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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG	*	Docket 10-MD-2179
DEEPWATER HORIZON IN THE	*	
GULF OF MEXICO ON APRIL 20, 2010	*	Section J
	*	
Applies to:	*	New Orleans, Louisiana
	*	
Docket 10-CV-02771,	*	April 2, 2013
IN RE: THE COMPLAINT AND	*	
PETITION OF TRITON ASSET	*	
LEASING GmbH, et al	*	
	*	
Docket 10-CV-4536,	*	
UNITED STATES OF AMERICA v.	*	
BP EXPLORATION & PRODUCTION,	*	
INC., et al	*	
	*	
* * * * *		

DAY 20, MORNING SESSION
TRANSCRIPT OF NONJURY TRIAL
BEFORE THE HONORABLE CARL J. BARBIER
UNITED STATES DISTRICT JUDGE

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I N D E X

Page

Jesse Gagliano	
Direct Examination By Mr. Godwin:	6580
Cross-Examination By Mr. Sterbcow:	6685

1 MORNING SESSION

2 (April 2, 2013)

3 * * * * *

4 THE DEPUTY CLERK: All rise.

5 THE COURT: Good morning, everyone. Welcome back.

6 All right. Any preliminary matters before we
7 resume testimony?

8 MR. IRPINO: Yes, Your Honor. Anthony Irpino for the
9 PSC.

10 We have circulated our list of exhibits and
11 demonstratives used in connection with the examination of
12 Mr. Chaisson on March 27th. We have that list with us that's
13 been sent around. No objections have been received. We'd like
14 to offer, file, and introduce those exhibits and demonstratives
15 into the record.

16 THE COURT: This is related to Mr. Chaisson, right?
17 Any objections?

18 Without objection, those are admitted.

19 MR. GODWIN: Good morning, Judge. Don Godwin for
20 Halliburton.

21 I, likewise, Judge, on behalf of Halliburton,
22 have our list of exhibits that have been used in the
23 examination of Mr. Chaisson. They've been circulated, and to
24 my knowledge, no objections, your Honor. I'd offer them into
25 evidence at this time.

08:04 1 **THE COURT:** All right. Any objection to
08:04 2 Halliburton's exhibits?

08:04 3 Without objection, those are admitted.

08:04 4 **MR. GODWIN:** Also, Judge, before completing, I also
08:04 5 have the exhibits we offered in the examination of Mr. Richard
08:04 6 Stickland. And they have been circulated as well. And to my
08:04 7 knowledge, no objection. So we'd offer those as well.

08:04 8 **THE COURT:** Any objections?

08:04 9 Hearing none, those are admitted.

08:04 10 **MR. GODWIN:** Thank you, Judge.

08:04 11 Last thing is I have a thumb drive for the
08:04 12 exhibits that we used for -- the videos for Garrison, Gardner,
08:04 13 Morgan, and Faul. We would offer those into evidence at this
08:04 14 time.

08:04 15 **THE COURT:** Any objection?

08:04 16 Those are admitted.

08:04 17 **MR. GODWIN:** Thank you, Judge.

08:04 18 **MS. CLINGMAN:** Good morning, Your Honor. Rachel
08:04 19 Clingman for Transocean.

08:04 20 We would move to admit the exhibits used with
08:04 21 the examination of Bill Ambrose and those used for the
08:04 22 presentation of Jeff Wolfe, who was presented by video. These
08:04 23 have been circulated, and we've received no objections.

08:04 24 **THE COURT:** Any objection to Transocean's exhibits?

08:04 25 Without objection, those are admitted.

08:05 1 **MS. CLINGMAN:** Thank you, Your Honor.

08:05 2 **MR. MAZE:** Good morning, Your Honor. Corey Maze for
08:05 3 the State of Alabama.

08:05 4 We, likewise, have submitted our list of
08:05 5 exhibits and demonstratives used for Dr. Richard Strickland,
08:05 6 and I don't think we've had any objections. So at this time we
08:05 7 would move to admit those as well.

08:05 8 **THE COURT:** Any objections?

08:05 9 Those are admitted.

08:05 10 **MR. LI:** Good morning, Your Honor. Luis Li on behalf
08:05 11 of Transocean.

08:05 12 We have also circulated a list of exhibits that
08:05 13 were used in Mr. Chaisson's testimony. We would offer, file,
08:05 14 and introduce those exhibits.

08:05 15 **THE COURT:** All right. Any objections?

08:05 16 Hearing none, those are admitted.

08:05 17 **MR. LI:** Thank you, Your Honor.

08:05 18 **MR. ROBERTS:** Good morning, Your Honor. Alex Roberts
08:05 19 on behalf of Cameron.

08:05 20 We've circulated a list of exhibits and
08:05 21 demonstratives used with our examination of Bill Ambrose.
08:05 22 We've received no objections from any of the parties. We move
08:05 23 to admit them at this time.

08:05 24 **THE COURT:** Any objection to Cameron's exhibits?

08:05 25 Without objection, those are admitted.

08:05 1 **MR. REGAN:** Good morning, Your Honor. I think I'm
08:05 2 the end of the line. Matt Regan for BP.

08:05 3 I have exhibits for Stickland and exhibits for
08:06 4 Chaisson to offer on behalf of BP.

08:06 5 **THE COURT:** Any objection to BP's exhibits?

08:06 6 Hearing none, those are admitted.

08:06 7 **MR. REGAN:** Thank you, sir.

08:06 8 **THE COURT:** All right. Two other preliminary
08:06 9 matters. I've had a couple of inquiries, first about whether
08:06 10 the Court planned to hear closing arguments at the end of the
08:06 11 Phase One trial, and I guess it's something we had not actually
08:06 12 discussed previously. But my plan is not to hold closing
08:06 13 arguments at the conclusion of the Phase One trial. I don't
08:06 14 think it would be very productive.

08:06 15 I think it would be a greater benefit to the
08:06 16 Court and to the parties for me to just allow the parties a
08:06 17 reasonable time -- we'll talk about the time at the conclusion
08:06 18 of the trial -- but I certainly will allow a reasonable time
08:06 19 for each party to submit proposed findings and conclusions at
08:07 20 our post-trial briefing.

08:07 21 After I receive that briefing, I may consider
08:07 22 whether or not it would be helpful to hold any kind of oral
08:07 23 arguments or not. I'm not saying I will or I won't. But if we
08:07 24 do have closing arguments, it won't be until you-all have filed
08:07 25 post-trial briefs. Okay? I think that would make more sense

08:07 1 in the context of this lengthy trial.

08:07 2 I had another question someone raised about
08:07 3 whether I was planning to attend the Fifth Circuit conference
08:07 4 in Fort Worth, which is scheduled for May 5th through 8th, I
08:07 5 think. I've not registered for that. I'm not -- I'm probably
08:07 6 not going to attend -- that's the best way I can put it --
08:07 7 although I reserve the right to change my mind. I could still
08:07 8 decide to go.

08:07 9 If I did go, it wouldn't be for the whole time;
08:07 10 I might go for a day or two. But I'll try to decide that by
08:08 11 maybe the end of this week and then let everybody know. I've
08:08 12 got to decide soon if I'm going to go. So right now I'm not
08:08 13 scheduled to go, let's put it that way. Okay?

08:08 14 All right. Let's see. Where are we? We're
08:08 15 still on Halliburton's case?

08:08 16 **MR. GODWIN:** Yes, Your Honor.

08:08 17 **THE COURT:** Okay.

08:08 18 **MR. GODWIN:** Can you hear me okay?

08:08 19 **THE COURT:** Who's your next witness?

08:08 20 **MR. GODWIN:** I will call Mr. Jesse Gagliano, Your
08:08 21 Honor, who is on the witness stand.

08:08 22 (WHEREUPON, **JESSE GAGLIANO**, having been duly sworn,
08:08 23 testified as follows.)

08:08 24 **THE DEPUTY CLERK:** Please state your full name and
08:08 25 correct spelling for the record.

08:09 1 **MR. GODWIN:** Your Honor, before I start examining in
08:09 2 direct examination of Mr. Gagliano, I have here a notebook of
08:09 3 our demonstrative documents that I may use during his
08:09 4 examination. With Your Honor's permission, I'll hand one over
08:09 5 to you and to Ben, if you'd like.

08:09 6 **THE COURT:** I don't know what happened to Ben, but
08:09 7 he'll be back.

08:09 8 **MR. GODWIN:** I'll give one to Ben.

08:09 9 **THE COURT:** Just put it on his table, I guess.

08:09 10 **MR. GODWIN:** I will, Judge. Thank you.

08:09 11 **THE COURT:** Okay.

08:09 12 **MR. GODWIN:** I may or may not use all of them. I
08:09 13 think that I will. They have been circulated, and no
08:09 14 objections, Judge.

08:09 15 **THE COURT:** All right. Very well.

08:09 16 **MR. GODWIN:** You're welcome.

08:09 17 **DIRECT EXAMINATION**

08:09 18 **BY MR. GODWIN:**

08:09 19 **Q.** Good morning, Mr. Gagliano. How are you, sir?

08:09 20 **A.** I'm doing fine. Good morning.

08:09 21 **Q.** Good, good.

08:09 22 I've known you for some time now, sir. Do you mind
08:09 23 if I call you Jesse? I would be more comfortable doing so, if
08:10 24 it's okay with you.

08:10 25 **A.** That's fine, sir. Thank you for asking.

JESSE GAGLIANO - DIRECT

08:10 1 Q. You're welcome. Thank you.

08:10 2 Jesse, where do you reside, sir?

08:10 3 A. I currently live in Katy, Texas.

08:10 4 Q. You live there with your family?

08:10 5 A. Yes.

08:10 6 Q. How are you currently employed, Jesse?

08:10 7 A. I'm employed with Halliburton.

08:10 8 Q. What is your position with Halliburton at this time?

08:10 9 A. Senior account representative.

08:10 10 Q. Okay. And how long have you held that position, Jesse?

08:10 11 A. Roughly, probably about six or seven months.

08:10 12 Q. Six or seven months?

08:10 13 A. Yes.

08:10 14 Q. Okay. All right. And how long have you worked for
08:10 15 Halliburton in any position?

08:10 16 A. Approximately 13 1/2 years.

08:10 17 Q. Okay. And prior to working for Halliburton, before you
08:10 18 joined about 13 1/2 years ago, where were you employed
08:10 19 immediately prior to that?

08:10 20 A. Immediately prior to that, I was working at Wimco.

08:10 21 Q. Okay. What were you doing there, sir?

08:10 22 A. I was fitting in as an industrial engineer position for
08:10 23 the entire manufacturing company.

08:10 24 Q. All right. Jesse, do you hold any college degrees?

08:10 25 A. Yes, I do.

JESSE GAGLIANO - DIRECT

08:10 1 Q. Okay. Will you tell Judge Barbier the degree or degrees
08:11 2 you have and from which institution you earned the degree or
08:11 3 degrees and in what year?

08:11 4 A. I have a bachelor's, industrial engineering, from LSU. I
08:11 5 graduated in May of 1998.

08:11 6 Q. Okay, sir. Have you served in the armed forces, Jesse?

08:11 7 A. Yes.

08:11 8 Q. In what branch?

08:11 9 A. Marine Corps.

08:11 10 Q. How long were you in the Marine Corps, sir?

08:11 11 A. I'm still currently in, in inactive status, but I'm right
08:11 12 at 20 years.

08:11 13 Q. About 20 years?

08:11 14 A. Yes, sir.

08:11 15 Q. Okay. It sounds like, then, that with the overlay there,
08:11 16 that for some of the time that you've been with Halliburton,
08:11 17 you were also in the Marine Corps during that period. Is that
08:11 18 correct?

08:11 19 A. Yes.

08:11 20 Q. Serving in the Reserves?

08:11 21 A. Yes, sir.

08:11 22 Q. Okay, sir.

08:11 23 Jesse, let's talk about the events that we're here on
08:11 24 today. I want to talk to you about your being embedded at BP.
08:11 25 I'm going to take you through a number of subjects. As

JESSE GAGLIANO - DIRECT

08:11 1 always -- I know other lawyers feel the same way -- today I'm
08:12 2 going to be asking you questions, and if I ask you a question
08:12 3 that you don't understand -- it's very important that
08:12 4 Judge Barbier get responses from you to every question. So if
08:12 5 you don't understand something I've asked or any other lawyer,
08:12 6 will you please let us know?

