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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG * Docket 10-MD-2179
DEEPWATER HORIZON IN THE *
GULF OF MEXICO ON APRIL 20, 2010 * Section J
 *
Applies to: * New Orleans, Louisiana
 *
Docket 10-CV-02771, * March 13, 2013
IN RE: THE COMPLAINT AND *
PETITION OF TRITON ASSET *
LEASING GmbH, et al *
 *
Docket 10-CV-4536, *
UNITED STATES OF AMERICA v. *
BP EXPLORATION & PRODUCTION, *
INC., et al *
 *
* * * * *

DAY 11, AFTERNOON SESSION
TRANSCRIPT OF NONJURY TRIAL
BEFORE THE HONORABLE CARL J. BARBIER
UNITED STATES DISTRICT JUDGE

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1 AFTERNOON SESSION

2 (March 13, 2013)

13:06 3 THE COURT: Please be seated, everyone.

13:18 4 MR. ROBERTS: Your Honor, Alex Roberts on behalf of
13:18 5 Cameron. I have two exhibits that Cameron used in its
13:18 6 examination of Gregg Perkin yesterday. I circulated those
13:18 7 exhibits this morning, and I heard no objection. Move to admit
13:18 8 them at this time.

13:18 9 THE COURT: Anyone object to these exhibits?

13:18 10 Those are admitted.

13:18 11 MR. ROBERTS: Thank you.

13:18 12 THE COURT: Thank you.

13:18 13 All right, Mr. Brock.

13:18 14 MR. BROCK: Thank you, Your Honor.

13:18 15 JOSEPH KEITH,

13:18 16 having been duly sworn, testified as follows:

13:18 17 CROSS-EXAMINATION

13:18 18 BY MR. BROCK:

13:18 19 Q. Good afternoon, Mr. Keith. Are you ready to resume?

13:18 20 A. Yes, sir.

13:18 21 Q. I want to pick up with a couple questions about your
13:18 22 access to the information in the mud logger shack. Okay?

13:18 23 A. Okay.

13:18 24 Q. I believe you said that there was a monitor there that
13:18 25 transmitted to the rig TV system?

JOSEPH KEITH - CROSS

13:18 1 A. Yes, sir.

13:19 2 Q. The display that would be put up during the time that you
13:19 3 would be in there would depend on the rig activity?

13:19 4 A. Correct, or whatever the driller wanted me to put up.

13:19 5 Q. Right. But for you, it could show either a digital output
13:19 6 or a curved line of pressure readings, correct?

13:19 7 A. Correct. Yes, sir.

13:19 8 Q. As you described this morning, if you were to see an
13:19 9 indication of a kick or anomaly, you could expand the screen in
13:19 10 such a way as to be able to more clearly view what was going
13:19 11 on?

13:19 12 A. Correct.

13:19 13 Q. You also had a time log that would show the active pits,
13:19 14 the reserve pits, rotary torque, and that type of thing?

13:19 15 A. Sure. Yes, sir.

13:19 16 Q. Now, your job as the mud logger was to monitor all
13:19 17 parameters, correct?

13:20 18 A. Correct.

13:20 19 Q. One of the tools that was available to you was the trend
13:20 20 lines that you could see as the data came through to you,
13:20 21 correct?

13:20 22 A. Correct. Yes, sir.

13:20 23 Q. For some parameters, like drill pipe pressure, you could
13:20 24 also watch numerical values to see if it was changing?

13:20 25 A. Correct. Yes, sir.

JOSEPH KEITH - CROSS

13:20 1 Q. So when we say a numerical value, it would actually tell
13:20 2 you pressure over time, and you could see if it was moving up
13:20 3 or if it was moving down?

13:20 4 A. Right. The digital number, yes, sir.

13:20 5 Q. Yes, a digital number.

13:20 6 Now, let's shift topics now to when you began your
13:20 7 service on the evening of April 20. Okay?

13:21 8 You went on tour on the *Deepwater Horizon* between
13:21 9 5:00 and 5:30 that evening?

13:21 10 A. Correct.

13:21 11 Q. You were relieving Cathleenia Willis, correct?

13:21 12 A. Right. Yes, sir.

13:21 13 Q. I think I asked you about this before the break; but it
13:21 14 would be your practice to meet with her early, before the tour
13:21 15 would begin?

13:21 16 A. Yes, sir.

13:21 17 Q. On the afternoon of April 20, you reviewed the prior rig
13:21 18 activities -- that is, what had taken place that day -- plus
13:21 19 the planned activities for the rest of the day with Ms. Willis?

13:21 20 A. Yes, sir.

13:21 21 Q. I think you have described that that meeting took about
13:21 22 15 minutes?

13:21 23 A. Approximately, yes, sir.

13:21 24 Q. Now, you keep in the mud logger shack what you have
13:21 25 referred to today as a "ledger," correct?

JOSEPH KEITH - CROSS

13:21 1 A. Yes, sir.

13:21 2 Q. That ledger is there so that you can keep a history of
13:21 3 what you have seen and what you have observed during your time
13:21 4 on tour?

13:21 5 A. Yes, sir.

13:21 6 Q. And it also is a good record for her to pass on to you
13:22 7 when you come on tour so you can see what's happened before?

13:22 8 A. Yes, sir.

13:22 9 Q. You would use that log or that ledger to track things like
13:22 10 pit transfers?

13:22 11 A. Correct. Yes, sir.

13:22 12 Q. When you're monitoring pit volumes, you would write down
13:22 13 every time there would be a transfer and how many barrels were
13:22 14 being transferred?

13:22 15 A. Yes, sir.

13:22 16 Q. You were doing this to make sure that everything was going
13:22 17 to the right pits?

13:22 18 A. As far as I know, yes, sir.

13:22 19 Q. As part of your job?

13:22 20 A. Correct.

13:22 21 Q. Now, when you came on tour between 5:30 and 6:00, you
13:22 22 reviewed the notes that Ms. Willis had written down in her
13:22 23 ledger book to understand what had happened during her tour?

13:22 24 A. Yes, sir.

13:22 25 Q. You reviewed the time logs that were up?

JOSEPH KEITH - CROSS

13:22 1 A. Yes, sir.

13:22 2 Q. What are the time logs?

13:22 3 A. The time log is the curved numeric curve lines, and it's
13:22 4 spaced out per time.

13:23 5 Q. So you could see parameters like pressure over time when
13:23 6 you look at that?

13:23 7 A. Yes, sir.

13:23 8 Q. And the other ones you have talked about?

13:23 9 A. Yes, sir.

13:23 10 Q. You asked Ms. Willis what steps she had completed and what
13:23 11 activities were coming up next?

13:23 12 A. Yes, sir, correct.

13:23 13 Q. You know that she had been at the operational meeting
13:23 14 earlier in the day at around 11:00?

13:23 15 A. Yes, sir.

13:23 16 Q. That's what you described before the lunch break?

13:23 17 A. Yes, sir.

13:23 18 Q. You discussed with her the displacement procedure for the
13:23 19 negative pressure test?

13:23 20 A. We just went over the steps that had -- had been done and
13:23 21 where we were at at the time.

13:23 22 Q. Sure. She showed you the M-I SWACO displacement
13:23 23 procedures?

13:23 24 A. Correct.

13:23 25 Q. You were shown this document earlier. I want to just ask

JOSEPH KEITH - CROSS

13:23 1 you a couple questions about it.

13:23 2 MR. BROCK: If we could pull that up, it's

13:23 3 TREX-967.1.1.

13:23 4 BY MR. BROCK:

13:23 5 Q. You can see here I've just called out that this is the
13:24 6 SWACO BP *Deepwater Horizon* displacement procedure, correct?

13:24 7 A. Right.

13:24 8 Q. You would have looked at it that night?

13:24 9 A. Yes, sir.

13:24 10 Q. Then if we look at 967.1.2, this is No. 3 on the list and
13:24 11 it says: "Pump excess volume to *Bankston* and have boat on
13:24 12 starboard with mud hose on her."

13:24 13 Do you see that?

13:24 14 A. Yes, sir.

13:24 15 Q. That had already occurred by the time you arrived on tour,
13:24 16 correct?

13:24 17 A. As far as I know, yes, sir.

13:24 18 Q. In other words, this activity had been completed, correct?

13:24 19 A. Yes, sir. They had the spacer so much above the wellhead
13:24 20 at the time when I came on tour.

13:24 21 Q. So the mud had already been pumped to the *Bankston* by the
13:24 22 time you came on tour?

13:24 23 A. As far as I know, yes, sir.

13:24 24 Q. Now, under Step 8 it says -- of the displacement it says:
13:25 25 "Switch to overboard discharge."

JOSEPH KEITH - CROSS

- 13:25 1 Correct?
- 13:25 2 A. Correct. Yes, sir.
- 13:25 3 Q. That activity had not occurred yet?
- 13:25 4 A. Correct.
- 13:25 5 Q. But you knew that it was upcoming during the period of
13:25 6 time you would be on the rig?
- 13:25 7 A. Yes, sir.
- 13:25 8 Q. Or on service in the mud logger's cabin?
- 13:25 9 A. Yes, sir.
- 13:25 10 Q. Then if we look at 1.4, we see that: If the static sheen
13:25 11 test is an apparent pass, discharge the remaining spacer and
13:25 12 seawater down the over board line.
- 13:25 13 Do you see that?
- 13:25 14 A. Yes, sir.
- 13:25 15 Q. What this refers to is what we have talked about earlier
13:25 16 that took place after the sheen test, when the fluids were
13:25 17 pumped overboard and were no longer going past your flow meter?
- 13:25 18 A. Correct. Yes, sir.
- 13:25 19 Q. After your discussion with Ms. Willis, you were aware of
13:25 20 the planned activities; that is, what was going to be occurring
13:26 21 the rest of the evening?
- 13:26 22 A. Yes, sir.
- 13:26 23 Q. You didn't have any questions about the M-I SWACO
13:26 24 displacement procedure?
- 13:26 25 A. No, sir.

JOSEPH KEITH - CROSS

13:26 1 Q. She mentioned to you the transferring of pits during the
13:26 2 displacement procedure?

13:26 3 A. Yes, sir.

13:26 4 Q. What we mean by that is the movement of drilling fluids
13:26 5 from one pit to another?

13:26 6 A. Correct.

13:26 7 Q. Ms. Willis did not express any concern about her ability
13:26 8 to accurately and continuously monitor the well from a mud
13:26 9 logging perspective because of the movement of mud during this
13:26 10 displacement, did she?

13:26 11 A. I don't recall her mentioning it to me, no, sir.

13:26 12 Q. In fact, she didn't express any concerns to you about the
13:26 13 activities that had taken place or that were planned to take
13:26 14 place for the rest of the day with regard to your mud logging
13:26 15 duties, correct?

13:26 16 A. Correct. Yes, sir.

13:26 17 Q. At the end of the meeting, you had no concerns whatsoever
13:26 18 about your ability to accurately and continuously monitor the
13:27 19 well during your tour of duty?

13:27 20 A. No concerns, no, sir.

13:27 21 Q. Now, let's talk just for a minute about your
13:27 22 responsibilities during that period of time.

13:27 23 So your shift begins at 6:00 and is planned to go to
13:27 24 6:00 a.m. on the 21st?

13:27 25 A. Yes, sir.

JOSEPH KEITH - CROSS

13:27 1 Q. At that time, things had gone well. Ms. Willis would have
13:27 2 come into the shack; you would have had a meeting at 5:30 or
13:27 3 so; you would have described to her what happened and she would
13:27 4 have the next shift?

13:27 5 A. Yes, sir.

13:27 6 Q. You have mentioned this. When you went on tour, the rig
13:27 7 crew had just circulated the spacer up above the wellhead to
13:27 8 prepare for the negative test?

13:27 9 A. Correct. Yes, sir.

13:27 10 Q. Now, from the time you came on duty at 6:00 until the time
13:28 11 of the explosion, you would have been the only Sperry-Sun mud
13:28 12 logger who would have been working in that office?

13:28 13 A. Yes, sir.

13:28 14 Q. Did anyone come into the office the entire period of time
13:28 15 you were there?

13:28 16 A. No, sir.

13:28 17 Q. Did you leave the office -- other than the break that
13:28 18 we'll talk about in a little bit, did you ever leave the office
13:28 19 from 6:00 in the evening until the explosion?

13:28 20 A. No, sir.

13:28 21 Q. Your only responsibility when you were on tour on the
13:28 22 evening of April 20 was to monitor the data and the well
13:28 23 conditions?

13:28 24 A. Correct. Yes, sir.

13:28 25 Q. You would have been monitoring all of the surface

JOSEPH KEITH - CROSS

13:28 1 parameters during that period of time?

13:28 2 A. Yes, sir.

13:28 3 Q. You have described this, that you would be monitoring the
13:28 4 pits, the drill pipe pressure, flow-in and flow-out?

13:28 5 A. And gas, yes, sir.

13:28 6 Q. Gas and other things that you described?

13:28 7 A. Yes, sir.

13:29 8 Q. Now, there was some discussion earlier today about flow-in
13:29 9 rates. Do you remember that?

13:29 10 A. Yes, sir.

13:29 11 Q. You could monitor flow-in, I think you said earlier today,
13:29 12 by calculating volume through the total pump strokes and the
13:29 13 volume pumped?

13:29 14 A. Only by -- pumped by the stroke pumps, correct.

13:29 15 Q. Right. In other words, you had tools available to you to
13:29 16 allow you to monitor flow-in?

13:29 17 A. Yes, sir. In our pump output, where we change them, it
13:29 18 shows a digital number of how many barrels is being pumped.

13:29 19 Q. So in terms of being able to monitor flow-in, you would
13:29 20 say to us, "I was able to do that and perform my job
13:29 21 responsibilities adequately in that area"?

13:29 22 A. Yes, sir.

13:30 23 Q. Now, you were also able to continuously and accurately
13:30 24 monitor drill pipe pressure at all times while you were on tour
13:30 25 on April 20, 2010?

JOSEPH KEITH - CROSS

13:30 1 A. Correct. Yes, sir.

13:30 2 Q. Your testimony is you monitored the drill pipe pressure
13:30 3 from 5:00 to 5:30 all the way up through the time of the
13:30 4 explosion?

13:30 5 A. Correct. Yes, sir.

13:30 6 Q. A couple questions about safety.

13:30 7 You viewed safety for yourself and rig personnel as a
13:30 8 priority in your job when you were on board the
13:30 9 *Deepwater Horizon*?

13:30 10 A. Yes, sir, very highly.

13:30 11 Q. You felt safe on the *Deepwater Horizon*?

13:30 12 A. Always, yes, sir.

13:30 13 Q. You had been involved, as you have described today, in the
13:30 14 drilling of many wells where you were working with people with
13:30 15 SWACO and Transocean and BP and other contractors that were out
13:30 16 on the rig?

13:30 17 A. Yes, sir.

13:31 18 Q. You felt like that was a good team?

13:31 19 A. Very good team.

13:31 20 Q. If at any time on April 20 you had concluded or believed
13:31 21 that there was conduct or an event or activity that created an
13:31 22 unsafe condition, you understood that your responsibility would
13:31 23 be to report that to the company man, to the driller, or even
13:31 24 to the Transocean OIM, Jimmy Harrell?

13:31 25 A. Correct. Yes, sir.

JOSEPH KEITH - CROSS

13:31 1 Q. You made no such reports?

13:31 2 A. Nothing seemed unsafe to me.

13:31 3 Q. Thank you.

13:31 4 You have said this: You had the authority to stop
13:31 5 work if you believed that there was something unsafe.

13:31 6 A. We always had the opportunity to stop the work.

13:31 7 Q. If you believed that you were not able to monitor
13:31 8 important parameters related to safety, you could stop work.

13:31 9 A. Yeah, but I was always able to perform my job, yeah. I
13:32 10 always felt safe that I could, yes, sir.

13:32 11 Q. Yes. You felt safe that you could do that if you couldn't
13:32 12 monitor your parameters. And what you are telling us is that
13:32 13 you were able to monitor parameters that night?

13:32 14 A. Yes, sir.

13:32 15 Q. I think you have just said this, but let me just make sure
13:32 16 it's clear for the record: From the time you assumed your job
13:32 17 duties until the explosion, you were able to accurately monitor
13:32 18 all the data you were supposed to in the mud logging shack?

13:32 19 A. Yes, sir.

13:32 20 Q. You never told anyone from BP at any time that you were
13:32 21 not able to monitor the parameters that you were required to
13:32 22 monitor?

13:32 23 A. No, sir. I was able to do my job, perform my job.

13:32 24 Q. Never told anyone from Transocean that?

13:33 25 A. No, sir.

JOSEPH KEITH - CROSS

13:33 1 Q. Now, there were some questions about activities that were
13:33 2 going on during the period of time that you were on tour.

13:33 3 Do you remember those questions?

13:33 4 A. Yes, sir.

13:33 5 Q. There was a slide put up about different things that were
13:33 6 going on that day. Do you remember that?

13:33 7 A. Yes, sir.

13:33 8 Q. It's true, isn't it, that none of the activities that took
13:33 9 place on the rig between 5:00 p.m. on April 20, 2010 and the
13:33 10 moment of the explosion interfered with your ability to do your
13:33 11 job?

13:33 12 A. Correct.

13:33 13 Q. No activities on the rig distracted you or rendered you
13:33 14 unable to perform those mud logging duties at any time?

13:33 15 A. I was still able to perform my job tasks.

13:33 16 Q. Thank you.

13:33 17 Now, the activities that took place on the afternoon
13:33 18 and evening of April 20 were activities that you had seen
13:34 19 before when you were mud logging?

13:34 20 A. Yes, sir, but not during displacements.

13:34 21 Q. Do you recall saying that there was nothing unusual about
13:34 22 the rig activities on that afternoon and evening?

13:34 23 A. I don't remember saying that, no, sir.

13:34 24 Q. Let's look at your deposition briefly. We are looking at
13:34 25 page 271, 7 through 12. Do you recall being asked:

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- 13:34 1 "QUESTION: The activities that took place on the
13:34 2 afternoon or evening of April 20, you had seen those
13:34 3 activities before when you were mud logging, right?"
- 13:34 4 "ANSWER: Yes, sir"?
- 13:34 5 A. Certain things, yes, sir.
- 13:34 6 Q. Let's look at the next question.
- 13:34 7 "QUESTION: "Nothing unusual about them?"
13:34 8 What was your answer?"
- 13:34 9 A. "No."
- 13:35 10 Q. I apologize for asking you to do this. But could you tell
13:35 11 us again how you had the drill pipe pressure set with regard to
13:35 12 the alarms?
- 13:35 13 A. Once they went back to displacing while they were
13:35 14 pumping --
- 13:35 15 Q. Could you lean forward just a little bit? I'm sorry.
- 13:35 16 A. The alarm was set 150 to 200 psi above the normal pump
13:35 17 rate, and it was set 150 to 200 psi below the normal standpipe
13:35 18 rate. That was to let us know if the standpipe pressure came
13:35 19 up while they were pumping, if there was a pop-off valve going
13:35 20 off, and if there was a decrease, to let me know when they
13:35 21 turned the pumps off or just have an anomaly when they start
13:35 22 turning the pumps off or pressures off.
- 13:35 23 Q. Are the terms "standpipe pressure" and "drill pipe
13:35 24 pressure" the same thing?
- 13:35 25 A. They're the same thing, yes, sir.

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13:35 1 Q. So if there is an increase of more than 150 psi on the
13:35 2 drill pipe, should the alarm go off?

13:36 3 A. Yes, sir. At my normal alarm setting, yes, sir.

13:36 4 Q. Is that how you had it set that night, according to your
13:36 5 normal?

13:36 6 A. Yes, sir.

13:36 7 Q. You're saying that prior to -- I think it was around 2120,
13:36 8 when the pop-off valve --

13:36 9 A. The pop-off valve --

13:36 10 Q. -- that's the first time the standpipe pressure went off,
13:36 11 alarm went off?

13:36 12 A. Yes, because it exceeded the normal pressure.

13:36 13 Q. If there was an increase of more than 150 psi on the drill
13:36 14 pipe prior to the issue with the pop-off valve, the alarm
13:36 15 should have sounded?

13:36 16 A. That's while they were pumping at the normal rate. You
13:36 17 see, if they were pumping at a different rate, I would have had
13:36 18 to go in and constantly change the alarm, you see.

13:36 19 Q. So during the period of time 9:00 to 9:14, they were
13:37 20 pumping at a constant rate?

13:37 21 A. Correct.

13:37 22 Q. I want to talk to you about your break now.

13:37 23 A. Okay.

13:37 24 Q. There were some questions asked of you earlier today about
13:37 25 an interview that you had with representatives of BP about the

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13:37 1 evening of April 20.

13:37 2 Do you remember those questions?

13:37 3 A. Yes, sir, I believe so.

13:37 4 Q. You shared with the representatives of BP in that
13:37 5 interview that you did not take a break that evening.

13:38 6 A. Correct.

13:38 7 Q. Around that period of time, you had a -- you were given
13:38 8 some compensation and signed a release that was shown to you
13:38 9 earlier?

13:38 10 A. Correct.

13:38 11 Q. You never talked to anyone with BP about the compensation
13:38 12 that you received that relates to the release that we looked
13:38 13 at, did you?

13:38 14 A. No, sir.

13:38 15 Q. As far as you know, did anybody at BP even know about it
13:38 16 the day you met with them?

13:38 17 A. No, sir.

13:38 18 Q. That was a manager with Halliburton who came to you and
13:38 19 said, "Here's how we'll help you out," and they gave you some
13:38 20 sum of money for which you signed a release?

13:38 21 A. Yeah. He didn't know -- he asked me what my main concern
13:38 22 was. And I didn't want to lose everything I had, and I didn't
13:38 23 know when or if I would ever be able to come back to work
13:38 24 again.

13:38 25 Q. All right. Do you remember, as you sit here today,

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13:38 1 precisely the time that you took the break?

13:39 2 A. I know it was before they put the sandwiches and stuff
13:39 3 out. I know it was before that. And I know it was before they
13:39 4 checked the flow, because I was definitely back in my unit when
13:39 5 they checked the flow.

13:39 6 Q. So one end of the scale, in terms of when it might have
13:39 7 been, would be around 9:08 because you know you were back by
13:39 8 the time they were doing the sheen test?

13:39 9 A. I would say my break was roughly 8:30.

13:39 10 Q. When you say you know you were back before the sheen test,
13:39 11 are you able to say how close in time you got back to the
13:39 12 driller's shack?

13:39 13 A. I was in the unit probably about 10 minutes prior to the
13:39 14 checking of the flow.

13:39 15 Q. So you would have returned to the drill shack -- I'm
13:39 16 sorry. You would have returned to the mud logger shack between
13:40 17 8:58 and 9:08, somewhere in that range?

13:40 18 A. Roughly, yes, sir. I don't exactly remember the time.

13:40 19 Q. That's what I was coming to.

13:40 20 A. Yeah.

13:40 21 Q. So within 10 minutes of the conduct of the sheen test, you
13:40 22 would have returned to your mud logger shack?

13:40 23 A. Yes, sir.

13:40 24 Q. Now, before you left the mud logger shack, did you know
13:40 25 what time the sheen test would be conducted?

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13:40 1 A. No, sir. I had to go use the bathroom.

13:40 2 Q. Now, do you believe that you left the mud logger shack for
13:40 3 your break around 8:30?

13:40 4 A. Roughly, yes, sir. Like I said, I knew it was roughly
13:40 5 around that time because the break stuff wasn't out yet, the
13:40 6 sandwiches and so forth.

13:40 7 Q. Now, your testimony is that when you returned to the mud
13:41 8 logger shack at around 9:00, you would have looked at the trend
13:41 9 lines to see if there had been any developments during your
13:41 10 absence?

13:41 11 A. Correct. Yes, sir.

13:41 12 MR. BROCK: And if I could see TREX-91382. I think
13:41 13 it's page 22.

13:45 14 BY MR. BROCK:

13:45 15 Q. Now, this is the slide that was shown to you this morning
13:41 16 by counsel for the PSC.

13:41 17 Do you remember this?

13:41 18 A. Yes, sir.

13:41 19 Q. You described for us how you could expand your view
13:41 20 monitor to depict the values in just this same way --

13:41 21 A. Yes, sir.

13:41 22 Q. -- if you chose to.

13:41 23 A. Yeah.

13:41 24 Q. Now, in this document that you were shown earlier by
13:42 25 counsel for the PSC, you see there that there is a box that

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13:42 1 says "Indication No. 1." Do you see that?

13:42 2 A. Yes, I see it.

13:42 3 Q. Do you see that it says, "Drill pipe pressure increased by
13:42 4 100 psi"? Do you see that?

13:42 5 A. Yes, sir.

13:42 6 Q. Do you agree that there was a 100-psi increase in the
13:42 7 period of time 9:01 to 9:08?

13:42 8 A. Yes, sir, I see that.

13:42 9 Q. No. I'm saying, do you agree with that?

13:42 10 A. Yes, sir. Yes, sir.

13:42 11 Q. Sir, did you see that on the evening of April 20?

13:42 12 A. Yes, sir.

13:42 13 Q. You saw the 100-psi increase?

13:42 14 A. Yes, sir.

13:42 15 Q. But you made no call to the driller's shack to tell them
13:42 16 you had seen that?

13:42 17 A. To me it's no indication of a kick. I've always seen
13:42 18 standpipe pressure decrease.

13:42 19 Q. Would you please focus on my question. I don't mean to be
13:42 20 argumentative.

13:42 21 A. All right.

13:42 22 Q. You did not call the drill shack when you saw the 100-psi
13:43 23 increase, did you?

13:43 24 A. Correct.

13:43 25 Q. You told us earlier that your job is not to interpret what

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13 : 43 1 is going on but, rather, to call if there is a change, correct?

13 : 43 2 A. Correct.

13 : 43 3 Q. There is a change noted at 2101 to 2108?

13 : 43 4 A. Correct. Yes, sir.

13 : 43 5 Q. Now, likewise, do you see the period of time that's noted
13 : 43 6 here, which is Indication No. 2?

13 : 43 7 A. Yes, sir.

13 : 43 8 Q. If you look over to the side, it says: "Drill pipe
13 : 43 9 pressure increased by 246 psi with the pumps off."

13 : 43 10 Do you see that?

13 : 43 11 A. Yes, sir.

13 : 43 12 Q. Now, has Halliburton trained you that if the pumps are
13 : 43 13 off, you should not be seeing an increase in drill pipe
13 : 43 14 pressure?

13 : 43 15 A. On the *Horizon*, yes, they trained me in certain ways like
13 : 44 16 that.

13 : 44 17 Q. The answer is yes?

13 : 44 18 A. Yes.

13 : 44 19 Q. Halliburton has trained you that?

13 : 44 20 A. Yes.

13 : 44 21 Q. Now, I think you misspoke earlier, but I want to clarify
13 : 44 22 this.

13 : 44 23 You were asked a question by counsel for PSC about
13 : 44 24 whether or not you noted the 250-psi increase. And my notes
13 : 44 25 reflect -- and I could have gotten this wrong. I was trying to

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13 : 44 1 listen closely. My notes reflect that you said your screen
13 : 44 2 went blank or black?

13 : 44 3 A. Yes, sir. My screens went black.

13 : 44 4 Q. Were your screens black from 2101 to 2108?

13 : 44 5 A. Not that I'm aware of, no, sir. All I know is they went
13 : 44 6 black not too long after they turned the pumps off.

13 : 44 7 Q. So in other words, from 2101 to 2108, you were seeing no
13 : 44 8 indications of drill pipe pressure?

13 : 45 9 A. It wasn't long after when they turned the pumps off that
13 : 45 10 my screens and the gas and all that came in my unit.

13 : 45 11 Q. So this is -- I think this is the reason for the
13 : 45 12 confusion, sir.

13 : 45 13 A. Okay.

13 : 45 14 Q. We are talking about the period of time now during the
13 : 45 15 sheen test. Do you follow that?

13 : 45 16 A. Okay. Yes, sir. Now I understand what you are talking
13 : 45 17 about.

13 : 45 18 Q. So let me ask the question again.

13 : 45 19 Did your screens go black or blank in the period of
13 : 45 20 time 2101 to 2108?

13 : 45 21 A. During the sheen test, no, sir.

13 : 45 22 Q. That's what I'm asking.

13 : 45 23 A. I got confused. I'm sorry.

13 : 45 24 Q. Now, you were trained that a 250-psi increase, when the
13 : 45 25 pumps are shut down, is something that needs to be

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13:45 1 investigated.

13:45 2 Did you call the driller's shack or the
13:45 3 representative of BP on the rig to report this change in drill
13:45 4 pipe pressure?

13:45 5 A. No, sir, unless to me it was an indication of a kick.
13:45 6 I've never seen the standpipe pressure increase for a kick.

13:46 7 Q. Again, your job is to identify changes and report them,
13:46 8 correct, sir?

13:46 9 A. Correct. Yes, sir.

13:46 10 Q. There was a change here that you did not report?

13:46 11 A. Correct.

