

# Deposition Testimony of:

## **Benjamin Richard**

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Page 5:03 to 5:11

00005:03 Today is Friday, October 14th, 2011.  
04 This is the deposition of Ben Richard regarding  
05 the oil spill of the oil rig DEEPWATER HORIZON on  
06 April 20, 2010.  
07 The time is 8:34 a.m. We're on the  
08 record.  
09 BENJAMIN JAMES RICHARD  
10 was called as a witness by the Plaintiffs and,  
11 being first duly sworn, testified as follows:

Page 5:14 to 6:04

00005:14 Q. Please state your name for the record.  
15 A. Benjamin James Richard.  
16 Q. Mr. Richard, my name is Frank Petosa.  
17 I'm here with my associate, Reni Rocha, from  
18 Morgan & Morgan, and we're here today on behalf  
19 of the Plaintiffs Steering Committee for your  
20 deposition. We had a chance to meet right before  
21 we began these proceedings.  
22 Have you sat in a situation like this  
23 before, under oath, where attorneys have had the  
24 opportunity to ask you questions with a court  
25 reporter taking down what you say?  
00006:01 A. No, sir.  
02 Q. So this is the first time you've sat  
03 through a deposition like this?  
04 A. Yes, sir.

Page 7:15 to 30:19

00007:15 Q. Okay. And who is your employer?  
16 A. Halliburton Energy Services.  
17 Q. And where do you work for Halliburton  
18 Energy Services?  
19 A. In the lab in Broussard.  
20 Q. Okay. And what's your position in the  
21 lab in Broussard?  
22 A. As of now, I'm a Senior Lab Tech.  
23 Q. And what's address at that lab?  
24 A. 124 Ida Road, Broussard, Louisiana.  
25 Q. How long have you been a Senior Lab Tech  
00008:01 at the lab for Halliburton Energy?  
02 A. Since February of 2008.  
03 Q. What are your duties and responsibilities  
04 as a Senior Lab Tech?  
05 A. To complete testing and calibrations,  
06 basically it.  
07 Q. Is there a specific area that you're  
08 involved in testing, different types of  
09 materials? Explain that to me, please.  
10 A. No. Just general cement testing.

11 Q. Okay. Is it all cement testing that you  
12 do?  
13 A. There is some mud and spacer that -- jobs  
14 that we do work on in that lab, but for the most  
15 part, it's cement testing.  
16 Q. Okay. And were you with Halliburton  
17 Energy Services prior to your position as Senior  
18 Lab Tech?  
19 A. Yes, sir.  
20 Q. And what was your position prior to that?  
21 A. Lab Tech.  
22 Q. And what -- what's the difference in your  
23 duties and responsibilities from a Lab Tech to a  
24 Senior Lab Tech?  
25 A. There's really no difference, except that  
00009:01 the Senior Lab Tech has more experience.  
02 Q. Okay. How long were you a Lab Tech?  
03 A. I'm really not sure.  
04 Q. Well, let's maybe take it another way:  
05 When did you start working for Halliburton Energy  
06 Services?  
07 A. February of 2008.  
08 Q. Okay. And in that position, were you  
09 first hired as a Lab Tech?  
10 A. Associate Lab Tech.  
11 Q. Okay. And then how long were you an  
12 Associate Lab Tech?  
13 A. H'm, about a year.  
14 Q. And after that, how long were you a Lab  
15 Tech before you became a Senior Lab Tech?  
16 A. Two years --  
17 Q. Okay.  
18 A. -- about.  
19 Q. I'm having trouble with the math then.  
20 2008, you were hired as an Associate Lab Tech?  
21 A. Huh-uh.  
22 Q. I thought I understood your testimony  
23 earlier that you became a Senior Lab Tech in  
24 2009?  
25 A. No.  
00010:01 Q. Oh, then I misunderstood you.  
02 A. No, I'm a -- I'm a Senior Lab Tech now.  
03 Q. Okay. When did you become a Senior Lab  
04 Tech?  
05 A. Two months ago, about.  
06 Q. Okay. So back -- back in February,  
07 March, and April of 2010, you would have been a  
08 Lab Tech?  
09 A. Yes, sir.  
10 Q. Okay. And there's really no difference  
11 in the duties and responsibilities you've  
12 described for me from a Lab Tech to a Senior Lab  
13 Tech, just based on experience, correct?  
14 A. Yes, sir.  
15 Q. Okay. What about as an Associate Lab

16 Tech, what were your duties and responsibilities?  
17 A. Basically the same as a Lab Tech, just,  
18 you know, somebody is just starting out, has no  
19 lab experience, still learning how to do the  
20 testing and follow procedures and stuff like  
21 that.  
22 Q. What's the highest level of education  
23 that you've achieved?  
24 A. I have a high school education.  
25 Q. Okay. And when did you graduate high  
00011:01 school?  
02 A. 2007.  
03 Q. Okay. And what did you do after you  
04 graduated high school, before you started working  
05 with Halliburton Energy Services?  
06 A. I went to UL Lafayette for about a  
07 semester.  
08 Q. When?  
09 A. And then I dropped out.  
10 Q. Okay. And then your first job after  
11 dropping out would have been the position as an  
12 Associate Lab Tech with Halliburton Energy  
13 Services?  
14 A. Yeah. Well, during the time I was going  
15 to school, I had another job, but that was my  
16 first job after dropping out of college.  
17 Q. Did you have any prior experience in --  
18 experience working in a lab setting prior to your  
19 position as an Associate Lab Tech with  
20 Halliburton Energy Services?  
21 A. No, sir.  
22 Q. Okay. What training, if anything, did  
23 you go through when you were hired by Halliburton  
24 Energy Services to become an Associate Lab Tech?  
25 A. It was on-the-job training. I had a  
00012:01 Competency Coach that worked with me.  
02 Q. Who was the Competency Coach?  
03 A. Chad Broussard.  
04 Q. And how long did you work with Chad  
05 Broussard as your Competency Coach?  
06 A. Until June of last year. I was -- he was  
07 my Shift Leader, as well as my Competency Coach,  
08 so any -- any -- anything that I -- any testing  
09 that I learned or procedures I learned had to be  
10 okayed by him. I had to show him that I was  
11 competent in putting on any test before I was  
12 more competent.  
13 Q. Are there certifications, designations,  
14 or -- or things like that, that you obtain at  
15 Halliburton Energy Services when you became  
16 competent in a certain area as you've described  
17 it for us?  
18 A. There's a spreadsheet-type thing that  
19 they -- you know, they write down that you're  
20 competent in performing whatever test or

21 procedure that they just observed you, you know,  
22 over a period of however long it takes you to  
23 learn how to do that test.

24 So there's -- there's a -- I mean,  
25 there's -- you don't, like, graduate or anything,  
00013:01 but there is documentation that says that I can  
02 do whatever procedure or test that I -- I can do.

03 Q. Were there any procedures or tests that  
04 you had not been judged to be competent in the  
05 procedure in the way you've just described it to  
06 me back from February of 2010 through April of  
07 2010?

08 A. You have to repeat that.

09 Q. Yes. It's a mouthful. You just  
10 described for me the procedure where you were  
11 working with your Competency Coach, Chad  
12 Broussard, and that, as you became experienced in  
13 doing certain tests or procedures, there would be  
14 some documentation that you were competent to  
15 perform that test or procedure; is that correct?

16 A. Yes, sir.

17 Q. And there's some written documentation  
18 that you've been judged by Mr. Broussard  
19 competent in conducting either that test or  
20 procedure, correct?

21 A. Yes, sir.

22 Q. Okay. Back in February of 2010 through  
23 April of 2010, were there any tests or procedures  
24 that Mr. Broussard had not judged you yet by way  
25 of being competent, in the way you've described  
00014:01 for us?

02 A. Yes, sir.

03 Q. What were they?

04 A. I'm not really sure right now.

05 Q. Okay. And the documentation is something  
06 that you believe is maintained at Halliburton  
07 Energy Services?

08 A. It is. The system has changed since  
09 then, since I started, but it's basically the  
10 same.

11 Q. All right. When you were hired by  
12 Halliburton Energy Services to work in the lab as  
13 an Associate Lab Tech, did you go through any  
14 orientation?

15 A. Through Halliburton, yeah, initial hiring  
16 orientation.

17 Q. Okay. I'm asking more specific to the  
18 lab. Was there any orientation you went through  
19 with respect to the lab and the procedures that  
20 were to be followed in the lab when certain tests  
21 were performed?

22 A. When I was hired, I was walked through  
23 the lab and explained about the equipment, and  
24 that we have API Manuals and Global Best  
25 Practices to consult, and also a Shift Leader on

00015:01 the shift that you're on, which is also your --  
02 at that time, was also your Competency Coach,  
03 so -- and a lot of resources to -- to, you know,  
04 check at -- I mean, sorry, check on if there's  
05 any questions about anything you're doing.  
06 There's also somebody working with you hand in  
07 hand. And during the day, Tim and Richard are  
08 there and the other chemists, so --

09 Q. Those were your Direct Supervisors, Tim  
10 and Richard?

11 A. At that time, Tim was the Lab Manager,  
12 and Richard was the Head Chemist.

13 Q. Tim Quirk?

14 A. Yes, sir.

15 Q. And Richard Dubo -- Dubois?

16 A. Yes, sir.

17 Q. Okay. With respect to the API, what were  
18 you told about the API as it applies to your job  
19 in the lab at Broussard?

20 A. API -- basically, any procedure that --  
21 or testing that we do is fully explained in the  
22 API Manual. So even if you -- even if someone  
23 that didn't have any lab experience could go and  
24 look at the Manual, and with help with their  
25 Competency Coach and just on-the-job training,

00016:01 could complete any -- any task in the lab.

02 Q. Were you told you were required to follow  
03 the API procedures in performing your job as a  
04 Lab Tech?

05 A. Yes, sir.

06 Q. Okay. And in performing your job as a  
07 Lab Tech, have you ever consulted the API Manual  
08 when you're getting ready to perform a test?

09 A. Many times.

10 Q. And it's available for you to look at and  
11 review in the lab?

12 A. Yes, sir. On -- there's a hard copy  
13 printed out in binders, and we also have  
14 Halliburton's Global Best Practices, which is on  
15 the Internet, on the Halliburton site, and -- and  
16 there's a hard copy, too, as well.

17 Q. What were you told about the Halliburton  
18 Global Best Practices as it applies to your  
19 day-to-day job as a Lab Tech?

20 A. It's -- it's basically a rundown of, you  
21 know, if you were to start any test, it's a  
22 step-by-step process of how to do that test,  
23 basically what it is.

24 Q. And are you required to follow the  
25 Halliburton Global Best Practices Act -- Act,

00017:01 I'll restart that.

02 (Laughter.)

03 Q. (By Mr. Petosa) Friday morning.

04 Are you required to follow the Global  
05 Best Practices for the lab by way of Halliburton?

06 A. Yes, sir.  
07 Q. Okay. And is that also something that  
08 you've consulted with over the time you've been a  
09 Lab Tech, from Associate Lab Tech to your current  
10 position?  
11 A. Many times.  
12 Q. Okay. I'd like to refer you to Tab 25 in  
13 the binder. It's a portion of the "Global  
14 Laboratory Best Practices" Manual we were just  
15 discussing. It's previously been marked as  
16 Exhibit 4347, and I'm referring to Halliburton  
17 Bates ending in 98 for the first page, and these  
18 are portions of it. I'd like to refer you  
19 specifically to Part 3, which begins at Bates  
20 ending at 43 under "Foam Slurry Testing"?  
21 A. Okay.  
22 Q. Is this something that you've seen before  
23 in the lab as a resource?  
24 A. Yes, sir.  
25 Q. Okay. And this is a -- a manual that  
00018:01 you're required to follow when you're conducting  
02 testing at the Halliburton lab in Broussard?  
03 A. Yes, sir.  
04 Q. I'd like to refer you a couple of pages  
05 in, sir, to Page 3-47, Bates ending in 45 under  
06 "Base Slurry and Design Testing," and  
07 "Description," it says: "This procedure contains  
08 guidelines for designing and testing the base  
09 slurry to ensure that the slurry design is stable  
10 and suitable for foaming. It is important that  
11 these steps are completed before foam tests are  
12 performed."  
13 Would this be the procedure that you  
14 would follow when you are preparing a slurry to  
15 foam and then, in turn, test it?  
16 A. Yes, sir.  
17 Q. Okay. And I would like to refer you down  
18 on the procedure, "Base Slurry Design" under  
19 No. 2, sir, it says: "Design the slurry  
20 formulation with foam stability in mind."  
21 What does that mean?  
22 MR. BOWMAN: Objection, form.  
23 Q. (By Mr. Petosa) Why would you want to  
24 design the slurry formation with foam stability  
25 in mind?  
00019:01 A. Can --  
02 MR. BOWMAN: Objection, form.  
03 Q. (By Mr. Petosa) You can answer.  
04 A. Because like any slurry, you want it to  
05 be stable, you know. Foam slurries are no  
06 different from normal slurry.  
07 Q. Well, what have you been told in your  
08 training and in your experience at Halliburton in  
09 the lab in Broussard about why you would want a  
10 slurry formulation with foam stability?

11 A. You have to repeat that again.  
12 Q. Okay. Why would you want a -- a foam  
13 slurry to be stable, sir?  
14 A. You don't want the densities of the  
15 slurry changing, you know, when -- when -- during  
16 the process downhole. You don't want the top  
17 heavier than the bottom, or vice versa.  
18 Q. And why is that?  
19 MR. BOWMAN: Objection, form.  
20 A. I don't really know. That's not my  
21 field. I just run the tests.  
22 Q. (By Mr. Petosa) But you would agree you  
23 were told that when you're reviewing the density,  
24 that the density of the foam slurry should match  
25 the top and bottom density of the test sample,  
00020:01 correct?  
02 A. Yes, sir.  
03 Q. Okay. And you don't know why?  
04 A. No, sir.  
05 Q. Okay. But when you conduct the test,  
06 that's one of the things you're looking at,  
07 correct?  
08 A. Yeah. You're looking at, you know, a  
09 couple of things, especially in the foam  
10 stability.  
11 Q. Which are what?  
12 A. Streaking. You're looking for nitrogen  
13 breakout at the top of the foam stability.  
14 You're checking the density using Archimedes  
15 Principle. So there's a number of things that we  
16 check for in any -- any testing, but foam  
17 testing, as well.  
18 Q. And -- and you would agree, sir, that --  
19 if you turn to Tab 26, also another portion of  
20 the Halliburton Global Laboratory Best Practices  
21 Manual previously marked as Exhibit 815,  
22 beginning with Halliburton Bates ending in 613,  
23 if you turn, sir, to Page 3-60, a couple of pages  
24 in --  
25 A. (Complying.)  
00021:01 Q. -- Bates ending in 618.  
02 Would you agree that under Table 3.1  
03 "Signs of Foam instability When Prepared At  
04 Various Temperatures," those are the different  
05 things that you would be looking at when you're  
06 performing a foam stability test as to whether or  
07 not the slurry is stable, correct?  
08 A. Yes, sir.  
09 Q. And those are the some of the things you  
10 were just telling me, correct?  
11 A. Yes, sir.  
12 Q. Including the bottom, "Large variations  
13 in density between top and bottom of sample,"  
14 correct?  
15 A. Yes, sir.



16 Q. And you would agree that if there's a  
17 large variation between the top and bottom of the  
18 sample that would not indicate that you have a  
19 stable slurry?  
20 A. Yes, sir.  
21 Q. Okay. And you would also want the top  
22 and bottom to match the density of the foam  
23 cement, correct?  
24 A. There's a tolerance.  
25 Q. What's the tolerance?  
00022:01 A. Between the targ -- the foam density.  
02 Q. M-h'm.  
03 A. It's a half a pound tolerance.  
04 Q. Okay. And --  
05 A. So that's the maximum.  
06 Q. Was that what you were trained when you  
07 were hired at the lab?  
08 A. Yes, sir.  
09 Q. Has that procedure changed at all, that  
10 tolerance in the lab?  
11 A. Since the incident?  
12 Q. From when you were trained through the  
13 present.  
14 A. There's a -- I'm sorry.  
15 Procedures change from time to time --  
16 Q. The procedure --  
17 A. -- API, yeah.  
18 Q. The procedures changed after the  
19 incident, correct?  
20 A. Yes, sir.  
21 Q. Okay. What -- what -- what procedures  
22 were instituted in the lab after the incident  
23 relative to the foam stability test and the  
24 tolerances you just described?  
25 A. I'm not sure at this moment.  
00023:01 Q. Okay. Were there any other guidelines  
02 you had to follow when evaluating the density of  
03 the foam slurry in comparison to the top and  
04 bottom density of the test sample beyond which  
05 you've just advised me of back in February of  
06 2010 through April of 2010?  
07 A. This would have been the procedure at the  
08 time.  
09 Q. Okay.  
10 A. To follow when -- when recording the data  
11 from the foam stability.  
12 Q. Okay. I'd like to refer you back to Tab  
13 25. We're going to go back to what's been marked  
14 as Exhibit 4347, a portion of the Halliburton  
15 Global Lab Best Practices Manual. Again, I'd  
16 like to refer you to Page 3-47 we were at before,  
17 Bates ending in 645.  
18 Under No. 2, that next sentence after the  
19 one we just read says: "Review the following  
20 suggestions before designing the base slurry."

21 First bullet point says: "Keep the formulation  
22 as simple as possible."  
23 In your training, in your work with your  
24 Competency Coach, and in your experience at the  
25 lab, what does that mean? What have you learned  
00024:01 that means?  
02 MR. BOWMAN: Objection, form.  
03 A. That means that the slurry should be kept  
04 as simple as possible.  
05 Q. (By Mr. Petosa) Mean -- meaning what?  
06 How do you keep a slurry as simple as possible  
07 when you're formulating one?  
08 MR. BOWMAN: Objection, form.  
09 A. That's really not my field. That's --  
10 that would be the Engineer's call --  
11 Q. (By Mr. Petosa) Okay.  
12 A. -- on the start of design.  
13 Q. Does that indicate that you're supposed  
14 to be looking at what additives are in the slurry  
15 and make sure that there are not additives that  
16 make the slurry complex or that could inter-react  
17 with some of the other additives and cause a  
18 problem?  
19 MR. BOWMAN: Objection, form.  
20 A. Again, it's the Engineer's call. I mean,  
21 we would look at the slurry and see what's in it,  
22 but ultimately if he wants to run it, we're going  
23 to run it.  
24 Q. (By Mr. Petosa) Well, let's go down a  
25 couple of more bullet points, two more -- three  
00025:01 more down: "Use additives that are known to  
02 perform well with foam." What does that mean?  
03 MR. BOWMAN: Objection, form.  
04 A. There's some additives that -- like  
05 D-Air's a defoamer. I mean, there's some  
06 additives that just don't -- should -- you  
07 shouldn't use with foam slurries; you could, but  
08 you shouldn't.  
09 Q. (By Mr. Petosa) Okay. You would agree  
10 that in your experience at Halliburton labs since  
11 you started as an Associated Lab Tech through the  
12 present as a Senior Lab Tech, D-Air as a defoamer  
13 is not something that should be mixed in with a  
14 foamed slurry?  
15 A. It's not something that should be, but  
16 you could use it.  
17 Q. Why? Why shouldn't it be?  
18 A. Because it is a defoamer.  
19 Q. And doesn't that seem from the basic  
20 common sense standpoint you would not want to add  
21 a defoamer to a slurry that you're trying to  
22 foam?  
23 A. Yes, sir.  
24 Q. And is that something you've also learned  
25 in your experience in the lab that when you're

00026:01 mixing a slurry that you should not be adding  
02 D-Air defoamer to a foam slurry?

03 MR. BOWMAN: Objection, form.

04 A. Yes, sir.

05 Q. (By Mr. Petosa) Do you have any  
06 responsibilities that you've learned at the lab  
07 to communicate back to the Engineer if you look  
08 at the slurry and realize that D-Air defoamer is  
09 present in the slurry that you're attempting to  
10 foam?

11 A. Yes. We would go over the sheet before  
12 we run the test, any testing. And, yes, if you  
13 would find that D-Air was in the slurry and knew  
14 it would be foam, you would let the Engineer  
15 know. But as I said earlier, ultimately if he'd  
16 want to run it, we would run it.

17 Q. But would you agree that you first should  
18 communicate with the Engineer and double-check to  
19 make sure that that Engineer wants defoamer in  
20 the slurry that you're attempting to foam?

21 A. Yes, sir, would have -- we have -- we  
22 would have let him know.

23 Q. Okay. And if you let the Engineer know  
24 and the Engineer says they still want the slurry  
25 run in the way it's formulated --

00027:01 A. (Nodding.)

02 Q. -- is that something you document  
03 anywhere?

04 A. Not really. It's on the Viking sheet,  
05 so -- and it would be known.

06 Q. Do you document the attempt to  
07 communicate with the Engineer and ensure that  
08 they want you to have a defoamer in the slurry  
09 that you're attempting to foam?

10 A. Yes, sir, you would document that.

11 Q. Okay. And if it's not documented, does  
12 that mean that the communication didn't occur?

13 MR. BOWMAN: Objection, form.

14 A. I have no -- I don't know.

15 Q. (By Mr. Petosa) In your normal practice,  
16 when you look at the lab sheet and you realize  
17 that it's a slurry that you're supposed to be  
18 foaming --

19 A. M-h'm.

20 Q. -- and you see D-Air present as a  
21 defoamer and you communicate to the Engineer,  
22 would you normally document that communication?

23 A. I would document it, but that's -- that's  
24 how I would do it, but I didn't know.

25 Q. Okay. That's your normal practice,  
00028:01 correct?

02 A. Yes, sir.

03 Q. And has that been your practice since you  
04 started at the lab back in 2008?

05 A. Yes, sir.

06 Q. Was that your practice in February of  
07 2010 through April of 2010?

08 A. Yes, sir.

09 Q. Okay. Let's go down to the next bullet  
10 point: "Avoid dispersing additives that are  
11 known to be detrimental to foam stability."  
12 What -- what is your understanding as to what  
13 that means, sir?

14 MR. BOWMAN: Objection, form.

15 A. There's some items that are known to  
16 disperse slurries, and from what I read right  
17 here, that -- that it can be detrimental to foam  
18 stability.

19 Q. (By Mr. Petosa) What -- what are those  
20 additives that -- that can disperse and -- and be  
21 detrimental?

22 A. CFR-3 is a dispersing additive. It's a  
23 friction reducer. SCR-100L is a retarder that  
24 disperses. And off the top of my head, that's  
25 all I can remember right now.

00029:01 Q. If you're attempting to foam a slurry for  
02 testing purposes and you observe that the slurry  
03 has either of those two items, the SCR-100L --  
04 what was the other one you mentioned?

05 A. CFR-3.

06 Q. CFR?

07 -- would you follow the same procedures  
08 that we just talked about for the D-Air; that is,  
09 you would double-check and communicate with the  
10 Engineer to make sure that they want those  
11 additives present in the slurry you're attempting  
12 to foam?

13 A. Not really, because SCL only has a  
14 retarder. If that's the retarder he chose for  
15 the job, that's his slurry design. He would know  
16 that beforehand.

17 So D-Air's a different story, and it is a  
18 defoamer. So we would call them on that.

19 Q. But with respects to the C -- CFR or the  
20 SCR-100L, if you observed that present in a blend  
21 that you were attempting to foam and test, you  
22 would not communicate back with the Engineer and  
23 double-check that they wanted to use that  
24 specific additive?

25 A. No, sir.

00030:01 Q. Okay. I'd like to turn to the next page,  
02 Page 3-48, Bates ending in 646 of Exhibit 4347.

03 At the top it says: "Use the BHCT as the  
04 test temperature, up to a maximum test  
05 temperature of 194:" Fahrenheit. BHCT is the  
06 bottomhole circulating temperature, correct?

07 A. Yes, sir.

08 Q. Okay. How do you attempt to obtain the  
09 BHCT in testing?

10 A. That is -- for -- for us Lab Techs,

11 that's on the Viking sheet. We have no knowledge  
12 of where they get that number from. That's --  
13 that's submitted on the Viking job. So if  
14 there's any question about any temperature,  
15 it's -- it's through the Engineer.  
16 Q. Okay. That information comes from the  
17 Engineer. That's not something that you as a Lab  
18 Tech would obtain on your own?  
19 A. No, sir.

Page 31:18 to 32:03

00031:18 What have you been told in your training  
19 as to why it's important to test a slurry at  
20 BHCT?  
21 A. Because that's the -- the temperature  
22 that the slurry downhole's going to be seeing  
23 while the job is pumping.  
24 Q. And what impact does temperature have on  
25 the slurry, as you've been trained?  
00032:01 A. It has a lot of impact.  
02 Q. Okay.  
03 A. It can change the results of many tests.

Page 32:16 to 34:01

00032:16 Q. Okay. I'd like to go back to Tab 25,  
17 sir, which is again Exhibit 4347. I'd like to  
18 refer you back to Page 3-48, Halliburton Bates  
19 numbers ending in 646.  
20 Under -- at the top, that last sentence  
21 we read, the next portion it's lined, and in  
22 between it says: "Note--Because this test is  
23 used for determining base slurry stability, it is  
24 important to look for signs of solid settling as  
25 well as observe the free fluid amount."  
00033:01 What does that mean, sir, as you  
02 understand it in your training?  
03 A. That looks like a free water test to me.  
04 They would -- you would have done a free water on  
05 the base slurry. And when you do a foam testing,  
06 you have the foam slurry and you have the base  
07 slurry. So they would have done a free water  
08 possibly on the -- on the base slurry to see if  
09 there were signs of settling or free fluid.  
10 Q. Okay. And I'd like to go to the last  
11 sentence under that. It says: "If the base  
12 slurry shows signs of settling or possesses a  
13 high amount of free fluid, redesign the slurry."  
14 What does that mean about redesigning the  
15 slurry?  
16 MR. BOWMAN: Objection, form.  
17 A. That would be an Engineer's standpoint,  
18 you'd have to -- to redo the makeup of the -- or

19 a comp -- the composition of the slurry.  
20 Q. (By Mr. Petosa) In your training in the  
21 lab and your understanding of the procedures, is  
22 there ever a situation where you're performing  
23 tests and you realize that your test is  
24 indicating some of these problematic signs that  
25 we've talked about under Table 3.1 under Tab 26,  
00034:01 which is Exhibit 815?

Page 34:03 to 36:11

00034:03 Q. Yeah. Page 3-60. It's that table we  
04 talked about. One more page in. One more.  
05 There you go.  
06 Table 3.1, if you observe any of those  
07 signs of foam instability, are you required to  
08 communicate to the Engineer about those problems?  
09 A. If any of those things were observed on  
10 the foam stability, it would be documented on the  
11 sheet, and it would be communicated with the --  
12 with the rest of the results to the Engineers.  
13 Q. Okay. All right. Do you have any  
14 requirements as a Lab Tech to redesign the slurry  
15 on your own?  
16 A. No, sir.  
17 Q. Okay. Do you have any requirements by  
18 way of communicating those concerns to the  
19 Engineer when you observe signs of foam  
20 instability about whether or not they're going to  
21 redesign the slurry?  
22 MR. BOWMAN: Objection, form.  
23 A. I mean, we give them the results. It's  
24 up to them to decide anything that has to do with  
25 the slurry design and stuff like that.  
00035:01 Q. (By Mr. Petosa) Do you have any  
02 independent responsibilities, sir, in the lab to  
03 change the slurry on your own?  
04 A. Besides the manipulation of retardant,  
05 for our pump times, and a few other additives  
06 that have to do with fluid loss and free water, I  
07 mean, we can go up or down on them -- you know,  
08 increase or decrease -- but for the most part,  
09 that -- that's it. I mean, we don't -- we don't  
10 add an additive or take an additive out without  
11 consulting the Engineer, and ultimately it's  
12 their decision what they want to run.  
13 Q. And what about conditioning time, is that  
14 something that you have flexibility within the  
15 lab to adjust when you're doing a foam stability  
16 test?  
17 A. That information's given to us from the  
18 Engineers.  
19 Q. Okay. So you're not able to  
20 independently adjust the conditioning time  
21 without approval provided by the Engineer?

22 A. No.  
23 Q. Okay. That's information that you're  
24 provided by the Engineer in the lab, correct?  
25 A. Yes, sir.  
00036:01 Q. Okay. What is conditioning time as it  
02 applies to a foam stability test?  
03 A. As it applies to a foam stability test?  
04 Q. (Nodding.)  
05 A. Before you would pour the foam stability,  
06 you would want to condition it atmospherically --  
07 atmospheric consistometer, I'm sorry. For  
08 whatever reason, that was unknown -- that's not  
09 known to me.  
10 Q. Okay.  
11 A. That would be his call.

Page 36:18 to 41:05

00036:18 What is SA-541 delayed hydrating  
19 suspending aid?  
20 A. It's a suspending agent that's used to  
21 counteract settling on a slurry.  
22 Q. Is that an additive that can interact  
23 with a slurry that you're attempting to foam in a  
24 negative way?  
25 A. I have no idea.  
00037:01 Q. Have you ever had that explained to you  
02 in your training and experience at the lab, that  
03 SA-541 can have a negative affect on a slurry  
04 that you're attempting to foam?  
05 A. No, sir.  
06 Q. Okay. Are these Technology Bulletins, in  
07 your experience in the lab through the present,  
08 things that you have access to in the lab?  
09 A. Yes, we have access to these.  
10 Q. Are you required to review Technology  
11 Bulletins?  
12 A. I mean, they're in the Global Best  
13 Practices are, you know, on the Halliburton Well  
14 Site. I mean, we -- we see them from time to  
15 time, but we don't see every one of them.  
16 Q. Okay. I'd like to refer you to Tab 31,  
17 sir. Document that's previously been marked as  
18 Exhibit 5570, Halliburton Bates ending in 251.  
19 "HALLIBURTON Technology Bulletin," dated  
20 December 8th of 1999. "Subject: ZoneSealant  
21 2000 Foamer/Stabilizer for Freshwater and  
22 Saturated-Salt Slurries." What is ZoneSealant  
23 2000?  
24 A. ZoneSealant 2000 is a -- an additive used  
25 for foaming.  
00038:01 Q. Okay. And is that something that you've  
02 used in your experience in the lab from 2008  
03 through the present to foam a slurry?  
04 A. Yes, sir.

05 Q. Okay. I'd like to refer you, sir, to  
06 Page 3 of 3 of this document, that is previously  
07 marked as Exhibit 5570, Halliburton Bates ending  
08 in 253. Middle of the page, under  
09 "Compatibility" it says: "Defoamers. Caution,  
10 Do not use defoamers or dispersants (NF and D-AIR  
11 defoamers, CFR-2, CFR-3, Halad-9, Halad-12,  
12 Halad-22A additives, etc.). These materials will  
13 destabilize the foam."

14 Is that something that you became aware  
15 of when you started working at the lab that when  
16 you're attempting to foam a slurry, that these  
17 additives can destabilize the foam?

