [1] 6183/2 500 [6] 6063/20 6066/9 6068/15 6163/2 6163/8 6222/8 500 barrels [1] 6124/23 5000 [1] 6066/19 5015.1 [1] 6236/22 50296.3.1 [1] 6233/4 504 [1] 6068/16 5094 [1] 6259/5 5094.1.1 [1] 6259/15 5094.2.1 [1] 6260/10 5094.9.1 [1] 6259/20 513 [1] 6220/20 52 [3] 6179/4 6179/5 6179/20 525 [1] 6241/2 53 [1] 6176/25 5395 [1] 6065/10</p>	<p>7</p> <p>7 1/2 [1] 6169/19 7-5395 [1] 6065/10 7-inch [3] 6094/4 6095/9 6216/14 7/8-inch [1] 6190/15 70 [1] 6183/2 700 psi [3] 6163/2 6163/8 6222/9 701 [2] 6066/16 6066/19 70113 [1] 6063/24 70130 [6] 6064/7 6064/13 6065/7 6066/17 6067/24 6068/15 70139 [1] 6066/20 70163 [1] 6067/7 70360 [1] 6064/16 70458 [1] 6064/19 70501 [1] 6067/18 70502 [1] 6063/21 708 [2] 6208/10 6208/21 70801 [1] 6064/23 70804 [1] 6066/13 711 [3] 6139/22 6141/20 6150/17 713.8.1 [2] 6207/4 6210/2 7134.12.1 [1] 6135/2 7134.16.2 [1] 6135/9 750 psi [1] 6218/25 75270 [1] 6068/10 753 [3] 6089/1 6089/2 6089/21 7532.4.2 [2] 6231/10 6231/24 7611 [1] 6065/16 7685.1.4 [1] 6189/12 77002 [1] 6067/10 77006 [1] 6065/4 77010 [2] 6068/5 6068/13 77098 [1] 6067/21 7778 [1] 6068/16 7:30 [1] 6154/15</p>	<p>A</p> <p>abandonment [33] 6088/3 6088/19 6107/17 6107/18 6107/22 6108/6 6108/11 6108/23 6122/7 6185/16 6201/20 6201/21 6202/7 6227/11 6227/13 6227/16 6235/24 6236/1 6236/2 6236/5 6236/9 6236/17 6236/18 6237/2 6237/13 6237/19 6238/3 6238/5 6238/19 6238/24 6239/14 6239/23 6240/3 abbreviated [1] 6225/1 ability [2] 6178/11 6272/11 able [10] 6077/10 6082/19 6083/8 6086/11 6097/24 6157/13 6164/14 6166/6 6174/3 6243/15 aboard [1] 6138/23 about [206] 6070/6 6070/10 6071/25 6073/17 6074/14 6076/3 6076/12 6076/22 6078/9 6079/16 6080/19 6082/4 6082/15 6082/24 6082/24 6083/1 6084/13 6085/21 6086/25 6089/7 6090/2 6090/4 6090/6 6094/15 6094/16 6094/18 6095/20 6096/1 6096/2 6096/4 6096/10 6098/10 6099/20 6101/12 6101/14 6107/16 6111/17 6111/24 6112/3 6113/2 6114/6 6114/13 6114/14 6115/12 6115/21 6116/21 6119/3 6119/6 6119/18 6120/20 6122/4 6123/20 6123/25 6125/20 6127/2 6127/14 6128/11 6128/15 6128/16 6128/17 6129/7 6132/3 6134/15 6134/19 6138/13 6138/18 6139/5 6141/3 6141/7 6141/10 6143/25 6144/18 6145/11 6146/17 6146/19 6146/24 6146/24 6147/15 6147/17 6148/23 6148/25 6149/1 6149/2 6149/2 6149/10 6149/12 6149/13 6149/14 6149/23 6150/2 6150/3 6151/9 6153/9 6155/23 6156/16 6156/18 6157/2 6157/3 6157/16 6158/5 6158/6 6158/8 6159/11 6162/10 6165/1 6165/2 6170/8 6170/16 6171/22 6173/16 6175/22 6179/4 6179/25 6181/7 6181/18 6184/13 6185/19 6187/15 6187/17 6188/18 6188/21 6189/24 6190/5 6190/23 6190/24 6190/25 6191/19 6192/2 6193/9 6194/10 6194/13 6195/1 6195/6 6196/18 6197/12 6198/4 6200/7 6200/9 6200/12 6201/9 6202/3 6202/10 6202/11 6204/20</p>