13:46 12 Q. Now, if we go over to Indication No. 3, do you see there
13:46 13 it says, "Drill pipe pressure increased by 556 psi with the
13:46 14 pumps off"?

13:46 15 Do you see that?

13:46 16 A. Yes, I see that.

13:46 17 Q. Did you see that 556-psi increase with the pumps off?

13:46 18 A. No, sir.

13:46 19 Q. Do you see at that point in time that there had been a
13:46 20 300-barrel gain that had been missed by the crew of the
13:46 21 *Deepwater Horizon* by 2131?

13:47 22 A. A gain in what? In pits or what?

13:47 23 Q. Gains in flow, flow-out.

13:47 24 A. No, sir, I wasn't aware of that.

13:47 25 Q. Is allowing a 300-barrel gain acceptable to you as a

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- 13:47 1 representative of Halliburton before detection?
- 13:47 2 A. Repeat that again.
- 13:47 3 Q. If you have a 300-barrel gain, does that meet the
- 13:47 4 standards of Halliburton? That is, you have a 300-barrel gain
- 13:47 5 and you don't detect it?
- 13:47 6 A. I guess, yes, sir.
- 13:47 7 Q. You think that does meet Halliburton's standards?
- 13:47 8 A. Oh, no. No, no.
- 13:47 9 Q. It does not meet Halliburton's standards, does it?
- 13:47 10 A. I see what you're talking about.
- 13:47 11 Q. It's below the standards that would be expected of you as
- 13:47 12 a mud logger, correct?
- 13:47 13 A. But like I said, I've never seen that.
- 13:47 14 Q. I'm asking you a different question.
- 13:47 15 A. Right.
- 13:47 16 Q. A 300-barrel gain is below the standard that is set for
- 13:47 17 you as a Halliburton mud logger?
- 13:47 18 A. 300-barrel gain in --
- 13:47 19 Q. Flow.
- 13:47 20 A. -- in flow?
- 13:47 21 Q. Yes, sir.
- 13:47 22 A. Flow-in or --
- 13:48 23 Q. Flow-out.
- 13:48 24 A. Yeah. Flow-out, definitely.
- 13:48 25 Q. Just one second, Mr. Keith. I apologize.

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13:48 1 A. That's okay.

13:48 2 Q. I want to turn your attention now -- well, hang on just
13:48 3 one second. I don't want to do that yet.

13:49 4 Now, you have just told the Court that you observed a
13:49 5 100-psi increase from 9:01 to 9:08, correct, sir?

13:49 6 A. Correct, yes, sir.

13:49 7 Q. Do you remember being asked at your deposition, if you had
13:49 8 seen that drill pipe pressure increase 100 psi from 9:01 to
13:49 9 9:08 at a constant pump rate, you would have called the rig
10 floor?

13:49 11 A. I really don't remember, sir.

13:49 12 Q. Let's look at your deposition, page 104, line 4 to 105,
13 line 14.

13:49 14 Let's look at the question at the top. Do you see
13:49 15 it, Mr. Keith?

13:50 16 A. Yes, sir.

13:50 17 Q. Now, let me just -- I'm going to let you read it, but I
13:50 18 just want to ask you a couple questions here.

13:50 19 When your deposition was taken, you understood that
13:50 20 the parties were there to learn what you knew about the
13:50 21 accident on April 20?

13:50 22 A. Yes, sir.

13:50 23 Q. You knew that you needed to give honest and truthful
13:50 24 answers to the questions?

13:50 25 A. Correct.

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13:50 1 Q. People explained to you, if you have questions or you
13:50 2 misunderstand a question, let us know, we'll rephrase the
13:50 3 question?

13:50 4 A. Correct. You've got to keep in mind, too, I wasn't
13:50 5 myself.

13:50 6 Q. You didn't tell anybody that that day, though, did you?

13:50 7 A. Not that I recall.

13:50 8 Q. Now, you also had the opportunity, did you not, to review
13:50 9 your deposition and make any changes to it if there were
13:50 10 inaccuracies in the deposition, correct?

13:50 11 A. Correct.

13:50 12 Q. You didn't make any changes, did you?

13:50 13 A. Not that I recall, no, sir.

13:50 14 Q. All right. Now, let's look at these questions and
13:50 15 answers.

13:50 16 "QUESTION: Now, if you had seen that drill pipe
13:51 17 pressure increased 100 psi from 9:01 to 9:08 at a constant
13:51 18 pump rate, would you have called the rig floor?"

13:51 19 What is your answer, sir?

13:51 20 A. "Yes."

13:51 21 Q. (Reading):

13:51 22 "QUESTION: You would have called the rig floor and
13:51 23 said, 'Look. I think we have some indications that we are
13:51 24 taking a kick,' right?

13:51 25 "ANSWER: I would have just told them that I'm seeing

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13:51 1 a slight change."

13:51 2 Do you see that?

13:51 3 A. Yes, sir, if it would have stood out as a kick to me.

13:51 4 Q. Sir --

13:51 5 A. If it was -- okay. Sorry.

13:51 6 Q. -- is that what you said?

13:51 7 A. Yes, sir.

13:51 8 Q. (Reading):

13:51 9 "QUESTION: You would have said, 'I'm seeing

13:51 10 something that we need to check out'?

13:51 11 "ANSWER: No, just seeing a slight change."

13:51 12 Do you see that?

13:51 13 A. Yes, sir.

13:51 14 Q. (Reading):

13:51 15 "QUESTION: You just said 'just slight change'?

13:51 16 "ANSWER: Yes.

13:51 17 "QUESTION: No commentary on it whatsoever?

13:51 18 "ANSWER: No. Basically call them and tell them,

13:51 19 'Look, we're seeing a slight change in a parameter,' and

13:51 20 then it's their decision."

13:52 21 Do you see that?

13:52 22 A. Yes, sir.

13:52 23 Q. Then you were asked:

13:52 24 "QUESTION: Would you have also called the company

13:52 25 man?"

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13:52 1 Do you see the answer?

13:52 2 A. "Yes, sir."

13:52 3 Q. Now, the same is true for the 250-psi increase in the
13:52 4 drill pipe pressure that took place while the pumps were off
13:52 5 from 2108 to 2114, correct, sir?

13:52 6 A. Excuse me?

13:52 7 Q. Yeah. If you had seen -- you have testified, sir, under
13:52 8 oath --

13:52 9 A. Right.

13:52 10 Q. -- that if you had seen a 250-psi increase on the drill
13:52 11 pipe in the period of time 2108 to 2114, you would have called
13:52 12 the drill floor.

13:52 13 A. If it would have stood out as a kick to me, yes, sir.

13:52 14 Q. Let's look at your testimony. Now, we just looked at the
13:53 15 answer that you gave where you said -- the question was asked
13:53 16 of you:

13:53 17 "QUESTION: You would have called the rig floor and
13:53 18 said, 'Look, I think we are having some indications of a
13:53 19 kick'?

13:53 20 "ANSWER: No, I would have just told them we were
13:53 21 having a slight change."

13:53 22 A. Correct, yes, sir. At the time, that's what I said, yes,
13:53 23 sir.

13:53 24 Q. For the indication at 2108 to 2114, when the pumps are
13:53 25 turned off -- pressure should not be going up when the pumps

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13:53 1 are off, right?

13:53 2 A. I've seen it before the way they isolate the standpipe
13:53 3 pressure valve.

13:53 4 Q. Goes up a little bit and then it levels off, right?

13:53 5 A. It's supposed to, yes, sir.

13:53 6 Q. It didn't go up a little bit and level off here. It went
13:53 7 all the way up, 250 psi increase, correct?

13:53 8 A. That's correct, yes, sir.

13:53 9 Q. Under oath, when your deposition was taken in March of
13:53 10 2011:

13:53 11 "QUESTION: If you had seen that drill pipe pressure
13:53 12 increase 250 psi from 9:08 to 9:14, with the pumps turned
13:54 13 off, would you have called the rig floor?"

13:54 14 And was your answer, "Yes, I would have"?

13:54 15 A. On here, yes, it does; but if it had showed up in the kick
13:54 16 indicator, it would tell me and it did not.

13:54 17 Q. Your answer under oath over a year ago is that you would
13:54 18 have called the rig floor with a 250-psi increase because you
13:54 19 know that's an anomaly, correct, sir?

13:54 20 A. It's an anomaly, but it didn't show up as a kick indicator
13:54 21 to me.

13:54 22 Q. You didn't call them, did you?

13:54 23 A. No, sir. They didn't call me either.

13:54 24 Q. That's a different point. We'll take that up later.

13:54 25 You didn't call them, correct?

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13:54 1 A. Right.

13:54 2 Q. As a full-service mud logger -- this is your
13:54 3 description -- whenever you see an anomaly or a change that
13:54 4 doesn't make sense, you call the rig floor, don't you?

13:54 5 A. Correct.

13:55 6 Q. All right. Thank you.

13:55 7 MR. BROCK: Now, if I could please -- let me see
13:55 8 Exhibit Demonstrative 4388.

13:55 9 Your Honor, is it okay if I approach? I just
13:55 10 wanted to hand the witness --

13:55 11 THE COURT: Sure.

13:55 12 MR. BROCK: You don't have to step down. I apologize
13:55 13 for that. Thank you.

13:55 14 I apologize, Your Honor, just one second.

13:56 15 BY MR. BROCK:

13:56 16 Q. Let me see if I can orient you to what we have there. Do
13:56 17 you recognize it?

13:56 18 A. Yes, sir.

13:56 19 Q. It's a part of the strip chart. Do you see that?

13:56 20 A. Yes, sir.

13:56 21 Q. So if we look over in the right-hand column here, do you
13:56 22 see that the chart that we have here is showing that you're
13:56 23 dumping the trip tank to the flow line right here?

13:56 24 A. Yes, sir.

13:57 25 Q. This is looking at a period of time beginning about 2100.

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- 13:57 1 Do you see that?
- 13:57 2 A. Yes, sir.
- 13:57 3 Q. Which is about 9:00?
- 13:57 4 A. Roughly, yes, sir.
- 13:57 5 Q. Now, this blue or purple line here is flow, right?
- 13:57 6 A. Flow-out, yes, sir.
- 13:57 7 Q. Just to be clear for the record, when we say "flow-out,"
- 13:57 8 we mean flow back to the rig?
- 13:57 9 A. Flow is coming from the wellbore back up to the surface.
- 13:57 10 Q. "Flow-in" is what we pump into the well?
- 13:57 11 A. Up and down the hole, yes, sir.
- 13:57 12 Q. So you have got a dumping of the trip tank, and here's
- 13:57 13 your flow rate right here. Do you see that?
- 13:57 14 A. Yes, sir.
- 13:57 15 Q. These are pump rates over here, if we go to the other side
- 13:57 16 of the column, aren't they?
- 13:57 17 A. Yes, sir.
- 13:57 18 Q. Do you see -- in looking at these trend lines, where the
- 13:57 19 flow rate is at around, let's just say, 2050, do you see
- 13:58 20 that --
- 13:58 21 A. Yes, sir, I do.
- 13:58 22 Q. This is the kind of data that you would be monitoring on
- 13:58 23 the evening of the 20th?
- 13:58 24 A. Yes, sir.
- 13:58 25 Q. Now, you understand that we are going through on the rig a

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13:58 1 period of displacement and as the mud starts to come back,
13:58 2 because you are pumping lighter seawater, you would be
13:58 3 decreasing the pump rate over time?

13:58 4 A. Yes, sir. Yes, sir.

13:58 5 Q. This reflects a decrease in the pump rate over time here,
13:58 6 doesn't it?

13:58 7 A. Yes, sir.

13:58 8 Q. Now, do you see right here when the pump rate is at this
13:58 9 level right here? Do you see that?

13:58 10 A. Yes, sir.

13:58 11 Q. Can you characterize that for the Court in terms of what
13:58 12 that pump rate is there?

13:58 13 A. Which one? The red line?

13:58 14 Q. Yeah. This is 50 here, so it's up above --

13:58 15 A. Yeah. I'd say roughly 60, 65 maybe.

13:58 16 Q. 60, 65 is what you call --

13:58 17 A. Strokes per minute.

13:59 18 Q. Strokes per minute.

13:59 19 These different colors are representing different
13:59 20 pumps that are being --

13:59 21 A. Yes, sir.

13:59 22 Q. -- utilized --

13:59 23 A. Yes, sir.

13:59 24 Q. All right. Now, do you see when you look at this that the
13:59 25 pump rate goes from around 60 or 65 at 2050 to down

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- 13:59 1 significantly below 50 at 2100?
- 13:59 2 A. Yes, sir. It looks like they slowed the pumps down, the
- 13:59 3 pump rate down.
- 13:59 4 Q. That's what you would expect to occur because they are
- 13:59 5 displacing with seawater?
- 13:59 6 A. Yes, sir.
- 13:59 7 Q. Once they are decreased here, they stay pretty steady over
- 13:59 8 this period of time, don't they?
- 13:59 9 A. Yes, sir.
- 13:59 10 Q. Now, I'm going to hand you a red pen to go with your
- 13:59 11 document right there. Would you draw a circle around the point
- 14:00 12 where the trip tank has finished dumping right here? Will you
- 14:00 13 do that for me?
- 14:00 14 A. Yes, sir.
- 14:00 15 Q. Okay. Then do you see a flow-out spike on this
- 14:00 16 document --
- 14:00 17 A. Yes, sir.
- 14:00 18 Q. -- that occurs after the trip tank has dumped?
- 14:00 19 A. Yes, sir.
- 14:00 20 Q. How many minutes after the trip tank has dumped do you see
- 14:00 21 that flow spike?
- 14:00 22 A. It wasn't long. It was just a couple of seconds maybe.
- 14:00 23 Q. Well, it's more than a couple seconds, isn't it?
- 14:00 24 A. About a minute maybe.
- 14:00 25 Q. Let's look at that. Is that right? Here's 2100, and this

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14:00 1 is 2110. That's a 10-minute period of time, isn't it?

14:00 2 A. Right.

14:00 3 Q. So from there to there is a few minutes, isn't it?

14:00 4 A. From where, now?

14:00 5 Q. From right there --

14:00 6 A. Now I see where you are pointing.

14:00 7 Q. Right where you circled where the trip tank is dumped --

14:00 8 A. Right.

14:01 9 Q. -- down to this high point right here is a few minutes,
10 isn't it?

14:01 11 A. Correct.

14:01 12 Q. Now, did you draw a circle on the high point right there?

14:01 13 A. I just did.

14:01 14 Q. Now, if we look back up here, do you see that at a higher
15 pump rate you have about the same flow-out --

14:01 16 A. Yes, sir.

14:01 17 Q. -- as you do down here when you have a lower pump rate?

14:01 18 A. Yes, sir.

14:01 19 Q. Thank you.

14:01 20 Was that detectable by you on the evening of the
21 20th?

14:01 22 A. Yes, sir. They had rig movement, and that affects my
23 flow-out sensor.

14:01 24 Q. But these values that we have just described in D-4388
25 were detectable by you on the evening of the blowout?

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14:01 1 A. Correct, yes, sir.

14:02 2 MR. BROCK: Let me see D-2224, please.

14:02 3 BY MR. BROCK:

14:02 4 Q. This is a demonstrative that you were shown earlier in the
14:02 5 examination. Do you remember that?

14:02 6 A. Yes, sir.

14:02 7 Q. Now, over here is where your mud logger shack is, correct?

14:02 8 A. Correct.

14:02 9 Q. I think you have described that you're on the same floor
14:02 10 or the same level as the drill shack?

14:02 11 A. Same level, yes, sir.

14:02 12 Q. Now, do you see here we have "drill floor"?

14:02 13 A. Yes, sir.

14:02 14 Q. So this entire area here would be considered the drill
14:03 15 floor?

14:03 16 A. Yes, sir.

14:03 17 Q. And then within the drill floor, you have a drill shack
14:03 18 that looks right out over the rotary table?

14:03 19 A. Yes, sir.

14:03 20 Q. But if someone described that they were going to the drill
14:03 21 floor, they would be describing this entire area here, wouldn't
14:03 22 they?

14:03 23 A. Yes, sir.

14:03 24 Q. Where is the mud lab in relation to the mud logger's
14:03 25 station?

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14:03 1 A. The mud lab would be towards this back side here, on this
14:03 2 side of the rig; the mud lab, on this side of the deck, on a
14:03 3 lower deck, the main deck.

14:03 4 Q. Yes. Now, when the sheen test is being conducted --

14:03 5 A. Uh-huh.

14:03 6 Q. -- is the sheen test conducted over here in the mud lab,
14:03 7 or is it conducted over here where your area is?

14:03 8 A. It would be performed in the shale shaker area, where the
14:04 9 gumbo with the flow line is and so forth, where it goes down to
14:04 10 the shakers.

14:04 11 Q. Would it be a level below the drill floor?

14:04 12 A. Yes, sir. It would be the next level down, on the main
14:04 13 deck.

14:04 14 Q. So would it basically be under the rotary table or under
14:04 15 the drill floor but on the next level down?

14:04 16 A. Approximately, yes, sir.

14:04 17 Q. If someone said they were going to check the sheen test,
14:04 18 they would not be in the drill shack, would they?

14:04 19 A. Correct.

14:04 20 Q. Who mans the shale shaker area where the sheen test would
14:04 21 be conducted?

14:04 22 A. As far as I know, there's a shaker hand and -- maybe one
14:04 23 or two shaker hands, depending on what's going on there.

14:04 24 Q. Now, there was a period of time when the sheen test was
14:04 25 conducted that you say you were not able to -- after which you

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14:05 1 were not able to observe flow, correct?

14:05 2 A. Correct. They shut the gate and blinded me off.

14:05 3 Q. If you wanted to check flow, that is, to visually observe
14:05 4 whether or not there was flow coming from the well, where would
14:05 5 you go to do it?

14:05 6 A. I would just look on Channel 14. We never went down to
14:05 7 the flow lines to observe it. We could see it on the TV screen
14:05 8 system.

14:05 9 Q. So you have access to a TV screen, but that TV screen only
14:05 10 allows you to view what is coming out of the well until the
14:05 11 time that the diversion overboard takes place, correct?

14:05 12 A. Correct, yes, sir.

14:05 13 Q. Because at that point it does not go by your flow meter.
14:05 14 That's what you call --

14:05 15 A. Correct. Yes, sir.

14:05 16 Q. But, in fact, that flow still goes by the Transocean flow
14:05 17 meter, which is a redundant flow meter that can also pick up
14:06 18 flow?

14:06 19 A. I guess, yes, sir.

14:06 20 Q. That's what you said earlier today?

14:06 21 A. Yeah. I guess -- yeah.

14:06 22 Q. So was it ever one of your responsibilities, sir, to
14:06 23 actually go and visually look to see if there was flow coming
14:06 24 into the well?

14:06 25 A. No, sir.

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14:06 1 Q. That was just not part of your job?

14:06 2 A. Correct.

14:06 3 Q. On the other hand, during the period of time after flow
14:06 4 was diverted overboard, the Transocean drill crew would have
14:06 5 the ability to observe their monitor as well as conduct or
14:06 6 order a flow check?

14:06 7 A. Correct. Yes, sir.

14:06 8 Q. You didn't raise any safety concerns or ring any bells
14:06 9 when you were not able to observe flow after diversion
14:06 10 overboard, did you?

14:06 11 A. No, sir. They have always diverted it, every displacement
14:07 12 that we have done before, the same way.

14:07 13 Q. All right. Thank you.

14:07 14 A. You're welcome.

14:07 15 Q. I'm just about through. If you hang with me just a
14:07 16 second. I apologize.

14:07 17 MR. BROCK: Could you put that -- actually, let me
14:07 18 see D-3185, please.

14:08 19 Your Honor, may I approach again?

14:08 20 THE COURT: Yes.

14:08 21 BY MR. BROCK:

14:08 22 Q. I'm going to hand you 22983, Mr. Keith. I want to talk to
14:08 23 you about the period of time 8:30 to 9:00 when you were on your
14:08 24 break.

14:08 25 A. Okay.

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14:08 1 Q. Do you see right here we have identified mud logger's
14:08 2 shack?
14:08 3 A. Yes, sir.
14:08 4 Q. I know we can't appreciate it just looking at this
14:08 5 picture; but this rig was enormous, wasn't it?
14:08 6 A. Yes, sir.
14:08 7 Q. There was only one designated area where you could go to
14:08 8 smoke, correct?
14:08 9 A. Yes, sir. Oh, no, sir.
14:08 10 Q. Were there more than one?
14:08 11 A. Yeah. There was a deck underneath the life capsules,
14:08 12 yeah.
14:08 13 Q. So when you went on your smoke break --
14:08 14 A. No, I went to use the bathroom, sir. That was my main --
14:08 15 it wasn't just a smoke break. I went to use the bathroom.
14:09 16 Q. That's fair. I don't mean to mischaracterize it.
14:09 17 You went to the bathroom, you had coffee, and you
14:09 18 smoked a cigarette?
14:09 19 A. Half a cigarette.
14:09 20 Q. All right. That's the period of time we are talking
14:09 21 about?
14:09 22 A. Yes, sir.
14:09 23 Q. This is where the mud logger shack is, here, correct?
14:09 24 A. Correct.
14:09 25 Q. Would you just take a pen and on that piece of paper I

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14:09 1 have there just show me the path that you took to go on your
14:09 2 bathroom break.

14:09 3 A. Okay. I use my pointer or --

14:09 4 Q. I will get you to write it on there, and then I will maybe
14:09 5 let you show the Court after you do that.

14:09 6 A. I'm trying to figure out which way the rig is facing.

14:09 7 Okay. Now I see.

14:09 8 Mud logging shack.

14:10 9 MR. BROCK: Can I approach? I don't mean to look
14:10 10 over his shoulder.

14:10 11 THE WITNESS: I'm trying to figure out how the layout
14:10 12 is.

14:10 13 BY MR. BROCK:

14:10 14 Q. I was told it was over here, but I don't know if that
14:10 15 helps you or not. Here's your shack here.

14:10 16 A. To me it's the opposite. My unit was here.

14:10 17 Q. That's fine. Let's don't use that then. That's fine.
14:10 18 Let's just don't. Thank you for helping me.

14:10 19 A. I was trying to figure out the way it is on there.

14:10 20 THE COURT: Where you were headed was on the same
14:10 21 main deck area?

14:10 22 THE WITNESS: Yes, sir.

14:10 23 THE COURT: Same level?

14:10 24 THE WITNESS: Yes, sir. When I come down from the
14:10 25 rig floor deck, I walk -- there's a little flight of stairs. I

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14:10 1 take like 20 steps down, and then I head underneath the rig
14:10 2 floor, out on the back side of the rig floor --

14:10 3 **THE COURT:** So you're still on the main deck?

14:10 4 **THE WITNESS:** Main deck. Actually, it's toward the
14:10 5 mud engineer's shack, the same way.

14:10 6 When I get to that end, we turn by the big
14:11 7 spool, the drawworks spool, and there's a door that goes right
14:11 8 there. You walk down maybe 10 stairs, you walk in a door, and
14:11 9 the break room is right there.

14:11 10 **THE COURT:** What level is that on?

14:11 11 **THE WITNESS:** It's inside the living quarters. It
14:11 12 would be the level beneath the main deck.

14:11 13 **THE COURT:** Is that considered the second deck, or is
14:11 14 there something between there?

14:11 15 **THE WITNESS:** They have got the main deck and then
14:11 16 they have the next deck, which was, I guess, the first deck for
14:11 17 the living quarters. I guess that's what you would call it.

14:11 18 **THE COURT:** So basically you went to the living
14:11 19 quarters?

14:11 20 **THE WITNESS:** Yes, sir.

14:11 21 **BY MR. BROCK:**

14:11 22 **Q.** Just in terms of --

14:11 23 **A.** It's the first deck that's underneath the main deck.

14:11 24 **Q.** I thought we could do it with a pen. Let me see if I can
14:11 25 help you.

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14:11 1 The mud logger's office is right behind the rig
14:11 2 floor, and it actually sits behind the firewall?
14:11 3 A. Yes, sir.
14:11 4 Q. You described for us on this break you went down a flight
14:11 5 of stairs, about 15 or 20 stairs, correct?
14:11 6 A. And took a right.
14:11 7 Q. You said in your deposition you took a left. Do you want
14:12 8 to reconsider?
14:12 9 A. Well, it depends on how you are coming down. You see, if
14:12 10 I take a left, it's going back towards the life capsules. So I
14:12 11 took a right to go back to the living quarters.
14:12 12 Q. I'm not going to fuss with you about it. That's fine.
14:12 13 A. Yeah.
14:12 14 Q. You went down a breezeway?
14:12 15 A. Breezeway, yeah.
14:12 16 Q. You described that as being about 50 yards?
14:12 17 A. Approximately, yes, sir.
14:12 18 Q. Then you turned by the drawworks school [*verbatim*]?
14:12 19 A. Spool, yes, sir.
14:12 20 Q. Spool?
14:12 21 A. Yes, sir.
14:12 22 Q. What is that?
14:12 23 A. It's the main drill line for the block, the top drive.
14:12 24 It's just extra line they have when they slip and cut drill
14:12 25 line.

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14:12 1 Q. Gotcha. You walked through the living quarters?

14:12 2 A. Right. There's one door you walk in.

14:12 3 Q. Okay. Down another set of steps?

14:12 4 A. About 10 steps, yes, sir.

14:12 5 Q. Then you go through the living quarters which is another
14:12 6 15 yards?

14:12 7 A. Not that far, no. You take about five or six steps, open
14:13 8 up a door, and you take another four or five steps, and there's
14:13 9 the break room.

14:13 10 Q. So do you remember us asking you, "From the time you went
14:13 11 through the breezeway, took that right through the living
14:13 12 quarters is, what, another 15 yards?"

14:13 13 And you said, "Approximately"?

14:13 14 A. Approximately, yes, sir.

14:13 15 Q. Then there's a flight of stairs after the living quarters
14:13 16 that's 10 or 15 steps?

14:13 17 A. Approximately, yes, sir.

14:13 18 Q. At the bottom of the steps, you walk straight, you open
14:13 19 the door, and you're at the bathroom?

14:13 20 A. Yeah, the break room bathroom, yes, sir.

14:13 21 Q. So you made that journey from the mud logger shack to the
14:13 22 bathroom, is the first thing you did, correct?

14:13 23 A. Yes, sir.

14:13 24 Q. Then you had a cup of coffee and smoked a cigarette?

14:13 25 A. I grabbed my coffee and smoked a half a cigarette and then

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14:13 1 I left.

14:14 2 Q. On the evening of the 20th, you saw anomalies -- that is,
14:14 3 changes in pressure -- 2101 to 2108 and 2108 to 2114 and you
14:14 4 did not report them?

14:14 5 A. Correct. They never stood out as a kick for me. I have
14:14 6 never seen a kick -- the standpipe pressures increase during a
14:14 7 kick ever.

14:14 8 Q. That evening you saw anomalies and did not report them,
14:14 9 correct?

14:14 10 A. Correct. It did not stand out as a kick.

14:14 11 MR. BROCK: Just one second. I think I'm done.

14:14 12 Your Honor, I just want to note for the record
14:15 13 the passage of the deposition I read in because I don't think I
14:15 14 noted it when I was asking him the question about it. It
14:15 15 was -- this relates to the activity at 9:08. The deposition at
14:15 16 105, line 20 to 106, line 20.

14:15 17 THE COURT: Very well.

14:15 18 MR. BROCK: I pass the witness.

14:15 19 THE COURT: Cameron?

14:15 20 MR. BECK: Cameron has no questions of this witness.

14:15 21 THE COURT: M-I SWACO?

14:15 22 MR. TANNER: We have a couple of questions,
14:15 23 Your Honor.

14:15 24 THE COURT: All right. Mr. Tanner gets to make his
14:15 25 appearance.

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14:15 1 MR. TANNER: In case you don't know, I'm Hugh Tanner
14:15 2 with M-I. I'll just get set up here a minute.

14:16 3 THE COURT: You were on the verge of getting the gold
14:16 4 medal for the entire trial.

14:16 5 MR. TANNER: Surely that still works at this point, I
14:16 6 would think.

14:16 7 THE COURT: Maybe. We'll see.

14:16 8 MR. TANNER: Well said.

9 CROSS-EXAMINATION

14:16 10 BY MR. TANNER:

14:16 11 Q. Just a minute, Mr. Keith. Sorry, I'm setting up.

14:16 12 A. That's okay.

14:17 13 MR. TANNER: Robb, are you ready?

14:17 14 All right, Mr. Keith.

14:18 15 BY MR. TANNER:

14:18 16 Q. Mr. Keith, I'm Hugh Tanner; and I am representing the men
14:18 17 and women of M-I SWACO, the mud company. You know the mud
14:18 18 company that --

14:18 19 A. Oh, yeah, M-I.

14:18 20 Q. All right. And you're friends with a guy out there,
14:18 21 Mr. Leo Lindner, one of the mud engineers. You know him?

14:18 22 A. Yes, sir.

14:18 23 Q. Greg Meche, one of the compliance specialists out there
14:18 24 that day. Did you know Greg? Not as well?

