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UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG	*	Docket 10-MD-2179
<i>DEEPWATER HORIZON</i> IN THE	*	
GULF OF MEXICO ON APRIL 20, 2010	*	Section J
	*	
Applies to:	*	New Orleans, Louisiana
	*	
Docket 10-CV-02771,	*	March 21, 2013
<i>IN RE: THE COMPLAINT AND</i>	*	
<i>PETITION OF TRITON ASSET</i>	*	
<i>LEASING GmbH, et al</i>	*	
	*	
Docket 10-CV-4536,	*	
<i>UNITED STATES OF AMERICA v.</i>	*	
<i>BP EXPLORATION &amp; PRODUCTION,</i>	*	
<i>INC., et al</i>	*	
	*	
* * * * *		

DAY 16, AFTERNOON SESSION  
TRANSCRIPT OF NONJURY TRIAL  
BEFORE THE HONORABLE CARL J. BARBIER  
UNITED STATES DISTRICT JUDGE

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13:05 1 AFTERNOON SESSION

13:05 2 (March 21, 2013)

13:05 3 \* \* \* \* \*

13:06 4 **THE COURT:** Please be seated, everyone.

13:21 5 Any preliminary matters?

13:21 6 **MR. GODWIN:** Don Godwin for Halliburton, Judge.

13:21 7 We've got a witness, Judge, that's going to come  
13:21 8 up, our second witness, that's -- based on the way the trial is  
13:22 9 going, we would expect that to be the early part of the next  
13:22 10 week, Tuesday, or whatever it's going to be.

13:22 11 His name is Dr. Kris Ravi. He's an  
13:22 12 internationally recognized cement expert. He will testify  
13:22 13 about cement, the fact that he believes it's set up. He will  
13:22 14 also talk about a flow path theory. All of that will come  
13:22 15 forward through his testimony.

13:22 16 Judge, Dr. Ravi is a rebuttal expert. He's  
13:22 17 probably the only true rebuttal expert in the entire case.  
13:22 18 Everybody's filed rebuttal reports, but he was made a rebuttal  
13:22 19 expert witness after I took --

13:22 20 **THE COURT:** I'm not sure what that means, "rebuttal  
13:22 21 expert."

13:22 22 **MR. GODWIN:** Well, yeah. We were allowed by Judge  
13:22 23 Shushan, and after Mr. Ron Crook, who testified for BP to come  
13:22 24 in and testify, then we asked that we be allowed to have Kris  
13:22 25 Ravi deposed. And he in fact was deposed, Judge, in September



1 of 2011 for one day as a fact witness. He was deposed, Judge,  
2 in February of 2012 for two days as an expert. So over a year  
3 ago, he was deposed.

4 He'll be rebutting what Mr. Crook will be  
5 saying. Mr. Crook is on the will-call list for BP.

6 Now, why I'm bringing this up, Judge, is not so  
7 much for a resolution at this point, but just as a placeholder  
8 for Your Honor.

9 I've talked to a couple of lawyers, and they  
10 tell me that there will be opposition to having Dr. Ravi  
11 testify before Mr. Crook testifies.

12 I said, "Well, Judge Barbier has set it up so  
13 I've got to call my witnesses, and I'm going to need to put  
14 this expert on."

15 And they were saying, "Well, but we want to hear  
16 from Crook first because Ravi is actually a rebuttal."

17 And I said, "Well, I'm fine doing it either  
18 way."

19 In other words, as a suggestion, as we did with  
20 Tim Quirk, we can hold our case open, they could do Mr. Crook  
21 and then I could put Mr. Ravi on. Or, Your Honor, as this is a  
22 bench trial, as a suggestion, you could say, "Well, I'll go  
23 ahead and hear what Dr. Ravi has to say, and then I'll hear  
24 Crook at a later time," which --

25 **THE COURT:** And as far as I'm concerned, we'll take

13:24 1 him whenever you want to put him on in your case.

13:24 2 MR. GODWIN: Okay, sir.

13:24 3 THE COURT: Unless you all work out something else by  
13:24 4 agreement. But otherwise, let's just put him on in your case.

13:24 5 MR. GODWIN: That's what I'll do, Judge. I just  
13:24 6 wanted to raise that, because the gentlemen brought it up to me  
13:24 7 and said, "Don, why don't you raise it with the Court?"

13:24 8 And I said I would, and if anybody wanted to be  
13:24 9 briefly heard, I'm sure you'd allow them to do so.

13:24 10 THE COURT: All right. Thank you.

13:24 11 MR. GODWIN: Thank you, Judge.

13:24 12 MR. STERBCOW: Very briefly, Your Honor. Paul  
13:24 13 Sterbcow for the PSC.

13:24 14 Our concern -- only concern, and I want to state  
13:24 15 it for the record -- is that in the event that Dr. Crook winds  
13:24 16 up not testifying, then we've had rebuttal to testimony that's  
13:24 17 not in the record. That's why this whole thing came up,  
13:24 18 because we don't -- BP's going to go last, and we don't know  
13:24 19 if --

13:24 20 THE COURT: Well, I don't even know what this means,  
13:24 21 he's only a rebuttal expert. If he's listed as an expert and  
13:25 22 he was deposed and all, he's an expert and they can put him on,  
13:25 23 as far as I'm concerned.

13:25 24 MR. GODWIN: He is an expert, Your Honor.

13:25 25 THE COURT: You've actually got a deposition of the

13:25 1 other fellow?

13:25 2 MR. GODWIN: Yes, sir, Judge.

13:25 3 MR. STERBCOW: Yes, sir.

13:25 4 THE COURT: I imagine if he doesn't show up, you  
13:25 5 maybe could even offer his deposition.

13:25 6 MR. UNDERHILL: Mike Underhill on behalf of the  
13:25 7 United States.

13:25 8 The only reason we raised it, along with Paul  
13:25 9 Sterbcow with the PSC, is that Dr. Ravi's report explicitly  
13:25 10 says it's only in rebuttal to Mr. Crook. And part of the -- I  
13:25 11 understand.

13:25 12 But part of the theory, Your Honor, is that  
13:25 13 we're all acutely aware of the Court's -- I'd call it more than  
13:25 14 a suggestion -- to keep the case moving along.

13:25 15 If, in fact, Mr. Crook doesn't testify on behalf  
13:25 16 of BP, then Mr. Ravi's testified in response to testimony that  
13:25 17 won't exist.

13:25 18 And I thought we could possibly cut out one,  
13:25 19 possibly two witnesses. That was the thought behind it.

13:25 20 THE COURT: Let's find out who's going to -- what's  
13:25 21 his name? Crook? Mr. Crook? Dr. Crook?

13:26 22 MR. GODWIN: Judge, if I might.

13:26 23 THE COURT: Let me just ask BP.

13:26 24 Can you tell us whether he's going to be called?

13:26 25 MR. REGAN: We're considering whether or not we need

13:26 1 to call Mr. Crook. It may be somewhat, in some sense, tied  
13:26 2 into the motion that we're also filing and we'll be putting on  
13:26 3 file today.

13:26 4 But we can confer and maybe give some guidance  
13:26 5 to the parties on that and then present you with a more  
13:26 6 concrete view of what's going to be going forward -- no pun  
13:26 7 intended.

13:26 8 I will just say the other aspect of this,  
13:26 9 Your Honor, is that with respect to experts in this case, it  
13:26 10 has been established that, if a party does not call an expert,  
13:26 11 no other party can call them.

13:26 12 A fact witness, if a party doesn't call a fact  
13:26 13 witness, they --

13:26 14 **THE COURT:** No other party can call your expert. I  
13:26 15 see.

13:26 16 **MR. REGAN:** Correct. That's why we have this issue  
13:26 17 right now. Yes, sir.

13:26 18 But we will confer with Mr. Godwin and also  
13:26 19 Mr. Sterbcow and everyone and see if we can give you some  
13:26 20 clarity on that.

13:26 21 **THE COURT:** Okay. Good.

13:26 22 **MR. UNDERHILL:** Just a practical suggestion,  
13:26 23 Your Honor, is that I think -- Mr. Godwin, I think, had  
13:26 24 Mr. Ravi as his second-at-bat witness. Perhaps if Don could  
13:27 25 agree to maybe put him down in the batting order a little bit

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13:27 1 to see if the Court is inclined to give the parties guidance,  
13:27 2 as Mr. Regan mentioned.

13:27 3 Maybe that -- and he can still call the witness  
13:27 4 if it indicates that it's proper to do so. But perhaps we can  
13:27 5 just defer that decision to see if, in fact, it's necessary.

13:27 6 **THE COURT:** I would suggest that the three parties or  
13:27 7 four parties, whoever is involved in this, confer sometime  
13:27 8 today and see if you all can work this out.

13:27 9 **MR. UNDERHILL:** Thank you, Your Honor.

13:27 10 **MR. GODWIN:** If not, we'll bring it up again,  
13:27 11 Your Honor, on Monday morning or whatever's convenient for you.

13:27 12 **THE COURT:** Sure.

13:27 13 **MR. GODWIN:** Thank you, Judge.

13:27 14 **MR. REGAN:** Thank you, Your Honor.

13:27 15 **THE COURT:** Ms. Karis?

13:27 16 **MS. KARIS:** Thank you, Your Honor.

13:27 17 (WHEREUPON, **ERIC GREGORY CHILDS**, having been  
13:27 18 previously duly sworn, testified as follows.)

13:27 19 **MS. KARIS:** May I proceed?

13:27 20 **THE COURT:** Yes.

13:27 21 **MS. KARIS:** Thank you, Your Honor.

**CROSS-EXAMINATION**

13:27 22 **BY MS. KARIS:**

13:27 23 **Q.** Good afternoon, Mr. Childs.

13:28 24 **A.** Good afternoon.

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13:28 1 Q. And just for the record, Hariklia Karis continuing the  
13:28 2 cross-examination for BP.

13:28 3 I want to turn now to some of your opinions with  
13:28 4 respect to batteries and solenoids, which are components of the  
13:28 5 control system; correct?

13:28 6 A. Yes, they are.

13:28 7 Q. Is it fair to say that the BOP control system, basically,  
13:28 8 is the electrical communications system that takes an  
13:28 9 electrical signal and tells the BOP to perform certain  
13:28 10 functions?

13:28 11 A. Of course, it's more than that. But there is an  
13:28 12 electrical portion turned into a hydraulic portion that  
13:28 13 signals -- moves a component.

13:28 14 Q. Fair enough.

13:28 15 That was sort of a crude explanation, but it's an  
13:28 16 electrical system, in essence; correct?

13:28 17 A. The portion you are speaking of, of course, with the  
13:28 18 batteries and the solenoid is the electrical portion.

13:28 19 Q. And you understood in this case that that's what was at  
13:28 20 issue; that is, the solenoids and the batteries; correct?

13:29 21 A. Correct.

13:29 22 Q. All right. And I think you already agreed this morning  
13:29 23 you don't have a degree in electrical engineering and you have  
13:29 24 no formal training or background in electrical engineering;  
13:29 25 correct?

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13:29 1 A. I do not have a degree; that's correct.

13:29 2 Q. And you also don't have any formal training; correct?

13:29 3 A. I've not taken electrical courses except at -- during my  
13:29 4 engineering degree, I did take electrical courses as required  
13:29 5 by the degree that I have.

13:29 6 Q. It's a correct statement, as you've said before, that you  
13:29 7 have no formal training relating to electrical engineering;  
13:29 8 correct?

13:29 9 A. I want to make sure. I did take electrical courses in  
13:29 10 1970 or something, but nothing beyond that.

13:29 11 Q. All right. So other than maybe a couple of courses in  
13:29 12 college, nothing beyond that; no formal training beyond that?

13:29 13 A. All the rest of the training is on the job, in the field  
13:29 14 with the equipment.

13:29 15 Q. All right. And similarly, you have no training in  
13:29 16 electronics or software that controls those systems; correct?

13:29 17 A. No. I use others for software.

13:30 18 Q. Okay. You do not consider yourself to be an expert in  
13:30 19 batteries; correct?

13:30 20 A. On these batteries used in this system, yes, I do.

13:30 21 Q. Okay. Let's see your deposition, page 54, lines 18 to 20.

13:30 22 This is from your deposition December 1st, 2011.

13:30 23 Were you asked the following question:

13:30 24 "QUESTION: You would not consider yourself to be an  
13:30 25 expert relating to batteries; correct?

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13:30 1 "ANSWER: No, sir."  
13:30 2 Is that correct?  
13:30 3 A. That's what I said at the time. May I explain? We did go  
13:30 4 through my other explanation on this later.  
13:30 5 Q. Well, let's take it one thing at a time. Start with that.  
13:30 6 You don't consider yourself to be an expert relating  
13:30 7 to batteries; correct?  
13:30 8 A. The answer here said, "No, sir."  
13:31 9 Q. All right. And then let's look at the next question:  
13:31 10 "QUESTION: Would you consider yourself to be an  
13:31 11 expert relating to the functionality of solenoid valves?"  
13:31 12 And your answer again was:  
13:31 13 "ANSWER: Not an expert, but I've learned a great  
13:31 14 deal about solenoids" --  
13:31 15 MS. KARIS: And let's go to the next page.  
13:31 16 And if you can call up through line 9.  
13:31 17 "ANSWER: -- solenoids and batteries, that may be --  
13:31 18 And the question was:  
13:31 19 "QUESTION: And you've learned related to batteries  
13:31 20 and solenoids that were relating to your work on this  
13:31 21 matter; correct?  
13:31 22 And you say:  
13:31 23 "ANSWER: Yes, sir. I knew about batteries and  
13:31 24 valves --  
13:31 25 MS. KARIS: I'm sorry. Start again.



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13:31 1 "ANSWER: Yes, sir. I, of course, I knew solenoid  
13:31 2 valves and batteries before, but the depth has gone a lot  
13:31 3 more over the last year and a half."

13:31 4 Correct?

13:31 5 A. That's what it says, yes, ma'am.

13:31 6 Q. And the last year and a half, where your depth has gone a  
13:31 7 lot more, that was in connection with the work that you did on  
13:32 8 this case; correct?

13:32 9 A. That's what I'm speaking of at that time.

13:32 10 Q. Correct.

13:32 11 And so to the extent that you required an in-depth  
13:32 12 understanding of batteries and solenoids, you did it in  
13:32 13 connection with the work that you did on this matter?

13:32 14 A. I've worked with them a lot more than that. But at the  
13:32 15 time, I was thinking -- of course, when I said first, am I an  
13:32 16 expert on all solenoids? No.

13:32 17 Am I an expert on these solenoids? Yes. I've worked  
13:32 18 with them for 12 years or more, the same with the batteries.

13:32 19 Q. But you yourself admit that, to the extent you've acquired  
13:32 20 an in-depth understanding of solenoids, including the ones on  
13:32 21 this matter, which is what you were being asked about, you said  
13:32 22 you've gone a lot more over the last year and a half, working  
13:32 23 on this case?

13:32 24 A. Yes, I said that, and I'm still learning more.

13:32 25 Q. Okay. Now, when you worked at Cameron, the design of

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13:32 1 control systems, including solenoids and batteries, that was  
13:32 2 handled by a separate department than the one you worked in?

13:33 3 A. That is correct.

13:33 4 Q. You did not work, ever, in Cameron's control systems  
13:33 5 department; is that correct?

13:33 6 A. No, I did not.

13:33 7 Q. And, in fact, the reason you brought in someone else from  
13:33 8 WEST Engineering, namely Mr. Tolleson, is because you thought  
13:33 9 he had better expertise than you did?

13:33 10 A. He had additional expertise in electronics, software, and  
13:33 11 code.

13:33 12 Q. And to the extent it required -- working in this case  
13:33 13 required setting up tests or designing test procedures, for  
13:33 14 that work you relied on Mr. Tolleson?

13:33 15 A. One of the best possible, so I used Mr. Tolleson.

13:33 16 Q. Because if you did that work, you would consider that to  
13:33 17 be -- as you've previously described -- over your head?

13:33 18 A. Mr. Tolleson can do work beyond what I know. That's why I  
13:34 19 utilized him on the testing. We talked about the procedures,  
13:34 20 and he performed the testing. He can set the testing up.

13:34 21 Q. Mr. Childs, you've previously told us that, when it comes  
13:34 22 to setting up tests and test procedures, that's over your head;  
13:34 23 correct?

13:34 24 A. The final procedures, the details, would be up to the --  
13:34 25 Mr. Tolleson, yes.

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13:34 1 Q. Let's look at deposition page 54, lines 6 through 9.

13:34 2 "QUESTION: Did Mr. Tolleson discuss with you how the  
13:34 3 tests would be set up and prepared?

13:34 4 "ANSWER: In more general terms, because if he got  
13:34 5 any deeper, he'd be over my head."

13:34 6 Correct?

13:34 7 A. That's when he started -- yes. When he started discussing  
13:34 8 the actual name of the equipment, I wouldn't have understood  
13:34 9 it. When he understood -- when he said he's routing the  
13:34 10 current this way through this process or whatever, that, I  
13:35 11 understood.

13:35 12 But when he talked about the names of equipment and  
13:35 13 diodes and transistors, he would be beyond what I am used to  
13:35 14 working with.

13:35 15 Q. To be clear, the work that he was describing that you said  
13:35 16 beyond general terms would be over your head was work in  
13:35 17 connection with your opinions in this case; correct?

13:35 18 A. It was work to learn how the SEM operated.

13:35 19 Q. And the SEM and how it operated was what you were  
13:35 20 considering as part of your work for your opinions in this  
13:35 21 case; correct?

13:35 22 A. That's part of it, yes. And he was doing that testing to  
13:35 23 get the answers of how it operated.

13:35 24 Q. Okay. Now, you are familiar with Mr. Zatarain?

13:35 25 A. Yes.

## ERIC GREGORY CHILDS - CROSS

13:35 1 Q. And Mr. Zatarain is BP's control systems expert who you  
13:35 2 were asked to critique some of his opinions in your direct  
13:35 3 examination with Mr. Baay; correct?

13:36 4 A. I think I missed one of your words. If you would repeat,  
13:36 5 please.

13:36 6 Q. I'm sorry. To critique, or to offer your opinions  
13:36 7 regarding his work in this case; correct?

13:36 8 A. I'm missing the word. You asked me if I heard --

13:36 9 Q. Let me start over again.

13:36 10 You're familiar with Mr. Zatarain, who is BP's  
13:36 11 control systems expert?

13:36 12 A. Yes, I am.

13:36 13 Q. And Mr. Zatarain is the individual whose work you  
13:36 14 critiqued in connection with rendering your opinions in this  
13:36 15 case?

13:36 16 A. Yes, I read his reports.

13:36 17 Q. And you're aware that Mr. Zatarain, unlike you, is, in  
13:36 18 fact, a licensed electrical engineer?

13:36 19 A. I understand he is.

13:36 20 Q. And he has more than 30 years working on control systems  
13:36 21 in the oil and gas industry; correct?

13:36 22 A. I'll take your word, yes.

13:36 23 Q. You saw his deposition and you saw his curriculum vitae,  
13:36 24 as well as his expert report. You reviewed that; correct?

13:36 25 A. Yes.

## ERIC GREGORY CHILDS - CROSS

13:36 1 Q. And you reviewed that in connection with rendering  
13:36 2 criticisms of his opinions in this case?

13:36 3 A. Yes.

13:36 4 Q. And so you would agree that Mr. Zatarain has extensive  
13:36 5 experience on control systems and a lot more experience than  
13:37 6 you have in that area; correct?

13:37 7 A. He has -- you're right. He has considerable experience in  
13:37 8 control systems. Not necessarily --

13:37 9 Q. Not only considerable -- I'm sorry. Go ahead.

13:37 10 A. Not necessarily drilling control systems, but control  
13:37 11 systems.

13:37 12 Q. You would agree he has extensive and a lot more experience  
13:37 13 than you have in this space?

13:37 14 A. In drilling control systems, I'm not so sure. But I know  
13:37 15 control systems in general, yes.

13:37 16 Q. Okay. Now, you agree -- or strike that.

13:37 17 You're aware that Mr. Zatarain, along with all of the  
13:37 18 other experts in this case that are testifying regarding the  
13:37 19 issue of BOP, disagree with your conclusions about the  
13:37 20 functioning of the *Deepwater Horizon's* BOP control systems,  
13:37 21 specifically batteries and solenoids?

13:37 22 A. I understand that. I have my testing and I utilized that  
13:37 23 information.

13:37 24 Q. And we'll get to that. Mr. Tolleson's testing, you mean?

13:38 25 A. Well, it's mine, too. I directed it, he did it. I have

## ERIC GREGORY CHILDS - CROSS

13:38 1 the answers.

13:38 2 Q. Correct. We'll talk about that, I promise. But just to  
13:38 3 be clear, that's the testing that Mr. Tolleson did?

13:38 4 A. He performed the testing.

13:38 5 Q. Now, before we get to the testing, let's talk about how  
13:38 6 this AMF/deadman emergency intervention system works. And I  
13:38 7 know you talked about it briefly, so I don't want to repeat old  
13:38 8 ground.

13:38 9 But just to set the stage here, the AMF/deadman  
13:38 10 operates after you've had a loss of communication, electronics,  
13:38 11 and hydraulics; correct?

13:38 12 A. That is correct.

13:38 13 Q. All right. And when the AMF/deadman is operating, it's  
13:38 14 basically monitoring to evaluate whether those emergency  
13:38 15 conditions exist so that it can then activate and serve its  
13:38 16 function?

13:38 17 A. That sounds correct.

13:38 18 Q. And we call that the AMF/deadman system being armed;  
13:39 19 correct?

13:39 20 A. When it's armed, it is talking with each side.

13:39 21 Q. And when it's armed, it's basically communicating to see  
13:39 22 whether or not it's needed, if you will, if it's being called  
13:39 23 upon?

13:39 24 A. Basically, yes.

13:39 25 Q. And so at all times when the BOP is in use, the AMF system

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13:39 1 is armed and actually ready to serve its function?

13:39 2 A. That's correct.

13:39 3 Q. Or should be, at least?

13:39 4 A. That's the intent, yes.

13:39 5 Q. Okay.

13:39 6 MS. KARIS: Now, if we can pull up D-4605.

13:27 7 BY MS. KARIS:

13:27 8 Q. You spoke yesterday about redundancy and redundant  
13:39 9 systems. And just to be clear here, we have a BOP and it has a  
13:39 10 blue pod, and then it also has a yellow pod; correct?

13:39 11 A. Correct.

13:39 12 Q. And those are redundant systems. You don't need both of  
13:39 13 them to work for the AMF to work, but you do need at least one  
13:39 14 to operate?

13:39 15 A. That is correct.

13:39 16 Q. All right. And within each pod -- one being the yellow  
13:40 17 pod, one being a blue pod -- we have two 9-volt batteries;  
13:40 18 correct?

13:40 19 A. Yes, ma'am.

13:40 20 Q. And they're each connected to a SEM --

13:40 21 A. Yes.

13:40 22 Q. -- a subsea electronics module?

13:40 23 A. Yes.

13:40 24 Q. And then those are both connected to a 27-volt battery;  
13:40 25 correct?

## ERIC GREGORY CHILDS - CROSS

13:40 1 A. There's a shared 27-volt battery, yes.

13:40 2 Q. All right. So when we talk about redundancy, there is  
13:40 3 redundancy even within each pod; that is, each 9-volt battery  
13:40 4 is connected to a SEM, to a SEM-A for one, SEM-B for the other;  
13:40 5 correct?

13:40 6 A. Correct.

13:40 7 Q. Those are redundant within each other; correct?

13:40 8 A. Yes.

13:40 9 Q. But then they're connected to one 27-volt battery;  
13:40 10 correct?

13:40 11 A. Correct.

13:40 12 Q. And so you do need that 27-volt battery to operate in  
13:40 13 order for either SEM-A or SEM-B to activate?

13:40 14 A. Yes. As I said, it's a shared battery.

13:40 15 Q. All right. And then similarly, the yellow pod, same  
13:41 16 configuration and, again, you need your 27-volt battery to  
13:41 17 function in order for this redundant pod to work?

13:41 18 A. Correct.

13:41 19 Q. All right. And so if there's only one 27-volt battery and  
13:41 20 that battery is discharged, then that pod cannot function;  
13:41 21 correct?

13:41 22 A. If that battery is bad, it can't function.

13:41 23 Q. All right. Now, the pods were actually recovered, the  
13:41 24 ones that were on the *Deepwater Horizon*; correct?

13:41 25 A. Yes. We have them.



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13:41 1 Q. All right. And after they were recovered, they were at  
13:41 2 the port in Michoud; right?

13:41 3 A. Yes.

13:41 4 Q. And after they were recovered, the DNV performed some  
13:41 5 forensic evaluation on these?

13:41 6 A. Yes.

13:41 7 MS. KARIS: If we could pull up 1164.60.4, please.

13:42 8 Let's actually go to the cover, first, 1164,  
13:42 9 just the cover.

13:42 10 BY MS. KARIS:

13:42 11 Q. And this is the final report from the DNV, including the  
13:42 12 results from its forensic evaluation of those batteries -- of  
13:42 13 those pods, I should say; correct?

13:42 14 A. Yes.

13:42 15 Q. You're familiar with that report. You've looked at it,  
13:42 16 you've considered it, and you've relied on it?

13:42 17 A. Yes.

13:42 18 MS. KARIS: Now, if we can go to 1164.60.4.

13:42 19 BY MS. KARIS:

13:42 20 Q. Now, here, we see in Table 5, blue and yellow pod battery  
13:42 21 voltage measurements; correct?

13:42 22 A. That's what it says, yes.

13:42 23 Q. And these are the results in the DNV report of the  
13:42 24 voltage -- of the 27-volt battery when it was recovered and  
13:42 25 evaluated; is that correct?

## ERIC GREGORY CHILDS - CROSS

13:42 1 A. Yes.

13:42 2 Q. All right. And we're talking about -- when we in this  
13:43 3 case talk about the discharged battery, we were talking about  
13:43 4 the blue pod having the discharged battery; correct?