	<p>8</p> <p>8 barrels [2] 6163/1 6163/7 8-barrels-per-minute [1] 6162/13 8015 [1] 6159/15 8036 [3] 6160/25 6163/10 6175/23 8038 [1] 6170/11</p>	

<p>A</p> <p>about... 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[1] 6110/22 noted [8] 6132/6 6133/21 6167/25 6172/16 6172/24 6177/23 6197/21 6265/25 notes [20] 6074/19 6074/21 6132/18 6172/17 6172/20 6173/8 6173/12 6173/13 6178/21 6180/6 6180/9 6180/11 6180/23 6181/5 6181/5 6181/8 6231/17 6232/3 6233/7 6234/18 nothing [5] 6191/19 6201/13 6230/4 6251/1 6267/15 notice [3] 6087/11 6113/15 6140/6 noticed [2] 6106/5 6173/1 noticing [1] 6179/24 notified [1] 6266/9 notion [2] 6124/7 6124/14 now [63] 6073/17 6080/18 6081/24 6082/18 6092/21 6097/4 6100/22 6111/8 6115/4 6120/10 6129/25 6130/6 6136/23 6152/3 6160/12 6163/10 6167/3 6168/12 6170/9 6174/11 6179/23 6184/11 6185/6 6185/19 6189/10 6190/3 6191/12 6193/7 6194/13 6195/10 6197/20 6202/12 6203/1 6203/9 6210/24 6217/1 6218/11 6219/15 6221/17 6221/21 6225/2 6226/5 6229/10 6230/15 6231/24 6232/18 6233/13 6235/6 6235/12 6235/17 6236/8 6249/10 6256/1 6256/15 6256/22 6257/6</p>

<p>N</p> <p>now... [7] 6258/8 6258/22 6260/15 6262/4 6263/14 6268/2 6268/18 NPT [1] 6104/5 nuance [1] 6248/23 number [35] 6078/15 6092/14 6092/22 6106/6 6116/4 6116/24 6117/17 6120/24 6124/25 6144/19 6145/15 6146/6 6147/10 6147/14 6149/18 6176/24 6178/5 6179/7 6179/10 6179/11 6179/15 6196/9 6203/7 6215/19 6219/25 6220/2 6221/19 6222/6 6232/10 6232/18 6239/15 6259/7 6259/8 6265/17 6266/21 numbers [2] 6166/24 6177/7 numerous [4] 6112/7 6183/22 6247/16 6247/20 NW [1] 6067/3</p>	<p>6067/16 6067/20 6235/3 often [4] 6084/20 6085/9 6203/4 6203/12 Oh [2] 6208/22 6263/9 oil [4] 6063/4 6063/4 6109/3 6120/10 OIM [9] 6186/16 6186/24 6189/20 6193/12 6194/9 6200/19 6235/4 6239/20 6239/25 OIMs [1] 6132/22 okay [34] 6071/8 6079/4 6079/20 6080/16 6082/25 6089/23 6096/25 6126/21 6146/3 6152/16 6154/7 6159/12 6159/13 6162/1 6173/14 6177/5 6178/19 6179/18 6180/6 6180/8 6180/13 6187/12 6206/3 6208/22 6210/19 6223/9 6235/9 6235/13 6236/8 6239/6 6252/6 6252/8 6257/10 6268/13 old [1] 6076/19 Olson [1] 6067/12 on [305] onboard [1] 6200/15 once [6] 6083/6 6144/25 6161/19 6250/6 6251/20 6251/22 one [119] 6070/5 6070/6 6073/12 6073/25 6075/11 6079/4 6089/15 