08:12 7 A. Yes, sir.

08:12 8 Q. Thank you, Jesse.

08:12 9 All right. Jesse, at the time of the
08:12 10 *Deepwater Horizon* incident on May 20th, 2010, what was your
08:12 11 position at Halliburton?

08:12 12 A. I was a technical adviser with Halliburton.

08:12 13 Q. Okay. And the position you hold now, is that a promotion
08:12 14 from the position that you held then?

08:12 15 A. I think it's on the same level.

08:12 16 Q. At the same level?

08:12 17 A. Yes.

08:12 18 Q. Okay, sir. Were you embedded at BP at the time of
08:12 19 incident?

08:12 20 A. Yes, I was.

08:12 21 Q. Explain very briefly to Judge Barbier what "embedded at
08:12 22 BP" meant to you at the time, sir.

08:12 23 A. I basically reported to BP's office on a daily basis. My
08:12 24 sole purpose was to provide cement recommendations and cement
08:13 25 support for BP, for their operations.

JESSE GAGLIANO - DIRECT

08:13 1 Q. Okay, sir. And, Jesse, you may have to -- as Judge
08:13 2 Barbier would say, you may have to pull that microphone over a
08:13 3 little bit so that you make certain that you're talking into
08:13 4 the microphone for the benefit of the court reporters.

08:13 5 A. Okay.

08:13 6 Q. And others listening. Thank you, Jesse.

08:13 7 How long were you embedded at BP's offices, Jesse?

08:13 8 A. Approximately four or five years.

08:13 9 Q. Okay. And what location were you embedded at for BP?

08:13 10 A. Their Westlake office in Houston.

08:13 11 Q. And for the entire time that you were embedded at BP, were
08:13 12 you always at that facility, that location?

08:13 13 A. Yes.

08:13 14 Q. Okay. And, Jesse, based upon your being embedded there at
08:13 15 BP, did you perceive that there were any advantages to BP by
08:13 16 you being embedded there on a daily basis?

08:13 17 A. Yes. There were advantages, yes.

08:13 18 Q. What were those, sir?

08:13 19 A. Basically I attended all the morning calls, either in
08:14 20 person or by conference call. I was able to keep up with the
08:14 21 current operations. If BP needed anything or if I needed
08:14 22 anything from BP, I was right there on the same floor, within
08:14 23 the same area of them, to go get the information.

08:14 24 A lot of verbal communication took place about the
08:14 25 wells for planning purposes.

JESSE GAGLIANO - DIRECT

08:14 1 Q. You say you were there where you had access to the people
08:14 2 you were working with. With whom were you working, generally?
08:14 3 In other words, not the names of the individuals at this time,
08:14 4 but the people at BP, what people were you conversing with on a
08:14 5 regular basis?

08:14 6 A. I was mainly with the exploration team, which comprised --
08:14 7 comprised of John Guide, Greg Walz, Brett Cocalles, Mark Hafle,
08:14 8 Brian Morel. Those are the main ones for the Macondo well.

08:14 9 Q. Were those gentlemen also known as BP's drilling
08:14 10 engineers --

08:14 11 A. Yes.

08:14 12 Q. -- that were involved there on the Macondo well?

08:14 13 A. Yes.

08:14 14 Q. Prior to the time that you started working with that BP
08:14 15 drilling team, had you worked with one or more other groups of
08:14 16 engineers there at BP?

08:15 17 A. Yes, I did.

08:15 18 Q. While embedded?

08:15 19 A. Yes.

08:15 20 Q. Thank you, sir.

08:15 21 How were you selected to be embedded there at BP, if
08:15 22 you will, please, Jesse?

08:15 23 A. BP had an opening, a position that came open, and they
08:15 24 felt that my experience and skill set matched what BP was
08:15 25 looking for.

JESSE GAGLIANO - DIRECT

08:15 1 Q. Okay, sir. All right.

08:15 2 Did you actually interview with any -- with people
08:15 3 over at BP before you were selected and allowed to be embedded
08:15 4 there on a full-time basis?

08:15 5 A. Yes, I actually interviewed with a handful of BP people.

08:15 6 Q. And you were approved to be embedded, and thereafter you
08:15 7 continued to serve for, I believe you said, four and a half to
08:15 8 five years?

08:15 9 A. Yes, sir.

08:15 10 Q. Okay, sir. Prior to going to BP's offices, Jesse, can you
08:15 11 describe for Judge Barbier the experience, if any, you gained
08:15 12 in cementing deepwater wells?

08:15 13 A. I'm sorry. Can you repeat the question?

08:15 14 Q. Yes, sir.

08:15 15 Prior to going to BP's offices and being embedded
08:15 16 there, can you describe for Judge Barbier the experience, if
08:15 17 any, that you gained in working with deepwater wells?

08:16 18 A. I was in Lafayette, Louisiana, as a technical special
08:16 19 engineer. I would catch jobs in the Gulf of Mexico. The
08:16 20 majority of my experience was with deepwater, and I probably
08:16 21 planned or executed 100-plus foam jobs in the Gulf of Mexico.

08:16 22 Q. Okay, sir.

08:16 23 Whenever you went over to BP's offices, did -- your
08:16 24 training insofar as working on deepwater wells, did it stop at
08:16 25 that time?

JESSE GAGLIANO - DIRECT

08:16 1 A. No.

08:16 2 Q. And if it continued, how did it continue?

08:16 3 A. We had what we called iLearns we had to do a yearly basis;
08:16 4 we had classes we had to go do; of course, on-the-job training
08:16 5 if there's new parts that came out. There's a number of ways
08:16 6 that we continued training to advance our careers.

08:16 7 Q. You say "we." Are you talking about people at Halliburton
08:16 8 that were similarly positioned as you were at Halliburton?

08:16 9 A. Yes.

08:16 10 Q. Okay, sir. All right.

08:16 11 And, Jesse, at the time that you were there embedded
08:16 12 at BP, were there particular tools that you used or relied upon
08:17 13 in assisting you in performing your job responsibilities there
08:17 14 at BP?

08:17 15 A. Yes.

08:17 16 Q. Can you tell Judge Barbier what some of those tools were?

08:17 17 A. One was a HIPS proposal, or a Halliburton Integrated
08:17 18 Proposal System, that I used; OptiCem; the Viking system; you
08:17 19 know, and also WELLCAT temperature modeling.

08:17 20 Q. Let's tell Judge Barbier, if you can, or describe for him
08:17 21 just very briefly -- when you say there was a HIPS procedure or
08:17 22 program, describe that very briefly, if you will, please, what
08:17 23 that was and how you used it in your day-to-day job there for
08:17 24 BP on behalf of Halliburton.

08:17 25 A. Basically, it was a procedure system that we wrote that

JESSE GAGLIANO - DIRECT

08:17 1 imported all the well information, gave my recommendations for
08:17 2 cement slurry, volumes, procedures, and it also gave the cost
08:17 3 breakdown to BP.

08:17 4 Q. Okay, sir. Thank you, Jesse.

08:17 5 And you also mentioned OptiCem is another tool you
08:18 6 used. Tell Judge Barbier, if you will, please, what OptiCem
08:18 7 was and how you used it there on behalf of -- on behalf of
08:18 8 Halliburton for BP.

08:18 9 A. OptiCem was our modeling software that we would input all
08:18 10 the well information into to try to model the job before we
08:18 11 actually executed it, to try to keep the wells from fracking,
08:18 12 things of that sort.

08:18 13 Q. Okay, sir. You also mentioned WELLCAT. Can you tell us
08:18 14 what WELLCAT was and how you used it there at BP's offices?

08:18 15 A. WELLCAT has a lot of functions, but the main function I
08:18 16 used was for temperature modeling to kind of predict the good
08:18 17 static temperature and circulate temperature for lab testing.

08:18 18 Q. You also mentioned Viking as another tool that you used.
08:18 19 Can you tell Judge Barbier how you used Viking and what that
08:18 20 was.

08:18 21 A. Viking was our lab proposal system where we actually
08:18 22 submitted lab requests to the lab to be executed, and were able
08:18 23 to pull customer reports out of that.

08:18 24 Q. Okay, Jesse. Did you and feel, based upon your
08:18 25 experience, that all of the these tools that Halliburton made

JESSE GAGLIANO - DIRECT

08:18 1 available to you were important in your performing your
08:19 2 day-to-day functions and responsibilities there for BP --

08:19 3 A. Yes, they were.

08:19 4 Q. -- on the Macondo well?

08:19 5 A. Yes.

08:19 6 Q. Jesse, did you also mention -- and if you did, I
08:19 7 apologize. Did you mention the cement lab as a tool?

08:19 8 A. Yes. When I submitted a request into Viking, that went to
08:19 9 the cement lab, which executed my request.

08:19 10 Q. Which lab did you rely upon in submitting tests of the
08:19 11 various slurry designs that you were working with? Which lab
08:19 12 did you deal with in that regard?

08:19 13 A. The Broussard lab.

08:19 14 Q. And Broussard in Louisiana?

08:19 15 A. Louisiana, yes.

08:19 16 Q. And who was -- at the time that you were dealing there
08:19 17 with the Broussard lab, will you tell Judge Barbier with whom
08:19 18 you dealt there, principally.

08:19 19 A. Richard Dubois.

08:19 20 Q. Richard Dubois?

08:19 21 A. Yes.

08:19 22 Q. And what was his position there at the Broussard lab?

08:19 23 A. I believe his title was cement lab manager.

08:19 24 Q. Cement lab manager. Okay. Thank you.

08:20 25 Jesse, while you worked there embedded at BP, in

JESSE GAGLIANO - DIRECT

08:20 1 addition to those tools which you've named and described, were
08:20 2 there any other resources available to you by Halliburton that
08:20 3 you could rely upon as guidance and for assistance in
08:20 4 performing your job functions?

08:20 5 A. Yes. I had other account reps. I had a counterpart that
08:20 6 worked for me -- worked with me in BP that I could go talk to.

08:20 7 Q. What was that gentleman's name?

08:20 8 A. Joe Edwards.

08:20 9 Q. Joe Edwards? Okay.

08:20 10 A. We had technical advisers I could go to. We had a
08:20 11 technology center that I could go to. So we had a number of
08:20 12 resources that we could go to and ask questions or for
08:20 13 guidance.

08:20 14 Q. Did you, from time to time while there at BP, call upon
08:20 15 those resources to provide you with input as needed?

08:20 16 A. Yes, sir.

08:20 17 Q. How about product literature? Was that made available to
08:20 18 you by Halliburton?

08:20 19 A. Yes. We do have an internal Web site that has, you know,
08:20 20 tech bulletins, best practices, information that we can use to
08:20 21 help us with our jobs.

08:21 22 Q. All right. And you mentioned best practices. Tell
08:21 23 Judge Barbier what best practices were and are at Halliburton.

08:21 24 A. Best practices are basically guidances that we try to
08:21 25 follow that helps increase the success of a cement job. There

JESSE GAGLIANO - DIRECT

08:21 1 are some times you can't do them all, but you try to get most
08:21 2 of them as much as you can.

08:21 3 Q. So when you say best practices were -- you said
08:21 4 "guidances"?

08:21 5 A. Yes.

08:21 6 Q. What did you mean by that, Jesse?

08:21 7 A. You can veer off the best practices, but you just have to
08:21 8 make sure you test it to make sure it's going to be good.

08:21 9 Q. When you say "test it," you mean actually have the test
10 performed there at the Broussard lab?

08:21 11 A. Yes.

08:21 12 Q. Okay. Thank you.

08:21 13 And how about technical memoranda, technical
08:21 14 brochures, things of that nature? Were those also tools that
08:21 15 were available to you regarding the products that Halliburton
16 offered?

08:21 17 A. Yes, they were.

08:21 18 Q. Okay. Technical memoranda, would that be another way of
19 saying it?

08:21 20 A. I think we refer to them as technical bulletins, yes.

08:22 21 Q. Jesse, tell Judge Barbier, if you will, please -- how many
08:22 22 foam cement jobs have you designed over the course of your
08:22 23 career at Halliburton?

08:22 24 A. Probably, 100-plus total in my career.

08:22 25 Q. In what we do in the lawyer world, there are lead lawyers

JESSE GAGLIANO - DIRECT

08:22 1 and then there are other support lawyers who play a very, very
08:22 2 important function.