18 A. Yes, sir.

19 Q. Okay. And I know you've already told us  
20 that if D-Air defoamer's used, that's something  
21 that you would, on your own, communicate to the  
22 Engineer to make sure that that Engineer wants  
23 you to use D-Air defoamer in a slurry you're  
24 attempting to foam, correct?

25 A. Yes, sir.

00039:01 Q. And you would document if you  
02 communicated to the Engineer on the work on the  
03 Weigh-Up Sheet, correct?

04 A. Yes, sir.

05 Q. Okay. How about these other additives,  
06 you mentioned some, CFR, if any of these  
07 additives are present in the slurry, would you  
08 also communicate to the Engineer because of the  
09 potential that they could destabilize the foam to  
10 ensure that the Engineer wants you to use those  
11 additives?

12 A. No, sir.

13 Q. Why?

14 A. Like I said earlier, the -- the  
15 composition of the slurry is his call. I mean,  
16 we would look at the slurry, and, you know, we  
17 could let him know that there's D-Air, or  
18 whatnot, in it, but he wants to run it, we'll run  
19 it.

20 Q. But if you see additives separate from  
21 the D-Air --

22 A. Yes.

23 Q. -- that you, in your training, in your  
24 experience in the lab, know have the ability to  
25 potentially destabilize the foam, why would you  
00040:01 not communicate that to the Engineer?

02 A. Well, I mean, we do testing, that's why  
03 we do testing, to see how, you know, what -- what  
04 does what, how -- how additives affect slurries,  
05 you know, we test it to see if it's going to be  
06 right.

07 Q. Okay. I'd like to talk -- pardon me --  
08 under the next section after "Accelerators," I'd  
09 like to talk about "Retardation." "ZoneSealant



10 2000 foamer/stabilizer is not a strong retarder.  
 11 Caution Do not use HR retarders with ZoneSealant  
 12 2000 foamer/stabilizer because these retarders  
 13 act as dispersants and will break the foam."  
 14 You mentioned to us earlier that SCR-100L  
 15 is a retarder, correct?  
 16 A. Yes, sir.  
 17 Q. And that has a potential as a dispersant  
 18 to destabilize the foam, doesn't it, sir?  
 19 A. Yes, sir.  
 20 Q. But that's something you would not  
 21 communicate to the Engineer in the way you've  
 22 just described it to us, correct?  
 23 A. No, sir.  
 24 Q. You would just assume that the Engineer  
 25 wants to use that retarder and you'll run your  
 00041:01 test?  
 02 A. Yes, sir.  
 03 Q. So that's the Engineer's responsibility,  
 04 correct?  
 05 A. Yes, sir.

Page 41:10 to 45:16

00041:10 This is a portion of the API Recommended  
 11 Practices on Preparation and Testing of Foamed  
 12 Cement Slurries at Atmospheric Pressures, and  
 13 it's the Section 10B-4.  
 14 I know you mentioned earlier that one of  
 15 the things that you were advised of when you  
 16 started working at the lab, was that the API is  
 17 available as a reference for you, correct?  
 18 A. Yes, sir.  
 19 Q. And it's something that you're required  
 20 to follow when conducting the test, correct?  
 21 A. Yes, sir.  
 22 Q. And you could always refer to the API to  
 23 ensure that when you're conducting a test, you're  
 24 following the proper procedures, correct?  
 25 A. Yes, sir.  
 00042:01 Q. Okay. Have you seen this section before  
 02 that's been marked as Exhibit 4569, the API  
 03 "Recommended Practice on Preparation and Testing  
 04 of Foamed Cement Slurries at Atmospheric  
 05 Pressure"?  
 06 A. I'm not really sure.  
 07 Q. Okay. And I apologize, that's Bates -- I  
 08 did not mention this earlier -- CVX ending in  
 09 969.  
 10 I'd like to turn you, sir, if you look on  
 11 what is lower case three -- three "i's" under  
 12 "Contents," turn another page in, sir. We're  
 13 going to turn -- see where it says: "9  
 14 Atmospheric testing of foamed...slurries," we're  
 15 going to turn to Section 9, which is Page 9.

16 Bates ending in 985.  
17 Would you agree, sir, that in testing a  
18 foamed cement slurry, at the Halliburton lab,  
19 you're required to follow Section 9 in conducting  
20 those tests?  
21 MR. BOWMAN: Objection, form.  
22 A. Yes, sir.  
23 Q. (By Mr. Petosa) Okay. And, sir, I'd like  
24 to turn you to the next page, which is Page 10,  
25 the bottom of that page, Section 9.3.4, "Signs of  
00043:01 foam instability." You would agree, sir, those  
02 signs of foam instability are the same signs we  
03 previously saw in what was Tab 26, when we turn  
04 to Page 360 in the Halliburton Global Laboratory  
05 Best Practices, it's the same thing, correct,  
06 sir?  
07 A. Looks to be.  
08 MR. CHEN: Objection, form.  
09 Q. (By Mr. Petosa) And these are the signs  
10 of foam instability that you look to when you're  
11 conducting is a foam stability test, correct,  
12 sir?  
13 A. Yes, sir.  
14 Q. And if you observe any of these signs of  
15 instability, you're required to document that on  
16 the Weigh-Up Sheet, correct?  
17 A. Yes, sir.  
18 Q. And you're required to communicate that  
19 to the Engineer?  
20 A. Yes, sir.  
21 Q. How do you communicate it to the  
22 Engineer? Do you actually call the Engineer or  
23 you do it through the Viking system?  
24 A. Both, actually. You would post it on  
25 Viking, which you could view at any time, and you  
00044:01 would -- in case of a -- a TP or an ASAP, you  
02 would -- you would call them with the results.  
03 Q. What does that mean, TP or ASAP --  
04 A. TP --  
05 Q. -- as it applies to the lab?  
06 A. TP is a top priority job. So when an  
07 eng -- when an Engineer submits a TP, it's -- the  
08 job's going to be run in the next day or so.  
09 Q. How about an ASAP, what is that?  
10 A. ASAP is as soon as possible. It means  
11 that the job's going to be run in the next two or  
12 three, four days. So those kind of jump ahead of  
13 our normal lab ordered tests.  
14 Q. And are you only required to communicate  
15 signs of foam instability when you conduct a foam  
16 stability test to the Engineer if it's a TP or an  
17 ASAP job?  
18 MR. BOWMAN: Objection, form.  
19 A. No, sir. You would communicate that on  
20 any test just to let him know.

21 Q. (By Mr. Petosa) That's the way you've  
22 been trained at the Halliburton lab, correct,  
23 sir?  
24 A. Yes, sir.  
25 Q. And that's the practice that you normally  
00045:01 follow; that is, if you observe signs of foam  
02 instability when conducting a stability test, you  
03 not only document it in the Viking system, you  
04 actually call and communicate with the Engineer,  
05 correct?  
06 A. Yes, sir.  
07 MR. BOWMAN: Objection, form.  
08 Q. (By Mr. Petosa) And you document the  
09 contact?  
10 A. Yes, sir.  
11 Q. That's your normal practice, right, you  
12 actually --  
13 A. Yes.  
14 Q. -- would document that you spoke with the  
15 Engineer, correct?  
16 A. Yes, sir.

Page 46:08 to 51:07

00046:08 Q. All right. The first document under  
09 Tab 1, is the February 12th, 2010 "Cement Lab  
10 Weigh-Up Sheet," previously marked as Exhibit  
11 808, Halliburton Bates ending in 434. If you  
12 could please review that page, it's front and  
13 back, and let me know if by way of the document  
14 itself, you recognize any handwriting that's  
15 yours or any indications that you were involved  
16 in this test, or if by way of recollection,  
17 you're aware that you were involved in this test?  
18 A. Okay. (Reviewing document.) I don't see  
19 any -- any initials of mine that would say I was  
20 involved in this test.  
21 Q. And none of the handwriting that you see  
22 on this document is yours?  
23 A. No, sir.  
24 Q. Okay. So for the February 12th, 2010  
25 Cement Lab Weigh-Up Sheet, previously marked as  
00047:01 Exhibit 808, there is no initials that -- that --  
02 that is on the sheet from you and there's no  
03 handwriting of yours, correct?  
04 A. No, sir.  
05 Q. And you don't have any recollection of  
06 being involved in this test, do you, sir?  
07 A. No, sir.  
08 Q. Okay. I'd like to refer you down to the  
09 "Materials" and "Foam Mixing." You see that  
10 D-Air 3000 is present, correct?  
11 A. Yes, sir.  
12 Q. You see that the SA-541 is present,  
13 correct?

14 A. Yes, sir.  
15 Q. And you see that the SCR-100L is present,  
16 correct?  
17 A. Yes, sir.  
18 Q. And you agree those are all ingredients  
19 that can destabilize the foam slurry, correct,  
20 sir?  
21 MR. BOWMAN: Objection, form.  
22 A. According to the API Manual, yes.  
23 Q. (By Mr. Petosa) According to your Manuals  
24 at Halliburton, too, correct, sir?  
25 A. Yes, sir.  
00048:01 Q. And that's your training that you've been  
02 advised of through your Competency Coach and your  
03 experience, that all those three additives can  
04 destabilize the foam slurry, correct?  
05 MR. BOWMAN: Objection, form.  
06 A. Yes, sir.  
07 Q. (By Mr. Petosa) Okay. I'd like to turn  
08 you back to the second page of this document,  
09 Page 2 of 2, under "Foam Mix and Stability."  
10 Would you agree that under the results of the  
11 Foam Mix and Stability test that this is not a  
12 stable foam slurry?  
13 A. (Reviewing document.)  
14 MR. BOWMAN: Objection, form.  
15 A. No, sir, it's not a stable slurry.  
16 Q. (By Mr. Petosa) Let's go to the next tab,  
17 Tab 2, sir, which was previously marked as  
18 Exhibit 809, the "Cement Lab Weigh-Up Sheet,"  
19 February 16th of 2010. Halliburton Bates ending  
20 in 440. Same procedure, sir, please review front  
21 and back, and let me know if you recognize any  
22 handwriting that's yours, initials, to indicate  
23 that you were involved in the test, or if you  
24 have any independent recollection of being  
25 involved in that test.  
00049:01 A. (Reviewing document.) I don't see any of  
02 my initials or handwriting.  
03 Q. Okay. So by way of the -- the writing  
04 and -- and -- and initials, all indications that  
05 you were not involved with the February 16th,  
06 2010 testing in the cement lab that's been marked  
07 as Exhibit 809, correct?  
08 A. Yes, sir.  
09 Q. And you have no independent recollection  
10 of being involved in that test, correct?  
11 A. No, sir.  
12 Q. Okay. And you would agree those same  
13 three additives, D-Air 3000, SA-541, and SCR-100L  
14 are all present in the mix, correct?  
15 A. Yes, sir.  
16 Q. Those all have the potential to  
17 destabilize the foam slurry, correct, sir?  
18 MR. BOWMAN: Objection, form.

19 A. Yes, sir.  
 20 Q. (By Mr. Petosa) You would expect any Lab  
 21 Tech at the Halliburton Lab back in February of  
 22 2010 to be aware of that, wouldn't you?  
 23 A. Yes, sir.  
 24 Q. I'd like to turn you to the back page  
 25 again and ask you the same question, sir:  
 00050:01 Whether or not the foam stability test indicates  
 02 that this was a stable slurry?  
 03 A. The specific gravity for the top and  
 04 bottom is both 1.91, so I would say that this  
 05 foam stability is stable.  
 06 Q. Okay. In comparison, sir, to what the  
 07 density is?  
 08 A. (Reviewing document.) 14,5 -- I have to  
 09 figure out the specific gravity -- well, I have  
 10 to convert it to pounds per gallon.  
 11 Q. Well, I'm not going to ask you to do the  
 12 calculations today unless that's something you  
 13 can quickly do in your head.  
 14 A. No, not really.  
 15 Q. We'll pass on that, then. Let's go to  
 16 exhibit -- so you -- you would agree, sir, you  
 17 can't tell us, then, whether or not this was a  
 18 stable slurry?  
 19 A. Well --  
 20 MR. BOWMAN: Objection, form.  
 21 A. The foam stability is stable. I mean,  
 22 the top through the bottom is 1.91, but compared  
 23 to the target weight, I -- I can't tell right  
 24 now.  
 25 Q. (By Mr. Petosa) And that's something you  
 00051:01 also have to consider to determine if the foam  
 02 stability -- if the slurry is stable, correct?  
 03 MR. BOWMAN: Objection, form.  
 04 A. Yes, you have a half a pound tolerance  
 05 throughout the whole foam stability tube, but you  
 06 also have a half a pound tolerance from the  
 07 target weight.

Page 51:09 to 52:24

00051:09 3, which is Exhibit 810, it's the Cement Lab  
 10 Weigh-Up Sheet for March 7th, 2010, of the slurry  
 11 for the production casing, Halliburton Bates  
 12 ending in 909. I ask you to go through the same  
 13 procedure, sir, if you would for us, please?  
 14 A. (Reviewing document.) I don't see any  
 15 handwriting or initials that -- that would be  
 16 mine.  
 17 Q. Okay. Those same three additives that  
 18 have the potential to destabilize the foam, the  
 19 D-Air 3000, SA-541, and SCR-100L are present in  
 20 the slurry, correct, sir?  
 21 MR. BOWMAN: Objection, form.

22 A. Yes, sir.  
23 Q. (By Mr. Petosa) And can you tell me, sir,  
24 on Page 2 of 2 at the top if this slurry is  
25 stable?  
00052:01 A. The top is 1.98, the bottom is 2, I would  
02 say this slurry is stable.  
03 Q. Okay. But you can't tell me that in  
04 comparison to the actual target density, correct,  
05 because you have to do your own conversions?  
06 A. Yeah. I mean, I'd have to turn the  
07 specific over to pounds per gallon --  
08 Q. Okay.  
09 A. -- to -- to see. A -- according to the  
10 foam weight, it's actually -- I mean, the foam  
11 stability itself is stable. When compared to the  
12 target weigh-up --  
13 Q. You can't tell us --  
14 A. -- I can't tell right now.  
15 Q. And you also note on this document that  
16 there's settling of the slurry?  
17 A. (Reviewing document.) Yeah, there's a  
18 note on the side, "Slurry is settling out of  
19 Blender."  
20 Q. That's also another sign of potential  
21 instability of the foam slurry, correct, sir, if  
22 you have settling?  
23 A. Yeah, but this is a -- that's a different  
24 test.

Page 53:01 to 55:15

00053:01 It's the Cement Lab Weigh-Up Sheet for April 13th  
02 of 2010, previously marked as Exhibit 984.  
03 Now, this exhibit ended up -- a number of  
04 tests were marked. I'm only asking you right now  
05 to just refer to the first document --  
06 A. Okay.  
07 Q. -- which is the April 13 test. So I'd  
08 like you to look at that front and back, and go  
09 through the same procedure: Let me know if you  
10 see any of your own handwriting or initials to  
11 indicate that you were involved in this test.  
12 A. (Reviewing document.) I don't see any  
13 initials or my handwriting on this sheet.  
14 Q. Okay. And you would agree, sir, that --  
15 and you don't have any recollection of being  
16 involved in this test, do you?  
17 A. No, sir.  
18 Q. Okay. You would agree, looking at the  
19 top, the foam stability, sir, it says: "180 pump  
20 1.5 hours." What does that mean?  
21 A. That means that they want to condition  
22 the slurry for an hour and a half.  
23 Q. If the slurry is being conditioned, is  
24 that something that normally is supposed to be

25 documented on the weigh-up sheet?

00054:01 A. Yes, sir.

02 Q. So you would agree on the prior three

03 tests we've looked at, that the slurry for the

04 foam stability test was not conditioned, correct?

05 A. Yes, sir.

06 Q. What impact does conditioning have on a

07 slurry when you're trying to do a foam stability

08 test?

09 A. Well, it -- it replicates the job more

10 closely than just pouring it at ambient

11 temperature.

12 Q. Is that what you were told in your

13 training and that's what you've learned in your

14 experience at the Halliburton Lab?

15 A. Yes, sir.

16 Q. Any other impact that conditioning has on

17 a slurry when you're testing it to determine if

18 it's stable?

19 A. I don't know of any.

20 Q. And is that information that's provided

21 to you specifically by the Engineer, the

22 guidelines as to conditioning, what temperature,

23 and for how long?

24 A. Yes, sir.

25 Q. That's not an independent decision that

00055:01 you, as a Lab Tech, can make, correct?

02 A. No, sir.

03 Q. Okay. You would agree that this foam

04 stability test indicates that the slurry is not

05 stable?

06 A. (Reviewing document.) I can't see the

07 specific gravity on the bottom.

08 Q. It's --

09 A. I'm sorry.

10 Q. -- 1.88, in parens, (15.7) on the top.

11 The bottom is 1.82, in parens, (15.1), target

12 density is 14.5. You would agree that this test

13 indicates that the slurry is not stable, sir?

14 A. Yeah, it's more than a half a pound

15 tolerance, so I would say, "No," it's not stable.

Page 55:22 to 57:05

00055:22 So let's first refer to what's been

23 marked previously under Tab 9 as Exhibit 3765,

24 Halliburton Broussard Lab results for the primary

25 slurry. And it -- date says April 12th of 2010.

00056:01 And it says: "Request/Slurry 73909-1." What

02 does that 73909-1 mean?

03 A. That's the Project number of the slurry.

04 So that means that the slurry number is 73909,

05 and the number 1 means that it's a slurry No. 1,

06 or Part 1.

07 Q. Okay. And if you turn to the next tab,

08 Tab 10, previously marked as Exhibit -- I believe  
09 that's 2737 or 32.

10 A. Tab 10?

11 Q. Tab 10, I'm sorry. That's that same date  
12 of the slurry, but that says it's 73909-2, so  
13 that means there was two different slurries  
14 poured on -- for this April 12th, 2010 job?

15 A. It means there was two different parts to  
16 that Project.

17 Q. Okay. What does that mean?

18 A. That means that the -- the first part  
19 might have a little variation than the second  
20 part.

21 Q. Okay. And if we refer back, sir, to  
22 Tab 4, which has previously been marked as  
23 Exhibit 984, the weigh-up sheet for April 13th,  
24 we just went through. You would agree that  
25 that -- that weigh-up sheet and those test  
00057:01 results, that's the same test that we're looking  
02 at on Tabs 9 and 10, correct?

03 MR. BOWMAN: Objection, form.

04 A. It appears to be. I don't -- I don't see  
05 these sheets.

Page 58:03 to 58:21

00058:03 Q. Okay. I -- I'd like to go down on -- in  
04 Tab 9, Exhibit 3765, Halliburton Bates ending in  
05 377. Under "Cement Information," it says:  
06 "Primary Design." At the bottom it says: "Field  
07 (Fresh) Water."

08 If -- if the test is supposed to be done  
09 with rig water, is that supposed to indicate that  
10 rig water is being used, or fresh water?

11 MR. BOWMAN: Objection, form.

12 A. Field fresh water is field water. H'm --

13 Q. (By Mr. Petosa) And what is that? What's  
14 field water?

15 A. Field water is rig water.

16 Q. Rig water?

17 A. It's a --

18 Q. -- is the same?

19 A. -- it's just labeled like that in Viking.

20 Q. Okay.

21 A. So it was rig water that was used.

Page 59:10 to 63:20

00059:10 Q. Okay. Let's go back, sir, to Tab No. 5,  
11 previously marked as Exhibit 4565, the Cement Lab  
12 Weigh-Up Sheet for April 15th of 2010, on the  
13 production casing. I'm going to ask you to go  
14 through that same document, sir, as you have the  
15 others, and let me know if you were involved in



16 this test by way of either your handwriting or  
17 initials, or if you have any recollection being  
18 involved. And that's Halliburton DOJ Bates  
19 ending in 045.  
20 A. (Reviewing document.) The note "Repeat  
21 as per Jesse," on the Thickening Time.  
22 Q. M-h'm.  
23 A. Appears to be my handwriting. I'm not  
24 completely sure, but --  
25 Q. Did you actually do the thickening time  
00060:01 test?  
02 A. No, sir. It was started by a -- looks  
03 like Dedric LeBlanc.  
04 Q. Would you have communicated their results  
05 to Jesse, then, by way of your handwriting  
06 indicating "Repeat as per Jesse"?  
07 A. Yes. The pump time would have came off,  
08 and we would have called him to let him know how  
09 long the slurry pumped. And then by the note  
10 that I believe I wrote, "Repeat as per Jesse," he  
11 wanted to re -- repeat it.  
12 Q. Okay. Let's turn back, if you would,  
13 to -- and -- and is this a repeat of the  
14 thickening time that would have been done on the  
15 prior -- if you look at Tab 4, the April 13th  
16 test, to begin with Tab -- all the way in the  
17 beginning, there, sir.  
18 A. (Reviewing document.) Yeah. 73909 Part  
19 1?  
20 Q. Yes.  
21 A. No, this would have been a repeat of --  
22 of the Part 2 that it was written on.  
23 Q. Is there -- shouldn't there be a Lab  
24 Weigh-Up Sheet for Part 2?  
00061:01 A. Yeah, that was the Lab Weigh-Up Sheet for  
02 Part 2.  
03 Q. The April 15th was?  
04 A. April 13th.  
05 Q. All right. I'm kind of --  
06 A. No, I'm sorry. Tab 5?  
07 Q. Yeah.  
08 A. This sheet right here, 73909, Part 2.  
09 Q. Okay.  
10 A. The thickening time was run on this  
11 slurry on this --  
12 Q. All right.  
13 A. -- for this part, and that repeat would  
14 have been on this --  
15 Q. Okay.  
16 A. -- on that -- for that part, I'm sorry.  
17 Q. When -- when you do a repeat, sir, would  
18 you expect the same ingredients in the slurry to  
19 be used?  
20 A. Yes, sir, that's why we repeat it. We  
would use the same composition.

21 Q. You would agree, sir, on Tab -- Tab 5,  
22 the April 15th, 2010 Lab Weigh-Up Sheet, Slurry  
23 2, marked as Exhibit 4565, the amount of retarder  
24 used is .090, correct?  
25 A. Yes, sir.

00062:01 Q. Okay. Now, if you go back to Tab 4, you  
02 look on the April 13th, 2010 test, Exhibit 984,  
03 at the bottom under "Materials," you -- you note  
04 middle of the page, I'm sorry, the amount of  
05 retarder is 080, correct?  
06 A. Yes, sir.  
07 Q. So it's a different amount of retarder,  
08 correct?  
09 A. Yes, sir. Part 1 would have been ran  
10 with 8, and the Part 2 would have been ran with  
11 the 9.  
12 Q. And adding more retarder will extend the  
13 amount of time it takes for the cement to thicken  
14 and ultimately cure, correct?  
15 A. Yes, sir. It would affect the pump  
16 time --  
17 Q. And you --  
18 A. -- the thickening time, so --  
19 Q. -- and you can tell that by looking at  
20 the results. You would agree that if you go to  
21 the back side of what is Exhibit 984, the April  
22 13th test, you have -- it looks like the  
23 thickening time of five and a half hours,  
24 correct?  
25 A. Yes, sir.

00063:01 Q. And then if you go to Tab 5, the back  
02 side of Exhibit 4565 for the April 15th test, the  
03 thickening times that you would have reported to  
04 Jesse is almost seven hours, correct?  
05 A. Yeah, 6:52, yes, sir.  
06 Q. And that would indicate there's more  
07 retarder, so it makes sense, obviously, that's  
08 going to take longer for that cement to thicken  
09 and cure, correct?  
10 A. Yes, sir.  
11 Q. Okay. "Repeat per Jesse." Who's Jesse?  
12 A. Jesse would be Jesse Gagliano.  
13 Q. And he's the Engineer?  
14 A. According to this sheet, yes, sir.  
15 Q. Do you have any recollection of any  
16 conversations you had with Mr. Gagliano on April  
17 of 2010 regarding the test samples?  
18 A. No, sir.  
19 Q. Or the cement for the Macondo Well?  
20 A. No, sir.

Page 64:07 to 65:23

00064:07 Q. (By Mr. Petosa) Mr. Richard, before we  
08 took a break, we were discussing the April 15th,

09 2010 test, the "Cement...Weigh-Up Sheet" marked  
10 as Exhibit 4565 under Tab 5. You had advised us  
11 that the results of the "Thickening Time" test,  
12 you would have communicated to Jesse Gagliano,  
13 the Engineer, correct?  
14 A. Yes, sir.  
15 Q. Okay. The fact that handwriting, in  
16 fact, on Page 2 of 2, "Repeat as per Jesse," is  
17 your handwriting, correct?  
18 A. It looks to be.  
19 Q. Okay. This was a foam slurry, correct?  
20 A. Yes, sir.  
21 Q. Did you observe that D-AIR 3000 was  
22 present in that slurry?  
23 A. At the time, no, I did not.  
24 Q. Okay. Is that something that you should  
25 have looked for, sir?  
00065:01 A. Yes, it's something I should have took  
02 note about.  
03 Q. Okay. And you should have, under your  
04 normal practice, communicated that to Jesse  
05 Gagliano, correct, about whether or not, since  
06 it's a foam slurry, he would want the D-AIR 3000  
07 to be present in that slurry?  
08 A. Yes, sir.  
09 Q. And in your normal practice, if you  
10 communicated it, you would have documented it on  
11 this Weigh-Up Sheet, correct?  
12 A. Yes, sir.  
13 Q. And since it's not documented, you would  
14 agree, sir, that you did not communicate that to  
15 Jesse Gagliano?  
16 A. I did not communicate it, but this is the  
17 second Weigh-Up Sheet, so it's a possibility that  
18 it was done on another sheet.  
19 Q. But you don't see anything -- we've  
20 looked at that sheet -- to indicate that that was  
21 communicated to Mr. Gagliano, correct?  
22 MR. BOWMAN: Objection, form.  
23 A. Not that I'm aware of.

Page 66:05 to 67:21

00066:05 Q. Okay. Let's turn to Tab -- actually,  
06 real quick, on -- on the front of that page, it  
07 says "Fresh Water" again. Does "Fresh Water" --  
08 and if you look on the back side, it says: "Use  
09 location Blend and Rig water in lab."  
10 Does "Fresh Water" mean water that's from  
11 the lab or water that's from the rig?  
12 A. "Fresh Water" means water we use from  
13 the -- like in the lab, from the faucet.  
14 Q. But shouldn't it be done with rig water,  
15 sir?  
16 A. According to this paperwork, it should.

17 But to actually find out if it was weighed up  
 18 with rig or fresh water, you have to look at the  
 19 weight sheet, not this sheet. There's another  
 20 sheet.  
 21 Q. What's -- were those the documents the  
 22 Customer Report we were talking about?  
 23 A. I have to look at it.  
 24 Q. That's under Tab 9 and 10. We had talked  
 25 about those before.  
 00067:01 A. (Reviewing document.)  
 02 Q. You'll notice under Tab 9 marked as  
 03 Exhibit 3765, the "LAB RESULTS - Primary" for  
 04 April 12th, 2010, 73909, Slurry 1, that says  
 05 "Field (Fresh) Water." You've told me that's rig  
 06 water, correct?  
 07 A. Yes, sir.  
 08 Q. But if you look on Tab 10, which is  
 09 previously marked as Exhibit 2732 or -- or 27, I  
 10 apologize, that's a very hard number to read,  
 11 ending in Bates BP...4613, underneath the "Cement  
 12 Information - Primary Design" that just says  
 13 "Fresh Water," correct?  
 14 A. Yes, sir.  
 15 Q. And that's for Slurry 2, correct?  
 16 A. Yes, sir.  
 17 Q. So you would agree that in that  
 18 situation, "Fresh Water" means that's water out  
 19 of the faucet in the lab and not rig water?  
 20 MR. BOWMAN: Objection, form.  
 21 A. Yes, sir.

Page 68:19 to 69:16

00068:19 look under the Thickening Time test, it appears  
 20 to be a repeat test that was requested by the  
 21 Engineer, Jesse Gagliano?  
 22 A. Yes, sir, that is a repeat.  
 23 Q. Would that have been a repeat of the test  
 24 that we were just talking about that's under  
 25 Tab 5, the April 15th, 2010 Weigh-Up Sheet  
 00069:01 previously marked as Exhibit 4565 that you've  
 02 advised us you reported to Jesse Gagliano?  
 03 A. Yes, sir, that is the repeat of that of  
 04 that --  
 05 Q. So --  
 06 A. -- of that thickening time on that -- of  
 07 the job. Sorry.  
 08 Q. So you would agree, sir, that that --  
 09 that slurry with the .090 retarder, the  
 10 thickening time would have actually been over  
 11 seven and a half hours, correct?  
 12 A. Yes, sir, 7:37.  
 13 Q. Okay. Let's turn, if -- if you can, sir,  
 14 to Tab No. 7, which is the April 17, 2010 Lab  
 15 Weigh-Up Sheet, Exhibit 4566 that's previously

16 been marked, Halliburton DOJ Bates ending in 042.

Page 69:21 to 77:18

00069:21 what was -- in this time frame in April of 2010,  
22 what was the normal shift you would work? Were  
23 they 8-hour shifts, 12-hour shifts? Explain it  
24 to me, please.  
25 A. It was 12-hour shifts.