14:18 25 A. I don't think I have ever met him. His name doesn't sound

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14:18 1 familiar.

14:18 2 Q. But Leo is somebody who had been out there --

14:18 3 A. Oh, yeah. Yes, sir. Greg Meche, now I know who you are
14:18 4 talking about.

14:18 5 Q. He's a compliance engineer?

14:18 6 A. Yes.

14:18 7 Q. An M-I guy, you remember him?

14:18 8 A. Yes, sir.

14:19 9 Q. I really just have a few things. I just wanted to get up
14:19 10 here and clear up just a couple points.

14:19 11 You testified earlier today that on the evening of
14:19 12 April 20, you had made a call to the mud lab because you had
14:19 13 seen a small gain in the active pit?

14:19 14 A. Correct. Yes, sir.

14:19 15 Q. You have testified that the response you got by whoever
14:19 16 answered the phone --

14:19 17 A. Yeah.

14:19 18 Q. -- was that the Transocean crew was cleaning out the sand
14:19 19 traps; is that correct?

14:19 20 A. Correct.

14:19 21 Q. Now, that answer satisfied you to the inquiry that you
14:19 22 had, you felt comfortable with that response, correct?

14:19 23 A. Yes, sir.

14:19 24 Q. Okay. All right.

14:19 25 Now, you mentioned that guy who answered the

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14:19 1 telephone, you said, sounded like it was Mr. Leo, Leo Lindner,
14:19 2 right?

14:19 3 A. Sounded like Leo, yes, sir.

14:19 4 Q. You said you made that call around 8:30, right before you
14:19 5 went on break?

14:19 6 A. Approximately. As soon as my alarm went off on the active
14:19 7 pit gain, yes, sir.

14:19 8 Q. That was around 8:30 or so?

14:19 9 A. Yes, sir.

14:19 10 Q. That's what I want to talk about, too. I know it sounded
14:19 11 like Leo and --

14:19 12 A. Right.

14:19 13 Q. -- around the time. As you said, you and Leo are friends,
14:20 14 correct?

14:20 15 A. Correct.

14:20 16 Q. Know him to be an honorable man, an honest man?

14:20 17 A. Yes, sir.

14:20 18 Q. That's what I want to go into just a little bit here.

14:20 19 If you could -- Mr. Lindner has provided testimony in
14:20 20 this case, sir, I will represent to you that he went off-tour
14:20 21 at 7:30 on the evening of April 20. Are you aware of that?

14:20 22 A. I didn't know that, sir.

14:20 23 Q. If you will accept that for me, that he had testified to
14:20 24 that in a deposition?

14:20 25 A. Yeah.

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14:20 1 Q. He has already testified in a deposition, I will represent
14:20 2 to you, that he was in bed at 8:10 this evening.

14:20 3 A. I didn't know that.

14:20 4 Q. Okay. So I guess the point I'm going to here is: You
14:20 5 said it sounded like Leo, but if I'm telling you that there's
14:20 6 testimony there that Leo was off-tour by 7:30 and was in bed --
14:20 7 in fact, he had a funny story about how his gosh-darn alarm
14:20 8 clock and his TV that he used to wake him up, that's why he
14:20 9 knew he was in his room and what time.

14:20 10 A. Yeah.

14:20 11 Q. You are okay with that? You wouldn't dispute that, would
14:20 12 you?

14:20 13 A. Right.

14:20 14 Q. I guess in fairness to you, then, if -- perhaps if Leo
14:21 15 wasn't there to have the call, you had mentioned, I believe in
14:21 16 your deposition testimony -- and I'm happy to show this to you
14:21 17 if you would like me to.

14:21 18 A. Yeah.

14:21 19 Q. That in addition to -- and this is Mr. Lindner, the
14:21 20 compliance specialist who said, "Use that telephone in the mud
14:21 21 lab."

14:21 22 Right?

14:21 23 A. Right. There was a lot of people that would go in and out
14:21 24 of that lab.

14:21 25 Q. And you had mentioned the compliance -- or the mud

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14:21 1 engineer, Leo, the compliance specialist. You mentioned the
14:21 2 Transocean guys --

14:21 3 A. Yeah.

14:21 4 **THE COURT:** Wait, wait, wait. You-all are tending to
14:21 5 talk over each other. I know you are not doing it
14:21 6 intentionally. But Mr. Tanner is still asking his question and
14:21 7 you are agreeing or not agreeing in the middle of it. So you
14:21 8 can't talk over each other. Let him finish, then you get to
14:21 9 answer, then he gets to ask another question.

14:21 10 **MR. TANNER:** We are just having too much fun,
14:21 11 Mr. Keith. We are going to slow it down.

14:21 12 **BY MR. TANNER:**

14:21 13 Q. Let's try that again.

14:21 14 You testified at your deposition, you recall, that a
14:21 15 number of people used the mud lab phone?

14:21 16 A. Correct.

14:21 17 Q. You had mentioned, as I recall from reading that, that --
14:21 18 the mud engineer, correct?

14:22 19 A. Correct.

14:22 20 Q. The compliance specialist?

14:22 21 A. Correct.

14:22 22 Q. And I think you mentioned Transocean personnel and you
14:22 23 just said "and others," right?

14:22 24 A. Yes, sir.

14:22 25 Q. All right. I want to tell you as well that -- and if you

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14:22 1 will accept this as a representation -- Mr. Greg Meche, the
14:22 2 compliance specialist, who you recall now --

14:22 3 A. Right.

14:22 4 Q. -- he has testified in this case that he didn't talk to
14:22 5 you on that day either. Okay?

14:22 6 A. Correct.

14:22 7 Q. So I guess the point I really want to make is: Although
14:22 8 you got the information that you wanted and the right
14:22 9 information, you aren't really sure who you really talked to,
14:22 10 are you?

14:22 11 A. He never said who he was or nothing. He just said "M-I
14:22 12 lab" when he answered the phone.

14:22 13 MR. TANNER: That's really all I have. Thank you. I
14:22 14 appreciate it.

14:22 15 THE COURT: Thank you.

14:22 16 Let's see. I guess we are back to the PSC.

14:22 17 MR. DEGRAVELLES: I have a few questions, Your Honor.

14:22 18 **REXCROSS-EXAMINATION**

14:23 19 **BY MR. DEGRAVELLES:**

14:23 20 Q. Mr. Keith, you indicated in earlier questioning that at
14:23 21 some point that evening, the gas sensor shut down your unit; is
14:23 22 that right?

14:23 23 A. Yes, sir. It's an automatic detector that we have inside
14:23 24 of our unit.

14:23 25 Q. In fact, those gas detectors are all over the rig, are

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14 : 2 3 1 they not?

14 : 2 3 2 A. That would be Transocean's. Ours is provided for our
14 : 2 3 3 company. It's one of our sensors, M-I lab.

14 : 2 3 4 Q. So the sensor you're talking about is not a Transocean
14 : 2 3 5 sensor; it is specifically Sperry-Sun's sensor?

14 : 2 3 6 A. Yes, sir. It's designed to shut my unit down in case --
14 : 2 4 7 when gas comes in the lab.

14 : 2 4 8 Q. It worked successfully, did it not?

14 : 2 4 9 A. Yes, sir, it shut down instantly.

14 : 2 4 10 Q. Were you aware there were sensors near the engine room
14 : 2 4 11 that did not work properly that night?

14 : 2 4 12 A. No, sir.

14 : 2 4 13 Q. Do you know of any reason, other than those sensors being
14 : 2 4 14 disarmed or simply not functioning because of being in the
14 : 2 4 15 state of disrepair, that they would not and should not have
14 : 2 4 16 worked that evening?

14 : 2 4 17 A. I was --

14 : 2 4 18 MR. MILLER: Objection. No foundation has been laid
14 : 2 4 19 for this question.

14 : 2 4 20 MR. DEGRAVELLES: I'm just asking if he knows,
14 : 2 4 21 Your Honor.

14 : 2 4 22 THE COURT: I overrule the objection.

14 : 2 4 23 THE WITNESS: I was not aware of any of Transocean's
14 : 2 4 24 system being on bypass or anything like that at all.

25

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14:24 1 BY MR. DEGRAVELLES:

14:24 2 Q. Now, you said in response to somebody's questions that you
14:24 3 had a long list of things that were your duties. Is that true?

14:24 4 A. Yes, sir.

14:24 5 Q. You also mentioned that you were pretty stressed. Did I
14:24 6 understand that correctly?

14:24 7 A. What you mean by "stressed"?

14:25 8 Q. I thought you said that it was a stressful job and that
14:25 9 you were stressed. Did I misunderstand that?

14:25 10 A. Not really stressed. It was just they gave me more duties
14:25 11 to do for my tour for that night.

14:25 12 MR. DEGRAVELLES: If you could pull up TREX-4395. If
14:25 13 we could, first of all, pull up who it's from and to whom it
14:25 14 goes.

14:25 15 BY MR. DEGRAVELLES:

14:25 16 Q. Do you recognize this as an e-mail that went to you and
14:25 17 Mr. Kelly Gray from a Jonathon Bellow on April 11, 2010?

14:25 18 A. I have never seen that e-mail. I wasn't on the rig at the
14:25 19 time. I was on my days off.

14:25 20 Q. Who was on it? Was Mr. Gray on the --

14:25 21 A. Yes, sir.

14:25 22 MR. BROCK: Objection, foundation. He said he didn't
14:25 23 see it.

14:25 24 MR. DEGRAVELLES: Well, he still may know something
14:25 25 about it, Judge. I haven't had a chance to ask him.

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14:26 1 THE COURT: Let's see where he goes.

14:26 2 BY MR. DEGRAVELLES:

14:26 3 Q. I'm going to read some of this to you and ask whether,
14:26 4 even though you didn't get the e-mail, you knew about the
14:26 5 information conveyed in the e-mail. Okay?

14:26 6 It says: Kelly, Joseph: How are things? I am
14:26 7 feeling that you two may be overwhelmed on our wells --

14:26 8 MR. BROCK: It says "overworked."

14:26 9 BY MR. DEGRAVELLES:

14:26 10 Q. Sorry.

14:26 11 -- "overworked on our wells. I believe that we need
14:26 12 to find a solution to this and quickly. I want your thoughts
14:26 13 on this. One possibility is to increase your crew by one
14:26 14 person per tour. Would one more junior mud logger help you
14:26 15 with the workload? We have such a position on other rigs."

14:26 16 Did I read that correctly?

14:26 17 A. Yes, sir.

14:26 18 Q. In fact, were there, instead of two mud loggers -- on some
14:26 19 of the Transocean rigs where BP was the operator, did they have
14:26 20 three mud loggers?

14:26 21 A. Not that I'm aware of. Maybe.

14:27 22 Q. Were you feeling that the two of you were overworked on
14:27 23 your wells?

14:27 24 A. I was never overworked on the *Horizon*.

14:27 25 Q. All right --

JOSEPH KEITH - RECROSS

14:27 1 A. Never --

14:27 2 Q. I'm sorry. Go ahead.

14:27 3 A. I was never overworked. I was able to perform my job. I
14:27 4 never felt pressured or overworked at all.

14:27 5 Q. All right. Did you get the message, either through Kelly
14:27 6 Gray or through anybody at Sperry or anybody, period, that
14:27 7 Mr. Bellow -- did you know who Mr. Bellow is?

14:27 8 A. Yes, sir. Jonathon Bellow is like a petroleum engineer or
14:27 9 head -- petrophysicist.

14:27 10 Q. He works for BP, correct?

14:27 11 A. Yes, sir.

14:27 12 Q. Did you learn from any source that Mr. Bellow had the
14:27 13 feeling that you two might be overworked on the wells?

14:27 14 A. No, sir.

14:27 15 Q. Did you ever get the opportunity to respond to that
14:27 16 e-mail?

14:27 17 A. No, sir. I never seen the e-mail.

14:28 18 **MR. DEGRAVELLES:** All right. If we could go to
14:28 19 TREX-611.006. If you could highlight it some, try to capture
14:28 20 the whole page.

14:28 21 **BY MR. DEGRAVELLES:**

14:28 22 Q. Do you remember being shown that document?

14:28 23 A. Yes, sir.

14:28 24 Q. It shows the equipment that's used in connection with the
14:28 25 work that you and other mug loggers do, correct?

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14:28 1 A. Yes, sir.

14:28 2 Q. It also has a long list of duties that you mug loggers do;
14:28 3 is that correct?

14:28 4 A. Yes, sir.

14:28 5 Q. Now, you are not suggesting to the Court today that you
14:28 6 were doing all these things that are listed on this piece of
14:28 7 paper, are you?

14:28 8 A. Excuse me?

14:28 9 Q. You are not suggesting to the Court, Mr. Keith, that all
14:28 10 of the things that are listed as your duties, that you were
14:28 11 doing them on the evening of April 20, 2010?

14:28 12 A. No, sir. There's certain things you have to do for
14:28 13 certain activities.

14:29 14 Q. All right. You also were asked about having participated
14:29 15 in a number of other wells before the Macondo well, correct?

14:29 16 A. Yes, sir.

14:29 17 Q. Do you understand that few, if any, of those wells were
14:29 18 no-salt soft formation wells?

14:29 19 A. Excuse me?

14:29 20 Q. Yes, sir. Have you ever heard the phrase "no-salt soft
14:29 21 formation wells"?

14:29 22 A. No, sir. I have never heard of them called like that, no.

14:29 23 Q. Do you know that this well was called the "Well from
14:29 24 Hell"?

14:29 25 **MR. BROCK:** Your Honor, I object to this as being

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14:29 1 beyond the scope of any of the examinations that have been
14:29 2 conducted.

14:29 3 **MR. DEGRAVELLES:** He was asked, Judge, about --

14:29 4 **MR. BROCK:** Yeah, I --

14:29 5 **MR. DEGRAVELLES:** Excuse me. May I respond?

14:29 6 He was asked about these other -- participating
14:29 7 in these other wells, the suggestion being that he had all the
14:29 8 superlatives about how great it was to work on this rig and how
14:29 9 great the rig was. What I'm trying to find out, Judge, is
14:29 10 whether he knows whether this particular well was different
14:29 11 from the other wells that he had worked on.

14:29 12 **THE COURT:** Let's see where it goes. Go ahead.

14:29 13 **BY MR. DEGRAVELLES:**

14:29 14 **Q.** Mr. Keith, have you ever heard the phrase from anybody
14:30 15 else that this was -- the Macondo well was the Well from Hell?

14:30 16 **A.** Yes, sir. A lot of the rig hands were talking, mentioning
14:30 17 about that.

14:30 18 **Q.** Did you know the reason they were calling it the Well from
14:30 19 Hell?

14:30 20 **A.** Yes, sir.

14:30 21 **MR. MILLER:** Objection, hearsay.

14:30 22 **THE COURT:** I don't know how he would know.

14:30 23 **MR. DEGRAVELLES:** It's really not for the truth.
14:30 24 It's for the -- I'm sorry.

14:30 25 **THE WITNESS:** I can explain.

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14:30 1 MR. DEGRAVELLES: Go ahead, Your Honor.

14:30 2 MR. MILLER: The reason is a circumvention of the
14:30 3 truth, Your Honor. I think it's classic hearsay.

14:30 4 MR. BROCK: We join that objection.

14:30 5 MR. DEGRAVELLES: May I respond, Judge?

14:30 6 THE COURT: You're not trying to -- go ahead.

14:30 7 MR. DEGRAVELLES: I'm not trying to prove it was the
14:30 8 Well from Hell. I think it's been proved, but I don't need to
14:30 9 prove it from this witness. I wanted to know --

14:30 10 THE COURT: Overrule the objection.

14:30 11 BY MR. DEGRAVELLES:

14:30 12 Q. What was your understanding, sir, as to why people were
14:30 13 calling this the Well from Hell?

14:30 14 MR. MILLER: Same objection.

14:30 15 THE COURT: Go ahead.

14:30 16 THE WITNESS: The original rig that drilled the first
14:30 17 few sections had trouble when they had to set -- I think it was
14:31 18 the 20-inch casing. They had to set it a little bit higher
14:31 19 because, I think, they took a shallow hazard kick or something
14:31 20 like that. I think the rig might have got damaged in a storm
14:31 21 maybe, and they got the *Horizon* to take its place.

14:31 22 As soon as we latched up to it with the BOPs,
14:31 23 they accidentally pressured up the wrong way. They had a valve
14:31 24 open or close that shouldn't have been opened or closed, and
14:31 25 instead some of pressuring up to test the BOP, they

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14:31 1 accidentally pressured up downhole; but they caught it. Okay?
14:31 2 And then every wellbore section, we had problems, lost returns,
14:31 3 kicks, getting stuck, loss circulation materials, gas problems.
14:31 4 Just about every hole section, we had problems.

14:31 5 **BY MR. DEGRAVELLES:**

14:31 6 **Q.** One of those hole sections that you talked about the pipe
14:32 7 getting stuck is the March 8 kick that you and Mr. -- what's
14:32 8 his name?

14:32 9 **A.** Nick Malczewskyj.

14:32 10 **Q.** In any event, on the wells that preceded the Well from
14:32 11 Hell, did you know whether any of those wells were no-salt soft
14:32 12 formations?

14:32 13 **A.** I'm never heard that term before, just subsalt or -- I've
14:32 14 never heard subsoft or soft, anything like that, no.

14:32 15 **Q.** Now, you were asked about -- at some length about a well
14:32 16 control training manual, apparently, that you had used in your
14:32 17 training some 10 years ago; is that correct?

14:32 18 **A.** Right.

14:32 19 **Q.** Were you told in your training that at Transocean, if you
14:32 20 took a kick of over 20 barrels, that was a code red?

14:32 21 **MR. MILLER:** Objection, hearsay, Your Honor.

14:32 22 **MR. DEGRAVELLES:** Again, it has to do with his state
14:32 23 of mind and what he knows about -- he claims to have had this
14:32 24 training manual and he knows about well control, and I want to
14:33 25 know if he knows this, Judge.

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14:33 1 MR. MILLER: He's not a Transocean employee,
14:33 2 Your Honor.

14:33 3 MR. DEGRAVELLES: It doesn't mean he knows the answer
14:33 4 to the question, Judge.

14:33 5 THE COURT: What's your question? I don't understand
14:33 6 your question.

14:33 7 Were you told in your training that, at
14:33 8 Transocean, if you took a kick over 20 barrels -- you asked him
14:33 9 what Transocean told him or what Halliburton told him?

14:33 10 MR. DEGRAVELLES: I'll rephrase the question.

14:33 11 THE COURT: Okay.

14:33 12 BY MR. DEGRAVELLES:

14:33 13 Q. In any of your training, whether it was on the rig as a
14:33 14 part of your drills or whether it was part of the training that
14:33 15 you referred to when you looked at the training manual, in any
14:33 16 of your training were you ever told that at Transocean, if you
14:33 17 took a kick of over 20 barrels, that was a code red?

14:33 18 MR. MILLER: Same objection.

14:33 19 THE WITNESS: I've never heard of that, Your Honor.

14:33 20 THE COURT: Overruled. Go ahead.

14:33 21 THE WITNESS: I've never heard of that term.

14:33 22 MR. DEGRAVELLES: If we could pull up D-2105.

14:33 23 BY MR. DEGRAVELLES:

14:33 24 Q. You have been shown this document several times, but I
14:34 25 want to focus on -- if we could go to the right-hand section

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14:34 1 where we're talking about 2130 to 2135.

14:34 2 Now, 2130 is 9:30, correct, 9:30 p.m.?

14:34 3 A. Yes, sir.

14:34 4 Q. 2135 hours would be 9:35, correct?

14:34 5 A. Correct.

14:34 6 Q. This is the time period in which there is an increase of
14:34 7 556 psi; is that true?

14:34 8 A. According to what the graph shows, yes, sir.

14:34 9 Q. Do you have any reason to dispute this graph?

14:34 10 A. No, sir. I've never seen it. So, you know . . .

14:34 11 Q. But you have no -- I understand. But this is a
14:34 12 representation of what was on the chart that you were looking
14:34 13 at, correct?

14:34 14 A. Correct. Yes, sir.

14:34 15 Q. You have looked at that actual chart, correct?

14:34 16 A. Yes, sir.

14:34 17 Q. This is a true representation of what happened between
14:35 18 2130 and 2135 on April 20, 2010; is that true?

14:35 19 A. Yes. It's just the scales have been changed and are a
14:35 20 little different.

14:35 21 Q. I understand. Now, you have told us that you didn't see
14:35 22 this 556-psi gain because your gas sensor had shut your unit
14:35 23 down; is that true?

14:35 24 A. Yes, sir.

14:35 25 Q. Now, if the evidence in this case, Mr. Keith, shows that

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14:35 1 the hydrocarbons did not reach the floor of this rig until
14:35 2 9:43, then your gas sensors could not have cut off or shut down
14:35 3 your unit at -- anywhere between 9:30 and 9:35. Isn't that
14:35 4 true, sir?

14:35 5 A. All I know is gas came in my unit not too long after they
14:35 6 turned the pumps off. That's all I know.

14:35 7 Q. But you don't know exactly when it was?

14:35 8 A. It wasn't long after the pumps had turned off. Maybe one
14:35 9 or two minutes, if that.

14:35 10 Q. And if the evidence shows that the hydrocarbons didn't get
14:36 11 to the rig floor until 9:43, you would have no reason to
14:36 12 dispute that; isn't that true, sir?

14:36 13 A. Correct.

14:36 14 **MR. DEGRAVELLES:** Your Honor, that's all the
14:36 15 questions I have. I would like to introduce all of the
14:36 16 exhibits and demonstratives that we have used in connection
14:36 17 with this witness's testimony. And we will offer a list in
14:36 18 compliance with the Court's order.

14:36 19 **THE COURT:** Okay. Very well.

14:36 20 Halliburton?

14:36 21 **MR. HARTLEY:** Floyd Hartley.

REDIRECT EXAMINATION

14:36 22 **BY MR. HARTLEY:**

14:36 23 Q. You are almost there.

14:37 24 There are a few things I want to clear up to make
14:37 25

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14:37 1 sure the record's straight.

14:37 2 Mike Brock, for BP, was asking some questions about
14:37 3 the break you took.

14:37 4 Do you remember that?

14:37 5 A. Yes, sir.

14:37 6 Q. What time was it, as best you can recall, that you went to
14:37 7 take the break?

14:37 8 A. I would say it was around 8:30. And like I said, the
14:37 9 break stuff wasn't out that the galley people bring, like the
14:37 10 sandwiches and so forth. That stuff wasn't out yet.

14:37 11 Q. Based upon your experience on the *Deepwater Horizon*, at
14:37 12 what time are those sandwiches typically set out in the break
14:37 13 room?

14:37 14 A. Usually about 10, 15 minutes to 9:00.

14:37 15 Q. Then how long were you back in your mud logging shack,
14:37 16 before you performed the flow check, when they shut down the
14:37 17 pumps for the sheen test?

14:37 18 A. I was roughly in my unit maybe eight minutes, 10 minutes
14:37 19 prior to them checking the flow.

14:37 20 Q. What did you do in that eight to 10 minutes before you
14:37 21 checked the flow?

14:37 22 A. I went back and looked at the time log for the -- on the
14:38 23 one I had for all of my curves and stuff here.

14:38 24 I looked at the separate one that shows all my
14:38 25 separate pits. There's separate displays for that.

JOSEPH KEITH - REDIRECT

14:38 1 And I wrote down when I was back in the unit. I
14:38 2 don't remember exactly what time it was that I wrote down in
14:38 3 the book.

14:38 4 Q. Did you view all of the screens in your mud logging shack
14:38 5 when you came back from your break?

14:38 6 A. Yes, sir.

14:38 7 Q. Did you go back in time to see for the entire period you
14:38 8 were gone?

14:38 9 A. Yes, sir. I scrolled back on my time log.

14:38 10 Q. When you reviewed that data, did you see any anomaly or
14:38 11 any indication that there was any problem while you were gone?

14:38 12 A. I never seen no indications.

14:38 13 Q. I want to pull up D-4388 that Mr. Brock showed you, and I
14:38 14 think you have a hard copy in front of you still.

14:39 15 Do you recall looking at D-4388 a few minutes ago
14:39 16 with Mr. Brock?

14:39 17 A. Yes, sir.

14:39 18 Q. Do you recall him asking you some questions about the
14:39 19 pumps shutting down, the trip tank being dumped?

14:39 20 A. Yes, sir.

14:39 21 Q. Do you recall the questions he asked you about the 2108
14:39 22 time frame, where he mentioned this spike in flow-out?

14:39 23 A. Correct.

14:39 24 Q. On this chart, about what time was it that you visually
14:39 25 confirmed that the well was not flowing?

JOSEPH KEITH - REDIRECT

14:39 1 A. It was right after they first turned the pumps off at,
14:39 2 like, 2108. I actually viewed that there was a no-flow at the
14:39 3 flow line.

14:39 4 Q. Right after that point where --

14:39 5 A. Correct.

14:39 6 Q. -- this chart shows a spike?

14:39 7 A. Correct. Yes, sir.

14:39 8 Q. As you looked at the camera and you visually verified that
14:40 9 at 2108, 2109, the well was not flowing, what did that mean to
14:40 10 you?

14:40 11 A. That the well was static.

14:40 12 MR. BROCK: Objection, leading, and asked and
14:40 13 answered several times.

14:40 14 THE COURT: Well, it is leading, and I think we have
14:40 15 gone over this.

14:40 16 BY MR. HARTLEY:

14:40 17 Q. One other point I wanted to clarify, Mr. Keith, with
14:40 18 respect to the phone calls you made.

14:40 19 When you responded to some of Mr. Miller's questions
14:40 20 on behalf of Transocean, he asked you about three phone calls
14:40 21 you made to Steve Curtis.

14:40 22 Do you recall that?

14:40 23 A. Correct. Yes, sir.

14:40 24 Q. Were those the only three calls you made to the drill
14:40 25 floor that night?

JOSEPH KEITH - REDIRECT

14:40 1 A. I know there was a total of five phone calls.

14:40 2 Q. With Mr. Kanner you talked about the mud lab.

14:40 3 A. Right.

14:40 4 Q. So there were four other phone calls is what you're
14:40 5 telling us?

14:40 6 A. Right. The slow gain in the active pits, the dumping of
14:41 7 the trip tank to make standpipe pressure -- I mean, the
14:41 8 flow-out increase, and when he blew the pop-off valve and
14:41 9 staggered his pumps.

14:41 10 Q. Did you call the rig floor before you took that break?

14:41 11 A. Yes, sir.

14:41 12 Q. Who did you talk to when you made that phone call?

14:41 13 A. It sounded like Steve Curtis. I can't remember what
14:41 14 extension it was that I called. There's two extensions to the
14:41 15 rig floor.

14:41 16 Q. Last series of questions.

14:41 17 MR. HARTLEY: If we can put up TRES-620.

14:36 18 BY MR. HARTLEY:

14:37 19 Q. This will be pretty familiar to you. It's the real-time
14:41 20 data.

14:41 21 A. Okay.

14:41 22 Q. In response to Mr. Brock's questions, you were asked a
14:41 23 series of questions about your duties in monitoring and
14:41 24 reporting.

14:41 25 Do you generally recall that?

JOSEPH KEITH - REDIRECT

14:41 1 A. Yes, sir.

14:41 2 Q. When you're on tour as the mud logger on the
14:42 3 *Deepwater Horizon*, do you place a call to the rig floor every
14:42 4 time there's a change in sensor data responses?

14:42 5 A. Not all the time. It depends if things match. Like if
14:42 6 they are transferring from one pit to another, I will make sure
14:42 7 that the curves are matching and so forth.

14:42 8 Q. Well, explain to the Court, then, as you're monitoring the
14:42 9 data, at what point do you make the decision where you are
14:42 10 seeing a change to make that call.

14:42 11 A. If something doesn't look right to me. If nobody calls
14:42 12 me. I mean, if, you know, I'm watching it and if I see
14:42 13 something stand out, first I look to see to what's going on.
14:42 14 And if I see that it's matching, like if they're transferring
14:42 15 from one pit to another pit, that means that they are
14:42 16 transferring.

14:42 17 MR. HARTLEY: Thank you, Joe.

14:42 18 Thank you, Your Honor.

14:42 19 THE COURT: Mr. Keith, you're finished. Thank you,
14:42 20 sir.

14:43 21 Plaintiffs?

14:43 22 MR. WILLIAMS: The plaintiffs call Geoff Webster,
14:43 23 Your Honor.

14:43 24 THE COURT: This is getting like an NFL game here.
14:43 25 Every time the ball changes hands, we have a whole platoon of

14:44 1 players who come up.

14:44 2 **MR. BROCK:** I'm going to offer this exhibit; but I
14:44 3 don't want to walk off with it, so I'll just leave it here.

14:44 4 **THE COURT:** Was it identified with a number?

14:44 5 **MR. BROCK:** Yes, sir.

14:44 6 **MR. REGAN:** Let us scan it, and we will bring it
14:44 7 tomorrow.

14:44 8 **THE DEPUTY CLERK:** That's fine.

14:44 9 **THE COURT:** That's fine.