08:22 3 But in the cement world, when you say you were
08:22 4 involved in over 100 cement jobs, were you the lead
08:22 5 cementing -- cement designer for those 100-plus job, foam jobs,
08:22 6 or were you in a support role?

08:22 7 A. Sometimes I was in the lead; sometimes I was in a support
08:22 8 role; sometimes I actually went on location and executed them.

08:22 9 Q. When you say "on location," do you mean out on the rig in
10 the deepwater?

11 A. Sir.

12 Q. Of the 100-plus foam job cement jobs that you were
13 involved with, in approximately how many were you the lead
14 cement designer on, as best you can recall, Jesse?

15 A. Approximately probably 30-plus, 40-plus.

16 Q. Okay. And with the others, whether 60 or 70 or whatever
17 it was, did you play what you believed to be a key role in the
18 design of the cement slurries to be pumped in those deepwater
19 wells?

20 A. Yes.

21 Q. Jesse, while you were embedded at BP for those almost five
22 years, did you assist BP with cementing designs on other wells?

23 A. Yes, I did.

24 Q. Jesse, in all of the wells that you worked on for BP in
25 your five years while embedded, did anybody with BP ever

JESSE GAGLIANO - DIRECT

08:23 1 complain to you about any of the work that you did on BP's
08:23 2 behalf?

08:23 3 A. No. I never heard any complaints, no.

08:23 4 Q. Thank you, sir.

08:23 5 Jesse, how many foam jobs -- including Macondo, how
08:24 6 many foam jobs have you designed for BP?

08:24 7 A. Probably 30-plus for BP.

08:24 8 Q. 30-plus for BP?

08:24 9 A. Yes, sir.

08:24 10 Q. Okay, sir. Were all of those in the Gulf of Mexico?

08:24 11 A. Yes.

08:24 12 Q. Okay. And of the 30-plus that you designed for BP in the
08:24 13 Gulf of Mexico, about how many of them were in deepwater?

08:24 14 A. I believe four of those were production intervals.

08:24 15 Q. Okay, sir.

08:24 16 Will you give Judge Barbier the names of the other --
08:24 17 of all the wells you've worked on that were on production
08:24 18 casings for BP.

08:24 19 A. It was the Isabella, King South, Na Kika, and Macondo.

08:24 20 Q. And do I understand you to say that all four of those
08:24 21 wells, the three in addition to Macondo, were all in deepwater
08:24 22 in the Gulf of Mexico?

08:24 23 A. Yes.

08:24 24 Q. Okay, sir.

08:24 25 Jesse, there's been some testimony that during your

JESSE GAGLIANO - DIRECT

08:25 1 time there with BP, there was some friction from time to time
08:25 2 between you and members of the BP team. I want to have an
08:25 3 understanding for Judge Barbier what that's all about.

08:25 4 I understood you to say that at the time, the five
08:25 5 years -- or about five years you were there embedded at BP,
08:25 6 that no one ever complained to you about your work that you
08:25 7 were doing for BP. Did I understand that correctly?

08:25 8 A. That's correct. I never heard any complaints.

08:25 9 Q. You never heard any complaints?

08:25 10 A. No.

08:25 11 Q. To your knowledge, did anybody with BP ever complain to
08:25 12 anybody at Halliburton, at your level or above, about what you
08:25 13 were doing and then you heard it back from someone at
08:25 14 Halliburton?

08:25 15 A. I hadn't been made aware of that, no.

08:25 16 Q. Never been made aware of that.

08:25 17 Jesse, you said that you had working relationships
08:25 18 with other engineering groups, drilling engineers there with
08:25 19 BP, before the Macondo well. And that would be Mr. John Guide,
08:25 20 Mr. Greg Walz, Mr. Brett Cocalles, Mr. Brian Morel -- and what
08:26 21 was the other one -- Cocalles -- Hafle -- Mark Hafle?

08:26 22 A. Mark Hafle.

08:26 23 Q. You said you were involved with one or more other drilling
08:26 24 engineering groups as well. How did you -- what was your
08:26 25 belief as to the relationship that you had developed with those

JESSE GAGLIANO - DIRECT

08:26 1 other teams?

08:26 2 A. As far as I know, there were no problems with the other
08:26 3 teams. I got along great with them.

08:26 4 Q. Okay, sir.

08:26 5 Jesse, insofar as your working with the team that was
08:26 6 there with you at the end, if you will, as of April 20th, 2010,
08:26 7 John Guide and all the others that worked there on behalf of BP
08:26 8 there in the Macondo well, what was your perception, based on
08:26 9 working with those men day in and day out, as to your working
10 relationship with them?

08:26 11 A. I felt my relationship with them started to deteriorate
12 through the length of the well.

08:26 13 Q. It started to deteriorate at what point in the length of
14 well, Jesse?

08:26 15 A. We had a section where we got actually stuck, and we were
16 trying to plan a kickoff plug.

08:27 17 Q. Okay, sir.

08:27 18 A. There was some friction with some of my recommendations I
19 was trying to give them for that section.

08:27 20 Q. You when you say there was a kickoff plug and there was a
21 section, can you give Judge Barbier just a little more detail
22 about where -- and we're trying to be quick here today, go
23 through it thoroughly, but we also want to move it along.

08:27 24 Insofar as that point in the well where you say there
25 was a kickoff plug being designed and worked on, tell

JESSE GAGLIANO - DIRECT

08:27 1 Judge Barbier what you're referring to there.

08:27 2 A. Basically, there was a section of well where we got stuck,
08:27 3 and we had to set a cement plug in the hole and make sure it
08:27 4 gets hard enough to where we go down with the bit, you hit the
08:27 5 cement, and it pushes the bit off to kind of what we call a
08:27 6 "kickoff" around it to drill the hole even further.

08:27 7 I gave some recommendations to the amount of spacer
08:27 8 that we should pump, and I got a lot of pushback from BP as far
08:27 9 as the amount of spacer ahead.

08:27 10 Q. Okay.

08:27 11 And whenever you got that pushback, did you give them
08:27 12 your recommendation?

08:27 13 A. Yes.

08:27 14 Q. And then you heard back from them that there were some
08:28 15 issues or concerns with them not wanting to follow what you
08:28 16 were recommending?

08:28 17 A. Yes.

08:28 18 Q. Okay. And then at some point after that back-and-forth
08:28 19 occurred, did you receive final word from BP as to what they
08:28 20 were going to do insofar as what you recommended?

08:28 21 A. Yes. I had actually brought it up in a morning call with
08:28 22 30-plus people because I felt strong enough about my
08:28 23 recommendation, and I did provide -- get pushback in that
08:28 24 morning call from BP again.

08:28 25 There was actually a BP individual who came to my

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08:28 1 defense, and it became an internal BP discussion. So all the
08:28 2 third parties left, and they had an internal discussion.

08:28 3 Later that morning, Brian Morel came to my desk. He
08:28 4 seemed frustrated, and he said, "Go ahead and pump the volume
08:28 5 spacer you want," and stormed off.

08:28 6 Q. So Mr. Morel did come to you, though, after there'd been
08:28 7 the disagreement and said that BP had decided that they were
08:28 8 going to go with what you recommended?

08:28 9 A. Yes.

08:28 10 Q. Jesse, in fairness to Mr. Morel and BP and what was going
08:28 11 on there, did you conclude, based upon your dealing with them,
08:29 12 that the decision that BP made to follow your recommendation
08:29 13 was based upon BP doing what it thought was best in the well at
08:29 14 that location?

08:29 15 A. I'm not sure what their reason was for cutting the spacer
08:29 16 down, but I felt for us to get a successful job the first time,
08:29 17 that we needed more spacer.

08:29 18 Q. Did you feel that after you explained your position, that
08:29 19 BP was willing to listen -- and did, in fact, listen -- and
08:29 20 then followed your recommendation?

08:29 21 A. Yes, they did eventually decide to follow my
08:29 22 recommendation.

08:29 23 Q. Thank you.

08:29 24 And did you -- although that was worked out, did you
08:29 25 perceive that it caused some level of tension between you and

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08:29 1 Brian Morel and perhaps others on the team as you went forward?

08:29 2 A. Yes.

08:29 3 Q. Although there was that tension that existed, did you
08:29 4 believe that in working with BP that they gave you an
08:29 5 opportunity to explain things that's your recommendations at
08:29 6 each juncture as you went forward?

08:29 7 A. Yes. I would try to explain my recommendations to BP.

08:29 8 Q. And you did explain your recommendations from time to time
08:29 9 to BP?

08:29 10 A. Yes.

08:29 11 Q. And those recommendations, were they always followed?

08:30 12 A. No.

08:30 13 Q. Well, we'll talk about those in a little bit.

08:30 14 But the point being is, is that whenever you did have
08:30 15 a recommendation, you were able and felt comfortable going to
08:30 16 BP and telling them what it was?

08:30 17 A. Yes.

08:30 18 Q. Thank you. All right.

08:30 19 Jesse, with regard to your work there on the Macondo
08:30 20 well, if you will, tell Judge Barbier, what were your
08:30 21 day-to-day responsibilities and functions, generally, as a
08:30 22 technical adviser there for Halliburton?

08:30 23 A. Basically, I would attend all the morning calls, and
08:30 24 anything that had to do with cement-related issues; I would
08:30 25 support BP, give recommendations, provide simulations,

JESSE GAGLIANO - DIRECT

08:30 1 documents, best practice to them if they request it.

08:30 2 Q. All right. And you, of course, knew that BP owned the
08:30 3 well there, principal owner of the Macondo well, did you not?

08:31 4 A. I'm sorry, I missed the question.

08:31 5 Q. You, of course, knew that the Macondo well was owned in
08:31 6 principal by BP?

08:31 7 A. Yes.

08:31 8 Q. And that Halliburton was a service provider there on the
08:31 9 well?

08:31 10 A. Yes.

08:31 11 Q. Okay. And at the end of the day, the decisions about what
08:31 12 would be made there and done to the well were going to be made
08:31 13 by BP, ultimately?

08:31 14 A. Yes.

08:31 15 Q. Thank you.

08:31 16 Can you tell Judge Barbier how you would convey your
08:31 17 recommendations to BP from time to time?

08:31 18 A. It could be in several formats. It could be by e-mail,
08:31 19 verbal conversations. Since I was in the office, a lot of the
08:31 20 conversations took place in the morning calls, or I would walk
08:31 21 over to their desk. So it was either verbally or by e-mail.

08:31 22 Q. So most of the recommendations and the dialog by you and
08:31 23 the BP engineers -- were they by e-mail or were they face to
08:31 24 face or about the same?

08:31 25 A. I would say the majority was by face to face.

JESSE GAGLIANO - DIRECT

08:31 1 Q. Face-to-face meetings. That was one the benefits of being
08:32 2 embedded there with them; you could go into their office if you
08:32 3 chose to, and they could go to yours as well?

08:32 4 A. Yes.

08:32 5 Q. Thank you, sir.

08:32 6 How often, Jesse, did you have interaction with one
08:32 7 or more members of BP drilling team on the Macondo well over
08:32 8 the time that you were there?

08:32 9 A. Pretty much on a daily basis except for when there were
10 days off.

08:32 11 Q. Okay. You mentioned, Jesse, that you participated in the
12 morning calls. What time of morning are you talking about as
13 far as these morning calls that you referenced?

08:32 14 A. I believe the calls started at 7:30 in the morning.

08:32 15 Q. 7:30 in the morning. And did these calls occur every
16 morning, seven days a week?

08:32 17 A. Yes.

08:32 18 Q. Even on holidays?

08:32 19 A. Yes.

08:32 20 Q. And Jesse, when you were -- were you typically in the
21 office -- what days of week?

08:32 22 A. Monday through Friday.

08:32 23 Q. Monday through Friday.

08:32 24 A. Yes.

08:32 25 Q. And you made an effort and usually attended every call,

JESSE GAGLIANO - DIRECT

08:32 1 Monday through Friday?

08:32 2 A. Yes.

08:32 3 Q. Okay. And on Saturday and Sunday, did you participate in
08:33 4 the calls?

08:33 5 A. Yes. A majority of them, I did, yes.

08:33 6 Q. Okay. And how did you do that?

08:33 7 A. There was a dial-in number with a code that we would call
08:33 8 in at 7:30 in the morning.