6089/16 6092/15 6093/23 6094/10 6095/20 6095/23 6096/18 6097/16 6100/4 6102/7 6104/14 6104/14 6108/8 6108/8 6108/16 6109/13 6112/15 6113/5 6113/24 6116/19 6119/4 6121/13 6121/19 6122/4 6129/14 6129/18 6130/7 6136/24 6137/10 6137/11 6137/13 6137/14 6137/14 6139/17 6140/8 6145/2 6152/18 6153/24 6163/24 6166/11 6166/12 6168/15 6168/25 6169/15 6170/9 6170/20 6172/1 6172/16 6172/24 6173/2 6173/17 6174/2 6175/14 6175/25 6176/5 6176/22 6177/2 6177/3 6177/4 6177/4 6177/21 6178/3 6178/19 6179/3 6186/24 6186/25 6189/11 6189/15 6196/4 6196/23 6198/15 6199/12 6201/23 6201/24 6202/6 6205/12 6207/12 6209/4 6219/20 6219/23 6220/7 6220/10 6220/11 6220/13 6220/13 6221/3 6222/6 6231/20 6233/10 6238/4 6239/8 6239/15 6239/24 6242/20 6244/4 6244/8 6246/4 6248/7 6250/13 6258/23 6259/1 6262/8 6262/18 6263/2 6265/5 6265/7 6266/16 6268/3 6268/25 6269/23 6271/19 6271/21 one-barrel [1] 6174/2 one-day [1] 6198/15 one-flow [1] 6220/13 one-way [2] 6163/24 6177/21 ones [2] 6118/7 6200/13 ongoing [2] 6075/22 6195/13 only [8] 6088/14 6090/8 6097/22 6104/14 6110/14 6152/10 6174/3 6193/19 onshore [2] 6180/1 6182/11 onto [2] 6126/9 6140/2 open [7] 6161/12 6161/12 6168/17 6175/12 6176/8 6269/14 6270/12 opened [3] 6174/17 6175/9 6175/15 opening [2] 6174/22 6220/10 operate [4] 6083/9 6138/10 6138/20 6145/6 operating [2] 6191/19 6258/19 operation [30] 6081/2 6083/17 6092/16 6092/21 6093/20 6096/1 6096/6 6112/5 6112/11 6118/25 6137/5 6140/20 6140/21 6142/3 6142/12 6159/22 6160/16 6165/3 6167/11 6168/8 6169/3 6169/23 6170/2 6172/7 6173/16 6174/22</p>	<p>6210/16 6216/22 6235/10 6250/20 operational [5] 6195/13 6200/9 6200/12 6200/20 6201/10 operations [22] 6075/23 6083/18 6090/23 6109/7 6112/10 6117/18 6118/12 6118/19 6118/22 6118/23 6118/24 6122/24 6141/9 6162/2 6193/24 6194/11 6195/22 6211/25 6238/10 6238/18 6242/21 6246/24 operator [10] 6108/21 6109/3 6109/8 6198/8 6201/9 6210/13 6236/10 6264/8 6264/10 6264/15 operator's [1] 6264/12 opinion [5] 6080/23 6112/17 6173/18 6215/10 6243/16 opinions [5] 6156/18 6185/18 6215/24 6218/10 6231/21 opportunity [3] 6081/21 6157/11 6243/10 opposed [1] 6220/20 opposite [1] 6201/17 opposition [1] 6155/3 ops [3] 6110/22 6238/18 6239/23 OptiCem [1] 6156/15 option [2] 6116/11 6176/5 options [1] 6184/20 or [153] 6071/25 6074/5 6074/21 6075/22 6076/22 6076/22 6078/17 6079/3 6079/4 6079/4 6081/6 6082/16 6083/8 6089/19 6090/1 6091/1 6092/11 6092/11 6092/15 6093/20 6094/15 6097/20 6099/6 6099/15 6099/23 6101/10 6101/11 