13:43 5 A. Yes.

13:43 6 Q. And the yellow pod, that's the one that had the miswired  
13:43 7 solenoid; correct?

13:43 8 A. Solenoid 103Y, yes.

13:43 9 Q. So if the solenoid is miswired, even if your battery is  
13:43 10 working, you can't activate that pod?

13:43 11 A. That's not true.

13:43 12 Q. All right. Well, we'll get to that in a second.

13:43 13 Let's focus on the battery, the blue pod battery.  
13:43 14 After retrieval, the DNV assessed what the voltage was in  
13:43 15 Test 1 of that blue pod; correct?

13:43 16 A. Yes.

13:43 17 Q. And they concluded -- what did they conclude was the final  
13:43 18 voltage when they recovered the battery and tested it?

13:43 19 A. I assume you're asking about the 27-volt?

13:43 20 Q. Yes, the 27-volt, the one that we're talking about.

13:43 21 A. Test 1 was 1.1 volts.

13:44 22 Q. 1.1; correct?

13:44 23 A. Yes.

13:44 24 Q. And then the second test, that was 1.0?

13:44 25 A. 1.0.

## ERIC GREGORY CHILDS - CROSS

13:44 1 Q. And you agree with me that a 1.1 or a 1.0 voltage is not  
13:44 2 sufficient to operate the 27-volt battery?

13:44 3 A. Yes. In the nomenclature I used before, that would be a  
13:44 4 bad battery.

13:44 5 Q. So we're all in agreement that, at least at the time that  
13:44 6 the DNV forensically examined the 27-volt battery, it was a bad  
13:44 7 battery?

13:44 8 A. Unexpectedly low, very low.

13:44 9 Q. And to use your word, a "bad battery"?

13:44 10 A. I was actually using that from Zatarain's report, calling  
13:44 11 it a bad battery.

13:44 12 Q. Okay. Now, in your opinion, though, at the time on  
13:45 13 April 20th, the results were something other than 1.1 and 1.0  
13:45 14 for the voltage of that battery; is that correct?

13:45 15 A. That's correct. The voltage measured here does not tell  
13:45 16 you what the voltage was on April 20th.

13:45 17 Q. We're going to talk about that. But before we talk about  
13:45 18 that, one of the things that you looked at is what was  
13:45 19 Cameron's recommendation for how these batteries should be  
13:45 20 handled or changed; correct?

13:45 21 A. Yes.

13:45 22 Q. And Cameron was the manufacturer of the control system  
13:45 23 here?

13:45 24 A. Yes, they were.

13:45 25 Q. And Cameron had issued recommendations for how the

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13:45 1 batteries in its control system should be replaced in  
13:45 2 accordance with their practices -- or recommended practices, at  
13:45 3 least.

13:45 4 A. They provided that engineering bulletin on their  
13:45 5 recommendations.

13:45 6 Q. Now, you in your report --

13:45 7 MS. KARIS: If we could pull up 7688.9.2, please.

13:46 8 BY MS. KARIS:

13:46 9 Q. This is from your report. You recognize this?

13:46 10 A. Yes.

13:46 11 Q. You begin by saying: "The batteries for all three  
13:46 12 *Deepwater Horizon* SEM pods were replaced in accordance with the  
13:46 13 recommendations outlined in EB 819 D above"; correct?

13:46 14 A. 891.

13:46 15 THE COURT: You read 819, it's 891.

13:46 16 MS. KARIS: I'm sorry. I'm dyslexic.

13:46 17 BY MS. KARIS:

13:46 18 Q. EB 891 D; correct?

13:46 19 A. Correct.

13:46 20 Q. And to be clear, EB 891 D, that's Cameron's bulletin of  
13:46 21 its recommendations for how these batteries should be handled?

13:46 22 A. Yes.

13:46 23 Q. All right. And you concluded in your report that they had  
13:46 24 been replaced in accordance with the recommendations?

13:46 25 A. Yes.

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13:46 1 Q. And I thought I heard you say earlier today when you were  
13:47 2 examined by Mr. DeGravelles --

13:47 3 MS. KARIS: And I apologize if I'm not pronouncing  
13:47 4 your name right.

13:47 5 MR. DeGRAVELLES: Good enough.

13:47 6 BY MS. KARIS:

13:47 7 Q. -- that, in fact, the batteries on the pod, the blue pod,  
13:47 8 were not replaced in accordance with the recommendations of  
13:47 9 EB 891, but you disagree with what Cameron says should have  
13:47 10 been done?

13:47 11 A. Actually, we did start discussing this yesterday, that the  
13:47 12 April '09 that I have on this document, I was mistaken; it was  
13:47 13 actually March '09.

13:47 14 Q. Okay. We're going to get to that.

13:47 15 So you would -- you no longer hold the opinion that  
13:47 16 all three of the *Deepwater Horizon* SEM pods were replaced in  
13:47 17 accordance with the recommendations outlined by Cameron; is  
13:47 18 that correct?

13:47 19 A. On the calendar-year basis -- because of the mistake I  
13:48 20 made from April to March, the calendar-year basis is after a  
13:48 21 year; but on the actual-use basis, it's less than a year of  
13:48 22 service.

13:48 23 Q. But at the time of your deposition, you were basing it on  
13:48 24 a calendar year because you thought, based on April -- the  
13:48 25 calendar-year theory fit your conclusions that they were in

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13 : 48 1 accordance with recommended practices; correct?

13 : 48 2 A. Since it was April, I didn't have to look any further.

13 : 48 3 When I discovered it was not, I needed to go, for my own

13 : 48 4 benefit, as I told the judge yesterday, find what use did it

13 : 48 5 really have.

13 : 48 6 Q. Right. So at the time you thought April was good enough,

13 : 48 7 it was from when they were in use; but now that you looked back

13 : 48 8 and recognized that in fact they don't satisfy that in-use

13 : 48 9 requirement, you revised it to from when they were splashed and

13 : 48 10 actually used; is that correct?

13 : 48 11 A. There's a little bit of a mischaracterization there. We

13 : 48 12 discovered an error, we did. I was wrong. It wasn't April; it

13 : 49 13 was March. When it was March, I needed to go look at more

13 : 49 14 information.

13 : 49 15 Q. All right. So let me ask you again: Have you changed

13 : 49 16 your opinion that these three batteries were replaced in

13 : 49 17 accordance with the recommendations outlined in Cameron's

13 : 49 18 bulletin?

13 : 49 19 A. I still think they're within one year's use, on-time

13 : 49 20 operation.

13 : 49 21 Q. Are they replaced in accordance with Cameron's

13 : 49 22 recommendation, is my question.

13 : 49 23 A. With my definition, the way I look at on-time operation,

13 : 49 24 yes.

13 : 49 25 Q. But your definition is different than Cameron's

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13:49 1 definition; correct?

13:49 2 A. I understand that.

13:49 3 Q. So you agree with me, it's different?

13:49 4 A. I agree that my definition is different.

13:49 5 Q. All right.

13:49 6 MS. KARIS: Let's look at that bulletin, 891 D -- I'm  
13:49 7 sorry, TREX-3605.1.

13:49 8 BY MS. KARIS:

13:49 9 Q. This is Cameron's bulletin dated September 8th, 2004.  
13:49 10 It's their engineering bulletin that addresses AMF/deadman  
13:50 11 battery replacement; correct?

13:50 12 A. Yes.

13:50 13 Q. If we can go to -- and this is what you disagree with,  
13:50 14 "this" being Cameron's AMF/deadman battery replacement?

13:50 15 A. Just the one point in their recommendation list.

13:50 16 MS. KARIS: And if we can go now to 3605.2.1.

13:50 17 BY MS. KARIS:

13:50 18 Q. In its bulletin issued in 2004, the engineering bulletin,  
13:50 19 Cameron states: "Cameron is making the same recommendations  
13:50 20 for battery replacement: It is recommended that the 9-VDC and  
13:50 21 the 27-VDC battery packs be replaced after:" --

13:50 22 And the first bullet says: "One year of on-time  
13:50 23 operation."

13:50 24 Correct?

13:50 25 A. I believe you read it correctly, yes.

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13:50 1 Q. Okay. Now, at the time of your deposition, you had not  
13:50 2 consulted with anyone from Cameron to evaluate what "one-year  
13:51 3 on-time operation" meant under their engineering bulletin;  
13:51 4 correct?

13:51 5 A. No. I had read it and seen the face of it and knew what  
13:51 6 it meant.

13:51 7 Q. My question was whether you had consulted with anyone at  
13:51 8 Cameron to see whether your understanding was accurate.

13:51 9 A. At the time of my deposition, I had not.

13:51 10 Q. At the time of your deposition, you were aware of what you  
13:51 11 told us was only one document that explained what Cameron meant  
13:51 12 in its Engineering Bulletin 891 D; correct?

13:51 13 A. There's an e-mail after the incident where this question  
13:51 14 was asked, and they defined it differently than I do.

13:51 15 Q. And to be clear, Transocean actually tried to understand  
13:51 16 what this bulletin meant after the incident; correct?

13:51 17 A. They were doing a verification from Cameron.

13:51 18 MS. KARIS: All right. Let's look at that  
13:51 19 verification. 7669.1.4, please.

13:52 20 BY MS. KARIS:

13:52 21 Q. See the bottom e-mail from James Kent? And I believe  
13:52 22 earlier there was a reference to James Kent of being from BP,  
13:52 23 but Mr. Kent is actually with Transocean. I think it was  
13:52 24 probably just misspoken.

13:52 25 A. I think I said he was the rig manager.



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13:52 1 Q. Right.

13:52 2 A. Transocean.

13:52 3 Q. I think the question was James Kent from BP. And just to  
13:52 4 be clear, Mr. Kent is actually with Transocean; correct?

13:52 5 A. Yes. I agree he was the rig manager.

13:52 6 Q. He's Paul Johnson's counterpart. He's an asset rig  
13:52 7 manager; correct?

13:52 8 A. I didn't remember his exact title.

13:52 9 Q. And a couple weeks after the incident, or 24 days, he  
13:52 10 writes to William Stringfellow. And you recognize who  
13:52 11 Mr. Stringfellow is; correct?

13:52 12 A. Yes.

13:52 13 Q. He is Transocean's subsea supervisor -- superintendent  
13:53 14 actually; correct?

13:53 15 A. Yes.

13:53 16 Q. And he would have responsibility for BOP maintenance?

13:53 17 A. Yes.

13:53 18 Q. All right. And Mr. Kent writes to Mr. Stringfellow,  
13:53 19 May 14, and he says: "Billy, looking at the recommended  
13:53 20 replacement interval, do you understand what 'one year of  
13:53 21 on-time maintenance means'? It's not clear to me when these  
13:53 22 batteries should be replaced."

13:53 23 Correct?

13:53 24 A. I see that.

13:53 25 Q. And so Mr. Stringfellow then writes to Jason Van Lue. Do

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13:53 1 you see that, the same day?

13:53 2 A. Yes.

13:53 3 Q. And Mr. Van Lue is actually with Cameron; correct?

13:53 4 A. That's correct.

13:53 5 Q. And so the subsea superintendent at Transocean is reaching  
13:53 6 out to Cameron to find out -- he said: "Jason, can you answer  
13:53 7 the below question for James? He is needing a better  
13:54 8 understanding to this comment -- of this comment."

13:54 9 Correct?

13:54 10 A. Yes.

13:54 11 Q. And to be clear, what's happening here is Transocean's  
13:54 12 subsea superintendent is trying to understand what the one year  
13:54 13 of on-time maintenance means?

13:54 14 A. That's the question he asked, yes.

13:54 15 Q. All right. Now, if we can look at -- Mr. Van Lue  
13:54 16 responded, didn't he?

13:54 17 A. Yes, he did.

13:54 18 MS. KARIS: If we can now look at Mr. Van Lue's  
13:54 19 response, which is at the top of the same document, Exhibit  
13:54 20 TREX-7669.

13:54 21 BY MS. KARIS:

13:54 22 Q. Mr. Van Lue responds, and he says, "Billy, Cameron's  
13:54 23 meaning for one year of on-time operation is one year from the  
13:54 24 time the batteries are installed in the SEM"; correct?

13:54 25 A. Yes, you read that correctly.

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13:54 1 Q. Okay. And to be clear, Mr. Van Lue is saying how Cameron  
13:55 2 interprets its own bulletin is that it's one year from when the  
13:55 3 batteries are installed in the SEM?

13:55 4 A. I see that's what he said, yes, ma'am.

13:55 5 Q. And that's not just Mr. Van Lue's view. That's what he  
13:55 6 said Cameron's meaning is; correct?

13:55 7 A. That's what he said in this e-mail, yes, ma'am.

13:55 8 Q. And he copies some senior folks at Cameron in this.  
13:55 9 Mr. Coronado. Do you recognize him?

13:55 10 A. Yes.

13:55 11 Q. Mr. McWhorter and Mr. King and Mr. Whitby?

13:55 12 A. Yes.

13:55 13 Q. You never saw anything from Cameron saying, "This is not  
13:55 14 what we mean"?

13:55 15 A. No, I did not.

13:55 16 Q. But in your assessment, you apply the definition or  
13:55 17 interpretation different than what Mr. Van Lue told Transocean  
13:55 18 was the meaning of its bulletin on May 14th, 2010; correct?

13:55 19 A. Yes. My engineering analysis -- my engineering  
13:56 20 understanding of on-time operation is as I stated yesterday.

13:56 21 Q. Now, at the time you were deposed, you told us that you  
13:56 22 thought this was one man's interpretation from Cameron.

13:56 23 Do you recall saying that?

13:56 24 A. Yes.

13:56 25 Q. Do you still think this is just one man's interpretation

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13:56 1 from Cameron as to what Cameron's bulletin means when it says  
13:56 2 "one year of on-time operations"?

13:56 3 A. Better stated, it would have been an e-mail from one man  
13:56 4 that said this.

13:56 5 Q. But you don't believe it's just one person at Cameron that  
13:56 6 holds this point of view, do you? And by "this," I mean one  
13:56 7 year from the time the batteries are installed.

13:56 8 A. As you said, he copied others. And I'm not seeing  
13:56 9 anything else. I don't know if there's anything else out there  
13:57 10 where there's been discussion within Cameron.

13:57 11 Q. We talked about Mr. McWhorter, David McWhorter?

13:57 12 A. Yes.

13:57 13 Q. And he is also with Cameron; correct?

13:57 14 A. Yes.

13:57 15 Q. Did you review his deposition to see what he says it  
13:57 16 means?

13:57 17 A. I believe I did, yes.

13:57 18 MS. KARIS: Let's look at 489, David McWhorter's  
13:57 19 deposition, 489, line 17, to 490, line 3.

13:57 20 BY MS. KARIS:

13:57 21 Q. (Reading):

13:57 22 "QUESTION: Using this same bulletin, if you turn to  
13:57 23 page 2 of this exhibit, there's a series of bullet points  
13:57 24 that set out when the battery should be replaced; correct?

13:57 25 "ANSWER: That's correct.

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13:57 1 "QUESTION: And under the first bullet point, it  
13:57 2 says: 'One year of on-time operation.'  
13:57 3 What does 'on-time operation' mean?  
13:57 4 "ANSWER: On-time operation is from the time it's  
13:57 5 installed."  
13:57 6 Correct?  
13:57 7 A. That's what he said, yes.  
13:57 8 Q. So even though, at the time of your dep, you said it was  
13:58 9 one man's interpretation, in fact, it was multiple people's  
13:58 10 interpretation from Cameron that that's what they meant; that  
13:58 11 is, one year from the time it's installed?  
13:58 12 A. Yes, I see that.  
13:58 13 Q. Now, in addition to what Cameron thought -- you were a  
13:58 14 part of Transocean's investigation team; is that correct?  
13:58 15 A. I was.  
13:58 16 Q. All right. And did you undertake an investigation or at  
13:58 17 least an inquiry to see what Transocean thought that bulletin  
13:58 18 meant?  
13:58 19 A. I personally did not.  
13:58 20 Q. Did you ask anyone at Transocean whether they agreed with  
13:58 21 your engineering assessment, as you told us, of what that  
13:58 22 meant?  
13:58 23 A. I worked with the team that I was working with. I asked  
13:58 24 the team that I was working with, yes.  
13:58 25 Q. Do you know who Mr. Hay, is Mark Hay?

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13:58 1 A. I know the name.

13:58 2 Q. Mr. Hay is Transocean's subsea supervisor who had  
13:58 3 responsibility for the *Deepwater Horizon's* BOP; correct?

13:59 4 A. Yes.

13:59 5 MS. KARIS: All right. And if we can look at  
13:59 6 Mr. Hay's deposition, 140.358.1, please.

13:59 7 BY MS. KARIS:

13:59 8 Q. You said you asked the team. You would agree with me it  
13:59 9 would make sense to ask the people who were actually involved  
13:59 10 in maintenance activities for the BOP that you were  
13:59 11 investigating?

13:59 12 A. I'm sorry. Did you say --

13:59 13 Q. Let me rephrase.

13:59 14 A. Yes, please.

13:59 15 Q. You said you spoke to the team about your interpretation;  
13:59 16 correct?

13:59 17 A. The joint team at Transocean.

13:59 18 Q. Right. But in reaching your assessment or speaking to the  
13:59 19 team, it would certainly make sense to speak to the members of  
13:59 20 Transocean who had actual responsibility for maintenance of the  
13:59 21 BOP that you were conducting an investigation for; correct?

13:59 22 A. I did not speak to Mr. Hay. Other people on the team  
13:59 23 might have. I do not know.

14:00 24 MS. KARIS: Let's look at his deposition, 148.358.1,  
14:00 25 please.

## ERIC GREGORY CHILDS - CROSS

14:00 1 BY MS. KARIS:

14:00 2 Q. Did you form an understanding as to what Transocean  
14:00 3 claimed its policy was for changing out control pod batteries?

14:00 4 A. Yes.

14:00 5 Q. Okay. Let's look at what Mr. Hay says.

14:00 6 UNIDENTIFIED SPEAKER: What page number, please?

14:00 7 MS. KARIS: I'm sorry. Page 140, and it's lines 19  
14:00 8 through page 141, line 1, please.

14:00 9 Let me correct that. It's Deposition Bundle 140,  
14:00 10 page 358, line 19, to page 359, line 1.

14:00 11 Sorry about that, Don.

14:00 12 BY MS. KARIS:

14:01 13 Q. Mr. Hay was asked in this deposition:

14:01 14 "QUESTION: Your understanding is it -- it is  
14:01 15 Transocean's policy to change the control pod batteries  
14:01 16 once a year; is that right?"

14:01 17 "ANSWER: That's correct.

14:01 18 "QUESTION: And that's consistent with Cameron's  
14:01 19 policy about the replacement of batteries; is that right?"

14:01 20 "ANSWER: Yes."

14:01 21 Do you see that?

14:01 22 A. I see that.

14:01 23 Q. Now, you reviewed the history of batteries in Pod 1,  
14:01 24 Pod 2, and Pod 3; correct?

14:01 25 A. I did.

## ERIC GREGORY CHILDS - CROSS

14:01 1 Q. And would you agree with me that it was not Transocean's  
14:01 2 policy or practice to change out the control pod batteries once  
14:01 3 a year?

14:01 4 A. No, do I agree that it was not the policy?

14:01 5 Q. Well, that's what the policy was. Let me rephrase.

14:02 6 While the policy was to change them out once a year,  
14:02 7 you would agree with me that that wasn't the practice?

14:02 8 A. No, I wouldn't agree with that.

14:02 9 Q. All right. Well, let's look at that.

14:02 10 Did you find -- when was the Pod 3 27-volt battery  
14:02 11 put in use? Go ahead.

14:02 12 A. Pod 3 in the blue pod?

14:02 13 Q. Yes.

14:02 14 A. It was put into use March of '09.

14:02 15 Q. And when was it acquired?

14:02 16 A. The batteries were installed November '07.

14:02 17 Q. So the installation of the batteries, which is what  
14:02 18 Cameron says you should measure from, was November of 2007;  
14:02 19 correct?

14:02 20 A. And the pod was not used until March of '09.

14:02 21 Q. Okay. We're going to get to that. But Cameron says one  
14:02 22 year from when installed. So if we go by one year from when  
14:02 23 installed, that would have been November of 2008; correct?

14:02 24 A. That interpretation that we're using of installation date,  
14:03 25 as you've shown us, we learned after the fact. So I cannot



## ERIC GREGORY CHILDS - CROSS

14:03 1 really speak to what everybody on the rigs knew at that point  
14:03 2 in time.

14:03 3 Q. All right. Let's at least go with what Cameron told  
14:03 4 Transocean in May of 2010. We'll talk about what they knew  
14:03 5 before in a minute.

14:03 6 But at least as of that time, if we follow Cameron's  
14:03 7 recommendations and what it meant, that would mean the blue pod  
14:03 8 batteries should be changed out in November of 2008; correct?

14:03 9 A. By the calendar year, had they had that interpretation and  
14:03 10 you went strictly by calendar year, yes. But by use, it was  
14:03 11 not due to be replaced yet.

14:03 12 Q. Do you know who Mr. Steven Newman is?

14:03 13 A. Yes.

14:03 14 Q. Mr. Newman has testified before this Court as Transocean's  
14:03 15 CEO; correct?

14:03 16 A. Yes.

14:03 17 Q. And were you aware that Mr. Newman actually set out to  
14:03 18 understand this issue as well: After this incident happened,  
14:04 19 what's the policy practice here for replacing batteries?

14:04 20 Were you aware of that?

14:04 21 A. Not directly, no.

14:04 22 Q. Let's look at Exhibit TRES-4306.1.

14:04 23 In forming your engineering opinion as to what  
14:04 24 Cameron's bulletin should have meant, did you consult with what  
14:04 25 Transocean's senior management thought in connection with

## ERIC GREGORY CHILDS - CROSS

14:04 1 replacing out batteries?

14:04 2 A. This e-mail does not look familiar. I'm struggling  
14:04 3 reading it.

14:04 4 Q. Sure. I'm sorry. My apologies.

14:04 5 MS. KARIS: Let's call out the bottom. Actually,  
14:04 6 bottom e-mail first, please.

14:04 7 This is Mr. Newman's question. Sorry. There  
14:04 8 you go.

14:04 9 BY MS. KARIS:

14:04 10 Q. Did you set out to understand what Transocean's CEO and  
14:04 11 senior management thought in connection with replacement of  
14:05 12 batteries?

14:05 13 A. Well, I did not see this document.

14:05 14 Q. And Mr. Newman is writing on the 13th to Pharr Smith;  
14:05 15 correct?

14:05 16 A. Yes.

14:05 17 Q. And who is Mr. Smith; do you know?

14:05 18 A. I know the name. I don't know his position exactly.

14:05 19 Q. He was involved along with Mr. Ambrose in Transocean's  
14:05 20 investigation of this incident, the one that you worked on;  
14:05 21 correct?

14:05 22 A. Yes. Mr. Ambrose and I worked together.

14:05 23 Q. Mr. Pharr is the one I was talking about. Do you know  
14:05 24 whether Mr. Pharr was also involved in the investigation?

14:05 25 A. If he was there, I wasn't around him much. Bill and I,

## ERIC GREGORY CHILDS - CROSS

14:05 1 yes, but not Mr. Pharr.

14:05 2 Q. Mr. Newman writes: "Pharr, I understand as a result of  
14:05 3 yesterday's hearing that the batteries on the yellow pod were  
14:05 4 dead."

14:05 5 Do you see that?

14:05 6 A. Yes.

14:05 7 Q. It's actually the blue pod batteries that were dead;  
14:05 8 correct?

14:05 9 A. Well, it says yellow, so --

14:06 10 Q. Fair enough.

14:06 11 MS. KARIS: All right. If you go down to the  
14:06 12 fourth -- there you go -- if you can call that out, please.  
14:06 13 Thank you.

14:06 14 BY MS. KARIS:

14:06 15 Q. And Mr. Newman says: "Are these batteries kept charged as  
14:06 16 long as the system is connected?"

14:06 17 And the answer is: "No, these are not rechargeable  
14:06 18 batteries. They are replaced once a year or after  
14:06 19 32 actuations, whichever comes first."

14:06 20 Correct?

14:06 21 A. You read that correctly.

14:06 22 MS. KARIS: And then if we can go to the response at  
14:06 23 the top.

14:06 24 BY MS. KARIS:

14:06 25 Q. And to be clear here, Mr. Newman is asking the question

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14:06 1 and somebody else is responding to Mr. Newman's question. If  
14:06 2 you look at the original, it's in different colored ink.

14:06 3 Mr. Smith responds back and he says: "Steven answers  
14:06 4 below from my subsea dynamic duo: Rob Turlak and Gary Leach.  
14:06 5 Let us know if you need anything else."

14:06 6 You had not seen this document, though; is that  
14:07 7 correct?

14:07 8 A. I had not.

14:07 9 Q. So you were unaware when you reached your opinions that  
14:07 10 the CEO of Transocean had been told by Mr. Pharr, in connection  
14:07 11 to the question about battery replacement, that the batteries  
14:07 12 are replaced once a year or after 32 actuations; is that  
14:07 13 correct?

14:07 14 A. I was not aware of this string of e-mails.

14:07 15 Q. All right. Now, you referenced earlier that this relates  
14:07 16 to understanding of the batteries after the incident?

14:07 17 A. Yes.

14:07 18 Q. Did you undertake to look at and evaluate what Transocean  
14:07 19 knew about the condition of its batteries prior to this  
14:07 20 incident?

14:07 21 A. We looked at the batteries. Of course, they would have  
14:07 22 been in place at the time of the incident, yes.

14:07 23 Q. Sure. But did you look, at least, to understand what  
14:07 24 documentation Transocean had about understanding the life and  
14:07 25 history of its batteries?

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14:07 1 A. Like I just said, yes, we looked at where they were  
14:08 2 installed and when they were put into service.

14:08 3 Q. All right.

14:08 4 MS. KARIS: If we can look at D-4334-B.