14:44 10 **GEOFFREY WEBSTER,**
14:44 11 having been duly sworn, testified as follows:

14:44 12 **THE DEPUTY CLERK:** State your full name and correct
14:44 13 spelling for the record, please.

14:45 14 **THE WITNESS:** I'm sorry. Edward Geoffrey Webster,
14:45 15 G-E-O-F-F-R-E-Y, W-E-B-S-T-E-R.

14:45 16 **VOIR DIRE**

14:45 17 **BY MR. WILLIAMS:**

14:45 18 **Q.** Mr. Webster, I'm Conrad Williams, known to some of my
14:45 19 colleagues on the other side of the room here as Mr. Conrad.

14:45 20 **MR. WILLIAMS:** Your Honor, Mr. Webster's report has
14:45 21 been introduced as TRES-7672, along with his CV, reliance
14:46 22 materials, and reference documents attached. And we would like
14:46 23 to move for introduction of his report at this time
14:46 24 conditionally, subject to whatever objections there might be,
14:46 25 although I will note that there were no *Daubert* motions filed,

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14:46 1 to my knowledge, at least with respect to Mr. Webster.

14:46 2 MR. KINCHEN: Your Honor, John Kinchen, Transocean.

14:46 3 In February of 2011, Transocean filed a motion
14:46 4 to strike Mr. Webster's report based upon substantial reliance
14:46 5 on the JIT report.

14:46 6 THE COURT: 2012, huh?

14:46 7 MR. KINCHEN: I'm sorry. February 20, 2012.

14:46 8 THE COURT: Right.

14:46 9 MR. KINCHEN: There was never a response filed by any
14:46 10 of the parties.

14:46 11 THE COURT: Well, there was a ruling by
14:47 12 Judge Shushan, right?

14:47 13 MR. KINCHEN: Not to my knowledge, Your Honor, there
14:47 14 was not.

14:47 15 THE COURT: I'm looking at her order. She issued an
14:47 16 order on Record Document 5902, on 2-27-12.

14:47 17 MR. KINCHEN: Right.

14:47 18 THE COURT: Which basically dealt with this issue, as
14:47 19 I see it. The only issue with his report and his testimony is
14:47 20 that he can't rely on the JIT report. That's the issue.

14:47 21 MR. KINCHEN: That's it. And that's what the --

14:47 22 THE COURT: I think everybody understands that.

14:47 23 MR. WILLIAMS: Yes, Your Honor, we do.

14:47 24 MR. KINCHEN: I will take it up on cross.

14:47 25 THE COURT: Very well.

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14:47 1 MR. WILLIAMS: Your Honor, I'd like to point out for
14:47 2 the record, though --

14:47 3 THE COURT: So with that understanding, I will admit
14:48 4 the -- he's got a report and a CV?

14:48 5 MR. WILLIAMS: Yes, Your Honor. It's actually --
14:48 6 apparently it was double TREX'd. The TREX number that I have
14:48 7 been told we are to use is TREX-22700.

14:48 8 THE COURT: Okay.

14:48 9 Go ahead.

14:48 10 BY MR. WILLIAMS:

14:48 11 Q. Good afternoon, Mr. Webster.

14:48 12 A. Good afternoon.

14:48 13 Q. I'm going to ask you a few questions about your
14:48 14 background. We're not going to spend much time on it. But
14:48 15 could you tell us -- give us an idea of your educational
14:48 16 background, please.

14:48 17 A. Yes. I have an Ordinary National Diploma in marine
14:48 18 engineering and a Bachelor of Science degree in marine
14:48 19 engineering and naval architecture from Newcastle University in
14:48 20 England.

14:48 21 Q. Do you have any memberships in any professional societies?

14:48 22 A. Yes. I'm a fellow of the Royal Institution of Naval
14:48 23 Architects.

14:48 24 Q. Anything else?

14:48 25 A. Yes. A fellow of the Institute of Marine Engineers,

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14:49 1 Science, and Technology, in the UK.

14:49 2 Q. Are you a chartered professional engineer in the UK?

14:49 3 A. Yes, I am.

14:49 4 Q. But you are not a registered engineer in the
14:49 5 United States, are you?

14:49 6 A. That is correct.

14:49 7 Q. Could you just give the Court a brief overview of your
14:49 8 experience conducting audits, ISM audits, other regulatory
14:49 9 audits.

14:49 10 A. Yes. Well, I operated vessels until about 1982 as a
14:49 11 marine superintendent for a large Dutch dredging company, an
14:49 12 offshore company, and worked around the world: India, Saudi,
14:49 13 South Africa, South America. And I came to the United States
14:49 14 in '78 to build a \$40 million vessel for a joint venture
14:49 15 between Bean Dredging and my company called Volker Stevin.

14:50 16 And I was involved in Avondale constructing the
14:50 17 vessel and then setting up the vessel for operation, helping
14:50 18 train the crew and going through its safety situations and the
14:50 19 safety manual and all that with Bean Dredging and my company.

14:50 20 In 1982, my company wanted me to go to the Arctic
14:50 21 Circle. We were dredging there with some big ships, and my
14:50 22 wife didn't want to go and live in Canada, so I started my own
14:50 23 business in 1982 as a marine surveyor, naval architect, and
14:50 24 also as a consultant in the dredging business. I still do a
14:50 25 fair amount of that also.

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14:50 1 Then I also -- before I came to the United States, I
14:50 2 had been appointed a surveyor for Panama Bureau of Shipping,
14:50 3 which is an institution that works for the Panama flag state
14:51 4 issuing statutory certificates, and I then became the
14:51 5 New Orleans surveyor for Panama Bureau.

14:51 6 And then several years later, I got involved with
14:51 7 Bureau Veritas, which is a classification society based in
14:51 8 France, which is similar -- the same as ABS, ABS in the
14:51 9 United States. And I became a nonexclusive surveyor for them
14:51 10 and did a lot of safety surveys, safety equipment, safety
14:51 11 construction, for both Bureau Veritas and Panama Bureau of
14:51 12 Shipping.

14:51 13 In 1997, the ISM, International Safety Management
14:51 14 Code, was coming into force throughout the world, including the
14:51 15 United States. And I did a course here in New Orleans for the
14:51 16 ISM and became what we know as a lead auditor.

14:52 17 And since '97/'98, I've been carrying out ISM audits
14:52 18 on many different types of vessels and also on dredges and
14:52 19 drill ships and the various equipment.

14:52 20 Q. Okay. We'll talk some more about ISM and ISM audits in
14:52 21 just a little while.

14:52 22 On your résumé you also have that you acted as a
14:52 23 marine superintendent. Could you explain briefly what the
14:52 24 duties of a marine superintendent involve.

14:52 25 A. Well, yeah. Shipping companies have, of course, crews on

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1 board. They have captains and chief engineers. Then on the
2 shoreside, we have what's called a superintendent, or in the
3 United States it's termed "port captain" or "port engineer."
4 The job of a superintendent engineer is to maintain and dry
5 dock and supervise the repairs and the running and maintenance
6 of whatever vessels are in the fleet.

7 Q. Have you managed the marine operations of any companies or
8 divisions of any companies that operate and/or own ships?

9 A. Yes. I've been involved with Phibro Energy, with the
10 running and operation of five VLCC tankers, a company called
11 Linea Peninsular here in Mississippi -- not to mention, of
12 course, Bean Dredging as well, and my own company.

13 Q. In the duties of the jobs you just described with those
14 shipping companies, were you involved in ISM safety issues for
15 those companies?

16 A. Yes.

17 Q. Have you ever stood any type of watch at sea?

18 A. Yes. I was an engineer at sea. I went to sea when I was
19 17, I think, as the marine engineer for a company called the
20 Royal Fleet Auxiliary; and I stood watch as an engineer and
21 eventually sailed as a chief engineer.

22 Q. How many years did you do that, sir?

23 A. Approximately seven years.

24 Q. Have you ever provided services as a marine architect,
25 obviously, in a non-litigation setting?

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14:54 1 A. Yes. Yes, many times.

14:54 2 Q. Have you ever provided vessel design services to
14:54 3 contractors?

14:54 4 A. I have, yes.

14:54 5 Q. How about marine surveying services?

14:54 6 A. Yes. I've been a marine surveyor basically most of my
14:54 7 career.

14:54 8 Q. Have you ever been involved in the classification of ships
14:54 9 or vessels under applicable international society codes, flag
14:54 10 state regulations, that type of thing?

14:54 11 A. Yes. For Panama Bureau of Shipping, Bureau Veritas and,
14:55 12 for a short while, the Polish Register of Shipping.

14:55 13 Q. You have advised ship-owning and operating companies on
14:55 14 regulatory compliance; is that true?

14:55 15 A. Yes, I have.

14:55 16 (Discussion off the record.)

14:55 17 **BY MR. WILLIAMS:**

14:55 18 Q. Have you supervised shipyard repairs and refurbishment of
14:56 19 oceangoing vessels?

14:56 20 A. Yes, I have.

14:56 21 Q. Do you have any special knowledge or expertise in diesel
14:56 22 engine operation and maintenance, Mr. Webster?

14:56 23 A. I do. I have been working with diesel engines for
14:56 24 40 years, both repairing them, maintaining them, surveying
14:56 25 them, and purchasing them.

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14:56 1 Q. Have you in the past ever worked for Transocean or any of
14:56 2 its legacy companies?

14:56 3 A. Yes, I have.

14:56 4 Q. Could you briefly explain the details of your engagements
14:56 5 or engagements in that regard.

14:56 6 A. I'm not sure how many times I've actually worked for them,
14:56 7 but I do remember in -- I believe it may have been August 1992,
14:56 8 I was hired by a firm of lawyers in Houston, I believe, to
14:56 9 carry out a survey of the new DP MODU called the *Cajun Express*.
14:57 10 The vessel had been put under long-term charter to Marathon.
14:57 11 It had been built in -- I believe it was in Korea, had come
14:57 12 into the Gulf and started drilling.

14:57 13 And they had several uncontrolled drift-offs where
14:57 14 the rig came off the wellhead. And I don't understand what
14:57 15 happened, but they came into a big dispute with Marathon. I
14:57 16 believe Marathon wanted to cancel the contract, which I
14:57 17 understand was a multimillion-dollar contract.

14:57 18 So I was hired by Transocean -- because I went on
14:57 19 board with several of their senior personnel to carry out
14:57 20 basically an audit of the *Cajun Express*, to look at
14:57 21 particularly the problems that had occurred with the
14:57 22 dynamically positioned system. They had actually found out
14:57 23 that a German device called a "Hershman dioptic encoder,"
14:57 24 which is a device used to take electric signals and put them
14:58 25 into fiberoptic signals. These had failed and caused a

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14:58 1 complete shutdown of the rig. They showed me all that. They
14:58 2 showed me what they had done to correct the issues.

14:58 3 There were other issues that Marathon had with the
14:58 4 pipe-handling, pipe-racking systems, and other major issues
14:58 5 that they'd had, which really had occurred because the rig was
14:58 6 brand-new and they had teething problems.

14:58 7 Q. Have you ever been accepted as an expert in the field of
14:58 8 marine safety? I'm talking about accepted in any federal
14:58 9 district court.

14:58 10 A. Yes, many times.

14:58 11 Q. Have you ever been accepted as an expert in the
14:58 12 application of regulatory schemes to vessels and vessel owners
14:58 13 and operators?

14:58 14 A. Yes, sir, I have.

14:58 15 Q. Have you been accepted previously as an expert in ship
14:59 16 conditions and general matters of seaworthiness?

14:59 17 A. Yes, I have.

14:59 18 Q. Have you been accepted previously as an expert in marine
14:59 19 engineering matters?

14:59 20 A. Yes, I have.

14:59 21 Q. Have you ever been accepted before as an expert in matters
14:59 22 involving naval architecture?

14:59 23 A. I have.

14:59 24 **MR. WILLIAMS:** Your Honor, at this time we tender
14:59 25 Mr. Webster as an expert in the areas of marine engineering and

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14:59 1 architecture, vessel condition and maintenance, marine safety,
14:59 2 and marine regulatory compliance.

14:59 3 **THE COURT:** Anybody want to question his
14:59 4 qualifications? Or we can do that on cross-examination?

14:59 5 **MR. HAYCRAFT:** No objection, Your Honor.

14:59 6 **THE COURT:** He is accepted. Go ahead.

14:59 7 **MR. WILLIAMS:** Thank you, Your Honor.

DIRECT EXAMINATION

14:59 8
14:59 9 **BY MR. WILLIAMS:**

14:59 10 **Q.** Mr. Webster, you were engaged by the Plaintiffs' Steering
14:59 11 Committee, of which I'm a member, to provide an expert report
14:59 12 and give expert testimony here in this matter, weren't you?

14:59 13 **A.** That's correct.

14:59 14 **Q.** You were deposed by all parties to this litigation,
15:00 15 weren't you?

15:00 16 **A.** I was indeed, yes.

15:00 17 **Q.** Let's get started on the meat of things, for lack of a
15:00 18 better word. Could you tell us briefly what the ISM Code is.

15:00 19 **A.** ISM Code is called International Safety Management Code,
15:00 20 and it's a code of safety -- basically safety regulations,
15:00 21 auditing. It's based on the ISO 9002, which was the
15:00 22 international standard organization, which is a European-based
15:00 23 group.

15:00 24 The ISM was enacted basically because there had been
15:00 25 a large number of major casualties of vessels, including the

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15:00 1 *Herald of Free Enterprise*, which was a ro/ro ship that flipped
15:00 2 over in Europe, killing many passengers. There were some large
15:01 3 bulk carriers, the *Derby* being one of them, which snapped in
15:01 4 half, killing all the crew.

15:01 5 So the International Maritime Organization decided
15:01 6 that they should try to clean up the shipping companies, to
15:01 7 make them safe. So they enacted the ISM Code which, I believe,
15:01 8 is 12 or 14 regulations which address the safety of life at
15:01 9 sea; they address the safety of the environment; they tell a
15:01 10 company what they have to do. They address the training and
15:01 11 the qualifications and the certification of the crew, including
15:01 12 the captain, for example.

15:01 13 And one of the major things they did was create
15:01 14 what's called a "designated person ashore," DPA. And the
15:01 15 purpose of that was to have the designated person be the
15:01 16 communication between the vessel, the operation of the vessel,
15:02 17 the captain, chief engineer, and the highest levels of
15:02 18 management. In other words, he basically controlled what
15:02 19 happened with the ship and reported problems and deficiencies
15:02 20 and anything that was dangerous and, of course, tried to fix
15:02 21 them.

15:02 22 Q. Okay. Thanks. We are going to talk about that in some
15:02 23 detail shortly.

15:02 24 Does the ISM -- did the ISM Code, on April 20, 2010,
15:02 25 apply to the *Deepwater Horizon*?

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15:02 1 A. Yes, sir, it did.

15:02 2 Q. Did the ISM Code apply to the *Deepwater Horizon* the
15:02 3 entirety of its life as a vessel?

15:02 4 A. It did, yes, sir.

15:02 5 Q. Of course, the ISM Code applies to the vessel's owner and
15:02 6 operator. Is that a true statement?

15:02 7 A. That is correct. Transocean would have to be audited and
15:02 8 have what's called a DOC, which is a Document of Compliance.

15:02 9 Q. Okay. Did the *Deepwater Horizon* fly a flag of
15:03 10 convenience?

15:03 11 A. Yes, sir. It flew -- well, originally it was
15:03 12 Panama-flagged, and then that was changed to the Republic of
15:03 13 the Marshall Islands.

15:03 14 Q. Now, you have reviewed the regulations of the Republic of
15:03 15 the Marshall Islands, or you did before you rendered your
15:03 16 report, did you not?

15:03 17 A. Yes, sir.

15:03 18 Q. Does the Republic of the Marshall Islands, or the RMI,
15:03 19 mandate as a condition of granting the *Deepwater Horizon* or any
15:03 20 oceangoing vessel entering with its flag that the ISM Code
15:03 21 applies to that vessel -- those vessels?

15:03 22 A. Yes. They appoint a regulatory body, in this instance --
15:03 23 well, it could be ABS or DNV. And they appoint the
15:03 24 classification society to carry out the necessary audits and
15:03 25 surveys to put the vessel into ISM compliance.

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15:03 1 Q. In this case, it was DNV; is that correct?

15:04 2 A. Yes, DNV were the ISM auditors for this vessel.

15:04 3 Q. Did the *Deepwater Horizon* have what's referred to as a
15:04 4 "port state"?

15:04 5 A. Well, port state control in the United States is the
15:04 6 United States Coast Guard.

15:04 7 Again, this is something else which was enacted under
15:04 8 the -- by the IMO. Basically it's like -- I won't say "police
15:04 9 force," but they -- all ships have to be inspected on a regular
15:04 10 basis by a port state control. The purpose, again, is to check
15:04 11 certificates, make sure the insurance is correct, make sure the
15:04 12 vessel has the correct statutory documents, and also has to be
15:04 13 ISM compliant.

15:04 14 In most countries in the world, if a vessel comes
15:04 15 into port and does not have one of these requirements, the
15:04 16 vessel is actually arrested until such time as it's cleared up.

15:05 17 Q. The port state with respect to the *Deepwater Horizon* was
15:05 18 the United States, correct?

15:05 19 A. Correct, the United States Coast Guard.

15:05 20 MR. WILLIAMS: Carl, could you put up TREC-50361,
15:05 21 please.

15:05 22 BY MR. WILLIAMS:

15:05 23 Q. We are going to talk about the ISM codes in some detail
15:05 24 now, Mr. Webster. You have described what it is. I'm going to
15:05 25 point out some of the provisions of it. It should be on your

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15:05 1 TV screen.

15:05 2 A. I can read it now. I couldn't read it to start with, so I
15:05 3 was going for a hard copy.

15:05 4 Q. I want to direct your attention to Part 1.1.9 under
15:06 5 Implementation, Part A. Do you see that?

15:06 6 A. I do. Hold on one second. Just let me get my glasses to
15:06 7 make it easier to see. 1.1.9.

15:06 8 Q. It says that "Nonconformity means an observed situation
15:06 9 where objective evidence indicates the nonfulfillment of a
15:06 10 specified requirement."

15:06 11 Could you briefly put that in layman's terms or
15:06 12 explain to us what that means and how it relates to the ISM.

15:06 13 A. Well, yes. For example, if the auditor came on board and
15:06 14 he found safety problems, let's say, with the fire system or
15:06 15 the fire main or the station bill was not correct or there were
15:06 16 many deficiencies in the logbooks, the logs weren't being kept
15:06 17 up, the oil record book, then that would be taken as an
15:06 18 nonconformity. And they actually are written up by the auditor
15:07 19 and normally given a certain amount of time in which to correct
15:07 20 the nonconformity, which the class will come back later on and
15:07 21 clear.

15:07 22 Q. And if that nonconformity is not cleared up in the
15:07 23 requisite amount of time, what typically happens or should
15:07 24 happen?

15:07 25 A. Well, what should happen is that they write up a major

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15:07 1 nonconformity, which is a pretty serious thing for a shipping
15:07 2 company to have because, if it's sent to the flag state and is
15:07 3 a major issue, then the flag state can withdraw the flag and
15:07 4 the vessel cannot sail.

15:07 5 Q. Okay. Then let's look at major nonconformity, which is
15:07 6 1.1.10.

15:07 7 It says: "Major nonconformity means an identifiable
15:07 8 deviation that poses a serious threat to the safety of
15:07 9 personnel or the ship or a serious risk to the environment that
15:08 10 requires immediate corrective action and includes the lack of
15:08 11 effective and systematic implementation of a requirement of
15:08 12 this code."

15:08 13 Is that correct?

15:08 14 A. Correct. Yes, sir.

15:08 15 Q. Let's go down to Section 1.2, Objectives.

15:08 16 Objective 1.2.1: "The objectives of this code are to
15:08 17 ensure safety at sea, prevention of human injury or loss of
15:08 18 life, and avoidance of damage to the environment, in particular
15:08 19 to the marine environment and to property."

15:08 20 Now, in this Objectives section, do they basically
15:08 21 outline all of the obligations of the ISM Code?

15:08 22 A. Yes, they do.

15:08 23 Q. Now, 1.2.2 says that "The safety management objectives of
15:09 24 the company should, *inter alia*: Provide for safe practices of
15:09 25 ship operation and a safe working environment."

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15:09 1 Correct?

15:09 2 A. Correct.

15:09 3 Q. "Establish safeguards against all identified risks."

15:09 4 And .3: "Continuously improve safety management

15:09 5 skills of personnel ashore and aboard ships, including

15:09 6 preparing for emergencies related both to safety and

15:09 7 environmental protection."

15:09 8 A. That's correct.

15:09 9 Q. During an ISM audit, this is one of the things an ISM

15:09 10 auditor would look at, correct?

15:09 11 A. That is correct.

15:09 12 Q. All owners of vessels that ply the high seas, that are

15:09 13 governed by the ISM, are or should be aware of all of these

15:09 14 objectives and rules, correct?

15:09 15 A. Yes, because they are trained. And they actually have

15:10 16 what we call "third-party auditors," people who go in and make

15:10 17 sure that the company understands what's going on. They have

15:10 18 to produce what's called a "safety management system," and this

15:10 19 is a series of quite large manuals, which basically is a

15:10 20 guideline for what they have to do and how they have to do it.

15:10 21 It includes all the various forms for the audits, all the

15:10 22 various nonconformity reports and safety reports and all that.

15:10 23 It's all very, very well and carefully documented.

15:10 24 Q. And you got ahead of me a little bit. But that's

15:10 25 specifically required by the ISM.

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1 If we look at Section 1.4, Functional Requirements
2 for Safety Management System, really this is set out fairly
3 simply: "Every company should develop, implement, and maintain
4 a safety management system, which includes the following
5 functional requirements." And then there's a list underneath,
6 correct?

7 A. Yes.

8 Q. One is "a safety and environmental protection policy,"
9 correct?

10 A. Correct.

11 Q. One is "instructions and procedures to ensure safe
12 operation of ships and protection of the environment, in
13 compliance with relevant international and flag state
14 legislation"?

15 A. Correct.

16 Q. "Defined levels of authority and lines of communication
17 between and amongst shore and shipboard personnel"?

18 A. Correct.

19 Q. In your opinion, is that an important component of the
20 objectives of the safety management system?

21 A. Yes, sir, very important.

22 Q. Now, let's move to Section 4, Designated Persons.

23 It says: "To ensure the safe operation of each ship
24 and to provide a link between the company and those on board,
25 every company, as appropriate, should designate a person or

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15:12 1 persons ashore having direct access to the highest level of
15:12 2 management. The responsibility and authority of the designated
15:12 3 person or persons should include monitoring the safety and
15:12 4 pollution prevention aspects of the operation of each ship and
15:12 5 ensuring that adequate resources and shore-based support are
15:12 6 applied as required."

15:12 7 That's what it says, right?

15:12 8 A. It does, yes, sir.

15:12 9 Q. I just want to ask you a couple questions about this. It
15:12 10 says that the person or persons ashore who should be designated
15:12 11 should have direct access to the highest level of management.
15:13 12 That's not plural levels of management. It says the highest
15:13 13 level of management, does it not?

15:13 14 A. It does.

15:13 15 Q. In your opinion, what exactly is meant by that?

15:13 16 A. Well, that should go to the board or the CEO or chief
15:13 17 operating officer.

15:13 18 Q. Of the company?

15:13 19 A. Of the company. I'm sorry.

15:13 20 Q. Do you recall the names of the designated persons ashore
15:13 21 or person ashore who were fulfilling that role on April 20,
15:13 22 2010?

15:13 23 A. Yes, sir. Yes.

15:13 24 Q. Who were they?

15:13 25 A. Well, specifically for the *Deepwater Horizon*, a gentleman

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15:13 1 called Gerald Canducci. And there was another gentleman. I
15:13 2 think his name was Moore, who was sort of a corporate
15:14 3 designated person.

15:14 4 Q. Later on I will ask you some more questions and get your
15:14 5 opinions on this; but when you were reviewing the materials,
15:14 6 did you become aware that neither of those gentlemen had ever
15:14 7 been on the *Deepwater Horizon*?

15:14 8 A. That is correct, I'm aware of it.

15:14 9 Q. What's your opinion of having a designated person ashore
15:14 10 with access to the highest level of management in the company
15:14 11 who's never been on the vessel, he is acting as a go-between or
15:14 12 liaison for -- in safety matters?

15:14 13 A. Well, it's bad practice, I think. I mean, the OIM should
15:14 14 at least visit the vessel, meet the captain, meet the OIM, meet
15:14 15 the chief engineer, and meet the senior people on board so if
15:14 16 they have a problem, they can call him on the phone.

15:14 17 I mean, it's quite common nowadays, because of the
15:14 18 international way, we can call -- that a captain would call the
15:14 19 designated person and say, "Hey, we've got a problem, you know.
15:15 20 We are not getting the spares," or "We've got crew problems,"
15:15 21 and that type of thing.

15:15 22 Q. Is it important to develop ease of association between
15:15 23 those in authority on the vessel and the designated person
15:15 24 ashore?

15:15 25 A. Yes, that's his function.

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15:15 1 Q. Okay. Communication is obviously extremely important, is
15:15 2 it not?

15:15 3 A. Yes.

15:15 4 Q. Let's go to Category 5, please.

15:15 5 The master's responsibility and authority,
15:15 6 Section 5.1: "The company should clearly define and document
15:15 7 the master's responsibility with regard to: Implementing the
15:15 8 safety and environmental protection of the company -- .3,
15:15 9 issuing appropriate orders and instructions in a clear and
15:15 10 simple manner; .4, verifying that specified requirements are
15:15 11 observed; and .5, reviewing the safety management system and
15:16 12 reporting its deficiencies to shore based management."

15:16 13 A. That's correct.

15:16 14 Q. Now, the master then should be -- is it your opinion that
15:16 15 the master should be intimately familiar with the company's
15:16 16 safety management system?

15:16 17 A. Yes.

15:16 18 Q. Is it your opinion that the master should be intimately
15:16 19 familiar with the vessel's safety management system?

15:16 20 A. Correct. Yes.

15:16 21 Q. Would that safety management system include all aspects of
15:16 22 the vessel's operation?

15:16 23 A. Yes.

15:16 24 Q. And that's not just the marine side, but the drilling side
15:16 25 as well, correct?

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15:16 1 A. Correct, if it's on a MODU.

15:16 2 Q. This section goes on to state that "The company should
15:17 3 ensure that the safety management system operating on board the
15:17 4 ship contains a clear statement emphasizing the master's
15:17 5 authority. The company should establish in the safety
15:17 6 management system that the master has the overriding authority
15:17 7 and the responsibility to make decisions with respect to safety
15:17 8 and pollution prevention and to request the company's
15:17 9 assistance as may be necessary."

15:17 10 A. That is correct.

15:17 11 Q. Now, we are going to get into this at some length after we
15:17 12 finish the overview of the ISM; but I'm going to ask your
15:17 13 opinion right now.

15:17 14 Did Transocean comply in your opinion with ISM
15:17 15 Section 5, Master's Responsibility and Authority?

15:17 16 A. They did not.

15:17 17 Q. And I'm talking, of course, about the *Deepwater Horizon*.

15:17 18 A. Correct.

15:17 19 Q. And its crew on board on April 20, 2010.

15:18 20 A. Yes, they did not comply.

15:18 21 Q. Now, let's skip to Section 8, please, Emergency
15:18 22 Preparedness. This is a relatively short section. But it
15:18 23 requires the company to establish procedures to identify,
15:18 24 describe, and respond to potential emergency shipboard
15:18 25 situations, does it not?

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15:18 1 A. It does, yes.

15:18 2 Q. Now, this ship, in addition to being a ship, has a
15:18 3 drilling function when it's engaged in drilling exploration
15:18 4 wells or whatever, correct?

15:18 5 A. It is, but it's still a ship. It's still underway, as we
15:19 6 say.

15:19 7 Q. You say it's underway. Are you saying that the ship is
15:19 8 underway while it's drilling?

15:19 9 A. Yes.

15:19 10 Q. Why do you say that? Why is that your opinion?

15:19 11 A. Well, the DP designation means "dynamically positioned."
15:19 12 So what you have here, this vessel has two large pontoons and
15:19 13 columns that come above it; and then on top of the columns, you
15:19 14 have the drilling equipment and the bridge and the living
15:19 15 quarters.

15:19 16 Underneath these columns are these big pontoons. You
15:19 17 have eight thrusters, Aquamaster thrusters.

15:19 18 **THE WITNESS:** They are like big outboard motors,
15:19 19 Your Honor. But they are 5.5000 kilowatts, and there are eight
15:19 20 of them.

15:19 21 And utilizing GPS from space, utilizing what we
15:20 22 call transponders on the seabed and gyrocompasses, the vessel
15:20 23 is actually kept in position just using the propulsion, the
15:20 24 thrusters. So as the waves come or as the wind blows it or as
15:20 25 the current makes it drift off a little bit, more power is

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15:20 1 applied in a certain way to bring it back into position because
15:20 2 it must be -- it must maintain that position because the riser
15:20 3 is connected, obviously, to the vessel itself and then to the
15:20 4 BOP on the seafloor.