00070:01 Q. And when would you start shift, and when  
02 would you end your shift?  
03 A. If you were working during the day, you  
04 would start at 5:45 in the morning, and you would  
05 leave at 6:00 o'clock in the afternoon. And if  
06 you were working nights, it would be 5:45 in the  
07 evening till 6:00 in the morning.  
08 Q. Okay. And back at this time, was your  
09 Shift Leader Chad Broussard?  
10 A. Yes, sir.  
11 Q. Who was also your Competency Coach,  
12 correct?  
13 A. Yes, sir.  
14 Q. Okay. So why don't you look at that for  
15 me, sir, and let me know if you were involved in  
16 this test.  
17 A. (Reviewing document.) Yes, sir. I see  
18 my initials and handwriting on this sheet.  
19 Q. Tell me what --  
20 A. It's on the back side.  
21 Q. -- what initials, where is the  
22 handwriting by you, and read it for me, please.  
23 A. On the "Foam Mix and Stability" block, I  
24 wrote "2:15" a.m., April 18th, 2010, "Heat #1,"  
25 and that's my initials next to it. I also wrote  
00071:01 three hours in the "Conditioning time," and eight  
02 seconds in the "Time to Foam" box.  
03 Q. Okay. What does the 2:15 a.m., April 18,  
04 2010 mean?  
05 A. That is the time that I started the test.  
06 The time, the date, and "Heat #1," means Heat  
07 Bath No. 1.  
08 Q. Okay. And would you have conditioned it  
09 for three hours prior to 2:15 in the morning, or  
10 would you have started conditioning at 2:15 in  
11 the morning?  
12 A. No, sir, 2:15 would have been the time I  
13 poured it. The three hours for conditioning,  
14 would have been accounted for before that.  
15 Q. Okay. But the results of that test, you  
16 don't -- that's not your handwriting, correct?  
17 A. No, sir. The "1.8" and "1.799" is not my  
18 handwriting.  
19 Q. Okay. What is this a repeat of? What  
20 stability test is this repeating, sir?  
21 A. This is a repeat of the foam stability

22 for 73909 Part 1. It was a few tabs back.  
23 Q. And you would agree that would have been,  
24 if you look under Tab 4, previously marked as  
25 Exhibit 984, Halliburton DOJ Bates ending in 035,  
00072:01 if you look at the back side, you're repeating  
02 that foam stability test, that was done  
03 April 13th of 2010, correct?  
04 A. You said 035?  
05 Q. Yes.  
06 A. Yes, I'm re -- I was repeating that test.  
07 Q. Okay. Now, that was conditioned 180  
08 degrees for 1.5 hours, correct?  
09 A. I don't know about the 180 degrees, but  
10 the 1.5 hours, yes, sir.  
11 Q. Well, then, how are you doing a repeat  
12 test if that test was done at condition for one  
13 and a half hours, yet you're conditioning for  
14 three hours?  
15 A. That's up to the Engineers to decide  
16 that.  
17 Q. You would agree that's not a repeat, sir?  
18 MR. BOWMAN: Objection, form.  
19 A. If that's how he told us to repeat it,  
20 that's what we -- how we would have repeated it.  
21 Q. (By Mr. Petosa) Okay. But would you  
22 agree that a repeat should have been done with  
23 the same conditioning time?  
24 MR. BOWMAN: Objection, form.  
25 A. It's repeated, so he can change it if he  
00073:01 wanted to.  
02 Q. (By Mr. Petosa) Okay. So that's  
03 information you received from the Engineer?  
04 A. Yes, sir.  
05 Q. Jesse Gagliano?  
06 A. Yes, sir.  
07 Q. Did you refer back to the prior test to  
08 ensure that you were repeating the exact same  
09 test?  
10 A. It's the same blend composition, so it is  
11 the same test.  
12 Q. Okay. Different conditioning time,  
13 though, correct?  
14 A. Looks to be.  
15 Q. Okay. And what impact can that  
16 additional hour and a half of conditioning of the  
17 slurry have?  
18 MR. BOWMAN: Objection, form.  
19 A. Not really sure.  
20 Q. (By Mr. Petosa) Okay. You also notice on  
21 the front page of Tab 7, this April 17th test,  
22 "Fresh Water" is scratched out, and it says:  
23 "Rig Water." Correct?  
24 A. Yes, sir.  
25 Q. Was fresh water or rig water used on the  
00074:01 prior test that was completed on April 13th of

02 2010, located at Tab 4?  
03 A. The original 73909 Part 1?  
04 Q. Yep. Previously marked as Exhibit 984.  
05 A. It says "Fresh Water," but if you look in  
06 the Source blank, it says "TRANSOCEAN," and it  
07 has a "Date" and a "Sample Id" --  
08 Q. Okay.  
09 A. -- which tells me that it was rig water.  
10 Q. Then why is it crossed out over here on  
11 the April 17th Weigh-Up Sheet marked as  
12 Exhibit 4566 and written in "Rig Water"?  
13 A. Because when the sheet was printed out in  
14 Viking, it was -- still said it was fresh water,  
15 even though we knew to use rig water. So it was  
16 scratched out, and "Rig Water" was wrote in, and  
17 that way we would make sure we used it when we  
18 weighted the job up.  
19 Q. Okay. So for Slurry 1, 73909, the foam  
20 stability test that was completed on April 13th  
21 of 2010, and the foam stability test that you  
22 began on April 17 of -- actually began the test  
23 on April 18th of 2010, both used rig water?  
24 A. Yes, sir.  
25 Q. Okay. You would agree that that slurry  
00075:01 had those same three ingredients in it we've  
02 talked about that had the ability or potential to  
03 destabilize the foam: D-AIR 3000, SA-541, and  
04 the retarder SCR-100L, correct?  
05 MR. BOWMAN: Objection, form.  
06 A. D-AIR 3000 and the 100L, yes, sir. But  
07 the 541, I'm not sure about.  
08 Q. (By Mr. Petosa) You would agree that you  
09 should have communicated with Jesse about whether  
10 or not for that repeat foam stability test, he  
11 wanted you to put a defoamer in the foam,  
12 correct?  
13 MR. BOWMAN: Objection, form.  
14 A. Yes, sir.  
15 Q. (By Mr. Petosa) But the fact that it's  
16 not written on this sheet means you did not  
17 communicate to Jesse before you began this test  
18 as to whether or not he wanted defoamer in the  
19 slurry?  
20 MR. BOWMAN: Objection, form.  
21 A. Yes, sir.  
22 Q. (By Mr. Petosa) Okay. How long did it  
23 take for this test to complete, do you know?  
24 A. No, sir.  
25 Q. What is the normal time it takes normally  
00076:01 for a foam stability test to occur? What have  
02 you learned in your training and experience in  
03 the lab?  
04 A. Normally, it would be 24 hours, but if  
05 you look at the Crush Compressive Strength block,  
06 for the first 20 -- actually, it doesn't have

07 strength until 48 hours, so it probably would  
08 have been extended after 24 hours. We pour a  
09 sample off a solid when we do the foam stability,  
10 and we check it for hardness to ensure that we  
11 don't open the foam stability if it's not  
12 hardened.

13 Q. Okay. So under the crush compressive  
14 strength, you would agree, sir, that after this  
15 cement was given the opportunity to dry and cure  
16 for 24 hours there was no strengthening, correct?

17 A. According to this paperwork, yes, sir.

18 Q. And it did not apparently get to a level  
19 of compressive strength that's noted here, 1590,  
20 until 48 hours, correct?

21 A. According to this sheet, yes, sir.

22 Q. Okay. Is there anything else that you  
23 can tell me by way of looking at that sheet as to  
24 when exactly this test was completed?

25 A. The crush compressive or the foam  
00077:01 stability?

02 Q. The foam stability. I'm sorry, sir.

03 A. That's no indication of when it was  
04 finished, on the sheet.

05 Q. Okay. I'd like to refer you, sir, if --  
06 if we can, to Tab No. 33, previously marked as  
07 Exhibit 803. Figure 4.1 -- .4.4, "Halliburton  
08 evidence of test times."

09 This is a section of the Chief Counsel's  
10 Report. In the middle, that box, is this  
11 something you've seen before?

12 A. This whole sheet?

13 Q. No. Just this box, this -- this  
14 information that as worded to be from the Viking  
15 system, is that something that you normally have  
16 access to at the lab?

17 A. No, sir, I've never seen anything like  
18 this.

Page 78:07 to 85:09

00078:07 Q. (By Mr. Petosa) It says for April 19th of  
08 2010, appears to be a 4:14, almost 4:15 that  
09 afternoon. You go to the right, it says to Jesse  
10 Gagliano at Halliburton. That's the Engineer you  
11 were communicating with, correct?

12 A. Yes, sir.

13 Q. Or at least doing the repeat test for on  
14 that prior date we talked about, correct?

15 A. Yeah, he would be the Engineer for the  
16 job. So he would be the one to communicate any  
17 questions or results with.

18 Q. Okay. It says status at the end,  
19 finished in lab. I want to ask you about that,  
20 sir.

21 What -- how is it that you're able to



22 determine whether or not a test is finished? I  
23 mean, what -- how do you communicate that to the  
24 Engineer?

25 A. Finished in lab is a tab that we choose  
00079:01 after we post the results in Viking, and it meets  
02 the requirements that he's put on the paper or  
03 passes the lab standards, we would finish in lab.  
04 It's finished in lab, but he still would have to  
05 go back and double-check everything and, you  
06 know, make sure it's -- just because it passes in  
07 the lab doesn't mean it passes what he needs,  
08 so --

09 Q. Okay. And just because it's posted in  
10 Viking doesn't mean when it's posted in Viking  
11 that that's the time that the Engineer actually  
12 reviews the results, correct?

13 A. Now, that, I have no idea.

14 Q. Do you know of any way you could  
15 determine when it was that Mr. Gagliano would  
16 have reviewed those results to determine if it  
17 met the requirements that he wanted for the test?

18 A. I have no knowledge of that.

19 Q. I'd like to go back to Tab 7, sir, the  
20 second -- Page 2 of 2 of Exhibit 4566, this April  
21 17th, 2010 foam stability test.

22 You can't tell me if that indicates if  
23 it's stable in comparison to the target density  
24 for the foam slurry because you would have to do  
25 the calculation, correct?

00080:01 A. Yes, sir.

02 Q. Okay.

03 A. But it is stable.

04 Q. On the top to bottom?

05 A. Yes, sir.

06 Q. But you can't tell me if it's stable in  
07 comparison to the target density, right?

08 A. I'd have to see the specific -- I'm  
09 sorry. I'd have to see the pounds per gallon. I  
10 have to convert it.

11 Q. I'd like to refer you to the next tab,  
12 sir, Tab 8. Its an exhibit that's previously  
13 been marked as Exhibit 3775. It's a combination  
14 of the Cement Lab Weigh-Up Sheet for April 13th  
15 and the Cement Lab Weigh-Up Sheet we were just  
16 talking about for April 17th of 2010. There's  
17 some information in between I want to just go  
18 through with you, begins with Halliburton DOJ  
19 Bates 035.

20 You would agree, if you look at the --  
21 now the April 13th, 2010 selent -- Cement Lab  
22 Weigh-Up Sheet, this is a Slurry 1 of 73909, and  
23 that's the repeat foam stability test you would  
24 have done, if you go to the backside of that  
25 slurry when you began to test on April 18th of  
00081:01 2010, correct?

02 A. The first sheet in the tab?  
03 Q. That's the April 13th we've talked about.  
04 A. Okay.  
05 Q. And that's the slurry that you would have  
06 done the repeat foam stability test on. If you  
07 go to the last -- all the way to the back of that  
08 tab, go all the way to the back.  
09 A. Okay. Yeah, the part -- Part 1 would  
10 have been the slurry I repeated.  
11 Q. Okay. I'd like to ask you to look at the  
12 back of three -- doc three -- Exhibit 3775, that  
13 second page of that April 13th Weigh-Up Sheet.  
14 Is that any of your handwriting at the bottom  
15 there? Go -- go all the way back to the front,  
16 sir.  
17 A. Oh. I'm a little confused in all this.  
18 Q. On the next page, is that any of your  
19 handwriting at the bottom?  
20 A. (Reviewing document.)  
21 No, sir.  
22 Q. Okay. Now, I'd like to just go through  
23 this. Can you tell me, sir, if you turn another  
24 page. Turn your page again. You're going to  
25 have to slide the binder sideways.  
00082:01 What -- what is this document, Bates  
02 Halliburton DOJ 240? Do you know what that is?  
03 A. H'm, let's see. (Reviewing document.)  
04 Looks to be a thickening time chart.  
05 Q. And it looks like it's for the same  
06 project and slurry that we're talking about,  
07 correct?  
08 A. Same 73909.1, yes, sir.  
09 Q. Okay. If you turn another page, is that  
10 the compressive strength for that same slurry?  
11 A. Yes, sir.  
12 Q. Okay. Are these documents you normally  
13 see in the lab that you have access to?  
14 A. Yes, sir.  
15 Q. Okay. And is this information that the  
16 Engineer has access to also?  
17 A. Definitely. Yes, sir.  
18 Q. Okay. Do you know if -- if this is the  
19 compressive strength that's on for the April 13th  
20 test or for the test you did?  
21 A. The foam stability?  
22 Q. I'm talking about this document we're  
23 looking at for the compressive strength. It  
24 looks like test started April 14th, and test  
25 stopped April 16th. So, I guess, that would be  
00083:01 referencing the April 13th test we've discussed  
02 on the Weigh-Up Sheet?  
03 A. It's 73909.1. So it's this -- the first  
04 sheet right here.  
05 Q. Okay. Well, because we had previously  
06 talked about the compressive strength. And you

07 would agree in looking at this that was where you  
08 said at 24 hours there was no strength, right?  
09 A. Well, that's the compressive strength --  
10 that's the crush compressive strength. That  
11 chart is actually an UCA chart.  
12 Q. Okay.  
13 A. So --  
14 Q. What's this?  
15 A. UCA is an Ultrasonic Cement Analyzer, and  
16 it uses sonic strength to -- to calculate the  
17 compressive strength of the --  
18 Q. Okay. But on the chart that is  
19 Halliburton DOJ Bates ending in 241, it says  
20 "Compressive strength type B"?  
21 A. M-h'm.  
22 Q. What is that for? For the crush  
23 compressive strength or for the UCA?  
24 A. For the UCA. The crush compressives do  
25 not make a chart. We actually have to manually  
00084:01 crush those.  
02 Q. Okay. Let's turn to the next page, sir.  
03 What's that -- one more. What's that document,  
04 which is Halliburton DOJ Bates ending in 037?  
05 A. This is -- when we're weighing up a  
06 slurry, there's no way to -- this is the -- I'm  
07 sorry. This is the screen that shows up on the  
08 computer. You scan the bar code, it pops up the  
09 project, and you continue weighing from there.  
10 We can't actually print the sheet to  
11 double-check it before we run the test. So we  
12 make like a -- a print screen, and we print it  
13 out so that the person that starts the job can  
14 double-check the weigh-up so that we can ensure  
15 that it has been weighed up properly.  
16 Q. Okay. And you would agree that this --  
17 this document, Bates ending in 037, the next  
18 document, Bates ending in 03, those are all  
19 referencing the tests that was begun on April  
20 12th of 2010, which was the foam stability test  
21 you repeated when you started the test on April  
22 18th of 2010, correct?  
23 A. It -- it says right here that this one's  
24 for the thickening time.  
25 Q. M-h'm.  
00085:01 A. And this one's for the RPMs and UCA.  
02 Q. But these are all referencing the  
03 prior --  
04 A. Yes.  
05 Q. -- tests that you weren't involved in?  
06 A. Yes, sir.  
07 Q. That was the one that is in that April  
08 13, 2010 Weigh-Up Sheet, correct?  
09 A. Yes, sir, the 73909 Part 1.

00085:22 Q. Okay. What -- what, if any, practices  
23 and procedures have changed in the Halliburton  
24 lab since the April 20th, 2010 blowout at  
25 Macondo?

00086:01 A. Procedures for the entire lab or testing  
02 that was done?

03 Q. Testing of cement, what procedures have  
04 changed for the testing of cement?

05 A. Procedures change quite often. So, I  
06 mean, I know they have changed, but I can't tell  
07 you exactly what has changed.

08 Q. Was there any additional training or  
09 education that was provided by Halliburton to you  
10 or the other Lab Techs after the April 20th, 2010  
11 blowout on cement testing and communicating with  
12 the Engineer?

13 A. Not that I can recall.

Page 90:24 to 92:22

00090:24 Q. Referring to the first sheet, 035, under  
25 "Materials," the last entry refers to "Fresh  
00091:01 Water." And I believe you testified about that  
02 earlier, did you not?

03 A. Yes, sir.

04 Q. And who inputs the description "Fresh  
05 Water" on these Lab Weigh-Up Sheets such as 035?

06 A. It would be the Engineer that sends the  
07 job.

08 Q. And would that be Mr. Gagliano?

09 A. As far as I can tell from this sheet,  
10 yes, sir.

11 Q. Okay. And you previously testified  
12 because the "Source" is listed as "TRANSOCEAN,"  
13 that that means to you that it was not fresh  
14 water, but it was water furnished by Transocean;  
15 is that correct?

16 A. Yes, sir.

17 Q. And do you know whether that means it's  
18 rig water or some other type of water?

19 A. Because the "Source" says "TRANSOCEAN,"  
20 and I know it's a sample logged in in Viking, if  
21 you see "Sample Id," it's rig water. I can't  
22 tell the chlorides from here, but it is rig water  
23 that was used.

24 Q. Is that essentially an assumption you're  
25 making because it came from Transocean, or do you  
00092:01 have some other basis for making that  
02 determination?

03 A. Well, if it would be fresh water, they  
04 wouldn't have Transocean as a source, and it  
05 would not have a -- it would have a Sample ID  
06 number, but it would not have Transocean as a  
07 source.

08 Q. Okay. Thank you. On Page 036, at the  
09 very top, there are handwritten notations that  
10 you've testified about previously, but I'm going  
11 to ask you again so I'm clear. Under the "Foam  
12 Mix and Stability" it says: "180 pump 1.5"  
13 hours, and what does that mean?

14 A. The 180, I'm not sure. But the pump 1.5  
15 hours means that the foam stability would have  
16 been conditioned an hour and a half.

17 Q. Okay. And to be clear, when you say  
18 "conditioned," what does that mean?

19 A. That means that the cement was circulated  
20 at circulating temperature beforehand -- before  
21 it was foamed and the -- the foam stability  
22 started.

Page 92:24 to 94:05

00092:24 Q. (By Mr. Young) Okay. Referring to  
25 Page 045, which should be the third in Exhibit

00093:01 984, it says at the top "Cement Lab Weigh-Up  
02 Sheet," April 15th, 2010." Is that correct?

03 A. Yes, sir.

04 Q. Directing your attention to Page 046,  
05 would you please take a look at that sheet and  
06 tell me whether or not you recognize any of the  
07 handwritten portion of that as something that you  
08 wrote?

09 A. The "Repeat as per Jesse" looks to be my  
10 handwriting.

11 Q. Okay. The rest of the notations before  
12 that on that line, are any of those your  
13 handwriting?

14 A. As far as I know, no, sir.

15 Q. Okay. Directing your attention to  
16 Page 049 of Exhibit 984, which is titled "Cement  
17 Lab Weigh-Up Sheet," April 16th, "2010," again,  
18 anything on Page 049, did you input any of the  
19 information on that page?

20 A. On 049, I don't see my initials.

21 Q. Page 050, under "Foam Mix and Stability,"  
22 there's some handwritten notations. Are any of  
23 those yours?

24 A. (Reviewing document.) No, sir.

25 Q. Okay. Directing your attention to Page  
00094:01 042 of Exhibit 984, Lab -- "Cement Lab Weigh-Up  
02 Sheet," April 17th, "2010," with regard to Page  
03 042, any of the handwriting -- handwritten  
04 notations in your handwriting?

05 A. (Reviewing document.) No, sir.

Page 94:11 to 104:25

00094:11 Q. Okay. And then directing your attention

12 to 043, the second page of April 17th, under  
13 "Foam Mix and Stability" Report -- "(Repeat...),"  
14 there is a handwritten notation on that line, and  
15 is that your handwriting?  
16 A. The "Pour @ 180..."?  
17 Q. Yes, sir.  
18 A. No, sir, that is not mine.  
19 Q. All right. Directing your attention to  
20 the -- the second line, with the handwritten  
21 notations, are any of those yours?  
22 A. The "8" seconds in the "Time to Foam"  
23 box, and "3" hours in the "Conditioning time" box  
24 is my handwriting.  
25 Q. The -- the numbers under the "SG top" and  
00095:01 "SG" bottom, did you write those?  
02 A. No, sir.  
03 Q. Do you know who did?  
04 A. No, sir.  
05 Q. Okay. And under "Foam Mix and Stability"  
06 the handwritten notations following that, I  
07 believe you've testified concerning that, are any  
08 of those yours?  
09 A. Yeah. The "2:15" a.m., "4/18" 2010,  
10 "Heat #1," and behind it is my initials "BR."  
11 Q. And did you perform either of -- any of  
12 the tests done on Page 043?  
13 A. I performed the foam mix and stability  
14 repeat.  
15 Q. Can you explain exactly how you perform  
16 that test in lay person's terms?  
17 A. Okay. Basically, the cement for the  
18 foaming would be -- have -- would have been  
19 weighed up already, waiting for the test to be  
20 performed. I would have taken the cement off the  
21 counter, checked off the Weigh-Up Sheet to make  
22 sure the items would have been the correct  
23 amounts. I would have mixed up the slurry. In  
24 this case they wanted to condition it for three  
25 hours, so I would have poured all of the cement  
00096:01 into two separate cups to condition on the  
02 atmospheric consistometer, at pressure -- I'm  
03 sorry, at temperature, so -- then after the three  
04 hours of conditioning, I would have put the  
05 slurry in the foaming blender, foamed it to the  
06 specified target density, and by this sheet it  
07 says it took me eight seconds to foam it, and  
08 then I would have poured the foam stability in a  
09 heat bath at 180 degrees Fahrenheit, and it would  
10 have sat there for at least 24 hours.  
11 And also when I poured the foam  
12 stability, I would have poured a separate sample  
13 off to the side of it in the heat bath to make  
14 sure that the foam stability was hard before we  
15 checked -- before we opened the cylinder, so in  
16 this case it looks like it was not hard for 48

17 hours.  
18 Q. When you said -- going back to what you  
19 just told me, you said -- used the word "at  
20 temperature." What does that mean?  
21 A. At the temperature on this sheet, which  
22 it says "Pour @ 1800" Fahrenheit," so that's what  
23 it was specified to be poured at. That's the --  
24 Q. Had -- excuse me, go ahead.  
25 A. That's the maximum temperature for the  
00097:01 heat baths, so --  
02 Q. How do you bring the cement up to that  
03 temperature?  
04 A. The heat bath has a controller on it that  
05 it's -- you -- it's in Celsius. You set it --  
06 you convert the Fahrenheit to Celsius, and you  
07 set the controller, and it -- it automatically  
08 figures out how it needs to heat up, and heats  
09 up.  
10 Q. Can you describe to me the process the --  
11 the -- the mechanical process of heating it up,  
12 how that works?  
13 A. There's an element in the bottom of the  
14 heat bath. Basically, it's a small bath full of  
15 water. And the element heats the water up, and  
16 it's measured through a thermocouple to ensure it  
17 keeps it at the proper temperature.  
18 Q. When you pour it, then it has to -- you  
19 have to wait three hours, is that what you  
20 testified?  
21 A. Yeah. After I've mixed it up, I would  
22 have conditioned it on a separate machine for  
23 three hours. Then I would have -- that would  
24 have been before the foaming process.  
25 Q. Can you describe about what you mean by  
00098:01 "conditioning" it for three hours?  
02 A. Basically, it's a -- a cup for that --  
03 that piece of equipment, it's about 12 inches  
04 tall, I guess, about two inches around, and  
05 there's a paddle inside with a top. And you drop  
06 it in the atmospheric consistometer -- I'm sorry,  
07 not "drop," you place it in the atmospheric  
08 consistometer. And the atmospheric consistometer  
09 is filled with oil, and it heats up to the  
10 specified temperature you input. And it spins it  
11 at 150 RPMs, and that -- it would be for three  
12 hour -- you would set a timer for three hours to  
13 condition it for. So -- and the heat and the  
14 as the -- I'm sorry. As the slurry is  
15 conditioning, it's being spun, so --  
16 Q. What type of oil is in that?  
17 A. Mineral oil. But it has no contact with  
18 the slurry. It's just the outside of the cup.  
19 Q. And during those three hours, do you have  
20 other duties to perform?  
21 A. Yes, sir. You have to continue with

22 other testing.

23 Q. And then you -- describe, if you can, the  
24 procedure for foaming the mixture.

25 A. Foaming, you would -- it's a special  
00099:01 blender that's used for foaming. You would take  
02 that blender, you would put it on a balance  
03 scale, you would zero it out. And on the Viking  
04 sheet, there is a set of numbers. One tells your  
05 base slurry weight, without the ZoneSealant, and  
06 the other is the base slurry total weight, which  
07 is -- it's under the -- there's a foaming details  
08 block. And basically, that tells you how much  
09 cement -- how many grams of cement plus the  
10 ZoneSealant you need to foam the slurry.

11 So you would then to -- put the foaming  
12 blender on a -- a blender base, and you would  
13 foam it to the specified weight. If it's too  
14 light, you throw it away and do it again. If  
15 it's too heavy, you could foam it a little bit  
16 more.

17 Q. What portion of the slurry do you use in  
18 the foaming?

19 A. The whole slurry.

20 Q. Okay. And after you've reached the -- it  
21 took eight seconds, is that what you notate --  
22 note?

23 A. Yes, sir.

24 Q. Okay. And then what do you do with it  
25 then?

00100:01 A. You -- we already have premade foam  
02 stability tubes.

03 Q. Okay.

04 A. PVC pipe, I think they're about eight  
05 inches tall. So after you would foam it, you  
06 would check the density. You would --

07 Q. How do you check the density on it?

08 A. You would put a -- we have some gray  
09 cylinders, they're -- the volume is 206  
10 milliliters, so we zero that out on a scale. We  
11 fill it up to the top, and that gives you your  
12 grams of -- your total grams of cement. You  
13 divide that by 206, which is the volume of that  
14 container, and that gives you a specific gravity.

15 Q. When you say "zero it out on the scale,"  
16 what does that mean?

17 A. Well, when you put the -- once you put  
18 the gray cylinder on the scale, you don't want it  
19 to read any weight, so you -- you tell the scale  
20 to zero it, so that with the foam cylinder, it  
21 reads zero. So you're just recording the weight  
22 of the cement.

23 Q. And what becomes of those cylinders after  
24 you do that?

25 A. That's one of the samples that we pour,  
00101:01 in conjunction with the foam stability, to ensure



02 that before we open the foam stability, we have  
03 to check that sample and make sure it's hard. So  
04 that we don't open the foam stability and ruin  
05 the test, because it would not be hard.  
06 Q. Okay. How often do you check that  
07 sample?  
08 A. In 12-hour intervals until the sample is  
09 sufficient and hard enough to repeat.  
10 Q. Now, would you have checked it in the  
11 first 12-hour interval?  
12 A. No, because I poured it at 2:15 a.m. in  
13 the morning. So the 12-hour interval would be  
14 2:15 in the afternoon. I would not have been at  
15 work. I would have left at 6:00 that morning.  
16 Q. Do you know who would have checked it  
17 at -- at the 12-hour interval?  
18 A. No, sir.  
19 Q. Did you check it at any subsequent  
20 intervals?  
21 A. Not that is recorded on this sheet.  
22 Q. Okay. Do you have any recollection of  
23 this specific test?  
24 A. No, sir.  
25 Q. Okay. Now, you've done this type of foam  
00102:01 mix and stability test more than once; is that  
02 correct?  
03 A. Yes, sir.  
04 Q. And how many times, approximately, if you  
05 can estimate?  
06 A. I'm not really sure. Do you want a  
07 ballpark figure?  
08 Q. Yes, please.  
09 A. About 50, 60 times.  
10 Q. Okay. Do you use a written protocol when  
11 you're performing this test that's in front of  
12 you that you refer to?  
13 A. We can, if there's any question or if  
14 there's been a while since we've done it. You  
15 know, we like to refresh our memory, and check  
16 different Manuals, so API, Global Best Practices,  
17 so --  
18 Q. Do you recall if you had occasion to  
19 refer to any type of written protocol when you're  
20 performing this test?  
21 A. I don't recall this test at all, so --  
22 Q. Okay. Just what you see from your  
23 handwritten notes?  
24 A. M-h'm, yes, sir.  
25 Q. What does the cement look like when  
00103:01 you're looking at the sample to check at -- at  
02 the 12-hour interval or the 24-hour interval?  
03 A. To check the sample and make sure the  
04 foam stability is hard?  
05 Q. Yes.  
06 A. Usually pick it up, and we try to -- you

07 know, you can take the top off of it and squeeze  
08 it with your hand. If it's -- if it's hard, it  
09 won't give, so -- it looks gray, like any other  
10 cement.

11 Q. I believe you testified to this  
12 previously, but I want to make sure I understood  
13 properly what you said. Up on the second lan --  
14 line of handwritten notations on 043, the last  
15 page, the conditioning time is three hours. And  
16 how did you come to write the three hours in, or  
17 perform it for three hours?

18 A. That would have been up to the Engineer  
19 to determine that. I would have just filled in  
20 that blank to say that I conditioned it, or to  
21 tell whoever ran the test, whether it was me or  
22 not, that it needs to be conditioned.

23 Q. Where do you get that information that  
24 the Engineer wanted it conditioned for three  
25 hours?

00104:01 A. He would have -- it would have been  
02 written on the sheet before, he would call and  
03 tell us, or he would submit it in Viking. So in  
04 this case, it's not on the Viking sheet, so it  
05 was a -- he would have had to call and -- and say  
06 that.

07 Q. Would he have talked to you or to someone  
08 else?

09 A. He could have talked to a number of  
10 people.

11 Q. And they would have re -- if it was  
12 somebody besides you, that person would have  
13 relayed it to you?

14 A. They could have relayed it to me, they  
15 could have wrote it themselves, so --

16 Q. Is there anywhere in this ex -- the --  
17 this Exhibit 984, that there is a written  
18 indication it should be a -- three hours as  
19 opposed to one and a half hours or any other time  
20 period?

21 A. Besides the box, the Conditioning time  
22 box, there's -- I don't see any  
23 indication that -- why it would have been changed  
24 from that first -- from the previous run, I'm  
25 sorry.

Page 106:16 to 107:18

00106:16 Q. Okay. Who or what determines what tests  
17 you have to run on a cement slurry?

18 A. The Engineers. When the Engineer submits  
19 the job, he has a -- picks and chooses what tests  
20 he wants done, and so ultimately, it would be the  
21 Engineer that makes that decision.

22 Q. And so the Engineer would call you or  
23 E-mail you or put it into Viking that you then

24 would have to run Tests 1, 2, 3, and 4 on a  
 25 certain slurry; is that right?  
 00107:01 A. Yeah. Well, he just submits the job with  
 02 those tests. He doesn't actually choose who  
 03 would run it. Basically, who -- whoever is  
 04 working at the time would be the person that  
 05 would run his test.  
 06 Q. Oh, I understand that.  
 07 A. Yeah.  
 08 Q. But -- but as to the types of tests that  
 09 are run, that would be determined by the  
 10 Engineer?  
 11 A. Yes, sir.  
 12 Q. Okay. Do the types of tests vary from  
 13 customer to customer in your experience?  
 14 A. Yes, sir, they do.  
 15 Q. They do?  
 16 A. (Nodding.)  
 17 Q. Do you know why?  
 18 A. No, sir.

Page 107:23 to 111:20

00107:23 Q. Okay. Do you have, in your lab, Manuals  
 24 from BP regarding cement testing procedures?  
 25 A. That, I'm not sure of.  
 00108:01 Q. Okay. I'm going to show you a document,  
 02 it's No. 17 on the CD, previously marked as  
 03 Exhibit 790. I'll ask you to take a look at it  
 04 and tell me if you've ever seen it before.  
 05 A. (Reviewing document.)  
 06 Q. Just by way of reference, it's -- it's  
 07 entitled "Gulf of Mexico SPU Recommended Practice  
 08 for Cement Design and Operations in DW GoM."  
 09 A. (Reviewing document.) I don't recall  
 10 seeing this before.  
 11 Q. Okay. In particular, I'm interested in  
 12 Bates number ending in 0844. Actually there are  
 13 two sets of Bates numbers, so look at the bottom  
 14 set.  
 15 A. The second page?  
 16 Q. No. It's 0844.  
 17 A. Okay.  
 18 Q. No, they all have 844. Okay. Look at  
 19 the top set, 0869.  
 20 A. (Complying.)  
 21 Q. And do you see Section 6.4.4, "Samples of  
 22 Cement, Additives and Water"?  
 23 A. Yes, sir.  
 24 Q. All right. And it reads: "Prior to  
 25 initiating the final testing stage for the given  
 00109:01 project, samples of the cement, additives and  
 02 mixing water to be used in the cementing job or  
 03 jobs shall be collected at the rig site and sent  
 04 to the lab that will be performing the tests.