08:33 9 Q. Okay. And during those calls, would you speak, when given
08:33 10 the opportunity to do so, regarding the part of the well that
08:33 11 you were involved in, the cementing of the well, if you will?

08:33 12 A. Yes. If it had something to do with cement, I would
08:33 13 definitely speak up.

08:33 14 Q. And did you feel like that you were invited to speak up
08:33 15 and say what was on your mind?

08:33 16 A. Yes.

08:33 17 Q. Did you always speak up? And when you agreed, did you say
08:33 18 you agreed? And when you disagreed, that you disagreed?

08:33 19 A. Yes.

08:33 20 Q. Jesse, you mentioned that not all of your recommendations
08:33 21 that you made on behalf of Halliburton to BP were followed.

08:33 22 Can you give Judge Barbier some examples of those
08:33 23 recommendations where they were not followed by BP?

08:33 24 A. Specifically, for the production casing job, we had
08:33 25 recommended a number of centralizers that weren't run and

JESSE GAGLIANO - DIRECT

08:34 1 followed. Also, the retarder concentration I recommended, they
08:34 2 decided to go with a -- more retarder concentration.

08:34 3 Q. Okay. Anything else? Were there any other
08:34 4 recommendations?

08:34 5 A. I can't think of any at this time.

08:34 6 Q. Let me ask you this: With regard to centralizers -- and
08:34 7 Judge Barbier has heard more than he ever wants to hear about
08:34 8 centralizers, again, probably; but having said that, I want to
08:34 9 cover it very briefly.

08:34 10 How many centralizers did you recommend BP run on the
08:34 11 casing in the Macondo well prior to the cement job?

08:34 12 A. I had recommended 21.

08:34 13 Q. Okay. And was that 21 centralizers based on the modeling
08:34 14 that you had run?

08:34 15 A. Yes.

08:34 16 Q. And what modeling did you run in arriving at the
08:34 17 21 centralizers?

08:34 18 A. I ran our OptiCem software.

08:34 19 Q. Did -- that OptiCem software that you ran, did it have --
08:34 20 did it print out or say anything or show anything regarding a
08:35 21 gas flow potential?

08:35 22 A. Yes, it did show that the reduced number of centralizers
08:35 23 indicated a higher gas flow potential.

08:35 24 Q. So with the 21 centralizers, can you recall -- I don't
08:35 25 want to go through the documents. I want to do it quickly.

JESSE GAGLIANO - DIRECT

08:35 1 With the 21 centralizers that you recommended, do you
08:35 2 recall what the gas flow potential was in terms of minor,
08:35 3 severe, medium, whatever it might have been? Do you recall
08:35 4 what that was had BP chosen to follow Halliburton's
08:35 5 recommendation to go with 21 centralizers?

08:35 6 A. If I recall right, it was around 2 or 3, which is minimal
08:35 7 or --

08:35 8 Q. Excuse me?

08:35 9 A. It was around 2 or 3, which is minimal for
08:35 10 21 centralizers.

08:35 11 Q. That would have been minimal gas flow potential?

08:35 12 A. I believe so.

08:35 13 Q. Okay. Did you ultimately determine the number of
08:35 14 centralizers that BP did run there on the casing stream?

08:35 15 A. I believe they actually ran 6.

08:35 16 Q. And based on your knowledge of the OptiCem and gas flow
08:35 17 potential, did you determine that by running 6, what that might
08:36 18 show or would show in terms of the gas -- the potential gas
08:36 19 flow -- potential problem?

08:36 20 A. Running 6 showed as severe gas flow potential.

08:36 21 Q. Severe gas flow potential?

08:36 22 A. Yes.

08:36 23 Q. Okay, sir. Did you discuss this recommendation with one
08:36 24 or more members of the BP drilling team --

08:36 25 A. Yes, sir.

JESSE GAGLIANO - DIRECT

08:36 1 Q. -- that you were concerned about running fewer than
08:36 2 21 centralizers?

08:36 3 A. Yes.

08:36 4 Q. With whom on the drilling team did you discuss that with,
08:36 5 Jesse?

08:36 6 A. When I first, initially saw the problem, I approached
08:36 7 Brett Cocalles and Mark Hafle.

08:36 8 Q. Mr. Hafle and Mr. Cocalles?

08:36 9 A. Yes, sir.

08:36 10 Q. And you told them about your concerns?

08:36 11 A. Yes.

08:36 12 Q. Did they say anything in response?

08:36 13 A. At that point, Mr. Hafle was leading through the external
08:36 14 meeting. They both showed me -- told me to go ahead and just
08:36 15 fix the problem. And then me and Brett worked through that
08:36 16 afternoon, and I think Greg Walz later joined, to kind of
08:36 17 figure out how many centralizers we needed to address the
08:37 18 issue.

08:37 19 Q. Did you actually talk with Mr. Greg Walz, one of the
08:37 20 senior members of the drilling team, about your concerns about
08:37 21 running fewer than 21 centralizers?

08:37 22 A. On the evening of the 15th, when there was a problem, yes,
08:37 23 we had a lot of discussions about the centralizers.

08:37 24 Q. Did Mr. Walz respond to you in any way when you
08:37 25 recommended 21 centralizers as opposed to BP running a fewer

JESSE GAGLIANO - DIRECT

08:37 1 number?

08:37 2 A. I mean, Brett -- Brett Cocalis and Mark Walz -- excuse
08:37 3 me -- Greg Walz both were on board with running additional
08:37 4 centralizers and actually getting them flown out to the rig.

08:37 5 Q. All right. Now, with regard to retarder concentration,
08:37 6 you told Judge Barbier that you recommended a certain volume of
08:37 7 retarder concentration; BP decided to go with another.

08:37 8 Can you describe briefly what you're talking about
08:37 9 there?

08:37 10 A. The retarder concentration is what you adjust for the pump
08:37 11 time of the cement. And I recommended .08 gallons per sack.
08:37 12 BP had asked to see what .9 gallons per sack would give us, and
08:38 13 they determined to go with the .9 instead of .8, my
08:38 14 recommendation.

08:38 15 Q. When you tell Judge Barbier that it was .08 gallons per
08:38 16 sack or .09 gallons per sack, what size sack of cement are you
08:38 17 talking about, Jesse?

08:38 18 A. The sack size is about 94 pounds.

08:38 19 Q. About 94 pounds. Just under 100?

08:38 20 A. Yes.

08:38 21 Q. Jesse, in terms of volume, so that we would be able to
08:38 22 understand it, the difference between 08 and 09 in the retarder
08:38 23 concentration, can you give us some description of what that
08:38 24 volume would look like or how much would it be?

08:38 25 A. The volume's about 2 1/2 tablespoons per 94-pound sack of

JESSE GAGLIANO - DIRECT

08:38 1 cement, so it's a very small concentration.

08:38 2 Q. Very small concentration.

08:38 3 THE COURT: Now, that number is per sack, is what
08:38 4 you're talking about?

08:38 5 THE WITNESS: Yes, Your Honor.

08:38 6 THE COURT: You said it's .9? Or is it .8?

08:38 7 MR. GODWIN: It's .08, Judge.

08:38 8 THE COURT: .08.

08:38 9 MR. GODWIN: I'm sorry, Judge. I probably misspoke
08:39 10 there in asking the question.

08:39 11 BY MR. GODWIN:

08:39 12 Q. To clear it up here, Jesse, for Judge Barbier, is the
08:39 13 volume that we're talking about of the retarder that you
08:39 14 recommended .08 gallons per sack of a 94-pound sack of cement?

08:39 15 A. Yes.

08:39 16 Q. And BP wanted to run .09 gallons per sack?

08:39 17 A. Yes.

08:39 18 Q. And what you're telling Judge Barbier is that equates to
08:39 19 about 2 1/2 teaspoons of volume if you put it in a volumetric
08:39 20 form?

08:39 21 A. Yes.

08:39 22 Q. Thank you.

08:39 23 How about --

08:39 24 THE COURT: The higher the concentration of the
08:39 25 retarder, the longer it will take the cement to set; correct?

JESSE GAGLIANO - DIRECT

08:39 1 THE WITNESS: Yes, that's correct.

08:39 2 THE COURT: That's the whole point?

08:39 3 THE WITNESS: Yes, Your Honor.

08:39 4 MR. GODWIN: Thank you, Judge.

08:39 5 BY MR. GODWIN:

08:39 6 Q. What about bottoms-up? Did you recommend anything to BP
08:39 7 about circulating bottoms-up before the cement job was run?

08:39 8 MR. BROCK: I'm going to object to leading,
08:39 9 Your Honor. He's answered that question in a narrative way. I
08:39 10 think that's suggesting an answer.

08:40 11 MR. GODWIN: Judge, very brief on this. There's just
08:40 12 one more thing that I believe -- can show he recommended.

08:40 13 THE COURT: Okay. Try not to lead him, though.

08:40 14 MR. GODWIN: I will, Judge. Thank you.

08:40 15 BY MR. GODWIN:

08:40 16 Q. Jesse, in terms of designing a cement slurry and then
08:40 17 having it run, does performing a full bottoms-up have any
08:40 18 meaning to you?

08:40 19 A. Yes. We recommend to try to do at least a full bottoms-up
08:40 20 before the cement job.

08:40 21 Q. Tell Judge Barbier, in terms of volume, what that means, a
08:40 22 full bottoms-up, in terms of barrels or gallons. What does it
08:40 23 mean?

08:40 24 A. In this case, it's approximately probably about 1,000,
08:40 25 1,100 barrels of pumping to get the bottoms-up.

JESSE GAGLIANO - DIRECT

08:40 1 You basically want to see what's -- you want to have
08:40 2 the mud at the bottom of the hole come to the surface to see
08:40 3 what you have.

08:40 4 Q. And you then recommended a full bottoms-up be run before
08:40 5 the cement job?

08:40 6 A. Yes. That was always our recommendation, yes.

08:40 7 Q. Did you learn, prior to the cement job being pumped, the
08:41 8 volume of mud that was circulated by BP?

08:41 9 A. I believe the only -- I don't remember the exact volume,
08:41 10 but it was only a couple hundred barrels they decided to
08:41 11 circulate before the cement job.

08:41 12 Q. Okay. A couple hundred barrels were pumped as opposed to
08:41 13 full bottoms-up?

08:41 14 A. Yes.

08:41 15 Q. Okay. Jesse, at any time when you recommended to BP
08:41 16 something and they did not follow your recommendation, did you
08:41 17 think at any time that that created a risk of a hazard?

08:41 18 A. No.

08:41 19 Q. At any time when you recommended to BP any recommendation
08:41 20 and they did not follow, did you think that they were -- that
08:41 21 BP was refusing to do so in a careless and reckless manner?

08:42 22 A. No.

08:42 23 Q. At any time when you recommended to BP any of the
08:42 24 recommendations that you did make on behalf of Halliburton, did
08:42 25 you come to the conclusion that BP was putting the lives of any

JESSE GAGLIANO - DIRECT

08:42 1 of the men there on the rig at risk by the decisions they were
08:42 2 ultimately making?

08:42 3 A. No.

08:42 4 Q. Thank you.

08:42 5 Jesse, do the words "stop work authority" have any
08:42 6 meaning to you?

08:42 7 A. Yes, it does.

08:42 8 Q. Tell the judge, if you will, please, what those mean.

08:42 9 A. Basically, it's a policy or something, a rule, that we
08:42 10 follow that anybody can stop the job if they feel it's deemed
08:42 11 unsafe.

08:42 12 Q. Jesse, when you were involved with the Macondo well, was
08:42 13 there ever a time when you thought that the decisions that were
08:42 14 being made by BP warranted or justified your exercising stop
08:42 15 work authority?

08:43 16 A. No.

08:43 17 Q. Jesse, as a man who has worked in the oil industry for
08:43 18 most of your adult life, if you thought that anything that you
08:43 19 or anybody with BP was doing was creating a risk for anybody's
08:43 20 lives on the rig, would you have exercised stop work authority?

08:43 21 A. Yes.

08:43 22 Q. Jesse, let's switch gears here a little bit, and let's
08:43 23 talk about cement operations and placement.

08:43 24 Jesse, in terms of the Macondo well, what was the
08:43 25 intended role of the cement there in the well?

JESSE GAGLIANO - DIRECT

08:43 1 A. The intended role was to provide zonal isolation on the
08:43 2 back side of the well.