14:08 5 BY MS. KARIS:

14:08 6 Q. And this is a demonstrative we've prepared. To be clear  
14:08 7 here, the *Deepwater Horizon* had three pods, Pod 1, Pod 2, and  
14:08 8 Pod 3; is that correct?

14:08 9 A. That is correct.

14:08 10 Q. And the blue pod is Pod 3, the yellow pod is Pod 2, and  
14:08 11 then there's a spare pod on the surface?

14:08 12 A. That's my recollection.

14:08 13 Q. And what is your understanding of when the blue pod went  
14:08 14 into surface -- I mean, went into service and was splashed at  
14:08 15 the Macondo well?

14:08 16 A. March '09.

14:08 17 Q. Okay. At the Macondo well, March of '09?

14:08 18 A. Yes. March of '09, the year before the incident.

14:08 19 Q. I don't want to confuse you, Mr. Childs --

14:08 20 A. I'm sorry.

14:08 21 Q. -- but the *Deepwater Horizon* wasn't at Macondo in March of  
14:09 22 '09.

14:09 23 A. I said before.

14:09 24 Q. Do you know when the blue pod went into use and was  
14:09 25 splashed at the Macondo well on the *Deepwater Horizon*?

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14:09 1 A. Oh, you're correct, I did mishear. I wasn't listening  
14:09 2 properly.

14:09 3 Q. Fair enough.

14:09 4 A. It was splashed for Macondo March 6th, I think -- 5th,  
14:09 5 6th, somewhere in there, of '10.

14:09 6 Q. Are you sure it wasn't in late January -- or early  
14:09 7 February, I should say, February 6th?

14:09 8 A. I think it reached -- it reached bottom.

14:09 9 Q. Fair to say you don't remember?

14:09 10 A. It reached bottom.

14:09 11 Q. When?

14:09 12 A. Well, I've had a brain issue, obviously.

14:09 13 Q. All right.

14:09 14 A. Forgive me.

14:09 15 Q. You have a chart that says it was in use for 71 days at  
14:09 16 Macondo. Does that refresh your recollection?

14:09 17 A. Yes.

14:09 18 Q. All right. We'll get back to how many days it was in use  
14:10 19 total. Because as I understand it, the way you reached your  
14:10 20 opinion that it was okay or in compliance was by counting the  
14:10 21 days it was actually splashed and in use?

14:10 22 A. From the date it was on bottom and armed until the day it  
14:10 23 was disarmed and retrieved, yes.

14:10 24 Q. All right. But just to set the groundwork here, Pod 3 --  
14:10 25 you see Mr. McWhorter's testimony -- it's very clear that's

## ERIC GREGORY CHILDS - CROSS

14:10 1 where the blue pod batteries were. No dispute about that;  
14:10 2 correct?

14:10 3 A. Excuse me, no.

14:10 4 Q. And Pod 1 is actually the spare pod on surface. Do you  
14:10 5 see that?

14:10 6 A. I see that.

14:10 7 Q. All right. Now, were you aware that, in February of 2010,  
14:10 8 Transocean had sent the spare pod, the one that was on surface,  
14:10 9 to Cameron for refurbishment while the BOP was latched at the  
14:11 10 Macondo well?

14:11 11 A. I vaguely remember that, yes.

14:11 12 Q. Okay. And so Cameron evaluated the batteries in Pod 1,  
14:11 13 the one that was on surface, in February of 2010, a couple  
14:11 14 months before this incident?

14:11 15 A. Now, you say Cameron evaluated?

14:11 16 Q. Yes.

14:11 17 A. Yes, I believe that's who they sent the equipment to,  
14:11 18 Cameron.

14:11 19 Q. Let's look at TREN-3782.

14:11 20 MS. KARIS: If we go to 3782.2.2.3.

14:11 21 BY MS. KARIS:

14:11 22 Q. Have you seen this document previously; that is, Cameron's  
14:11 23 evaluation of what the condition was of that spare pod's  
14:11 24 batteries?

14:11 25 A. Honestly, it's not looking familiar at this moment.

## ERIC GREGORY CHILDS - CROSS

14:11 1 Q. All right. I'll represent to you that the spare pod's  
14:12 2 batteries had been originally installed in the SEM in April of  
14:12 3 2009. Now, in February of 2010, Cameron writes and says: "The  
14:12 4 batteries on the *Horizon's* SEM are not good."

14:12 5 Do you see that?

14:12 6 A. At the bottom, yes, I see that.

14:12 7 Q. And then that communication is forwarded on from Cameron  
14:12 8 to Mr. Fry and Mr. Geoff Boughton, correct, at the top?

14:12 9 A. Yes.

14:12 10 Q. And so those are gentlemen with Transocean, Mr. Fry and  
14:12 11 Mr. Boughton, in their subsea group; correct?

14:12 12 A. I believe that's correct.

14:12 13 Q. Mr. Fry is Transocean's subsea superintendent; is that  
14:12 14 correct?

14:12 15 A. He was.

14:12 16 Q. And so he would have had responsibility for maintenance of  
14:12 17 the BOP, including the batteries; correct?

14:12 18 A. He's a shore-based man, so the man on the rig really had  
14:13 19 the responsibility.

14:13 20 Q. All right. But he oversees the man on the rig?

14:13 21 A. He would assist and advise.

14:13 22 MS. KARIS: All right. And then if we can pull up  
14:13 23 TREN-3785.1.1.

14:13 24 BY MS. KARIS:

14:13 25 Q. Mr. Fry, a couple days after getting Cameron's e-mail



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14:13 1 informing him that the batteries on the SEM are not good,  
14:13 2 forwards the e-mail to *Deepwater Horizon* subsea SUP. Do you  
14:13 3 see that? And that would be superintendent?

14:13 4 A. I believe that's correct.

14:13 5 Q. And the subject is "Battery Replacement."

14:13 6 And he says: "Some reading material for you.  
14:13 7 Regards, Michael Fry."

14:13 8 A. Yes.

14:13 9 Q. And what he attaches as part of those reading materials is  
14:13 10 Cameron's bulletin, the one we were looking at previously,  
14:13 11 EB 891D; correct?

14:13 12 A. I don't see it yet, but -- oh, there it is. I'm sorry.  
14:13 13 It's right there on the attachment, EB 891D.

14:14 14 Q. Correct.

14:14 15 MS. KARIS: And if we can just go to 87 -- I'm sorry,  
14:14 16 3785.4.2.

14:14 17 BY MS. KARIS:

14:14 18 Q. I'll represent to you that that's what's attached,  
14:14 19 Cameron's bulletin. And that's the bulletin that has the  
14:14 20 language we were talking about previously.

14:14 21 So a couple months prior to this incident,  
14:14 22 Transocean's subsea superintendent, supervisors, and other  
14:14 23 members who were responsible for maintenance of the batteries  
14:14 24 on the *Deepwater Horizon's* BOP, again received a copy of  
14:14 25 Cameron's bulletin stating that it is recommended that the

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1 27-volt battery packs be replaced one year of on-time  
2 operation?

3 A. That's the on-time operation. It's still there.

4 Q. Not only is it there, but Transocean's subsea folks  
5 received a reminder, if you will, of that a couple of months  
6 before this incident?

7 A. Of the on-time operation, yes, ma'am.

8 Q. And they got that bulletin along with a notification that  
9 their spare pod batteries were not good; correct?

10 A. I saw the document you showed me, yes.

11 Q. All right. Did you see any evidence that Mr. Fry, after  
12 receiving this communication -- or anyone at Transocean  
13 attempted to determine whether the batteries in Pods 2 or 3  
14 were also not good?

15 A. I didn't see anything more than here. I don't know one  
16 way or the other whether anything else was sent on those  
17 particular things you asked me about.

18 Q. Well, one of the things you tried to understand here was  
19 what Transocean knew or understood about the blue pod battery;  
20 correct?

21 A. We wanted to know which SEM was in which pod and when each  
22 SEM was repaired, rebuilt, and put back into service.

23 Q. And in all of the review that you did of all the documents  
24 and all the materials, did you see anywhere any attempt by  
25 Transocean to understand whether the batteries in Blue Pod 3 or

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14:16 1 Yellow Pod 2 were not good, just as was the case with the spare  
14:16 2 pod batteries?

14:16 3 A. Not exactly that answer. What I saw was continual sending  
14:16 4 of SEMs to Cameron for refurbishment or pods to Cameron for  
14:16 5 refurbishment, which meant getting new batteries, sending them  
14:16 6 back to the rigs to go back into service.

14:16 7 Q. Did you see anything like that in connection with Pod 2 or  
14:16 8 3 after February of 2010?

14:16 9 A. I couldn't quote which one was 2 or 3 at this moment, but  
14:16 10 I saw continual movement of these pieces of equipment to  
14:16 11 Cameron for repair.

14:16 12 Q. They certainly couldn't have said Pod 2 or 3 because they  
14:16 13 were subsea actually, splashed at the time; correct?

14:16 14 A. During --

14:16 15 Q. So there's no way they could have sent those back for  
14:17 16 refurbishment?

14:17 17 A. Not the ones in service, you're correct.

14:17 18 Q. Right. So we know they couldn't have sent those SEMs back  
14:17 19 because they were sitting 5,000 feet below the surface.

14:17 20 My question is: Did they do anything to try and  
14:17 21 understand whether the conditions of those pods' batteries were  
14:17 22 any better than the spare pod, which they understood to be not  
14:17 23 good?

14:17 24 A. "They," again, are the subsea engineers you're talking  
14:17 25 about. I have no recollection one way or the other. I didn't

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14:17 1 see anything one way or the other.

14:17 2 Q. Okay. After Mr. Fry got this communication, are you aware  
14:17 3 that he reached out to Mr. Owen -- I'm sorry, to  
14:17 4 Mr. McWhorter -- and there's an Owen McWhorter from Transocean,  
14:18 5 and then there's a David McWhorter from Cameron, so we're not  
14:18 6 confusing the two.

14:18 7 A. I know the difference.

14:18 8 Q. And we're speaking of Mr. Owen McWhorter from Transocean.

14:18 9 Were you aware that Mr. Fry reached out to him to try  
14:18 10 and figure out what the life of their batteries was and what  
14:18 11 the voltages of any equipment they had was?

14:18 12 A. Not directly. I don't remember that document directly, or  
14:18 13 a document like that.

14:18 14 MS. KARIS: Let's look at 3682.1, please. Let's look  
14:18 15 at the bottom. Thank you.

14:18 16 BY MS. KARIS:

14:18 17 Q. This is from the *Deepwater Horizon*, Owen McWhorter, if you  
14:18 18 look at the bottom there, to Michael Fry. Again, this is  
14:18 19 within Transocean. Owen, discussed -- I'm sorry. Let me make  
14:18 20 sure we have -- it seems to be -- there's a hole through it. I  
14:19 21 can't see the first couple of words there.

14:19 22 MS. KARIS: Do we have it or not?

14:19 23 BY MS. KARIS:

14:19 24 Q. I think it says "as we discussed."

14:19 25 "As we discussed on the phone, here's what I have on

## ERIC GREGORY CHILDS - CROSS

14:19 1 the blue SEM. Everything else on the page is pressures."

14:19 2 And that's as of February 19th. Do you see that?

14:19 3 A. Yes.

14:19 4 Q. And under "deadman active for the blue SEM," what does it  
14:19 5 read?

14:19 6 A. .02-volts.

14:19 7 Q. Now, is it fair to say that, at this time, it was not  
14:19 8 possible for Mr. McWhorter to get an actual reading of what the  
14:19 9 blue pod SEM voltage was for the 27-volt battery because it was  
14:19 10 splashed subsea?

14:19 11 A. I think that's an indication on the surface of the fact  
14:19 12 that the deadman was active.

14:19 13 Q. Right. It doesn't tell you anything about the voltage of  
14:19 14 that battery; correct?

14:20 15 A. Only that the deadman and blue SEM is active.

14:20 16 Q. Right. But it certainly doesn't tell you anything about  
14:20 17 what the voltage is of that battery; correct?

14:20 18 A. I don't think there's any connection except the fact that  
14:20 19 it could be turned on, it was active.

14:20 20 Q. All right. Is it fair to say, then, that this document  
14:20 21 certainly didn't answer the question of, what's the condition  
14:20 22 of -- what's the voltage of the 27-volt battery in the blue  
14:20 23 pod?

14:20 24 A. It appears Mr. McWhorter gave him every bit of information  
14:20 25 he could from that time. He's on surface -- he's on surface;

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14:20 1 it's not.

14:20 2 Q. But what he wasn't able to do was to tell him what the  
14:20 3 condition of that battery was?

14:20 4 A. All he could tell him was that that SEM was active -- or  
14:20 5 deadman was active.

14:20 6 Q. Now, when you speak to testing of the -- the various  
14:20 7 testing that took place in the BOP. Are you aware of any  
14:20 8 testing that was conducted after February 19th of 2010 on -- to  
14:20 9 test the AMF/deadman?

14:21 10 A. I don't know one way or the other. I know the  
14:21 11 full-function tests were done, but I do not have records one  
14:21 12 way or the other if the AMF was tested.

14:21 13 Q. The full-function testing does not test the AMF/deadman,  
14:21 14 does it?

14:21 15 A. I don't have records one way or the other saying it did or  
14:21 16 didn't.

14:21 17 Q. And you don't know, based on your own experience, whether  
14:21 18 it was tested?

14:21 19 A. At this point in time in the industry, they weren't  
14:21 20 routinely testing AMF.

14:21 21 Q. And as a result of the work you did in connection with the  
14:21 22 investigation, did you come to learn when Transocean had last  
14:21 23 tested its AMF/deadman to assess the voltage of the batteries  
14:21 24 or anything else?

14:21 25 A. I don't have a date for that, no, ma'am.

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14:22 1 Q. That's not something you looked into in reaching your  
14:22 2 opinions in this case about what testing had been done, even  
14:22 3 though you were opining about the batteries?

14:22 4 A. We were looking at the batteries, looking at the  
14:22 5 solenoids. I have no record one way or the other on the  
14:22 6 testing, the AMF testing.

14:22 7 Q. You say you were looking at the batteries and the  
14:22 8 solenoids. You also gave an extensive list in your report of  
14:22 9 what testing had been done by Transocean on the BOP; correct?

14:22 10 A. Yes.

14:22 11 Q. All right. And so when you looked to see what testing had  
14:22 12 been done, did you ever look to see what testing had been done  
14:22 13 on the components for which you were rendering opinions?

14:22 14 A. Well, I said that. Yes, we tested the components.

14:22 15 Q. No, what testing Transocean had done by policy.

14:22 16 A. Yes. Transocean did test every component in the pod.

14:22 17 Q. And did you become aware that, at least according to  
14:22 18 Mr. Fry in an interview that he gave the investigation team,  
14:23 19 Transocean had not tested the AMF/deadman in eight years?

14:23 20 A. I don't remember the eight years.

14:23 21 Q. Okay. We'll get to that.

14:23 22 MS. KARIS: If we can pull up D-6716, please.

14:23 23 Sorry. If we can first start with  
14:23 24 TREN-7709.1.4.

14:23 25 UNIDENTIFIED SPEAKER: Say it again, Carrie.

## ERIC GREGORY CHILDS - CROSS

14:23 1 MS. KARIS: I'm sorry, 7709.1.4. Thank you.

14:24 2 BY MS. KARIS:

14:24 3 Q. Do you recognize this is from Transocean's investigation  
14:24 4 work that lays out the history of these batteries, the team you  
14:24 5 were involved in?

14:24 6 A. Yes.

14:24 7 Q. I'm not going to go back over it, because I know you were  
14:24 8 asked about it previously.

14:24 9 But just to be clear here, this is the document that  
14:24 10 established that somewhere between November of 2007 -- I'm  
14:24 11 sorry -- June of 2007 to November of 2007 Cameron replaced the  
14:24 12 batteries in the No. 3 SEM at this time; correct?

14:24 13 A. That is correct.

14:24 14 Q. And then you went on to say --

14:24 15 THE COURT: Ms. Karis, for my sake, remind me again.  
14:24 16 We used colors and we used numbers. And the No. 3 is the --

14:24 17 MS. KARIS: The blue pod.

14:24 18 THE COURT: The blue pod. Okay. The No. 2 is the  
14:24 19 yellow?

14:24 20 MS. KARIS: Correct.

14:24 21 THE COURT: Does the No. 1, which was not in use,  
14:24 22 have a color?

14:24 23 MS. KARIS: It's called "spare."

14:24 24 THE COURT: It's spare. Okay.

14:24 25 THE WITNESS: Sometimes it's called a white, in case



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14:25 1 we see it written elsewhere.

14:25 2 MS. KARIS: So we've got white, yellow, and blue.

14:25 3 THE WITNESS: And a 1, 2, and a 3.

14:25 4 BY MS. KARIS:

14:25 5 Q. So 3 is the one we're talking about in connection with the  
14:25 6 batteries that were tested and found by DNV to not have a  
14:25 7 sufficient charge.

14:25 8 A. In the blue pod, yes.

14:25 9 Q. And just to be clear here, Cameron replaced those  
14:25 10 batteries sometime between June of 2007 and November of 2007;  
14:25 11 correct?

14:25 12 A. Correct. And the footnotes show a full factory acceptance  
14:25 13 test was also completed.

14:25 14 Q. Correct. And in March of 2009, when you say "during rig  
14:25 15 move, the No. 3 SEM is installed on the blue pod position on  
14:25 16 the BOP and fully tested," that's not to suggest that the AMF  
14:25 17 was fully tested. It's the BOP that was fully tested; correct?

14:25 18 A. The pod was prepared for deployment, correct.

14:25 19 Q. And then you say the "BOP is splashed, putting the No. 3  
14:25 20 SEM into service," in April of 2009."

14:25 21 And that's what you've now come to understand is not  
14:26 22 accurate?

14:26 23 A. I would correct that April 2009 there to March 2009.

14:26 24 Q. All right. Because under your prior understanding, if  
14:26 25 that installation that we're seeing had occurred in March of

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1 2009, then at least as of the time of your deposition, you  
2 would have said that would not comply with Cameron's  
3 recommendations for changing the batteries, based on how you  
4 understood it at that time; correct?

5 A. Using a calendar year, if you start in March, it would be  
6 outside, in a calendar year. Not in -- not outside the actual  
7 use, which was the chart you had up there a few minutes ago.

8 Q. And we're going to put it back up now.

9 So after you learned that it's actually March that it  
10 was installed, you then produced a days-in-use calendar;  
11 correct?

12 A. As I explained to the judge yesterday, I wanted to  
13 understand its actual use.

14 MS. KARIS: And let's go to D-67- -- I'm sorry.  
15 Let's go to D-48- -- 4586. I'm sorry. D-4586.

16 BY MS. KARIS:

17 Q. This is how you're now interpreting it. You're now saying  
18 how many days was it actually splashed and below surface.

19 The Tiber well, 159 days. The Kodiak well, 119 days.  
20 And then the Macondo well, 17 days; correct?

21 A. This is the way I use to show the judge that this battery  
22 had these many days of use, 349 days, not 365 days. There's  
23 less than a year's actual use or on-time operation.

24 Q. And in between there, of course, are days when the rig is  
25 moving from one well to another well; correct?

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14:27 1 A. That is correct.

14:27 2 Q. The batteries are not taken out of the SEMs at that time,  
14:28 3 are they?

14:28 4 A. No, they're not.

14:28 5 Q. But you don't count those days?

14:28 6 A. No. Those are shelf-life days.

14:28 7 Q. Because if you count those days, then this battery is --  
14:28 8 even under the in-use definition, it has exceeded one year;  
14:28 9 correct?

14:28 10 A. Those are shelf-life days.

14:28 11 Q. Right.

14:28 12 A. They're not being used. It's like the analogy I used with  
14:28 13 the flashlight in the drawer. It's not being used, power's not  
14:28 14 being drawn from it.

14:28 15 Q. We're not going to go back over that. I understand that  
14:28 16 you have a different definition than Cameron does.

14:28 17 Now, to be clear here, at the end of the day you  
14:28 18 would agree with me that the blue pod's batteries were  
14:28 19 initially installed in November of 2007.

14:28 20 A. Yes.

14:28 21 Q. And were being used on April 20th of 2010; correct?

14:28 22 A. Yes. They were in use at that time.

14:29 23 Q. And that was despite bulletins put out by Cameron that  
14:29 24 explained its -- its policy or recommended practice for how  
14:29 25 those batteries should be replaced; correct?

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14:29 1 A. We had information -- I would stay with the one-year  
14:29 2 replacement myself. But this has 349 days of use, it still  
14:29 3 hasn't exceeded its use time. It's on-time.

14:29 4 Q. You worked for Cameron; right?

14:29 5 A. Previously, yes.

14:29 6 Q. Do you think, when Cameron puts out bulletins, it puts  
14:29 7 some thought and engineering judgment into what it's going to  
14:29 8 recommend to its customers?

14:29 9 A. Yes, it does.

14:29 10 Q. And do you think Cameron means what it says in its  
14:29 11 bulletins, in terms of how the equipment should be maintained?

14:29 12 A. Yes, ma'am.

14:29 13 Q. And do you think it expects its customers, when it gives  
14:29 14 them an explanation, to come up with a different interpretation  
14:29 15 for how or what its bulletins mean?

14:30 16 A. Right. The on-time operation was out there for years, and  
14:30 17 I understand myself what that means.

14:30 18 The interpretation is saying it was in-service time,  
14:30 19 or as soon as it's installed, came after the incident.

14:30 20 Q. I understand that you have come up with a different  
14:30 21 interpretation. I'm just asking whether, as a former Cameron  
14:30 22 employee, you would expect that Cameron wants its customers to  
14:30 23 reinterpret what its engineering bulletins mean.

14:30 24 A. Well, in my opinion, of course, there was no  
14:30 25 reinterpretation required. It said "on-time operation."

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14:30 1 Q. All right. Let's turn to a different subject -- not  
14:30 2 different subject, actually related, but your theory, if you  
14:30 3 will, for what happened here.

14:30 4 Because we've already agreed that, at the time the  
14:30 5 forensic examination was occurred -- I mean, excuse me -- was  
14:31 6 conducted on the blue pod 27-volt battery, it did not have  
14:31 7 sufficient charge; correct?

14:31 8 A. It was very depleted, yes.

14:31 9 Q. It was very depleted, and so depleted that it could not  
14:31 10 have activated the AMF/deadman at that time?

14:31 11 A. Yes. It was depleted beyond expectation. So that's why  
14:31 12 we know some other mechanism had to draw it down to that low of  
14:31 13 a level.

14:31 14 Q. And you came up with something you call the "cycling  
14:31 15 theory"?

14:31 16 A. That's one of the theories. There's other means by which  
14:31 17 it could have been drawn down, and we talked about those some  
14:31 18 yesterday.

14:31 19 Q. But your theory, at least, or explanation for what caused  
14:31 20 this battery to be depleted, was what you called -- it triggers  
14:31 21 a cycle, is that fair, a cycling theory?

14:31 22 A. Yes. A cycling theory, yes.

14:31 23 Q. And as I understand your opinion, it's that the 27-volt  
14:31 24 battery was depleted after the AMF sequence was activated on  
14:32 25 the *Deepwater Horizon*.

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14:32 1 A. Would you repeat that, please.

14:32 2 Q. Sure. If I understand your theory, it's that the 27-volt  
14:32 3 battery was depleted after this incident and after the  
14:32 4 AMF/deadman triggered.

14:32 5 A. Yes. We've shown by other means that the battery couldn't  
14:32 6 have been dead before. All batteries would have been dead at  
14:32 7 the end. They weren't that way. We used Mr. Zatarain's work  
14:32 8 to help us there.

14:32 9 There's an external mechanical means, something else  
14:32 10 that drew this down so badly. We have the one we were talking  
14:32 11 about, my cycling theory, and we have InterLink work done for  
14:32 12 BP shows other means by which it can also be reactivated or  
14:32 13 drawn down.

14:32 14 Q. Let's talk about of that work, including Mr. Zatarain's  
14:32 15 work, which you say help support your theory.

14:32 16 MS. KARIS: If we can pull up D-430- -- I'm sorry --  
14:33 17 4603A, please.

14:33 18 BY MS. KARIS:

14:33 19 Q. Do you understand that other experts and witnesses all  
14:33 20 disagree with your opinion that the batteries in the blue pod  
14:33 21 allowed the AMF/deadman to work on April 20th? Every single  
14:33 22 other person that's looked at it disagrees with you; correct?

14:33 23 A. I see this. Yes.

14:33 24 Q. Mr. Davis there, the U.S.' expert, was asked:

14:33 25 "QUESTION: Why did the AMF/deadman system not close

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14:33 1 the blind shear ram?

14:33 2 "ANSWER: We believe the reason why that did not  
14:33 3 happen is because of a low 27-volt battery in the blue  
14:33 4 pod" -- and then he goes on to talk about -- "and a  
14:33 5 miswired solenoid in the yellow pod."

14:33 6 Correct?

14:33 7 A. Yes.

14:33 8 Q. And Mr. Zatarain -- you referenced Mr. Zatarain, who will  
14:33 9 testify before the Court and explain what his opinions are.

14:34 10 But when asked -- and this is part of what you  
14:34 11 considered:

14:34 12 "QUESTION: In your opinion, the two bases for why  
14:34 13 the AMF system failed to activate or that the blue pod had  
14:34 14 a depleted 27-volt battery and the yellow pod had an  
14:34 15 incorrectly wired Solenoid Valve 103 and/or contaminated  
14:34 16 hydraulic fluid in Solenoid 103; is that correct?

14:34 17 "ANSWER: That's correct."

14:34 18 Same thing with Mr. Stevick. He says, in his  
14:34 19 opinion, the battery did not have sufficient charge to activate  
14:34 20 the deadman; correct?

14:34 21 A. That's what it says here, yes.

14:34 22 Q. And Mr. Coronado. He's actually Cameron's engineer for  
14:34 23 software group drilling systems controls; correct?