05 Sufficient time and logistics should be used to  
06 allow the slurry testing to be conducted and test  
07 results reviewed by operations team prior to  
08 carrying out job at rig site."

09 Did I read that correctly?

10 A. Yes, sir.

11 Q. Okay. Is it your understanding that with  
12 BP jobs, or with any job, that you run the tests  
13 on, that all samples must come from the rig to be  
14 tested?

15 A. Yes, sir. If it's a -- if it's rig  
16 samples they want to test with, then, yeah, we  
17 will use rig samples.

18 Q. Okay. And what's the purpose behind  
19 that?

20 A. Because that's the cement that they're  
21 actually going to be doing the job with, so we do  
22 a first testing stage called a "pilot" that we'll  
23 test with lab stock, and once they get, you know,  
24 the numbers they want, then they do a blend  
25 testing stage, and that comes -- you know,  
00110:01 they're cement and water come from the rig, so  
02 then we do a testing stage with the rig stock.

03 Q. Okay. And the purpose of testing with  
04 the rig stock is to make sure that what your  
05 testing in the lab is precisely what they're  
06 going to use out on the rig, correct?

07 A. Yes, sir.

08 Q. And it's also important that each and  
09 every component of that blend be sent to your lab  
10 to be tested, because if you leave one out, it  
11 might have an adverse effect on what they're  
12 putting downhole; is that right?

13 MR. BOWMAN: Objection, form.

14 A. Yes, sir. Whatever is on -- whatever the  
15 blend composition is, is going to be in that  
16 blend.

17 Q. (By Mr. Dart) And does that include all  
18 additives, say, if there's a liquid additive into  
19 the blend on the rig that's going downhole, you  
20 would need that in the lab in order to test what  
21 is going downhole?

22 A. Well, it's only powder and cem -- powder  
23 additives and cement that goes into the blend.  
24 The water is liquid.

25 And the additives, now, some of the  
00111:01 liquid additives, we would get either separate  
02 samples of rig liquid additives or we would just  
03 use liquid additives that we have in the lab of  
04 this coordinating lot number that they have on  
05 the rig.

06 Q. Okay. Well, the SCR-100L is liquid,  
07 right?

08 A. Yes, sir.

09 Q. The "L" stands for liquid?

10 A. Yes, sir.  
11 Q. Okay. So the -- with the particular  
12 samples that we were discussing this morning, you  
13 were using a liquid additive SCR-100L?  
14 A. Yes, sir.  
15 Q. And that -- did I understand you  
16 correctly to say that the SCR-100L did not come  
17 from the rig in the tests that you ran for the  
18 Macondo job?  
19 A. Well, I -- I'd have to look at the sheet  
20 again. I don't know.

Page 112:08 to 115:16

00112:08 Q. (By Mr. Dart) And I believe that exhibit  
09 includes the April 13th Weigh-Up Sheet, as well  
10 as the April 15th Weigh-Up Sheet, the April 16th  
11 Weigh-Up Sheet, and the April 17th Weigh-Up  
12 Sheet; is that correct?  
13 A. (Reviewing document.) Yes, sir.  
14 Q. Okay. Now, can you tell from any of  
15 these documents, these Weigh-up Sheets, whether  
16 the ZoneSealant 2000 or the SCR-100L came from  
17 the lab or from the rig?  
18 A. On Page 049 --  
19 Q. Okay.  
20 A. -- the ZoneSealant and the 100L is a lab  
21 stock --  
22 Q. Okay.  
23 A. -- coordinating with the lot numbers that  
24 the Engineer submits. Like, if you see in the  
25 Lot No. blank, it says "6264," that's the lot  
00113:01 number that the rig has, so that would be the lot  
02 number we would use in the lab. Because every --  
03 well, retarders have multiple lot numbers, so  
04 whatever lot number he would tell us to use  
05 because they have on the rig, that's the one we  
06 would use.  
07 Q. Okay. And how do you confirm that the  
08 lot number that's on the rig is the one that you  
09 use in your lab test? Is that just from what the  
10 Engineer tells you?  
11 A. Yeah.  
12 Q. Okay. And how does he tell you that?  
13 What -- how do you get that information?  
14 A. When you when he submits the job, usually  
15 it's in "Comments." You can see right here, it  
16 says: "Use SCR-100L LOT#6264." That's on 036 in  
17 the "Request/Project Comments" Sect -- Section.  
18 Q. Okay. Okay. Does -- do these retarders,  
19 the ZoneSealant 2000 or the SCR-100L, do either  
20 of those have a shelf life?  
21 A. Yes, sir, they do.  
22 Q. And what -- what are the shelf lives of  
23 Zone -- ZoneSealant 2000, for example?

24 A. I don't know that information offhand.  
25 Q. Do you know the shelf life of SCR-100L?  
00114:01 A. No, sir.  
02 Q. Where is that listed, if at all, in your  
03 lab?  
04 A. We have a spreadsheet on our computer in  
05 the warehouse where we log samples in, and they  
06 have the -- the shelf lives on there. That  
07 information was pulled from another area by  
08 Richard and the chemist, so I don't -- I don't  
09 know where they got it from.  
10 Q. Okay. I'm going to show you Tab 1 on my  
11 CD. I think you've seen this before earlier this  
12 morning. It's been previously marked as  
13 Exhibit 3774. This is a Global Customer Report  
14 of lab results from April 12th, 2010.  
15 Do you recall seeing that this morning?  
16 A. H'm. Yes, sir.  
17 Q. Okay. And if you look at the cement  
18 information, the second- and third-to-last items  
19 are ZoneSealant 2000 and SCR-100L, and for the  
20 sample dates, the ZoneSealant 2000, it says March  
21 15th of 2009. Do you see that?  
22 A. Yes, sir.  
23 Q. So is that the -- what does that sample  
24 date mean?  
25 A. That is the day that we actually received  
00115:01 and logged in the sample.  
02 Q. Okay. And for the SCR-100L, it has a  
03 sample date of October 22nd of 2009?  
04 A. Yes, sir.  
05 Q. All right. Do you know if at the time  
06 you ran these -- or -- or your lab ran these  
07 tests, on April 12th, whether or not the  
08 ZoneSealant 2000 or the SCR-100L was passed its  
09 shelf life?  
10 A. I do not know that.  
11 Q. Okay. Does someone check that before  
12 running a test?  
13 A. When we log in samples, we put labels of  
14 the shelf life. Whether or not -- I -- I really  
15 don't weigh up, so I -- I don't know if you would  
16 check that.

Page 116:08 to 119:19

00116:08 Q. Well, no, how does it get -- get onto  
09 this form? In other words, it says, you know,  
10 "Lafarge Class H" cement sample data April 5th,  
11 2010, where does that data come from to go into  
12 Viking?  
13 A. I'm not really sure.  
14 Q. Okay. So when -- when you do the test,  
15 you -- all this information is already in Viking?  
16 A. This sample date and lot number and --

17 that information is logged in in Viking when we  
18 get the sample in. But when we do the test,  
19 we -- the sheet -- the only sheet we need to do  
20 the testing is this sheet right here, this  
21 Weigh-Up Sheet, so we don't always see all the  
22 samples and stuff on there.

23 Q. Okay. I'm trying to figure out who  
24 actually logs in this information into Viking,  
25 when the sample comes in.

00117:01 A. When the sample comes in, a Lab Tech logs  
02 it in.

03 Q. Okay.

04 A. But on this sheet, this is what the --  
05 this is the sheet the Engineer would prepare to  
06 send to the customer. And we have no dealings  
07 with that.

08 Q. Okay. And do you see on this Exhibit  
09 3774, under "Operation Test Results Request"  
10 under "Thickening Time," it says: Needs "4 1/2"  
11 to "5 1/2" hours, "SCR-100L Lot...6264."

12 Do you see that?

13 A. Yes, sir.

14 Q. What does that information mean to you?

15 A. That means that with this slurry design,  
16 he would like to see four and a half to five and  
17 a half hours on his thickening time.

18 Q. M-h'm.

19 A. And that he wants to use SCR-100L Lot  
20 No. 6264.

21 Q. M-h'm.

22 A. So --

23 Q. Do you know if, in fact, this test was  
24 run for four and a half to five and a half hours  
25 for the thickening time?

00118:01 A. I didn't run that test, so I don't know.

02 Q. You don't know. Okay. Do you know what  
03 WellLife 734 is?

04 A. I've heard of it before. I don't know  
05 exactly what it is.

06 Q. Okay. If WellLife 734 was put into a  
07 cement job on the rig, would that be one of the  
08 additives that you would expect to have for your  
09 lab test when you're doing your cement testing?

10 MR. BOWMAN: Objection, form.

11 A. If it was a -- a blend test, it would  
12 already be in there beforehand. If it was a  
13 pilot, that we would put it in.

14 Q. (By Mr. Dart) What if it was a liquid?

15 A. 734 is not a liquid. It's a -- I -- I'm  
16 sorry. It's not a liquid. It's not a powder,  
17 but it's not a liquid either.

18 Q. Okay. Well, look at -- look at the --  
19 Exhibit 3774, we were just looking at. Do you  
20 see WellLife 734 anywhere on there?

21 A. On 3774?

22 Q. Correct.  
23 A. No, sir.  
24 Q. Do you see it on Exhibit 984, all of the  
25 Weigh-Up Sheets?  
00119:01 A. (Reviewing documents.) No, sir.  
02 Q. Okay. If WellLife 734 was going to be  
03 added into the cement blend on the rig for the  
04 job, would you have expected to see WellLife 734  
05 listed on any of these Weigh-Up Sheets or on the  
06 Customer Report or in Viking anywhere?  
07 MR. BOWMAN: Objection, form.  
08 A. If 734 -- I'm sorry, if WellLife 734 were  
09 to be in the slurry, it would be listed on here,  
10 on the Weigh-Up Sheet, as far as I know. On  
11 the -- on the Customer Report, I -- I have no  
12 idea.  
13 Q. (By Mr. Dart) Okay.  
14 A. The blend composition might be hidden if  
15 it's a trademarked slurry.  
16 Q. But if -- if you -- if WellLife 734 was  
17 to be used, you would expect to see it listed on  
18 your Weigh-Up Sheet, correct?  
19 A. Yes, sir.

Page 119:21 to 123:16

00119:21 Q. (By Mr. Dart) Okay. Do you recall an  
22 internal audit of your lab being performed in  
23 January of 2010, I believe?  
24 A. Yes, sir, I recall the audit, but not  
25 exactly when.  
00120:01 Q. Okay. Did you participate in it?  
02 A. Yes, sir. The whole lab did.  
03 Q. Okay. How was the audit conducted?  
04 A. It was conducted by two Halliburton  
05 employees. I'm not sure of their names. They  
06 basically come in and they make sure all of our  
07 Manuals, and API, and Global Best Practices is up  
08 to date. We have printed-out versions, and they  
09 do -- like they'll watch, you know, so-and-so put  
10 a test on, make sure he's following procedure,  
11 and doing it in the allotted amount of time, and  
12 stuff like that.  
13 Q. Okay. I'm going to show you a document  
14 that was previously marked as Exhibit 3769, it's  
15 Tab 5. (Tendering.)  
16 MR. BOWMAN: Thank you.  
17 Q. (By Mr. Dart) And the cover page is -- is  
18 just a cover page, but if you flip over to the  
19 inside of the first page, it says: "2010  
20 Cementing Reliability Audit." And if you look at  
21 the "Audit Start Date," it says, "20" January  
22 "10, Audit Closeout Date 5" February "10."  
23 Do you see that?  
24 A. Yes, sir.



25 Q. And that was an audit of your office, the  
00121:01 Broussard office lab?

02 A. Yes, sir, it was an audit of the  
03 Broussard Lab.

04 Q. Okay. I'd like you to go to -- well,  
05 these pages don't seem to be Bates numbered, but  
06 look at the fourth page, Item 3.05. Do you see  
07 that?

08 A. Yes, sir.

09 Q. And the question is: "Is there a  
10 documented procedure in place to ensure cement  
11 and additive samples are reflective of current  
12 Bulk Plant Inventory and regularly replenished?"

13 And if you look at the numbers in the  
14 columns, in the far right column of numbers are  
15 the perfect score, that's the best you can do,  
16 "24." And what the Broussard Lab score was, is  
17 the next column to the right, and it shows a "6"  
18 out of 24 was the score.

19 And the comment says: "Retarders are  
20 tracked - No procedure is in place to ensure that  
21 all lab cement and additive samples are  
22 reflective of current bulk plant or remote field  
23 storage location inventories. The Lab does  
24 maintain a cement and additive list for all items  
25 in their position, but can not be sure if they  
00122:01 are reflective of current items inventoried in  
02 the GoM. The lab has no way to validate whether  
03 chemical additive samples should be held in their  
04 inventory or disposed of."

05 Did I read that correctly?

06 A. Yes, sir.

07 Q. Does that indicate that there was a  
08 problem with documenting the source and quality  
09 of lab samples?

10 MR. BOWMAN: Objection, form.

11 A. Basically, right here, he's mentioned  
12 that we do track retarders, but there's other  
13 additives that -- that we use, liquid and powder,  
14 that have lot numbers, that in the past we would  
15 not keep track of.

16 Q. (By Mr. Dart) Okay. All right. And if  
17 you flip a couple of more pages, to No. 6.02, the  
18 top of the page. Do you see that?

19 A. Yes, sir.

20 Q. The question is: "Is there a documented  
21 process in place for the Lab to request Bulk  
22 Plant cement/spacer/additives?" And the lab  
23 score was "18" out of 24. And the comment says:  
24 "No documented process was observed or presented.  
25 Observation was made of email which requested"  
00123:01 restock "of cements, spacers, and additives."

02 What does that mean to you?

03 A. At the time of this audit, when we needed  
04 something from the bulk plant, no matter what it

05 was, we would just call the bulk plant, and if we  
 06 needed something from Fourchon, we'd call  
 07 Fourchon. So there was no -- there was no  
 08 written procedure of okay, if you need this, what  
 09 exactly do you do. And that's what they were  
 10 talking about. We had a process that everybody  
 11 knew, if you needed something you call, but it  
 12 wasn't written down, so we got docked for it.  
 13 Q. Okay. And then if you skip to the -- I  
 14 guess skip a few more pages to looks like a  
 15 summary of the -- of the audit, are you there?  
 16 A. Yes, sir.

Page 125:10 to 125:10

00125:10 should be Exhibit 984 on the top.

Page 126:02 to 136:04

00126:02 Q. (By Mr. Chen) So, Mr. Richard, how are  
 03 Lab Weigh-Up Sheets preserved in the laboratory?  
 04 A. After we finish the testing, it's saved  
 05 in a -- a folder for review by the chemists. And  
 06 after they review it, it's saved, and they -- in  
 07 a box in another room in the lab, we keep -- I'm  
 08 not sure how long they keep it for, but they do  
 09 keep all hard copies of all the papers.  
 10 Q. Okay. Is it stored electronically in any  
 11 form?  
 12 A. On Viking.  
 13 Q. Okay. So -- so the Lab Weigh-Up Sheet is  
 14 on Viking. So someone can access Viking remotely  
 15 and -- and look at it?  
 16 MR. BOWMAN: Objection, form.  
 17 MR. CHEN: Okay. I'll break it up.  
 18 Q. (By Mr. Chen) It's stored on Viking --  
 19 A. Yes, sir.  
 20 Q. -- electronically?  
 21 MR. BOWMAN: Objection, form.  
 22 Q. (By Mr. Chen) If you know, Mr. Richard.  
 23 A. These -- like a hard cop -- I mean -- I'm  
 24 sorry. Like a copy of the sheet?  
 25 Q. Yes.  
 00127:01 A. With the handwriting on it?  
 02 Q. Yes.  
 03 A. No, it's not stored on Viking.  
 04 Q. Okay.  
 05 A. As far as I know.  
 06 Q. Okay. So as far as you know, if -- if  
 07 there's comments on one of these, how are the  
 08 comments saved in Viking?  
 09 A. There is -- when you're posting it, each  
 10 test block has a section for comments. So it's  
 11 saved in that section.

12 Q. Okay. So --  
13 A. For each test.  
14 Q. Okay. I see.  
15 So if we look at -- and, I'm sorry, I'm  
16 going to ask you to turn -- turn back now.  
17 If we look at -- let's say the -- the  
18 page ending HAL\_DOJ\_000050. Are -- are you  
19 there, Mr. Richard?  
20 A. Yes, sir.  
21 Q. And so there's some notes there. For  
22 example, at the top test, "Cancel foam.  
23 Stability as per Jesse," is that something that  
24 someone should have typed in a note in the -- in  
25 the -- in the Viking system?

00128:01 MR. BOWMAN: Objection, form.  
02 A. Yes, sir, that would be typed in the  
03 comment section.  
04 Q. (By Mr. Chen) Okay. So if you have  
05 something that's canceled, it would be typed in,  
06 or if there's something -- let me ask it the  
07 other way around: Are there anytime when you  
08 have a note relating to the test that you would  
09 not put into the Viking system?  
10 A. You'll have to repeat that.  
11 Q. Okay. So if you are running a test --  
12 okay?  
13 A. (Nodding.)  
14 Q. Yes?  
15 A. Yes.  
16 Q. -- and you -- you have test results and  
17 you also have an observation relating to the  
18 test --  
19 A. Yes, sir.  
20 Q. -- is it your general practice to always  
21 put that observation? First, you write it on the  
22 lab worksheet?  
23 A. Yes.  
24 Q. And then do you also put that observation  
25 in the note section in Viking?

00129:01 A. Yes, sir, you would always post that in  
02 comment.  
03 Q. And is that what you're trained to do by  
04 the laboratory?  
05 A. Yes, sir.  
06 Q. And is there any written document that  
07 tells you that that's your procedure and that's  
08 what you should do?  
09 A. I don't know.  
10 Q. All right. Okay. So if you could turn  
11 back to that last page again, the -- ending in  
12 Bates range 43.  
13 So looking at that first test, I  
14 believe -- well, let me just ask you the  
15 question: The notation "Pour @ 180 F," is that  
16 your handwriting?

17 A. No, sir, it is not.  
18 Q. Oh. It is not?  
19 A. No.  
20 Q. Okay. Is the notation condition --  
21 "3HRS," under "Conditioning time" your  
22 handwriting?  
23 A. Yes, sir.  
24 Q. And is the notation 215A [sic] "4/18/10  
25 Heat #1," is that your handwriting?  
00130:01 A. Yes, sir.  
02 Q. Okay. So you wrote in the conditioning  
03 time for this test, correct?  
04 A. Yes, sir.  
05 Q. Do you recall where you got the  
06 information to write that conditioning time?  
07 A. No, sir.  
08 Q. Who could you have gotten that  
09 information from?  
10 A. It would have came from someone who  
11 talked to Jesse.  
12 Q. Okay. Do -- do you believe that you may  
13 have talked to Jesse also, or do -- are you  
14 pretty sure someone else talked to Jesse?  
15 A. I don't recall either way.  
16 Q. Okay. And then the notation "Pour @ 180  
17 F," who -- who would have written that in?  
18 A. I don't recognize the handwriting.  
19 Q. Would it have been like a Shift Manager,  
20 a Lab Manager who would have filled that in?  
21 A. Could have been anybody --  
22 Q. Oh.  
23 A. -- that was working.  
24 Q. Okay. So generally, when -- when you  
25 pick up one of these Lab Weigh-Up Sheets, it's  
00131:01 already -- it already has some handwriting on it?  
02 A. Yes, sir, when you print it out, you have  
03 to fill out some of the blanks.  
04 Q. M-h'm.  
05 A. As far as the temperature and pressure  
06 and just things -- basic things that you need  
07 during that job.  
08 Q. All right. So when you picked this up on  
09 the morning of April 18th, it already had "Pour @  
10 180," someone had written that in already?  
11 A. Yes, sir.  
12 Q. Do you recall who was the Shift Leader  
13 that night?  
14 A. Chad Broussard.  
15 Q. Okay. And do you recognize this as  
16 Chad's handwriting?  
17 A. I don't know who it is.  
18 Q. Okay. Other than the Shift Leader, who  
19 else may have, you know, in your experience write  
20 in -- would write in that -- that type of  
21 information?

22 A. If this job was printed out before we got  
23 to work, it could have been anybody that worked  
24 the day crew, Richard, any of the chemists,  
25 anybody on the day shift. It could have been  
00132:01 anybody on the night shift.

02 Q. Okay. And what is that -- so -- so that  
03 note "Pour @ 180 F" is to convey information to  
04 the person setting up the test, correct?

05 A. Yeah. The person about to perform the  
06 test. Also, if you see -- if you look to the  
07 left of it, Viking already has typed in at 180  
08 degrees Fahrenheit.

09 Q. Right.

10 A. So that's just kind of like a they wrote  
11 it to -- you know, so you could see it in bigger  
12 handwriting, that it needs to be poured at 180.  
13 But Viking also states it. So that's how the job  
14 was submitted, to be poured at 180.

15 Q. Okay. So -- but -- but it's a -- it's a  
16 note for the technician who's going to run the  
17 test?

18 A. Yes, sir.

19 Q. And in this case, that technician was  
20 you?

21 A. Yes, sir. I started the test.

22 Q. And so you were the person who did the  
23 conditioning?

24 A. I don't remember.

25 Q. You don't remember?

00133:01 A. I started -- I poured the foam stability,  
02 but it could have been conditioned by somebody  
03 else.

04 Q. Oh, okay. Okay. I must have -- I must  
05 have misunderstood, then.

06 So when you wrote in conditioning time  
07 three hours, that -- that was to notate how much  
08 conditioning time needed to be done, or was that  
09 to notate how much conditioning time had been  
10 done?

11 A. It could go either way.

12 Q. Okay. Do you recall why you wrote in  
13 three hours?

14 A. No, I do not.

15 Q. Okay. And so if it says pour at 180, do  
16 you know what temperature this slurry was  
17 conditioned at?

18 A. It was conditioned at circulating  
19 temperature.

20 Q. How do you know that?

21 A. Because we always condition at  
22 circulating temperature unless otherwise  
23 specified in Viking. And I don't see a notation  
24 acknowledging that. So it would have to be  
25 circulating temperature.

00134:01 Q. So that is your regular practice, is

02 to --  
03 A. Yes, that is lab procedure.  
04 Q. Absent a notation in Viking.  
05 So the notation in Viking here says "at  
06 180 deg F," right?  
07 A. Yeah, but that's the static, because  
08 that's the final temperature we need to get to.  
09 Your don't condition at static. Static --  
10 staying static, meaning not moving. So when --  
11 Q. Right.  
12 A. -- you condition it, it is moving. So it  
13 would be circulating.  
14 Q. Right. So when it says -- it's got this  
15 additional nor -- notation, "pour @ 180: F." Do  
16 you understand what that notation means?  
17 A. Yes, sir. It's -- it's just reiterating  
18 what Viking's already stated to pour at 180  
19 degrees Fahrenheit.  
20 Q. Okay. So is it 180 degrees when you pour  
21 it?  
22 A. When you -- when you start the foam  
23 stability, after that, it's going to be static.  
24 So what -- basically what that note is saying,  
25 when you pour the foam stability, it's going to  
00135:01 be static. So that is the static that they  
02 wanted that foam stability ran at. But it was  
03 conditioned, if you look at the first sheet, at  
04 135 because that is the circulating temperature.  
05 Q. Well, that it is the circulating  
06 temperature, but --  
07 A. Yes, sir.  
08 Q. -- was it conditioned at that temperature  
09 is my question?  
10 A. That's following procedure, is  
11 conditioning at circulating temperature.  
12 Q. And -- and you know that for a fact,  
13 because you performed the test?  
14 A. I started the test. I have -- I don't  
15 remember if I conditioned it. So I would not  
16 know for sure.  
17 Q. So is -- is the answer you do not know  
18 for this specific test whether or not it was  
19 conditioned at circulating temperature?  
20 MR. GUIDRY: Objection, form.  
21 A. I know procedure is to circulate at  
22 con -- circulating temperature, but I don't know  
23 because I'm not sure if I circulated that test.  
24 So I cannot say a hundred percent for sure that  
25 it was at 135, which would be circulating.  
00136:01 Q. (By Mr. Chen) Okay. So take a step back.  
02 So you can't say at a hundred percent certainty,  
03 but can you say with any certainty if you don't  
04 remember that test?

00136:06 A. You have to repeat now.  
07 Q. (By Mr. Chen) Okay. Do you recall --  
08 remember conditioning the slurry for this test?  
09 A. No, sir.  
10 Q. So do you remember what length of time  
11 the slurry was conditioned for?  
12 A. No, sir.  
13 Q. Do you recall what temperature the slurry  
14 was conditioned at?  
15 A. No, sir.  
16 Q. Okay. And the notation that says "Pour @  
17 180" does not mean pour at 180?  
18 A. Is does not mean to circulate at 180. It  
19 means to pour the final -- when you start the  
20 test -- I'm sorry.  
21 When you start the test, you have to go  
22 by static temperature, and when they say "pour,"  
23 they mean when you start the foam stability.  
24 They don't mean when you condition with this.  
25 Q. Okay. And -- and that is because -- I --  
00137:01 I -- I guess I'm just confused, because when --  
02 when you -- to me when -- when it says "Pour @  
03 180," that sort of seems like you're pouring it,  
04 and it's at 180. But -- but you're saying that's  
05 not the case?  
06 A. No. See, Viking goes by the final  
07 temperature that the slurry's supposed to reach  
08 for that test.  
09 Q. M-h'm.  
10 A. And in this case, the foam stability is a  
11 static test. The cement is not moving. So  
12 during -- the cement is not being moving -- I'm  
13 sorry.  
14 The cement is not moving during the test;  
15 it is being static. So with that being said, the  
16 test should be at 180, which is static in this  
17 case. That's what Jesse requested it at,  
18 according to the Viking sheet.  
19 Q. Okay. So -- so you would -- would guess,  
20 because you don't have any information as to how  
21 this test was actually conditioned, you would  
22 assume or presume that it was at 135 that they  
23 conditioned it?  
24 A. Well, that's procedure, so --  
25 Q. Right.  
00138:01 A. Yeah.  
02 Q. But you don't know whether the --  
03 A. No, I don't --  
04 Q. -- procedure was followed?  
05 A. -- I don't know at all.  
06 Q. Right. So you would presume that it was  
07 conditioned at 135, and then it was poured into  
08 the -- the PVC pipe.  
09 A. (Nodding.)  
10 Q. Is the PVC pipe transparent?

11 A. No, sir.  
12 Q. So -- and -- and what is the procedure  
13 for pouring it into the PVC pipe?  
14 A. Basically, those pipes are premade. All  
15 you do is, you take the top off, pour it to the  
16 top, and put the top back on and put it in the  
17 heat bath at the temperature that Viking says to  
18 pour it at.  
19 Q. Should you pour it all the way to the top  
20 so it's flush with the top?  
21 A. Yes, sir.  
22 Q. Okay. And then you cap it?  
23 A. Yes, sir.  
24 Q. And you put it in the water bath?  
25 A. Yes, sir.  
00139:01 Q. What temperature is the water bath at?  
02 A. They go up to 180, but --  
03 Q. It -- is it at 180 already when you put  
04 it in, standard practice?  
05 A. Yes, sir.  
06 Q. So there is no ramp-up time for when you  
07 put it into the bath. The bath is at 180, so  
08 it's 135 in the PVC pipe, correct?  
09 A. Yes, sir.  
10 Q. You seal the PVC pipe, and you drop it in  
11 the -- the water that's 180?  
12 A. Yes, sir.  
13 Q. How long does it take for the slurry to  
14 reach 180?  
15 A. Once it's put in the bath that's already  
16 at 180?  
17 Q. Right.  
18 A. I don't have no idea.

Page 140:03 to 144:19

00140:03 Q. -- as to what the notations mean or if  
04 there's a standard set of what notations mean?  
05 MR. BOWMAN: Objection, form.  
06 A. Referring to the pour at 180 note?  
07 Q. (By Mr. Chen) Yeah. Because I -- I don't  
08 see that note on any of the other tests.  
09 A. Well, once you learn how to interpret the  
10 Weigh Sheet, what Viking puts -- like I said, our  
11 Viking already has it at 180. So whoever wrote  
12 that, that was just to reiterate and to kind of  
13 pop out and make sure it was poured at the right  
14 temperature.  
15 Q. But you didn't write that?  
16 A. No, sir.  
17 Q. So you don't know what the purpose is  
18 that someone wrote that?  
19 A. No, sir.  
20 Q. Okay. Would it surprise you if others in  
21 your laboratory believe that that meant condition



22 at 180?  
23 MR. GUIDRY: Object to form.  
24 A. I have no idea how other people think  
25 about that.  
00141:01 Q. (By Mr. Chen) Right. But would it  
02 surprise you if others in your laboratory  
03 believed that that meant condition at 180?  
04 MR. GUIDRY: Same objection.  
05 A. Yes, it would surprise me.  
06 Q. (By Mr. Chen) All right. Is Phyllis  
07 Stelly one of your Shift Managers?  
08 A. At the time she was not, but she is now.  
09 Q. Okay. And is she someone who is familiar  
10 with Lab Weigh-Up Sheets?  
11 A. Yes, sir.  
12 Q. And she's familiar with the way people in  
13 the Broussard Laboratory annotate laboratory  
14 sheets?  
15 A. Yes, sir.  
16 Q. Would it surprise you if Ms. Stelly said  
17 that she reads that as condition at 180 degrees?  
18 MR. GUIDRY: Objection, form.  
19 MR. BOWMAN: Objection, form.  
20 A. Yes, sir.  
21 Q. (By Mr. Chen) Is Ms. Stelly more  
22 experienced than you or less experienced than  
23 you?  
24 A. She's more experienced than me.  
25 Q. Has she been working in the laboratory  
00142:01 for a longer period of time than you?  
02 A. Yes, sir.  
03 Q. Have you ever worked with Ms. Stelly  
04 before at --  
05 A. Before --  
06 Q. -- with her being your Shift Manager and  
07 you being the Technician working that shift?  
08 A. Yes, I've worked with her before she  
09 became my Shift Leader.  
10 Q. And have you ever had a disagreement of  
11 understanding of notations on a -- on Lab  
12 Weigh-Up Sheets with her?  
13 A. Not that I recall.  
14 Q. So if she interpreted it one way, is that  
15 a reasonable interpretation of that -- that  
16 notation?  
17 MR. GUIDRY: Objection, form.  
18 MR. BOWMAN: Objection, form.  
19 A. Well, when I look at it, I see pour at  
20 180. So I mean, I can't be expected to read her  
21 mind and --  
22 Q. (By Mr. Chen) Right.  
23 A. -- understand what she's saying --  
24 Q. I -- I appreciate --  
25 A. -- thinking.  
00143:01 Q. -- I appreciate that, but you have not,

02 in any of your re -- to your recollection, you've  
03 never disagreed with her on any reading of a Lab  
04 Weigh-Up Sheet, correct?