15:20 5 So depending on the length of the pipe, there
15:20 6 are equations and there's a maximum angle that the actual riser
15:20 7 can come off the BOP; and I believe it's something around
15:20 8 8 degrees or something like that.

15:20 9 So one of the things they have on board -- and
15:20 10 that's what the DP operators do, that's the dynamic position
15:20 11 operators. They have two of them who are on watch 24 hours a
15:21 12 day. They have to watch this and they have red alerts --
15:21 13 yellow and red alerts and they can watch what's happening on a
15:21 14 graph or a matrix.

15:21 15 And most times everything is done automatically.
15:21 16 The computer senses it, pulls it back. Sometimes, of course,
15:21 17 if there's really bad weather or, let's say, very bad currents
15:21 18 or, let's say, you lose power or don't have enough thruster
15:21 19 power, it can actually what we call "move off station" and at
15:21 20 that point they have to disconnect from the wellhead to avoid
15:21 21 any catastrophic damage.

15:21 22 **BY MR. WILLIAMS:**

15:21 23 **Q.** Whether the vessel is moving from point to point or from
15:21 24 offshore to inshore to, say, go into port or whether or not
15:21 25 it's drilling, it's always moving, is it not?

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15:21 1 A. Correct, it's always underway.

15:21 2 Q. And the bridge crew, regardless of -- as long as the
15:21 3 vessel is at sea, regardless of what the vessel is doing,
15:21 4 whether going from point to point or drilling, has a bridge
15:22 5 crew or a marine crew manning the bridge 24 hours a day, seven
15:22 6 days a week; is that correct?

15:22 7 A. Yes, sir, the same as a ship.

15:22 8 Q. Let me just ask you a couple questions about the blowout
15:22 9 preventer, the BOP.

15:22 10 Now, you are not an expert in how a BOP operates, are
15:22 11 you?

15:22 12 A. I'm not. I understand how they work, but I'm not -- I'm
15:22 13 certainly not an expert in them.

15:22 14 Q. Is it your understanding that the blowout preventer that
15:22 15 was involved in this incident was a piece of Transocean
15:22 16 equipment?

15:22 17 A. Yes, it's a vital part or apparatus of the vessel.

15:22 18 Q. The vessel couldn't perform its primary mission without
15:22 19 the blowout preventer, correct?

15:22 20 A. That is correct.

15:22 21 Q. When the vessel moved from place to place or job to job,
15:23 22 it took the blowout preventer with it, did it not?

15:23 23 A. Yes. They lift it up and there's a special crane on board
15:23 24 and a rack and they put it in the rack.

15:23 25 Q. Now, you talked briefly just a minute ago, in answer to

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15:23 1 one of my questions, about the DP officers, the dynamic
15:23 2 position officers. The marine crew on duty normally is
15:23 3 comprised of the captain; is that correct?

15:23 4 A. Correct.

15:23 5 Q. First mate?

15:23 6 A. Correct, chief mate, first mate.

15:23 7 Q. Would it be fair to characterize in your opinion the DPO
15:23 8 as watch officers?

15:23 9 A. Yes.

15:23 10 Q. Let's just finish our overview of the ISM real quick
15:23 11 before we move on.

15:23 12 **MR. WILLIAMS:** I want to go to Section 9, please,
15:23 13 Carl, which is "Reports and Analysis of Nonconformities,
15:24 14 Accidents, and Hazardous Occurrences.

15:24 15 **BY MR. WILLIAMS:**

15:24 16 Q. We see that the ISM says that the safety management system
15:24 17 of the company "should include procedures ensuring that
15:24 18 nonconformities, accidents, and hazardous situations are
15:24 19 reported to the company, investigated and analyzed with the
15:24 20 objective of improving safety and pollution prevention. The
15:24 21 company should establish procedures for the implementation of
15:24 22 corrective action."

15:24 23 A. Yes, that is correct.

15:24 24 Q. Would it also be the obligation of Transocean to inform --
15:24 25 in the case of the *Deepwater Horizon*, to keep BP fully informed

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15:24 1 as well?

15:25 2 A. In my opinion, yes.

15:25 3 Q. If there is any incident of noncompliance, is Transocean
15:25 4 under any affirmative obligation to report that to anybody?

15:25 5 A. Well, yes. I mean, again, a normal nonconformity they
15:25 6 would report it to the company. A major nonconformity should
15:25 7 be reported to the classification society and the flag state.

15:25 8 Q. So once a nonconformity -- does a nonconformity always
15:25 9 have a time period in which it should be corrected?

15:25 10 A. Yes.

15:26 11 Q. It is the absolute obligation of the company to correct it
15:26 12 within that time period, correct?

15:26 13 A. Yes, sir, that is correct.

15:26 14 Q. A DNV auditor is not out there 24 hours a day every day
15:26 15 this rig is at sea, is it?

15:26 16 A. No.

15:26 17 Q. Is there an element of trust here?

15:26 18 A. Yes, there has to be. A surveyor, when they go on board,
15:26 19 cannot look into every nook and cranny on the vessel and has to
15:26 20 rely on the information they are given.

15:26 21 Q. Well, two to three months after a DNV auditor has been out
15:26 22 there, in order to do his audit in accordance with ISM
15:26 23 regulations and the regulations of the flag state, two or three
15:26 24 months later, a nonconformity or a major nonconformity arises,
15:26 25 what is Transocean or any other vessel-owning company supposed

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15:26 1 to do?

15:26 2 A. Well, as I said, a nonconformity, they are supposed to fix
15:27 3 it. If they have been given a nonconformity from the
15:27 4 inspection before, they are supposed to solve that
15:27 5 nonconformity. If it's a major nonconformity, they should
15:27 6 react immediately before they run into trouble with the flag
15:27 7 state.

15:27 8 Q. Let's move to Section 10, please, maintenance of the ship
15:27 9 and the equipment.

15:27 10 Section 10.1 provides that, "The company should
15:27 11 establish procedures to ensure that the ship is maintained in
15:27 12 conformity with the provisions of the relevant rules and
15:27 13 regulations and with any additional requirements which may be
15:27 14 established by the company."

15:27 15 Did I read that correctly?

15:27 16 A. You did.

15:27 17 Q. In layman's terms, what is the obligation of Transocean
15:27 18 with respect to maintenance of ship and equipment and reporting
15:28 19 and that type of thing?

15:28 20 A. Well, they should have a proper planned maintenance system
15:28 21 in operation. They should have a proper system of reporting
15:28 22 all the deficiencies and repairs and outstanding items. It
15:28 23 should be set up in a manner that the shoreside people can
15:28 24 react to their requests or the reports of nonconformities. And
15:28 25 also, of course, maintenance items, the overdue maintenance

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15:28 1 items.

15:28 2 Q. One of the most important components of that, is it not,
15:28 3 that maintenance records or records of nonconformities are
15:28 4 precisely and well maintained and transmitted to shore?

15:28 5 A. Yes.

15:28 6 Q. Section 10.3: "The company should establish procedures in
15:29 7 its safety management system to identify equipment and
15:29 8 technical systems the sudden operational failure of which may
15:29 9 result in hazardous situations. The safety management system
15:29 10 should provide for specific measures aimed at promoting the
15:29 11 reliability of such equipment or systems. These measures
15:29 12 should include the regular testing of stand-by arrangements and
15:29 13 equipment or technical systems that are not in continuous use."

15:29 14 Well, it's self-explanatory and we are going to spend
15:29 15 a lot of time on specific issues of maintenance; but let me
15:29 16 just ask you now: Was Transocean, in your opinion, in any way,
15:29 17 shape, or form in compliance with Section 10 of the ISM Code?

15:29 18 A. In no way.

15:30 19 Q. Now, let's move on. We are going to leave ISM alone for a
15:30 20 little while.

15:30 21 Would you characterize the *Deepwater Horizon* as an
15:30 22 extremely complex piece of marine equipment?

15:30 23 A. Very complex, yes.

15:30 24 Q. Is it more complex than a very large crude carrier?

15:30 25 A. Yes.

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15:30 1 Q. Supertanker?

15:30 2 A. Yes, it is.

15:30 3 Q. Is it true that this complex piece of marine equipment is
15:30 4 composed of or comprised of many components which, in and of
15:30 5 themselves, are extremely complex?

15:30 6 A. Yes, it is.

15:30 7 Q. Sir, is it true that these complex systems and subsystems
15:31 8 all have to be managed in a way that the vessel can operate
15:31 9 safely and that safe operation can be properly monitored?

15:31 10 A. That is correct.

15:31 11 Q. Did the *Deepwater Horizon* have any type of automated
15:31 12 system that manage all of these complex subsystems that
15:31 13 comprised this vessel?

15:31 14 A. Yes, it had what's called an IACS system by Kongsberg,
15:31 15 which is an integrated alarm and control system, extremely
15:31 16 complex system built with computers and many, many sensors. It
15:31 17 takes in thousands of signals, inputs from all over the rig and
15:31 18 it basically takes these signals in and then sends signals back
15:32 19 to control various pieces of equipment, such as it could start
15:32 20 a generator up or it could shut a generator down. It could
15:32 21 start fans.

15:32 22 And it's also the brain, if you like, for the
15:32 23 emergency systems. So for the firefighting alarms, for the gas
15:32 24 alarms. Even as much as watertight doors, for example, it
15:32 25 shows -- there's an alarm on it to show whether watertight

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15:32 1 doors are open or closed. So it's a very complex system.

15:32 2 MR. WILLIAMS: Carl, could you bring up TREX-1109,
15:32 3 please. The diagram is on page 4 of 16.

15:32 4 There you go. Thanks.

5 BY MR. WILLIAMS:

15:33 6 Q. Okay, Mr. Webster. Do you recognize this drawing?

15:33 7 A. I do, yes.

15:33 8 Q. Just explain to us briefly what it depicts.

15:33 9 A. Well, it's a chart, or a line chart, to show how the
15:33 10 various signals, alarm signals, and also signals out to control
15:33 11 various pieces of equipment are arranged.

15:33 12 Q. Now, out here -- it actually worked for me this time.

15:33 13 Out here in the left-hand column, those little
15:33 14 bubbles out there represent inputs to what is indicated as the
15:33 15 fire and gas system, do they not?

15:33 16 A. That is correct.

15:33 17 Q. Those inputs come from where?

15:34 18 A. They come from alarm devices, smoke alarms, gas alarms.
15:34 19 These are sensors that are located throughout the vessel. For
15:34 20 example, the smoke detectors, just like you have in your house,
15:34 21 if it senses smoke, it will ring the alarm and that will send a
15:34 22 signal to the F&G system.

15:34 23 Q. This drawing here doesn't reflect all of the sensors that
15:34 24 send signals to the fire and gas system, does it?

15:34 25 A. No.

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15:34 1 Q. It's just a representative sampling of it, correct?

15:34 2 A. That is correct.

15:34 3 Q. For instance, in the engine rooms there are mist -- engine
15:34 4 oil mist detectors that send signals to the fire and gas
15:34 5 system, don't they?

15:34 6 A. Yes.

15:34 7 Q. Just tell us -- tell the Court briefly what a mist engine
15:34 8 room -- mist --

15:34 9 A. Oil mist detector.

15:34 10 Q. I'm sorry. What an oil mist detector is.

15:35 11 A. An oil mist detector is on the inside of a crankcase of a
15:35 12 diesel engine. And the purpose is that if the engine has a
15:35 13 malfunction, let's say a bearing gets hot or -- you know, a
15:35 14 bearing rubs because of lack of lubrication or something like
15:35 15 that, the temperature increases in the crankcase itself to a
15:35 16 point it could get to what we call spontaneous ignition. It
15:35 17 could blow the engine up.

15:35 18 So once the temperature rises due to a malfunction,
15:35 19 overheated bearing or something, it rings an alarm and has the
15:35 20 ability to shut the engine down.

15:35 21 Q. Okay. Now, going back to the fire and gas system, as it's
15:35 22 depicted on this flow chart from Kongsberg -- by the way, is
15:35 23 Kongsberg Simrad the manufacturer of this system?

15:35 24 A. Yes.

15:35 25 Q. Out to the right we see fire pumps, fire dampers,

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15:35 1 firefighting systems, do we not?

15:35 2 A. We do.

15:35 3 Q. That's not representative, is it? You have reviewed the
15:35 4 vessel schematics and that information. That's not
15:36 5 representative of everything this fire and gas system controls
15:36 6 automatically, is it?

15:36 7 A. No, that's correct. It's just sort of a simplistic chart
15:36 8 to show that it controls those functions.

15:36 9 Q. Let's talk a little bit about fire dampers initially.
15:36 10 We'll get into them again and again and again I think, as the
15:36 11 day goes on.

15:36 12 But what are fire dampers? What is that little
15:36 13 bubble there? What does that mean?

15:36 14 A. Well, a fire damper basically is just like a fire damper
15:36 15 in a building or a hotel. The fire damper closes to stop air
15:36 16 going into the space, because air and fuel obviously are causes
15:36 17 of combustion. If you shut down the fire damper, you shut down
15:36 18 the airflow; therefore, you try to control the fire.

15:36 19 Q. It's a safety-critical system on the rig?

15:36 20 A. Yes.

15:36 21 Q. Life depends on the fire dampers, doesn't it?

15:37 22 A. Absolutely, yes.

15:37 23 Q. And in the event of a fire?

15:37 24 A. Yes.

15:37 25 Q. We see firefighting systems described briefly. What do

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15:37 1 fire and gas system controls with respect to the firefighting
15:37 2 systems?

15:37 3 A. Well, we have normally sprinklers throughout the
15:37 4 accommodation, just like a building.

15:37 5 You have CO2 smothering in the engine room. In case
15:37 6 there's a fire there, you can try and kill any fire with carbon
15:37 7 dioxide.

15:37 8 Q. As we go vertically downward in this matrix that we are
15:37 9 looking at right now, we go from the fire and gas system to the
15:37 10 ESD and F&G matrixes. Could you just explain briefly what you
15:37 11 understand that means.

15:37 12 A. The ESD is an emergency shutdown system, so that when the
15:38 13 IACS receives signals which tells it that something is really
15:38 14 serious, it could shut down that specific system automatically.

15:38 15 Q. Automatically, correct?

15:38 16 A. Yes.

15:38 17 Q. That's how the system is designed?

15:38 18 A. Yes. Not for all areas, but for very critical areas, it
15:38 19 is designed to shut down.

15:38 20 Q. The last box at the bottom of this flow chart is the ESD
15:38 21 system. And out to the side we have fans and ventilation and
15:38 22 process equipment. Could you just explain briefly what that
15:38 23 depicts.

15:38 24 A. Well, for example, in the engine rooms you have gas
15:38 25 alarms. And if gas enters the engine room and there are two

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15:38 1 high-high alarms, what we call high-high alarms, the system is
15:39 2 designed to automatically shut down the ventilation and shut
15:39 3 the fans, stop the fans, stop the gas and the air going into
15:39 4 the engine room. And you have the same in the shale shaker
15:39 5 room, I believe, and all those areas on board the vessel that
15:39 6 are subject to an explosive atmosphere.

15:39 7 Q. With respect to what you just described, the automatic
15:39 8 closure or stopping of ventilation in the engine room, are
15:39 9 these louvers or dampers that allow air to enter the engine
15:39 10 room so the engine can aspirate or breathe while it's running?

15:39 11 A. Yes. They are louvers which are controlled electrically,
15:39 12 mechanically remotely.

15:39 13 Q. They are part of the ESD system, are they not, or they
15:39 14 should be?

15:39 15 A. Yes, they are.

15:39 16 Q. Why is that?

15:39 17 A. Well, because you want to -- in an emergency situation for
15:40 18 a fire, for example, or if you get gas, you want to shut it
15:40 19 down as fast as possible to save the rig and save the lives of
15:40 20 the crew.

15:40 21 Q. Mr. Webster, would it be fair, in your opinion, to call
15:40 22 the IACS, the Kongsberg system, part of which we're talking
15:40 23 about right now, would it be fair to call it the electronic
15:40 24 brain of this vessel, particularly with regard to safety?

15:40 25 A. Yes. No doubt about it.

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15:40 1 Q. It's designed to detect potential emergency situations and
15:40 2 automatically take emergency actions with either no or very
15:40 3 little human intervention; is that right?

15:40 4 A. Yes, sir. That's correct.

15:40 5 Q. Is it true, in your experience and expertise, that
15:40 6 critical emergency situations on a vessel as large and as
15:40 7 complicated as the *Deepwater Horizon* require the rapid
15:40 8 assessment of the source and the nature of the emergency?

15:41 9 A. Very, very much so, especially on a vessel that has
15:41 10 hydrogen sulfide or hydrocarbon gas.

15:41 11 Q. Okay. Is it also true, in your opinion, that such an
15:41 12 emergency requires a very focused and rapid response to address
15:41 13 and deal with that emergency and take the appropriate
15:41 14 ameliorative action?

15:41 15 A. Yes.

15:41 16 Q. That's what the Kongsberg system is designed to do, isn't
15:41 17 it?

15:41 18 A. Yes, sir.

15:41 19 Q. Isn't the Kongsberg system and the ESD system designed to
15:41 20 perform multiple automated emergency response functions
15:41 21 simultaneously if necessary?

15:41 22 MR. KINCHEN: Objection, leading, Your Honor.

15:41 23 THE COURT: Restate the question.

15:42 24 BY MR. WILLIAMS:

15:42 25 Q. Is the fire and gas system and the ESD system, that part

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1 of the IACS, in your opinion, is it designed to perform
2 multiple automated emergency response functions simultaneously?

3 A. Yes.

4 Q. Do those functions include activation -- I'm sorry --
5 isolation of electrical equipment?

6 A. It does, yes.

7 Q. Would those functions include, in your opinion, the
8 closure -- automatic closure of watertight and fire doors?

9 A. Yes.

10 Q. What are fire doors?

11 A. Well, we talked about that real quick.

12 Fire doors are doors that will prevent the spread of
13 fire and also to shut off air going into that space.

14 Q. Would those functions we were talking about, the automated
15 emergency response functions I asked you two or three questions
16 ago, its ability to perform these functions simultaneously in
17 the event of an emergency, would those functions also include,
18 in your opinion, the closure of ventilation dampers?

19 A. Yes.

20 Q. Would those include ventilation dampers in the engine
21 rooms?

22 A. Yes. It should also shut the engine down.

23 Q. That would include the engine air intake dampers, correct?

24 A. Yes.

25 Q. If it's working properly and fully able to work

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15:43 1 automatically, would it also shut off fuel to the engines?

15:43 2 A. Yes.

15:43 3 Q. Are there other engine shutdown features that the ESD
15:43 4 system can activate automatically?

15:44 5 A. Well, the engine itself has what we call an overspeed
15:44 6 device. There's a mechanical overspeed device which actuates
15:44 7 the governor. But there's also an electronic overspeed device,
15:44 8 and that can actuate the governor as well.

15:44 9 But there's also what we call the air shutoff valves,
15:44 10 or they call them -- in the oil business they call them rig
15:44 11 savers because they actually shut off -- mechanically stop air
15:44 12 from going into the turbochargers so that the methane gas can't
15:44 13 keep feeding the engine. Because even if the rack -- the fuel
15:44 14 rack goes to zero and the engine is not getting any fuel, the
15:44 15 methane gas acts as the fuel. And those engines can take off
15:44 16 and ultimately explode.

15:44 17 Q. Why do they call them rig savers? Do you have any idea?

15:44 18 A. Because it saves the rig from blowing up.

15:45 19 Q. These rig savers -- even if the engine is ingesting
15:45 20 hydrocarbons or some flammable gas from some other source and
15:45 21 all else fails, the rig savers shut down the engine's ability
15:45 22 to ingest any type of air; is that correct?

15:45 23 A. Yes, absolutely. It shuts everything off.

15:45 24 Q. Mr. Webster, based on everything you have read, all the
15:45 25 documents you have reviewed, some of the testimony you have

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15:45 1 heard here in court, and the depositions you have reviewed, in
15:45 2 your opinion, should the marine crew of the *Deepwater Horizon*
15:45 3 have been trained in all aspects of the operation and function
15:45 4 of the Kongsberg system, the IACS?

15:45 5 A. Yes, they should have been.

15:45 6 Q. Would that include all of its components, such as the fire
15:45 7 and gas system and the ESD system?

15:45 8 A. That's correct, yes.

15:45 9 Q. Would that include knowing exactly what those systems did
15:46 10 or were supposed to do or could do in the event of an
15:46 11 emergency?

15:46 12 A. Yes, they should have been fully trained.

15:46 13 Q. That would be expected -- in your opinion, would that be
15:46 14 expected of any competent marine bridge crew on any vessel?

15:46 15 A. That is correct, yes. I would expect it.

15:46 16 Q. Now, we've heard testimony and we've seen pictures of the
15:46 17 monitoring system of this fire and gas -- or I'm sorry -- the
15:46 18 ESD, the IACS. It's monitored on television screens basically,
15:46 19 is it not?

15:46 20 A. That's correct, monitors.

15:46 21 Q. Monitors in the bridge?

15:46 22 A. Yes.

15:46 23 Q. We heard testimony -- I think it was the first week of the
15:46 24 case -- that there was also a monitor in the drill shack
15:47 25 between the D-1 -- between the driller's chair and the

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15:47 1 assistant driller's chair.

15:47 2 A. That's correct.

15:47 3 Q. Well, let me ask you the same question about the drill
15:47 4 crew. In your opinion, should the drill crew of the
15:47 5 *Deepwater Horizon* have been trained in all aspects of the
15:47 6 operation and function --

15:47 7 A. Yes.

15:47 8 Q. -- of the IACS?

15:47 9 A. Absolutely, yes.

15:47 10 Q. How about the subsea crew of the *Transocean Horizon*?

15:47 11 A. I believe they should be as well.

15:47 12 Q. Why is that?

15:47 13 A. They should understand the functions of what's going on so
15:47 14 that they could shut the well down if necessary.

15:47 15 Q. If the automatic safety features of the Kongsberg system
15:47 16 are intentionally disabled, what would be the obligations of
15:47 17 the crew -- what would the obligations of the crew and
15:47 18 *Transocean* be with respect to ISM Code requirements?

15:48 19 A. Well, truthfully, they should report it as a nonconformity
15:48 20 to the management or to the flag state.

15:48 21 Q. Would that be something that should be reported to the
15:48 22 designated person ashore?

15:48 23 A. Absolutely, yes.

15:48 24 Q. Would it be your expectation that the designated person
15:48 25 ashore have intimate knowledge of the Kongsberg Simrad system,

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15:48 1 the IACS?

15:48 2 A. I wouldn't say necessarily intimate knowledge, but should
15:48 3 have a general knowledge of what it does and what it's capable
15:48 4 of, the alarms and emergency systems that it's tied into.

15:48 5 Q. We'll come back to this area again later on when we talk
15:48 6 about the audits.

15:49 7 Now, the ISM Code, you have already testified, I
15:49 8 think, requires periodic audits and inspections of the vessel,
15:49 9 correct?

15:49 10 A. Correct.

15:49 11 Q. If, during those audits, nonconformities are discovered,
15:49 12 whether they are regular or major nonconformities, what exactly
15:49 13 is the regulatory obligation of Transocean in that case?

15:49 14 A. Well, actually, we didn't talk about it. But they are
15:49 15 required under the code, as well, to do what we call internal
15:49 16 audits. And the idea of the internal audit is to do an audit
15:49 17 of the vessel, or rig, to try to discover defects and
15:49 18 nonconformities that the class may find.

15:49 19 The whole idea is that you don't want class to come
15:49 20 on board and write up a whole bunch of nonconformities. I
15:49 21 believe it's incumbent on them to report these nonconformities
15:49 22 to the DPA.

15:50 23 Q. Would the ISM also require the company itself to conduct
15:50 24 its own internal audits with respect to those measures covered
15:50 25 in the ISM?

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15:50 1 A. Yes. In fact, Transocean had internal auditors on their
15:50 2 staff.

15:50 3 Q. How is the designated person ashore involved in that
15:50 4 process?

15:50 5 A. Well, he should be the one that actually schedules the
15:50 6 audits. And then, of course, he should get the feedback from
15:50 7 the company auditors or third-party auditor. It can be either
15:50 8 company or third-party outside auditors. He should obviously
15:50 9 look at that and make sure that the corrective actions were
15:50 10 taking place as soon as possible.

15:50 11 Q. If he finds nonconformities during the audit that is done,
15:50 12 theoretically at least, at his -- I'm talking about the
15:51 13 designated person ashore -- at his behest, does he have an
15:51 14 obligation to report that or those nonconformities, if they are
15:51 15 not corrected, to the highest level of management at
15:51 16 Transocean?

15:51 17 A. Yes.

15:51 18 Q. He would certainly have a similar obligation if it were a
15:51 19 major nonconformity, whether it was corrected or not. Is it
15:51 20 your opinion that that should be reported to the highest level
15:51 21 of management as soon as it becomes known?

15:51 22 A. Absolutely, to avoid the flag state from pulling the flag.

15:51 23 Q. Well, isn't there another reason for doing it as well, a
15:51 24 safety reason?

15:51 25 A. Well, yes, to ensure safety is maintained on the rig.

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15:51 1 THE COURT: Mr. Williams, is this a good time to take
15:51 2 a break?

15:52 3 MR. WILLIAMS: It would be, Your Honor. I'm about to
15:52 4 get into a different section.

15:52 5 THE COURT: Let's take about a 15-minute recess.

15:52 6 THE DEPUTY CLERK: All rise.

15:52 7 (Recess.)

16:10 8 THE COURT: Please be seated, everyone.

16:10 9 MR. WILLIAMS: TREX-4275, please.

16:10 10 BY MR. WILLIAMS:

16:10 11 Q. You might want to look at your TV screen, Mr. Webster.
16:10 12 What I'm --

16:10 13 MR. WILLIAMS: Is this too loud?

16:10 14 BY MR. WILLIAMS:

16:10 15 Q. Mr. Webster, I'm showing you Exhibit 4275. It's a risk
16:10 16 assessment of the *Deepwater Horizon* blowout preventer control
16:10 17 system, April 2000 final report prepared by EQE International
16:10 18 for Cameron. This was early on in the life of the
16:10 19 *Deepwater Horizon*, was it not?

16:11 20 A. Yes, sir.

16:11 21 Q. Have you reviewed this report previously?

16:11 22 A. I have.

16:11 23 MR. WILLIAMS: Could you go to page 37 on the
16:11 24 document, please.

25

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16:11 1 BY MR. WILLIAMS:

16:11 2 Q. Okay. On that page down at the bottom, it says: "The
16:11 3 major contributor to the failure likelihood associated with the
16:11 4 BOP control system results from the selected stack
16:11 5 configuration. With only one shear ram capable of sealing the
16:11 6 well in, it is extremely difficult to remove all single failure
16:11 7 points from the control system."

16:11 8 Is that what it says?

16:11 9 A. Yes.

16:11 10 Q. Now, from a safety standpoint, what in your opinion does
16:11 11 that put Transocean on notice of?

16:12 12 MR. KINCHEN: Objection, Your Honor. John Kinchen,
16:12 13 Transocean.

16:12 14 THE COURT: Get by a microphone, please.

16:12 15 MR. KINCHEN: This Court has already heard plenty of
16:12 16 testimony about the BOP. So one objection would be this would
16:12 17 be cumulative. Any testimony by this witness about the BOP
16:12 18 from a PSC witness would be cumulative.

16:12 19 Also, this witness has stated on the stand today
16:12 20 that he has no expertise in the blowout preventer. So we would
16:12 21 also object on those grounds, too.

16:12 22 MR. WILLIAMS: Well, Your Honor, I would agree with
16:12 23 everything Mr. Kinchen said. We are not presenting him as a
16:12 24 BOP expert. These are risk issues. Early on in the life of
16:12 25 this rig, BOP is clearly an appurtenance. I'm not going to ask

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16:12 1 him how the BOP worked or anything like that.

16:12 2 THE COURT: Let's see where this goes, but I think we
16:12 3 all agree that we are not going to have a third BOP expert.

16:12 4 MR. WILLIAMS: No, believe me, he is not going to be
16:13 5 a BOP expert. J&B expert maybe, but he is not a BOP expert.

16:13 6 Now I have forgotten my --

16:13 7 BY MR. WILLIAMS:

16:13 8 Q. Well, let's go to the next page. We have read this.
16:13 9 Let's go to the next page or so and read a couple of things.

16:13 10 "The dominant failure combinations" -- this is
16:13 11 page 38 of TRES-4275. "The dominant failure combinations, in
16:13 12 terms of probability of occurrence, associated with the failure
16:13 13 of the BOP to perform the emergency disconnect sequence when
16:13 14 required are," and one of the failure combinations is -- one of
16:13 15 the elements of the failure is "failure of the indication to
16:13 16 identify need to EDS or operator failure to initiate EDS."

16:14 17 Correct?

16:14 18 A. Correct.

16:14 19 Q. In your opinion, given this information early on in the
16:14 20 life of this rig, would training on when and how to EDS be
16:14 21 important?