14:34 24 A. You read that correctly.

14:34 25 Q. All right. Well, you know who he is; correct?

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14:34 1 A. I know the name.

14:34 2 Q. Not only am I reading it correctly, but you know who he  
14:34 3 is?

14:34 4 A. I don't know him, but I know the name.

14:35 5 Q. But you know he's a Cameron engineer?

14:35 6 A. Yes.

14:35 7 Q. And he, too, was asked. He says:

14:35 8 "QUESTION: You don't dispute that the battery on the  
14:35 9 27-volt battery on the blue pod, when it came up off the  
14:35 10 ocean floor on the *Horizon*, it was dead, wasn't it?

14:35 11 And he says:

14:35 12 "ANSWER: It looks very, very low.

14:35 13 "QUESTION: Discharged such that it would not  
14:35 14 function properly?

14:35 15 "ANSWER: Right.

14:35 16 "QUESTION: And you've never observed the AMF  
14:35 17 software continuously cycling when the AMF card is  
14:35 18 triggered; right?

14:35 19 "ANSWER: That is correct."

14:35 20 Do you see that?

14:35 21 A. Yes. And that brings up a good point.

14:35 22 These gentlemen have not done the tests we're talking  
14:35 23 about and seen the cycling.

14:35 24 Q. You're talking about the tests that you ran after this  
14:35 25 incident?



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14:35 1 A. Yes.

14:35 2 Q. All right. But with respect to this cycling theory that  
14:35 3 you have, which is the battery is trying to work, the 9-volt  
14:35 4 battery is discharged, and so the 27-volt continues to try and  
14:35 5 activate; therefore, it's cycling?

14:35 6 A. It connects and draws 20 to 60 milli amps.

14:36 7 Q. What Mr. Coronado says, he has never observed that AMF  
14:36 8 software continuous cycling when the card is triggered. That's  
14:36 9 your theory, isn't it?

14:36 10 A. It's more than a theory. It was a test. It was done in a  
14:36 11 test.

14:36 12 Q. We're going to talk about your test. But at least  
14:36 13 Mr. Coronado, who works for Cameron, says he never saw that;  
14:36 14 correct?

14:36 15 A. So he hasn't done the test in the same manner.

14:36 16 Q. And those would be the tests Mr. Tolleson did?

14:36 17 A. Yes, when we were trying to see how an AMF system  
14:36 18 operated.

14:36 19 Q. Now, that testing that was done, it was done on the  
14:36 20 *Nautilus*' battery system; correct?

14:36 21 A. It was using the SEM from the *Nautilus*.

14:36 22 Q. And you conducted that testing, as we established this  
14:36 23 morning, between November of 2010 and December of 2010;  
14:37 24 correct?

14:37 25 A. Yes.

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14:37 1 Q. All right. And Mr. Tolleson was the one that not only led  
14:37 2 the testing, but also prescribed how that testing should be  
14:37 3 done?

14:37 4 A. He discussed the testing with me, and he then set up the  
14:37 5 test with the help of the two we mentioned before, Mr. Patil  
14:37 6 and Mika Reed.

14:37 7 Q. And we talked about this morning, and I want to go back  
14:37 8 over all the tests that you did not observe yourself that were  
14:37 9 conducted; correct?

14:37 10 A. I did not observe all the testing at the deck.

14:37 11 Q. Okay. Now, at the time that you were conducting this  
14:37 12 testing that you thought helped establish your cycling theory,  
14:37 13 were you aware that the technical working group was working to  
14:37 14 try to understand what happened?

14:37 15 A. Yes. It was the same time.

14:37 16 Q. And the technical working group, who were they?

14:37 17 A. Now, make sure we're talking about the same people.  
14:37 18 The -- at Michoud, is that the working group?

14:38 19 Q. Yes.

14:38 20 A. Yes.

14:38 21 Q. That was the group that was working on behalf of the DNV  
14:38 22 to try and understand what happened here; correct?

14:38 23 A. DNV working for the government, yes.

14:38 24 Q. Right. And Transocean actually was a member of that  
14:38 25 technical group; correct?

## ERIC GREGORY CHILDS - CROSS

14:38 1 A. Yes, they were.

14:38 2 Q. At any time -- well, strike that.

14:38 3 First, were you aware that the technical group  
14:38 4 reached out to all the parties to suggest how to conduct  
14:38 5 testing to help solve this mystery or problem on this battery?

14:38 6 A. I, right at this moment, can't remember that exactly.

14:38 7 Q. Okay.

14:38 8 MS. KARIS: If you can look at 4 -- I'm sorry. If we  
14:38 9 can pull up 4934.1, the DWH technical group summary report.

14:39 10 If we can go to 1.1, please.

14:39 11 BY MS. KARIS:

14:39 12 Q. This is from Transocean. It says: "We are continuing to  
14:39 13 test and will need to develop" -- I'm sorry.

14:39 14 This is a document that was created, I should say, on  
14:39 15 October 21st, Transocean.

14:39 16 "We are continuing to test and will need to develop a  
14:39 17 test procedure for submission to DNV so that similar testing  
14:39 18 may be used to verify whether or not this same fault could have  
14:39 19 occurred on the *Deepwater Horizon* blue pod."

14:39 20 And it says: "In progress."

14:39 21 Do you see that?

14:39 22 A. I see what you've highlighted. What I'm missing is  
14:39 23 knowing that this is something that Transocean is writing or  
14:39 24 it's notes from a meeting or it's current activity in progress  
14:39 25 from the technical working group.

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14:39 1 Q. All right. Well, let me ask you this.

14:39 2 Since you were working on the investigation on behalf  
14:40 3 of BP and you were aware that the technical working group  
14:40 4 existed at the same time you were conducting this testing, did  
14:40 5 you ever suggest to anyone that Transocean should submit a  
14:40 6 protocol to DNV to test whether what you were claiming to see,  
14:40 7 in fact, could be replicated by the DNV?

14:40 8 A. I did not personally do that. I don't know if it was done  
14:40 9 or not.

14:40 10 Q. Sitting here today, you're not aware of anyone at  
14:40 11 Transocean that suggested that the testing protocol you say you  
14:40 12 used to prove your theory should have been conducted by the  
14:40 13 DNV?

14:40 14 A. I don't know if it was done or not. I don't know one way  
14:40 15 or the other.

14:40 16 Q. Did you at any time make any requests to the technical  
14:40 17 working group or any other entity to perform testing to attempt  
14:40 18 to show the cycling theory that you contended was what caused  
14:40 19 the depletion of the Deepwater Horizon's blue pod battery?

14:41 20 A. I did not. I don't know if anybody else did. I don't  
14:41 21 know one way or the other.

14:41 22 Q. And you were aware, certainly, that all the tests that  
14:41 23 were being conducted by Mr. Tolleson and anybody else at  
14:41 24 Transocean, that the other parties, including the DNV, was not  
14:41 25 privy to those tests; correct?

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14:41 1 A. Again, I think we discussed that before. I don't know if  
14:41 2 they were invited. No, we were doing the tests to learn for  
14:41 3 ourselves exactly how the AMF operated and the SEM operated and  
14:41 4 the batteries operated.

14:41 5 Q. Now, are you aware that the tests that Mr. Tolleson and  
14:41 6 others at his direction conducted were run with the *Nautilus's*  
14:41 7 equipment, with a power supply instead of batteries, at least  
14:41 8 some of those tests?

14:42 9 A. Some of them were. We had the depleted batteries. We  
14:42 10 used -- I should say "used batteries." We used those and, in  
14:42 11 order to do the full series of testing to understand how it  
14:42 12 operated at various levels, of course, it would have been  
14:42 13 virtually impossible to have 30 sets of batteries at different  
14:42 14 levels, so we did use instrumentation to try to mimic that.

14:42 15 Q. Did Mr. Tolleson do anything to try and assure that the  
14:42 16 *Nautilus's* batteries had equal days number of use that you  
14:42 17 concluded the *Deepwater Horizon's* batteries had, which was just  
14:42 18 shy of a full year?

14:42 19 A. I don't know if we had the number of days on the battery.  
14:42 20 We did use a -- they're used batteries. And then we  
14:42 21 transferred over to using an instrumentation to provide varying  
14:42 22 loads and varying voltages.

14:42 23 Q. I want to focus on the tests that were done with  
14:42 24 batteries. You didn't attempt to use a battery that had been  
14:42 25 in use the same number of days; correct?

## ERIC GREGORY CHILDS - CROSS

14:42 1 A. Well, that would have been very hard to do.

14:43 2 Q. And you certainly didn't attempt to use a battery that had  
14:43 3 been installed from November of 2007, like the one on the blue  
14:43 4 pod on the *Deepwater Horizon*; correct?

14:43 5 A. Basically, we took the used batteries that came with it,  
14:43 6 tested with them, and then started doing other tests that  
14:43 7 followed that.

14:43 8 Q. So is the answer to my question, "correct"; that is, you  
14:43 9 didn't attempt to find a battery that was in use from November  
14:43 10 of 2007, like the blue pod *Deepwater Horizon* 27-volt battery?

14:43 11 A. No, we didn't try to go find anything that exact. Because  
14:43 12 I don't think it would have existed.

14:43 13 Q. And then you performed testing -- some testing with the  
14:43 14 power supply instead of batteries. We've established that?

14:43 15 A. Yes.

14:43 16 Q. And you would agree that a direct power supply does not  
14:43 17 necessarily simulate the same conditions of a battery; correct?

14:43 18 A. It can come very close.

14:43 19 Q. It doesn't necessarily -- it doesn't exactly simulate the  
14:43 20 conditions. Would you agree with that?

14:43 21 A. In my understanding, it can't be perfect, but it was very  
14:44 22 close.

14:44 23 Q. Can or cannot?

14:44 24 A. Cannot. But it was very close.

14:44 25 Q. And you don't know what was done to ensure that the power

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1 supply would simulate the conditions of the battery that  
2 existed on the *Deepwater Horizon*; correct?

3 A. It's easy to dial in a voltage and an amperage output to  
4 test the system at the varying voltages and amperage outputs.

5 Q. Let me ask the question again, Mr. Childs. You do not  
6 know specifically what Mr. Tolleson or his team did in order to  
7 assure that the power supply would simulate the conditions of a  
8 battery; correct?

9 A. How they did it or -- they verified various voltages. We  
10 wanted to supply and test that. And they set the system at  
11 those voltages and outputs. They did not have a used battery  
12 with that length of time, as you said, to get an exact number  
13 off it and apply here.

14 We had just one set of used batteries that came off  
15 the *Nautilus*.

16 Q. You don't know what was done, though; correct?

17 A. Precisely, they dialed in the numbers. I know they did  
18 that.

19 Q. Let's look at your deposition, page 154, lines 4 to 9, and  
20 then we'll move on to a different subject. Were you asked the  
21 following question at your deposition:

22 "QUESTION: Do you know specifically what  
23 Mr. Tolleson and his team did in order to assure that the  
24 power supply would simulate the conditions of a battery?

25 "ANSWER: I don't know precisely how they dialed this

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14:45 1 in, no, sir."

14:45 2 Is that your answer?

14:45 3 A. That was my answer at the deposition, yes, ma'am.

14:45 4 Q. Okay.

14:45 5 A. I talked to him more since that time. I know a little bit  
14:45 6 more. But as far as the preciseness you want, I may not have  
14:45 7 that.

14:45 8 Q. But at the time you relied on that testing and issued your  
14:45 9 report -- an opening report, a rebuttal report, and prepared  
14:46 10 for your deposition, you did not have those details; correct?

14:46 11 A. I utilized Mr. Tolleson, the expert.

14:46 12 Q. Let's talk about the solenoid.

14:46 13 You do not consider yourself to be an expert relating  
14:46 14 to the functionality of solenoids; correct?

14:46 15 A. We have discussed that previously. Yes, an expert for  
14:46 16 solenoids for Cameron, especially even NOV solenoids; solenoids  
14:46 17 across the world in all industries, no. But for these used in  
14:46 18 control systems, yes.

14:46 19 Q. Let's look at your deposition, page 354, line 21, to -55  
14:46 20 line 2.

14:46 21 Were you asked the following question:

14:46 22 "QUESTION: And would you consider yourself to be an  
14:46 23 expert relating to the functionality of solenoid valves?

14:46 24 "ANSWER: Not an expert, but I have learned a great  
14:47 25 deal about solenoids and batteries."



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14:47 1 Was that your answer?

14:47 2 A. Again, with the same comments I've made just a few times  
14:47 3 today.

14:47 4 Q. You certainly didn't say at that time that you would  
14:47 5 consider yourself an expert with respect to Cameron solenoids,  
14:47 6 did you?

14:47 7 A. I was thinking at that time, again, as I explained later  
14:47 8 in the deposition, of an expert on all solenoids.

14:47 9 Q. Now, in order for --

14:47 10 MS. KARIS: I'm sorry. Let's go back to our little  
14:47 11 demonstrative there that shows the two pods. D-4605.

14:47 12 BY MS. KARIS:

14:47 13 Q. As we established, these are redundant pods -- if the  
14:48 14 27-volt battery did not allow the blue pod to work, then we  
14:48 15 had -- we needed the yellow pod to work to trigger the AMF;  
14:48 16 correct?

14:48 17 A. That "if," if something's wrong on one side, you still  
14:48 18 have the other pod.

14:48 19 Q. All right. So now we're going to talk about the yellow  
14:48 20 pod and the solenoid in the yellow pod.

14:48 21 It takes approximately 16 seconds -- let me strike  
14:48 22 that.

14:48 23 For the blind shear ram to close for the AMF/deadman,  
14:48 24 Solenoid 103 must be functional for at least 16 seconds;  
14:48 25 correct?

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14:48 1 A. That's the amount we've determined on tests on the  
14:48 2 *Horizon*.

14:48 3 Q. And you're aware that Solenoid 103 is constructed with two  
14:48 4 coils?

14:48 5 A. Yes.

14:48 6 Q. There's no dispute in this case, even you agree, that that  
14:48 7 solenoid was miswired and those coils were reversed?

14:48 8 A. Two wires were reversed.

14:48 9 Q. Okay. And you don't dispute or refute that Solenoid 103Y  
14:49 10 had a miswired solenoid that didn't follow Transocean's policy?

14:49 11 A. I don't dispute it. It was miswired. We've all  
14:49 12 established that, yes.

14:49 13 MS. KARIS: And if we can pull up D-4572-A.

14:49 14 BY MS. KARIS:

14:49 15 Q. And again, nobody else agrees with you that the yellow pod  
14:49 16 miswired solenoid would have allowed the AMF/deadman to  
14:49 17 function; correct?

14:49 18 A. Correct. And none of these did the extra testing that  
14:49 19 showed a miswired solenoid can still fire in the AMF system.

14:49 20 Q. We're going to talk about your tests.

14:49 21 You agree with me that this is an accurate summary of  
14:49 22 all the other opinions in this case. Mr. Davis on behalf of  
14:49 23 the United States; again, Mr. Zatarain; Mr. Stevick on behalf  
14:49 24 of Halliburton; and Mr. Coronado, Cameron's engineer. All of  
14:49 25 them say the same thing, a miswired solenoid cannot work;

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14:50 1 correct?

14:50 2 A. And if all they're looking at is this 24-volt supplied to  
14:50 3 it, they're accurate. Without the other --

14:50 4 Q. I'm sorry--

14:50 5 A. Without the other testing, they wouldn't have the answer  
14:50 6 that I have.

14:50 7 Q. Now, Mr. Coronado -- leave the experts aside for a  
14:50 8 second -- he works in the software group for drilling systems  
14:50 9 and controls. That's the group at Cameron that works on  
14:50 10 control systems; correct?

14:50 11 A. Yes, I believe so.

14:50 12 Q. And you would certainly expect Cameron to understand how  
14:50 13 its control systems -- specifically how its solenoids work?

14:50 14 A. I would expect that.

14:50 15 Q. And Mr. Coronado was asked:

14:50 16 "QUESTION: Is it your understanding that, if a  
14:50 17 dual-coil solenoid is miswired, that it will not function?

14:50 18 "ANSWER: Yes. If one of them is -- is miswired, I  
14:51 19 should say.

14:51 20 "QUESTION: Correct? I'm sorry. Because they're  
14:51 21 canceling each other out?

14:51 22 "ANSWER: Right."

14:51 23 A. And that would be correct in a bench test with a constant  
14:51 24 24-volt supply rather than the actual AMF cycling.

14:51 25 Q. But at least Mr. Coronado on behalf of Cameron says that,

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14:51 1 if you miswire your solenoid, you're going to cancel -- those  
14:51 2 coils are going to cancel each other out, not allowing it to  
14:51 3 work?

14:51 4 A. Which is very correct when you have constant 24-volt  
14:51 5 supply on a bench test, not a SEM test.

14:51 6 Q. Now, you spoke of some testing that was performed. And  
14:51 7 before we get to that testing, is it correct to say --

14:51 8 MS. KARIS: Well, let's pull up TREX-1454.303.2.

14:51 9 BY MS. KARIS:

14:51 10 Q. This was the policy -- do you recognize this as the *Well*  
14:52 11 *Control Handbook* of Transocean policy that it had in place that  
14:52 12 pertained to BOP equipment, which would have included, of  
14:52 13 course, the solenoids?

14:52 14 A. It appears to be that, yes.

14:52 15 Q. Okay. And you're also aware that Transocean had a policy  
14:52 16 in place for after conducting any refurbishment or testing --  
14:52 17 strike that.

14:52 18 -- any refurbishment of solenoids, that you should  
14:52 19 conduct testing on it to confirm that you've done it  
14:52 20 accurately?

14:52 21 A. Yes. There's a test document for that.

14:52 22 Q. All right. And you agree with me that it was not possible  
14:52 23 for somebody to have properly conducted that test and not  
14:52 24 identify that this solenoid was miswired?

14:52 25 A. Either the test was done improperly or -- we don't know

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14:53 1 what happened. A miswired solenoid did, obviously did get into  
14:53 2 the assembly and get fully tested and then still pass all of  
14:53 3 the tests.

14:53 4 Q. Well, let's just be clear and make sure we're saying the  
14:53 5 same thing. You agree with me that, if somebody at Transocean  
14:53 6 had conducted the proper test, they would have identified that  
14:53 7 this solenoid on the yellow pod was miswired?

14:53 8 A. First, we're not absolutely positive who rebuilt the  
14:53 9 solenoid. Regardless of who rebuilt it, somehow it did not get  
14:53 10 the proper test or the testing equipment was -- whatever. It  
14:53 11 got through there still miswired. It went into stock as a  
14:53 12 fully tested solenoid and then was utilized and went to the  
14:53 13 pod.

14:53 14 Q. I'm not sure of that answer. I'll try it a third time,  
14:53 15 and then I'll move on.

14:53 16 If somebody at Transocean had followed Transocean's  
14:53 17 policy for testing refurbished solenoids, they would have  
14:53 18 discovered that this solenoid in the yellow pod was miswired;  
14:54 19 correct?

14:54 20 A. I thought I had said that. First, we don't know if it's,  
14:54 21 for sure, it was -- it was D&D or Transocean. If it was  
14:54 22 Transocean and they rebuilt it and it got out, the testing was  
14:54 23 somehow flawed, not done correctly or missed. I don't know.  
14:54 24 We do not know that.

14:54 25 Q. All right. We may not know whether it was -- who rewired

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14:54 1 it, but we know that Transocean here, as we're looking at  
14:54 2 1454.303.2,, has a policy in place about testing requirements.

14:54 3 And it says, "All components of the BOP, annulars,  
14:54 4 wellhead components and their connections must be function- and  
14:54 5 pressure-tested"; correct?

14:54 6 A. Yes.

14:54 7 Q. And then it says, "All control systems and backup control  
14:54 8 systems such as EDS, autoshear, deadman, EH, ROV stabs and  
14:55 9 valves, and acoustic pods must be function-tested on surface";  
14:55 10 correct?

14:55 11 A. I see that.

14:55 12 Q. Right. And so this solenoid, after it was refurbished in  
14:55 13 February of 2012, if Transocean applied this policy of testing  
14:55 14 its control systems before it splashes that pod with that  
14:55 15 solenoid, it would have identified that issue, regardless of  
14:55 16 who did the refurbishment; correct?

14:55 17 A. The pod was completely tested after this solenoid was  
14:55 18 installed. Obviously, we know the miswired solenoid continued  
14:55 19 in service. It showed no faults. It was completely tested and  
14:55 20 approved and went into service.

14:55 21 Q. Okay. You say it was completely tested.

14:55 22 MS. KARIS: Let's pull up TREN-5101.1.1.

14:55 23 BY MS. KARIS:

14:55 24 Q. You were a part of this investigation team, correct, *the*  
14:55 25 *Deepwater Horizon* investigation?

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14:56 1 MS. KARIS: If we can pull the investigation. Pull  
14:56 2 it up at the top here. There you go. Thank you.

14:56 3 BY MS. KARIS:

14:56 4 Q. You just told us it was fully tested. This is a document  
14:56 5 from *Deepwater Horizon* investigation into this incident.

14:56 6 What's the question that's being asked there?

14:56 7 A. "What testing of the AMF was completed on board the *DWH*?"

14:56 8 Q. And that would be the *Deepwater Horizon*; correct?

14:56 9 A. Yes.

14:56 10 Q. And you see "Area of Investigation"?

14:56 11 A. Yes.

14:56 12 Q. "Has the AMF ever been tested? What are Transocean's  
14:56 13 requirements?"

14:56 14 And what does it say in quotes?

14:56 15 A. It's the same thing you mentioned earlier from Mr. Mark  
14:56 16 Hay, where he -- his memory is "not in 8 years."

14:56 17 Q. Right.

14:56 18 A. I think that was from on the rig. Because in the same  
14:56 19 period of time in this 8 years, the SEMs and pods were going  
14:56 20 into Cameron and getting repaired and getting batteries  
14:57 21 changed. So as far as him replacing them, I think that's all  
14:57 22 he ever saw.

14:57 23 Q. Are you aware of the SEM going into Cameron after  
14:57 24 Transocean or somebody at Transocean's request rewired the  
14:57 25 solenoid in the yellow pod?

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14:57 1 A. I couldn't have put those two exact things together. The  
14:57 2 SEM is going in, the pod is going in, the refurbishment occurs,  
14:57 3 batteries get replaced.

14:57 4 All I'm saying is he's saying 8 years. That's  
14:57 5 probably very true. He didn't see it in 8 years because it was  
14:57 6 done at Cameron.

14:57 7 Q. You're not suggesting that Cameron did any testing on this  
14:57 8 solenoid or this SEM in connection with the solenoid after it  
14:57 9 was miswired, are you?

14:57 10 A. This particular one?

14:57 11 Q. Yes, the one that's miswired.

14:57 12 A. No, I didn't say that. I'm sorry. If you heard that, I  
14:57 13 did not say that.

14:57 14 Q. Okay. Now, is it correct, Mr. Childs, that as somebody  
14:57 15 with experience in this industry, if you had discovered a  
14:57 16 reverse-wired solenoid valve, that you would not leave it and  
14:58 17 put it back into its original design even after you've  
14:58 18 conducted all this testing that you've told us about?

14:58 19 A. If I located any device improperly assembled, I would  
14:58 20 always go back to what the OEM, the designer, would have meant  
14:58 21 for it to be.

14:58 22 Q. All right. Now, you conducted testing which you contend  
14:58 23 showed you that this solenoid, even though miswired, could, in  
14:58 24 fact, function; correct?

14:58 25 A. In a true AMF system, yes.



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14:58 1 Q. And I just want to be clear that with whatever faith and  
14:58 2 confidence you have in that testing, today, if a customer came  
14:58 3 to you and said, "We have a miswired solenoid. Should we put  
14:58 4 it back into use?" you would recommend against that?

14:58 5 A. I surely would. Yes, I would want it wired the way the  
14:58 6 designer said --

14:58 7 Q. You wouldn't rely on your testing to say, "I've tested  
14:59 8 this, and it's okay"?

14:59 9 A. In what way are you talking about the testing?

14:59 10 Q. Whatever testing you've conducted here on this miswired  
14:59 11 solenoid, you wouldn't rely on that testing to say, "I've  
14:59 12 tested a miswired solenoid, and I think it's okay to put it  
14:59 13 back into use"?

14:59 14 A. For instance, when Mr. Tolleson was on the rig and he  
14:59 15 miswired that solenoid and it worked 15 times, no, we put it  
14:59 16 back to the original wired condition.

14:59 17 Q. To move through this, Cameron did, in fact, conduct  
14:59 18 testing on a miswired solenoid; correct?

14:59 19 A. I don't know of that. I've heard.

14:59 20 Q. You've heard. Okay.

14:59 21 Are you aware that when the actual pod was retrieved,  
15:00 22 the one from the *Deepwater Horizon*, in May of 2010, that  
15:00 23 15 days after that, Cameron performed various function tests on  
15:00 24 the yellow control pod, the very pod that we're talking about?

15:00 25 A. Yes, ma'am.

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15:00 1 Q. And Cameron was performing those tests as part -- as part  
15:00 2 of the response efforts; correct?

15:00 3 A. This was after the fact?

15:00 4 Q. Yes.

15:00 5 A. Yes.

15:00 6 Q. And what they were testing is the actual solenoid that was  
15:00 7 recovered from the *Deepwater Horizon*?

15:00 8 A. Well, they were checking out the entire pod, but this was  
15:00 9 part of it.

15:00 10 Q. All right. And you know who Mr. William LeNormand is. We  
15:00 11 saw his testimony earlier. He was Cameron's field service  
15:00 12 technician; correct?

15:00 13 A. Yes.

15:00 14 Q. He was present and he assisted in performing testing on  
15:00 15 the *Q4000* on the *Deepwater Horizon's* yellow pod; correct?

15:00 16 A. Yes.

15:00 17 Q. And let's look at his testimony about that testing.

15:00 18 MS. KARIS: If we can go to 206.176.1, page 176,  
15:01 19 line 6 to 177, line 3.