6106/24 6108/16 6108/22 6110/25 6113/2 6113/2 6113/20 6114/19 6116/23 6116/23 6117/3 6124/1 6124/13 6129/14 6129/22 6137/4 6137/22 6140/14 6144/11 6145/2 6146/17 6147/17 6148/25 6153/8 6153/9 6153/25 6156/6 6156/14 6157/14 6157/16 6158/8 6160/13 6161/9 6163/6 6164/20 6165/16 6167/7 6167/24 6168/20 6169/7 6171/13 6171/19 6171/22 6173/6 6174/21 6177/25 6178/7 6179/12 6179/12 6180/6 6181/23 6183/22 6184/1 6185/20 6185/20 6187/24 6189/25 6189/25 6190/1 6191/23 6192/4 6193/10 6194/3 6196/4 6196/19 6197/12 6198/4 6198/9 6198/13 6199/8 6199/18 6199/20 6200/1 6200/19 6201/24 6204/7 6204/14 6204/19 6204/19 6207/2 6210/14 6212/20 6213/5 6217/25 6219/6 6223/14 6223/14 6223/24 6225/1 6225/3 6225/7 6225/13 6226/4 6226/11 6226/20 6227/4 6227/12 6229/14 6230/11 6231/8 6233/23 6235/4 6235/18 6236/6 6238/7 6238/18 6239/21 6239/24 6242/16 6242/21 6244/3 6247/11 6247/11 6249/6 6250/2 6250/3 6253/25 6255/7 6260/15 6260/16 6264/22 6267/19 6268/11 6269/13 6269/18 6270/9 order [12] 6103/7 6108/19 6118/9 6119/23 6162/25 6163/7 6165/8 6166/8 6170/3 6196/22 6254/1 6257/2 ordered [3] 6253/24 6263/14 6263/16 orders [1] 6266/1 orient [1] 6247/7 oriented [1] 6252/7 original [6] 6092/22 6103/22 6187/10 6190/10 6194/18 6252/21 originally [3] 6188/14 6188/18 6260/16 Orleans [10] 6063/6 6063/24 6064/7 6064/13 6065/7 6066/17 6066/20 6067/7 6067/24 6068/15</p>
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[10] 6217/16 6217/22 6218/12 6219/16 6221/12 6221/14 6221/17 6222/15 6252/16 6252/21</p> <p>tests [22] 6118/9 6124/5 6129/23 6164/24 6176/22 6206/24 6207/2 6213/22 6216/14 6217/5 6217/6 6217/6 6217/7 6217/7 6217/8 6227/23 6228/14 6228/18 6228/19 6228/23 6234/4 6236/7</p> <p>Texas [6] 6065/4 6067/10 6067/21 6068/5 6068/10 6068/13</p> <p>text [2] 6103/20 6203/25</p> <p>than [28] 6079/23 6081/2 6093/17 6094/2 6095/25 6096/13 6096/16 6096/22 6109/14 6116/3 6119/24 6138/9 6140/20 6144/13 6148/15 6149/8 6149/22 6152/22 6154/22 6166/10 6168/4 6174/18 6177/7 6178/13 6190/19 6197/9 6221/24 6259/1</p> <p>Thank [21] 6075/16 6102/11 6123/24 6127/10 6136/14 6151/7 6151/20 6155/5 6155/15 6182/14 6208/23 6213/7 6225/18 6227/1 6251/1 6263/23 6266/18 6267/17 6267/18 6269/4 6272/1</p> <p>Thanks [1] 6114/10</p> <p>that [1283]</p> <p>that's [233]</p> <p>their [12] 6074/4 6083/7 6091/10 6091/13 6091/17 6112/6 6129/14 6141/1 6141/4 6189/8 6210/15 6218/19</p> <p>them [39] 6071/22 6082/6 6086/20 6088/13 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