05 A. Not that I recall.

06 Q. So if -- if she construed it as pour at  
07 180 meant condition at 180, let's say for now,  
08 you don't agree with that reading, correct?

09 A. Yes.

10 Q. Would you agree that that is a reasonable  
11 reading?

12 MR. GUIDRY: Objection, form.

13 MR. BOWMAN: Objection, form.

14 A. I would not agree with that.

15 Q. (By Mr. Chen) Okay. So you would not  
16 agree with Ms. Stelly's interpretation of that  
17 note?

18 A. If she would say that that means to  
19 condition at 180, then I would ask her again, you  
20 know, to make sure.

21 Q. Okay. Now, this test would have been run  
22 in the morning of April 18th, so you would have  
23 been working the night shift from 6:00 o'clock,  
24 April 17th, to 6:00 a.m., April 18th?

25 A. Yes, sir.

00144:01 Q. Do you remember any -- anything you did  
02 during that 12-hour shift?

03 A. Besides run tests as normal, no.

04 Q. Do you remember what tests you ran?

05 A. No, sir.

06 Q. Have you gone back and tried to recreate  
07 what you'd done that day?

08 A. No, sir.

09 Q. Do you recall -- do you recall anything  
10 from that workday? You know, I appreciate that  
11 it's a year and a half ago now.

12 A. Yeah.

13 Q. But do you recall anything like talking  
14 to anybody, any specific tests you ran, any calls  
15 you made, any documents you consulted for -- for  
16 that specific day?

17 A. Besides what I see in my handwriting  
18 right here, I have no recollection. It's another  
19 normal day that I had that day.

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00145:14 Q. Okay. So before August, you did not  
15 realize that you had worked on testing for the  
16 DEEPWATER HORIZON or the Macondo Well?

17 A. No, sir, not me in particular.

Page 146:04 to 147:05

00146:04 Q. (By Mr. Chen) This morning, you were

05 asked about competencies were used, right?  
 06 A. Yes, sir.  
 07 Q. And at the time that this test was  
 08 conducted in April of 2010, you had been at  
 09 Halliburton for how long?  
 10 A. Two years and a month or two.  
 11 Q. Okay. And you -- I think this morning,  
 12 you said that you -- you'd -- you weren't on --  
 13 on the competency -- checked-off competency  
 14 she -- sheet, checked off for every single test,  
 15 correct, at that point in time?  
 16 A. I don't remember.  
 17 Q. Oh, okay. Do you remember if you were  
 18 checked off as competent in conducting foam  
 19 stability tests in April of 2010?  
 20 A. Yes, sir, I would have been.  
 21 Q. Okay. So you would not have been  
 22 supervised by anyone when you started this test?  
 23 A. No, sir.  
 24 Q. Do you recall about how many supervised  
 25 tests you performed before you were deemed  
 00147:01 competent in -- in running this test yourself?  
 02 A. Not really exactly.  
 03 Q. Is this one of the more complicated tests  
 04 that are run in the laboratory?  
 05 A. No, not really.

Page 147:08 to 151:12

00147:08 This morning, we talked about indications  
 09 of foam in -- instability right?  
 10 A. Yes, sir.  
 11 Q. And there's a list of them on the API  
 12 document, correct?  
 13 A. Yes, sir.  
 14 Q. And there's a list of them on the  
 15 Halliburton work practices document?  
 16 A. Yes, sir.  
 17 Q. Or lab -- lab -- lab methods document,  
 18 what -- what's it called?  
 19 A. Global Best Practices.  
 20 Q. Global Best Practices. Thank you. A  
 21 document.  
 22 So it -- that -- that Glo -- Halliburton  
 23 Global Best Practices document also has a list of  
 24 indications of instability?  
 25 A. Yes, sir.  
 00148:01 Q. What type of training did you receive to  
 02 review foam test results for that -- those  
 03 insta -- signs of instability?  
 04 A. Chad Broussard was my Competency Coach.  
 05 Q. Okay.  
 06 A. So he would have worked with me, you  
 07 know, hands-on, probably did -- you know, we did  
 08 do some before, he working with me, and anytime I

09 had a question, there was already somebody --  
10 there was -- I'm sorry -- always somebody with  
11 more experience there or the API Manuals, Global  
12 Best Practices, so -- yes, we would have done  
13 multiple foam stabilities before --  
14 (Discussion off the record.)  
15 A. -- before I would have been marked  
16 competent.  
17 Q. (By Mr. Chen) Have you seen each of these  
18 signs of foam instability previously?  
19 A. On an actual test?  
20 Q. On an actual test. I mean, I'm trying to  
21 understand how you would recognize each of these  
22 signs of foam instability.  
23 A. Yes, I've seen the streaking before.  
24 Also the -- the bubbles or a foam breakout,  
25 whatever you may call it, to the top.  
00149:01 Q. M-h'm.  
02 A. And I've seen the large variances in  
03 densities from top to bottom.  
04 Q. M-h'm.  
05 A. It's that I -- I've all seen that.  
06 Q. And when you say "large variance" --  
07 variations in density between top and bottom,  
08 I -- I think this morning, you said that was 0.5  
09 pounds per gallon, right?  
10 A. Yes, it's a half a pound tolerance from  
11 top to bottom.  
12 Q. Okay. And so --  
13 A. At that time.  
14 Q. Okay. And -- at that time.  
15 And so you said that, at that time, half  
16 a pound density difference between top and bottom  
17 was the -- was the maximum acceptable difference?  
18 A. Yes, sir.  
19 Q. And you also said that half a pound  
20 difference between the density and the target  
21 density was an acceptable difference --  
22 A. Yes, sir.  
23 Q. -- the maximum acceptable difference.  
24 A. Yes, sir.  
25 Q. Now, is that written down in any document  
00150:01 that you know of?  
02 A. In API, the half pound tolerance, I think  
03 throughout the foam stability is written down.  
04 The half pound tolerance from the target density,  
05 I believe it was just a rule of thumb in the lab.  
06 Q. Okay. So did you -- and -- so let me  
07 step through that. First Halliburton documents,  
08 do you know of any documents that say "half a  
09 pound density variation is acceptable"?  
10 A. I off -- I don't know offhand.  
11 Q. Okay. Do you know of any Halliburton  
12 documents that say half a den -- pound density  
13 difference between the target and the test result

14 is acceptable?  
 15 A. I don't know offhand.  
 16 Q. So what training did you receive where  
 17 they indicated to you that that was acceptable as  
 18 of April of 2010?  
 19 A. The training I had to go through to  
 20 become deemed competent to do foaming sta -- foam  
 21 stabilities, any foam testing.  
 22 Q. So it was on-the-job training?  
 23 A. Yes, sir.  
 24 Q. With Mr. Broussard?  
 25 A. Yes, sir.  
 00151:01 Q. Any other training that -- where they  
 02 would have told you that 0.5 pounds per gallon  
 03 was acceptable?  
 04 A. Like I said, the Manual, the -- I know it  
 05 states it in API. I don't re -- you know, I  
 06 can't exactly tell you where, or maybe it's  
 07 worded a little bit different.  
 08 But API and Global Best Practices, that's  
 09 our references. If we have any questions, that's  
 10 where -- that's where we step off and, you know,  
 11 look at them and decide, you know, where are we  
 12 going to go from there.

Page 151:19 to 155:16

00151:19 Q. Now, this is the foam testing section out  
 20 of the Global Laboratory Best Practices Manual  
 21 for Halliburton, right?  
 22 A. Yes, sir.  
 23 Q. Now, with -- with this in front of you,  
 24 and you're free to flip through it, do you  
 25 believe that there is an indication in this  
 00152:01 section of Halliburton's Manual that states half  
 02 a pound per gallon difference is acceptable?  
 03 A. (Reviewing document.) This appears just  
 04 to be the way to actually run the test, not to --  
 05 not to interpret the data, which is not in my  
 06 field.  
 07 Q. M-h'm. And if you flip to Page 3-60,  
 08 there's a Table 3.1 and those are the "Signs of  
 09 Foam Instability..." that we're talking about,  
 10 right?  
 11 A. The -- the table?  
 12 Q. Right.  
 13 A. Yes, sir.  
 14 Q. Okay. And if I gave you the API 10B-4  
 15 document, do you think you would be able to find  
 16 where it says half a pound difference is  
 17 acceptable?  
 18 A. I have to look at it and see.  
 19 Q. Okay. Well, let me -- let me ask it a  
 20 different way: If it's not in the API 10B-4  
 21 document, do you know of any other document that

22 it would be in?  
23 A. Not offhand, no, sir.  
24 Q. Okay. So other than Chad Broussard  
25 telling you about this, and possibly being in API  
00153:01 10B-4, what -- do you have any -- an  
02 understanding that half a pound difference is  
03 acceptable from any other source?  
04 A. If it's not in API?  
05 Q. If it's not in API and other than  
06 Mr. Broussard telling you.  
07 A. Again, I was -- that was how I was  
08 taught. So, I mean, if it's not in API, which we  
09 all know that, so I don't know.  
10 Q. So if you ran a foam stability test and  
11 the results exceeded that -- that amount --  
12 A. M-h'm.  
13 Q. -- either from top to bottom, or against  
14 the target density, would that be something where  
15 you would notify the Engineer?  
16 A. Yeah, you would let them know.  
17 Q. Okay. You personally, Mr. Richard, would  
18 let the Engineer know?  
19 A. Well, maybe not me personally. There's a  
20 chance that I could.  
21 Q. M-h'm.  
22 A. But, you know, after you run the test and  
23 record the data, it might not be you that posts  
24 the data on Viking. So if I don't post it, I'm  
25 not going to call Jesse --  
00154:01 Q. Right. Right. Fair -- fair enough.  
02 A. -- or -- or the Engineer. You know, I  
03 could, but if I didn't post it, I'm not going to  
04 call.  
05 Q. Fair enough. So -- so, for example, at  
06 the test we looked at, you were the one who  
07 started the test, but someone else --  
08 A. Finished it.  
09 Q. -- finished it and cut the slices and  
10 measured them?  
11 A. Yes, sir.  
12 Q. All right. So when -- when you were the  
13 Technician performing the end of the test where  
14 you cut the slices and weigh them, do you also  
15 fill in the lab worksheet with the densities?  
16 A. Yes, sir.  
17 Q. And do you also input them into Viking?  
18 A. Sometimes you do, sometimes you don't.  
19 If somebody else is working the desk, you might  
20 hand off the clipboard to him or her, and they  
21 could post it or call the Engineer.  
22 Q. M-h'm.  
23 A. So a multiple -- multitude of things that  
24 can happen.  
25 Q. M-h'm. And is that something where lab  
00155:01 procedure would have you doing both things, both

02 inputting it into Viking to record your test  
03 result, and also informing the Engineer of the  
04 test result because it is outside the -- the --  
05 the -- the performant parameter?  
06 A. Yeah. You know, if it wouldn't meet  
07 standards, we would post it as "Need Validation"  
08 in Viking, and then we would give them a call,  
09 whoever the Engineer might be. That way it's  
10 posted, they know that the test is complete, but  
11 it still needs to be okayed by, you know,  
12 somebody with data interpretation skills.  
13 Q. Okay. And -- and that's the standard  
14 practice that you were taught to do in the  
15 laboratory?  
16 A. Yes, sir, the whole lab does it that way.

Page 158:07 to 161:21

00158:07 Q. You mentioned earlier that -- that --  
08 that -- that the standards for evaluating foam  
09 stability tests have changed?  
10 A. Yes.  
11 Q. Okay. What is the current standard for  
12 evaluating the results of a foam stability test?  
13 A. The current ones?  
14 Q. Currently.  
15 A. I'm not sure.  
16 Q. How do you know that the standards have  
17 changed?  
18 A. I know they've changed since then. I  
19 just -- it was a while back, and I can't remember  
20 at the moment.  
21 Q. How did you learn that they were changed?  
22 A. Through E-mail, and I think that's it.  
23 Q. And so did the E-mail just announce it,  
24 or would the E-mail announce training for it,  
25 like maybe give you a document or say, "Attend  
00159:01 this seminar"? I mean, do you recall anything  
02 about what the E-mail said?  
03 A. When you say "standards," do you mean  
04 procedure or actual, you know, chan -- not, I'm  
05 sorry, channeling -- streaking, nitrogen breakout  
06 like the way we read it?  
07 Q. Yeah. Exactly. I -- I'm referring to  
08 evaluation of the test results.  
09 A. Oh, no, as far as I know, that has not  
10 changed.  
11 Q. Okay. So as far as you know, if it's  
12 zero -- half a pound difference, that is still  
13 acceptable?  
14 A. Yes, sir.  
15 Q. So as far as you know, there's been no  
16 change in the lab procedures, I mean, otherwise  
17 you would know about them?  
18 A. Yeah, there's been --

19 Q. Is that --  
20 A. -- no changes in the standards. The  
21 procedures, a little bit, have changed, but I'm  
22 not exactly sure.  
23 Q. Okay. So the evaluation has not changed?  
24 The evaluation of foam tests has not changed?  
25 A. No, sir.  
00160:01 Q. But the procedures have changed in some  
02 way, but you -- you don't recall that now?  
03 A. Yeah, exactly.  
04 Q. Is there a document setting forth how the  
05 procedures have changed?  
06 A. An E-mail.  
07 Q. Okay.  
08 A. I misunderstood a while ago when you said  
09 "standards." I thought you meant "procedures."  
10 Q. Okay.  
11 A. But if you're referring to standards in  
12 the fact of how we read it and the data we write  
13 down, then, no, it has not changed --  
14 Q. Okay.  
15 A. -- as far as I -- I know.  
16 Q. Okay. But the work methods, let's say  
17 the Lab Best Practices, have changed since then?  
18 A. Yes, sir.  
19 Q. And do you know if the Lab Best Practices  
20 have changed for foam stability testing?  
21 A. Yes, sir.  
22 Q. And -- and if you --  
23 A. But I don't recall how at the moment.  
24 Q. Okay. Was there any announcement or  
25 discussion in the laboratory about, you know, any  
00161:01 changes that needed to be made due to the Macondo  
02 incident?  
03 A. You have to rephrase that.  
04 Q. So this notification that -- that you  
05 received saying that -- that the methods had  
06 changed --  
07 A. M-h'm. Yes, sir.  
08 Q. -- did that say that it was related to  
09 the Macondo incident?  
10 A. You mean did we change the way we do  
11 things because of what happened?  
12 Q. Right.  
13 A. No, no, sir.  
14 Q. Okay. So --  
15 A. As far as I know, that's not why it was  
16 changed.  
17 Q. Okay. So there's been no announcement,  
18 to your knowledge, that there's any change being  
19 done in the laboratory due to the blowout at the  
20 Macondo Well?  
21 A. Not that I know of.



00163:02 Q. Okay. Was there any conversations that  
 03 you can recall before the incident relating to  
 04 foam stability generally, not necessarily just  
 05 for the Macondo Project?  
 06 A. No, sir.  
 07 Q. All right. So were there any complaints  
 08 about how the foam stability testing was run, to  
 09 your knowledge?  
 10 A. Just in general?  
 11 Q. In general.  
 12 A. No, sir. None that I'm aware of.

Page 163:15 to 171:24

00163:15 Q. And that is Exhibit 815?  
 16 A. Yes, sir.  
 17 Q. Okay. I'd like you to turn to Page 3-59.  
 18 Now, this describes the -- from 3-59 or, I don't  
 19 know, five or six pages, this describes how to  
 20 conduct the foam stability testing, correct?  
 21 A. Yes, this looks like it would be the  
 22 procedure.  
 23 Q. And the -- the procedure actually  
 24 describes two different tests. There's a foam  
 25 stability test that's placed in to a  
 00164:01 250-milliliter cylinder and is evaluated after  
 02 two hours, correct?  
 03 A. Yes, sir.  
 04 Q. And then there's a set foam stability  
 05 test where you place the slurry into a PVC  
 06 cylinder, correct?  
 07 A. Yes, sir.  
 08 Q. Now, did -- did you conduct a -- can --  
 09 can I call the first test an "unset foam  
 10 stability test"?  
 11 A. We just call it at ambient conditions, I  
 12 guess. That's how it's listed, so --  
 13 Q. Okay. Did you conduct an ambient  
 14 conditions foam stability test for the Macondo  
 15 Well, as far as you know?  
 16 A. No, sir.  
 17 Q. Did anyone else, to your knowledge,  
 18 conduct an ambient conditions foam stability  
 19 test --  
 20 A. I don't know.  
 21 Q. -- for the Macondo Well?  
 22 A. Not that I'm aware of.  
 23 Q. Now, if that's one of the tests listed in  
 24 Halliburton's Global Lab Best Practices, why  
 25 would -- why would that test not be run for a  
 00165:01 foam slurry?  
 02 MR. BOWMAN: Objection, form.  
 03 A. Because it was not requested to be run.  
 04 Q. (By Mr. Chen) So when Jesse Gagliano, or

05 whoever the Engineer is, requests foam stability  
06 tests, they have to indicate that they want both  
07 the ambient conditions one and also the set foam  
08 stability one for you to run both?  
09 A. I'm not really sure how that works. I  
10 don't know if Viking has an ambient foam  
11 stability test in it.  
12 Q. Have you ever run an ambient foam  
13 stability test?  
14 A. Not that I can recall.  
15 Q. Have you had any training to run such a  
16 test?  
17 A. Not that I can recall.  
18 Q. Have you seen anyone else in your  
19 laboratory run an ambient conditions foam  
20 stability test?  
21 A. Not that I can recall.  
22 Q. Were you taught to just run the set foam  
23 stability test?  
24 A. I was taught to run that test, and -- and  
25 as far as I know, that's the only set foam  
00166:01 stability test. The procedure would stay the  
02 same.  
03 Q. Okay. And were you taught not to run --  
04 or ever told not to run the first test?  
05 A. I was never told not to, but I don't --  
06 I mean, I've never seen anybody with that test.  
07 I never performed that test. I'm not saying we  
08 don't do it, I just --  
09 Q. You've never seen it?  
10 A. -- I never know -- yeah.  
11 Q. Now, when you run the fo -- set foam  
12 stability test, can you run -- walk me through  
13 the procedure that the Technicians are taught for  
14 when the test is complete, and you are now taking  
15 the PVC out of the water bath, what are all the  
16 steps that you performed? And you can refer to  
17 this document, if -- if you want to.  
18 A. Okay. First of all, there would -- there  
19 would be a sample poured also with the foam  
20 stability --  
21 Q. Okay.  
22 A. -- that you could check and make sure  
23 that -- that sample is hard enough to -- to do  
24 the foam stability. After you would check  
25 that -- that spare sample, you would pull out the  
00167:01 PVC mold, you would open the top of it, check for  
02 foam breakout, then to see the rest of streaking,  
03 or, you know, color different -- color  
04 differences, you have to cut it in into pieces.  
05 You mark on the cylinder the top -- you know, the  
06 top piece, the bottom piece. I think API says  
07 there's three pieces, at least, so you mark top,  
08 middle, bottom, you cut them out, and then you  
09 would visually observe if there's a color

10 difference or streaking, excessive column height  
11 reduction, and all these signs of foam  
12 instability.

13 Q. Okay. Can I --

14 A. And we would record that.

15 Q. Okay. Can -- can I break that into  
16 pieces? Now, when you take -- take the PVC out  
17 of the -- out of the -- the water bath, do you  
18 remove -- how do you get the cement out of the  
19 PVC pipe?

20 A. You have to take a saw and saw it out --

21 Q. Okay.

22 A. -- and you saw it into sections, and then  
23 once you have those sections out, you have to saw  
24 the pipe out. You saw -- you cut a slit in the  
25 pipe, and then you can very easily pry it apart  
00168:01 and take the section out.

02 Q. M-h'm. So are you -- do -- do you remove  
03 the entire column of cement from the pipe or --  
04 or I -- I believe what you're saying is you slice  
05 the pipe and the cement into slices?

06 A. Yes, sir.

07 Q. Okay. So -- so the practice -- or the  
08 procedure is not to take the entire column out of  
09 the -- of the pipe?

10 MR. BOWMAN: Objection, form.

11 A. I'm not -- I don't understand.

12 Q. (By Mr. Chen) Well, you -- you can  
13 imagine that you have the PVC, it's got the  
14 cement in it, and you could slice the PVC and  
15 get -- remove the column of cement?

16 A. Yes, sir.

17 Q. And if you remove the column of cement,  
18 you can compare the color from the top to the  
19 bottom, and you can look for streaking across the  
20 entire column?

21 A. You mean move -- remove it as a whole  
22 piece?

23 Q. As a whole piece.

24 A. You can't do that. It's physically  
25 impossible.

00169:01 Q. It's physically impossible?

02 A. Yeah.

03 Q. Okay. Then how do you compare color  
04 changes or streaking across the entire column of  
05 cement?

06 A. Well, if you have a piece marked as the  
07 top, middle, and bottom, and you've cut them out  
08 already, you line up them up just as they would  
09 be in the tube and, you know, "T" for top. If  
10 top is lighter than the middle or the bottom,  
11 then I can say, well, you know, the top is  
12 lighter colored than the bottom, so it looks to  
13 be like there would be settling. And that's --  
14 you know, you have to try -- after you cut it

15 out, you have to put them in line like they were,  
16 so --  
17 Q. Okay. I see. So -- so -- and -- and  
18 that's part of the procedure to determine whether  
19 or not there's color changes across the -- the --  
20 all the pieces?  
21 A. Yes, sir.  
22 Q. Okay. And -- and is that -- and is that  
23 written down somewhere or is that something  
24 that's on-the-job training?  
25 A. Well, right here it says, "Signs of  
00170:01 density segregation, streaking or dark coloration  
02 from top to bottom."  
03 Q. Right.  
04 A. A difference in color can -- can indicate  
05 settling. It doesn't always, but it can.  
06 Q. M-h'm. And it's just -- from your  
07 training, you know that that's what you're  
08 supposed to do is you're supposed to line them up  
09 and compare them?  
10 A. Yeah, from the training and from the  
11 man -- I mean, the Manual doesn't say to do that,  
12 but, you know --  
13 Q. Okay. Now, look at the third item,  
14 "Excessive column-height reduction." Do you see  
15 that?  
16 A. Yes, sir.  
17 Q. How do you determine whether there's been  
18 a column height reduction?  
19 A. When you open the type -- the -- the top  
20 of the piece -- PVC mold --  
21 Q. M-h'm.  
22 A. -- you'll be able to see -- I mean, you  
23 know that we pour it to the top always, so if  
24 it's not exactly -- you know, if you take the top  
25 off and there's a gap, then you could say, "Well,  
00171:01 there was a reduction."  
02 Q. M-h'm.  
03 A. So if it's to the top, then there's no  
04 reduction.  
05 Q. Is that something that's measured?  
06 A. H'm.  
07 Q. Stick a ruler in there, and see it's half  
08 an inch?  
09 A. If you see it, you would measure it.  
10 Q. M-h'm.  
11 A. But if -- if -- like I said, if you pull  
12 the top off and it's all the way to the top like  
13 when it was poured, then there would be nothing  
14 to measure, because there would be no reduction.  
15 Q. M-h'm. And when it says an "Excessive  
16 column-height reduction," how do -- what do you  
17 understand that to mean, based on your training?  
18 A. "Excessive column-height reduction," I  
19 mean, they don't really give you a number to go

20 by, but any reduction would be recorded.  
21 Q. Would any reduction be excessive?  
22 A. It doesn't state, so I -- I don't have --  
23 I don't know what they would consider  
24 "excessive." That would be up to the Engineers.

Page 172:09 to 180:04

00172:09 Q. (By Mr. Chen) Oh, I think it was on  
10 Tab 4, Exhibit 984, and you can see under "Foam  
11 Details" on the first page, it says, "Final Foam  
12 Density, 1.737" Specific Gravity, "14.496" Pounds  
13 Per Gallon." Do you see that?  
14 A. Yes, sir.  
15 Q. And then it says "Blender volume" and  
16 there's a "Quality." And the "Quality" is  
17 "12.98 %." Do you see that?  
18 A. Yes, sir.  
19 Q. Do you understand that to be the foam  
20 quality that you're testing?  
21 A. I know that -- I know that that number is  
22 the foam quality, but I have no idea what that  
23 number is for.  
24 Q. Now, when you pour the unfoamed slurry  
00173:01 into a blender to foam, how do you calculate how  
much slurry to pour into the blender?  
02 A. The base slurry weight, if you see that  
03 right there --  
04 Q. Yes.  
05 A. -- that is the total amount of cement  
06 minus the zone sealer needed to foam. So if you  
07 were filling the blender up with just cement, not  
08 putting in the ZoneSealant, you would put that  
09 much cement.  
10 Now, your next number off to the side,  
11 "Base Slurry Total Weight, 2032.29" --  
12 Q. M-h'm.  
13 A. -- that is your base slurry weight, which  
14 is all your cement plus the ZoneSealant. So when  
15 you were foaming it, you would use that number  
16 because it has ZoneSealant. You have to have  
17 ZoneSealant to foam it.  
18 Q. So you have a blender volume of 1170,  
19 right?  
20 A. Milliliters. That's the total volume of  
21 the foam in blender.  
22 Q. Right. And then in that blender, you  
23 zeroed it -- you put the blender on the scale,  
24 you zero it out?  
25 A. Yes, sir.  
00174:01 Q. And then you pour 2032.29 grams of  
02 slurry?  
03 A. Plus the ZoneSealant. That's accounted  
04 for in that number.  
05 Q. Okay. Which includes the ZoneSealant?

06 A. Yes, sir.  
07 Q. And then after you pour it in, there's a  
08 gap at the top of the blender, which is the air  
09 that is to be blended in?  
10 A. To -- yeah, to allow air to -- to come  
11 into the slurry to foam it.  
12 Q. Right. And is that representative by  
13 that foam -- by that quality indicated on the  
14 side there?  
15 A. Like I said, I don't know what that  
16 number is for.  
17 Q. Okay. So you don't use that number?  
18 A. When we post certain foam tests, we have  
19 to add the number, but we don't -- I don't know  
20 what that number's for.  
21 Q. Okay. So do you -- do you understand  
22 what -- it's fine if you don't --  
23 A. Yeah.  
24 Q. I mean, do -- do you understand what --  
25 what that notation, "Quality, 12.98 %" refers to?  
00175:01 A. I know it's the foam quality.  
02 Q. And do you -- do you use that for  
03 anything?  
04 A. Not that I'm aware of.  
05 Q. Okay. So do you understand that when you  
06 blend up what you should blend up for this test,  
07 it has 13 percent volume by air?  
08 A. So that's what it means?  
09 Q. And -- and is that what you understand it  
10 to mean?  
11 A. Well, like I said, I don't know what that  
12 number is for, so --  
13 Q. But -- but I -- I know you don't use it  
14 or --  
15 A. Yeah.  
16 Q. -- but I mean, is that what you  
17 understand that number to mean?  
18 MR. GUIDRY: Objection, form.  
19 A. I don't know what that number is for.  
20 Q. (By Mr. Chen) Okay.  
21 A. It's just on the sheet. Besides the fact  
22 of posting it on a foam block for a test, I have  
23 no -- they say post the number on the foam block,  
24 and I post it. I don't know what that number --  
25 I don't know what it's used to calculate or  
00176:01 whatever.  
02 Q. Okay. Now, "Base Slurry Weight" and  
03 "Base Slurry Total Weight," is that a -- a value  
04 that you calculate, or is it a value that's  
05 provided to you?  
06 A. In Viking it's automatically calculated  
07 that.  
08 Q. Okay. Is -- and is it something that you  
09 enter in what the target foam density should be,  
10 or does someone else enter that in?

11 A. When the Engineer submits the job, if he  
12 knows it's going to be foam, there's a box on  
13 Viking you would check, "Slurry needs to be  
14 foamed," and it would calculate all this -- this  
15 whole "Foam" block that you see, that's  
16 automatically.

17 Q. Okay. So --

18 A. So the Engineer selects that.

19 Q. Okay. So "Final Foam Density," is that  
20 something that's calculated or something that's  
21 input?

22 A. "Final Foam Density"?

23 Q. Right. And so if we're looking at  
24 that 14.496 pounds per gallon, is that something  
25 that, to your understanding, that the Engineer  
00177:01 selects as what he wants the foam density to be?

02 A. Yeah. And that's what he -- he types  
03 that number in, and he chooses what -- the foam  
04 weight he needs for that job.

05 Q. And then based on your understanding,  
06 Viking then calculates the base slurry weight and  
07 the base slurry total weight?

08 A. As far as I know, everything else is  
09 calculating automatically.

10 Q. Okay. And do you ever see OptiCem  
11 modeling for any of the jobs that you're doing  
12 testing for?

13 A. I've never seen OptiCem.

14 Q. Now, earlier we were talking about the  
15 signs of in foam -- of foam instability, and then  
16 you said you looked for signs of bubble breakout.  
17 How do you look for signs of bubble breakout?

18 A. When you pull the -- the foam stability  
19 PVC mold out and you take the top off, usually  
20 it's flat if there's no foam breakout, but if  
21 not, you'll see like an uneven surface, small  
22 bubbles when the cement gets hard, and so if  
23 there's bubbles that have tried to come out, it  
24 will -- you know, they'll still have the shape of  
25 them, so it's set in the top.

00178:01 Q. Okay. So when -- when you take -- take  
02 the PVC out and you cut it and you remove all the  
03 cement pieces, do -- well, maybe -- maybe that's  
04 a question: Is the procedure to recover all the  
05 cement pieces from the PVC pipe?

06 A. As many as possible, yes.

07 THE COURT REPORTER: Three minutes.

08 Q. (By Mr. Chen) Okay. But -- but is it the  
09 requirement that you recover all the pieces that  
10 you sliced? How many pieces do you usually slice  
11 from a PVC pipe?