15:01 20 BY MS. KARIS:

15:01 21 Q. (Reading):

15:01 22 "QUESTION: Okay. But the Solenoid 103 was tested?

15:01 23 "ANSWER: Yes, sir.

15:01 24 "QUESTION: And it failed?

15:01 25 "ANSWER: At the time, it did not work."

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15:01 1 Correct?

15:01 2 A. I see that.

15:01 3 Q. Next question:

15:01 4 "QUESTION: Okay. I call that failing. Do you want  
15:01 5 to use a different word? If it doesn't work, it fails,  
15:01 6 doesn't it?

15:01 7 "ANSWER: At the time the solenoid -- at the time,  
15:01 8 the solenoid valve didn't fire.

15:01 9 "QUESTION: Well, if it didn't fire, then it doesn't  
15:01 10 work. The function it's intended to 25 work; correct --  
15:02 11 to work?"

15:02 12 Sorry, not 25.

15:02 13 And he answers:

15:02 14 "ANSWER: I believe you're right."

15:02 15 Correct?

15:02 16 A. I believe you finally got that read correctly, yes.

15:02 17 Q. When Cameron tested the yellow solenoid from the  
15:02 18 *Deepwater Horizon*, their conclusion was: It failed?

15:02 19 A. This is where they located the bad solenoid.

15:02 20 Q. Okay.

15:02 21 A. The miswire -- I'm just -- make sure we keep it the same,  
15:02 22 the miswired solenoid.

15:02 23 Q. The miswired solenoid.

15:02 24 MS. KARIS: If we can look at 3602.3.1.  
25

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15:02 1 BY MS. KARIS:

15:02 2 Q. This is the -- Cameron, May 5th, 2010, this is the report  
15:02 3 from that test; is that correct?

15:02 4 A. Yes, I see the date.

15:02 5 Q. Okay. And not to belabor this point, but in here it says  
15:02 6 there were no indications of the valve firing, 3602.3.2. Do  
15:03 7 you see that?

15:03 8 A. Yes. And they used the electromagnetic pin to see if  
15:03 9 there was any power going through it, which is a very crude  
15:03 10 test.

15:03 11 Q. You would agree with me that you have no reason to  
15:03 12 disagree with the results in Cameron's testing on the very  
15:03 13 solenoid in question in this case?

15:03 14 A. I do agree they found a miswired solenoid, it was removed  
15:03 15 and was sent into evidence so it could be evaluated later.

15:03 16 Q. And what Mr. LeNormand said is not only that it was  
15:03 17 removed, found to be miswired, but that it did not function;  
15:03 18 correct?

15:03 19 A. I think we did read that, yes.

15:03 20 Q. Now, you spoke briefly about some testing that Cameron did  
15:04 21 that was offered by Brandy Jones, you said was doing some  
15:04 22 testing on unrelated testing for a different customer; correct?

15:04 23 A. Yes. On a field performance report.

15:04 24 Q. All right. And we don't need to walk through that testing  
15:04 25 again. But just to be clear, when Cameron conducted that

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15:04 1 testing, it conducted that testing to simulate field conditions  
15:04 2 and the effects of a solenoid with reverse polarity; correct?

15:04 3 A. The whole story, of course, they're finding -- five months  
15:04 4 later still finding miswired solenoids from somewhere and  
15:04 5 checking out the root cause and the mitigation for this issue.

15:04 6 Q. All right.

15:04 7 MS. KARIS: And let's look at 5165.2.1.

15:04 8 BY MS. KARIS:

15:04 9 Q. This is the conclusion from what they're finding. This is  
15:04 10 Cameron's document, dated May 15th of 2010.

15:04 11 "It is evident that reverse polarity between Coil A  
15:04 12 and Coil B in a 223290-63 solenoid valve will not allow it to  
15:05 13 properly function with both coils energized. Reversing the  
15:05 14 polarity creates opposing magnetic fields with a canceling  
15:05 15 effect."

15:05 16 That was Cameron's finding in September of 2010;  
15:05 17 correct?

15:05 18 A. That's the beginning of their finding. If you go further  
15:05 19 down, you see that they understand now that they didn't see  
15:05 20 this because they were fed a constant 24-volts, which is what I  
15:05 21 was describing earlier. When you have a miswired solenoid with  
15:05 22 a constant 24-volt supply, I do agree, it would cancel.

15:05 23 Q. And so what they said is it has a canceling effect and  
15:05 24 will not properly function; correct?

15:05 25 A. In an AMF situation, using the AMF software, which is the

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1 way we test it to make sure it was real-life, it can and does  
2 operate.

3 Q. And all the other experts in this case looked at your  
4 testimony, whatever information you produced from it, and  
5 concluded exactly the opposite: It cannot and does not  
6 operate; correct?

7 A. Well, I'm not sure how they could look at the testing and  
8 say it did not operate, because it did operate.

9 Q. Whether it would operate in the environment it was in on  
10 the evening of April 20th, their conclusion was it would not  
11 function; correct?

12 A. That might have been what they saw -- but, now, they would  
13 have seen that out of the testing because the testing clearly  
14 showed that, whether it's wired correctly or wired incorrectly,  
15 we got the same results: It fired.

16 Q. We're going to let Mr. Zatarain and Mr. Stevick, or  
17 anybody else that wants to talk about what their conclusion was  
18 based on, talk about it at the time.

19 A. Yes.

20 Q. But you can agree that they didn't agree with your  
21 conclusion; is that correct?

22 A. We saw that. You had it on the screen.

23 Q. Let's move to a different subject. Enough about batteries  
24 and solenoids.

25 Now, you determined what the failure mode here was;

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15:07 1 in other words, how the blind shear rams -- how and when the  
15:07 2 blind shear rams activated. And you concluded it was with the  
15:07 3 activation of the AMF/deadman on the evening of April 20th,  
15:07 4 just to set the stage here.

15:07 5 A. Yes.

15:07 6 Q. And to reach your conclusion, you determined or relied  
15:07 7 again on Stress Engineering, this time, to determine what the  
15:07 8 forces would have been that would have been experienced that  
15:07 9 night to cause the pipe to go off-center and then to not allow  
15:07 10 the ram to close; correct?

15:07 11 A. Yes, we used Stress Engineering.

15:07 12 Q. All right. And Stress Engineering is the one that  
15:07 13 calculated what they believed the flow rates to have been at  
15:08 14 the time that you relied on; correct?

15:08 15 A. They did a full analysis, theoretical, then backed it up  
15:08 16 with the actuals that we did have from the well.

15:08 17 Q. So you relied on Stress for the flow rates, and you also  
15:08 18 relied on Stress for the effects that those rates would have  
15:08 19 had to lift the pipe; correct?

15:08 20 A. Yes. Mr. Dave Garrett -- or excuse me, Dr. Dave Garrett  
15:08 21 at Stress is --

15:08 22 Q. And you also -- I'm sorry. Go ahead.

15:08 23 A. He's renowned for his knowledge of flow around tubes, and  
15:08 24 he teaches flow around tubes.

15:08 25 Q. That's not an expertise that you had; correct?

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15:08 1 A. No, that's why we contracted with Stress. He knows, you  
15:08 2 know, well control. We know well issues. They've been on well  
15:08 3 control situations, and he knows flow around tubes.

15:08 4 Q. Now, you told this Court yesterday about helical buckling;  
15:08 5 do you recall that?

15:08 6 A. Yes.

15:08 7 Q. Prior to April 20th, you had never seen or even discussed  
15:09 8 helical buckling behavior in a drill pipe as a result of flow  
15:09 9 from the loss of well control; is that correct?

15:09 10 A. With all those parameters, probably correct. I've seen  
15:09 11 helical buckling not exactly from this flow. But that is a  
15:09 12 normal operation or normal effect of fluids in flow in a bore  
15:09 13 of the BOP.

15:09 14 Q. You say "with all those parameters." Let's make sure we  
15:09 15 get the parameters straight.

15:09 16 You talked about helical buckling in a drill pipe;  
15:09 17 correct?

15:09 18 A. With drill pipe.

15:09 19 Q. And that helical buckling, in your opinion, resulted from  
15:09 20 a flow from loss of well control; correct?

15:09 21 A. The extreme flow rate created the lift on the pipe, which  
15:09 22 then started lifting its own weight and then helically buckling  
15:09 23 the drill pipe, yes.

15:09 24 Q. And prior to your work on this case, you had never seen or  
15:09 25 even discussed a situation where helical buckling occurred on a



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15:09 1 drill pipe in circumstances such as we're talking about here,  
15:10 2 high-flow environment, loss of well control?

15:10 3 A. Not myself. That's, again, why we would contract Stress  
15:10 4 Engineering and Dr. David Garrett.

15:10 5 Q. Now, you provided no input as to how Stress Engineering  
15:10 6 should perform any calculations or modeling they were doing in  
15:10 7 connection with the work for force analysis; correct?

15:10 8 A. No, they are the experts.

15:10 9 Q. Okay. And you, yourself, performed no calculations to  
15:10 10 check or cross-check their calculations; correct?

15:10 11 A. No. I just met with Dr. Garrett and discussed the work  
15:10 12 that he was doing.

15:10 13 Q. You didn't ask anyone at WEST Engineering, any of your  
15:10 14 colleagues, to check or redo their calculations; correct?

15:10 15 A. No. Again, we had the experts.

15:10 16 Q. Okay. Now, you say you had the experts. You know who  
15:10 17 Mr. Davis is; correct?

15:10 18 A. Yes.

15:10 19 Q. And were you aware that Mr. Davis, amongst others,  
15:10 20 disagreed with the calculations that Stress Engineering did  
15:11 21 that predicted what kind of stress or frictional force would  
15:11 22 exist on that drill pipe at the time of this incident?

15:11 23 A. I read his report.

15:11 24 Q. Okay. And you were aware that Mr. Davis concluded that  
15:11 25 Stress Engineering's calculations made some fundamental errors

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15:11 1 when trying to figure out what the forces would be on the pipe.

15:11 2 You're aware of that?

15:11 3 A. Right. And I discussed this with Dr. Garrett, of course,  
15:11 4 at length. And what we see in reverse is that there's other  
15:11 5 fundamental errors that Mr. Davis made.

15:11 6 Q. Let's take it one at a time.

15:11 7 You were aware Mr. Davis was critical of Stress  
15:11 8 Engineering's calculations; correct?

15:11 9 A. He got a different answer.

15:11 10 Q. And after he was critical of Stress Engineering's  
15:11 11 calculations, did you go to any outside party, any neutral  
15:11 12 arbitrator, if you will, to say, "He disagrees with Stress,  
15:12 13 let's see if Stress got it right," or did you go back to  
15:12 14 Stress?

15:12 15 A. I went back to the world-renowned experts, and he  
15:12 16 explained what the difference was.

15:12 17 Q. All right. But you, yourself, did not have the ability to  
15:12 18 run any calculations or modeling to assess whether what  
15:12 19 Mr. Davis was saying was accurate; you relied on Stress for  
15:12 20 that?

15:12 21 A. I did talk with others, but I talked mainly with  
15:12 22 Dr. Garrett, of course, yes.

15:12 23 Q. I'm sorry. I was asking whether you were able to do those  
15:12 24 calculations yourself?

15:12 25 A. No, I'm not.

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15:12 1 Q. Okay. You're also aware that Mr. Shanks, whose opinion  
15:12 2 you disagreed with yesterday, he does not agree with the  
15:12 3 calculations that Stress Engineering did; correct?

15:12 4 A. I believe that's in his report.

15:12 5 Q. Okay. And, in fact, what Mr. Shanks says in his report is  
15:13 6 that your theory, the "force from below" theory, doesn't  
15:13 7 generate enough force from below to cause the phenomenon that  
15:13 8 you claim exists; is that correct?

15:13 9 A. I believe I remember it that way. Of course, we know  
15:13 10 there is enough force.

15:13 11 Q. Based on Stress Engineering's work?

15:13 12 A. Yes.

15:13 13 MS. KARIS: Okay. If we can pull up 7696.132.2,  
15:13 14 please.

15:13 15 BY MS. KARIS:

15:13 16 Q. This is a table that is found in Stress Engineering's  
15:13 17 calculations that speak to this issue of flow that you relied  
15:13 18 on; correct?

15:13 19 A. Yes. This is surface flow rates.

15:14 20 Q. Okay. And Stress Engineering calculated what they  
15:14 21 perceived to be the frictional pressure drops based on these  
15:14 22 calculated flow rates; is that right?

15:14 23 A. Partially from this.

15:14 24 Q. Okay. And they started their calculation at 2130, which  
15:14 25 would have been 9:30?

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15:14 1 A. Yes.

15:14 2 Q. All right. And they ran that calculation out to 2146.

15:14 3 That would be before the VBRs were activated; correct?

15:14 4 A. Correct. Maybe the same time the button was pushed.

15:14 5 Q. Perhaps around the same time the button was pushed?

15:14 6 A. Correct.

15:14 7 Q. Now, let's look at some of these calculations.

15:14 8 What Stress Engineering concludes is that, at 9:30,  
15:14 9 what we have is less than 35 surface liquid flow rate -- I'm  
15:14 10 sorry, less than 35-barrels per minute for surface liquid flow  
15:14 11 rate; correct?

15:15 12 A. Yes.

15:15 13 Q. And then he says the hydrocarbon -- or they say the  
15:15 14 hydrocarbon volume above the work string is 0 barrels; correct?

15:15 15 A. At that point in time, yes.

15:15 16 Q. What does that mean, "hydrocarbon volume above work  
15:15 17 string"?

15:15 18 A. At this point in time, we haven't gotten all the gas  
15:15 19 above; the gas is below, but not necessarily above the work  
15:15 20 string.

15:15 21 Q. Is he concluding that the gas has not yet gotten into --  
15:15 22 and the work string is the drill pipe for him; correct?

15:15 23 A. The very bottom of the work string is the bottom of the  
15:15 24 pipe.

15:15 25 Q. All right. So is he concluding that at 9:30, you don't

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15:15 1 have any gas in the drill pipe?

15:15 2 A. No, above the work string.

15:15 3 Q. Okay. So --

15:15 4 THE COURT: So wait a minute. What does that mean,  
15:15 5 "above the work string"? Where would that be?

15:15 6 THE WITNESS: This is way down --

15:15 7 THE COURT: The riser or down in the well?

15:15 8 THE WITNESS: No, not the riser; way down in the  
15:15 9 well, below the BOP stack at this point in time.

15:15 10 THE COURT: What's meant by "surface liquid flow  
15:15 11 rate"?

15:15 12 THE WITNESS: Well, this entire analysis is looking  
15:16 13 at what is coming out at the very top surface at the --

15:16 14 THE COURT: "Surface" meaning --

15:16 15 THE WITNESS: -- at the rig.

15:16 16 THE COURT: -- up on the rig?

15:16 17 THE WITNESS: At the rig. I have to make that  
15:16 18 distinction so we know that, as we go through the calculations,  
15:16 19 these are all at the surface.

15:16 20 THE COURT: All right.

15:16 21 BY MS. KARIS:

15:16 22 Q. I apologize if I didn't understand. When you talked about  
15:16 23 the hydrocarbon volume not being above the work string, at  
15:16 24 what -- where is it? So the bottom of the drill pipe is at  
15:16 25 8367. The wellhead is at 5,000, roughly?

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15:16 1 A. Yes.

15:16 2 Q. What does that column refer to?

15:16 3 A. That the hydrocarbons are basically still below the work  
15:16 4 string until after 2140. Now, I honestly didn't study these  
15:16 5 times as much as I did study the times, of course, at 2142, -3,  
15:16 6 -4.

15:16 7 Q. I just want to focus on the column itself.

15:16 8 A. Okay.

15:16 9 Q. The column means, as I understand you to say, that at  
15:16 10 2130, according to Stress Engineering, the hydrocarbons are not  
15:16 11 even in the drill pipe; is that correct?

15:17 12 A. Yes. I didn't study it that way. It looks to me like the  
15:17 13 hydrocarbon volume above the work string is 0 barrels, so it  
15:17 14 gets above the -- into the work string at 2140 time frame.

15:17 15 Q. All right. And when it gets to 2140 and we have  
15:17 16 42 barrels and it's above the work string, where is that,  
15:17 17 though? How high in the well is that now, these 42 barrels of  
15:17 18 hydrocarbons? Since you relied on this to reach your  
15:17 19 conclusion as to what the forces were on the drill pipe to  
15:17 20 cause the drill pipe to go off-center, as you've described?

15:17 21 A. So you're saying at 2140, 42 barrels, you're saying are  
15:17 22 above the end of the work string that's going up toward the BOP  
15:17 23 stack?

15:17 24 Q. So at 2142, what we have is 42 barrels in the drill string  
15:18 25 going up?

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15:18 1 A. No, above the work string, above the end of the work  
15:18 2 string.

15:18 3 Q. Okay.

15:18 4 MS. KARIS: If you can pull up --

15:18 5 THE COURT: The "work string" meaning the bottom of  
15:18 6 the drill pipe, is that what you --

15:18 7 THE WITNESS: The very bottom of the drill pipe,  
15:18 8 that's the way I interpret that, yes.

15:18 9 BY MS. KARIS:

15:18 10 Q. And is that how you understood it when you say the way you  
15:18 11 interpreted it? When you relied on this data, is that how you  
15:18 12 understood it?

15:18 13 A. Again, this table and I have spent a lot of time together,  
15:18 14 but I'm looking at BOP times when the BOPs were closed,  
15:18 15 annulars closed. So I'm looking at 42, -3, and -4, in that  
15:18 16 area. I never really studied the part prior to that. Because  
15:18 17 as we started our conversation earlier today, I didn't study  
15:18 18 the time prior to BOP activation.

15:18 19 Q. What about at 2142 or 2143, did you study that time?

15:18 20 A. Yes. 2143, we see the 92 barrels per minute surface flow  
15:19 21 rate. There's some hydrocarbons, of course, as we see, above  
15:19 22 the BOP and into the riser. This relates very well to  
15:19 23 Mr. Garrett's Scenario No. 3 that there's 106 barrels per  
15:19 24 minute. So that rate at the surface and the rate at the BOP  
15:19 25 stack are very similar.

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15:19 1 Q. So at 2142, just so I'm clear, when you claim there were  
15:19 2 enough forces to cause this helical buckling, which you had  
15:19 3 never seen before in a well control situation, there were  
15:19 4 138 barrels of hydrocarbons above the bottom of the drill pipe;  
15:19 5 is that correct?

15:19 6 A. That's what this says. And again, my concentration is on  
15:19 7 the flow, trying to understand. Because the flow is what  
15:19 8 lifted the drill pipe and did the helical buckling on the drill  
15:19 9 pipe.

15:19 10 Q. How are the hydrocarbon volumes above the work string  
15:19 11 related to the surface liquid flow rate?

15:20 12 A. We have continuing influx, the surface flow rate is going  
15:20 13 to start exponentially increasing because of the amount of  
15:20 14 hydrocarbons and gas above it as the gas keeps expanding.

15:20 15 So this -- let's go to the very bottom number, the  
15:20 16 1,750 barrels per minute at the surface. That's a very high  
15:20 17 flow rate, but that's at the very surface from expansion of the  
15:20 18 gas at the surface.

15:20 19 Q. We're going to get to the bottom one, I promise. But I  
15:20 20 just want to understand whether -- or how you understand this  
15:20 21 table to equate hydrocarbon volume above the work string to  
15:20 22 surface liquid flow rates, since that's what you've told us you  
15:20 23 relied on.

15:20 24 A. Again, my concentration was always on the flow rates,  
15:20 25 trying to -- and seeing that these flow rates match up with the



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15:20 1 scenarios used by Dr. Garrett.

15:21 2 Q. All right. So if I understand you correctly, even though  
15:21 3 you say you relied on their work, you really concentrated only  
15:21 4 on the one column and didn't fully understand what the rest of  
15:21 5 these columns represent?

15:21 6 A. It wasn't necessary to understand that column completely  
15:21 7 to understand the flow rate and the lift on the drill pipe.

15:21 8 Q. Okay. Now, did you ever undertake, especially after you  
15:21 9 heard Mr. Davis and Mr. Shanks disagree with this table and  
15:21 10 those flow rates, did you ever undertake to determine what  
15:21 11 these rates, these flow rates that you calculated, equate to in  
15:21 12 terms of a barrel-per-day equivalent rate?

15:21 13 A. I did a few of them, yes.

15:21 14 MS. KARIS: All right. If we can pull up D-4538.

15:21 15 I'm sorry. D-4538.

15:21 16 BY MS. KARIS:

15:21 17 Q. What we have done here is we have taken that table that we  
15:22 18 just looked at, the times on it, and then looked at the surface  
15:22 19 liquid flow rate barrels per minute and multiplied that out to  
15:22 20 show -- if those numbers are accurate, the ones that Mr. Davis  
15:22 21 and Mr. Shanks say are extraordinarily high -- what they would  
15:22 22 amount to in terms of on a minute-by-minute barrel-per-day flow  
15:22 23 rate.

15:22 24 Are you with me?

15:22 25 A. Yes. Make sure we all keep in track -- in mind that that

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1 is surface flow rate, not the surface of the flow rate at the  
2 BOP stack, which was ultimately used for the lift on the pipe.  
3 We used the 60,000 barrels per day.

4 Q. And when you're talking surface flow rate, where is that  
5 rate coming up?

6 A. Surfaces at the rig.

7 Q. At the rig floor?

8 A. These flow rates, as you see, the 2,520,000 barrels per  
9 day, the flow rate, that's at the rig, not at the BOP.

10 Q. All right. At the rig floor --

11 A. Yes.

12 Q. -- what you have at 2146, before the VBRs are activated,  
13 you have 1 1/2 million barrels per day coming up on the rig  
14 floor for that minute, at a rate equivalent?

15 A. A very quick expansion of the gas. This flow rate we're  
16 seeing here, Judge, would go up very fast and come down almost  
17 as fast, and level out to the flow rate we're all used to.  
18 We've all worked with the 53,000, 54,000 barrels a minute to  
19 60,000, maybe 70,000. This would go up exponentially -- excuse  
20 me, everybody.

21 As the flow rate is increasing by the gas expanding  
22 out the top, it would get very high for a very short period of  
23 time and come right back down and settle out.

24 But we're taking this only to 2146 1/2.

25 Q. And 30 seconds later, according to these calculations

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15:24 1 which the other experts say are extraordinarily high and  
15:24 2 fundamentally flawed, is what Mr. Davis said here, 30 seconds  
15:24 3 later you have an extra million barrels-per-day rate coming  
15:24 4 out?

15:24 5 A. Again, if I'm not -- if I'm remembering right, they say  
15:24 6 the flow rate is incorrect for at the BOP stack. Again, that's  
15:24 7 why I keep stressing this is surface.

15:24 8 At the BOP stack, the 2143, that's a very accurate  
15:24 9 statement for the BOP stack or surface, because there's not a  
15:24 10 lot of gas expanding out the top.

15:24 11 In fact, our scenario for -- at annular closure -- is  
15:24 12 an equivalent 106-barrels per minute, so it's very equivalent.

15:24 13 But after that, Mr. Garrett and his team did not use  
15:24 14 these flow rates. They used the actual 60,000 barrels per  
15:25 15 day -- per minute, excuse me -- per day.

15:25 16 Q. After 2146, Mr. Garrett, after he got to the 2 1/2 million  
15:25 17 barrel-per-day flow equivalent rate for the surface, he no  
15:25 18 longer used this; correct?

15:25 19 A. No, that's not what I said.

15:25 20 Q. Well, did he calculate it out after 2146?

15:25 21 A. If you -- let me try to walk through it again.

15:25 22 2143, 92 barrels per minute --

15:25 23 Q. Yep.

15:25 24 A. -- that's at the time of annular closure.

15:25 25 Further in his document, in his paper, we have what

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1 he calls Scenario 1, which is at annular closure. The  
2 equivalent rate there, when you calculate it, is 106, very  
3 close.

4 So all I'm saying is, right there, at that point in  
5 time, there's not enough gas above the stack to have massive  
6 expansion.

7 As we continue, more gas gets above, more  
8 hydrocarbons get above, a great deal more expansion. So we get  
9 these phenomenal flow rates that last for a very, very short  
10 time and come right back down.

11 So at the time of VBR closure, he's using the  
12 60,000 barrels, which is very close to the numbers that a lot  
13 of people have used for 54,000 to 70,000.

14 So he does not use these flow rates. These are  
15 surface flow rates.

16 Q. And at the time of the VBRs, just to be clear, does he  
17 then use Mr. Emilsen's calculation, Morten Emilsen's, using his  
18 old modeling?

19 A. He goes to the Bly report and uses that information to  
20 come up with these flows.

21 Q. All right. But you understand that the surface flow  
22 rates, at least according to Stress Engineering, are related to  
23 the flow rate at the BOP stack?

24 A. I want to make sure everybody understands that -- I know  
25 these are very high numbers, but that's not the number --

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1 2 million is not what he used to calculate the flow to lift the  
2 pipe.

3 Q. Would you agree with me that these numbers at the surface  
4 are related to the flow rates at the BOP stack?

5 A. Related to -- somewhat. The main reason for these flows  
6 is the expansion of the gas.

7 Q. And Mr. Davis, to be clear --

8 MS. KARIS: Let's pull up TREG-7661.4.7.

9 BY MS. KARIS:

10 Q. This is from Mr. Davis' report. You've seen this  
11 previously; correct?

12 A. Yes, I have.

13 Q. It says: "We have identified an error in the flow and  
14 associated flow force calculations by Stress Engineering  
15 Services relied upon by Mr. Childs, that hugely over-predicts  
16 flow velocities and forces below the BOP"; correct?

17 A. That's what he wrote.

18 Q. And then he says: "SES," which would be Stress  
19 Engineering Services, "gives a hydrocarbon gas-only expansion  
20 analysis to predict flow rate for fluids being pushed out at  
21 the rig by the hydrocarbon gas expansion and reports" -- I'm  
22 sorry -- "and reports volumetric flow rates at the rig in the  
23 several 100s of feet per second near explosion time."