08:43 3 Q. Was the cement intended by you, when it was designed, to
08:43 4 ultimately be a barrier there in the well?

08:43 5 A. Yes. It was a barrier to isolate the hydrocarbons on the
08:43 6 back side.

08:43 7 Q. Okay. When would, in your opinion, you and/or others be
08:44 8 able to rely upon the cement being a barrier?

08:44 9 A. You could only rely on it after you test it.

08:44 10 Q. When you say after it's tested, tell Judge Barbier what
08:44 11 you're talking about there insofar as you can rely upon it
08:44 12 after it's tested.

08:44 13 A. Basically, once the cement's in place and it's set up, you
08:44 14 want to do a negative test on the back side to verify you have
08:44 15 isolation of the hydrocarbon-bearing zones.

08:44 16 Q. Okay, sir.

08:44 17 Jesse, what are some of the things, if any, that can
08:44 18 lead to a cement job not achieving zonal isolation?

08:44 19 A. It's got -- several things. But some of them could be
08:44 20 channeling or mud contamination.

08:44 21 Q. How about placement? Would that have anything to do with
08:44 22 potentially not providing zonal isolation?

08:44 23 A. Yes.

08:44 24 Q. All right, sir.

08:44 25 And very briefly, when you say channeling is one of

JESSE GAGLIANO - DIRECT

08:44 1 the things that could lead to not achieving zonal isolation,
08:44 2 just tell us briefly what you mean by "channeling" in this
08:44 3 context.

08:44 4 A. Channeling's basically the failure to remove all the mud
08:45 5 in the back side where the cement is flowing. You might have
08:45 6 some mud channels which actually leave a flow path of
08:45 7 hydrocarbons to the rig.

08:45 8 Q. And the mud that is there, you say, could end up
08:45 9 contaminating the cement. How would that mud be removed,
10 Jesse?

08:45 11 A. Several things. You can actually do a full bottoms-up to
08:45 12 break the gels and remove the mud. And also, you pump spacer
08:45 13 ahead to remove the mud.

08:45 14 Q. Okay. And you mentioned contamination as being another
08:45 15 thing that could lead to cement not isolating the zones. What
08:45 16 do you mean by contamination in that context, Jesse?

08:45 17 A. Basically, contamination is when you have mud and cement
08:45 18 intermix, it can actually affect the compression or development
08:45 19 of the cement.

08:45 20 Q. Thank you, sir.

08:45 21 Jesse, you also mentioned placement as being
08:45 22 something else that could create a risk for not achieving zonal
08:46 23 isolation. Tell Judge Barbier what you mean by that.

08:46 24 A. Basically, you want to try to target the top of the
08:46 25 cement, how high you want the cement to be. And you want to

JESSE GAGLIANO - DIRECT

08:46 1 try to get that -- I believe federal regulations are 500 feet
08:46 2 above the highest hydrocarbon-bearing zone, you need to have
08:46 3 cement coverage.

08:46 4 Q. Okay. Jesse.

08:46 5 Jesse, what relationship is there, if any, between
08:46 6 cement placement and zonal isolation?

08:46 7 A. They're very close together. They're very similar.

08:46 8 Q. Okay, sir.

08:46 9 Jesse, what is -- or how is it determined whether
08:46 10 cement was placed in the intended location, dealing again with
08:46 11 placement as you have defined it?

08:46 12 A. The only way to verify where you have cement and if
08:46 13 there's no channeling is by running cement bottom logs.

08:46 14 Q. And who -- based upon your working on the Macondo well and
08:46 15 your experience in deepwater drilling, who would make the
08:46 16 decision as to whether a cement bottom log would be run?

08:46 17 A. BP.

08:47 18 Q. Okay. Thank you.

08:47 19 Jesse, if BP were to come to you and inform you that
08:47 20 the cement job had failed to isolate zones as a result of
08:47 21 testing, what, if anything, could be done at that time to cure
08:47 22 the problem?

08:47 23 A. We can do what we call remedial work or a squeeze job to
08:47 24 remediate the problem.

08:47 25 Q. Okay. Well, let's switch gears and talk about remedial --

JESSE GAGLIANO - DIRECT

08:47 1 remediating cement or squeeze jobs.

08:47 2 Jesse, what is a squeeze job, very briefly?

08:47 3 A. Basically, a squeeze job is, if you have any channeling or
08:47 4 areas of cement voids, you can actually go down and squeeze
08:47 5 cement into those areas to isolate -- to provide zonal
08:47 6 isolation to the zones.

08:47 7 Q. Have you, Jesse, in your career, been involved with
08:47 8 designing squeeze jobs?

08:47 9 A. Yes, sir.

08:47 10 Q. While you were working on the Macondo well, were you
08:47 11 involved in designing squeeze jobs?

08:47 12 A. Yes.

08:47 13 Q. How many -- if you can recall, how many times did you
08:48 14 perform a design of a squeeze job there on the Macondo well?

08:48 15 A. I believe we did three.

08:48 16 Q. Three jobs?

08:48 17 A. Yes.

08:48 18 Q. Okay. And when it was determined that there was an issue
08:48 19 with the cement and a squeeze job was determined necessary,
08:48 20 which company was it that actually performed the squeeze job
08:48 21 there on the Macondo well?

08:48 22 A. Halliburton provided it -- performed the service.

08:48 23 Q. Thank you, sir.

08:48 24 Jesse, you mentioned earlier that cement jobs
08:48 25 sometime fail to achieve zonal isolation. Did I understand

JESSE GAGLIANO - DIRECT

08:48 1 that correctly?

08:48 2 A. Yes.

08:48 3 Q. What are the consequences, if any, if a cement job fails
08:48 4 to achieve zonal isolation?

08:48 5 A. You would have to go down and remediate that work to
08:48 6 isolate the zones.

08:48 7 Q. Okay. Based upon your working there with those drilling
08:48 8 engineers for BP, did you come to conclude that they understood
08:48 9 that if there was an issue with a cement job after testing it,
08:49 10 that, in fact, it could be remediated or the problem could be
08:49 11 solved by doing a squeeze job?

08:49 12 A. Yes, they understood that.

08:49 13 Q. They understood that?

08:49 14 A. Yes.

08:49 15 Q. And you said that you had worked with those -- was it the
08:49 16 same individuals, the drilling team, that worked with you on
08:49 17 the three squeeze jobs there on the Macondo well?

08:49 18 A. Yes.

08:49 19 Q. Okay. Mr. Hafle, Cocalles, Morel, those gentlemen?

08:49 20 A. Yes.

08:49 21 Q. Thank you.

08:49 22 Jesse, in your mind, having worked on the Macondo
08:49 23 well, having been involved with a number of other deepwater
08:49 24 wells, if a cement job does not isolate hydrocarbons, do you
08:49 25 expect that to result in a blowout?

JESSE GAGLIANO - DIRECT

08:49 1 A. No.

08:49 2 Q. Jesse, let's switch gears, and let's talk about foam
08:49 3 cement.

08:50 4 What is foam cement, Jesse?

08:50 5 A. Foam cement is basically cement that you inject nitrogen
08:50 6 or gas into, to lighten the weight of the cement.

08:50 7 Q. And the nitrogen is injected there on the rig --

08:50 8 A. Yes.

08:50 9 Q. -- prior to the time that the slurry is pumped?

08:50 10 A. That's correct.

08:50 11 Q. And is it injected under pressure?

08:50 12 A. Yes.

08:50 13 Q. Okay. If you were going to try to test the slurry there
08:50 14 in the laboratory, would you use nitrogen for testing?

08:50 15 A. No. We actually use air for testing it in the lab.

08:50 16 Q. Why is air used in the lab whereas nitrogen is used there
08:50 17 on the rig?

08:50 18 A. Because the testing is not done under pressure in the lab.

08:50 19 Q. Okay, sir.

08:50 20 Jesse, what is the purpose of using foam in a cement
08:50 21 job?

08:50 22 A. I'm sorry. I missed the question.

08:50 23 Q. What is the purpose of using foam in a cement job?

08:50 24 A. One of the main purposes is, if you have a low frac
08:50 25 gradient, you can actually adjust the weight of the cement to

JESSE GAGLIANO - DIRECT

08:51 1 make sure you don't fracture the formation, and it gives you
08:51 2 some flexibility to adjust that weight on the fly.

08:51 3 Q. Jesse, as you worked with those men there for BP on the
08:51 4 Macondo well, were you asked to provide a recommendation
08:51 5 regarding the type of cement that would be pumped into the
08:51 6 production casing interval there on the Macondo well?

08:51 7 A. Yes.

08:51 8 Q. And who was it that made that request of you that you come
08:51 9 up with a recommendation?

08:51 10 A. Early on, it was Trent Fleece, Brian Morel, and Mark
08:51 11 Hafle.

08:51 12 Q. You said Mr. Fleece?

08:51 13 A. Yes.

08:51 14 Q. He was with you -- was it on the *Deepwater Horizon*?

08:51 15 A. No. He was actually assigned to the *Marianas*.

08:51 16 Q. And the *Marianas*, was it a rig that was there on the well
08:51 17 for a period of time?

08:51 18 A. Yes. The *Marianas* was actually the one that started the
08:51 19 Macondo. But then it was damaged in a hurricane, so we
08:51 20 switched over to the *Horizon*.

08:51 21 Q. And when was it, in terms of the month and the year, that
08:51 22 the *Marianas* was moved off the location and the *Deepwater*
08:52 23 *Horizon* was moved on the location over the Macondo well?

08:52 24 A. I believe the *Marianas* was damaged in October of '09.

08:52 25 Q. Yes, sir.

JESSE GAGLIANO - DIRECT

08:52 1 A. And I think -- the *Horizon* went on the well the end of
08:52 2 January, beginning of February of 2010, I think.

08:52 3 Q. The end of January, some part -- early February 2010?

08:52 4 A. Yes.

08:52 5 Q. And you mentioned Mr. Fleece. That's the first time we've
08:52 6 heard of his name.

08:52 7 Did he continue working with you on behalf of BP
08:52 8 after the *Deepwater Horizon* came on location?

08:52 9 A. No, he didn't.

08:52 10 Q. Where did he go?

08:52 11 A. He was being assigned to the *Marianas*. So once the
08:52 12 *Marianas* left, I'm not sure where he went, but he was working
08:52 13 with a different team.

08:52 14 Q. So he left, and the gentlemen that were there from -- let
08:52 15 me recap here briefly.

08:52 16 The gentlemen that were left there for BP on the
08:52 17 design team there with you in Houston for the *Deepwater Horizon*
08:52 18 was Mr. John Guide, Mr. Greg Walz, Mr. Cocalles, Mr. Hafle, and
08:52 19 Mr. Morel; is that correct?

08:52 20 A. Yes.

08:52 21 Q. Okay. Thank you.

08:52 22 Jesse, whose decision -- ultimate decision -- was it
08:53 23 to use foam cement on the Macondo production casing job?

08:53 24 A. BP's.

08:53 25 Q. Okay, sir.

JESSE GAGLIANO - DIRECT

08:53 1 Jesse, why did you recommend the use of the foam
08:53 2 cement on the production casing job there on the Macondo well?

08:53 3 A. Because of the low frac gradient, or the tight frac
08:53 4 gradient pore pressure window we had, we can foam it back. It
08:53 5 also gave some flexibility; if there was any changes, we can
08:53 6 actually adjust the weight of the cement to make sure we didn't
08:53 7 fracture the well.

08:53 8 Q. And when you say "the low fracture gradient," tell us what
08:53 9 you're talking about there insofar as this well is concerned.

08:53 10 A. The fracture gradient is basically the pressure it takes
08:53 11 to fracture the formation where you would have total losses.
08:53 12 So you don't want to exceed that pressure, to have losses in
08:53 13 the well.

08:53 14 Q. Jesse, while you worked there with the BP drilling
08:53 15 engineers on Macondo, did you learn whether or not there had
08:53 16 been losses of mud into the -- in the formation?

08:54 17 A. For Macondo we had a lot of losses during the life of the
08:54 18 well.

08:54 19 Q. And when you say "a lot of losses," can you quantify that,
08:54 20 if you recall, for Judge Barbier, in terms of the number of
08:54 21 barrels of mud or what it might have been, how many barrels,
08:54 22 approximately, do you believe were lost in the mud, based upon
08:54 23 what you learned from the drilling engineers for BP?