12 A. API says at least three, so I usually do  
13 three or four.

14 Q. Okay. So you -- you slice the entire  
15 length into three or four pieces?

16 A. Yes, sir.  
17 Q. And do you try to recover all three or  
18 four pieces?  
19 A. Yeah, you can recover all the pieces.  
20 Q. Okay. And if you slice more than three  
21 pieces, how many pieces are you required to  
22 recover under your lab procedure?  
23 A. All the pieces that you cut. If you cut  
24 it into three, you need to have three re -- three  
25 recordings.  
00179:01 Q. Okay.  
02 A. Cut it into four or 10 or whatever it may  
03 be.  
04 Q. Okay. And do you know who was the one  
05 who -- who recorded the -- the results of your --  
06 the foam stability test that you placed on to  
07 run?  
08 A. I have no idea who that handwriting is  
09 for.  
10 Q. Okay. Is -- is it normal for there to be  
11 no initials for the person who entered the  
12 results of the test?  
13 A. That -- well, you don't know if that is  
14 the person that entered the results, but he --  
15 whoever he or she may be that finished the test,  
16 usually you would put their initials, but I mean,  
17 it's quite a bit of stuff to -- on all these  
18 sheets that's not initialed, but it is procedure  
19 to.  
20 Q. Are you taught -- okay. So it's  
21 procedure, and you're taught to initial them?  
22 A. (Nodding.)  
23 Q. And -- and is there -- is every person  
24 and every Technician in the lab as diligent as  
25 you are in, you know, first taking the -- the cap  
00180:01 off and, you know, looking for whether there's a  
02 gap on top?  
03 A. I don't know. I don't watch other people  
04 do their testing.

Page 181:01 to 182:12

00181:01 Q. Okay. So before lunch, I had asked you  
02 whether you remember anything about the -- the  
03 cement foam stability test that we were looking  
04 at behind Tab 4, the last page of Exhibit 984.  
05 So before lunch -- so, are you there,  
06 Exhibit 984?  
07 A. Yes, sir.  
08 Q. And this is the foam stability test on  
09 the Lab -- Cement Lab Weigh-Up Sheet dated  
10 April 17th, 2010, right?  
11 A. Yes, sir.  
12 Q. Do you remember anything about this  
13 particular test that you put on and started?



14 A. No, sir.  
15 Q. Okay. Is there anything that you can  
16 think of that would remind you of either  
17 conditioning time or what you did or anything  
18 about this test? Is there anything that you can  
19 think of, notes, or anything else, that could  
20 remind you of this test?  
21 A. Besides the fact that I poured it -- I  
22 mean, I'm sorry, I started the foam stability,  
23 and my "Comment" about the 8 seconds to foam and  
24 the 3 hours conditioning, no.  
00182:01 Q. Okay. So there's no other document you  
02 can think of?  
03 A. No, sir.  
04 Q. Okay. Have you ever expressed an opinion  
05 to anybody else that the conditioning time for  
06 this test or -- sorry, the conditioning  
07 temperature for this test was at 135 degrees?  
08 A. Repeat that.  
09 Q. Have you ever told anybody else that the  
10 conditioning temperature for this test was at 135  
11 degrees?  
12 A. I don't recall ever talking to anybody  
13 about this test.

Page 183:14 to 187:18

00183:14 Q. Okay. Do you have something called the  
15 Cementing Technology Manual? Are -- are you  
16 aware -- are you -- do you know what that is, the  
17 Halliburton Cementing Technology Manual?  
18 A. Yes, sir.  
19 Q. And do you have that in available to you  
20 in the laboratory?  
21 A. Yes, sir.  
22 Q. Okay. And that's something that  
23 describes what the different additives are that  
24 Halliburton has, correct?  
25 A. Yes, sir.  
00184:01 Q. And --  
02 (Discussion off the record.)  
03 Q. (By Mr. Chen) And are you aware that the  
04 Cementing Technology Manual says not to use D-AIR  
05 in foam slurries?  
06 A. Yes, sir.  
07 Q. Okay. And you -- are you aware that it  
08 says not to use dispersing retarders in foam  
09 slurries?  
10 A. Yes, sir.  
11 Q. And are you aware that it has a list of  
12 foam -- a list of retarders that you can use with  
13 foam slurries, and it tells you which ones not to  
14 use with foam slurries?  
15 A. I wasn't aware of the list.  
16 Q. Okay. But -- but you do know that it

17 describes different cement retarders, right?  
18 A. Yes, sir.  
19 Q. And that -- that -- okay. Well -- well,  
20 let's take a quick look. This is un -- behind  
21 Tab 14, if you could quick -- flip there quickly.  
22 A. (Complying.)  
23 Q. This is Exhibit 4348. Do you recognize  
24 this as the Halliburton Cementing Technology  
25 Manual?  
00185:01 A. Yes, sir.  
02 Q. It -- it's just the excerpt of the  
03 retarder section, but -- but you recognize the  
04 cover as -- as -- as the Cementing Technology  
05 Manual, correct?  
06 A. Yes, sir.  
07 Q. And this is a document that you're  
08 familiar with and you use in your business?  
09 A. Yes, sir.  
10 Q. Okay. So now flipping to the retarders,  
11 it lists -- in its contents, it lists, I don't  
12 know, roughly 10 or so retarders, correct?  
13 A. Yeah, it looks like it.  
14 Q. And then if you flip another page, to  
15 Page 5-32, this is the information page for  
16 SCR-100, correct?  
17 A. Yes, sir.  
18 Q. And -- and under "Special Information" on  
19 that page, No. 4 says: "Effect on Slurry  
20 Properties: ...dispersed."  
21 Do you see that?  
22 A. Yes, sir.  
23 Q. Now, does that mean -- what -- what does  
24 that mean in terms of whether you should use  
25 SCR-100 with foamed slurries?  
00186:01 MR. BOWMAN: Objection, form.  
02 A. It doesn't say not to use it with foam  
03 slurries in this section. But dispersing can  
04 cause it to -- to disperse the slurry, separate  
05 certain ingredients in the cement.  
06 Q. (By Mr. Chen) Does it indicate that  
07 SCR-100 is a dispersant?  
08 A. Yes, sir, it does.  
09 Q. Okay. Now, if you could flip -- and --  
10 and, actually, let me ask you a more general  
11 question: When it says "SCR-100," is that -- you  
12 know, we -- we know that in the -- in -- in the  
13 slurry, we saw the -- the additives in the slurry  
14 is SCR-100L, what does the "L" stand for?  
15 A. The "L" is the liquid version of SCR-100.  
16 Q. And is SCR-100 and SCR-100L the same  
17 chemical compound?  
18 MR. BOWMAN: Objection, form.  
19 A. That, I'm not sure about.  
20 Q. (By Mr. Chen) Okay. So you don't know  
21 whether or not those two, the -- the -- and the

22 SCR without the "L" is the -- the -- the dry  
 23 additive, right?  
 24 A. Yes, sir.  
 25 Q. So you don't know whether or not the dry  
 00187:01 additive with the same name is the -- is the same  
 02 compound as the liquid additive?  
 03 A. No, sir.  
 04 Q. And you don't know whether they have the  
 05 same effect?  
 06 A. They could have different effects because  
 07 one's a liquid and one's a powder. You're adding  
 08 more liquid to the slurry, so it could have -- it  
 09 could change it.  
 10 Q. Right. But in terms of the chemical  
 11 property of the retarder, do you know whether  
 12 that's the same chemical retarder?  
 13 MR. BOWMAN: Objection, form.  
 14 A. I'm not sure.  
 15 Q. (By Mr. Chen) Okay. And now if we flip  
 16 to the page numbered 11-11. Are -- are you  
 17 there?  
 18 A. Yes, sir.

Page 187:24 to 190:24

00187:24 Q. I'm sorry. I didn't hear you.  
 25 So -- so, yes, this is a page describing  
 00188:01 "Foam Cement"?  
 02 A. Yeah, it looks like the basic  
 03 description.  
 04 Q. Okay. And if you go down to the fourth  
 05 paragraph, it has: "Interaction with other  
 06 additives:"  
 07 Do you see that?  
 08 A. Yes, sir.  
 09 Q. And can you read the sentence after --  
 10 after that heading?  
 11 A. "Avoid using dispersants or defoamers  
 12 additives."  
 13 Q. And SCR-100, we just saw, was a  
 14 dispersant additive, correct?  
 15 A. Yes.  
 16 Q. And D-AIR 3000 is a defoamer additive,  
 17 correct?  
 18 A. Yes, sir.  
 19 Q. Now, earlier today you said that if you  
 20 saw a defoamer in a foam slurry, you would call  
 21 the Engineer, correct?  
 22 A. Yes, sir. That's procedure.  
 23 Q. And that's procedure.  
 24 Now, what if you saw other types of  
 25 defoamer in a foam slurry, would you call the  
 00189:01 Engineer?  
 02 A. I believe D-AIR is the only variant of  
 03 defoamer that we use in Broussard, so --

04 Q. Okay. Okay. And that's -- so -- so  
05 let -- let -- let's say there were another  
06 defoamer that you recognized, would you call the  
07 Engineer if it were being used in a foam slurry?  
08 A. Yes, sir.  
09 Q. But because D-AIR is the only one you use  
10 in Broussard, that's the only one you would  
11 typically recognize?  
12 A. Yes, sir.  
13 Q. I understand. So, to your recollection,  
14 do you recall ever talking to Mr. Gagliano about  
15 using a defoamer in the slurry?  
16 A. No, sir.  
17 Q. Do you recall any discussions with  
18 Mr. Gagliano concerning the Macondo Well Project  
19 or any of the tests that were run for the Macondo  
20 Well?  
21 A. Besides the note from the other slurry,  
22 "repeat as per Jesse" --  
23 Q. Right.  
24 A. -- which would -- which would have been  
25 the thickening time repeat --  
00190:01 Q. Right.  
02 A. -- I have no recollection.  
03 Q. Okay. And I'm asking both before the  
04 incident and after the incident.  
05 A. No, neither.  
06 Q. So other than that one conversation where  
07 you wanted to repeat the thickening time?  
08 A. Well, I've talked to Jesse before that,  
09 but I have not talked to him after or since the  
10 incident.  
11 Q. Okay. Okay. So I -- I'm covering both.  
12 A. Okay.  
13 Q. So -- so including before the incident,  
14 do you recall talking to Jesse about testing for  
15 this well?  
16 A. Oh, no, sir, not about this well.  
17 Q. Okay.  
18 A. About other Projects.  
19 Q. Okay. Okay. So the only one you recall  
20 is the one that where you have a note of repeat  
21 the thickening time --  
22 A. Yes, sir.  
23 Q. -- thickening test?  
24 A. (Nodding.)

Page 191:20 to 191:20

00191:20 (Exhibit No. 5592 marked.)

Page 191:22 to 192:08

00191:22 Q. (By Mr. Chen) If you could turn back to

23 Tab 12, this was Exhibit 6235, and this was the  
24 API Recommended Practice 10B-4, correct?  
25 A. Yes, sir.  
00192:01 Q. Now, if you could turn to Page 9 -- first  
02 of all, are you familiar with this document,  
03 Mr. Richard?  
04 A. I can't say I've seen it before.  
05 Q. So the API 10B-4 is a reference document  
06 available in your lab, but you haven't read it  
07 before?  
08 A. Not that I can recall.

Page 193:13 to 197:15

00193:13 Q. Under 9.3, which is sort of the -- the  
14 testing heading, "Determination of foamed cement  
15 slurry stability." Do you see that?  
16 A. Yes, sir.  
17 Q. The first test, 9.3.1, is "Stability of  
18 unset foamed cement slurry." Do you see that?  
19 A. Yes, sir.  
20 Q. And do you agree with me that API says to  
21 "Evaluate the foam stability by pouring a sample  
22 of the foamed cement slurry into a standard 250"  
23 milliliter "graduated cylinder, or other  
24 appropriately sized container"?  
25 MR. PETOSA: Form.  
00194:01 A. Yes, sir.  
02 Q. (By Mr. Chen) So API tells you to  
03 evaluate the stability of the unset foamed  
04 slurry?  
05 MR. BOWMAN: Objection, form.  
06 MR. GUIDRY: The same objection.  
07 MR. PETOSA: Form.  
08 A. Yes, it does.  
09 Q. (By Mr. Chen) And is it your  
10 understanding that when you do the ambient slurry  
11 test, that you put it in a clear 250 milliliter  
12 graduated cylinder?  
13 A. According to this document, yes, but I've  
14 never done an ambient -- an ambient set -- foam  
15 stability test.  
16 Q. Okay. So are -- are -- would you agree  
17 with me that it would be easier -- and I guess we  
18 can flip -- if you flip the page, and you go to  
19 9.3.4, there's a listing of "Signs of foam  
20 instability." Do you agree with me that these  
21 are similar to the five signs of foam instability  
22 that are listed in Halliburton's Global Best  
23 Practices?  
24 A. Yes, they're similar to the settings --  
25 or setup foam stability.  
00195:01 Q. Uh-huh. And would you agree with me that  
02 if you poured the unset cement in a graduated  
03 cylinder, you would be able to observe the slurry

04 for these signs of instability?  
05 A. According to this document, yes.  
06 Q. And according to your experience, would  
07 you be able to see free fluid if you poured the  
08 slurry into a clear graduated cylinder?  
09 A. I've never done that test before, so I  
10 don't know.  
11 Q. Have you done a free fluid test before?  
12 A. Yes. I've done a regular free water  
13 test.  
14 Q. And is -- is that poured in a clear  
15 graduated cylinder?  
16 A. Yes, sir.  
17 Q. And then are you able to observe the free  
18 water through that cylinder?  
19 A. Yes, sir. But that's a base slurry.  
20 Foam slurries are a little bit different.  
21 Q. So would you expect that you would be  
22 able to observe free fluid if you poured the  
23 unset slurry into a clear graduated cylinder?  
24 A. I don't know.  
00196:01 Q. Would you expect that you would be able  
02 to see bubble breakout?  
03 A. Again, I don't know.  
04 Q. So you don't know whether or not you  
05 would be able to determine anything from an unset  
06 cement slurry test?  
07 MR. PETOSA: Objection, form.  
08 A. I never did one of those tests, so I  
09 don't know.  
10 Q. (By Mr. Chen) Okay.  
11 A. All I can go is by what this document  
12 says.  
13 Q. Okay. And you can also go by what the  
14 Halliburton document says, and it calls it an  
15 ambient conditions test, right?  
16 A. Yes, sir.  
17 Q. And as far as you can tell, it's the same  
18 test?  
19 A. Looks to be.  
20 Q. Okay. But you've -- you've never been  
21 instructed to -- to do that test?  
22 A. Never done an ambient settling -- ambient  
23 stability test.  
24 Q. Okay. And you agree with me that API  
25 recommends that you do it?  
00197:01 A. H'm, where was that at on the document?  
02 Q. 9.3.1.  
03 A. (Reviewing document.)  
04 Q. Nowhere does it say it's either/or.  
05 Either do an unset or a set. It says evaluate it  
06 this way and then check this other way.  
07 MR. BOWMAN: Objection, form.  
08 MR. GUIDRY: The same objection.  
MR. PETOSA: Objection, form.

09 A. It says it can be evaluated that way, it  
10 doesn't mean it's the only way it could be done.  
11 Q. (By Mr. Chen) Where does it say it can be  
12 evaluated that way?  
13 A. Evaluate the foam slurry.  
14 Q. Where is the word "can"?  
15 A. There's no word "can."

Page 198:10 to 199:15

00198:10 Q. And, again, this is Exhibit 984. Now,  
11 this indicates that the test that you performed  
12 on April 17th, 2 -- or I guess it would be April  
13 18th, but the test, the Weigh-Up Sheet is April  
14 17th. It indicates that the lot number of the  
15 SCR-100L that you're using is 6264, correct?  
16 A. Yes, sir.  
17 Q. And why -- why do you want to use the  
18 correct lot number when you're doing this test?  
19 A. Because that -- we have samples of  
20 different lot numbers in the lab, and when the  
21 Engineer submits it, it's supposed to be the lot  
22 number of 100L that they're using on the rig, so  
23 we match the lot number the rig has to the lot  
24 number the lab has, and that's how we run that  
25 test.  
00199:01 Q. What volume of cement retarder did you  
02 keep in the lab for each lot that's sent out  
03 to -- to the rigs?  
04 A. Like if we get a new sample of a lot  
05 number we don't have?  
06 Q. Right.  
07 A. We keep two big gallons, and -- or two  
08 bigger container gallons, and multiple smaller  
09 samples.  
10 Q. And would you expect that retarder from  
11 the same lot number, that liquid retarder from  
12 the same lot number, to be the same as what's on  
13 the rig, because it's from the same lot?  
14 A. That's supposed to be the purpose behind  
15 using the lot numbers, so --

Page 199:22 to 201:06

00199:22 Q. (By Mr. Chen) Let's just take them one by  
23 one. Do you recognize the first one as a Cement  
24 Lab Weigh-Up Sheet dated May 20th, 2010?  
25 A. Yes, sir.  
00200:01 Q. And from the title, does that indicate to  
02 you that they weighed up a cement sample on May  
03 20th, 2010?  
04 MR. BOWMAN: Objection, form.  
05 A. Well, the -- the date is when the sheet  
06 was printed.

07 Q. (By Mr. Chen) Okay.

08 A. You have to look at these sheets in the  
09 back to tell when it was actually weighed up, and  
10 I don't believe the time is on it. So it was  
11 printed on the 20th, so it couldn't have been  
12 weighed up before that.

13 Q. Okay. So this was weighed up on the 20th  
14 or later?

15 A. Yes, sir.

16 Q. Okay. And if you look at the  
17 "Materials," do you see that the materials listed  
18 appear to be -- well, why don't you tell me? So  
19 you're looking at the dry blend, and the "Source"  
20 is "TRANSOCEAN," what does that tell you?

21 A. That tells me it's a rig cement sample  
22 that was used to weigh this job up.

23 Q. Okay. And then what about the SCR-100L?

24 A. It doesn't have a source, but it does  
25 have the lot number that he requested. But  
00201:01 that's not -- it's not a rig 100L sample.

02 Q. Okay. So -- and that indicates that you  
03 used the same lot number in the lab that -- of  
04 the lot that was out on the rig?

05 A. As far as this request can tell us, yes,  
06 that's true.

Page 202:07 to 205:25

00202:07 Q. -- but if -- you know, we were talking  
08 about some of these test results have comments,  
09 right?

10 A. Yes, sir.

11 Q. So -- and then you said anything that --  
12 any "Comment" on a Lab Weigh-Up Sheet should be  
13 input into it, to Viking, right?

14 A. Yes, sir.

15 Q. And if it's input into Viking, the  
16 Engineer, Mr. Gagliano in this instance, would be  
17 able to pull it up on Viking and look at it,  
18 right?

19 A. Yes, sir.

20 Q. So is there a way that you know of that  
21 you can go into Viking and print out not only the  
22 test results but also the comments?

23 A. H'm. Not that I know of.

24 Q. Okay. So that's not something you've  
25 ever asked someone to do? Can I see what's in  
00203:01 Viking with the comments, also?

02 A. Really, we only use the Weigh Sheets when  
03 we're actually doing the test. At any time you  
04 can go on Viking and look at what's  
05 electronically posted and you can see the  
06 comments, but when -- if something's posted with  
07 comments and you reprint out a Weigh Sheet to  
08 repeat a test, it will not show up. The comments



09 won't show up. The data that's recorded in the  
10 boxes will, though.

11 Q. Okay. If you could flip to the -- the  
12 next page, which appears to be a Cement Lab  
13 Weigh-Up Sheet dated May 28th, 2010?

14 Do you see that?

15 A. Yes, sir.

16 Q. Now, can you tell from this when -- when  
17 this cement was weighed up?

18 A. No, you can't tell on this sheet when it  
19 was weighed up.

20 Q. Okay. But you agree with me that it's  
21 May 28th or later?

22 A. That this sheet was printed, yeah.

23 Q. And -- and that the cement was weighed up  
24 for the tests marked down on this sheet?

25 A. Repeat that.

00204:01 Q. So the pro -- what is the process for  
02 weigh-up? Is the Weigh-Up Sheet printed first?

03 A. Yes, the Weigh-Up Sheet's printed first.

04 Q. And then someone in the lab weighs up the  
05 cement?

06 A. Yes, sir.

07 Q. And then the tests are conducted?

08 A. Yes, sir.

09 Q. So if the Weigh-Up Sheet is printed  
10 first, before the weighing up of the cement, then  
11 if the Weigh-Up Sheet is March 28th, could the  
12 cement have been weighed up before then?

13 A. Before the 28th?

14 Q. Yes.

15 A. Not on this project.

16 Q. So the cement must have been weighed up  
17 the 28th or later for this project?

18 A. Yes, sir.

19 Q. Okay. So if you look down at the  
20 materials, you no longer have a source for any of  
21 the cement materials, correct?

22 A. Yes, sir.

23 Q. But under SCR-100L, it still says Lot  
24 No. 6264. Do you see that?

25 A. Yes, sir.

00205:01 Q. What does that tell you about the  
02 SCR-100L that was used for this cement job --  
03 cement test?

04 A. When we print these sheets out to -- to  
05 conduct the testing, the first sheet you print  
06 out doesn't have any of these sample IDs and  
07 source things filled out.

08 Q. Right.

09 A. That's when you reprint a sheet that's  
10 already been posted in Viking.

11 So if we have something -- an additive  
12 that uses a lot number, we write it in where it  
13 would print out in Viking. So whenever you go to

14 weigh it up, you know -- instead of searching the  
15 sheet and looking at comments, you know right  
16 there that that's the right lot number.

17 Q. Okay. And here someone has indicated  
18 that the lot number that the SCR-100L came from  
19 was 6264?

20 A. Yes, sir.

21 Q. And that's the same lot number for the  
22 blend that was -- the retarder that was on the  
23 rig?

24 A. As far as this sheet can tell me, yes,  
25 sir.

Page 206:08 to 209:18

00206:08 Q. Is this another Cement Lab Weigh-Up Sheet  
09 dated May 29th, 2010?

10 A. Yes, sir.

11 Q. And could the cement have been weighed up  
12 before May 29th, 2010 for -- for the test  
13 indicated on this sheet?

14 MR. BOWMAN: Objection, form.

15 A. It couldn't have been weighed up before  
16 that date. So it had to be on that date or  
17 afterwards.

18 Q. (By Mr. Chen) Okay. Can you take a look  
19 at the materials, the cement materials that were  
20 weighed up, and can you see that there's a source  
21 for -- for some of these materials?

22 A. Yes, sir.

23 Q. And so for the Lafarge Class H, it says  
24 "Fourchon-C-Port." What does that tell you about  
25 where this sample came from?

00207:01 A. That means that the cement sample, the  
02 Lafarge Class H, came from Fourchon, the bulk  
03 plant for this that's listed on this job, if you  
04 can see the plant name at the top. And this  
05 request type is a pilot. So it would have been  
06 laid up with lab stock and not blend.

07 Q. Okay. And then for some of the  
08 additives -- KCl, silica flour, and the SA-541 --  
09 the source is listed as Morgan City, Louisiana.  
10 What does that tell you about those materials,  
11 where they came from?

12 A. It means they came from Morgan City, and  
13 then the date on the side tells when we got it  
14 in. Certain additives we get in such a big  
15 amount because we use throughout different  
16 testing --

17 Q. M-h'm.

18 A. -- so we keep track of the bulk plant  
19 they come from, but we don't have salt or KCl  
20 from eight different bulk plants. We just have  
21 it from one.

22 Q. Okay. And then -- then if you look at

23 the SCR-100L liquid additive, it is -- notates  
 24 again Lot 6264. Do you see that?  
 25 A. Yes, sir.  
 00208:01 Q. And what does that tell you about that  
 02 additive, where it came from?  
 03 A. It doesn't say the source that it came  
 04 from. It does tell you the lot number, the date  
 05 we got it in.  
 06 Q. And --  
 07 A. For lab samples, you don't have to put  
 08 the bulk plant in, or Viking doesn't require you  
 09 to put the bulk plant in.  
 10 Q. And six --  
 11 A. So --  
 12 Q. I'm sorry --  
 13 A. That's fine.  
 14 Q. And 6264 indicates that that was the same  
 15 lot of SCR-100L that was on the rig, correct?  
 16 A. According to this sheet, yes.  
 17 Q. Okay. And then the test here, it looks  
 18 like they are running some static gel strength  
 19 tests, right?  
 20 A. Yes, sir.  
 21 Q. And are you able to tell -- tell me  
 22 whether or not -- if you look at the test  
 23 results, there is a time from 100 to 500. Do you  
 24 see that?  
 25 A. On which test?  
 00209:01 Q. Let's -- let's just start with the first  
 02 one, the static gel strength test. There's a "T  
 03 100-500." Do you see that?  
 04 A. Yes, sir.  
 05 Q. So that is the transition time, right?  
 06 A. Yes, sir.  
 07 Q. And so are you able to tell me whether an  
 08 hour and 46 minutes is a good transition time or  
 09 a bad transition time?  
 10 MR. BOWMAN: Objection, form.  
 11 A. It's not in my field to interpret the  
 12 data.  
 13 Q. (By Mr. Chen) Okay. Is it in your field  
 14 to interpret any Cement Lab Test Reports other  
 15 than foam stability that we've talked about if  
 16 it's within or outside of half a pound per  
 17 gallon?  
 18 A. No, sir. We just record the data.

Page 209:25 to 210:15

00209:25 Q. Do you have any expertise in designing a  
 00210:01 slurry?  
 02 A. No, sir.  
 03 Q. Okay. So who designs the slurries that  
 04 are tested in your lab?  
 05 A. The Engineer that submits that job.

06 Q. Okay. And for Macondo Well, which  
07 Engineer would that be?

08 A. According to this paperwork, it looks  
09 like it would be Jesse Gagliano.

10 Q. Okay. And do you have any expertise in  
11 determining what tests -- cement tests should be  
12 run for a particular job?

13 A. Again, that's submitted with the job. He  
14 picks and chooses what he wants to test and -- or  
15 not.

Page 210:24 to 210:25

00210:24 Q. So who determines what tests the lab runs  
25 for each job?

Page 211:02 to 211:06

00211:02 A. The -- the Engineer submitting the job.

03 Q. (By Mr. Chen) And in particular for the  
04 jobs we've been looking at for the production  
05 interval for the Macondo Well, who determined  
06 what jobs the lab should run?

Page 211:09 to 211:10

00211:09 A. As far as this paperwork states, it would  
10 be Jesse.

Page 211:17 to 211:24

00211:17 Q. (By Mr. Chen) So based on the document,  
18 it sa -- indicates that it's Jesse who submits  
19 the tests, right?

20 A. It appears to be, yes.

21 Q. And do you have any information that  
22 anyone else requested tests for the production  
23 interval of the Macondo Well?

24 A. No, sir.

Page 213:21 to 214:03

00213:21 Q. In your -- in the regular course of your  
22 business, do you interact with the Operator?

23 A. The "Operator" being who?

24 Q. Being a BP or a Shell or a Chevron.

25 A. No, we don't talk to customers. We talk  
00214:01 directly to the Engineer or Coordinator, whoever  
02 submits the job. We don't have any contact  
03 beyond that.

Page 214:07 to 214:21

00214:07 Q. How are you evaluated? Are you evaluated  
08 yearly, or are you evaluated quarterly?  
09 A. What kind of evaluation?  
10 Q. A performance evaluation.  
11 A. Quarterly.  
12 Q. Quarterly. And have you ever received a  
13 bad evaluation?  
14 A. Well, there's a -- there's a few things  
15 that are evaluated quarterly. It's not just your  
16 performance --  
17 Q. Okay.  
18 A. -- in general. But, no, my lab  
19 performance has never been negative --  
20 Q. Okay.  
21 A. -- as far as I know.

Page 217:21 to 221:19

00217:21 Q. Okay. And then I think earlier, you told  
22 me that your job training was -- was on-the-job  
23 training --  
24 A. Yes, sir.  
25 Q. -- is that right?  
00218:01 So does that mean that you haven't been  
02 sent to any classroom courses for training?  
03 A. No. I haven't been sent to a classroom,  
04 but we have to -- all learned we have to complete  
05 Internet-based activities tests. We have a  
06 cementing course, an oil field math course. I  
07 can't think of the other ones.  
08 Q. Okay. So those courses -- the cementing  
09 course, what -- what is that cementing course?  
10 A. Just to ensure that we have the basic  
11 knowledge of cementing. A lot of it doesn't  
12 pertain to the lab. It's more what happens in  
13 the field, but we're still expected to know  
14 some -- you know, some stuff that happens in the  
15 field.  
16 Q. Is it a course taught at the laboratory,  
17 or do you have to go somewhere to attend it?  
18 A. It's an Internet course, you --  
19 Q. Okay. Okay.  
20 A. -- they give you a book to study, and you  
21 have some basic oil field calculations to -- to  
22 do, and -- and the test is graded.  
23 Q. Okay. So there's a cementing course that  
24 you've taken on the Internet and it came with a  
25 booklet --  
00219:01 A. M-h'm.  
02 Q. -- of materials?  
03 A. Oh, yeah. It has a book.  
04 Q. Okay. Any other Internet courses that  
05 you can recall taking as part of your job

06 training?

07 A. For job training, no. There's a bunch of  
08 safety courses and whatnot, but nothing more on  
09 job training, I don't believe.

10 Q. Okay. So you recall going to any --  
11 so -- so I think the answer is, other than the  
12 Internet training, you don't recall to -- going  
13 to any sort of training courses or seminars, both  
14 internal to Halliburton or even, like let's say  
15 "external" industry training seminars for, you  
16 know, your job, cementing?

17 A. There was one class that they gave, or  
18 seminar, in the conference room in the Lab. It  
19 was about the Viking system --

20 Q. M-h'm.

21 A. -- when we first started using it. I  
22 believe it was in December or January of -- I  
23 don't remember what year, 2009, could be.

24 Q. Okay. And when they did that training,  
25 did they give you a Manual on how Viking -- the  
00220:01 Viking system works?

02 A. No. It was all taught in the class, and  
03 if we had any questions or anything, you know, we  
04 could always ask Tim or Richard up.

05 Q. M-h'm.

06 A. So --

07 Q. So in the regular course of your work, is  
08 there a document that you can reference, when you  
09 have questions about Viking, about how it works  
10 or how to get things in or out of the --

11 A. There's a number to call, if you have any  
12 questions, it's like a Viking Hot Line, I guess  
13 you would call it.

14 Q. M-h'm.

15 A. But Tim and Richard, if they don't know,  
16 usually it's not of our concern.

17 Q. Okay. So that there's no -- just to be  
18 clear -- there's no physical Manual that you --

19 A. I don't believe so.

20 Q. -- have access to?

21 A. As far as I know, there's none.

22 Q. Do you recall any discussions with Quang  
23 Nguyen about the Macondo Well?

24 A. About the Macondo Well? No, sir.

25 Q. Okay. What about with Richard Dubois?  
00221:01 A. Besides just general lab information, no.

02 Q. Do you ever recall being called into a  
03 conference with Richard Dubois where he was  
04 trying to determine who had run what test for the  
05 Macondo Well?