24 Is that correct?

25 A. I believe you read that correctly.

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15:28 1 Q. So when you say Mr. Davis was speaking only to the rates  
15:28 2 at the BOP, he's actually also being critical of the rates at  
15:28 3 the rig on the floor, which is the rates we were looking at;  
15:28 4 correct?

15:28 5 A. Well, the rates I need to understand and use are the rates  
15:28 6 at the BOP stack for the lift of the drill pipe.

15:28 7 Q. Okay. Just to be clear, Mr. Davis and Mr. Shanks aren't  
15:29 8 only critical of the rates at the BOP stack, they're also  
15:29 9 critical of the rates at the surface. And you were aware of  
15:29 10 that when you issued your report; correct?

15:29 11 A. And I did go back and speak to Dr. Garrett numerous times  
15:29 12 and discuss this and understand that the flows at the stack are  
15:29 13 very realistic, they are flows that others have used. Again,  
15:29 14 the 54,000, the 70,000. He used the 60,000, right in the same  
15:29 15 range. And those are sufficient to do the lifting and helical  
15:29 16 buckling that we're talking about.

15:29 17 Q. Mr. Childs, would you agree with me that, if the flow  
15:29 18 rates on which you rely are incorrect or inaccurate, that would  
15:29 19 make the forces that you relied on in your expert report also  
15:29 20 incorrect because they are related?

15:29 21 A. Well, again, we have these flow rates accepted by others  
15:29 22 later. So I'm not sure what the question is about using the  
15:29 23 60,000 -- excuse me -- 60,000 barrels per day.

15:29 24 Q. I'm not asking you about the 60,000 barrels per day. I'm  
15:30 25 just asking you if you agree with me that, if the flow rates

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1 from Stress Engineering on which you rely are incorrect or  
2 inaccurate, that would make the forces on which you rely in  
3 your report also inaccurate.

4 A. Well, in any --

5 Q. If you rely on them and they're wrong, your analysis would  
6 be wrong; isn't that pretty obvious?

7 A. If incorrect information is used, yes, you get wrong  
8 answers. That's why I kept going back and having continuing  
9 meetings with Dr. Davis -- excuse me -- Dr. Garrett, David  
10 Garrett.

11 Q. And if for some reason that flow rate is overestimated,  
12 that would also mean that you've overestimated the force on the  
13 drill pipe that you told us about; is that correct?

14 A. Well, that's where I start having an issue, because we're  
15 using the same rates that everybody agrees is there.

16 The rates of 60,000-barrels a day at the time of the  
17 closure of the VBRs, we've already got sufficient to lift this  
18 pipe up, and it's on the way up into the annular BOP.

19 Q. Let me see if I can make this the last question.

20 You say you're using the rates of everybody else.  
21 But you told this Court that helical buckling occurred prior to  
22 closing of the annulars; correct?

23 A. It's beginning. It's already started.

24 Q. And that helical buckling that you told the Court in the  
25 record yesterday is occurring before the annulars closed, the

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1 rates that you're relying on for that buckling are the ones in  
2 Stress Engineering's analysis; correct?

3 A. They are. And they're a little bit less than the final  
4 rate, but it's on the way up. It's already lifting at the time  
5 of the annular closure and it continues to lift.

6 Q. All right. Mr. Childs, I want to be clear on one thing  
7 with respect to your opinions on the drill pipe having severed.  
8 And I think you told the Court yesterday that everyone agrees  
9 the drill pipe severed; correct?

10 A. Yes.

11 Q. But I believe you also told the Court, in your summary  
12 chart that we looked at --

13 MS. KARIS: If we can look at D-6703.

14 BY MS. KARIS:

15 Q. -- that there were a number of individuals who agreed with  
16 you that the flow lifted the pipe at the AMF time. And one of  
17 those individuals -- if I can find my pointer -- that you  
18 identify here as having agreed with you was the PSC's expert.

19 "Flow lifted the pipe at AMF time." That would be  
20 you, Mr. Stevick, and then Mr. Perkin; correct?

21 A. Yes.

22 Q. All right. Now, is it still your contention that  
23 Mr. Perkin agreed with you as to what caused the pipe to go  
24 off-center and when it was pushed off-center; that is, that it  
25 lifted -- that it buckled at the AMF time?



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15:33 1 A. That's my memory still, yes.

15:33 2 Q. Okay.

15:33 3 MS. KARIS: Please turn to Mr. Perkin's deposition,  
15:33 4 283.50.1, please, lines 5 to 13.

15:33 5 BY MS. KARIS:

15:32 6 Q. Again, to the point of whether he thinks it buckled, the  
15:33 7 pipe buckled at AMF time, Mr. Perkin was asked:

15:33 8 "QUESTION: What, in your opinion, caused the drill  
15:33 9 pipe to be off-center at the time the blind shear ram was  
15:33 10 activated?"

15:33 11 Without any reference to when he believed the blind  
15:33 12 shear ram was activated.

15:33 13 "ANSWER: I know Transocean indicated that they  
15:34 14 believe the pressure from below did it. I ran a  
15:34 15 calculation. I'm not sure I agree with that. There was  
15:34 16 an indication that there was a rig drift that caused the  
15:34 17 pipe to bend. I don't know."

15:34 18 Were you aware of that testimony?

15:34 19 A. Not directly. The information I was using was out of his  
15:34 20 report.

15:34 21 Q. This was his deposition. Did you read his deposition?

15:34 22 A. Yes, I read it.

15:34 23 Q. Okay.

15:34 24 MS. KARIS: And if we can then look at 464, lines 14  
15:34 25 to 17, please.

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15:34 1 BY MS. KARIS:

15:34 2 Q. He goes on to say in his deposition:

15:34 3 "QUESTION: So you don't have an opinion as to what  
15:34 4 pushed the pipe off-center?

15:34 5 "ANSWER: I don't have it in my report, and I don't  
15:34 6 have an opinion on it."

15:34 7 Do you see that?

15:34 8 A. I see that.

15:34 9 Q. It doesn't sound like Mr. Perkin agreed with you, does it?

15:35 10 A. Well, that doesn't right there. I remember it being in  
15:35 11 the report, and he says it wasn't.

15:35 12 Q. You also told this Court yesterday that the Bly report  
15:35 13 somehow supports your conclusion as to the pipe eroding and the  
15:35 14 pipe breaking within minutes of the explosion.

15:35 15 Do you recall that testimony?

15:35 16 A. Mainly about the erosion being very possible with  
15:35 17 magnitudes more than was needed to erode the pipe.

15:35 18 MS. KARIS: If we can look at the trial transcript,  
15:35 19 yesterday's trial transcript, TT-5124.1.

15:35 20 BY MS. KARIS:

15:35 21 Q. This was from yesterday.

15:35 22 You were asked the question:

15:35 23 "QUESTION: And did BP agree with your conclusion  
15:35 24 that the flow of the hydrocarbons was sufficient to cause  
15:35 25 the pipe to erode and break within minutes of the

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15:36 1 explosion?

15:36 2 "ANSWER: Yes, they agreed."

15:36 3 Correct?

15:36 4 A. Yes.

15:36 5 Q. And then you were shown an exhibit from the Bly Report,  
15:36 6 1.148. You go on to say, "According to OLGA" -- which is a  
15:36 7 modeling program for well control.

15:36 8 "According to OLGA well flow modeling, the fluid  
15:36 9 velocity through a leaking annular preventer could have reached  
15:36 10 levels that were orders of magnitude greater than drill pipe  
15:36 11 steel erosion velocity."

15:36 12 Correct?

15:36 13 A. So there was way more than needed to cause the erosion.  
15:36 14 The erosion then caused the weak point, which caused the break  
15:36 15 at that point.

15:36 16 MS. KARIS: Let's look at 2. -- I'm sorry.  
15:36 17 TREX-1.148, which is what was referenced there.

15:36 18 .1, I'm sorry.

15:36 19 BY MS. KARIS:

15:36 20 Q. This was a paragraph you were shown when you said they  
15:36 21 agreed with you as to what caused the pipe to erode and break  
15:37 22 within minutes of the explosion.

15:37 23 There is no reference in the Bly report of the pipe  
15:37 24 eroding and breaking within minutes, is there?

15:37 25 A. This information is showing the amount of erosion that

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15:37 1 would be available from that flow rate. And the erosion, as I  
15:37 2 just said, led to the weakening of the pipe and the breaking of  
15:37 3 the pipe.

15:37 4 Q. But there's certainly no reference in here that that  
15:37 5 erosion and breaking took place within minutes of the  
15:37 6 explosion; correct?

15:37 7 A. I don't see the time in here.

15:37 8 Q. Everyone agrees that the pipe eroded?

15:37 9 A. Yes.

15:37 10 Q. That's not in dispute. The issue is: When did that  
15:37 11 erosion cause the pipe to break; correct?

15:37 12 A. Again, as I stated yesterday, I've seen this type of  
15:37 13 erosion occur in three or four minutes.

15:37 14 Q. I understand that's your opinion. But when you say that  
15:38 15 BP agrees with you and you reference the Bly report, that's not  
15:38 16 accurate for the proposition that the Bly report concluded that  
15:38 17 that pipe would erode and break within minutes; correct?

15:38 18 A. It shows that the velocity would have been orders of  
15:38 19 magnitude beyond what's required to cause the erosion.

15:38 20 Q. Now, the last point, and then I'm going to sit down, I  
15:38 21 promise.

15:38 22 You testified using those two pieces --

15:38 23 MS. KARIS: If I can approach, Your Honor.

15:38 24 THE COURT: Okay.  
25

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15:38 1 BY MS. KARIS:

15:38 2 Q. -- I believe using here D-6637-B and D-6637-A.

15:38 3 First, let me get closer; and second, not break  
15:38 4 these.

15:38 5 I believe you showed us yesterday that you didn't  
15:39 6 think Mr. Shanks' theory -- or explanation, analysis, opinion,  
15:39 7 call it what you want -- worked because you said you don't see  
15:39 8 this kind of curvature -- you would expect to see this kind of  
15:39 9 curvature on this pipe if his theory held true; is that  
15:39 10 correct?

15:39 11 A. If these two pieces came back into contact, you would have  
15:39 12 had other damage on the piece in your right hand.

15:39 13 Q. But to be clear, there is pipe that has eroded away. We  
15:39 14 are missing some of the piping, aren't we?

15:39 15 A. How would you have any idea to know that?

15:39 16 Q. Well, do you know that we're not? You talked about severe  
15:39 17 erosion; correct?

15:39 18 A. And we have the erosion and we have the rupture point and  
15:39 19 we have the tensile failure. So we have much of what's left of  
15:39 20 this pipe. Now, this is hard to see what's inside, of course,  
15:39 21 because it's curled under.

15:39 22 But if these came into contact at all, you would have  
15:39 23 had more damage on this piece.

15:39 24 Q. Do we know whether additional piping eroded away and we  
15:39 25 don't have it?

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15:40 1 A. I think we know exactly where -- this is the way it was,  
15:40 2 because we have the tensile failure. It's still there. And  
15:40 3 this shape matches well with how much pipe -- excuse me. I  
15:40 4 think I'm away from the microphone -- how much pipe is curled  
15:40 5 up inside this piece.

15:40 6 Q. Are you suggesting to the Court that these two pieces fit  
15:40 7 perfectly together?

15:40 8 A. Well, we can't do it perfectly, of course. They are too  
15:40 9 damaged.

15:40 10 Q. You would accept that -- I'm sorry.

15:40 11 You would accept that we don't know whether there's  
15:40 12 additional piping that has eroded away and we don't have it;  
15:40 13 correct?

15:40 14 A. We have good evidence that these came, like we see with  
15:40 15 this piece, with this rolled-over under-piece being in this  
15:40 16 area.

15:40 17 Q. Have you ever attempted to fit these two together?

15:40 18 A. We can't.

15:40 19 Q. And are you aware that Mr. Shanks actually doesn't agree  
15:40 20 with you that these two fit together?

15:40 21 A. I think that was from his deposition when asked about how  
15:40 22 it could have any impact on the pipe below, he said it could  
15:40 23 have come back into contact with it. And that's all I'm  
15:40 24 saying.

15:41 25 Q. All right.

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15:41 1 A. That contact doesn't show.

15:41 2 Q. To be clear, Mr. Shanks will explain what his analysis is.  
15:41 3 But when you looked at the report and you said, "It doesn't  
15:41 4 work because these don't fit together," you're aware that  
15:41 5 Mr. Shanks' contention is "We don't have all of the piping,"  
15:41 6 not that these two fit perfectly together; correct?

15:41 7 A. He was stating in depositions -- all I know -- that as  
15:41 8 those came back in contact, I don't see how that can be, with  
15:41 9 the evidence that we have.

15:41 10 Q. All right. We're going to let him explain, when he  
15:41 11 testifies, those two points of view.

15:41 12 But you would agree with me that if the battery on  
15:41 13 the yellow pod -- I'm sorry -- on the blue pod didn't work and  
15:41 14 the miswired solenoids also didn't function, there's no way  
15:41 15 that that AMF/deadman triggered the blind shear ram on the  
15:41 16 evening of April 20th to cause the failure mode that you've  
15:41 17 described?

15:42 18 A. What I know is we have four chances, four AMFs. The  
15:42 19 27-volt battery was so depleted, another mechanism had to have  
15:42 20 been involved to draw it down to that. So I believe the  
15:42 21 27-volt battery was good at the time. So that's one chance.

15:42 22 We have testing -- repeated testing -- showing that a  
15:42 23 solenoid, even miswired, can work in an AMF. So that's another  
15:42 24 chance for it to work.

15:42 25 We have numerous chances for it to work, and I

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15:42 1 believe it worked. I don't know which one. It doesn't matter  
15:42 2 at this time.

15:42 3 Q. You believe it worked, but we've already established  
15:42 4 nobody else agrees with you; correct?

15:42 5 A. I guess I'm not trying to win a popularity contest.

15:42 6 MS. KARIS: I have nothing further, Your Honor.

15:42 7 THE COURT: Cameron?

15:42 8 MR. JONES: We have a few questions, Your Honor.

15:42 9 THE COURT: How long do you think you'll be?

15:42 10 MR. JONES: 15 or 20 minutes.

15:42 11 THE COURT: Let's go ahead and take our afternoon  
15:42 12 recess.

15:43 13 THE DEPUTY CLERK: All rise.

15:43 14 (WHEREUPON, the Court took a recess.)

15:45 15 THE DEPUTY CLERK: All rise.

15:59 16 THE COURT: Please be seated, everyone.

15:59 17 Go.

15:59 18 MR. GODWIN: Don Godwin for Halliburton. May I  
15:59 19 report, Judge, on the conversation I had at the break, as you  
15:59 20 instructed?

16:00 21 THE COURT: Sure.

16:00 22 MR. GODWIN: I spoke with Mr. Brock, Mr. Regan,  
16:00 23 Mr. Sterbcow, and Mr. Underhill regarding the matter we talked  
16:00 24 about.

16:00 25 THE COURT: Okay.



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16:00 1           **MR. GODWIN:** BP's position, Judge, is that what they  
16:00 2 will do is just wait before they can commit on my being able to  
16:00 3 have Dr. Ravi and in the order we're trying to do it.

16:00 4           They want to file their motion for sanctions  
16:00 5 against Halliburton over the cement issue, whatever that might  
16:00 6 be, and they want to see where the Court is on that.

16:00 7           And I said, "Well, why don't we wait until  
16:00 8 Monday morning, or sometime Monday or whatever. You guys file  
16:00 9 it today, I'll take a look at it."

16:00 10           And I'll let Ben know tomorrow, if it's  
16:00 11 acceptable with Your Honor, as to when we get our response in.  
16:00 12 And then we will report back to the Court Monday after we have  
16:00 13 met and conferred.

16:00 14           **THE COURT:** Okay. Is that fine with everyone?

16:00 15           **MR. UNDERHILL:** Yes.

16:00 16           **MR. GODWIN:** Again, we want to get back on it as  
16:00 17 quickly -- as early in the week as we can. We've got a good  
16:00 18 man --

16:00 19           **THE COURT:** I probably was not fully up to speed with  
16:00 20 all this because a lot of this stuff occurred before  
16:00 21 Judge Shushan.

16:00 22           **MR. GODWIN:** Yes, Your Honor.

16:00 23           **THE COURT:** I understand. I probably was not fully  
16:00 24 up to speed with all of that, because a lot of this stuff  
16:01 25 occurred before Judge Shushan.

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16:01 1 MR. GODWIN: Yes, Your Honor.

16:01 2 THE COURT: But if I understand correctly, what  
16:01 3 happened was, originally, Halliburton did not submit Dr. Ravi  
16:01 4 as an expert --

16:01 5 MR. GODWIN: Yes, Your Honor.

16:01 6 THE COURT: -- in this case. Is that correct?

16:01 7 MR. GODWIN: That's correct, Judge.

16:01 8 THE COURT: And then it was only after you received  
16:01 9 an expert report on the same subject area from BP's expert,  
16:01 10 Dr. -- Mr. Crook --

16:01 11 MR. GODWIN: Mr. Ron Crook, Your Honor.

16:01 12 MS. KARIS: Mr. Crook.

16:01 13 THE COURT: -- Mr. Ron Crook --

16:01 14 MR. GODWIN: Who I deposed, Judge.

16:01 15 THE COURT: -- that you then asked for permission  
16:01 16 beyond the normal deadline with Judge Shushan to call him in  
16:01 17 rebuttal to Mr. Crook; correct?

16:01 18 MR. GODWIN: Yes. And she allowed that, Judge.

16:01 19 THE COURT: So the issue -- or the understanding, I  
16:01 20 guess, is if they hadn't submitted Mr. Brock -- Mr. Crook, you  
16:01 21 would not have Dr. Ravi in the first place. So the issue is  
16:02 22 who should go first, the timing.

16:02 23 So they need to make a decision. I think, in  
16:02 24 fairness, the way we ought to do this, whatever -- and since  
16:02 25 it's a bench trial, we have some flexibility here. But BP has

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16:02 1 to make a decision within their -- whether they're going to  
16:02 2 intend to call him. And if necessary, I can let you keep your  
16:02 3 case open --

16:02 4 **MR. GODWIN:** Yes, Your Honor.

16:02 5 **THE COURT:** -- to have the option to call him if they  
16:02 6 do call him in their case. How about if we handle it that way?

16:02 7 **MR. GODWIN:** That's exactly what I talked about with  
16:02 8 Mr. Sterbcow. Paul and I talked about it, Judge.

16:02 9 **THE COURT:** Now that I understand the whole  
16:02 10 background of this, I think that makes sense.

16:02 11 **MR. GODWIN:** I discussed that with Paul.

16:02 12 **MR. STERBCOW:** That's exactly what we said.

16:02 13 **MR. GODWIN:** Yeah. In other words, they would --  
16:02 14 what would happen is that I would hold off on Dr. Ravi, like I  
16:02 15 did on Mr. Quirk --

16:02 16 **THE COURT:** Right.

16:02 17 **MR. GODWIN:** -- let them put their case on after  
16:02 18 we've finished.

16:02 19 At that point, if they elect to call him, then  
16:02 20 I, thereafter, at Your Honor's leisure, whenever you're ready,  
16:03 21 tell me I can call Dr. Ravi, and I would. If they elect not to  
16:03 22 call him, then you would let me call him at that time. Because  
16:03 23 I have got to have him as my cement expert, Your Honor.

16:03 24 **THE COURT:** Well, if they don't call him, you don't  
16:03 25 get to call your expert, because he's only in rebuttal to their

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1 expert. That's the way I understood all of this.

2 **MR. GODWIN:** Well, I would want to present it a  
3 little bit differently, Judge, for this reason, that he was  
4 deposed as a fact witness, as I said earlier, in September of  
5 2011. In February of 2012, they deposed him for two days,  
6 everybody did, as an expert.

7 And my --

8 **THE COURT:** Excuse me. I don't want to cut you off,  
9 but let's go ahead and finish this witness. This gentleman has  
10 been here since --

11 When did you start?

12 **THE WITNESS:** Yesterday.

13 **THE COURT:** Yesterday about midday, right after lunch  
14 sometime. So he's been on the stand going on a day and a half.  
15 I want to finish his testimony before we quit today. Okay?

16 So we can resolve this. If you-all want to hang  
17 around, we're going to -- we're going to marshal exhibits and  
18 all and we can talk about this. Okay?

19 **MR. GODWIN:** Okay, Judge. Thank you, Your Honor.

20 **THE COURT:** Thank you.

21 All right. So let's see if we can -- again, I'm  
22 not trying to cut anybody off here, but Mr. Childs has been on  
23 the stand for a long time here. Let's see if we can move him  
24 along and finish his testimony before we recess today. Okay?

25 **MR. JONES:** Absolutely. May I proceed, Your Honor?

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16:04 1 THE COURT: Yes.

16:04 2 MR. JONES: David Jones for Cameron.

16:04 3 CROSS-EXAMINATION

16:04 4 BY MR. JONES::

16:04 5 Q. Good afternoon, Mr. Childs.

16:04 6 A. Good afternoon.

16:04 7 Q. I have you on cross-examination, for the record.

16:04 8 You've been dealing with BOPs for over 35 years,  
16:04 9 since about 1975; correct?

16:04 10 A. That's correct.

16:04 11 Q. And throughout your career, going back to the 1970s,  
16:04 12 Cameron SBR blind shear rams have been used in BOPs on rigs  
16:04 13 throughout the world; correct?

16:04 14 A. Hundreds of them.

16:04 15 Q. I'm sorry?

16:04 16 A. Hundreds of them.

16:04 17 Q. You believe that the Cameron SBR is a reliable design?

16:04 18 A. Yes, it is.

16:04 19 Q. Do you believe that today?

16:04 20 A. I still do.

16:05 21 Q. You believed it prior to April 20th, 2010?

16:05 22 A. Yes, I did.

16:05 23 Q. And you believed it back at the time that the BOP was  
16:05 24 delivered to the *Deepwater Horizon*; correct?

16:05 25 A. Yes, I did.

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16:05 1 Q. There's been a lot of discussion over the last day or so  
16:05 2 about off-centered pipe, and I don't want to wade into the  
16:05 3 question of when it moved, how it moved, or any of that.

16:05 4 But I want to ask you, you would agree with me,  
16:05 5 whatever the theory -- whether it's your theory, Mr. Shanks'  
16:05 6 theory, Mr. Stevick's theory, whatever the theory, it was  
16:05 7 extreme conditions and extreme forces that pushed the drill  
16:05 8 pipe over to the side of the BOP and held it there; correct?

16:05 9 A. Yes. It forced it to the side and held it with a force to  
16:05 10 the side.

16:05 11 Q. All right. Every day in your professional life for the  
16:05 12 last 35 years, you've been dealing with BOP issues; correct?

16:05 13 A. Well, thankfully, I had some weekends off.

16:05 14 Q. That's why I said every day of your professional life, not  
16:05 15 every day of your life.

16:05 16 A. Well, it seems like it overlaps.

16:06 17 Q. Fair enough. Virtually every day that you're working,  
16:06 18 you're dealing with BOPs; correct?

16:06 19 A. Absolutely.

16:06 20 Q. And prior to the Macondo incident, in all of your years,  
16:06 21 had you ever heard of any instance where drill pipe was unable  
16:06 22 to be sheared by a Cameron SBR blind shear ram because it was  
16:06 23 outside the shearing blades?

16:06 24 A. Not at all, not on any ram, actually, any shear ram.

16:06 25 Q. And so that goes back to your days at Cameron. You've

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16:06 1 never heard of any instance of that happening when you were at  
16:06 2 Cameron; correct?

16:06 3 A. That's correct.

16:06 4 Q. And continuing on through your days at WEST, you never  
16:06 5 heard that; correct?

16:06 6 A. That's correct.

16:06 7 Q. All right. On page 8 of your report, you state: "During  
16:06 8 high-velocity well flow conditions, when ram or annular BOP  
16:06 9 elements are closing, the flow area through the bore of the BOP  
16:06 10 gradually is reduced, causing even higher flow velocity and  
16:06 11 pressure."

16:06 12 Do you recall saying that in your report?

16:06 13 A. Yes, sir.

16:07 14 Q. And what you're talking about there is the fairly simple  
16:07 15 concept that if you have a volume of fluid and you constrict  
16:07 16 the area through which it's going to flow, that flow -- the  
16:07 17 velocity of the flow will increase; correct?

16:07 18 A. Like a big, thick thumb over the end of the water hose.

16:07 19 Q. Good example.

16:07 20 That's certainly something that you understood prior  
16:07 21 to April 2010; correct?

16:07 22 A. That's correct.

16:07 23 Q. You go on to state on page 9 of your report --

16:07 24 **MR. JONES:** And, Paul, can I get you to pull up  
16:07 25 TREX-7687.9.1.

## ERIC GREGORY CHILDS - CROSS

16:07 1 BY MR. JONES::

16:07 2 Q. You state first that "the ram and annular BOPs do not  
16:07 3 close instantaneously."

16:07 4 Correct?

16:07 5 A. Correct.

16:07 6 Q. And that's something that we've discussed a little bit  
16:07 7 over the last couple of days. We've seen demonstratives of  
16:07 8 things closing in a matter of seconds, but that's not the way  
16:07 9 they work in the real world; correct?

16:07 10 A. Very correct.

16:07 11 Q. And you lay out the time here of 16 seconds for ram BOPs  
16:07 12 and 26 seconds for annular BOPs; correct? At least that's what  
16:08 13 your testing showed?

16:08 14 A. That was actually a measurement on the *Horizon* from a  
16:08 15 previous test.

16:08 16 Q. Then you go on say that "when BOPs are closed during  
16:08 17 high-flow conditions, increased jetting pressure and fluid flow  
16:08 18 may damage the seals and prevent the annulars, variable bore  
16:08 19 rams, or blind shearing rams, from sealing, thus preventing  
16:08 20 containment of the wellbore flow."

16:08 21 Do you see that?