08:54 24 A. We lost in excess of 15- to 16,000 barrels of mud, which
08:54 25 is unheard of in the oil field.

JESSE GAGLIANO - DIRECT

08:54 1 Q. And that was lost into the formation?

08:54 2 A. Yes.

08:54 3 Q. So then BP, then, had a well that did have a -- would you
08:54 4 call it a fragile formation?

08:54 5 A. Yes.

08:54 6 Q. So you were asked to come up with and design a slurry that
08:54 7 could work best with this -- what you've referred to as a
08:54 8 fragile formation; is that correct?

08:54 9 A. Yes.

08:54 10 Q. And you recommended using the foam cement slurry?

08:54 11 A. Yes.

08:54 12 Q. And BP agreed with that?

08:54 13 A. Yes.

08:54 14 Q. Do you know a gentleman by the name of Mr. Eric
08:54 15 Cunningham?

08:54 16 A. Yes.

08:54 17 Q. Tell Judge Barbier who Eric Cunningham is, if you will,
08:55 18 please, sir.

08:55 19 A. Eric Cunningham was one of the BP cement specialists who
08:55 20 actually was in Houston.

08:55 21 Q. Do you have any knowledge about how many of the top
08:55 22 specialists in the world BP has?

08:55 23 A. At that time they only had two.

08:55 24 Q. And did Eric Cunningham -- was he one of those two?

08:55 25 A. Yes.

JESSE GAGLIANO - DIRECT

08:55 1 Q. Okay. And did you at any time work with Eric Cunningham,
08:55 2 whether by phone or in a meeting or both, with regard to the
08:55 3 Macondo well?

08:55 4 A. I was only in one meeting with Eric Cunningham regarding
08:55 5 Macondo.

08:55 6 Q. Okay. And in that meeting with Eric Cunningham, had the
08:55 7 decision been made at that time to use the foam cement slurry
08:55 8 there in the Macondo well?

08:55 9 A. Yes.

08:55 10 Q. And in the meeting that you had with Eric Cunningham, were
08:55 11 other BP engineers there with you in the meeting?

08:55 12 A. Yes.

08:55 13 Q. At any time in that meeting, did Eric Cunningham, one of
08:55 14 the two cementing experts for BP in the world, did he say
08:56 15 anything to you that led you to believe that he disagreed with
08:56 16 your recommendation to use a foam slurry in the Macondo well on
08:56 17 the production casing?

08:56 18 A. No. The primary purpose of that meeting was to determine
08:56 19 if BP wanted to run a long string or a liner.

08:56 20 Q. Well, after that meeting, did you hear back from
08:56 21 Mr. Cunningham on anyone else on his behalf where he
08:56 22 challenged, on behalf of BP, the recommendation to use the foam
08:56 23 slurry in the Macondo well?

08:56 24 A. No.

08:56 25 Q. At any time when you were meeting with or talking with any

JESSE GAGLIANO - DIRECT

08:56 1 of the drilling engineers for BP, did any of them ever say
08:56 2 anything that led you to believe they disagreed with or
08:56 3 second-guessed your recommendation to use the foam cement
08:56 4 slurry there in the well?

08:56 5 A. No.

08:56 6 Q. Thank you, sir.

08:56 7 Jesse, can you explain to Judge Barbier how the foam
08:56 8 slurry was used and was put together there at the well? In
08:57 9 other words, how did the foam slurry come together? What made
08:57 10 up the foam slurry, if you will?

08:57 11 A. Basically, we had a dry blend on the rig that comprised of
08:57 12 some additives that were mixed, and then you also add some
08:57 13 liquid additives that are required for the job specifications,
08:57 14 and you mix it and then you inject nitrogen into it to get the
08:57 15 desired weight, and then you go downhole with it.

08:57 16 Q. Let's talk about the dry blend that you've referenced
08:57 17 there, Jesse. You say there was a dry blend there on the rig.
08:57 18 That was there on the *Deepwater Horizon*?

08:57 19 A. Yes.

08:57 20 Q. Okay. At the time that the *Deepwater Horizon* was moved
08:57 21 over to the Macondo, had it moved over from another well?

08:57 22 A. Yes, it had moved over from the Kodiak well.

08:57 23 Q. The Kodiak well. It had been on the Kodiak well, moved
08:57 24 over to the Macondo?

08:57 25 A. Yes.

JESSE GAGLIANO - DIRECT

08:57 1 Q. On behalf of BP?

08:57 2 And when it was moved over, was there a dry blend
08:57 3 there of the cement?

08:57 4 A. Yes.

08:57 5 Q. Where did BP, if you know, get that dry blend from that
08:57 6 was located there on the *Deepwater Horizon*?

08:58 7 A. It never left the rig. It was actually leftover cement
08:58 8 from Kodiak that was actually just transferred on paper to the
08:58 9 Macondo well. So it actually stayed on the rig.

08:58 10 Q. And do you know where BP bought the cement from that was
08:58 11 there on the *Deepwater Horizon*?

08:58 12 A. It was purchased from Halliburton.

08:58 13 Q. They bought it from Halliburton, and it was there. It was
08:58 14 there. Did you make the decision -- did you make the
08:58 15 decision -- or strike that.

08:58 16 Did you make the recommendation -- first, did you
08:58 17 recommend to BP that the existing dry blend there on the
08:58 18 *Deepwater Horizon* be used there for purposes of the foam slurry
08:58 19 that was going to be designed?

08:58 20 A. Yes. I recommended to BP if the volumes were enough, that
08:58 21 we could use that for the production casing job.

08:58 22 Q. And did anybody there with BP disagree with that
08:58 23 recommendation to use the existing dry blend?

08:58 24 A. No.

08:58 25 Q. And from Halliburton's standpoint, you could have just as

JESSE GAGLIANO - DIRECT

08:59 1 easily said, why don't we buy -- you buy new cement, get rid of
08:59 2 that and bring new in. That would have worked to Halliburton's
08:59 3 advantage, would it not?

08:59 4 A. I could have sold them additional cement, which would be
08:59 5 additional revenue for us.

08:59 6 Q. You, though, you made the recommendation to use the
08:59 7 existing blend, did you not?

08:59 8 A. Yes.

08:59 9 Q. Did you know that the existing blend had any type of an
08:59 10 ingredient in it that caused you any initial concern?

08:59 11 A. No.

08:59 12 Q. Okay. What did the -- did the initial dry blend have in
08:59 13 it a product known as D-Air 3000?

08:59 14 A. Yes, it did.

08:59 15 Q. Okay. If you will, define for Judge Barbier what -- or
08:59 16 tell him what D-Air 3,000 is.

08:59 17 A. D-Air 3000 is an additive we add to the cement that when
08:59 18 we're mixing it at surface, we have a 25-barrel tub, that the
08:59 19 cement can become thick sometimes and entrap air --

08:59 20 Q. Jesse, you have to speak into the microphone a little
08:59 21 better for the lady.

08:59 22 A. When you're mixing the cement, sometimes the cement can be
08:59 23 thick and can entrap air, which will throw the weight off of
09:00 24 the cement when they're going downhole. So we have D-Air in
09:00 25 there that breaks the air to give it a lot smoother density

JESSE GAGLIANO - DIRECT

09:00 1 going downhole.

09:00 2 Q. Jesse, prior to this Macondo well design that you were
09:00 3 involved with, had you actually heard of and been involved with
09:00 4 D-Air 3000 previously?

09:00 5 A. Yes.

09:00 6 MR. BROCK: I'm just going to object to the question,
09:00 7 "heard of" and "involved."

09:00 8 MR. GODWIN: I'll withdraw it, Judge. That's my
09:00 9 mistake, Judge.

09:00 10 THE COURT: All right.

09:00 11 BY MR. GODWIN:

09:00 12 Q. Was your first involvement with the D-Air 3000 there on
09:00 13 the Macondo well?

09:00 14 A. No.

09:00 15 Q. Okay. All right. And so you had the D-Air 3000. We'll
09:00 16 come back to that in a moment.

09:00 17 You mentioned liquid additives would be added into
09:00 18 the dry blend. Tell the Judge, if you will, please, what do
09:00 19 you mean by that?

09:00 20 A. There's some liquid additives that we inject into the
09:00 21 cement. In this particular case we had the retarder, and then
09:01 22 we also had the zone sealant, which was required for the
09:01 23 foaming of the system.

09:01 24 Q. Okay. With regard to the D-Air 3000, are you aware of any
09:01 25 recommendation by Halliburton not to use D-Air 3000 in a foam

JESSE GAGLIANO - DIRECT

09:01 1 slurry design?

09:01 2 A. Yes.

09:01 3 Q. Okay. Did you form the opinion, based upon experience,
09:01 4 that you could use the dry blend with the D-Air 3000 in it and
09:01 5 you could design around it?

09:01 6 A. Yes, you could.

09:01 7 Q. Tell Judge Barbier how you intended to do that.

09:01 8 A. Basically, you can adjust the amount of zone seal to
09:01 9 compensate for the D-Air, and then as long as you test it to
09:01 10 verify it's stable, then there will be no issues.

09:01 11 Q. Okay, sir. So you said you used zone seal to offset it
09:01 12 and then -- as long as you test it?

09:02 13 A. Yes.

09:02 14 Q. So did you -- during the course of the design phase, did
09:02 15 you adjust the retarder concentration from time to time so as
09:02 16 to offset the D-Air 3000 in the dry blend?

09:02 17 A. The retarder concentration?

09:02 18 Q. The zone sealant? Excuse me. The zone sealant?

09:02 19 A. No, I kept it consistent.

09:02 20 Q. You kept it consistent?

09:02 21 A. Yes.

09:02 22 Q. Did you have it at a level where you felt like that it
09:02 23 would offset the existence of the D-Air 3000?

09:02 24 A. Yes. The amount we used was higher than what we
09:02 25 standardly do for foam jobs.

JESSE GAGLIANO - DIRECT

09:02 1 Q. And typically in a foam job, what amount would you use
09:02 2 that you say was less than what you used here?

09:02 3 A. We usually use .07-gallon zone sealant. In this case I
09:02 4 think we used .11 gallons.

09:02 5 Q. Okay, sir. In terms of the -- you said that you would
09:02 6 start with your dry blend with the D-Air 3000, you would then
09:02 7 add the zone sealant, and then it would be tested.

09:02 8 Tell Judge Barbier what was the importance of testing
09:02 9 the cement there with the D-Air 3000 and with the zone sealant
09:03 10 in it. What was the importance of testing, if any?

09:03 11 A. The importance of testing is to make sure that you have a
09:03 12 stable system and that zone seal is enough to compensate for
09:03 13 the D-Air.

09:03 14 Q. Did you -- during the course of designing the foam job
09:03 15 there, did you, one, perform the design and then have it tested
09:03 16 to determine if there was a stable system that was going to be
09:03 17 pumped downhole in the Macondo well?

09:03 18 A. Yes.

09:03 19 Q. Did you determine from testing that, in fact, the slurry
09:03 20 that was pumped was, in fact, stable?

09:03 21 A. Yes.

09:03 22 MR. GODWIN: Let's take a look at TREN-60068, please.

09:04 23 BY MR. GODWIN:

09:04 24 Q. Jesse, we have here --

09:04 25 MR. GODWIN: Was there an e-mail prior to that at

JESSE GAGLIANO - DIRECT

09:04 1 TREX-60068 at 128952 -- thank you. If we highlight that,
09:04 2 please. Thank you, Rob.

09:04 3 **BY MR. GODWIN:**

09:04 4 **Q.** Jesse, this appears to be very small here. Can you make
09:04 5 it out from your screen you have there?

09:04 6 **A.** Yes.

09:04 7 **Q.** Okay. And can you read here -- follow along with me, if
09:04 8 you will, please, for the purposes of expediency. Does this
09:04 9 appear to be an e-mail from you dated April 18, 2010, at
10 2058 hours?

09:04 11 **A.** Yes.

09:04 12 **Q.** On a Sunday evening?

09:04 13 **A.** That's correct.

09:04 14 **Q.** Does it appear that you sent this e-mail to what it
09:04 15 appears to be Anthony Cupit, Brett Cocalles, Christopher Haire,
09:04 16 Donald Vidrine, John Guide, Murry Sepulvado, Vincent Tabler,
09:05 17 Brian Morel, Mark Hafle, Gary Walz, and others?

09:05 18 **A.** Yes.