16:14 22 A. Very much so.

16:14 23 Q. I'm talking about training of the marine crew and the
16:14 24 drill crew when I ask that question. Is your answer still the
16:14 25 same?

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16:14 1 A. It is, yes, sir.

16:14 2 Q. Is your opinion still the same?

16:14 3 A. It is.

16:14 4 MR. WILLIAMS: Let's go to page 40, please. Skip the
16:14 5 next one and go to the -- it would be the next one, please.

16:14 6 Down at the bottom of the page, bottom of the last paragraph.

16:15 7 BY MR. WILLIAMS:

16:15 8 Q. It says here: Beyond these items, the largest potential
16:15 9 item for reducing the risk (i.e., increasing the reliability)
16:15 10 for both disconnect and well control operations is to ensure
16:15 11 that the indication, recognition, and willingness of the
16:15 12 operator to initiate the appropriate actions or to switch to
16:15 13 the standby pod following failure in the active pod.

16:15 14 "The indication, recognition, and willingness of the
16:15 15 operator to initiate the appropriate actions is also the next
16:15 16 largest factor which can potentially increase the risk for
16:15 17 failure to disconnect or failure of well control.

16:15 18 "Given the importance of the operator, it is
16:15 19 essential that the indication available to him provides a clear
16:15 20 picture of the status and that the guidelines for initiating a
16:16 21 disconnect or performing well control operations are clear and
16:16 22 concise."

16:16 23 Based on your review, do you have an opinion as to
16:16 24 whether the Transocean guidelines -- their SMS, their safety
16:16 25 management systems, their operations and procedures manuals --

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1 all the things you reviewed, do you have an opinion as to
2 whether those guidelines were clear and concise, as suggested
3 in this initial BOP audit in 2000?

4 A. No, I don't believe they were.

5 MR. WILLIAMS: Let's go to TREN-7691, please.

6 BY MR. WILLIAMS:

7 Q. Have you reviewed this document Mr. Webster?

8 A. I have, yes.

9 Q. It's a West Engineering document. We have seen during the
10 trial several West Engineering documents, not this one yet.

11 The first full sentence under the executive summary,
12 it says: "The primary purpose of this assessment was to review
13 known equipment and system anomalies that have caused problems
14 on other rigs and to offer guidance for correction of these
15 issues on the *Deepwater Horizon*."

16 Now, this is dated April 26, 2001, approximately nine
17 years before the *Deepwater Horizon* tragedy, correct?

18 A. Correct.

19 Q. The letter is addressed to a Mr. Doug Halkett of
20 Transocean Sedco Forex, correct?

21 A. Correct.

22 MR. WILLIAMS: Page 3 of 6, please, Carl.

23 BY MR. WILLIAMS:

24 Q. Paragraph 7, it says: "No preventive maintenance program
25 was in place. Documentation on maintenance work performed

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16:18 1 should be retained along with a rotational system for
16:18 2 rebuilding the valves."

16:18 3 Again, we are talking about the blowout preventer
16:18 4 here?

16:18 5 A. That's correct.

16:18 6 Q. Now, is it your opinion that that suggestion is in
16:18 7 conformance with the ISM code?

16:18 8 A. No. There should be a preventive maintenance program in
16:18 9 place to upgrade it and to prevent failure.

16:18 10 Q. That's correct. They're pointing this out in this report,
16:18 11 correct?

16:18 12 A. Yes.

16:18 13 Q. Nine years before the incident?

16:18 14 A. Correct.

16:18 15 MR. WILLIAMS: TREX-6164, please.

16:18 16 BY MR. WILLIAMS:

16:18 17 Q. Here we have a *Deepwater Horizon* Integrated Acceptance
16:19 18 Audit dated August/September 2001. And it's an audit that was
16:19 19 conducted by BP, apparently.

16:19 20 MR. WILLIAMS: I would like to go to Bates 43465.

16:19 21 BY MR. WILLIAMS:

16:19 22 Q. They are talking about the fire and gas system, which you
16:19 23 can see on the picture of the full document.

16:19 24 It says: "The audit team is concerned" -- it's your
16:19 25 understanding we are talking about the BP audit team, correct?

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16:19 1 A. That's correct.

16:19 2 Q. "The audit team is concerned about the availability and
16:19 3 reliability of the fire and gas system, including the
16:19 4 possibility that the long-term repeatability and robustness of
16:19 5 the system may be suspect."

16:20 6 It goes on to say that "The system should be fully
16:20 7 operational and function in accordance with the design cause
16:20 8 and effects philosophy prior to the engineer's departure.
16:20 9 Furthermore, all fire and gas detector heads should be
16:20 10 operational, and no alarms or detectors should be overridden."

16:20 11 Did I read that correctly?

16:20 12 A. You did, yes, sir.

16:20 13 Q. Sir, is it your opinion that the system, which it says in
16:20 14 this audit should be fully operational and function in
16:20 15 accordance with the design cause and effects philosophy, in --
16:20 16 your opinion, does that mean the automatic function of the IACS
16:20 17 system?

16:20 18 A. Yes, that's correct.

16:20 19 MR. WILLIAMS: TREX-3134, please.

16:21 20 BY MR. WILLIAMS:

16:21 21 Q. This document is "*Deepwater Horizon* Design Risk
16:21 22 Assessment" prepared for Transocean Sedco Forex, correct?

16:21 23 A. Correct.

16:21 24 Q. It's a final report. It's dated 2002 January.

16:21 25 A. That's correct.

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16:21 1 MR. WILLIAMS: Go to page 4.8, please.

16:21 2 BY MR. WILLIAMS:

16:21 3 Q. Under the section Disconnect and Move-off System,
16:21 4 paragraph 10 says: "Ensure that the EH-MUX BOP control has at
16:21 5 least one alternative operation panel that can be operated
16:21 6 independently from the one located at the driller's
16:21 7 workstation."

16:22 8 Now, the MUX BOP control that they are talking about,
16:22 9 is that the BOP control panel, in your opinion?

16:22 10 A. Yes.

16:22 11 Q. "Ensure that it is possible to operate the acoustic
16:22 12 control system from a portable unit which can be handled by one
16:22 13 person in the event of evacuation from the vessel."

16:22 14 That's what it says, right?

16:22 15 A. Correct.

16:22 16 Q. Was there an acoustic control system installed on the
16:22 17 *Deepwater Horizon*?

16:22 18 A. No, sir.

16:22 19 MR. WILLIAMS: Could we go to paragraph 9 just above
16:22 20 it, real quickly, please, if possible.

16:22 21 BY MR. WILLIAMS:

16:22 22 Q. It's the same section, Disconnect and Move-off System.
16:22 23 "Actual time to secure the well and disconnect the LMRP."

16:22 24 Are we talking about an EDS, an emergency disconnect,
16:22 25 here, Mr. Webster?

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16:22 1 A. Yes, disconnecting the lower marine riser package.

16:23 2 Q. Okay. And is that what happens during an emergency
16:23 3 disconnect?

16:23 4 A. That's correct. The top portion of the BOP comes off.

16:23 5 Q. "Actual time to secure the well and disconnect the LMRP
16:23 6 will be dependent on equipment/system configuration and water
16:23 7 depth, but is in any case expected to exceed the regulatory
16:23 8 requirement of 30 seconds for assumed deepwater drilling with
16:23 9 the *Deepwater Horizon*. Necessary corrective actions towards
16:23 10 the regulatory requirement need to be addressed, and it is
16:23 11 recommended to assess the potential risk impact of increasing
16:23 12 the disconnection time between [verbatim] 30 seconds."

16:23 13 Now, in your review of all the audits and all of the
16:23 14 documents going forward, did you see any evidence that this was
16:23 15 ever done?

16:23 16 A. No, I have not.

16:24 17 MR. WILLIAMS: Page 4.9, please, under the topic ESD
16:24 18 System.

16:24 19 BY MR. WILLIAMS:

16:24 20 Q. Now, we are not talking about the EDS. I get confused
16:24 21 too, but this is the -- is this the emergency shutdown system
16:24 22 we talked about earlier?

16:24 23 A. Yes.

16:24 24 Q. Part of the Kongsberg Simrad?

16:24 25 A. Yes, it is.

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16:24 1 Q. Paragraph 13: "Consider changing the ESD system so that
16:24 2 human input is not critical for the success of the system."

16:24 3 Is that what it says?

16:24 4 A. It does, yes.

16:24 5 Q. Based on your review of all of the audits, surveys,
16:24 6 everything else that you have looked at, did you see that this
16:24 7 was ever done?

16:24 8 A. No, it was not.

16:24 9 MR. WILLIAMS: TREX-5483, please.

16:24 10 BY MR. WILLIAMS:

16:25 11 Q. What we have here is an ISM Code Certification, Ship Audit
16:25 12 Report, and it's dated May 18, 2002. Let me ask you a couple
16:25 13 questions about these or about this document, based on your
16:25 14 experience as a lead ISM auditor.

16:25 15 This ISM Code Certification deals only with the
16:25 16 *Deepwater Horizon*; is that correct?

16:25 17 A. Yes.

16:25 18 Q. It defines "major nonconformities" and "nonconformities"
16:25 19 in the Definition section of the document, correct?

16:25 20 A. It does.

16:25 21 Q. Now, if you go to the next page -- sorry, it's two pages
16:25 22 in -- we have a document that's titled "Nonconformity and
16:25 23 Finding Note."

16:25 24 A. Got it.

16:26 25 Q. They have a description of the deficiency that was found

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16:26 1 in this audit. It says that "the ISM Code requires that every
16:26 2 company shall define and document the responsibility,
16:26 3 authority, and interrelation of all personnel who manage,
16:26 4 perform, or verify work affecting safety," does it not?

16:26 5 A. It does.

16:26 6 **THE COURT:** Where are you reading from? Are you
16:26 7 reading from this?

16:26 8 **MR. WILLIAMS:** I'm sorry, Judge. I was reading from
16:26 9 the prior paragraph. I'll go on to paragraph 3.

16:26 10 **THE COURT:** I was just trying to follow what you were
16:26 11 reading. I didn't see it on the screen.

16:26 12 **MR. WILLIAMS:** Sorry about that.

16:26 13 **BY MR. WILLIAMS:**

16:26 14 Q. Paragraph 3 is Objective Evidence. What is "objective
16:26 15 evidence"?

16:26 16 A. Well, it's what they found during their audit. It's
16:26 17 obviously something that needs to be taken care of.

16:26 18 Q. Okay. Part of this objective evidence or this finding
16:26 19 said that "Evidence found that certain responsibilities and
16:27 20 authorities were not fully defined and documented."

16:27 21 And one example of that is "Written designation of
16:27 22 person in charge issued July 2001 designated OIMs as the
16:27 23 primary persons in charge with masters noted as alternate
16:27 24 persons in charge."

16:27 25 "The above two items are contrary to the following

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16:27 1 designations of the master as person in charge: Approved
16:27 2 station bill states that the master shall be in command and
16:27 3 coordinate all emergency response activities, contrary to the
16:27 4 written and displayed designation of the OIM as person in
16:27 5 charge."

16:27 6 Now, why is that an ISM Code violation, Mr. Webster,
16:27 7 in your opinion?

16:27 8 A. Because on Section 5.2, the captain is to be the
16:27 9 designated person at all times.

16:27 10 Q. What is DNV, the auditing authority, gigging Transocean
16:28 11 for here? Can you sum it up for us?

16:28 12 A. Basically it's saying there is confusion in the command
16:28 13 structure and that the master should be the person in charge.

16:28 14 Q. Now, in your experience as an ISM auditor, do these ship
16:28 15 audit reports stay on the vessel?

16:28 16 A. They stay on the vessel, and they also go to the office.

16:28 17 Q. Who is responsible for dealing with them once they go to
16:28 18 the office, or who should be?

16:28 19 A. Well, it will go to the rig manager, and it will then go
16:28 20 to also the designated person ashore, who has the ultimate
16:28 21 authority --

16:28 22 Q. Okay.

16:28 23 A. -- to make sure the corrective action is taken.

16:28 24 Q. The designated person is the person having direct access
16:28 25 to the highest level of management, correct?

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16:28 1 A. That's correct. In this case, Mr. Canducci.

16:28 2 Q. Well, this was --

16:28 3 A. Oh, this was before him.

16:28 4 Q. This was back in 2002.

16:28 5 A. I'm sorry. He didn't come until later, yes.

16:28 6 Q. So 2002, at least, it appears to be one, if not the first
16:29 7 notice that there is an ISM nonconformity involving authority
16:29 8 of the master, is that correct, based on your review?

16:29 9 A. Yes.

16:29 10 MR. KINCHEN: John Kinchen, Your Honor, for
16:29 11 Transocean. Objection to leading.

16:29 12 THE COURT: It's sort of leading.

16:29 13 MR. WILLIAMS: I tried to save it right at the end,
16:29 14 Your Honor.

16:29 15 THE COURT: You didn't quite get there.

16:29 16 MR. WILLIAMS: It's a bad habit I have.

16:29 17 THE COURT: Try not to do that.

16:29 18 MR. WILLIAMS: I'll try my best.

16:29 19 Could we go to the next exhibit. Is there a
16:29 20 TREX?

16:29 21 44017 is the TREX number on this exhibit,
16:30 22 Your Honor.

16:30 23 BY MR. WILLIAMS:

16:30 24 Q. Mr. Webster, you have seen this document before, haven't
16:30 25 you?

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16:30 1 A. I have, yes.

16:30 2 Q. This is the *Deepwater* Technical Rig Audit of January 2005.

16:30 3 MR. WILLIAMS: If we could go to page 5 of that
16:30 4 document, please.

16:30 5 BY MR. WILLIAMS:

16:30 6 Q. Under the topic Maintenance Management, starting at the
16:30 7 second full paragraph, it says: "The audit has identified a
16:30 8 number of deficiencies within EMPAC that have a potential to
16:30 9 cause an incident or equipment downtime."

16:30 10 Mr. Webster, do you have an appreciation of what
16:30 11 EMPAC was?

16:30 12 A. I believe EMPAC was the planned maintenance system in
16:31 13 effect at that time.

16:31 14 Q. It goes on to say that "There is a practice by maintenance
16:31 15 personnel to close out maintenance work orders even though not
16:31 16 all tasks are completed. Critical checks and inspections are
16:31 17 consequently being missed. This was noted on numerous
16:31 18 occasions during review of the maintenance history files.
16:31 19 Maintenance work orders assigned to the incorrect craft has
16:31 20 also resulted in critical maintenance tasks including NDT
16:31 21 inspection of the drilling load path being missed.

16:31 22 "Maintenance history files were generally found to be
16:31 23 unsatisfactory, although a few were exemplary. Work undertaken
16:31 24 and measurements requested in the maintenance procedure were
16:31 25 frequently omitted from the history files. An auditable trail

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1 of maintenance performed on equipment was often not possible
2 from interrogation of the maintenance history."

3 Now, under the ISM, is it your opinion that all
4 maintenance should be tracked on vessels at sea?

5 A. Yes, and reported to the office.

6 Q. In your opinion, Mr. Webster, as a marine safety expert,
7 what is the primary reason or reasons for that?

8 A. Well, the primary reason is to make sure that this work is
9 done in a timely manner and the vessel remain safe for
10 operation. Failure to track it, or particularly this, if they
11 are closing out maintenance tasks before they are completed,
12 that's a very serious breach of safety.

13 Q. Thank you, sir.

14 MR. WILLIAMS: Next we will go to Exhibit TREX-81.

15 BY MR. WILLIAMS:

16 Q. This is a report of survey, "BHP Safety-Critical
17 Equipment, Semisubmersible *Deepwater Horizon*."

18 Mr. Webster, it is prepared for BHP Billiton, and it
19 was prepared by ModuSpec in March of 2005, correct?

20 A. That's correct.

21 MR. WILLIAMS: Page 11, please.

22 BY MR. WILLIAMS:

23 Q. Under the topic Safety Equipment, 11.1 -- 11.1.1 Safety,
24 it says: "Critical: Repair the fire detection system, perform
25 the full system PM . . ."

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16:33 1 In your opinion, what is PM?

16:33 2 A. Plan of maintenance.

16:33 3 Q. -- "earlier than the scheduled May 2005 annual PM."

16:33 4 Mr. Webster, in your opinion as a marine safety
16:33 5 expert, is the fire detection system a critical-safety
16:34 6 component of the *Deepwater Horizon*?

16:34 7 A. Yes, one of the most paramount functions on the rig for
16:34 8 the safety of the crew.

16:34 9 Q. This is 2005. We will go to the next TREC, which is 80,
16:34 10 and this is a report of regular survey or just a report of
16:34 11 survey of the *Deepwater Horizon*, correct?

16:34 12 A. Yes.

16:34 13 Q. April 2005. Go to the next page, which would be -- there
16:34 14 we go. It's under Topic 3.0, Executive Summary. There's a
16:34 15 section on the BOP. I'm not going to ask you any questions on
16:34 16 how it works.

16:34 17 But it says: "Overall, the BOP was beyond the
16:34 18 original equipment manufacturer's recommended interval for
16:35 19 major service, requiring the changing of all seals in the
16:35 20 hydraulic systems. The recommended interval is three years
16:35 21 with a five-year interval for disassembly, hardness, and
16:35 22 dimensional inspection. It was noted that the certificate of
16:35 23 compliance would soon be out of date."

16:35 24 Now, based on your review of all these documents
16:35 25 going forward from this date, is this -- was this the first

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16:35 1 warning to Transocean regarding exceeding the original
16:35 2 equipment manufacturer's recommended interval for major
16:35 3 service?

16:35 4 A. Yes, it is the first, like, warning notice.

16:35 5 MR. WILLIAMS: TREX-1764, please.

16:35 6 BY MR. WILLIAMS:

16:35 7 Q. Now, we have another ISM Code certification audit report,
16:35 8 but this is a company audit report. Could you explain briefly
16:36 9 what a company audit report is as opposed to a vessel audit
16:36 10 report?

16:36 11 A. A company audit report means the auditor actually goes to
16:36 12 the office -- and it might be more than one auditor, for
16:36 13 example -- and then visits with and interviews the various
16:36 14 members of the staff.

16:36 15 Q. Okay. After the interview, is a report issued?

16:36 16 A. Yes.

16:36 17 Q. Go to page 1 of the "Nonconformity and Finding Note,"
16:36 18 please.

16:36 19 Now, there's a deficiency or nonconformity noted in
16:37 20 this report, is there not?

16:37 21 A. There is, correct.

16:37 22 Q. That is that ISM Code Section 9.1, which we discussed
16:37 23 briefly at the outset, says that: "The safety management
16:37 24 system should include procedures ensuring that nonconformities,
16:37 25 accidents, and hazardous situations are reported to the

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16:37 1 company, investigated and analyzed . . ."

16:37 2 The deficiency is that the system/procedure is not
16:37 3 implemented -- or effectively implemented; is that correct?

16:37 4 A. Yes, sir.

16:37 5 Q. Now, there are others -- other deficiencies noted below,
16:37 6 but those are vessel-specific; is that right?

16:37 7 A. Yes, they are, but when the auditor does the audit in the
16:38 8 office, he will look for the files from various vessels to see
16:38 9 what's going on and make sure that the follow-up is happening.
16:38 10 And that's probably why this is being written up like this.

16:38 11 MR. WILLIAMS: Let's go to TREN-01 -- 1777, please.

16:38 12 BY MR. WILLIAMS:

16:38 13 Q. This document is titled "Det Norske Veritas Survey
16:38 14 Report," correct?

16:38 15 A. Yes.

16:38 16 Q. And its subtitle is "Intermediate ISM Audit"; is that
16:38 17 correct?

16:38 18 A. Yes, it is.

16:38 19 Q. Based on your experience as an ISM auditor, what is an
16:38 20 intermediate ISM audit?

16:38 21 A. The audits are supposed to be every year, and if they
16:38 22 write up a nonconformity, they may go back -- or will go back
16:38 23 before the year is up and, most times, it's called an
16:39 24 intermediate survey -- intermediate audit, excuse me.

16:39 25 Q. If you look down at the bottom, it indicates that the

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16:39 1 survey started and ended on June 29, 2005; is that correct?

16:39 2 A. Yes, uh-huh.

16:39 3 MR. WILLIAMS: The next page, please.

16:39 4 BY MR. WILLIAMS:

16:39 5 Q. The title of this page is an "Observation," and what is
16:39 6 the significance of an observation under an ISM audit?

16:39 7 A. Well, an observation is almost the same as a
16:39 8 nonconformity. It's stating what a problem was during the
16:39 9 audit.

16:39 10 Q. Okay. And that problem was: "It was not possible to
16:39 11 verify systematic follow-up of, and corrective action arising
16:40 12 from, findings from previous internal audits," and they
16:40 13 reference prior audits; is that correct?

16:40 14 A. Yes.

16:40 15 Q. Isn't systematic -- in your opinion, isn't systematic
16:40 16 follow-up of deficiencies or observations in prior ISM audits
16:40 17 required by the ISM?

16:40 18 A. Yes, it is; and it's a major nonconformity.

16:40 19 Q. Would that be something that the designated person should
16:40 20 know about?

16:40 21 A. Absolutely, yes.

16:40 22 Q. And should the designated person ashore for this vessel
16:40 23 know that it constitutes a major nonconformity?

16:40 24 A. Should do, yes.

16:40 25 Q. Would he be obligated in that case to go to the highest

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1 level of management to inform him or her or them of the major
2 nonconformity and the reasons therefore?

3 A. Absolutely.

4 MR. WILLIAMS: TREX-44015, please.

5 BY MR. WILLIAMS:

6 Q. This is a letter dated August 30, 2005, sent to Mr. Daun
7 Winslow at Transocean, Inc.

8 Do you recognize that name, Mr. Webster?

9 A. I do.

10 Q. He is an officer in Transocean, correct?

11 A. Correct. I think he is head of maintenance or something
12 like that.

13 Q. I'm obviously not going to read the whole letter; but in
14 the box where it says "Overall Audit Results," it says:
15 "Yellow. Conditionally approved to work for Gulf of Mexico
16 business units. Must close all audit findings within 12 months
17 of audit date or face being removed from the list of approved
18 contractors. Closure of these findings will be verified by
19 follow-up audit."

20 Now, who -- in the first instance, in your opinion as
21 an ISM auditor, would it be Transocean's obligation to conduct
22 whatever follow-up audits are required to make sure that the
23 prior audit findings have been closed-out or rectified or
24 corrected?

25 A. Yes, sir. Absolutely.

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16:42 1 Q. The ISM Code applies to Transocean, the vessel owner,
16:42 2 correct?

16:42 3 A. It does.

16:42 4 Q. Isn't it their obligation and not BP's obligation?

16:42 5 A. It is their obligation. This document also is putting
16:43 6 Transocean on notice that they're on probation.

16:43 7 MR. WILLIAMS: Next. Is that part of the same TREX?
16:43 8 What TREX is it? 44038.

16:43 9 I'm sorry, Your Honor.

16:43 10 BY MR. WILLIAMS:

16:43 11 Q. Do you recognize this document, Mr. Webster?

16:44 12 A. I do, yes.

16:44 13 Q. Just describe it briefly, please.

16:44 14 A. This is an audit by Transocean Deepwater Drilling. It's
16:44 15 an audit protocol.

16:44 16 Q. Could this be -- I unfortunately didn't put the first or
16:44 17 forward page on it. Could this be the BP follow-up on the
16:44 18 prior audit findings?

16:44 19 A. That could well be, yes.

16:44 20 Q. Item 1.1: "Contractor shall have a procedure for
16:44 21 determining which existing regulations apply to the
16:44 22 contractor's specific operations. Contractor shall have a
16:44 23 procedure for monitoring compliance. Contractor shall
16:44 24 demonstrate, in the auditor's opinion, the intent to comply
16:44 25 with the regulations."

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1 The finding is: "No procedure for determining which
2 existing regulation applies to Transocean's operations was
3 found."

4 Correct?

5 A. Correct.

6 Q. Is that an ISM violation?

7 A. Yes.

8 Q. 1.4: "Contractor shall demonstrate compliance with
9 regulations. Records in support of this, which will be
10 available for review, shall include a list of applicable
11 regulations and on-site inspection of compliance."

12 The finding is: "A specific safety MMS, Homeland
13 Security, or Coast Guard list of applicable regulations was not
14 available."

15 In your opinion as a lead ISM auditor, is that an ISM
16 violation?

17 A. Yes.

18 **MR. WILLIAMS:** No. 15, please, page 7 of 15.

19 **BY MR. WILLIAMS:**

20 Q. "Contractor shall have a procedure in place where
21 immediate notification of the company occurs for those
22 incidents listed when those incidents occur on company sites or
23 company project sites or in support of either. Records showing
24 the contractor personnel -- that personnel are aware of the
25 requirement and the process and the notification is carried out

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1 effectively shall be available for review."

2 The finding is: "The Transocean incident reporting
3 procedure does not identify immediate verbal and written
4 notification to company supervisor."

5 Is that correct?

6 A. That is correct.

7 MR. WILLIAMS: TREX-75, please.

8 BY MR. WILLIAMS:

9 Q. They have a Supplemental Report of Survey,
10 *Deepwater Horizon* prepared for Transocean. This is a ModuSpec
11 survey; is that correct?

12 A. Correct.

13 Q. What is the date of that?

14 A. 17 to 31, October 2005.

15 MR. WILLIAMS: Turn to page 13, please, Carl.

16 MR. KINCHEN: Your Honor, John Kinchen, Transocean.
17 I'm going to object for relevance. It looks like we are on
18 page 2 of a six-page chart that lists various audits. All of
19 these entities -- DNV, BP, ModuSpec -- audited, surveyed,
20 inspected this rig plenty of times in the period 2007, 2008,
21 2009, 2010, on up.

22 So I would object based upon relevance of, for
23 example, a ModuSpec 2005 audit when ModuSpec did an intrusive
24 survey in 2010 just essentially days before the incident.

25 THE COURT: All right.

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16:48 1 **MR. WILLIAMS:** Your Honor, Mr. Kinchen is correct:
16:48 2 This vessel during its life was surveyed and audited to death.
16:48 3 The stack is that high. There is a pattern that I'm going to
16:48 4 show -- I'm not going through every one of them -- where time
16:48 5 after time, these deficiencies were pointed out to Transocean,
16:48 6 gross deficiencies with respect to maintenance and safety,
16:48 7 chain of command, all those types of things, all ISM
16:48 8 violations. They were never corrected. I'm establishing that
16:48 9 they knew about it, that there's a pattern here and, you know,
16:48 10 I think it goes to gross --

16:48 11 **THE COURT:** All right. I overrule the objection.

16:48 12 **MR. KINCHEN:** We agree there was a pattern,
16:48 13 Your Honor.

16:48 14 **THE COURT REPORTER:** I'm sorry, who was that?

16:48 15 **THE COURT:** That was an uninvited comment by
16:48 16 Mr. Kinchen.

16:48 17 I ruled and there shouldn't be any comments
16:49 18 after I rule, Mr. Kinchen.

16:49 19 **MR. KINCHEN:** Thank you, Your Honor.

16:49 20 **BY MR. WILLIAMS:**

16:49 21 **Q.** Mr. Webster, as part of this audit, you'll see referenced
16:49 22 364, the asset description -- we are talking about the
16:49 23 *Deepwater Horizon*, just to remind you.

16:49 24 **A.** Yes, sir.

16:49 25 **Q.** We are talking -- the asset description is the gas

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16:49 1 detection system?

16:49 2 A. Correct.

16:49 3 Q. We have talked about that already.

16:49 4 A. Yes.

16:49 5 Q. Part of the IACS, correct?

16:49 6 A. Correct.

16:49 7 Q. The severity level, over here on the right-hand column, is
16:49 8 "Major"; is that right?

16:49 9 A. Yes.

16:49 10 Q. At present, the combustible gas levels are set at
16:49 11 20 percent LEL (High), and 60 percent LEL (High-High), "but
16:49 12 with only 50 percent gas on the rig, these preset levels are
16:50 13 unobtainable; therefore, recommend the LEL values in the Simrad
16:50 14 system be set up to alarm at 20 percent (High) and 40 percent
16:50 15 LEL."

16:50 16 Did I read that correctly?

16:50 17 A. You did.

16:50 18 Q. Now, in your opinion as a marine safety expert, is that a
16:50 19 prudent recommendation?

16:50 20 A. Yes, that's a very dangerous thing they were doing there.
16:50 21 LEL means lower explosive limit. And basically what they have
16:50 22 done there is raise them so they don't alarm and they put the
16:50 23 rig in extreme danger.

16:50 24 Q. Is it true and is it your opinion, if you raise the LEL
16:50 25 level or trigger point high enough, that it effectively

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16:50 1 disables the utility of that particular alarm?

16:50 2 A. Yes, it does, yes.

16:50 3 MR. WILLIAMS: TREX-1192, please.

16:50 4 BY MR. WILLIAMS:

16:51 5 Q. Could you tell the Court what this is, Mr. Webster.