16:08 22 A. Yes, sir.

16:08 23 Q. And that's something also that you understood prior to  
16:08 24 April of 2010. That wasn't a new revelation to people involved  
16:08 25 with BOPs; correct?



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16:08 1 A. No, I understood that before.

16:08 2 Q. That process, that damage to seals as BOPs are closing in  
16:08 3 high-flow conditions, that happened on April 20th, 2010;  
16:08 4 correct?

16:08 5 A. It appears to me, yes.

16:08 6 Q. The damage to those seals was caused by, I believe you  
16:08 7 state in your report, hydrocarbons and well debris flowing  
16:08 8 through the BOP at high velocity; correct?

16:08 9 A. Yes.

16:08 10 Q. And just so I understand what you're talking about in your  
16:09 11 report, when you say "well debris," you're talking about sand,  
16:09 12 silica, rock, fluids, whatever's coming up out of the formation  
16:09 13 in this blowout; correct?

16:09 14 A. Anything and everything that's coming out of the well,  
16:09 15 yes.

16:09 16 Q. And it's your opinion that on April 20th, 2010, we had  
16:09 17 those things, we had sand, silica, rock, fluids coming up  
16:09 18 through the BOP as it's trying to close; correct?

16:09 19 A. Correct. We had anything the well wanted to throw at us.

16:09 20 Q. And it's that flow that you believed eroded the packer in  
16:09 21 the annular and eroded the steel in the tool joint as the  
16:09 22 annular is first trying to close in the 26 seconds that it  
16:09 23 takes to close at 9:43; correct?

16:09 24 A. Correct.

16:09 25 Q. I want to move forward a couple minutes in your time line.

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16:09 1 And then at 9:47, I believe it's your opinion -- it's been  
16:10 2 discussed -- that the VBRs were closed at approximately 9:47;  
16:10 3 correct?

16:10 4 A. That's correct.

16:10 5 Q. And it's also your opinion that it was both sets of VBRs  
16:10 6 that were closed; correct?

16:10 7 A. Yes. There's forensic evidence that shows that.

16:10 8 Q. You're not able to say whether the upper was closed first  
16:10 9 and then the middle or the middle and the upper or at the same  
16:10 10 time; correct?

16:10 11 A. No. That's why I mentioned on the animation that we've  
16:10 12 done it upper first. We don't know that absolutely.

16:10 13 Q. Once those VBRs, both sets of VBRs were closed, we had a  
16:10 14 seal in the annulus around the drill pipe; correct?

16:10 15 A. We did, as was shown by the data.

16:10 16 MR. JONES: Paul, can you pull up D-6667.

16:10 17 BY MR. JONES::

16:10 18 Q. This is the schematic of the BOP that you used in your  
16:10 19 direct examination, I believe. Just so we understand what  
16:10 20 we're talking about, you had the variable bore rams -- here and  
16:10 21 here are both sealed, and so the annulus around the drill pipe  
16:10 22 is sealed; correct?

16:11 23 A. Right, the upper and middle VBRs.

16:11 24 Q. And at that point, there wouldn't have been flow across  
16:11 25 the blind shear rams; correct?

## ERIC GREGORY CHILDS - CROSS

16:11 1 A. Not at that time.

16:11 2 Q. Now, again, I don't want to get into the debate about the  
16:11 3 "when" or "how," but you believe that the AMF would have fired  
16:11 4 several minutes later; correct?

16:11 5 A. Yes.

16:11 6 Q. Do you know exactly? Have you put a time period on it?

16:11 7 A. All we know, after the explosions and fires, within  
16:11 8 minutes, the requirements for AMF would have been met and the  
16:11 9 AMF would have fired.

16:11 10 Q. You would agree with me that although there was not flow  
16:11 11 across the blind shear rams at the time the VBRs were closed,  
16:11 12 that the minute or the moment that the blind shear rams cut  
16:11 13 that drill pipe, you would then have pressure and flow out of  
16:11 14 the drill pipe right at those blind shear rams?

16:11 15 A. Yes. The flow we had previously through the bore is now  
16:11 16 contained and pressurizing the drill pipe. That's another  
16:12 17 unknown for us in shearing, shearing pressurized drill pipe.  
16:12 18 It would have opened this up, and all that flow would have come  
16:12 19 out that lower fish.

16:12 20 Q. So to state it differently, perhaps, the flow that eroded  
16:12 21 away the annular when it was trying to close is now at the  
16:12 22 blind shear ram when it's trying to close; correct?

16:12 23 A. Basically, yes, sir.

16:12 24 Q. Let me show you the testimony of Bill Ambrose before the  
16:12 25 National Commission.

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16:12 1 MR. JONES: Paul, TREN-4270.65.1.

16:12 2 BY MR. JONES::

16:12 3 Q. First, do you know Mr. Ambrose?

16:12 4 A. I do.

16:12 5 Q. Who is he?

16:12 6 A. He's with Transocean, and he started out leading the team  
16:12 7 at Transocean that I was a part of.

16:12 8 Q. By that, you mean he was originally the head of the  
16:12 9 Transocean internal investigation?

16:12 10 A. Yes, he was.

16:12 11 Q. And you understand that he gave testimony before the  
16:12 12 National Commission on the oil spill; correct?

16:12 13 A. Yes.

16:12 14 Q. And this is testimony up here on the screen at page 260 of  
16:13 15 that transcript that you have seen before; correct?

16:13 16 A. That's correct.

16:13 17 Q. Now, in this testimony, Mr. Bartlit, who was asking the  
16:13 18 questions at the time, says to Mr. Ambrose: "In other words,  
16:13 19 if the blind shear rams were closed, you would see wash  
16:13 20 patterns?"

16:13 21 Do you see where I am?

16:13 22 A. Yes, I do.

16:13 23 Q. And then Mr. Ambrose goes on and he says: "Correct. You  
16:13 24 have to consider the drill pipe at that point was -- we believe  
16:13 25 it failed and severed. So you would have had flowing oil

## ERIC GREGORY CHILDS - CROSS

1 through that 5 1/2-inch drill pipe at the point in time which  
2 the blind shear rams would have closed on it."

3 Do you see that?

4 A. I do.

5 Q. And it's my understanding that you agree with that  
6 characterization of the conditions that would have been  
7 existing inside the BOP or, I guess, certainly above the BOP at  
8 the time the blind shear rams were activated. Correct?

9 A. Yes. This flow is contained, and pressure is contained  
10 within the drill pipe.

11 Q. And then it goes on to say: "So it's somewhat like  
12 snipping a fire hose with a pair of scissors. When you do that  
13 and it's under pressure, it's going to shoot out sideways."

14 Do you see that?

15 A. I see that.

16 Q. And you agree with that as well, when you cut with the  
17 blind shear rams, with the conditions as you understand them,  
18 that you're going to have the debris, the oil, the sand, the  
19 silica coming out sideways at your blind shear ram; correct?

20 A. In several directions, most likely.

21 Q. All right. And then he goes on to say, "The blind shear  
22 rams are not designed for that particular condition"; correct?

23 A. Correct.

24 Q. And you agree with that as well; right?

25 A. Yes. That basic information is also in my report.

## ERIC GREGORY CHILDS - CROSS

16:14 1 Q. And then in the next paragraph he says: "That would have  
16:14 2 eroded away the rubber seals on the side of the blind shear  
16:14 3 rams as they were closing. And as you saw what it did to  
16:14 4 metal, so the thought that rubber would have survived that  
16:14 5 particular case on the blind shear ram under these high flow  
16:14 6 conditions is unlikely."

16:15 7 Do you see that?

16:15 8 A. I do.

16:15 9 Q. You agree with that as well, do you not?

16:15 10 A. Yes.

16:15 11 MR. JONES: Paul, can I get you to pull up TREN-7700.

16:15 12 BY MR. JONES::

16:15 13 Q. What we're looking at here, Mr. Childs, this is a shear  
16:15 14 point ticket from the Transocean internal investigation. Do  
16:15 15 you recognize this document as a shear point ticket?

16:15 16 A. I do.

16:15 17 Q. And as I understand it, in connection with Transocean's  
16:15 18 investigation, shear point tickets were opened up to address  
16:15 19 various issues or questions that came up that the Transocean  
16:15 20 investigation team wanted to answer; correct?

16:15 21 A. I alluded to those earlier, any question and every  
16:15 22 question that came up was cataloged here to be addressed.

16:15 23 MR. JONES: Paul, if we could blow up the top part  
16:15 24 right up here.  
25

## ERIC GREGORY CHILDS - CROSS

16:15 1 BY MR. JONES::

16:15 2 Q. It says that this particular shear point ticket deals with  
16:16 3 blind shear ram performance. Do you see that?

16:16 4 A. Yes.

16:16 5 Q. It says it there and also says it down below.

16:16 6 Then right underneath it says team lead is Dan Farr.  
16:16 7 Do you see that?

16:16 8 A. Yes. Dan took Bill's place.

16:16 9 Q. I'm sorry?

16:16 10 A. Dan took Bill Ambrose's place.

16:16 11 Q. He took over as the head of the investigation when  
16:16 12 Mr. Ambrose was no longer in that role; correct?

16:16 13 A. Correct.

16:16 14 Q. And then underneath it says this particular task is  
16:16 15 assigned to Ewen Florence.

16:16 16 Do you see that?

16:16 17 A. Yes.

16:16 18 Q. And Mr. Florence is a Transocean employee. He is a subsea  
16:16 19 guy with experience in BOPs; is that correct?

16:16 20 A. That is correct.

16:16 21 MR. JONES: If we go to the second page of this  
16:16 22 document. Right here in the middle. Just blow it up.

16:16 23 BY MR. JONES::

16:17 24 Q. But it says percent complete is 100 percent.

16:17 25 Do you see where I am?

## ERIC GREGORY CHILDS - CROSS

16:17 1 A. Yes.

16:17 2 Q. And as I understand it, what that means is that this  
16:17 3 particular shear point issue, this particular question, was  
16:17 4 answered. It was 100 percent complete, it was finished;  
16:17 5 correct?

16:17 6 A. That's what it should mean, yes, sir.

16:17 7 MR. JONES: All right. Go back to the first page,  
16:17 8 Paul.

16:17 9 Down at the bottom, the third box from the  
16:17 10 bottom -- it's going to be right about there -- just get that  
16:17 11 outside/inside flow to make it a little easier for people to  
16:17 12 read.

16:17 13 BY MR. JONES::

16:17 14 Q. The third box from the bottom says "outside/inside flow".  
16:17 15 And it says: "There was considerable release of pressure and  
16:17 16 flow from the drill pipe at the moment of shear, which  
16:17 17 undoubtedly affected sealing."

16:17 18 Do you see that?

16:17 19 A. I do.

16:18 20 Q. And you agree with that; correct?

16:18 21 A. I do.

16:18 22 Q. You agree that, at the moment that the blind shear rams  
16:18 23 cut the drill pipe, that there would have been a considerable  
16:18 24 release of pressure and flow from the drill pipe; correct?

16:18 25 A. As we discussed earlier.



## ERIC GREGORY CHILDS - CROSS

16:18 1 Q. And you agree that that undoubtedly would have adversely  
16:18 2 affected sealing?

16:18 3 A. Yes.

16:18 4 MR. JONES: Thank you, Mr. Childs. That's all I  
16:18 5 have.

16:18 6 THE COURT: I was looking for Mr. Tanner, but I guess  
16:18 7 he's not here anymore. I'm so accustomed to looking for him in  
16:18 8 the corner.

16:18 9 All right. So we're back to Transocean.

16:18 10 **REDIRECT EXAMINATION**

16:18 11 **BY MR. BAAY::**

16:18 12 Q. David Baay for Transocean. I have Mr. Childs on redirect.  
16:19 13 Mr. Childs, just a few series of questions.

16:19 14 I want to start by some issues you discussed with  
16:19 15 BP's counsel, and the first related to a chart where we  
16:19 16 represented Mr. Perkin's opinion. Do you recall that line of  
16:19 17 questions?

16:19 18 A. I do.

16:19 19 MR. BAAY: If we could pull up, I believe, D-6703.  
16:19 20 And the line that was referred to, if we can highlight it, the  
16:19 21 "flow lifted the pipe at AMF time."

16:19 22 **BY MR. BAAY::**

16:19 23 Q. Is that the line you recall discussing with Ms. Karis?

16:19 24 A. I believe so.

16:19 25 Q. And this line doesn't even mention anything about buckling

## ERIC GREGORY CHILDS - REDIRECT

16:19 1 of pipe, does it?

16:19 2 A. No, it does not.

16:19 3 Q. And the representations we make in the chart are that  
16:19 4 Transocean, Halliburton, and Mr. Perkin for the PSC agree that  
16:19 5 flow lifted the pipe at AMF time?

16:19 6 A. That's as stated.

16:19 7 Q. If we look at Perkin 7536.90.1.T0.

16:19 8 This is from Mr. Perkin's report. If you'll read the  
16:20 9 highlighted language, what does Mr. Perkin say about the flow?

16:20 10 A. "Flow from the well apparently lifted the drill string  
16:20 11 upwards such that it forced a tool joint into the upper  
16:20 12 annular" before BOP -- "annular BOP before it fully closed."

16:20 13 I'm not reading very well, am I?

16:20 14 Q. Is this consistent with the representations made in  
16:20 15 D-6703?

16:20 16 A. Yes, it is.

16:20 17 Q. Okay. You were also asked about a representation or  
16:20 18 agreement that you pulled from the Bly report about the  
16:20 19 separation of pipe. Do you recall that testimony?

16:20 20 A. I do.

16:20 21 Q. And I believe the line of questions you were asked  
16:20 22 yesterday related to whether or not BP agreed that there was  
16:20 23 sufficient erosion and that there was separation.

16:20 24 A. And at both, yes.

16:20 25 Q. All right.

## ERIC GREGORY CHILDS - REDIRECT

16:20 1 MR. BAAY: If we could look at 1.165.1.T0.

16:21 2 BY MR. BAAY::

16:21 3 Q. This is another section of the Bly report. If you'll just

16:21 4 read the highlighted language.

16:21 5 What does it say about the -- what does the Bly

16:21 6 report conclude about the time separation?

16:21 7 A. "There are eyewitness accounts stating that the top drive

16:21 8 fell onto the rig floor (by approximately 26 feet), possibly

16:21 9 due to the failure of the drawworks during rig evacuation.

16:21 10 "The drill pipe likely had already failed at the

16:21 11 eroded section by this time, as it was being pulled upwards due

16:21 12 to the increasing vessel offset. It is, therefore,

16:21 13 inconclusive whether downward movement of the top drive would

16:21 14 have imposed any load on the closed VBR."

16:21 15 Q. As you read that language, is it consistent with your

16:21 16 opinion that the pipe separated sometime within a few minutes

16:21 17 following the explosion?

16:21 18 A. Yes, sir.

16:21 19 Q. Okay.

16:21 20 MR. BAAY: Pull that down. Thank you, Dennis.

16:18 21 BY MR. BAAY::

16:18 22 Q. You've also received quite a few questions about

16:21 23 Transocean's battery testing related to identifying a possible

16:22 24 draining mechanism; is that right?

16:22 25 A. That's correct.

## ERIC GREGORY CHILDS - REDIRECT

16:22 1 Q. My question for you is: Were the results of Transocean's  
16:22 2 battery testing, to examine that mechanism, were those results  
16:22 3 published in Transocean's internal investigation report --

16:22 4 A. Yes.

16:22 5 Q. -- to your memory?

16:22 6 A. Yes.

16:22 7 Q. And was the discussion that was included in the  
16:22 8 internal -- Transocean internal investigation report, did it  
16:22 9 give a detailed discussion related to the testing and related  
16:22 10 to the scenarios put forward, as were observed in the testing?

16:22 11 A. Yeah. He listed, I think, some four scenarios, at least,  
16:22 12 and described the most likely one, or the one he used.

16:22 13 Q. Final series of questions, Mr. Childs.

16:22 14 Does anything you have been shown in the six or seven  
16:22 15 hours of testimony you provided here today, or been asked  
16:22 16 about, change your opinion that the BOP functioned on  
16:22 17 April 20th, 2010?

16:22 18 A. Not at all.

16:22 19 Q. And why does it not affect your opinion?

16:23 20 A. The forensic analysis, forensic information, still shows  
16:23 21 that it had to occur on the 20th, at AMF time, as the pipe was  
16:23 22 in the proper position at that time, and it could not have been  
16:23 23 there at a later time.

16:23 24 Q. Does the forensic evidence, in your opinion, make it  
16:23 25 plausible that the pipe could have been off-center on

## ERIC GREGORY CHILDS - REDIRECT

16:23 1 April 22nd?

16:23 2 A. It does not.

16:23 3 Q. And what exactly, of the forensic evidence, allows you to  
16:23 4 conclude or base your opinion that the pipe was off-center on  
16:23 5 April 20th?

16:23 6 A. Separation of the pipe above the annular. Anything that  
16:23 7 happens to the pipe above the annular can have nothing to do  
16:23 8 with the pipe below the annular.

16:23 9 Q. And that causes you to doubt any theory put forward as to  
16:23 10 how the pipe might have been off-center on April 22nd?

16:23 11 A. Exactly.

16:23 12 Q. The fact that you believe that the AMF functioned --  
16:23 13 excuse me.

16:23 14 The fact that you believe the pipe was off-center on  
16:24 15 April 20th, 2010, what does that tell you about the functioning  
16:24 16 of the blue and the yellow pods?

16:24 17 A. One of them had to have worked.

16:24 18 Q. Mr. Childs, in your opinion, has any other party in this  
16:24 19 litigation set forth a plausible theory that the pipe could  
16:24 20 have been off-center on April 22nd?

16:24 21 A. No.

16:24 22 Q. Does that fact and the forensic evidence you discussed  
16:24 23 yesterday at length support your opinion that you believe the  
16:24 24 AMF did properly function on April 20th, 2010?

16:24 25 A. Yes. That adds to it and shows it had to have been on the

1 20th at AMF time.

2 **MR. BAAY:** Mr. Childs, those are all my questions.

3 Thank you, Your honor.

4 **THE COURT:** You're finished, Mr. Childs.

5 **THE WITNESS:** Thank you, sir.

6 **THE COURT:** Thank you.

7 All right. Transocean -- you're released, sir.  
8 Thank you.

9 **THE WITNESS:** Thank you.

10 **THE COURT:** Transocean's next witness.

11 **MR. BRIAN:** Your Honor, Brad Brian for Transocean.  
12 We're going to play a short 15-minute video from Murry  
13 Sepulvado, and then there's a two-minute video from Mr. Trahan.  
14 And then if Your Honor wants to continue, then Mr. Young would  
15 start his testimony.

16 **THE COURT:** Remind me who -- I know Mr. Young is a  
17 fact witness. Remind me, what is he going to testify about?  
18 What is the general subject?

19 **MR. BRIAN:** He's in the marine side of the company.  
20 He'll talk about the bridge crew and the activities on the day  
21 of April 20th and some other facts too. That's where he is --

22 **THE COURT:** He would take how long? A while?

23 **MR. BRIAN:** He's probably going to be a couple hours  
24 on direct.

25 **THE COURT:** All right.

16:25 1 MR. BRIAN: We're happy to start him, if you want,  
16:25 2 but...

16:25 3 THE COURT: I'm thinking that we'll do the videos and  
16:25 4 then recess for the day.

16:25 5 MR. BRIAN: That's fine, Your Honor. We'll start  
16:25 6 with Murry Sepulvado, then. That's --

16:25 7 THE COURT: I thought that would get another ovation.  
16:25 8 Those of you who need to, you need to stick  
16:25 9 around for a few minutes when we recess the trial to do the  
16:26 10 marshaling conference. Okay?

16:26 11 MR. BRIAN: Since you're presiding, I suspect that  
16:26 12 more of us will stay, Your Honor.

16:26 13 THE COURT: It's not necessary. Just who absolutely  
16:26 14 has to be here.

16:26 15 So if you want to let Mr. Young go until Monday  
16:26 16 morning, that's fine.

16:26 17 MR. LI: Thank you, Your Honor.

16:26 18 THE COURT: Okay.

09:20 19 (WHEREUPON, the videotaped deposition of **Murry Robert**  
09:20 20 **Sepulvado** was played.)

16:27 21 THE COURT: All right. Whenever you're ready.

16:44 22 MR. BRIAN: If I may approach, Your Honor. I'll  
16:44 23 provide the transcript of Buddy Trahan, the short video we're  
16:44 24 going to play next.

16:44 25 THE COURT: All right.

09:20 1 (WHEREUPON, the videotaped deposition of **Buddy Joseph**  
09:20 2 **Trahan** was played.)

16:47 3 **THE COURT:** Is that it?

16:47 4 **MR. BRIAN:** That's it, Your Honor.

16:47 5 **THE COURT:** All right. So, let's see. On Monday,  
16:47 6 what's your plan for Monday, Mr. Brian?

16:48 7 **MR. BRIAN:** Your Honor, we would start with  
16:48 8 Mr. Young.

16:48 9 **THE COURT:** Okay.

16:48 10 **MR. BRIAN:** Then I think that we have -- we have some  
16:48 11 additional videos. Mr. Sterbcow, Mr. Cunningham, and I are  
16:48 12 still trying to work through those to see if we can reach a  
16:48 13 final agreement. We've made some progress on those. So we may  
16:48 14 put a couple of those in between the two witnesses.

16:48 15 But the plan right now would be to go with  
16:48 16 Mr. Young, maybe some videotapes, and then Mr. Winslow. Then I  
16:48 17 suspect -- I believe that will take the day, and then we'd put  
16:48 18 Mr. Ambrose on on Tuesday.

16:48 19 I advised the Court yesterday that we decided  
16:48 20 not to call two of our will-call witnesses, Mr. McMahan and  
16:48 21 Mr. Scates. That is still the case with respect to  
16:48 22 Mr. McMahan. In light the testimony in the last day and a  
16:48 23 half, we're going to talk tonight about whether we're going to  
16:48 24 rethink that decision on Mr. Scates. We will advise the Court  
16:48 25 by the close of business tomorrow.



16:48 1 THE COURT: Who is Mr. Scates?

16:48 2 MR. BRIAN: He was an expert on our will-call list  
16:48 3 that pertains to the BOP. We need to evaluate the testimony of  
16:49 4 Mr. Childs.

16:49 5 THE COURT: A second BOP expert?

16:49 6 MR. BRIAN: I hope not, Your Honor. I don't think  
16:49 7 so, but --

16:49 8 THE COURT: I hope not too.

16:49 9 MR. BRIAN: I got some e-mails as I was about to walk  
16:49 10 up here about should we think about that. So I thought I would  
16:49 11 advise the Court. He was on our will-call list. We're trying  
16:49 12 to shorten it, I promise. I don't think we're going to rethink  
16:49 13 it, but I don't want --

16:49 14 THE COURT: Think hard about that, okay?

16:49 15 MR. BRIAN: We will, Your Honor.

16:49 16 THE COURT: Let's see. Anything else before we  
16:49 17 recess the trial, except for the marshaling conference, which  
16:49 18 we'll do as soon as we recess?

16:49 19 MR. HYMEL: Richard Hymel, Your Honor.

16:49 20 Two sets of exhibits to introduce into evidence,  
16:49 21 the exhibits that I referenced with Mr. Barnhill and the  
16:49 22 exhibits that Mr. Li referenced with Mr. Quirk. These have  
16:49 23 been circulated, and there are no objections as far as I  
16:49 24 understand.

16:49 25 MR. BROCK: No objections from BP, Your Honor. My

1 Barnhill list, I hope, will be up here before the conclusion of  
2 the marshaling conference; but if not, I will offer those first  
3 thing Monday morning.

4 **THE COURT:** I'm trying to reconstruct things now. As  
5 I recall, Judge Shushan said that you all had gotten a protocol  
6 where what we're marshaling today is really the last two days  
7 of last week and the first two days of this week. Correct?

8 **MR. BROCK:** I think that's right.

9 **THE COURT:** So we wouldn't need to finalize Barnhill.

10 **MR. BROCK:** That's fine.

11 **THE COURT:** If you wanted to do it this afternoon, we  
12 can; but if you want to wait until Monday morning --

13 **MR. BROCK:** I'll just do it Monday morning. That's  
14 fine.

15 **MR. HYMEL:** Judge, just to make sure I'm doing this  
16 correctly, I did not list Mr. Barnhill's complete report. I  
17 only listed the call-outs from it. So far as I understand, the  
18 reports have been introduced in evidence already. Is that  
19 correct?

20 **THE COURT:** I don't know that they've been introduced  
21 already. The protocol that I set was that I wanted the reports  
22 to go in as part of -- with the exception that we had a couple  
23 of cases where we agreed to redact stuff. But other than that,  
24 the reports go in, as they're considered part of the direct  
25 examination.

16:51 1 MR. HYMEL: Then what I'll do is I'll introduce  
16:51 2 these, and we'll do a revised list as edited.

16:51 3 THE COURT: Okay. That's fine.

16:51 4 Anybody have anything else? Let's say that  
16:51 5 we're now recessing the trial and we're going immediately into  
16:51 6 the marshaling conference, but if anyone wants to leave,  
16:51 7 doesn't need to stick around to hear exhibit numbers called  
16:51 8 out, you're welcome to leave if you need -- if you'd like to.

16:51 9 (OFF THE RECORD)

16:52 10 THE COURT: I'm going to step off for about five  
16:52 11 minutes, and I'll come back.

16:52 12 THE DEPUTY CLERK: All rise.

16:52 13 (WHEREUPON, the Court took a recess.)

17:00 14 THE DEPUTY CLERK: All rise.

17:00 15 THE COURT: All right. Please be seated, everyone.

17:00 16 All right. We're now officially in the fourth  
17:00 17 week, through the March 21st marshaling conference.

17:00 18 Who's going to introduce these?

17:00 19 MR. IRPINO: Anthony Irpino for the PSC, Your Honor,  
17:00 20 Mark Nomellini for BP. Mark's going to actually do the  
17:00 21 introduction. We have a couple different items to go through.