09:05 19 **THE COURT:** Could you have someone -- can you blow
09:05 20 that up?

09:05 21 **MR. GODWIN:** Yes, Judge.

09:05 22 Can you blow that up a little better, Rob, for
09:05 23 the judge?

09:05 24 **THE COURT:** I'm assuming that you want the top part
09:05 25 up there?

JESSE GAGLIANO - DIRECT

09:05 1 MR. GODWIN: Yes, Judge, just the top.

09:05 2 We tried that over the weekend, Judge.

09:05 3 THE COURT: It doesn't blow up very well?

09:05 4 MR. GODWIN: It doesn't blow up very well.

09:05 5 THE COURT: Okay. Okay.

09:05 6 MR. GODWIN: That's the way it was done, Judge, the

09:05 7 formatting of it.

09:05 8 THE COURT: All right. Go ahead. That's a little

09:05 9 bit better, I think.

09:05 10 MR. GODWIN: Thank you, Judge.

09:05 11 Your Honor, it reads there in the body of the

09:05 12 e-mail -- and it does get better in the later pages.

09:05 13 BY MR. GODWIN:

09:05 14 Q. But the body of it there, the only line says,

09:05 15 "Attached" -- it says "it," but it's supposed to be "is."

09:05 16 "Attached is the revised information for the upcoming

09:05 17 9 7/8 inch by 7 inch production casing job. The compressive

09:05 18 strength is not completed yet, but it currently has 34 hours.

09:05 19 The chart of the progress is below. Let me know if you have

09:05 20 any questions. Thanks."

09:05 21 And you sent this over to a number of BP people, as

09:06 22 well as others, on a Sunday night, April 18th?

09:06 23 A. Yes.

09:06 24 MR. LI: Objection, Your Honor. Those are all BP

09:06 25 people. It's not among others -- I'm sorry. And there's some

JESSE GAGLIANO - DIRECT

09:06 1 Halliburton folks.

09:06 2 **MR. GODWIN:** I didn't mean to say -- no Transocean
09:06 3 people were intended, Judge.

09:06 4 **THE COURT:** Okay.

09:06 5 **MR. GODWIN:** BP and Halliburton folks.

09:06 6 Let's turn over to page 128958 of that TREX
09:06 7 number, please.

09:06 8 **BY MR. GODWIN:**

09:06 9 **Q.** Jesse, we have here now -- can you identify for the judge
09:06 10 just briefly what that page purports to represent?

09:06 11 **A.** This is one of the pages out of our HIPs document, our
09:06 12 proposal system that I provide to BP.

09:06 13 **Q.** Put the mic where it's a little bit louder for you, Jesse.

09:06 14 **A.** This actually shows the recommendations of volumes of
09:06 15 spacer and cement design I gave to BP.

09:06 16 **Q.** Jesse, will you tell Judge Barbier why you -- on a Sunday
09:06 17 night at almost 9:00 at night, why were you sending this
09:07 18 document to BP and other Halliburton people?

09:07 19 **A.** On Sunday I had learned that BP only ran 6 centralizers
09:07 20 instead of 21, so I updated my documents supporting it and
09:07 21 resent it out to the team for documentation purposes.

09:07 22 **Q.** Okay, Jesse. In this particular document that you
09:07 23 circulated, it shows there the -- part of it there shows under
09:07 24 Fluid 3: "Lead cement unfoamed."

09:07 25 Do you read that?

JESSE GAGLIANO - DIRECT

09:07 1 A. Yes.

09:07 2 Q. Okay. And it shows there a list of products. Jesse, what
09:07 3 are these products here -- just generally, without saying
09:07 4 exactly what they are, what are these products there under
09:07 5 Fluid 3?

09:07 6 A. That's basically the recipe of the cement design that I
09:07 7 provided to BP.

09:07 8 Q. Okay.

09:07 9 A. That's all the additives that are included in the cement
10 system.

09:07 11 Q. The additives that were to be included in the system?

09:08 12 A. Yes.

09:08 13 Q. And it shows there that we've got the premium cement.
14 Would that be the dry blend you've talked about?

09:08 15 A. That is part of the dry blend, the majority of it, yes.

09:08 16 Q. And it shows that you have Halliburton EZ-FLO?

09:08 17 A. Yes and.

09:08 18 Q. It show there you've got D-Air 3000 defoamer?

09:08 19 A. Yes.

09:08 20 Q. It shows KCL, the additive material, and it goes on
21 down --

09:08 22 A. Yes.

09:08 23 Q. -- and it shows you've got SA-541 as an additive material?

09:08 24 A. Yes.

09:08 25 Q. It shows you've got .11 gallons per sack of

JESSE GAGLIANO - DIRECT

09:08 1 ZoneSealant 2000 as a foamer?

09:08 2 A. Yes.

09:08 3 Q. It shows you've got .09 gallons of SCR-100L as a retarder.
09:08 4 Was that the retarder you were talking about earlier with
09:08 5 Judge Barbier where they wanted to go with .90 gallons per sack
09:08 6 and you wanted to go with .08?

09:08 7 A. That's correct.

09:08 8 Q. Then it shows last there, "WellLife 734."

09:08 9 Jesse, were all of these additives there under
09:08 10 Fluid 3, were they included in the design that was actually
09:08 11 pumped into the Macondo well?

09:08 12 A. Yes.

09:09 13 Q. Okay. And, Jesse, you had provided a list of these
09:09 14 additives to BP before April 18, 2010?

09:09 15 A. These are common additives I've used through my career at
09:09 16 BP. So they've certainly been seen before.

09:09 17 Q. In terms of your design work on the Macondo well, the
09:09 18 production casing, had you informed BP, prior to this e-mail,
09:09 19 of the existence of these additives to be included in the
09:09 20 slurry design?

09:09 21 A. Yes.

09:09 22 Q. Okay. And, Jesse, was there -- after you sent this e-mail
09:09 23 to BP on Sunday night of April 18, did you receive any
09:09 24 communication of any kind from BP where any of them objected to
09:09 25 or questioned the inclusion of any of these additives in that

JESSE GAGLIANO - DIRECT

09:09 1 slurry design?

09:09 2 A. No.

09:09 3 Q. Okay. Jesse, let's talk about Fluid 4, the bottom part,
09:09 4 the foamed tail cement here where it says, "Foamed to an
09:09 5 average density of 14.5 ppgs."

09:10 6 Why did you include there foamed to average density
09:10 7 of 14.5 ppg?

09:10 8 A. Just to denote what the target density we were shooting
09:10 9 for when foaming this system.

09:10 10 Q. When you say "we were shooting for," who is "we"?

09:10 11 A. The people on the rig performing the job, to make sure
09:10 12 they understood what we were trying to go with.

09:10 13 Q. So that's the density, the weight of it, that you wanted
09:10 14 to accomplish?

09:10 15 A. Correct.

09:10 16 THE COURT: By the way, let me ask a question.

09:10 17 MR. GODWIN: Yes, Judge.

09:10 18 THE COURT: You're doing all of this in Houston, or
09:10 19 are you out on the rig?

09:10 20 THE WITNESS: I'm in an office --

09:10 21 THE COURT: I know you weren't on the rig on
09:10 22 April 20th.

09:10 23 THE WITNESS: Correct.

09:10 24 THE COURT: I heard that. All of this, what you've
09:10 25 been talking about this morning, you're in Houston doing this?

JESSE GAGLIANO - DIRECT

09:10 1 THE WITNESS: I'm actually in BP's office in Houston,
09:10 2 yes, Your Honor.

09:10 3 THE COURT: You're not out on the rig?

09:10 4 THE WITNESS: No, Your Honor.

09:10 5 THE COURT: I just wanted to clarify that. Okay. Go
09:10 6 ahead.

09:10 7 MR. GODWIN: That's a good question, Judge. Thank
09:10 8 you, sir.

09:10 9 THE COURT: Yeah. All right.

09:10 10 BY MR. GODWIN:

09:10 11 Q. So let's talk about Fluid 4, the foamed tail cement. Tell
09:10 12 Judge Barbier why you have included this particular section,
09:10 13 Fluid 4, in your April 18 e-mail.

09:10 14 A. Basically, if you look at it, it's the same recipe for
09:11 15 both, the lead and the tail.

09:11 16 Q. Yes, sir.

09:11 17 A. But operationally, on the rig, you always want to make
09:11 18 sure your cement is flowing good, your zone seal is flowing
09:11 19 good before you actually turn nitrogen on. So you usually pump
09:11 20 about 5 to 10 barrels ahead before you actually kick the
09:11 21 nitrogen on to make sure you can trap the nitrogen bubbles.

09:11 22 So this is the notes that we pump about 5 to
09:11 23 6 barrels ahead before we actually turn the nitrogen on.

09:11 24 Q. All right. Jesse, are all of the additives there in the
09:11 25 Fluid 4, are they the same additives that are in the Fluid 3?

JESSE GAGLIANO - DIRECT

09:11 1 Are there any differences?

09:11 2 A. No.

09:11 3 Q. All right. Jesse, if you will, please, turn over to --

09:11 4 **MR. GODWIN:** If you can, Rob, go to

09:11 5 Halliburton 0128960 there within that same TREX number.

09:11 6 **BY MR. GODWIN:**

09:11 7 Q. Jesse, here it shows -- in what is numbered as page 8 of

09:11 8 12 but it's at 0128960 as part of the TREX, it shows some foam

09:12 9 design specifications. And it shows here, "Foam Calculation

09:12 10 Method: Constant Gas Flow."

09:12 11 What are you referring to there?

09:12 12 A. That just refers to having a constant gas rate being

09:12 13 injected to the cement for the job.

09:12 14 Q. When it says bottom hole circulating temperature of

09:12 15 210 degrees Fahrenheit, where did you get that information

09:12 16 from?

09:12 17 A. I got that off of WELLCAT temperature modeling software.

09:12 18 Q. And then the mud outlet temperature of 150 degrees

09:12 19 Fahrenheit, where did you get that from?

09:12 20 A. I believe that's hard input into -- into HIPS.

09:12 21 Q. For purposes of the design engineering that you were

09:12 22 doing, Jesse, did BP provide you with information that you used

09:12 23 for purposes of your work?

09:12 24 A. Yes.

09:12 25 Q. Give Judge Barbier some examples of the kinds of

JESSE GAGLIANO - DIRECT

09:12 1 information that BP was providing that you used in doing your
09:13 2 design work.

09:13 3 A. Pretty much to execute what I needed to do, I needed to
09:13 4 get all information from BP as far as fracture gradient, pore
09:13 5 pressures, mud weights, casing design, where target top of
09:13 6 cement needs to be, things of that sort. So all the
09:13 7 information I need to input into my models, I have to get from
09:13 8 BP.

09:13 9 Q. And in getting that information, you expected that the
09:13 10 information that you were getting and receiving from BP was
09:13 11 going to be accurate and complete?

09:13 12 A. Yes.

09:13 13 Q. Would that also extend to the location of the hydrocarbon
09:13 14 zones there?

09:13 15 A. They generally don't share with me whether the
09:13 16 hydrocarbon-bearing zones are, but they usually tell me where I
09:13 17 need to target top of cement.

09:13 18 Q. When you mean "target top of cement," where that needs to
09:13 19 be, did you come to believe, based upon your years of working
09:13 20 with the design engineers, that the top of cement would cover
09:13 21 all known hydrocarbon zones?

09:13 22 A. Yes. It's a requirement to have at least 500 feet of
09:13 23 cement above the hydrocarbon-bearing zones.

09:13 24 Q. Thank you, sir.

09:13 25 Now, if we'll look here at these foam design

JESSE GAGLIANO - DIRECT

09:14 1 specifications, it says here: "Hold a safety meeting with all
09:14 2 personnel to discuss foam cementing operations and possible
09:14 3 hazards."

09:14 4 Do you see that?

09:14 5 A. Yes.

09:14 6 Q. All right. Where did you get the information here from in
09:14 7 Numbers 1 through 7 that you included in this e-mail and
09:14 8 information sent to BP and Halliburton?

09:14 9 A. Nathaniel Chaisson was our engineer on location, and they
09:14 10 had a cement meeting on the rig, and this is the procedure that
09:14 11 they came up with on the rig.

09:14 12 Q. Okay, sir. You say "they came up with on the rig." Who
09:14 13 is "they"?