16:51 6 A. It's a rig assessment by the maintenance department --
16:51 7 Transocean's maintenance department in October 17 to 31, 2005.

16:51 8 MR. WILLIAMS: We can go to Section 2.2, please.

16:51 9 BY MR. WILLIAMS:

16:51 10 Q. "Maintenance System Review: The rig has been using EMPAC
16:51 11 for almost five years. A few people know EMPAC well; most know
16:51 12 it just well enough to get by; and some are very much lacking
16:51 13 in knowledge of how to use it. Record keeping in EMPAC is
16:51 14 inconsistent. History notes are quite good in some cases and
16:51 15 very poor in other situations where details and readings are
16:52 16 missing."

16:52 17 Did I read that correctly?

16:52 18 A. You did, sir, yes.

16:52 19 Q. Sir, in your opinion, is that very similar to a comment or
16:52 20 a finding made a year before regarding the EMPAC system?

16:52 21 A. That is correct.

16:52 22 Q. In your opinion as an ISM auditor, is that a violation of
16:52 23 the International Safety Management Code?

16:52 24 A. It is, I believe, yes.

16:52 25 Q. Going on, the second paragraph: "Due to the extent of the

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16:52 1 corrections needed, it will not be practical for the rig to
16:52 2 accomplish this project on their own. They have neither the
16:52 3 spare time, available expertise, or user profiles to be able to
16:52 4 complete this work in a reasonable amount of time. An
16:52 5 experienced EMPAC optimizer should be assigned to work with the
16:52 6 rig for one hitch to get this done."

16:52 7 Did I read that correctly?

16:53 8 A. Yes, sir, correct.

16:53 9 Q. In your review of all these documents, all the audits and
16:53 10 everything else you reviewed, did you see any evidence that one
16:53 11 or more experienced EMPAC optimizers were assigned by
16:53 12 Transocean to the rig for a hitch or more than a hitch to help
16:53 13 get this mess straightened out?

16:53 14 A. No, it wasn't. In fact, the mess was never straightened
16:53 15 out. It got worse.

16:53 16 Q. Let's just jump down on that same page, 2.32. We are
16:53 17 going to talk about thrusters.

16:53 18 It says: "There has been salt water intrusion into
16:53 19 the thrusters that has been manageable up to this point by
16:53 20 cleaning the oil with two portable filtering units. Thrusters
16:53 21 3, 4, and 6 have been at or above the manufacturer's maximum
16:53 22 allowable moisture content in the past."

16:53 23 How many thrusters are on this vessel?

16:54 24 A. Eight.

16:54 25 Q. Now, could you share your opinion with the Court as to the

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16:54 1 significance of the detection of salt water intrusion into
16:54 2 thruster units on this vessel.

16:54 3 A. Yes. What happens with these thrusters, because they are
16:54 4 running so much, is that the bearing in the seal where the
16:54 5 propeller shaft comes out of the gearbox, the seal gets worn
16:54 6 away and the bearings can be worn away; and water can get into
16:54 7 the gearbox, and the oil can leak out in a very dangerous
16:54 8 situation.

16:54 9 Q. Why is that a very dangerous situation?

16:54 10 A. Because you could lose a gearbox and lose a thruster.

16:54 11 Q. In your opinion as a marine safety expert, is it
16:54 12 acceptable to simply filter the oil that is in -- I'm sorry --
16:55 13 the salt water that has intruded into the thruster with
16:55 14 portable filtering units?

16:55 15 A. No. It's a stopgap. Not to mention the oil that's
16:55 16 leaking out into the ocean is a violation of the Clean Water
16:55 17 Act and MPA.

16:55 18 **MR. WILLIAMS:** TREX-3288, please.

16:55 19 **BY MR. WILLIAMS:**

15:33 20 Q. Could you identify this for the Court, please,
16:55 21 Mr. Webster.

16:55 22 A. This is a West Engineering Services condition audit.

16:55 23 Q. Dated?

16:55 24 A. 30 November 2005.

16:55 25 Q. It's regarding a subsea condition equipment condition

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16:55 1 audit, correct?

16:55 2 A. Yes, sir.

16:55 3 Q. Now, we have seen a prior West audit that we talked about
16:55 4 earlier, correct?

16:55 5 A. We have.

16:56 6 MR. WILLIAMS: Could you turn, Carl, to
16:56 7 Section JD-930 paragraph.

8 BY MR. WILLIAMS:

15:33 9 Q. "Gate valves, failsafe/subsea BOP." It's the third full
16:56 10 sentence: "The upper chokes and bleed valves have been
16:56 11 replaced with rebuilt ones in the past year. Prior to these
16:56 12 being replaced, three sets of valves were listed as changed,
16:56 13 but there was no reference as to which ones. This has been an
16:56 14 ongoing problem with the PM, or preventive maintenance, work
16:56 15 orders. Not enough detailed information entered."

16:56 16 A couple questions about this sentence, Mr. Webster.
16:56 17 First of all, in your opinion, based solely on your knowledge,
16:56 18 is the BOP a safety-critical piece of equipment on the vessel?

16:57 19 A. Yes, it's one of the most critical items.

16:57 20 Q. Is it acceptable practice, in your opinion, to change
16:57 21 valves -- or to have in the records that three sets of valves
16:57 22 were listed as changed, but there being no reference as to
16:57 23 which ones were changed?

16:57 24 A. No, that's very bad, because they don't know in the future
16:57 25 which ones have been recently repaired and which aren't.

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16:57 1 Q. Aren't there more than three valves on a BOP?

16:57 2 A. Yes.

16:57 3 Q. This would be -- would this be a violation of the ISM
16:57 4 Code, in your opinion?

16:57 5 A. Yes, sir, it would.

16:57 6 MR. WILLIAMS: TREX-01765, please.

7 BY MR. WILLIAMS:

15:33 8 Q. Could you identify this document for us.

16:58 9 A. Yes. This is another Det Norske Veritas audit program for
16:58 10 the company, Transocean Offshore Deepwater Drilling.

16:58 11 Q. What was the date of the audit?

16:58 12 A. 21 -- 20/21 April 2006.

16:58 13 Q. Four years, almost to the date -- four years to the date,
16:58 14 actually, of this tragedy?

16:58 15 A. Correct.

16:58 16 Q. Now, down in the middle section, or starting at the middle
16:58 17 of the page, actually, they have a list of people who
16:58 18 attended -- apparently attended this audit. Is that right?

16:58 19 A. Yes, that is correct.

16:58 20 Q. Is that what that normally indicates?

16:59 21 A. Well, as I explained to Your Honor earlier, these would be
16:59 22 the people that were interviewed by the auditor in the office.

16:59 23 Q. There's a start time and an end time. And that would, I
16:59 24 suppose, indicate the duration of the interview. Is that a
16:59 25 fair assumption?

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16:59 1 A. Yes, sir, that is correct.

16:59 2 Q. One of the folks who was there was the vice president of

16:59 3 QHSE. And what is his name?

16:59 4 A. Adrian Rose.

16:59 5 Q. Again, this is in April of 2006, correct?

16:59 6 A. That is correct.

16:59 7 MR. WILLIAMS: If we could go to the next page,

16:59 8 please.

9 BY MR. WILLIAMS:

15:33 10 Q. As in the prior audit we looked at, there is -- next

17:00 11 page -- contains observations, correct?

17:00 12 A. That is correct.

17:00 13 Q. Sir, those would be observations made by the ISM auditor?

17:00 14 A. Yes. And this one would be Mr. David McKay.

17:00 15 Q. "Item 1, a review of open items in the FOCUS GRS database

17:00 16 revealed over" -- well, I can't read it because there's --

17:00 17 somebody has written over it in the document that was produced.

17:00 18 But it looks -- what does that number look like to you?

17:00 19 A. 580 or 550, I don't know.

17:00 20 Q. Or 500?

17:00 21 A. Or 500 it could be, yes.

17:00 22 Q. Let's call it 500 and give them the benefit of the doubt.

17:00 23 ". . . over 500 overdue items dating as far back as 2003."

17:01 24 In your opinion as a marine safety expert and an ISM

17:01 25 lead auditor, how would you characterize that finding?

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17:01 1 A. I would call that a major nonconformity of Section 10.2,
17:01 2 which is the maintenance requirement.

17:01 3 Q. Item 2 -- I'm not going to read the whole thing. I'd ask
17:01 4 you to read it.

17:01 5 Have you reviewed this document before?

17:01 6 A. I have, yes.

17:01 7 Q. Item 2 addresses training, correct?

17:01 8 A. Yes, it does.

17:01 9 Q. The ISM auditor takes issue with the quality of their
17:01 10 training program; is that correct?

17:01 11 A. That is true, yes. Sees it as a violation of Section 6.5,
17:02 12 which requires the crew to be trained in accordance with the
17:02 13 requirements.

17:02 14 MR. WILLIAMS: Next document, please. This is
17:02 15 TREN-44032.

16 BY MR. WILLIAMS:

15:33 17 Q. And could you identify this document for us, Mr. Webster?

17:02 18 A. Yes. This is a health, safety, environmental compliance
17:02 19 and environmental management system internal EMS audit carried
17:02 20 out by, I think, Transocean.

17:02 21 Q. Well, let's look carefully at that.

17:03 22 A. And a consultant, E&S Group.

17:03 23 Q. Thanks. Let's go to the Section 3, please, page 6, bottom
17:03 24 of the page.

17:03 25 "System evaluation, location." What location are

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17:03 1 they talking about here?

17:03 2 A. I think they're talking about the *Deepwater Horizon*.

17:03 3 Q. "Location does not recognize the benefit of audits and
17:03 4 assessments.

17:03 5 "Managers and supervisors place no priority on action
17:03 6 plans and the results are inconsistent."

17:03 7 MR. WILLIAMS: Next page, please.

8 BY MR. WILLIAMS:

15:33 9 Q. On the next page it says: "No systemic approach to
17:03 10 dealing with the closure of action plans."

17:03 11 Mr. Webster, in your opinion as a marine safety
17:04 12 expert and an ISM auditor, do these findings constitute
17:04 13 violations of the International Safety Management Code?

17:04 14 A. They do, yes, sir.

17:04 15 Q. Would these findings be something that the designated
17:04 16 person would know about?

17:04 17 A. Should know about, yes.

17:04 18 Q. Under the ISM Code, would that designated person be
17:04 19 obligated to inform the highest level of management of these
17:04 20 deficiencies?

17:04 21 A. That's correct, yes, sir, should do.

17:04 22 MR. WILLIAMS: TREX-01766.

23 BY MR. WILLIAMS:

15:33 24 Q. Would you identify this document for us.

17:04 25 A. This is another DNV audit of the *Deepwater Horizon* -- I'm

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17:04 1 sorry. Hold on. No, it's of the company. I'm sorry.

17:05 2 Q. Transocean Offshore Deepwater Drilling, Inc., correct?

17:05 3 A. Yes.

17:05 4 Q. The audit date?

17:05 5 A. Audit date is January 22, 2007.

17:05 6 Q. That's approximately nine months after the last Transocean

17:05 7 offshore deepwater drilling audit that we looked at just a few

17:05 8 minutes ago, TREN-1765; is that right?

17:05 9 A. Same auditor, David McKay.

17:05 10 Q. It's the same type of audit, correct?

17:05 11 A. Yes.

17:05 12 Q. Let's look down, starting at the middle of the page, and

17:05 13 some of the attendees. We've got QHSE director, Jimmy Moore,

17:05 14 present -- correct --

17:05 15 A. Correct.

17:05 16 Q. -- apparently was interviewed for an hour and 15-minutes

17:05 17 on January 22.

17:05 18 A. I believe he was actually a designated person ashore, as

17:06 19 well, for corporate.

17:06 20 Q. Okay. The designated person ashore we talked about for

17:06 21 the *Deepwater Horizon*?

17:06 22 A. Well, I think for the whole fleet. It's a little

17:06 23 confusing in the file, but he was definitely, I think, the top

17:06 24 guy as far as the designated persons go in the company.

17:06 25 Q. He also had the QHSE manager, Mr. Steve Carlisle,

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17:06 1 attending apparently?

17:06 2 A. Yes.

17:06 3 Q. You have the CEO, Mr. Bob Long, apparently was interviewed
17:06 4 or met with for approximately 35 minutes; is that correct?

17:06 5 A. Yes.

17:06 6 Q. Is it unusual for the chief executive officer of a
17:06 7 maritime company to participate in these ISM audits?

17:06 8 A. Not at all. That's the most senior management. That's
17:06 9 the idea of it.

17:06 10 Q. Then also present, among others, was the executive vice
17:07 11 president and chief operating officer, Steven Newman.

17:07 12 A. That's correct.

17:07 13 Q. Is that what it says?

17:07 14 A. Yes.

17:07 15 Q. Apparently he spent approximately 45 minutes on the next
17:07 16 day with the auditor, being interviewed, correct?

17:07 17 A. That is correct.

17:07 18 Q. Now, is it normal in these types of audits, company
17:07 19 audits, for the auditor to discuss his concerns and findings
17:07 20 and possible deficiencies with the people he interviews?

17:07 21 A. Yes. He'll make observations and, if necessary,
17:07 22 nonconformities.

17:07 23 MR. WILLIAMS: Next page, please.

17:07 24 BY MR. WILLIAMS:

15:33 25 Q. Again, attached to this we have an observation on this

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17:07 1 audit, correct?

17:07 2 A. Correct.

17:07 3 Q. "Observation 1: It was stated that manning has become an
17:07 4 issue in the current economic climate for the drilling industry
17:08 5 and that there is a potential knowledge gap between senior
17:08 6 personnel nearing retirement age and new personnel coming into
17:08 7 the industry.

17:08 8 "It is recommended the owner prepare and execute a
17:08 9 plan to maintain sufficient numbers of trained, qualified, and
17:08 10 suitably experienced personnel in the organization both onshore
17:08 11 and offshore to ensure safe operations."

17:08 12 Is that what it says?

17:08 13 A. Yes.

17:08 14 Q. And that is part of the company's -- is it part of the
17:08 15 company's obligation under the International Safety Management
17:08 16 Code to do that?

17:08 17 A. Yes. It goes to ISM Code Regulation 6.

17:08 18 MR. WILLIAMS: TREX-3403, please.

19 BY MR. WILLIAMS:

15:33 20 Q. Would you identify this for the Court.

17:08 21 A. Yes, sir. This is a common marine inspection document
17:08 22 which is used within the industry. It's an IADC document,
17:08 23 which is the International Association of Drilling Contractors.

17:09 24 Q. When is it dated, please.

17:09 25 A. May 11 to May 15, 2007.

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17:09 1 Q. It relates to the vessel *Deepwater Horizon*, does it not?

17:09 2 A. Yes, sir. Correct.

17:09 3 MR. WILLIAMS: Page 5, please, Carl.

4 BY MR. WILLIAMS:

15:33 5 Q. Now, the surveyor makes various comments in the survey
17:09 6 normally, don't they?

17:09 7 A. Yes.

17:09 8 Q. In this one the surveyor who conducted -- or the
17:09 9 inspector -- the inspectors who conducted this inspection
17:09 10 survey made the following observation. It says "High." What,
17:09 11 in your experience, does that mean?

17:09 12 A. That's a high priority. It means it's a serious problem.

17:09 13 Q. "A significant number of fire dampers in engine rooms and
17:10 14 other machinery spaces found nonoperational. Reliability of
17:10 15 fire dampers has been a long-term concern."

17:10 16 Is that what it says?

17:10 17 A. Yes, sir.

17:10 18 Q. Now, what -- as a marine safety expert, would you share
17:10 19 that concern?

17:10 20 A. I would, indeed.

17:10 21 Q. Why is that, sir?

17:10 22 A. Well, it's putting the vessel at risk for a fire, or
17:10 23 should a fire occur.

17:10 24 Q. This is not the first time that we have seen this concern
17:10 25 expressed --

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17:10 1 A. That's correct.

17:10 2 Q. -- about fire dampers, correct?

17:10 3 A. It is not. Indeed, it is not.

17:10 4 In fact, No. 2 is not highlighted, but that's also a
17:10 5 fire hazard.

17:10 6 Q. The quick-closing supply, the fuel supply?

17:10 7 A. Yes. In other words, when there's a problem or a fire in
17:10 8 any space, those valves are supposed to be turned off so that
17:10 9 they can't feed the fire with fuel.

17:11 10 Q. It looks like at No. 3: "Three watertight dampers found
17:11 11 nonoperational, and this system was not included in the
17:11 12 maintenance system."

17:11 13 Are watertight dampers safety-critical appurtenances
17:11 14 of this vessel?

17:11 15 A. The safety for the stability of the vessel, yes.

17:11 16 Q. "A number of bilge valves in the port/aft pump room failed
17:11 17 to operate when tested."

17:11 18 Is that safety-critical issue?

17:11 19 A. Yes. If you can't --

17:11 20 Q. And why is that?

17:11 21 A. Well, if you can't pump the bilges out, you will flood the
17:11 22 space.

17:11 23 Q. With respect to Observations 1, 2, and 3, should they or
17:11 24 can they be controlled by the emergency shutdown system part of
17:11 25 the Kongsberg system?

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17:11 1 A. Yes.

17:11 2 Q. If we go down under the Medium category, Item 5:

17:12 3 "Thruster drives 5-yearly replacement of critical components
17:12 4 not yet undertaken, and no plan in place to complete the work."

17:12 5 In your opinion as a marine safety expert, is that a
17:12 6 safety-critical defect with the *Deepwater Horizon* existing at
17:12 7 the time of this --

17:12 8 A. Yes. Very much so, especially as they were getting water
17:12 9 into the lower gearbox.

17:12 10 Q. Item 6: "Approximately 11 smoke detectors either disabled
17:12 11 or in passive mode due to defects. Onboard spares not
17:12 12 available, and this system not included in the maintenance
17:12 13 system."

17:12 14 Is that a safety-critical defect, in your opinion as
17:12 15 an expert in marine safety?

17:12 16 A. Yes, sir, it is.

17:12 17 Q. Now, in fairness, there are hundreds of smoke detectors
17:12 18 all over this rig, aren't there?

17:12 19 A. Yes.

17:12 20 Q. Do you have an estimate as to how many there are?

17:13 21 A. I recall 50 to 100, maybe more.

17:13 22 Q. In any event, there are a lot of them, correct?

17:13 23 A. Many of them.

17:13 24 Q. The monitoring of those smoke detectors, in addition to
17:13 25 other things, is done by the fire and gas detection system,

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17:13 1 correct?

17:13 2 A. It is, with IACS.

17:13 3 Q. That's part of IACS. It's an automated system, correct?

17:13 4 A. Yes, sir.

17:13 5 MR. WILLIAMS: Let's go to paragraph 3.9, please,
17:13 6 same document.

17:13 7 BY MR. WILLIAMS:

17:13 8 Q. "Other than rig floor equipment issues, defects are not
17:13 9 routinely or formally reported to the BP well site leader. The
17:13 10 EMPAC maintenance management system has a facility for
17:13 11 producing a monthly maintenance report indicating all overdue
17:13 12 maintenance work orders, but this feature is not routinely
17:14 13 used."

17:14 14 In your opinion, should that -- as a marine safety
17:14 15 expert, should that system be routinely used to generate
17:14 16 monthly maintenance reports?

17:14 17 A. Absolutely, yes.

17:14 18 Q. Why is that?

17:14 19 A. Well, so the follow-up could be -- so repair items could
17:14 20 be tracked and the follow-up can be made to make sure the items
17:14 21 were being taken care of in a timely manner and/or taken care
17:14 22 of, period.

17:14 23 Q. Correct. Basically you can't fix what's broke if you
17:14 24 don't know what's broke, correct?

17:14 25 A. That's very well said.

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17:14 1 MR. WILLIAMS: Next page, please, Section 12.1.

17:14 2 BY MR. WILLIAMS:

17:14 3 Q. "Other equipment defective during the audit period
17:15 4 included" -- here we see it again -- "numerous fire dampers,
17:15 5 engine supply and exhaust and machinery spaces."

17:15 6 Are those safety-critical issues?

17:15 7 A. Yes, sir.

17:15 8 Q. Do they -- is it your opinion that they endanger the crew
17:15 9 of that vessel?

17:15 10 A. Yes, they do.

17:15 11 Q. "Main Engine No. 2 rig savers did not close on ESD."

17:15 12 Is it your opinion as a marine safety expert that
17:15 13 that is a safety-critical issue that imperils the safety of the
17:15 14 men and women who work on board that rig?

17:15 15 A. Exactly. That's why they are called "rig savers," to save
17:15 16 the rig in the event of gas getting on board.

17:15 17 Q. Isn't it true that if all else fails, the last line of
17:15 18 defense to stop a diesel engine from overspeeding upon
17:15 19 ingestion of hydrocarbons or flammable gases are the rig
17:16 20 savers?

17:16 21 A. That is correct.

17:16 22 MR. WILLIAMS: Go to TREN-01778, please.

17:16 23 BY MR. WILLIAMS:

17:16 24 Q. Would you identify this quickly for us, Mr. Webster.

17:16 25 A. This is another DNV survey report on the

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17:16 1 *Deepwater Horizon*. It's the renewal ISM audit and renewal
17:16 2 scope ISPS audit.

17:16 3 Q. Did you tell me what day it was done?

17:17 4 A. May 2007, May 15, 2007.

17:17 5 MR. WILLIAMS: Could we go to the Observation
17:17 6 sections of that audit, please, Carl.

17:17 7 BY MR. WILLIAMS:

17:17 8 Q. Observation No. 1: "A small number of overdue planned
17:17 9 maintenance tasks were noted in the unit's planned maintenance
17:17 10 system database, including six overdue items for equipment
17:17 11 deemed safety critical dating back up to six months. It was
17:17 12 stated by the crew that spare parts are slow to arrive due to
17:17 13 supplier backlogs. It is recommended that actions be
17:17 14 considered to prevent maintenance backlog becoming a problem."

17:17 15 Is that, in your opinion, an ISM Code violation,
17:17 16 Mr. Webster?

17:17 17 A. That's a violation of Regulation 10.2.1.

17:18 18 Q. Why is it important to have constant and reliable supply
17:18 19 of spares going to a vessel in operation at sea?

17:18 20 A. Well, you end up with a rig that half the equipment is
17:18 21 broken down. I mean, you have got to maintain it in a good
17:18 22 manner. You have got to supply spares, especially when you
17:18 23 have a rig that's been out as long as this has, without going
17:18 24 in dry dock.

17:18 25 Q. What kind of an impact, in your opinion, does it have on

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17:18 1 the maintenance crew?

17:18 2 A. It puts a tremendous burden on the maintenance crew
17:18 3 because they are having to patch up things, trying to keep them
17:18 4 working without having the proper spares. They have to try to
17:18 5 put a bandaid on it to keep it going.

17:18 6 MR. WILLIAMS: TREX-3404, please.

17:19 7 BY MR. WILLIAMS:

17:19 8 Q. This is the *Deepwater Horizon* Marine Assurance Audit and
17:19 9 DP Proving Trials of May 2007 conducted by BP; is that correct?

17:19 10 A. Yes.

17:19 11 Q. Is that a survey and audit much like the others we have
17:19 12 talked about, regardless of who does them?

17:19 13 A. Yes, it is. Only this time they are looking at the
17:19 14 dynamic positioning system as well.

17:19 15 MR. WILLIAMS: Go to page 3, please.

17:19 16 BY MR. WILLIAMS:

17:19 17 Q. It says: "Currently maintenance planning is not well
17:19 18 executed and improvements need implementing. Therefore,
17:19 19 maintenance activities which could impact stationkeeping
17:19 20 reliability and availability currently scheduled for the period
17:19 21 when the rig is scheduled to drill while alongside
17:19 22 *Horn Mountain* should be identified and an assessment performed
17:19 23 to determine which activities can be rescheduled either ahead
17:20 24 of the well or delayed after the well. There are currently a
17:20 25 number of overdue maintenance activities, main engine

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17:20 1 turbocharger renewal, thruster drive overhauls, main
17:20 2 switchboard 5-yearly inspection, that are overdue with no
17:20 3 demonstrable execution in place."

17:20 4 If this audit is correct, Mr. Webster, in your
17:20 5 opinion as a marine safety expert, is the fact that the main
17:20 6 switchboard is overdue, the thruster drive needs overhauls, and
17:20 7 that there's no demonstrable execution plan in place to conduct
17:20 8 that maintenance and repair -- is that, in your opinion, a
17:20 9 violation of the International Safety Management Code?

17:20 10 A. It is indeed.

17:20 11 Q. The International Safety Management Code adopts or allows
17:21 12 the Code of Federal Regulations to apply as well, correct?

17:21 13 A. 33 C.F.R. 96.5.

17:21 14 **MR. WILLIAMS:** Page 4, please, Carl.

17:21 15 **BY MR. WILLIAMS:**

17:21 16 Q. Down near the bottom of the page: "Findings that affect
17:21 17 rig integrity concern both watertight and fire integrity issues
17:21 18 such as availability and reliability of fire dampers and fuel
17:21 19 quick closing valves."

17:21 20 Those show up again, do they not, Mr. Webster?

17:21 21 A. Yes, sir. That item had not been taken care of since the
17:21 22 last time.

17:21 23 Q. What does that fact indicate to you as a marine safety
17:21 24 expert?

17:21 25 A. Complete lack of maintenance, ongoing maintenance, planned

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17:21 1 maintenance; in fact, a disregard for the safe operation of the
17:21 2 vessel.

17:21 3 **Q.** It goes on to say that "There are also a number of other
17:21 4 findings which, when taken in isolation, do not present a
17:22 5 significant risk but when combined with other deficiencies may
17:22 6 exacerbate an ongoing emergency situation such as emergency
17:22 7 ballast or bilge operations."

17:22 8 As a marine safety expert, do you agree that
17:22 9 individual maintenance issues in and of themselves may not
17:22 10 present a danger to a vessel on the high seas but a combination
17:22 11 of those deficiencies could constitute a violation of the
17:22 12 ISM Code?

17:22 13 **A.** Absolutely. In fact, I disagree with the surveyor's
17:22 14 comment that this was not a significant risk. If you can't use
17:22 15 the emergency ballast system or pump the bilges, then the
17:22 16 vessel is at risk of possibly sinking.

17:23 17 **MR. WILLIAMS:** Let's go to page 5, same report,
17:23 18 please, Carl.

17:23 19 **BY MR. WILLIAMS:**

17:23 20 **Q.** Under the Power Generation and Distribution paragraph, I'm
17:23 21 starting at the third paragraph: "Problems were encountered
17:23 22 during testing of main engine shutdowns. The air shut-off
17:23 23 devices (rig savers) on main engine 2 failed to close, and the
17:23 24 high jacket water temperature and high alternator bearing oil
17:23 25 temperature shutdowns failed to give the correct alarm/shutdown

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17:23 1 indication and shut down the engines."

17:23 2 Mr. Webster, in your opinion as a marine safety
17:23 3 expert, do the findings explained, set forth in this paragraph,
17:24 4 constitute an extreme danger to the crew of that vessel?

17:24 5 A. Oh, absolutely, because the whole purpose of a high jacket
17:24 6 water and a high alternator and bearing oil temperature is to
17:24 7 shut the engine down before it blows itself up or catches fire.

17:24 8 **THE WITNESS:** I mean, these engine rooms are not
17:24 9 monitored, Your Honor, with people. They are isolated. You do
17:24 10 have someone in the control room, but there's not somebody
17:24 11 walking around the engine room all the time to check these, the
17:24 12 operation of these engines. So you have to rely on
17:24 13 alternation.

17:24 14 **BY MR. WILLIAMS:**

17:24 15 Q. Mr. Webster, based on your experience going to sea, as
17:24 16 well as your qualifications as a marine safety expert, a crew
17:25 17 on an oceangoing vessel can only do so much if they are not
17:25 18 getting support from the beach. Is that a fair statement?

17:25 19 A. That's true. Most of the times they become overworked and
17:25 20 stressed.

17:25 21 Q. They are not magicians, are they?

17:25 22 A. No.

17:25 23 Q. They can only do what they -- they can only use the tools
17:25 24 that they are given by the managers, the operators, and the
17:25 25 ship?

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17:25 1 A. That is correct, whatever parts they can scrounge.

17:25 2 Q. It goes on to say: "When testing engine room ESDs" --
17:25 3 that's emergency shutdowns, right?

17:25 4 A. Correct.

17:25 5 Q. -- "a number of anomalies regarding closure of fuel oil
17:25 6 quick closing valves and operation of engine room ventilation
17:25 7 dampers were observed. Fuel oil quick closing valves No. 1
17:25 8 spill and No. 4 supply and spill failed to close."

17:26 9 What are the consequences of that in the event of an
17:26 10 emergency, the possible consequences, in your opinion?

17:26 11 A. You can have an oil spill or oil pollution.

17:26 12 Q. "Numerous problems have been experienced with HVAC dampers
17:26 13 around the rig due to poor robustness of the damper actuators
17:26 14 and dampers."

17:26 15 In your opinion as a marine safety expert, does
17:26 16 that -- in the event of fire at sea, does that present a
17:26 17 danger --

17:26 18 A. It could.