06 A. No, sir.

07 Q. And I think you told me earlier, but I'll  
08 ask again: Do you recall any specific  
09 conversations with any Halliburton employees  
10 concerning the tests that you ran at the

11 Macondo -- for the Macondo Well, other --  
12 A. Well --  
13 Q. -- other than with Counsel?  
14 A. I didn't find out until afterwards,  
15 because I never did any personal research --  
16 Q. M-h'm.  
17 A. -- about whether I had ran this test or  
18 that test. So everything I found out was through  
19 lawyers, and that was it.

Page 222:17 to 223:06

00222:17 Q. (By Mr. Chen) Do you have a sense as to  
18 how many times a foam stability test is typically  
19 run on a -- a foam job?  
20 A. Usually, like any test, you'd run it  
21 once. If you have problems with it, or you're --  
22 the results are atypical, you would repeat it.  
23 When in doubt, repeat. That's kind of our  
24 little --  
25 Q. M-h'm.  
00223:01 A. -- catch phrase.  
02 Q. And when in doubt and you repeat, if  
03 the -- if the results are now passing, do you run  
04 a third test, a -- like a tiebreaker?  
05 A. That's up to the Engineer to decide. We  
06 just report the results we get for both tests.

Page 225:25 to 228:16

00225:25 Q. (By Mr. Chen) Okay. So just give me that  
00226:01 binder. So if we can go back to Tab 4 in this  
02 binder. And this is Exhibit 984. Do you see  
03 that at the top?  
04 A. Yes, sir.  
05 Q. Okay. So I just want to ask you a  
06 question that requires you to sort of flip  
07 through these. So the first one, you don't see a  
08 stamp on it that says "Results ASAP," right?  
09 A. Not this sheet right here, no.  
10 Q. Okay. So if you flip to the second one  
11 dated April 15th, there's a stamp that says  
12 "Results ASAP TO: Jesse G," right?  
13 A. Yes, sir.  
14 Q. And that's Jesse Gagliano?  
15 A. Yes, sir.  
16 Q. And that indicates that Jesse Gagliano  
17 wanted to be called for these test results?  
18 A. Yes, sir.  
19 Q. And is that something that's indicated in  
20 Viking that he wants to be called?  
21 A. Sometimes it is in "Comments," but in  
22 this case, it's not. A lot of times when they  
23 submit a job initially, if they need it TP or

24 ASAP, they'll put -- put it in "Comments." But  
 25 sometimes the status of a job changes once  
 00227:01 they've submitted it. It depends how long it  
 02 takes us to get working on it or not. So in that  
 03 case, he could have called and ASAP'd it after  
 04 the fact that it was submitted.  
 05 Q. Okay. So an ASAP could either be in  
 06 Viking or it could be called in?  
 07 A. Yes, sir.  
 08 Q. And if a -- a -- a project is ASAP or TP,  
 09 is -- is the sheet always stamped?  
 10 A. Yes, sir.  
 11 Q. Because I -- I notice the first one is  
 12 not stamped, right? And then the April 15th one  
 13 is stamped --  
 14 A. Yes, sir.  
 15 Q. -- right? And the April 15th one is then  
 16 stamped, right?  
 17 A. H'm, yes, sir.  
 18 Q. And then the April 16th one is stamped?  
 19 A. Yes, sir.  
 20 Q. But then the April 17th one is not  
 21 stamped?  
 22 A. No.  
 23 Q. So that would indicate that the  
 24 April 17th test results, he did not asked to be  
 25 called -- called for then immediately?  
 00228:01 MR. BOWMAN: Objection, form.  
 02 A. Well, when -- when they submit an ASAP  
 03 job, we put it on a yellow clipboard.  
 04 Q. (By Mr. Chen) M-h'm.  
 05 A. And that notifies us, whether the stamp's  
 06 on it or not, that it is to be worked on in a  
 07 timely fashion. So had it not been stamped as it  
 08 appears, it would still be put on a yellow  
 09 clipboard, which would still make it ASAP --  
 10 Q. Okay.  
 11 A. -- stamp or not.  
 12 Q. If -- if it were on a yellow clipboard?  
 13 A. Yes.  
 14 Q. Do you remember if it was on a yellow  
 15 clipboard?  
 16 A. I have no idea.

Page 228:19 to 228:23

00228:19 wanted to run through some of these with you. If  
 20 you could go to Tab 1, this is Exhibit 808. And  
 21 you -- you see that it's a Cement Lab Weigh-Up  
 22 Sheet February 12th, 2010?  
 23 A. Yes, sir.

Page 229:16 to 233:20



00229:16 Q. Okay. So the very first one is "Foam Mix  
17 and Stability at 1800 F." Do you see that?

18 A. Yes, sir.

19 Q. And I'll -- I'll just ask you again, with  
20 the specific gravity top of -- of 2.02, which  
21 translates to 16.8, and the specific gravity  
22 bottom, 2.11, which translates to 17.6, is that  
23 result a pass or a fail?

24 A. According to the lab standards, it would  
25 not have been -- it would not have passed.

00230:01 Q. And according to lab practices, would  
02 someone have called the Engineer about this  
03 not-passed result?

04 A. There was not an ASAP or a TP.

05 Q. M-h'm.

06 A. He could have been called. I don't know  
07 for sure, but --

08 Q. Would --

09 A. -- it would be posted on Viking as "need  
10 validation," letting him know that it hadn't  
11 passed our standards, basically, you know, what  
12 do you want to do with it, do you want to re-test  
13 it, do you want to change the design.

14 Q. Okay. And would your practice have been  
15 to call the Engineer, if -- if you had run this  
16 test?

17 A. Yeah, usually I would call the Engineer.

18 Q. Okay. And is that -- sort of that the  
19 best practice that you're taught in -- in the  
20 lab, to call the Engineer when -- when you have  
21 something like this?

22 MR. BOWMAN: Objection, form.

23 A. Yeah, I don't know if it was the best  
24 practice, but --

25 Q. (By Mr. Chen) Is that what you've been  
00231:01 taught?

02 A. Yeah.

03 Q. Okay. Now, I want to go down to the  
04 "Crush Compressive Strength" test, the fourth one  
05 on that list. Are you with me?

06 A. Yes, sir.

07 Q. And then the note says, "Slurry settling  
08 will repeat test." Do you see that note?

09 A. Yes, sir.

10 Q. Now, is that something that indicates  
11 that the foam -- there's problems with the foam  
12 now?

13 A. I'm not sure.

14 Q. Are you familiar with the crush  
15 compressive strength test?

16 A. Yes, sir.

17 Q. And have you run it before?

18 A. Yes, sir.

19 Q. Have you run it on a foamed slurry  
20 before?

21 A. Yes, sir.  
 22 Q. And is -- are they running it on a foamed  
 23 slurry here?  
 24 A. According to this sheet, yes.  
 25 Q. So if you have -- if you're running the  
 00232:01 crush compressive strength on a foamed slurry and  
 02 the slurry is settling, is that an indication of  
 03 stability or instability?  
 04 A. That test is not really a -- a -- what am  
 05 I looking for -- you can't base stability off of  
 06 a crush comprehensive test. I mean, that's more  
 07 based off of the foam stability test.  
 08 Q. Fair enough. I'm asking about the  
 09 comment right there.  
 10 A. Yeah.  
 11 Q. If the slurry is settling, is that an  
 12 indication that particles in the slurry --  
 13 heavier particles are going down and lighter  
 14 particles are going up?  
 15 A. It appears to be, yes.  
 16 Q. And is that an indication that the slurry  
 17 is unstable?  
 18 A. According to that note for that test,  
 19 yes, it looks like it would be unstable.  
 20 Q. And if you had observed that in a crush  
 21 compressive strength test, would you have called  
 22 the Engineer?  
 23 A. We would have repeated it first to verify  
 24 that, you know, if it was just a messed-up test  
 25 or not.  
 00233:01 Q. M-h'm.  
 02 A. See how it says, "slurry is settling will  
 03 repeat"?  
 04 Q. Right. And there's something on the side  
 05 of that?  
 06 A. "#2," looks to me.  
 07 Q. Yeah. It says something, "test # 2," I  
 08 think.  
 09 A. Yeah. "Slurry settling will repeat,"  
 10 that's where the comment stops. After that, it  
 11 says "2:45," I don't know if it's a.m. or p.m. --  
 12 on the 15th of February, and it's "Heat #2,"  
 13 which would have been the heat bath they poured  
 14 it in.  
 15 Q. I see. So that's the comment that's  
 16 running over from the top?  
 17 A. Yes, sir.  
 18 Q. Okay.  
 19 A. So it looks like they were planning on  
 20 repeating it.

Page 233:23 to 235:02

00233:23 Q. (By Mr. Chen) Okay. If you could flip to  
 24 Tab 2, please, and that's Exhibit 809. Do you

25 see that?

00234:01 A. Yes, sir.

02 Q. And that's a February 16th Weigh-Up

03 Sheet?

04 A. Yes, sir.

05 Q. Now, if you could turn to the back of it,

06 and if you could go to the crush compressive

07 strength test again.

08 A. Yes, sir.

09 Q. Now, there are some notations here that

10 I'm going to ask you about, but --

11 A. Okay.

12 Q. -- the first notation, do you see on the

13 right side it says, "Hard on bottom soft on top"

14 at 48 hours?

15 A. I see "hard on," but I can't tell what

16 the other thing is -- other word.

17 Q. Okay. So if you had a tube that is hard

18 on bottom and soft on top, is that -- does that

19 raise a flag for you?

20 A. Yeah.

21 Q. And is that something that indicates that

22 the slurry is not stable?

23 A. (Reviewing document.) Yes, that could be

24 an indication that it would not be stable.

25 Q. And if you had seen that, would you have

00235:01 called the Engineer?

02 A. Yeah.

Page 235:17 to 235:19

00235:17 Q. (By Mr. Chen) So, Mr. Richard, we were on

18 Exhibit 809, and we were talking about the

19 comment "Hard on bottom," "soft on top."

Page 235:24 to 236:14

00235:24 Q. So are we on the same page, Exhibit 809,

25 the comment "Hard on bottom," "Soft on top"?

00236:01 A. Yes, sir.

02 Q. Now, is that the type of comment that you

03 would expect the Technician to put into Viking?

04 A. Put in comments, yes.

05 Q. And is that the same thing for this other

06 comment that we saw on Exhibit 808, where it says

07 "Slurry is settling - will repeat"? Is that a

08 comment that you would expect a Technician to put

09 into Viking?

10 A. Yes, sir.

11 Q. And is that what you -- you've been

12 taught to do, is when you have these significant

13 comments put them into Viking?

14 A. Yes, sir.

Page 236:19 to 236:20

00236:19 and we're going to look at the Cement Lab  
20 Weigh-Up Sheet for March 7th, 2010.

Page 237:07 to 237:11

00237:07 And I want to flag that Exhibit 5595.  
08 (Exhibit No. 5595 marked.)  
09 Q. (By Mr. Chen) And if you can put this tab  
10 on there.  
11 So this is a better copy of Exhibit 810.

Page 238:02 to 242:05

00238:02 Q. (By Mr. Chen) So I -- now I'm on the  
03 back. I'm looking at the -- the -- the crush  
04 compressive strength test. Are -- are you there,  
05 Mr. Richard?  
06 A. Yes, sir.  
07 Q. And is this a crush compressive strength  
08 test on foam cement?  
09 A. Yes, sir.  
10 Q. And -- and I want to read the note that's  
11 down the side. Are you able to read that?  
12 A. Yeah, I can make it out.  
13 Q. Okay. What does it say?  
14 A. "Slurry is settling out of blender, may  
15 need to condition, will check stability 1st."  
16 Q. Okay. And is that to you an important  
17 note about the -- important comment about the  
18 test?  
19 A. Yes, sir.  
20 Q. Something that you would put in the  
21 "Comment" section of -- of -- in Viking?  
22 A. Yeah.  
23 Q. And is this something that raises a flag  
24 for you?  
25 A. Yeah, it would -- you would take notice  
00239:01 of that and follow the note, will check stability  
02 and see if they ran -- they ran a foam stability.  
03 Q. And you would call the Engineer about  
04 this to let him know that the slurry is settling  
05 out of blender?  
06 A. Well, you would do the stability first.  
07 Then you would contact him.  
08 Q. Okay. And what does it mean when the  
09 slurry is settling out of blender?  
10 A. Means that after they mix up the slurry  
11 more than -- some of the top is more liquid, and  
12 the bottom's kind of thickening up; stuff's  
13 falling out, you know, falling out of the slurry.  
14 Q. And is that -- can you tell whether or

15 not that's the unfoamed slurry they're saying  
 16 settling out of the blender, or is that the foam  
 17 slurry that's settling out?

18 A. You can't tell right here.

19 Q. Do -- does it matter either way? I mean,  
 20 is that a good sign or a bad sign either way?

21 A. Well, there's a possibility that the base  
 22 slurry might but the foam slurry won't. So  
 23 there's no way of telling.

24 Q. Have you ever seen that, where the base  
 25 slurry is so thin it's settling but then the foam  
 00240:01 slurry isn't settling?

02 A. Well, it's not necessarily -- it's  
 03 just -- it's thin, but, no, I can't recall seeing  
 04 that.

05 Q. So do you see the note need to  
 06 condition -- or "may need to condition"? What is  
 07 that referring to?

08 A. Where do you see that note?

09 Q. After "slurry is settling out of  
 10 blender," do you see the next sentence? It  
 11 says --

12 A. Oh, "may need to condition."

13 Q. -- "may need to condition"?

14 Why would you need to condition if the  
 15 slurry is settling out of blender?

16 A. Conditioning helps replicate the job  
 17 more. And I've seen -- for instance, sometimes  
 18 very similar to this, the slurry's settling out,  
 19 you condition it, and it activates some of the  
 20 additives because some of the additives are  
 21 temperature activated. And conditioning also  
 22 helps get earlier compressive strength readings.

23 So it has a multiple -- you know, it has  
 24 more effects than -- than just starting it at a  
 25 different temperature.

00241:01 Q. Okay. Now, if you flip on the other side  
 02 of this, one of the additives is SA-541, right?

03 A. Yes, sir.

04 Q. And is that an antissettling additive?

05 A. It stands for Suspending Agent No. 541.

06 Q. And so if it's -- it's the type of  
 07 additive that would help thicken up a slurry?

08 A. Yes.

09 Q. Or help suspend solids in the slurry?

10 A. It's a suspending agent, but it's also  
 11 temperature activated.

12 Q. And do you know what temperature it's  
 13 activated?

14 A. 190, 190 degrees Fahrenheit.

15 Q. Uh-huh. And --

16 THE COURT REPORTER: One nine zero?

17 THE WITNESS: Yes, sir.

18 Q. (By Mr. Chen) How do you know that?

19 A. According to -- I believe it is the

20 Cementing Technology Manual.

21 Q. Okay. So how -- how hot would you need  
22 to condition this slurry to activate SA-541?

23 MR. BOWMAN: Objection, form.

24 A. Well, regardless of the activating  
25 temperature, the circulating temperature is 223  
00242:01 degrees. So if anything would be conditioned, it  
02 would be at 223.

03 We do take into account that it has  
04 SA-541, but it still -- if it didn't and it was  
05 at 223, it would still be conditioned at 223.

Page 242:23 to 243:02

00242:23 Q. (By Mr. Chen) So if you look at the  
24 second page, foam mix and stability -- are you  
25 there?

00243:01 A. On 036?

02 Q. On 036. Thank you.

Page 243:04 to 243:24

00243:04 Q. And there -- in handwriting, it says "180  
05 pump 1.5 hrs." Is that a note to the Technician  
06 as to how to condition the slurry?

07 A. The -- the note would be pump 1.5 hours.  
08 The 180, I'm not sure what that's about.

09 Q. Okay. And then this one has a result of  
10 specific gravity, 1.88 (15.7) and specific  
11 gravity bottom, 1.82 (15.1).

12 Do you see that?

13 A. Yes, sir.

14 Q. And is that a "pass" result?

15 A. It's more than a half pound. So I would  
16 say no.

17 Q. So that -- you would say that that slurry  
18 has failed the foam stability test?

19 A. Yes, sir.

20 MR. BOWMAN: Objection, form.

21 Q. (By Mr. Chen) And would -- would you call  
22 the -- if this were your test, would you call the  
23 Engineer to inform them?

24 A. Yes, sir.

Page 244:18 to 247:05

00244:18 Q. Now, there's notes here: "Cancel" Foam  
19 "Stability as per Jesse." That's not -- is that  
20 your handwriting?

21 A. No, sir.

22 Q. Do you -- do you have any information as  
23 to why that was canceled?

24 A. I do not.

25 Q. Okay. And then there's another note that  
00245:01 says: "Pour" cons -- compressive strength --  
02 "Pour C/S" -- the "C/S" is compressive strength,  
03 right?  
04 A. Yes, sir.  
05 Q. So "Pour" compressive strength "on UCA  
06 only as per Jesse." Do you see that?  
07 A. Yes, sir.  
08 Q. Is that your handwriting?  
09 A. No, sir.  
10 Q. Do you know anything about that note?  
11 A. No, sir.  
12 Q. What about the note that says right above  
13 that, for Thickening Time, that says: "OK'D By  
14 Jesse," do you have any information about that  
15 note?  
16 A. H'm, besides what it says, he okayed it  
17 at 1:55 a.m. on the 17th, I -- I don't have any  
18 other knowledge.  
19 Q. Okay. What about a little bit further  
20 down, it says: "Bad chart, repeat."  
21 Do you know -- do you have any  
22 information about that note?  
23 A. Besides what it states, no.  
24 Q. Okay. What about the last note on the  
25 page, last handwritten note, it says:  
00246:01 "Cancelled" foam compressive strength "on this  
02 part as per Jesse." Do you see that?  
03 A. Yes, sir.  
04 Q. Do you have any information about that?  
05 A. No, sir.  
06 Q. Now, would you expect that the Lab would  
07 run tests on the slurry that is actually pumped  
08 on the job?  
09 A. Repeat that?  
10 Q. Now, what -- the purpose of running lab  
11 tests is to know how the slurry is going to  
12 perform on the job, right?  
13 A. Yes, sir.  
14 Q. So would you expect that the Lab would  
15 run foam stability tests on the slurry that was  
16 actually pumped on the job?  
17 MR. BOWMAN: Objection, form.  
18 A. I mean, it's up to the Engineer, what he  
19 wants to run.  
20 Q. (By Mr. Chen) Is there any good reason  
21 you can think of where you wouldn't run the  
22 slurry that you're actually going -- you wouldn't  
23 test the slurry that you're actually going to  
24 pump on the job?  
25 A. I don't know.  
00247:01 Q. And -- and that's certainly not what  
02 you've been trained --  
03 A. No.  
04 Q. -- to -- to do --

05 A. Not at all.

Page 247:14 to 252:04

00247:14 Q. And this has an Exhibit No. 4347, in the  
15 corner, right?

16 A. Yes, absolutely.

17 Q. Okay. Now, if you flip -- and this --  
18 these are obviously just excerpts. There --  
19 there is a sheet for D-AIR 3000. Do you -- do  
20 you see that?

21 A. Yes, sir.

22 Q. And is this something that you have  
23 available to you in the laboratory?

24 A. Yes, sir.

25 Q. And what is this -- what is this sheet  
00248:01 describing?

02 A. This looks like a Quality Control Test on  
03 D-Air 3000.

04 Q. And it's trying to describe how effective  
05 D-Air is at defoaming, right?

06 A. It appears that way.

07 Q. And it's saying -- I -- I want to point  
08 you to the --

09 (Discussion off the record.)

10 MR. CHEN: Okay.

11 Q. (By Mr. Chen) Have you ever run a Quality  
12 Control Test like this before?

13 A. No, sir.

14 Q. Is -- are these type -- is -- is this  
15 sort of a research test?

16 A. I -- I have no idea.

17 Q. Okay. Do -- do you -- does Broussard  
18 Laboratory run tests on the effectiveness of  
19 cement additives, or is that done in a different  
20 laboratory?

21 A. Some additives, we do. I don't believe  
22 D-Air is one of them.

23 Q. Okay. Is Duncan the main Lab that runs  
24 the -- that tests the effectiveness of -- of  
25 additives?

00249:01 A. That I don't know.

02 Q. Okay. So I want you to look at the  
03 footnote. And it's got -- not the footnote.  
04 It's got a cite, and it's got a little star  
05 there, and it starts: "Some" cents -- "Some  
06 cements do not entrain air." Do you see that --

07 A. Yes, sir.

08 Q. -- right under the charts?

09 So I'll read it to you. It says: "Some  
10 cements do not entrain air. To measure defoamer  
11 efficiency in these cements add 0.5 milliliters  
12 of ZoneSealant 2000 foamer or similar foamer  
13 before API/ISO mixing."

14 Did I read that correctly?



15 A. Yes, sir.  
16 Q. Now, what is that saying? What do you  
17 understand that to be saying?  
18 A. To -- to measure the efficiency of D-AIR  
19 3000, you'd have to mix it with a ZoneSealant  
20 slurry.  
21 Q. And that's to show that D-AIR 3000 can  
22 knock out the foaming qualities of ZoneSealant  
23 2000, right?  
24 MR. BOWMAN: Objection, form.  
25 A. Well, it would show how much it would  
00250:01 knock out. It doesn't totally knock everything  
02 out.  
03 Q. (By Mr. Chen) Does it say somewhere where  
04 it doesn't totally knock it out?  
05 A. No, it doesn't, but it doesn't say it  
06 totally knocks it out, either.  
07 Q. Right. So it's saying -- it's  
08 suggesting, if you want to see how effective this  
09 works, this defoamer works. It'll -- not only  
10 will it defoam -- unfoam slurries, it'll defoam a  
11 slurry with ZoneSealant 2000.  
12 MR. BOWMAN: Objection, form.  
13 A. It's a defoamer. That's why we test  
14 it --  
15 Q. (By Mr. Chen) Right.  
16 A. -- to see how it works.  
17 Q. Right. But I'm just talking about this  
18 internal Information Sheet is saying D-AIR 3000  
19 is such a good defoamer, you can test it to see  
20 how effective it is by testing a slurry with  
21 ZoneSealant 2000, didn't it?  
22 A. But it --  
23 MR. BOWMAN: Objection, form.  
24 A. This is just a QC test. I mean, you'd do  
25 this on any additive -- could do this on any  
00251:01 additive. D-Air is not a specializer that you  
02 would do that.  
03 Q. (By Mr. Chen) Right. But this specific  
04 test is using D-AIR 3000 to knock out the foaming  
05 qualities of ZoneSealant 2000, right?  
06 MR. BOWMAN: Objection, form.  
07 Q. (By Mr. Chen) That's what it's suggesting  
08 it's capable of doing.  
09 MR. BOWMAN: Objection, form.  
10 A. Measuring the efficiency. That's what  
11 the paperwork says. I never did a test like  
12 this, so --  
13 Q. (By Mr. Chen) Okay. And is this Global  
14 Laboratory Best Practices a document that's  
15 available to Cement Engineers in Halliburton?  
16 A. To Cement Engineers?  
17 Q. To Cement Engineers.  
18 A. I have no knowledge of what they have  
19 available to them.

20 Q. Okay. Is it posted on HalWorld, the  
21 internal intranet?  
22 A. Global Laboratory Best Practices is, so  
23 if this is in there, it should be available.  
24 Q. Do you know if it's in HalWorld?  
25 A. Well, Global Best Practices is on the  
00252:01 HalWorld site, so this is Global Best Practices,  
02 right? So it should be in there.  
03 Q. So it would be available to Engineers?  
04 A. Yeah.

Page 253:08 to 260:06

00253:08 Q. I'm going to start out, if you would,  
09 look at the PSC Tab 32, that's Exhibit 4569. And  
10 this is the API 10B-4; is that correct?  
11 A. Yes, sir.  
12 Q. All right. If you look at the top of  
13 Page 10, the -- it's on the second line from the  
14 top, it says: "Mark the specimen into at least  
15 three segments of approximately equal length."  
16 Do you see that?  
17 A. Yes, sir.  
18 Q. It says: "Cut the sample into sections  
19 and mark them from...top to the bottom.  
20 Do you see that?  
21 A. Yes, sir.  
22 Q. And I'll have you look at now the PSC  
23 Tab 26, and I'll be referring back and forth  
24 between these. That's Exhibit 815, and that's  
25 the Halliburton Global Best Practices.  
00254:01 And if you'll turn to Page 3-62, and  
02 No. 9 there in the middle. Again, it says: "Cut  
03 the curing device into multiple sections (3  
04 sections are recommended)."  
05 Do you see that?  
06 A. Yes, sir.  
07 Q. In both API 10B-4 and the section that we  
08 looked at in Exhibit 4569, and also on No. 9 here  
09 in Exhibit 815, those are both referring to foam  
10 stability tests; is that correct?  
11 A. Yes, sir.  
12 Q. Okay. And you testified earlier that  
13 when you conduct these foam stability tests, you  
14 also typically cut the -- the PVC pipe containing  
15 the cement slurry into three or four sections?  
16 A. Yes, sir.  
17 Q. Now, my question is, do you measure the  
18 mass of each one of those sections when you cut  
19 that out?  
20 A. Yeah, you measure each section.  
21 Q. Okay. Do you have an understanding as to  
22 why API 10B-4 and the Halliburton's Best  
23 Practices recommend that you cut multiple  
24 sections?

25 A. To measure the -- the density throughout  
00255:01 the slurry.

02 Q. Okay. And you said when you cut those  
03 three to four sections, you mark them from top to  
04 bottom?

05 A. Yes, sir.

06 Q. So is that done like, say, "1," "2," "3,"  
07 or is that "Top," "Bottom"?

08 A. Either way. It doesn't matter.

09 Q. Do you have a habit of either way?

10 A. "1," "2," "3," "4" --

11 Q. Okay.

12 A. -- if I cut it into four pieces.

13 Q. Okay.

14 A. Sometimes it changes because when you cut  
15 it, sometimes a piece breaks or whatever.

16 Q. Okay. So then now look at Exhibit 984.  
17 That's the PSC Tab 4, and if you'll look at the  
18 page ending in Bates No. 043.

19 A. Okay.

20 Q. And once you measure these sections, you  
21 would record the mass that you find in the boxes  
22 under SG top and SG bottom?

23 A. Yes, sir.

24 Q. Okay. Say you measure more than two  
25 sections, which sections do you record the mass  
00256:01 for?

02 A. You record all the sections.

03 Q. Okay. For instance on Exhibit 984, the  
04 Bates ending in 043, you only see two recorded  
05 results there; is that right?

06 A. Yes, sir.

07 Q. Where would the other results be recorded  
08 at?

09 A. It would be in Comments, or it would be  
10 recorded on this sheet. But since there's no  
11 place on Viking to record it, when you actually  
12 post it on the Viking program, it would be in  
13 Comments.

14 Q. Okay. So based on this page in front of  
15 you ending in 043, can you tell how many sections  
16 were measured, the mass of those sections?

17 A. Looks like only two sections according to  
18 this sheet.

19 Q. Is there any way to tell whether that was  
20 the top section, or the bottom section, or  
21 perhaps if there were four sections cut, the two  
22 middle sections? Is there any way to  
23 differentiate which section was cut or measured,  
24 rather?

25 MR. BOWMAN: Objection, form.

00257:01 A. As far as this sheet, as far as it looks  
02 like on this sheet, there was -- was only two  
03 sections cut out, and there's an SG top and the  
04 SG bottom, which means the specific gravity of

05 the top section and specific gravity of the  
06 bottom section. If another section would be  
07 used, it would have been wrote in, you know,  
08 around the -- the foam block.

09 But like I said, according to the  
10 paperwork, it looks like they only did two of  
11 them.

12 Q. (By Mr. King) Now would that be  
13 consistent with the Halliburton Global Best  
14 Practices and the API Recommendations --

15 A. No, sir.

16 Q. -- to only do two?

17 A. No, sir.

18 Q. Now, based on your experience in  
19 performing I think you said approximately 50 to  
20 60 of these foam stability tests, on average, how  
21 long does it take from the time you pull the PVC  
22 pipe out with the cement slurry inside, how long  
23 does it take to cut them, make your observations,  
24 and record those results on the paper?

25 A. I would say from start to finish, once  
00258:01 you pull it out and cut it and measure it, and  
02 write their data down, 10, 15 minutes.

03 Q. 10 to 15 minutes?

04 A. Pretty generous.

05 Q. And if you were to come up with these  
06 results here, the 1.8 and the 1.799 shown in  
07 Exhibit 984, the Bates ending in 043, would you  
08 be the individual in the lab that would record  
09 those in Viking?

10 A. If it was me that would have done the  
11 test?

12 Q. Yes.

13 A. Like I said earlier, it -- it depends,  
14 you know. If there's somebody working the desk,  
15 she -- or he or she would usually be posting a  
16 lot of the stuff going through, whether she or --  
17 he or she did it or not.

18 Q. M-h'm.

19 A. So whoever run this test could have  
20 posted it themselves, or who -- they could have  
21 handed it off to the person at the desk and he or  
22 she could have posted it so they could go do --  
23 do something else.

24 Q. Okay.

25 A. There's no really set thing that if you  
00259:01 run a test, you have to post it, so --

02 Q. Okay. So is there -- for the person at  
03 the desk, is there like an inbox and an outbox,  
04 that once you finish a test and you have your  
05 Weigh-up Sheets and your results in there, you  
06 just can put it in there on top of the stack and  
07 they --

08 A. Well, the person is there all the time,  
09 so you just -- you know, they're right there, you

10 can drop it off on the cabinet or the table just  
11 like we have right here, and, you know, "Hey, can  
12 you post this for me? I've got to go do  
13 something else."

14 You know, maybe a timer went off  
15 something else, and you needed to do that before,  
16 you couldn't let it sit, so maybe somebody else  
17 posted it for you, so --

18 Q. On average, do you know the turnaround  
19 time between the time you finish the test and  
20 record your results to the time that it's input  
21 into the Viking system?

22 A. H'm, I can't give you an exact time. I  
23 mean, it dif -- it changes. If you're not busy  
24 after this test, you can do it right away. But  
25 it could be in upwards of an hour, 30 minutes to  
00260:01 an hour before, you know, it gets posted.

02 If things start coming off, timers or  
03 other tests that you have to deal with right  
04 away, you can't stop and lose a test just to post  
05 results that's already -- you know, a test that's  
06 already done. So, yeah.

Page 262:23 to 263:20

00262:23 Q. If you look back at the page we were on  
24 before ending in 043, if it was Mr. Gagliano that  
25 had told you to condition the sample for three  
00263:01 hours, do you think you would have put "per  
02 Jesse" like you did on the page ending in 046  
03 that says: "Repeat as per Jesse"?

04 A. There's a possibility. If I talked to  
05 him, I would have put it. But there's also the  
06 possibility that somebody told me that Jesse told  
07 them, you know, on the phone. You know, there's  
08 five, six techs working in the lab at one time.  
09 Somebody could answer the phone and say, you  
10 know, "Hey, Jesse told me to do this," and we  
11 just write it down.