17:01 22 THE COURT: All right.

17:01 23 MR. IRPINO: I think just initially it's worth  
17:01 24 noting -- I know you mentioned that we would read them off, or  
17:01 25 you thought we were reading them off. But we actually have an

17:01 1 agreed-upon list that has been sent around --

17:01 2 **THE COURT:** I understand. What I plan to do -- I'm  
17:01 3 not sure -- I think this is how Judge Shushan has been handling  
17:01 4 it. We just ask if anyone has any objections or issues with  
17:01 5 anything that's on this list. We'll talk about those, and then  
17:01 6 we'll admit the list. Okay?

17:01 7 I don't see any point in going through it one by  
17:01 8 one. I know there was a little confusion that first week or  
17:01 9 so, but it looks like it's ironed itself out.

17:01 10 **MR. NOMELLINI:** Good afternoon, Your Honor. Mark  
17:01 11 Nomellini on behalf of BP.

17:01 12 At 3:30 this afternoon we sent to all parties  
17:01 13 and to Ben the agreed-upon -- all parties agreed-upon list of  
17:01 14 exhibits and demonstratives for the March 21st, 2013 marshaling  
17:01 15 conference. It's a ten-page document.

17:01 16 Everybody has discussed and agreed to that  
17:01 17 document.

17:02 18 **THE COURT:** Is this different than the -- I had  
17:02 19 several versions over the course of yesterday and today. But  
17:02 20 the last version I have was -- it looks like it was printed out  
17:02 21 today at 2:20 p.m.

17:02 22 **MR. NOMELLINI:** That is correct, Your Honor, 2:20.

17:02 23 **THE COURT:** That's the same list?

17:02 24 **MR. NOMELLINI:** Yes.

17:02 25 **THE COURT:** I just want to make sure we're talking

17:02 1 about the same list. All right.

17:02 2 So I guess I need to ask, are there any  
17:02 3 objections, any issues that you're aware of or anyone else is  
17:02 4 aware of that we need to talk about with regard to this list?

17:02 5 None? That's great. Okay. Everybody really  
17:02 6 wants to get out of here.

17:02 7 Okay. Well, with that said, Stephanie, you have  
17:02 8 the list. We'll consider all of those exhibits as admitted.

17:02 9 Two things I have. I know Mr. Godwin wants to  
17:02 10 talk about something real briefly, but two other things I have.

17:03 11 I think Stephanie may have mentioned to you all,  
17:03 12 but if you all could -- you don't have to remove the hardware  
17:03 13 and all, I'm not suggesting that, but just clear off the  
17:03 14 tables, you know, your files, papers, stuff like that before  
17:03 15 Monday -- I mean, tonight, because I have a criminal matter  
17:03 16 that I'm going to be hearing in court tomorrow morning. So I  
17:03 17 need to have the tables clear. Okay?

17:03 18 There was the issue of the -- one more exhibit  
17:03 19 thing.

17:03 20 In fact, this deals with you, too, Mr. Godwin.  
17:03 21 It's the -- what was that?

17:03 22 **MR. BREIT:** That would be 4357.

17:03 23 **THE COURT:** TRES-4357, exactly.

17:03 24 I've got letter briefs from each side. This was  
17:03 25 slides -- as I understand it, these were slides prepared by Tim

17:04 1 Roth.

17:04 2 MR. GODWIN: Tommy Roth, Your Honor.

17:04 3 THE COURT: What?

17:04 4 MR. GODWIN: Tommy Roth, sir.

17:04 5 THE COURT: Tommy Roth. I'm sorry. I'm not hearing.

17:04 6 Tom Roth in connection with the presentation of  
17:04 7 Tim Probert. It was referencing both of those gentlemen's  
17:04 8 testimony. There were objections by Halliburton. This dealt  
17:04 9 with the slides regarding the basis of design and management of  
17:04 10 change issues. Halliburton objected to this exhibit on  
17:04 11 Rule 407, subsequent remedial measure grounds. I sustained  
17:04 12 those objections.

17:04 13 The PSC, as I appreciate it, has asked me to  
17:04 14 reconsider that, and both sides -- I received letter briefs  
17:04 15 from the PSC and from Halliburton.

17:04 16 I am reconsidering because I do believe that  
17:05 17 under *Brazos River Authority v. GE Ionics*, 469 F.3d 416 at 430,  
17:05 18 which is a Fifth Circuit case from 2006, that this document is  
17:05 19 admissible because Rule 407 only precludes evidence of actual  
17:05 20 remedial measures, not an analysis of post-incident  
17:05 21 investigation.

17:05 22 So it seems that the way I read the case, even  
17:05 23 if the investigation subsequently leads to actual remedial  
17:05 24 measures, the investigation itself would still be admissible.  
17:05 25 So it seems to fit the situation here.

17:05 1 In addition, in thinking about this, my sense  
17:05 2 was that there was some equivocation by Mr. Probert and  
17:05 3 Mr. Roth about this whole issue of whether there was or was not  
17:06 4 or should have been a formal basis of design standard or  
17:06 5 management of change and whether one existed or didn't exist.

17:06 6 So I'm going to reverse myself and admit  
17:06 7 TREN-4357.

17:06 8 Now, Mr. Godwin, you had something else, I  
17:06 9 think, you wanted to bring up today.

17:06 10 **MR. GODWIN:** Yes, Your Honor. May it please the  
17:06 11 Court. Can you hear me here?

17:06 12 **THE COURT:** It's up here, if you want to use it.

17:06 13 **MR. GODWIN:** I'll put it on, Judge. It helps the  
17:06 14 reporter?

17:06 15 Does that help? Thank you much.

17:06 16 Don Godwin, Judge, for Halliburton. Your Honor,  
17:06 17 I'm certainly not here now, without the parties having been  
17:06 18 given the opportunity, if you think it's appropriate, to file  
17:06 19 papers or brief the issue of our calling our cement expert,  
17:06 20 Dr. Kris Ravi. But I've presented to you briefly a few things  
17:06 21 that I had talked to Mr. Sterbcow about.

17:07 22 He brought it up to me that he thought that  
17:07 23 while there was not an issue with me actually having my  
17:07 24 expert -- he's my cement expert that I need to have -- it was a  
17:07 25 matter of the timing; and that was that that they felt like it

1 ought to be Ron Crook would be put on first and then Dr. Ravi  
2 would be after that.

3 And, of course, Your Honor had indicated, said,  
4 well, but if they don't call Ron Crook, perhaps I wouldn't be  
5 allowed, then, to have Dr. Ravi.

6 I will take you back to one fact that I had  
7 overlooked briefly when I was talking earlier, Judge.

8 **THE COURT:** Okay.

9 **MR. GODWIN:** During the Phase One discovery, Your  
10 Honor, there was a gentleman named Mr. Fred Sabins designated  
11 as a cement expert by BP. He had formerly, years ago, been a  
12 long-time employee of Halliburton and one of the leading cement  
13 experts in the world, as well as a number of Halliburton  
14 people.

15 Mr. Fred Sabins, Your Honor, I took his  
16 deposition. Prior to having done that, we learned that his  
17 company, CSI Inc., had hired a Halliburton employee named  
18 Mr. Michael Viator, spelled V-I-A-T-O-R. We conferred with our  
19 client, without getting into that, obviously. I deposed  
20 Mr. Sabins about it, and it was learned through the deposition  
21 that, in fact, Mr. Viator had been hired and that information  
22 that he might have gleaned while he was with Halliburton and  
23 working with my legal team in the defense of this *Horizon*  
24 litigation might have been used by him in some way in  
25 connection with his employment with CSI Inc., who had been



17:08 1 hired by BP.

17:08 2 We couldn't reach an agreement on it, the  
17:08 3 lawyers and I, for BP. I brought it to Judge Shushan's  
17:08 4 attention. She said, "Let's file a motion. File your papers  
17:08 5 on it."

17:08 6 We filed a motion. It was briefed fully by both  
17:08 7 sides, and then she disqualified Fred Sabins.

17:09 8 **THE COURT:** I have some recollection of that.

17:09 9 **MR. GODWIN:** Yes, sir. She disqualified him.

17:09 10 Now, it was at that point, Your Honor, after she  
17:09 11 did that, that the time had passed for BP to have a cement  
17:09 12 expert.

17:09 13 They then filed papers with Judge Shushan,  
17:09 14 asking for permission to name another cement expert it. And  
17:09 15 they did, and that gentleman's name was Mr. Ron Crook.

17:09 16 She said, "Okay. I'm going to allow them to do  
17:09 17 that," but she said, in a sense of fairness and whatever else  
17:09 18 there was, the reasoning behind it -- she said, "I'm going to  
17:09 19 allow Mr. Godwin for Halliburton to have their cement expert  
17:09 20 come in behind him and then allow -- I'll designate -- they can  
17:09 21 have a cement expert, who will then come in behind." And we  
17:09 22 designated Dr. Kris Ravi.

17:09 23 He was called as a rebuttal expert, but we could  
17:09 24 have called him anything. But he was really our cement expert.  
17:09 25 And it was in response to -- we had been relying upon Fred

1 Sabins, who was going to be theirs; we would then have ours.  
2 And when we found out Mr. Sabins was going to be gone, then we  
3 asked her for permission to allow us to name one.

4 Whether he's a true -- just a cement expert or  
5 rebuttal, it really doesn't matter. We named him, Judge, in  
6 September of --

7 **THE COURT:** How about if we do this.

8 **MR. GODWIN:** Yes, Your Honor.

9 **THE COURT:** I hear what you're saying. Again, I  
10 don't have the full background on all of this. I'm aware of it  
11 generally.

12 **MR. GODWIN:** Yes, sir, Your Honor.

13 **THE COURT:** And unfortunately, Judge Shushan is off  
14 to Paris. She's not even answering my e-mails anymore.

15 **MR. GODWIN:** Maybe it's that table wine she said she  
16 was taking with her, Judge.

17 **THE COURT:** In fact, I sent an e-mail to a former law  
18 clerk of mine who lives in Canada today, because it's her  
19 birthday. She happened to tell me that she's in Paris for a  
20 month.

21 And I said, "Well, maybe you'll stumble across  
22 Judge Shushan while you're there." So maybe I can get her to  
23 track Shushan down over there.

24 In any event, normally I would just talk to  
25 Judge Shushan to get her version of all that led up to this.

17:10 1 MR. GODWIN: Yes, Your Honor.

17:10 2 THE COURT: What I'd like you all to do is, maybe  
17:10 3 between now and, say, Monday morning, give me a three-page  
17:11 4 letter brief from --

17:11 5 What I'm hearing, we have three issues here.  
17:11 6 The first question is the timing of it --

17:11 7 MR. GODWIN: Yes, Judge.

17:11 8 THE COURT: -- if you get if call him.

17:11 9 What I was thinking, the first question is going  
17:11 10 to be whether BP calls their expert or not; and then the  
17:11 11 question would be the timing of your expert, if you're allowed  
17:11 12 to call him, or whether you should be allowed to call him if BP  
17:11 13 does not call theirs.

17:11 14 As I understand it, BP is taking the position  
17:11 15 that if you don't call yours, he can't call his? Am I right  
17:11 16 about that?

17:11 17 MR. REGAN: That's right, Your Honor, because there  
17:11 18 were disclosure deadlines for experts. I think it was  
17:11 19 October 17th, 2011.

17:11 20 THE COURT: And the PSC's position on all this is  
17:11 21 what?

17:11 22 MR. STERBCOW: Your Honor, the PSC's position --

17:11 23 THE COURT: You just care about the timing, or do  
17:11 24 you -- you care about the timing. Do you share BP's --

17:11 25 MR. STERBCOW: We share BP's concern. But as I told

17:12 1 Don and everybody, I understand it's a judge trial, I  
17:12 2 understand we have more flexibility.

17:12 3 Our point in raising this, from the beginning,  
17:12 4 is BP's concern is if we don't have an expert whose testimony  
17:12 5 is going to be rebutted, then there's no need for the expert.

17:12 6 Now, having said that, I think what you said  
17:12 7 earlier is -- that was my thought from the beginning, is, we  
17:12 8 find out what BP's going to do and then we go from there.

17:12 9 **THE COURT:** Why don't we do this. Why doesn't  
17:12 10 Halliburton, BP, and the PSC each submit to the Court a  
17:12 11 three-page letter brief on this issue --

17:12 12 **MR. GODWIN:** We will.

17:12 13 **THE COURT:** -- as to how the Court -- suggest how the  
17:12 14 Court should handle this and we'll deal with it on Monday.  
17:12 15 Okay?

17:12 16 **MR. REGAN:** Very well, Your Honor.

17:12 17 **MR. GODWIN:** Thank you, Judge.

17:12 18 **MR. UNDERHILL:** Your Honor, let me break new ground.

17:12 19 **THE COURT:** Do you want to weigh into this too?

17:12 20 **MR. UNDERHILL:** Only to break new ground to show that  
17:12 21 I made up with my southern friends, Luther, the north/south  
17:12 22 divide a while ago.

17:12 23 On this one issue, and probably this one issue  
17:13 24 only, I'm on BP's side. What I would do is --

17:13 25 **MR. REGAN:** Lightning's about to strike.

17:13 1 THE COURT: Wait, wait. I was about to say the press  
17:13 2 has left, but I see somebody's still there. That might get  
17:13 3 reported. You might be furloughed by Monday, for sure.

17:13 4 MR. UNDERHILL: As a result of this -- but to make  
17:13 5 life simple on Your Honor, I'll confer with Paul, and we'll  
17:13 6 just submit one brief on behalf of the plaintiffs.

17:13 7 THE COURT: That's fine.

17:13 8 MR. UNDERHILL: Thank you.

17:13 9 MR. GODWIN: Judge, thank you for giving us an  
17:13 10 opportunity to do so, because he is a cement expert that we  
17:13 11 have to have. I understand Paul --

17:13 12 THE COURT: Well, I want to do what's fair, but I  
17:13 13 need to have a fuller understanding of what led up to this.

17:13 14 MR. REGAN: We'll lay out the context and then --

17:13 15 MR. GODWIN: And I certainly appreciate your allowing  
17:13 16 us to do it, Judge. Thank you.

17:13 17 THE COURT: Anybody have anything else?

17:13 18 Mr. Williamson.

17:13 19 MR. WILLIAMSON: Yes, Your Honor. Jimmy Williamson  
17:13 20 for the PSC.

17:13 21 I promised the Court that I would redact  
17:13 22 Mr. Perkin's reports, TRES-7535 and 7536. I've done that. I  
17:14 23 think I've worked out all of 7535 with both Transocean and BP.  
17:14 24 So I want to tender those redactions to the Court. And then  
17:14 25 I'll get a copy to the Court of the --

17:14 1 THE COURT: This is -- you gave two numbers. What's  
17:14 2 the second number for?

17:14 3 MR. WILLIAMSON: The second number is the appendix  
17:14 4 that supports his report.

17:14 5 THE COURT: So you're offering both of those or just  
17:14 6 7535?

17:14 7 MR. WILLIAMSON: I'm offering both of those, 7535 and  
17:14 8 7536, and I've redacted both.

17:14 9 THE COURT: All right.

17:14 10 Where's Ms. Karis? She's right --

17:14 11 MR. CARTER WILLIAMS: Your Honor, Carter Williams on  
17:14 12 behalf of Transocean. We have received that. We were just  
17:14 13 taking a final look at that and close it. We'll get back with  
17:14 14 that on Monday.

17:14 15 THE COURT: All right. Let's deal with it Monday  
17:14 16 morning as well.

17:14 17 MR. WILLIAMSON: The second thing, Your Honor, is,  
17:14 18 when I was examining Mr. Perkin, there were two exhibits,  
17:14 19 TREX-5513 and TREX-26011, that I asked several questions on,  
17:14 20 without objection. In the case of 5513, it was an e-mail  
17:15 21 string -- TREX-5513. I asked several questions; I moved on to  
17:15 22 another subject. A page and a half later there was an  
17:15 23 objection. The Court sustained the objection.

17:15 24 I want to tender 5513 because there was no  
17:15 25 objection during my examination of it. I'll be happy to give

17:15 1 the Court the pages out of the transcript where I've reviewed  
17:15 2 it.

17:15 3 **THE COURT:** Well, wait, wait, wait. You said there  
17:15 4 was no objection, but you said I sustained the objection. I'm  
17:15 5 not clear on what you're saying.

17:15 6 **MR. WILLIAMSON:** Sure. What I said was, I asked  
17:15 7 questions about TREX-5513. There were no objections while I  
17:15 8 was asking questions --

17:15 9 **THE COURT:** Which is what? E-mails, an e-mail?

17:15 10 **MR. WILLIAMSON:** An e-mail.

17:15 11 **THE COURT:** Okay.

17:15 12 **MR. WILLIAMSON:** There were no objections while I was  
17:15 13 asking questions on 5513.

17:15 14 And then I said -- and I quote: Now, let's go  
17:15 15 back to the blowout preventer issue.

17:15 16 I then asked questions for another page and a  
17:15 17 half; then there was an objection. There were no objections  
17:16 18 during my examination on the exhibit.

17:16 19 **THE COURT:** Well -- but there's an objection now or  
17:16 20 there was an objection then and I sustained it? Is that what  
17:16 21 you're telling me?

17:16 22 **MR. WILLIAMSON:** There was an objection on another  
17:16 23 subject.

17:16 24 **THE COURT:** But on the same exhibit or a different  
17:16 25 exhibit? That's what I --

17:16 1 MR. WILLIAMSON: No, a different subject.

17:16 2 THE COURT: No, I'm not asking about the subject; I'm  
17:16 3 asking about the exhibit.

17:16 4 MR. WILLIAMSON: The objection --

17:16 5 THE COURT: Okay. Let's do it this way. This is  
17:16 6 TREX-5513 e-mail that Mr. Williamson is referring to. Who  
17:16 7 objected to that?

17:16 8 MR. WILLIAMSON: Transocean.

17:16 9 THE COURT: Okay. Anybody here from Transocean want  
17:16 10 to speak to this?

17:16 11 Nobody knows what it's about?

17:16 12 MR. CARTER WILLIAMS: Your Honor, Carter Williams on  
17:16 13 behalf of Transocean. I was not involved in that process. If  
17:16 14 we could do the same and get back to you Monday morning.

17:16 15 THE COURT: All right. Why don't you all look at  
17:16 16 that between now and Monday morning and we'll deal with that.  
17:16 17 Okay?

17:17 18 MR. WILLIAMSON: I have the same issue on  
17:17 19 Exhibit 26011.

17:17 20 THE COURT: Was that also another Transocean  
17:17 21 objection?

17:17 22 MR. WILLIAMSON: No, that was Ms. Karis for BP's  
17:17 23 objection.

17:17 24 THE COURT: BP. Okay. Why don't we ask Ms. Karis or  
17:17 25 somebody on BP's team to look at -- let's see. What's the



17:17 1 number on that?

17:17 2 MR. WILLIAMSON: 26011.

17:17 3 THE COURT: Look at that one between now -- and let  
17:17 4 Mr. Williamson know and the Court by Monday morning.

17:17 5 MR. REGAN: Yes, sir.

17:17 6 MR. WILLIAMSON: I just want to handle it however you  
17:17 7 want me to handle it.

17:17 8 THE COURT: I frankly have no recollection of this  
17:17 9 right off the top of my head. But we'll deal it.

17:17 10 MR. WILLIAMSON: Thank you, Judge.

17:17 11 THE COURT: Anything else? Anybody have anything  
17:17 12 else?

17:17 13 MR. CARTER WILLIAMS: Your Honor, Carter Williams on  
17:17 14 behalf of Transocean. I have a list of 26 deposition bundles  
17:17 15 that Transocean wants to offer in its case in chief.

17:17 16 We circulated that last week. The only comment  
17:17 17 we got back on that -- there are two bundles for Mr. Gary  
17:17 18 Kenney and Mr. Neil Thompson, both with DNV, that Cameron wants  
17:17 19 to take a look at to make sure the designations don't violate  
17:17 20 your limine order with respect to the DNV report.

17:18 21 THE COURT: All right. Well, then why don't we just  
17:18 22 hold off on ruling on that today. I promise I will not be  
17:18 23 reading those over the weekend.

17:18 24 MR. CARTER WILLIAMS: Sure.

17:18 25 THE COURT: We can hold off until next week to deal

17:18 1 with that. Okay?

17:18 2 **MR. CARTER WILLIAMS:** That would be great.

17:18 3 There's also two other bundles, not on this  
17:18 4 list, that we identified to the parties yesterday, Robert Neal  
17:18 5 and Murry Sepulvado, which we will add and then submit one list  
17:18 6 next week.

17:18 7 **THE COURT:** Thank you.

17:18 8 **MR. CARTER WILLIAMS:** Thank you, Your Honor.

17:18 9 **THE COURT:** Okay. Anybody else?

17:18 10 All right. Have a --

17:18 11 **MR. BROCK:** I was going to mention one other thing,  
17:18 12 and that is that BP does anticipate filing the motion that we  
17:18 13 discussed this morning with regard to the evidence issues that  
17:18 14 have developed in trial.

17:18 15 We hoped to do it tonight, but it may be first  
17:18 16 thing in the morning. I didn't know if you wanted to think  
17:18 17 about a briefing schedule for that or not or wait until we get  
17:18 18 it on file.

17:18 19 **THE COURT:** You're going to file something -- BP's  
17:18 20 going to file something.

17:18 21 And somebody over here was going to file  
17:19 22 something too; right?

17:19 23 **MR. MAZE:** We said we were going to wait and see what  
17:19 24 BP filed and then go from there.

17:19 25 **THE COURT:** So you could say "me too"?

17:19 1 MR. MAZE: It depends on what they ask.

17:19 2 It would make it easier for you.

17:19 3 MR. GODWIN: Judge, I can't imagine Corey saying "me  
17:19 4 to" to what BP does.

17:19 5 THE COURT: Well, I don't know. Miracles happen.  
17:19 6 Mr. Underhill did today.

17:19 7 MR. REGAN: Lightning will strike twice?

17:19 8 THE COURT: If you get it filed by tomorrow -- I'd  
17:19 9 like to try to expedite this as much as -- I don't think it's  
17:19 10 something we can let linger. If we can. I don't know what  
17:19 11 you're going to file, so I can't really -- I guess I shouldn't  
17:19 12 say that.

17:19 13 Why don't we do this. When you-all file it --  
17:19 14 how about this. Alabama and Halliburton, send us by e-mail and  
17:19 15 send it to Ben, telling us what you plan to do, what you want  
17:19 16 to do, how much time you need to respond. Okay?

17:19 17 MR. GODWIN: We'll do that, Judge. No problem.

17:20 18 THE COURT: I'll give you a --

17:20 19 MR. GODWIN: We'll send something to Ben.

17:20 20 THE COURT: Okay.

17:20 21 MR. GODWIN: Thank you, Judge.

17:20 22 THE COURT: Okay.

17:20 23 MR. KRAUS: Your Honor, on behalf of Louisiana, I'll  
17:20 24 probably coordinate with Corey and file something jointly with  
17:20 25 him.

17:20 1 THE COURT: Yeah. I think you guys could --

17:20 2 MR. MAZE: We'll turn it around very quickly so Don  
17:20 3 will have everything in time.

17:20 4 THE COURT: Everybody knows generally what the issue  
17:20 5 is, so you all can be working on whatever you plan to do.

17:20 6 MR. MAZE: Yes, sir.

17:20 7 MR. GODWIN: I call it "piling on," Your Honor.

17:20 8 THE COURT: "Piling on." Okay.

17:20 9 MR. REGAN: Welcome to our world.

17:20 10 THE COURT: One more thing -- thanks, Stephanie.

17:20 11 I've noticed that at least once or twice I've  
17:20 12 had lawyers -- we've had so many players in terms of people who  
17:20 13 are examining or cross-examining witnesses that once or twice,  
17:20 14 at least -- in fact, I think -- Mr. Baay's not here. I don't  
17:20 15 think he was on our original trial counsel list for Transocean.  
17:20 16 I'm just using him as an example because I happened to notice  
17:20 17 it.

17:21 18 So just for Stephanie's minutes, instead of  
17:21 19 trying to keep roll every day, which I thought would get  
17:21 20 chaotic here, we -- if you notice, on the daily smooth minutes  
17:21 21 we're just saying, "The following attorneys have appeared at  
17:21 22 various times during the trial," or something along those  
17:21 23 lines.

17:21 24 You all should look at that, and if there are  
17:21 25 lawyers who are not on that list that should be listed as

17:21 1 making appearances -- when I say "appearances," I don't mean  
17:21 2 just sitting in the courtroom, but particularly who will be  
17:21 3 examining witnesses, let us know by Monday. Okay?

17:21 4 All right. If there's nothing else, we'll see  
17:21 5 everyone 8:00 a.m. on Monday.

17:21 6 **THE DEPUTY CLERK:** All rise.

17:21 7 (WHEREUPON, the proceedings were concluded.)

17:21 8 \*\*\*\*\*

17:21 9 **CERTIFICATE**

17:21 10 I, Jodi Simcox, RMR, FCRR, Official Court Reporter  
17:21 11 for the United States District Court, Eastern District of  
17:21 12 Louisiana, do hereby certify that the foregoing is a true and  
17:21 13 correct transcript, to the best of my ability and  
17:21 14 understanding, from the record of the proceedings in the  
17:21 15 above-entitled and numbered matter.

17:21 16  
17:21 17  
17:21 18 *s/Jodi Simcox, RMR, FCRR*  
17:21 19 Jodi Simcox, RMR, FCRR  
17:21 20 Official Court Reporter  
21  
22  
23  
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'	159 [1] 5450/19	26 [3] 5512/12 5513/22 5545/14
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-3 [2] 5486/5 5487/15	18 [1] 5407/21	5453/23 5454/2 5455/3 5455/14 5456/9
-4 [2] 5486/6 5487/15	1885 [1] 5396/12	5457/4 5462/10 5465/14 5503/19
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