17:26 19 Q. -- to the lives of the crew?

17:26 20 A. Heating and ventilation dampers. So yes, I think it
17:26 21 would, for the accommodation.

17:26 22 MR. WILLIAMS: Next page, please. Is there a
17:27 23 separate TREX number for this, or is it on the same TREX?

17:27 24 Thank you.

25

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17:27 1 BY MR. WILLIAMS:

17:27 2 Q. This is an audit report action sheet, much like the one we
17:27 3 saw a little bit earlier, where after the BP audit is done or
17:27 4 survey is done, these sheets are used to keep track of
17:27 5 progress, correct?

17:27 6 A. That is correct.

17:27 7 Q. 1.4.1, it's the Marine section, we see again mention of
17:27 8 the significant number of fire dampers in the engine rooms and
17:27 9 other machinery spaces found nonoperational during testing.

17:27 10 It says that these items do not comply with BP
17:27 11 policies or standards and that "all fire dampers to be made
17:27 12 operational and maintenance frequency increased to ensure
17:28 13 availability and improve reliability."

17:28 14 The advised completion date is within two weeks; is
17:28 15 that correct?

17:28 16 A. That is correct.

17:28 17 Q. 1.4.5 on page 20 of the same document: "There was no
17:28 18 formal process to inform the BP well site leader of overdue
17:28 19 critical maintenance or defective equipment. Consequently, the
17:28 20 well site leader was unaware of the marine-related equipment
17:28 21 defects."

17:28 22 Is that what it says?

17:28 23 A. Yes.

17:28 24 Q. The recommendation is that Transocean monthly maintenance
17:28 25 reports be used as a method for formally reporting to the BP

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17:28 1 well site leader the maintenance and defective equipment
17:29 2 issues, correct?

17:29 3 A. Correct. And this is an item that was addressed
17:29 4 previously, also.

17:29 5 Q. Page 23, Item 2.32, "Rig savers on main engine No. 2" --
17:29 6 we talked about them in the survey that this is a follow-up to,
17:29 7 correct?

17:29 8 A. Yes.

17:29 9 Q. -- "failed to close when an engine room ESD was
17:29 10 initiated."

17:29 11 ESD is an automatic function, correct, or should be?
17:29 12 Is that your opinion?

17:29 13 A. Yes.

17:29 14 Q. "Investigate and rectify." Advised completion within one
17:29 15 week, correct?

17:29 16 A. Correct.

17:29 17 Q. 2.3.5: "Fire detectors have not been included in the
17:29 18 EMPAC maintenance system for periodic testing."

17:29 19 If the maintenance of fire detectors is not included
17:29 20 in EMPAC, there is no way that you can keep track of whether
17:30 21 they are working or not or need maintenance or not; is that
17:30 22 correct?

17:30 23 A. That is correct.

17:30 24 Q. That's a violation -- is that a violation of the ISM Code,
17:30 25 in your opinion?

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17:30 1 A. Yes, sir, it is.

17:30 2 Q. Is that a safety-critical issue?

17:30 3 A. Very much so.

17:30 4 Q. Is that an issue, in your opinion, that if not resolved
17:30 5 puts the crew at risk of personal injury or death?

17:30 6 A. Yes.

17:30 7 Q. 3.3.11 on page 31: "Maintenance planning look ahead is
17:30 8 restricted to 7 days and occasionally 30 days. This does not
17:30 9 allow a proactive approach to maintenance planning with respect
17:30 10 to the drilling program."

17:30 11 In your expert opinion, Mr. Webster, does that
17:30 12 constitute a violation of the International Safety Management
17:30 13 Code?

17:30 14 A. Yes. It should be much longer than that.

17:30 15 Q. Why is that?

17:31 16 A. Well, first of all, you have to get the spare parts on
17:31 17 order. You have to have the right tools. You know, if it's
17:31 18 seals or bearings or something, then you need all that. You
17:31 19 have to look way ahead and then get the parts and then get it
17:31 20 scheduled.

17:31 21 THE COURT: Something is causing a humming. I don't
17:31 22 know --

17:31 23 THE WITNESS: I wonder if it's my phone, Your Honor.

17:31 24 No. My phone is switched off.

17:31 25 THE COURT: Maybe you are just too close to the

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17:31 1 microphone.

17:31 2 **THE WITNESS:** It's switched off.

17:31 3 **THE COURT:** It might be sending out secret signals.

17:31 4 Let's try that. Push the microphone up just an
17:31 5 inch or two. Just like that. Try that and see if it works.

17:31 6 Thank you.

17:31 7 Go ahead.

17:31 8 **MR. WILLIAMS:** Thank you, Your Honor.

17:31 9 **BY MR. WILLIAMS:**

17:31 10 **Q.** Last item on this exhibit would be 3.3.14. "Gas detection
17:31 11 system is not being tested in accordance with the maintenance
17:32 12 procedures. The maintenance procedure states that cause and
17:32 13 effects outputs to be tested and verified; however, outputs are
17:32 14 inhibited during periodic calibration and testing of the gas
17:32 15 detector heads."

17:32 16 Is that, in your opinion as a marine safety expert, a
17:32 17 safety-critical issue?

17:32 18 **A.** Gas detection, yes, one of the most important.

17:32 19 **MR. WILLIAMS:** TREX-4680, please.

17:32 20 **BY MR. WILLIAMS:**

17:32 21 **Q.** Could you identify this for us quickly, Mr. Webster?

17:32 22 **A.** Yes, sir. It's a *Deepwater Horizon* technical rig audit by
17:32 23 BP, I think. Mr. Norman Wong's name is at the bottom.

17:33 24 **Q.** Same thing, just -- very similar to what we just looked
17:33 25 at, correct?

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17:33 1 A. Yes.

17:33 2 Q. If we go to the next page in the audit report, "Action
17:33 3 Sheet" --

17:33 4 MR. WILLIAMS: Skip that one and go to the next.

17:33 5 Let's see if I can't move a little more quickly. This would be
17:33 6 Reference 2.2.10 on the audit action sheet.

17:33 7 Thanks, Carl.

17:33 8 BY MR. WILLIAMS:

17:33 9 Q. "Maintenance notes for the five-year overhaul of the
17:33 10 deadline anchor consisted of cut and paste of the maintenance
17:33 11 procedure. No additional comments were added. It was
17:34 12 therefore not possible to determine what work was actually
17:34 13 performed or indeed if the intent of the maintenance procedure
17:34 14 was met."

17:34 15 Is that a violation -- in your expert opinion,
17:34 16 Mr. Webster, is that a violation of the International Safety
17:34 17 Management Code?

17:34 18 A. It is, yes.

17:34 19 Q. Why is that?

17:34 20 A. Well, again, not carrying out planned maintenance, not
17:34 21 carrying out the maintenance in a timely fashion.

17:34 22 MR. WILLIAMS: Go to 2.3.1, please.

17:34 23 BY MR. WILLIAMS:

17:34 24 Q. "Maintenance work orders were closed out even though all
17:34 25 of the specified maintenance tasks listed in the procedure had

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17:34 1 not been completed."

17:34 2 The recommendation is that "The practice of closing
17:34 3 incomplete maintenance work orders must cease immediately.
17:34 4 Transocean is to issue an instruction to maintenance
17:34 5 personnel."

17:34 6 "Advised completion: Immediately."

17:35 7 Is that a violation of the ISM Code, Mr. Webster?

17:35 8 A. Yes, sir, it is.

17:35 9 Q. You can't fix something which you don't know is broken; is
17:35 10 that correct?

17:35 11 A. That is correct.

17:35 12 Q. Isn't it a fact that on vessels that are this complicated
17:35 13 with so much going on, so many complicated systems, that from a
17:35 14 safety standpoint, it is essential that every maintenance
17:35 15 task -- all maintenance performed and all maintenance required
17:35 16 should be kept track of meticulously?

17:35 17 A. Absolutely.

17:35 18 MR. KINCHEN: Brian Kinchen for Transocean,
17:35 19 Your Honor. Objection, leading.

17:35 20 MR. WILLIAMS: I thought I said in his opinion.

17:35 21 THE COURT: Overruled.

17:35 22 Did you answer that, sir?

17:35 23 THE WITNESS: I did, sir. I'm sorry.

17:35 24 THE COURT: I just missed your answer.

17:35 25 MR. WILLIAMS: I want to make sure your answer is on

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17:35 1 the record.

17:35 2 **THE WITNESS:** Yes.

17:35 3 **BY MR. WILLIAMS:**

17:35 4 **Q.** 2.3.2. "Maintenance work orders were closed out without
17:36 5 performing any tasks."

17:36 6 What does that mean to you, Mr. Webster, when you
17:36 7 read something like that?

17:36 8 **A.** It's shocking.

17:36 9 **Q.** Why is it shocking?

17:36 10 **A.** Well, because they are not doing the maintenance and they
17:36 11 are trying to hide the fact. It's just going to lead to more
17:36 12 and more problems, more and more breakdowns, putting the rig at
17:36 13 risk.

17:36 14 **Q.** Isn't it true -- or is it your opinion as a marine safety
17:36 15 expert that if an item needs maintenance and it is entered into
17:36 16 the EMPAC or the RMS system showing that it requires
17:36 17 maintenance and that maintenance isn't done but the maintenance
17:36 18 work order is closed out anyway, what -- how would you
17:36 19 characterize that practice, that behavior?

17:36 20 **A.** Shocking. Very, very bad practice. I mean, what it's
17:37 21 going to do is cause the piece of equipment to fail
17:37 22 prematurely, I would think. I mean, this is talking about the
17:37 23 top drive, which is one of the most critical items on the rig.

17:37 24 **THE WITNESS:** The top drive is actually used,
17:37 25 Your Honor, to drill. It takes the drill string.

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17:37 1 BY MR. WILLIAMS:

17:37 2 Q. I won't read it; but 2.3.3, if you'll look at it real
17:37 3 quickly, does that set forth a similar issue?

17:37 4 A. Yes.

17:37 5 MR. WILLIAMS: Now, let's go to the next page, Carl,
17:37 6 3.3.1.

17:37 7 BY MR. WILLIAMS:

17:37 8 Q. This says that "The driller's cabin" -- that's the drill
17:37 9 shack; is that right?

17:37 10 A. Yes.

17:37 11 Q. "The driller's cabin fire and gas panel had numerous alarm
17:37 12 conditions displayed. These included fire alarm active, fault
17:37 13 ESD active, fault fire and gas active, and fire and gas
17:38 14 override active. The driller and assistant driller on tour
17:38 15 were unaware of the fault conditions."

17:38 16 In your opinion as a marine safety expert, how would
17:38 17 you characterize that finding?

17:38 18 A. I would say that's shocking.

17:38 19 Q. Does it indicate to you that there is a lack of training
17:38 20 of the drill crew in the function of the ESD system?

17:38 21 A. Absolutely. If the driller and assistant driller were
17:38 22 unaware of the fault conditions, that's unbelievable.

17:38 23 Q. You can't necessarily blame them if they have never been
17:38 24 trained on the system or if they don't know what they are
17:38 25 looking at, it's not their fault, is it?

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17:38 1 A. Well, it's not their fault, but they should know.

17:38 2 Q. Sir, is it your opinion that it's the company's
17:39 3 responsibility to make sure that they know?

17:39 4 A. Well, it is. Yes, they should be trained, fully trained.

17:39 5 MR. WILLIAMS: Next page, Carl, 1.4.1.

17:39 6 BY MR. WILLIAMS:

17:39 7 Q. Again: "Significant number of fire dampers in the engine
17:39 8 rooms and other machinery spaces found nonoperational during
17:39 9 testing. Examples include Engine Room No. 2, supply damper,
17:39 10 Fire Damper 41 in HPU room."

17:39 11 What is the HPU room? Do you have any idea?

17:39 12 A. I don't recall.

17:39 13 Q. "Fire Damper 109 in way of Engine Room No. 1, Engine No. 1
17:39 14 exhaust damper . . . A list containing numerous other defective
17:39 15 dampers was also cited."

17:40 16 The recommendation is that "All fire dampers to be
17:40 17 made operational and maintenance frequency increased to ensure
17:40 18 availability and improve reliability."

17:40 19 This isn't the first time we have seen the fire
17:40 20 damper issue, is it?

17:40 21 A. No, we have seen it several times now.

17:40 22 Q. Over a period of several years now, correct?

17:40 23 A. That is correct.

17:40 24 MR. WILLIAMS: Now, let's go to Reference 1.4.5,
17:40 25 Carl, please.

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17:40 1 **BY MR. WILLIAMS:**

17:40 2 **Q.** In this observation, it's stated that "There was no formal
17:40 3 process to inform the BP well site leader of overdue critical
17:40 4 maintenance or defective equipment. Consequently, the well
17:40 5 site leader was unaware of marine-related equipment defects."

17:41 6 The recommendation is that Transocean -- again, and
17:41 7 this isn't the first time we have seen this issue, is it?

17:41 8 **A.** No, it is not.

17:41 9 **Q.** The recommendation is that the monthly maintenance report
17:41 10 be used as a method for formally reporting overdue critical
17:41 11 maintenance and defective equipment to the BP well site leader.

17:41 12 And BP, in its recommendation, cites the BP Drilling
17:41 13 and Well Operations Policy?

17:41 14 **A.** It does, yes.

17:41 15 **Q.** Known as the DWOP?

17:41 16 **A.** Yes.

17:41 17 **Q.** The audit team advised completion within one month.

17:41 18 What was the response of Transocean as to whether
17:41 19 they would accept that recommendation or change?

17:41 20 **A.** They rejected it.

17:41 21 **MR. WILLIAMS:** 3.3.14, please.

17:41 22 **BY MR. WILLIAMS:**

17:41 23 **Q.** "The gas detection system is not being tested in
17:42 24 accordance with the maintenance procedures. The maintenance
17:42 25 procedure states that cause and effect outputs to be tested and

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17:42 1 verified."

17:42 2 Is this the first time we have seen this issue?

17:42 3 A. No, sir, it's not.

17:42 4 Q. The cause and effect outputs are a function of the
17:42 5 automatic operation of the emergency shutdown system, are they
17:42 6 not?

17:42 7 A. They are.

17:42 8 Q. This observation -- if it's true -- does it constitute a
17:42 9 violation of the International Safety Management Code?

17:42 10 A. Yes, it definitely is. It also -- they also suggest to
17:42 11 you that the alarms on the bridge not be inhibited.

17:42 12 Q. I was going to get to that.

17:43 13 A. I'm sorry. I went ahead of you.

17:43 14 Q. It's okay. Let's go ahead and talk about it.

17:43 15 A. I thought you had missed it.

17:43 16 Q. It's gone on a long time, I know.

17:43 17 Where the asset accepts the recommendation or change,
17:43 18 we see that the asset -- i.e, that would be Transocean,
17:43 19 correct?

17:43 20 A. Correct.

17:43 21 Q. The *Deepwater Horizon* --

17:43 22 A. Yes.

17:43 23 Q. -- management?

17:43 24 A. Yes.

17:43 25 Q. "Rejected alarms on bridge, but inhibited to prevent

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17:43 1 general alarm."

17:43 2 In your opinion as a marine safety expert, does that
17:43 3 make -- from a safety standpoint, does that make any sense at
17:43 4 all?

17:43 5 A. No. I believe the general alarm should be automatic after
17:43 6 a timeout period, and I believe it's about two minutes.

17:43 7 Q. You say a "timeout period." The IACS has a built-in
17:43 8 timeout period before the general alarm sounds, correct?

17:44 9 A. That's correct. Well, the general alarm can sound on the
17:44 10 bridge or in the engine room and the lights can flash, and then
17:44 11 it can take two minutes -- or it could be just set on the IACS
17:44 12 to whatever period that the company or the crew want, that it
17:44 13 will ring the general alarm.

17:44 14 Q. Is the purpose for that delay to give the crew on watch,
17:44 15 the bridge crew, the DPOs, or whoever is manning the IACS or
17:44 16 monitoring it, time to investigate and determine, through the
17:44 17 system and perhaps the telephone, whether or not the emergency
17:44 18 is of a nature that the general alarm should be sounded?

17:44 19 A. Right. And to see if it's a false alarm.

17:44 20 Q. If it's determined that a false alarm -- it is a false
17:44 21 alarm, can they just override the general alarm or neutralize
17:44 22 it at that point?

17:44 23 A. Yes.

17:45 24 Q. TREX-01768, please. Would you identify this for us
17:45 25 quickly?

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17:45 1 A. This is a DNV survey report for the company, again, and
17:45 2 it's in September 16, 2009. It's actually a short-term
17:45 3 extension on the DOC compliance.

17:45 4 Q. What is the DOC compliance?

17:45 5 A. Document of compliance. That's allowing the company to
17:45 6 operate and to ensure they are following the ISM Code.

17:45 7 MR. WILLIAMS: Can we go to the page -- next page,
17:45 8 page 2 of 3.

17:46 9 Before we do that, could you just show the whole
17:46 10 page, Carl. There we go.

17:46 11 **BY MR. WILLIAMS:**

17:46 12 Q. These are "Nonconformities, Condition, and Memoranda
17:46 13 Given," correct?

17:46 14 A. Yes.

17:46 15 Q. It says: "An external ISM audit was carried out on
17:46 16 April 2008 on the Transocean driller operating offshore Brazil,
17:46 17 and eight nonconformities and two observations were issued
17:46 18 based on deficiencies with the safety management system
17:46 19 operating onboard and local coastal state requirements. The
17:46 20 nonconformities were deleted based on the corrective action
17:46 21 plan proposed with the proviso that the effectiveness of the
17:46 22 corrective action implemented would be verified during the next
17:47 23 audit. The corrective action was closed in the Focus
17:47 24 deficiency tracking system within Transocean, indicating that
17:47 25 it had been successfully implemented. The flag state requested

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17:47 1 that a follow-up audit be carried out by DNV, and during this
17:47 2 audit, carried out in March 2009, it was discovered that the
17:47 3 corrective action had not been implemented as reported. A
17:47 4 major nonconformity was then issued and a further corrective
17:47 5 action plan was proposed. The major nonconformity was then
17:47 6 downgraded to a nonconformity.

17:47 7 "Within Transocean, a procedure exists for
17:47 8 implementation of corrective action and a deficiency tracking
17:47 9 system exists. However, currently, there is no means to verify
17:47 10 that corrective action has been implemented as reported."

17:47 11 Did I read that correctly?

17:47 12 A. You did.

17:47 13 Q. Now, we have seen that -- we have the same issue going on
17:48 14 and has been going on in the *Deepwater Horizon* during the past
17:48 15 several years, correct?

17:48 16 A. Correct.

17:48 17 Q. But this is an audit of Transocean Offshore Deepwater
17:48 18 Drilling Company, correct?

17:48 19 A. It is.

17:48 20 Q. In your opinion, is the same or similar practice with
17:48 21 respect to tracking issues, correcting them or not correcting
17:48 22 them, and then deleting them from the system going on in
17:48 23 Transocean corporate as it is or has been on the
17:48 24 *Deepwater Horizon*?

17:48 25 A. Yes.

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17:48 1 Q. That's a violation of the International Safety Management
17:48 2 Code?

17:48 3 A. This is a very serious one because it goes to
17:48 4 Chapter 1.2.3.1, which is "Compliance With Mandatory
17:48 5 Requirements, Laws and Regulations."

17:48 6 Q. Mr. Webster, the ISM -- the whole purpose of the ISM Code
17:49 7 is to protect lives and the environment. Is that a fair
17:49 8 statement?

17:49 9 A. Yes, absolutely.

17:49 10 Q. TREX-013272. This is an e-mail from Brett Cocalles at BP
17:49 11 to various folks at Transocean; is that correct?

17:49 12 A. Yes, the OIM, Paul Johnson.

17:49 13 Q. The *Deepwater Horizon* maintenance supervisor, apparently?

17:49 14 A. Yes.

17:49 15 Q. Various people in Houston, James Kent?

17:49 16 A. Yes.

17:49 17 Q. Mr. Cocalles is writing them about audit inspection
17:50 18 findings from a 2009 audit done on the *Deepwater Horizon* that
17:50 19 we'll talk about shortly, isn't he?

17:50 20 A. Yes.

17:50 21 Q. In this e-mail, he summarizes the marine inspection
17:50 22 findings, does he not?

17:50 23 A. He does, yes.

17:50 24 Q. Let's just start --

17:50 25 THE COURT: Excuse me one second.

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17:50 1 MR. WILLIAMS: Sure.

17:50 2 THE COURT: I'm looking at -- the witness referred to

17:50 3 Paul Johnson as the OIM. Is he the OIM?

17:50 4 MR. WILLIAMS: No, he's not, Your Honor.

17:50 5 THE COURT: I'm getting confused with the names now

17:50 6 because I thought he was the rig manager on shore.

17:50 7 MR. WILLIAMS: He is.

17:50 8 THE WITNESS: Yes, I'm sorry.

17:50 9 MR. WILLIAMS: Instead of naming -- as I understand

17:51 10 it, instead of naming the OIMs -- since they rotate on and

17:51 11 off -- by name, the address to the OIM on the *Deepwater Horizon*

17:51 12 is "OIM (*Deepwater Horizon*)," and the next addressee is

17:51 13 "Johnson, Paul" in Houston.

17:51 14 THE COURT: I remember from previous testimony

17:51 15 Mr. Johnson was the rig manager on shore.

17:51 16 MR. WILLIAMS: Correct.

17:51 17 THE COURT: Not a person who worked on the rig?

17:51 18 MR. WILLIAMS: No, he's not.

17:51 19 THE COURT: When you referred earlier to

17:51 20 designated -- DPA, designated person ashore, is that the same

17:51 21 as the rig manager, or is that someone else you are talking

17:51 22 about?

17:51 23 THE WITNESS: No, totally different. The DPA ashore

17:51 24 Your Honor, was Gerald Canducci -- I'm sorry, not at this time.

17:51 25 It was Mr. Moore.

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17:51 1 THE COURT: He would be above Mr. Johnson --

17:51 2 THE WITNESS: Yes.

17:51 3 THE COURT: -- in your understanding?

17:51 4 THE WITNESS: Absolutely.

17:51 5 BY MR. WILLIAMS:

17:51 6 Q. "Summary of Marine Inspection Findings." Let's touch on
17:52 7 some of them.

17:52 8 The first one: Are emergency drills held in
17:52 9 accordance with SOLAS requirements?

17:52 10 SOLAS is what again, sir?

17:52 11 A. "Safety of Life at Sea."

17:52 12 Q. Is that part of ISM, or is ISM part of it?

17:52 13 A. ISM is part of SOLAS. It's enacted by the International
17:52 14 Maritime Organization, and SOLAS requires the ISM to be carried
17:52 15 out.

17:52 16 Q. There's a column there that says "Pass," and the response
17:52 17 for that is "No," correct?

17:52 18 A. Yes.

17:52 19 Q. Is failure to have emergency drills in accordance with
17:52 20 SOLAS a violation of the law?

17:52 21 A. Yes.

17:52 22 Q. In your opinion as a marine safety expert, does it put the
17:52 23 crew at risk of death or personal injury?

17:52 24 A. Yes, sir, it does.

17:52 25 Q. "Are measures in place to effectively isolate ventilation

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17:53 1 to enclosed spaces, i.e., machinery spaces,
17:53 2 accommodation/quarters, galley, storerooms, etc.?

17:53 3 "Pass? No."

17:53 4 Is that a violation of the ISM Code?

17:53 5 A. Yes. That's a violation of SOLAS.

17:53 6 Q. The next one, 11.8: "Is fire integrity of bulkheads and
17:53 7 decks satisfactory?"

17:53 8 The answer is "No."

17:53 9 Is that a violation of the law, the ISM Code?

17:53 10 A. Yes.

17:53 11 Q. Does it put the crew at increased risk of personal injury
17:53 12 or death?

17:53 13 A. Yes, it does.

17:53 14 Q. As a mariner, ex-mariner, Mr. Webster, what is the most
17:53 15 frightening problem a mariner has to deal with at sea?

17:53 16 A. Fire.

17:53 17 Q. The next one, 13.3: "Are all deck openings, including
17:53 18 watertight doors and portholes, in good condition and capable
17:53 19 of being properly secured?"

17:54 20 Did it pass?

17:54 21 A. No, it didn't.

17:54 22 Q. Is that a violation of the ISM Code?

17:54 23 A. Not only that, a violation of the class requirements,
17:54 24 violation of the watertight integrity of the vessel.

17:54 25 Q. 15.7, the next one: "Is the bilge system operational?"

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17:54 1 Did it pass?

17:54 2 A. No.

17:54 3 Q. 5.4: "Is there a system in place for reporting
17:54 4 nonconformances to the operator?"

17:54 5 Did it pass?

17:54 6 A. No.

17:54 7 Q. "Is there evidence of full compliance with the company's
17:54 8 HSE management system?"

17:54 9 Did it pass?

17:54 10 A. No. And both of those items are major nonconformities
17:54 11 under the ISM Code.

17:54 12 Q. The next page, please.
17:54 13 "Does the vessel operator have a competency
17:55 14 assessment process?"

17:55 15 Did it pass?

17:55 16 A. No.

17:55 17 Q. "Is all firefighting equipment available for use and
17:55 18 defect free?"

17:55 19 A. No.

17:55 20 Q. "Are fixed fire and gas detection systems fully
17:55 21 operational and tested regularly?"

17:55 22 A. No.

17:55 23 Q. Is this a violation of the ISM Code?

17:55 24 A. Yes, and SOLAS.

17:55 25 Q. Does the fact of that violation put the crew of that

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17:55 1 vessel at an increased risk of personal injury or death, in
17:55 2 your opinion as a marine safety expert?

17:55 3 A. Yes, sir, it does.

17:55 4 Q. 14.8: "Is the standard equipment, including bridge,
17:55 5 communications, and navigation equipment as listed in SOLAS
17:55 6 available for use and free from defects?"

17:55 7 Did it pass?

17:55 8 A. No, it didn't.

17:55 9 Q. What are the implications, in your opinion as an expert,
17:55 10 of that failure?

17:56 11 A. Well, that goes to the safety of the vessel. And if
17:56 12 there's a problem on board, especially the communications, they
17:56 13 may have trouble calling for a mayday or communicating with
17:56 14 other vessels or the Coast Guard, a serious problem.

17:56 15 MR. WILLIAMS: Judge, do you want me to continue?
17:56 16 This next section is --

17:56 17 THE COURT: Are you moving to something else? We are
17:56 18 going to shut down in a couple minutes. Are you at a stopping
17:56 19 point?

17:56 20 MR. WILLIAMS: I'm almost at a stopping point, but
17:56 21 it's going to -- I've still got a --

17:56 22 THE COURT: It's going to take more than five
17:56 23 minutes?

17:56 24 MR. WILLIAMS: Yes, sir.

17:56 25 THE COURT: All right. We would just as soon stop

17:56 1 now. It's just about 6:00.

17:56 2 We will recess until 8:00 a.m. tomorrow morning.

17:56 3 Before we do that, let's talk about -- wait.

17:56 4 Before everybody gets up and moves, I want to talk about
17:56 5 witnesses following Mr. Webster.

17:56 6 My understanding is that the PSC does not have
17:57 7 any additional live witnesses other than Mr. Quirk, who will be
17:57 8 next Tuesday. Is that correct?

17:57 9 **MR. ROY:** That's correct, Your Honor. We do have
17:57 10 some housekeeping matters that we --

17:57 11 **THE COURT:** Yes, I understand that. I understand
17:57 12 that.

17:57 13 Then will the United States have any additional
17:57 14 live witnesses, Mr. Underhill?

17:57 15 **MR. UNDERHILL:** Negative.

17:57 16 **THE COURT:** Alabama?

17:57 17 **MR. MAZE:** No, Your Honor.

17:57 18 **THE COURT:** Or Louisiana?

17:57 19 **MR. KANNER:** No, Your Honor.

17:57 20 **THE COURT:** So then we'll move to Transocean after
17:57 21 Mr. Webster, correct?

17:57 22 **MR. BRIAN:** That's correct, Your Honor.

17:57 23 **THE COURT:** I think you-all sent a list around of
17:57 24 your proposed lineup?

17:57 25 **MR. BRIAN:** We did, Your Honor. And I anticipate --

17:57 1 and we will start with Calvin Barnhill. And I anticipate,
17:57 2 based on how long I project that Mr. Webster will go, that that
17:57 3 will probably take up tomorrow.

17:57 4 **THE COURT:** Everyone have a good night, and we'll see
17:57 5 you at 8:00 a.m. in the morning.

17:58 6 (Proceedings adjourned.)

17:58 7 * * *

8 **CERTIFICATE**

9 I, Toni Doyle Tusa, CCR, FCRR, Official Court
10 Reporter for the United States District Court, Eastern District
11 of Louisiana, do hereby certify that the foregoing is a true
12 and correct transcript, to the best of my ability and
13 understanding, from the record of the proceedings in the
14 above-entitled matter.

15
16
17 *s/ Toni Doyle Tusa*
18 Toni Doyle Tusa, CCR, FCRR
19 Official Court Reporter
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24
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