12 Q. Do you have any understanding as to why a  
13 second foam stability test was called for by  
14 Mr. Gagliano?

15 A. You mean -- oh, you mean why it was  
16 repeated?

17 Q. Right.

18 A. Probably just to verify the results. I  
19 don't really know, other than that. Any time  
20 they have a question, they repeat the sample.

Page 265:06 to 265:14

00265:06 Q. Okay. Do you know whether or not the  
07 Broussard Lab retains the samples, the sections  
08 actually that were cut for these foam stability

09 tests, whether or not those are retained  
10 somewhere in the lab?  
11 A. No, they're not kept.  
12 Q. Are they always discarded?  
13 A. Yeah. After the test is done, they're --  
14 they're thrown in the trash.

Page 265:17 to 267:17

00265:17 Q. (By Mr. King) Okay. Would you agree that  
18 the amount of time that it takes to actually  
19 complete and finalize the foam stability test  
20 depends on the amount of time that it takes for  
21 the cement slurry to develop compressive  
22 strength?  
23 A. Definitely.  
24 Q. Okay. And you can determine the amount  
25 of time that it takes for the foam cement to  
00266:01 develop compressive strength by running a crush  
02 compressive strength test?  
03 A. Yes, sir.  
04 Q. And if you look at the page ending in  
05 Bates 043, Exhibit 984, the crush compressive  
06 strength test that was done on this foam slurry,  
07 it didn't show compressive strength until 48  
08 hours; is that correct?  
09 A. According to this sheet, yes.  
10 Q. So the foam stability test that you say  
11 you started on April the 18th at 2:15 a.m., that  
12 wouldn't have been complete until 48 hours later?  
13 MR. BOWMAN: Objection, form.  
14 A. I'm not sure. There's no time or date as  
15 to when it was finished.  
16 Q. (By Mr. King) Okay. If I understand what  
17 you were testifying to earlier this morning, you  
18 said that they would have let the -- the foam set  
19 for 48 hours before. Well, you testified that  
20 they would have let it set for 48 hours because  
21 of the compressive strength test didn't show  
22 compressive strength developing until 48 hours?  
23 MR. BOWMAN: Objection, form.  
24 A. Well, that's true for the crush  
25 compressive strength test. But as I said  
00267:01 earlier, too, we always pour a -- a separate  
02 sample on the side of a foam stability to check  
03 it, you know, before we open -- we'll check that  
04 sample, make sure it's hard before we open the  
05 foam stability tube. So in this case, I mean, if  
06 that sample was hard in 36 hours, it could have  
07 been broke in 36. But you have no way of knowing  
08 because it's not written down.  
09 Q. (By Mr. King) Okay. And when you look at  
10 that sample that you pour off to the side, I  
11 mean, how do you know by looking at it whether it  
12 has set enough to perform the foam stability

13 test?  
14 A. If you pick it up and squeeze it and it's  
15 hard, and you can take the top of the container  
16 and see that it's set up, it's hard enough to --  
17 to run the foam stability.

Page 268:17 to 271:15

00268:17 Did you ever communicate with anyone from  
18 Anadarko or any entity which you believe to be  
19 affiliated with Anadarko regarding the Macondo  
20 Well, or any issue at all about the Macondo  
21 cement process or lab testing?  
22 A. No, sir.  
23 Q. Are you aware of anyone else from  
24 Halliburton communicating with Anadarko about any  
25 decision made regarding the Macondo cement  
00269:01 process or lab testing?  
02 A. No, sir.  
03 Q. Are you aware of any lab tests conducted  
04 by Halliburton on the cement slurry, for purposes  
05 of the Macondo Well, being transmitted to  
06 Anadarko at any point in time prior to April 20,  
07 2010?  
08 A. No, sir.  
09 Q. Is it you -- is it your understanding  
10 that cement slurries are exposed to increasing  
11 temperatures and pressures as they're pumped down  
12 the well?  
13 A. Yes, sir.  
14 Q. These increasing temperatures and  
15 pressures cannot only alter the chemical and  
16 physical properties of the liquid slurry and  
17 cured cement, but they can also affect the cement  
18 curing process itself. Do you understand that?  
19 A. Yes, sir.  
20 MR. CHEN: Objection, form.  
21 Q. (By Mr. Guidry) In your opinion, does  
22 every well present a different combination of  
23 cementing conditions?  
24 A. You have to repeat that.  
25 Q. In your opinion, does every well present  
00270:01 a different combination of cementing conditions?  
02 A. Yes, sir.  
03 Q. Therefore, in order to determine if a  
04 cement slurry will likely set properly under  
05 wellbore conditions, the Hallibit -- Halliburton  
06 cement lab performs certain tests on cement  
07 slurry before the job begins, correct?  
08 A. Yes, sir.  
09 Q. That would make it important to test the  
10 cement slurry design against expected conditions  
11 in a particular well before pumping the cement  
12 into the well, correct?  
13 MR. BOWMAN: Objection, form.

14 A. Yes, sir.

15 Q. (By Mr. Guidry) So in other words, you  
16 can't just take one standard recipe and use it  
17 from well to well, correct?

18 MR. BOWMAN: Objection, form.

19 A. Yes, sir.

20 Q. (By Mr. Guidry) You have to design a -- a  
21 cement slurry to suit a particular downhole  
22 condition or conditions of a well that you're  
23 dealing with at that time, correct?

24 MR. BOWMAN: Objection, form.

25 A. Yes, sir.

00271:01 Q. (By Mr. Guidry) Before pumping that  
02 cement job, is it Halliburton's standard practice  
03 to have at least two rounds of cement testing?

04 A. As far as I know, yes.

05 Q. And the first round would consist of a  
06 so-called pilot test, I believe we discussed that  
07 a little bit earlier today, conducted in advance  
08 of pumping the job to develop an appropriate  
09 cement slurry design or recipe; is that correct?

10 A. Yes, sir.

11 Q. At the time the pilot test -- of the  
12 pilot test, do you rely on the Operator to  
13 provide you with the best available information  
14 about downhole conditions?

15 A. Yes, sir.

Page 271:17 to 275:19

00271:17 Q. (By Mr. Guidry) And you do that to  
18 simulate downhole conditions as best as possible  
19 for the tests, correct?

20 A. Yes, sir.

21 Q. Do the pilot tests usually determine what  
22 cement recipe will be sent to the rig?

23 MR. BOWMAN: Objection, form.

24 A. As far as I know, yes.

25 Q. (By Mr. Guidry) If you wouldn't mind,  
00272:01 turn to Tab 1 of PSC's binder, that should be  
02 Exhibit 808. And I believe, let me get it in  
03 front of me, it's the Weigh-Up Sheet from  
04 February 12, 2010. Do you recall seeing this  
05 Weigh-Up Sheet earlier today?

06 A. Yes, sir.

07 Q. And if then you would also turn to Tab 2,  
08 which is the February 16, 2010 Weigh-Up Sheet,  
09 and those are respectively Exhibits 808 and 809,  
10 for the record.

11 First of all, why is it called a  
12 February 12, 2010 Weigh-Up Sheet?

13 A. The first Weigh-Up Sheet?

14 Q. Yes, sir. Is that when the tests were  
15 actually com -- completed?

16 A. That's when the -- this sheet was printed



17 out. If you look at the bottom, "Printed on"  
18 "February" sec -- 12th, I'm sorry, "2010," 3:12  
19 "PM."  
20 Q. Understood. And same goes for the  
21 February 16, 2010 Weigh-Up Sheet?  
22 A. Yes, sir.  
23 Q. Do you understand these two Weigh-up  
24 Sheets to be the pilot testing for the Macondo  
25 Well?  
00273:01 A. No. These --  
02 MR. BOWMAN: Objection, form.  
03 A. These two sheets actually say -- if you  
04 look at the top "Request Type," it says  
05 "Operation." Operation is the blend test. If it  
06 would be a pilot, it would say pilot.  
07 Q. (By Mr. Guidry) Okay. Then maybe you can  
08 explain to me, when it says, "Req," which I  
09 assume is request, backward slash "Slurry:  
10 US-65112" backward slash "3," on the top of  
11 either one of the Weigh-up Sheets, what does that  
12 mean exactly?  
13 A. R-e-q means request, "Slurry," "US" means  
14 that it's allowed in the United States, and  
15 "65112" is the Project number, and the "/3" is  
16 the part of that Project that we are working on.  
17 Q. So would you expect additional Weigh-up  
18 Sheets demonstrating tests that were conducted  
19 earlier than these --  
20 A. Yes.  
21 Q. -- based on that backward slash 3?  
22 A. Yeah. If there's -- this is a Part 3  
23 Weigh-Up Sheet, so you would expect to see a  
24 Part 1 and 2 in front of it.  
25 Q. And if you look at the list of materials,  
00274:01 under the material section, it has such materials  
02 as "Lafarge Class H, EZ-FLO, D-Air 3000, KCl,  
03 SSA-1, SSA-2, and SA-541," I believe. And it --  
04 it says the "Source" for all of those is  
05 "TRANSOCEAN." Do you understand that these  
06 materials are materials that came from the rig?  
07 A. Yes, sir.  
08 Q. And then it -- it has "Test Amount,"  
09 which I understand to be the weights of each one  
10 of these materials, crossed out, and then an  
11 arrow pointing up to "Blend Weight," which says  
12 "907.27" grams. And it says -- particularly I'm  
13 looking at the February 12 Weigh-Up Sheet. Do  
14 you see that?  
15 A. Yes, sir.  
16 Q. Does that indicate to you that this is a  
17 blend that was already put together prior to the  
18 testing done on it, which came from the rig?  
19 A. That indicates it was a blend. When it  
20 was put together, I have no idea.  
21 Q. So you don't know whether this was

22 already a blend that was offloaded from the --  
 23 from the -- from the rig and then sent to the lab  
 24 for testing?  
 25 A. Yeah, it was a blend that was sent from  
 00275:01 the rig for testing. But I -- I thought you  
 02 mentioned something about maybe being a pilot,  
 03 or -- this might be the blend before the pilot.  
 04 I don't -- I don't know about that.  
 05 Q. I'm not asking that question --  
 06 A. Okay.  
 07 Q. -- actually. But according to this, do  
 08 you believe that this was a blend that came from  
 09 the rig?  
 10 A. Yes, sir.  
 11 Q. And it was preblended before you all  
 12 received it, correct?  
 13 A. Yes, sir.  
 14 Q. Do you know when this particular recipe  
 15 was blended?  
 16 A. No, sir. We don't see the -- the dates  
 17 that it was blended. I just -- this date right  
 18 here on the right can tell you when we logged it  
 19 in Viking.

Page 276:05 to 276:10

00276:05 Q. Okay. Do you know if the base slurry was  
 06 on the rig before it went to the Macondo Well?  
 07 A. I have no knowledge of that.  
 08 Q. Do you know if this base slurry was  
 09 originally blended for the Kodiak Well?  
 10 A. I have no knowledge of that.

Page 276:15 to 278:02

00276:15 Q. (By Mr. Guidry) As you stated earlier,  
 16 the types of tests that Halliburton runs varies  
 17 from customer to customer in your experience,  
 18 correct?  
 19 A. Yes, sir.  
 20 Q. So obviously, the Operator has the  
 21 ability to control which tests your cement lab  
 22 performs before the cement job, correct?  
 23 MR. CHEN: Objection, form.  
 24 A. As far as I know, yes.  
 25 Q. (By Mr. Guidry) So if BP requested  
 00277:01 specific tests on the Macondo, that request would  
 02 have come through Jesse Gagliano, correct?  
 03 MR. CHEN: Objection, form.  
 04 A. I do not know that for sure -- for sure.  
 05 Q. (By Mr. Guidry) Well, Jesse Gagliano was  
 06 the point man for Halliburton with regard to the  
 07 Macondo Well in dealing with the customer,  
 08 correct?

09 A. I guess. I don't know for sure.  
10 Q. Did any customer request flow through any  
11 other person besides Jesse Gagliano?  
12 MR. CHEN: Objection, form.  
13 A. I do not know that.  
14 Q. (By Mr. Guidry) So if the customer  
15 requests Halliburton to -- to conduct an ambient  
16 conditions foam stability test, then that test  
17 would be run in one of its labs, correct?  
18 A. Repeat that.  
19 Q. If the customer requests Halliburton to  
20 conduct any particular test, then that test would  
21 be run in one of Halliburton's labs, correct?  
22 A. If it was submitted by the Engineer, yes.  
23 Q. Okay. And if the cus -- customer does  
24 not want a particular test, including an ambient  
25 condition foam stability test, then the lab would  
00278:01 not run one, correct?  
02 A. It's up to the Engineer, again.

Page 278:04 to 280:05

00278:04 Q. (By Mr. Guidry) Earlier you stated, when  
05 we were talking about the Weigh-up Sheets, as far  
06 as temperature and pressure are just basic things  
07 that you need during that job. Is that the type  
08 of information that you expect to have come from  
09 the customer in order for you to input for  
10 purposes of conducting your testing?  
11 MR. CHEN: Objection, form.  
12 A. That comes on the Viking sheet. That  
13 would be the Engineer's responsibility to figure  
14 all those numbers out, and we -- we're given all  
15 this information just to test.  
16 Q. (By Mr. Guidry) So you don't know if  
17 tho -- if the temperature and pressure comes from  
18 the Engineer or if it comes from the customer,  
19 correct?  
20 A. I don't know.  
21 Q. Okay. After you all conduct your tests,  
22 and cement is pumped down the hole, is it your  
23 understanding that it's the Operator that must  
24 determine whether the cement job was successful?  
25 MR. CHEN: Objection, form.  
00279:01 A. I don't know.  
02 Q. (By Mr. Guidry) You -- do you normally  
03 run any tests on the cement job once it's been  
04 pumped?  
05 A. There is some instance where we would,  
06 trouble jobs, but --  
07 Q. And you say trouble jobs?  
08 A. Yes.  
09 Q. Is that usually for remedial work?  
10 A. I don't know.  
11 Q. When you say "trouble jobs," what do you

12 mean by that?

13 A. Sometimes something doesn't go exactly  
14 right on a job, and it's kind of like  
15 after-the-fact testing, they want to see what  
16 happens, or -- or what happened, rather, so we've  
17 done testing on that in the past.

18 Q. Okay. Have you ever done testing after a  
19 primary job was pumped for purposes of remedial  
20 work?

21 A. Say that again.

22 Q. Have you ever done tests --

23 MR. GUIDRY: Can you read it back to  
24 him?

25 (Requested portion was displayed and read  
00280:01 as follows:

02 QUESTION: "Have you ever done testing  
03 after a primary job was pumped for purposes of  
04 remedial work?")

05 A. I don't recall.

Page 280:20 to 284:13

00280:20 Q. Mr. Richard, a few followup questions.  
21 Now, you were asked about, you know, prior  
22 experience before you went to work in the lab,  
23 and you, of course, did not have any prior lab  
24 experience, did you?

25 A. No, sir.

00281:01 Q. Now, while you didn't, did you have any  
02 relatives that have had any lab experience?

03 A. Yes, sir.

04 Q. Who's that?

05 A. Dustin Richard.

06 Q. And who is Dustin Richard?

07 A. He's my brother.

08 Q. He's your brother?

09 A. Yes, sir.

10 Q. And what kind of lab experience did he  
11 have?

12 A. He had about three years before I got  
13 there.

14 Q. Okay. So he actually had three years  
15 working in the same lab you ended up working in?

16 A. Yes, sir.

17 Q. Okay. Do you have any other relatives  
18 there?

19 A. Matt Richard.

20 Q. Matt Richard. And who is Matt Richard?

21 A. My cousin.

22 Q. He's your cousin?

23 A. Yes, sir.

24 Q. Was -- did he have some lab experience  
25 before he went to work there?

00282:01 A. About a year.

02 Q. About one year. And, in fact, is that

03 kind of how you knew to call on Halliburton to  
04 try to get a job anyway?  
05 A. Yes, sir.  
06 Q. Okay. Now, you were asked some questions  
07 a little earlier about SA-541. I don't know if  
08 you remember when the attorney representing PSC  
09 was asking you about D-Air and kind of lumping  
10 541 with it. Do you remember that?  
11 A. Yes, sir.  
12 Q. Now, look at -- well, I'm not sure what  
13 the exhibit number is, but it was Tab 30 in the  
14 exhibit book of --  
15 (Phone ringing.)  
16 Q. (By Mr. Bowman) -- the PSC, and it  
17 actually describes SA-541, does it not?  
18 A. Yes, sir.  
19 THE COURT REPORTER: 5568.  
20 MR. BOWMAN: Thank you.  
21 Q. (By Mr. Bowman) And do you see anywhere  
22 in 5568 where it says you're not supposed to use  
23 SA-541 in foamed slurries?  
24 A. No, sir.  
25 Q. As a matter of fact, do you -- do you  
00283:01 design slurries?  
02 A. No, sir.  
03 Q. That -- that's actually a Cement  
04 Engineer, isn't it?  
05 A. Yes, sir.  
06 Q. Okay. Because you've been asked  
07 questions all day about what would you do with  
08 this slurry and that slurry. And is it up to you  
09 to say what's supposed to go into the slurry  
10 anyway?  
11 A. No, sir.  
12 Q. What's your actual job there at the lab?  
13 A. To test the slurry.  
14 Q. To test the slurry. Now, do you have  
15 some sort of understanding as to whether Jesse  
16 Gagliano was an experienced Engineer?  
17 A. As far as I knew, he was.  
18 Q. And do you have an understanding, as an  
19 experienced Engineer at Halliburton, would have  
20 knowledge that generally you're not supposed to  
21 put D-Air in a foamed slurry?  
22 A. Yes, sir, he should.  
23 Q. Okay.  
24 MR. CHEN: Objection, form.  
25 Q. (By Mr. Bowman) And do you also have any  
00284:01 knowledge that if you put D-Air in, you can test  
02 it, and if you test it and it shows that it's  
03 stable, that's okay?  
04 A. Yes, sir.  
05 Q. Okay. In fact, now --  
06 MR. CHEN: Objection, form.  
07 Q. (By Mr. Bowman) -- I don't know if you

08 know this one or not: Do you -- do you know if  
09 any extra ZoneSealant was put in this particular  
10 slurry that was used on the Macondo?  
11 A. No, sir, I do not.  
12 Q. Who would that have been up to?  
13 A. The Engineer.

Page 284:19 to 284:23

00284:19 Q. And you said you didn't have any personal  
20 knowledge about BP --  
21 A. (Nodding.)  
22 Q. -- practices?  
23 A. Yes, sir.

Page 286:09 to 286:18

00286:09 Q. (By Mr. Bowman) Yeah. Do you have any  
10 personal knowledge as to whether using  
11 WellLife 734 has any effect one way or the other  
12 on a particular lab test?  
13 A. It's an additive like any other. They  
14 all have their own effects, but exactly what, I'm  
15 not sure.  
16 Q. Have you ever actually used WellLife 734  
17 in a test?  
18 A. In a slurry, yes.

Page 286:25 to 288:07

00286:25 Q. Okay. Oh, the BP lawyer asked you about  
00287:01 Exhibit 5595. That's Tab 3 in this book.  
02 THE COURT REPORTER: (Tendering.)  
03 Q. (By Mr. Bowman) Very good. And if you go  
04 to the first page, it's something dated  
05 March 7th, 2010. Do you see that?  
06 A. Yes, sir.  
07 Q. Now, before today, have you -- do you  
08 recall even seeing that particular document?  
09 A. I don't recall seeing this before.  
10 Q. Now, let's -- let's -- let's look at the  
11 ingredients on the first page. Now, the  
12 foamer -- you -- you see down there where it says  
13 "Foamer"?  
14 A. Yes, sir.  
15 Q. Doesn't -- does not say "ZoneSealant,"  
16 does it?  
17 A. No, sir.  
18 Q. What does it say?  
19 A. "Foamer 760."  
20 Q. Do you know what Foamer 760 is?  
21 A. Not really.  
22 Q. Have you ever used Foamer 760?

23 A. Not that I recall.  
 24 Q. Have you ever seen Foamer 760 used in any  
 25 wells in the Gulf of Mexico?  
 00288:01 A. Not that I recall.  
 02 Q. ZoneSealant is what's used in the Gulf,  
 03 based on your experience, right?  
 04 A. Yes, sir.  
 05 Q. Do you know if Foamer 760 is a foamer  
 06 that is typically used in the North Sea?  
 07 A. I do not know that.

Page 289:07 to 290:12

00289:07 Q. I want to make sure I understand what  
 08 you, I think, just said to the attorney from  
 09 Anadarko, Mr. Guidry. The standard practices for  
 10 HESI, as you understand it, during the time  
 11 you've been in that lab from 2008 through the  
 12 present, is that you run at least two tests on  
 13 the cement slurry based upon what tests the  
 14 Engineer requests?  
 15 MR. CHEN: Objection, form.  
 16 A. Well, not two tests. There's a pilot  
 17 test --  
 18 Q. (By Mr. Petosa) Okay.  
 19 A. -- which consists of a -- a Viking sheet.  
 20 It's all the -- the testing that we would do on  
 21 that slurry with lab stock added. And then  
 22 there's the same thing with the blend, but it's  
 23 used in operation.  
 24 Q. And have you been trained, and in your  
 25 experience in the lab, to understand that when an  
 00290:01 Engineer asks for a certain test to be done, and  
 02 specifically a foam stability test, that that  
 03 foam stability test should be done with the  
 04 specific ingredients that are going to be used  
 05 downhole?  
 06 A. On a pilot test? Yes, yes.  
 07 Q. And how about on a -- a subsequent test  
 08 when you're testing the actual blend?  
 09 A. Well, the blend composition is -- that's  
 10 going to be what the final slurry design is, so,  
 11 yeah, it would be what they're going to use on  
 12 the job.

Page 290:22 to 292:01

00290:22 Would you agree that if an Engineer wants  
 23 a foam stability test, that that foam stability  
 24 test should be done on the slurry that is going  
 25 to actually be used downhole?  
 00291:01 MR. BOWMAN: Object to form.  
 02 A. Yeah.  
 03 Q. (By Mr. Petosa) Why?

04 A. Because that's the slurry that's going to  
05 be used downhole, you'd try to -- you want to try  
06 to replicate the job as much as possible.

07 Q. And you would agree that in your years at  
08 HESI, that's the HESI Best Practices, correct?

09 MR. BOWMAN: Objection, form.

10 A. Now, that, I don't know.

11 Q. (By Mr. Petosa) Okay. But you would  
12 agree that would just make basic good, common  
13 sense to you --

14 A. Uh-huh.

15 Q. -- in the years you've been at that lab,  
16 correct?

17 A. It makes sense, yes.

18 Q. And that's a safety issue, too. Wouldn't  
19 you agree that you would want to make sure that  
20 if you're running a foam stability test for the  
21 Engineer to be used downhole, that that test is  
22 done to mimic not just the conditions downhole,  
23 but what -- the specific additives that are going  
24 to be in the slurry put downhole?

25 MR. BOWMAN: Objection, form.

00292:01 A. Yes.

Page 292:20 to 294:10

00292:20 Q. Mister -- Mr. Gagliano provided Mr. Morel  
21 with a lab test, apparently, as of April 17th,  
22 2010 at 10:50 in the morning for the 8-gallon  
23 retarder and 9-gallon retarder, correct?

24 A. That's what it looks like.

25 Q. Okay. And -- and you can see from that,  
00293:01 if you look a little further down, that that  
02 represents those times we talked about earlier on  
03 the thickening time. If you remember earlier  
04 today, when you and I first spoke, we discussed  
05 that thickening time for the 8-gallon retarder  
06 was five and a half hours. You recall that?

07 A. Yes, sir.

08 Q. And you recall that the 9-gallon retarder  
09 was a little over seven and a half hours,  
10 correct?

11 A. Yes, sir.

12 Q. And you see above that now, there's  
13 another followup E-mail, and that's between two  
14 BP employees, Brian Morel and John Guide, and you  
15 see that Mr. Morel indicates that he "...would  
16 prefer the extra pump time with the added risk of  
17 having issues with the nitrogen."

18 Now, I'd like to ask you about that.  
19 When someone says "added risks of having issues  
20 with the nitrogen," you would agree that the  
21 retarder acts as a dispersant that can  
22 destabilize the foam, correct?

23 MR. BOWMAN: Objection, form.



24 A. It doesn't say all that.  
 25 Q. (By Mr. Petosa) But we've talked about  
 00294:01 that before today, sir, and you would agree that  
 02 a retarder in a foam slurry acts as a dispersant,  
 03 correct?  
 04 A. Yes, it does.  
 05 MR. BOWMAN: Objection, form.  
 06 MR. CHEN: Objection, form.  
 07 Q. (By Mr. Petosa) And it --  
 08 A. In any slurry.  
 09 Q. And it can destabilize the foam, correct?  
 10 A. Yes.

Page 294:14 to 298:17

00294:14 the exhibit. The previous document under Tab 28  
 15 was Exhibit 987. I apologize.  
 16 And now I'd refer you to Tab 29, which  
 17 has previously been marked as an exhibit, but for  
 18 some reason, I don't have it. And I apologize  
 19 for that, but it's Bates No. BP-HZN, ending in  
 20 0778.  
 21 On April 18th, at 6:50 p.m.,  
 22 Mr. Gagliano, the Halliburton Engineer, asks  
 23 Mr. Morel: "Has a decision been made yet if you  
 24 are going with the 8" gallon "or 9" gallon "of  
 25 retarder?" And you see that Mr. Morel responded,  
 00295:01 that evening, he was going with the 9-gallon.  
 02 Okay. Now, would you agree, sir, that  
 03 if, in fact, 9-gallon retarder was going to be  
 04 used downhole, that there should have been a foam  
 05 stability test done on the slurry with the 9  
 06 gallons of retarder?  
 07 MR. BOWMAN: Object to form.  
 08 A. Yes, there should have been.  
 09 Q. (By Mr. Petosa) when you did your test,  
 10 sir, the repeat test, on April 17th, what was the  
 11 amount of retarder? And that's -- if you look at  
 12 Tab Number --  
 13 A. On April 18th?  
 14 Q. Yes. Tab No. 7, Exhibit 4566. What was  
 15 the amount of retarder?  
 16 A. 042? Oh, sorry.  
 17 Q. Yes, 042.  
 18 A. Eight gallons of 100L.  
 19 Q. And that was a repeat foam stability test  
 20 that you started, correct?  
 21 A. Yes, sir.  
 22 Q. And that was a repeat foam stability test  
 23 of the April 13th, 2010 foam stability test,  
 24 correct?  
 25 And refer back, please, sir, to Tab 4,  
 00296:01 Exhibit 984. And if you look on the backside --  
 02 remember, we discussed this earlier -- that the  
 03 test that you started on the 17th -- actually

04 started the test on the morning of the 18th --  
05 was a repeat of the foam stability test  
06 referenced in Exhibit 984 --  
07 A. Yes, sir.  
08 Q. -- at Bates ending in 36, correct?  
09 A. Yes, sir.  
10 Q. What was the amount of retarder in that  
11 test, sir?  
12 A. Eight gallons.  
13 Q. Okay. Now, why don't we just stay on  
14 Tab 4, Exhibit 984. Let's go to the April 15th,  
15 2010 Weigh-Up Sheet.  
16 What was the amount of the retarder on  
17 that test, sir?  
18 A. It was --  
19 Q. That's Bates number ending in 45.  
20 A. .09 gallons per sack.  
21 Q. Okay. Now, let's turn to the next page.  
22 Was a foam stability test done?  
23 A. H'm, not on this sheet, but it has been  
24 reprinted.  
25 Q. Okay. But you don't see it there,  
00297:01 correct?  
02 A. No, I don't.  
03 Q. Let's go to the April 16th Weigh-Up  
04 Sheet, sir, beginning with Bates No. 49. What  
05 was the amount of retarder used on that test?  
06 A. Nine gallons.  
07 Q. Was a foam stability test done, sir?  
08 A. No, sir.  
09 Q. Okay. I'd like to refer you to Tab 2.  
10 Exhibit 809 we've talked about a number of times  
11 today. That's the February 16th, 2010 Weigh-Up  
12 Sheet. What's the amount of retarder used there?  
13 A. H'm, .2 gallons per sack.  
14 Q. It's not .09, correct?  
15 A. No, sir.  
16 Q. Okay. A foam stability test was done on  
17 that sample, correct?  
18 A. Yes, sir.  
19 Q. Okay. Then we will turn to Tab 3. We've  
20 talked about it, sir, before, the March 7th, 2010  
21 Weigh-Up Sheet. It was just talked about again  
22 here right before I started talking to you here,  
23 Exhibit 810.  
24 A. (Nodding.)  
25 Q. Same amount of retarder, right? .200,  
00298:01 correct?  
02 A. Yes, sir.  
03 Q. Not 9 gallons, correct?  
04 A. No, sir.  
05 Q. We've gone over all these Weigh-up Sheets  
06 today regarding the slurry that was used at  
07 Macondo, correct, that was tested in your lab?  
08 A. Yes, sir.

09 Q. Okay. And -- and, in fact, we saw that  
10 9 gallons was the amount of retarder that BP  
11 requested and was actually used downhole,  
12 correct?

13 A. Yes, sir.

14 Q. And would you agree that your lab never  
15 tested the foam stability of the slurry with  
16 9 gallons of retarder?

17 A. No, sir.

Page 298:24 to 300:11

00298:24 Q. (By Mr. Petosa) Would you agree that the  
25 fact that the testing was not done would not have  
00299:01 provided the Engineer with information about  
02 whether or not the foam would be stable in  
03 downhole conditions?

04 MR. BOWMAN: Objection, form.

05 A. He didn't run it on the job with 9  
06 gallons. We did run it on this job -- I'm sorry,  
07 not 9 -- 09, with .2, which is like 18, .18 more.  
08 And the slurry's stable, so --

09 Q. (By Mr. Petosa) Well, we actually  
10 discussed that you couldn't determine whether or  
11 not it was stable, correct, sir? Which one are  
12 you talking about now?

13 A. This one right here.

14 Q. Which tab are you at?

15 A. 6910, I guess that's the number.

16 Q. Well, you can say that the top and the  
17 bottom are --

18 A. Are stable.

19 Q. -- stable, correct?

20 A. Yes.

21 Q. But you can't say whether or not that's  
22 stable within the actual density?

23 A. No, sir, because I don't know the -- I  
24 don't know the -- the specific values aren't  
25 converted, so --

00300:01 Q. And would you agree that on March 7th --  
02 we just talked about this before I started  
03 questioning you, sir, here today -- that that's a  
04 different foamer? In fact, it was mentioned it  
05 might be used in the North Sea.

06 A. Foamer 760?

07 Q. So not the foamer that was used  
08 downhole --

09 A. Oh, okay.

10 Q. -- correct?

11 A. Yes, sir.

**Date of Deposition: October 14, 2011**

Page 1 of 2

November 25, 2011  
**Date Signed**

Benjamin James Richard  
**Benjamin James Richard**