09:14 14 A. I'm not sure who was in the meeting, but I know Nathaniel
09:14 15 represents Halliburton and BP were present for that.

09:14 16 Q. Let's look, if we can, please, without going into all of
09:14 17 them, which we're certainly not going to do. Look at No. 2
09:14 18 where it says: With rig pumps, pump and circulate 111 barrels
09:14 19 at 1 barrel per minute. Next circulate 150 barrels at
09:14 20 4 barrels per minute as per company man.

09:14 21 Did you come to learn, from either Nathaniel Chaisson
09:15 22 or anybody with BP, what was meant by No. 2 there in that
09:15 23 e-mail there, in that list?

09:15 24 A. I did speak to Nathaniel and asked him if he made the
09:15 25 recommendation. He said he did, and that the company had told

JESSE GAGLIANO - DIRECT

09:15 1 him this is what we're going to do. So he wanted to document
09:15 2 who told him he had to do that.

09:15 3 Q. Thank you, sir.

09:15 4 "Company man," does that have any meaning to you?

09:15 5 A. A company man is usually a BP representative on the rig.

09:15 6 Q. Okay. Thank you.

09:15 7 Jesse, let's talk about a few of the additives,
09:15 8 certainly not all of them. If you will -- you've talked about
09:15 9 D-Air 3000 and what it does and what it is. Tell Judge Barbier
09:15 10 what ZoneSealant 2000 is, which was one of the additives there
09:15 11 in the slurry that was actually pumped.

09:15 12 A. ZoneSealant 2000 is actually the foamer that actually
09:15 13 encapsulates the nitrogen to keep it from breaking out. So
09:15 14 it's required for a foam job.

09:15 15 MR. GODWIN: Okay. If we could, Rob -- if we could
09:16 16 leave up TREX-60068 and let's leave up the page 8958 just
09:16 17 showing the various additives, if you will, please. Just leave
09:16 18 it pulled up there.

09:16 19 BY MR. GODWIN:

09:16 20 Q. All right. I'm asking you just about a couple of these
09:16 21 that are listed here as the additives in the design.

09:16 22 So you talked about ZoneSealant. Tell Judge Barbier,
09:16 23 what is SCR-100L, which was also included there as a retarder
09:16 24 in this design?

09:16 25 A. That's a retarder. That's actually what you adjust -- you

JESSE GAGLIANO - DIRECT

09:16 1 adjust the pump time of the cement to make sure you have enough
09:16 2 time to get it downhole before setting up.

09:16 3 Q. Okay. What's the purpose of the retarder, Jesse?

09:16 4 A. To make sure you don't have a problem getting the cement
09:16 5 down and then prematurely set in the casing.

09:16 6 Q. All right. Jesse, the SCR-100L that we show here, was
09:16 7 that actually in the dry blend that was there on the
09:16 8 *Deepwater Horizon*, or was it added as one of the additives?

09:16 9 A. It was one of the liquid additives added on the rig.

09:17 10 Q. Okay. Jesse, of all these additives we've talked about
09:17 11 that you show here, were they all in liquid form, or were they
09:17 12 in some other type of form?

09:17 13 A. Not all of them were liquid; some of them were blended
09:17 14 with the cement.

09:17 15 Q. Okay. And then the ones that were not liquid, what form
09:17 16 were they in?

09:17 17 A. They were dry blended with the cement. You couldn't
09:17 18 really tell a difference. It looks just like a bunch of dirt,
09:17 19 but it looks like cement, a large volume of cement in tanks.

09:17 20 Q. Thank you, Jesse.

09:17 21 Jesse, is retarder necessary for inclusion in a foam
09:17 22 cement slurry?

09:17 23 A. At this depth, yes, it is.

09:17 24 Q. You have to pull the mic just a little bit closer.

09:17 25 A. At this depth, yes, it is.

JESSE GAGLIANO - DIRECT

09:17 1 Q. At this depth, it is?

09:17 2 A. Yes.

09:17 3 Q. Why is that, Jesse?

09:17 4 A. Usually the deeper the well, the more time you need to get
09:17 5 the cement in place; and in order to delay the set of cement,
09:17 6 you need to add retarder to it.

09:17 7 Q. Okay. Jessie, what is SA-541 shown here as an additive
09:17 8 material?

09:17 9 A. It's an anti-settling agent.

09:18 10 Q. Okay. Jesse, do you know if Halliburton published
09:18 11 technical guidance regarding the potential interaction of
09:18 12 D-Air 3000 and ZoneSealant 2000?

09:18 13 A. Yes.

09:18 14 **MR. GODWIN:** Let's pull up, if we can, please,
09:18 15 TREX-5219.

09:18 16 **BY MR. GODWIN:**

09:18 17 Q. Jesse, you said you had a cold. Do you have a bottle of
09:18 18 water there?

09:18 19 A. Yes.

09:18 20 Q. Jesse, we have here on the screen a document which is
09:18 21 TREX-5219, and it's entitled "Technology Bulletin," and the
09:18 22 subject is "ZoneSealant 2000 Foamer/Stabilizer for Freshwater
09:18 23 and Saturated-Salt Slurries."

09:19 24 Did I read that correctly?

09:19 25 A. Yes.

JESSE GAGLIANO - DIRECT

09:19 1 Q. Jesse, what is the date of this document?

09:19 2 A. December 8th, 1999.

09:19 3 Q. Okay, sir.

09:19 4 And, Jesse, at the time that you were involved in
09:19 5 designing the slurry, the foam slurry for the Macondo well, the
09:19 6 production casing string, were you aware of this particular
09:19 7 technology bulletin?

09:19 8 A. Yes.

09:19 9 Q. Okay, sir.

09:19 10 And, Jesse, did you under- -- you mentioned best
09:19 11 practices to Judge Barbier earlier. Jesse, did you
09:19 12 understand -- this technology bulletin of Halliburton, dealing
09:19 13 with ZoneSealant 2000, did you understand it to be a best
09:19 14 practices of Halliburton?

09:19 15 A. It's a guidance that they put out for us to look at.

09:19 16 Q. Okay. It's a guidance?

09:19 17 A. Yes.

09:19 18 Q. Is it a best practice?

09:19 19 A. It can be considered a best practice.

09:19 20 Q. Okay. But it's a guidance as opposed -- is it a mandate?

09:19 21 A. No.

09:19 22 **MR. BROCK:** I'll object to leading, Your Honor.

09:20 23 **MR. GODWIN:** I'll withdraw, Judge.

09:20 24 **THE COURT:** All right.

09:20 25 **MR. GODWIN:** Thank you, Judge.

JESSE GAGLIANO - DIRECT

09:20 1 **BY MR. GODWIN:**

09:20 2 **Q.** Jesse, if we can, please, let's take a look here at TREX
09:20 3 No. 5219, and let's go over to page No. 0045253.

09:20 4 **MR. GODWIN:** That's page 3 of 3, Your Honor, there in
09:20 5 the book, if you need it.

09:20 6 **BY MR. GODWIN:**

09:20 7 **Q.** You see here where it talks about compatibility under
09:20 8 Defoamers, and it shows "Caution" -- follow along here with me,
09:20 9 Jesse, while I read this.

09:20 10 It says: "Do not use defoamers or dispersants (NF
09:20 11 and D-Air defoamers, CFR-2, CFR-3, Halad-9, Halad-12, Halad-22A
09:20 12 additives, etc.) These materials will destabilize the foam."

09:20 13 Did I read that correctly, Jesse?

09:20 14 **A.** Yes.

09:20 15 **Q.** Do you agree, Jesse, that defoamers and dispersants tend
09:20 16 to destabilize a foam system?

09:21 17 **A.** No.

09:21 18 **Q.** Okay, sir.

09:21 19 Jesse, are you aware of other technical guidance from
09:21 20 Halliburton that instructs its cement engineers to avoid using
09:21 21 defoamers in foam cement designs?

09:21 22 **A.** Yes.

09:21 23 **MR. GODWIN:** Okay. Let's pull of TREX-4348, please.

09:21 24 **BY MR. GODWIN:**

09:21 25 **Q.** Jesse, we have here on the screen a document entitled

JESSE GAGLIANO - DIRECT

09:21 1 "Cementing Technology Manual." Can you see there in the bottom
09:21 2 left-hand corner, for purposes of expediency, the date of the
09:21 3 document?

09:21 4 A. January 1996.

09:21 5 Q. Okay. It shows the second release was January '96, does
09:21 6 it not?

09:21 7 A. Yes.

09:21 8 Q. And there had been a first release in October of '93?

09:21 9 A. Yes.

09:21 10 Q. Okay. Were you, Jesse, aware of this *Cementing Technology*
09:21 11 *Manual* at the time that you designed the cement slurry for the
09:21 12 Macondo well?

09:21 13 A. Yes.

09:21 14 Q. Okay. If we can, Jesse, let's take and turn over --

09:22 15 **MR. GODWIN:** One second, Your Honor.

09:22 16 **BY MR. GODWIN:**

09:22 17 Q. Let's turn over, if we can, please -- in this same
09:22 18 document, TRES-4348, let's turn over to Bates No. 1124604 under
09:22 19 Foam Cement.

09:22 20 And it shows there, if we can, please, under the
09:22 21 first full paragraph -- go along with me, Jesse, where I'm
09:22 22 reading it, not all of it but just the full sentence:

09:22 23 "Attaining an extremely low density is useful to prevent
09:22 24 formation breakdown to weak formations and prevent lost
09:22 25 circulation."

JESSE GAGLIANO - DIRECT

09:22 1 A. Yes.

09:22 2 Q. Did I read that correctly?

09:22 3 A. Yes.

09:22 4 Q. And were you attempting to do that in the Macondo well
09:22 5 because of your knowledge of the lost barrels of mud that had
09:22 6 been lost into the formation?

09:23 7 A. Yes.

09:23 8 Q. And the low fracture gradient that the well had there?

09:23 9 A. Yes.

09:23 10 Q. Jesse, it also reads down below "Interaction with Other
09:23 11 Additives," it says: "Avoid using dispersants or defoamers
09:23 12 additives."

09:23 13 Did I read that correctly?

09:23 14 A. Yes.

09:23 15 Q. Okay, sir.

09:23 16 Jesse, with that guidance there in this *Cementing*
09:23 17 *Technology Manual* that you have talked about here, why did you
09:23 18 use dispersants or defoamers as additives in this blend?

09:23 19 A. I knew we had jobs in the past that we had done
09:23 20 successfully. We had learned, since these documents were
09:23 21 published, that it can be done successfully by compensating
09:23 22 with ZoneSeal.

09:23 23 Q. Okay, sir.

09:23 24 Jesse, having used the existing dry blend cement and
09:24 25 the additives that you did include, did you have any concerns

JESSE GAGLIANO - DIRECT

09:24 1 about your ability to design around the effects of D-Air and
09:24 2 create a stable foam cement design?

09:24 3 A. No.

09:24 4 Q. Thank you.

09:24 5 Jesse, there have been criticisms of you about using
09:24 6 D-Air in the dry blend in this slurry. Do you have any
09:24 7 response to those criticisms insofar as the design work that
09:24 8 you did?

09:24 9 A. Based on my experience, I knew we consistently did it, and
09:24 10 testing showed in this case we had a stable system.

09:24 11 Q. Jesse, did you have the slurry tested with D-Air in it to
09:24 12 determine whether the concentration of zone sealant was
09:24 13 sufficient to overcome the effects of D-Air?

09:24 14 A. Yes.

09:24 15 Q. Did the test results indicate that the foam slurry tested
09:24 16 in the lab was stable?

09:24 17 A. Yes.

09:24 18 **MR. GODWIN:** Let's look at TREX-60455, please.

09:24 19 **BY MR. GODWIN:**

09:25 20 Q. Jesse, we have here a document, "Halliburton, Cementing
09:25 21 Gulf of Mexico, Broussard," and it shows "lab results-lead"
09:25 22 over in the right-hand corner there. Do you see that?

09:25 23 A. Yes.

09:25 24 Q. Jesse, there appears to be a date of February 10, 2010,
09:25 25 there on the document, upper right-hand corner, does it not?

JESSE GAGLIANO - DIRECT

09:25 1 A. It does.

09:25 2 Q. What does that date mean to you, if anything?

09:25 3 A. That's the date of the request for this particular lab
09:25 4 test.

09:25 5 Q. Okay. That doesn't necessarily mean the date that it came
09:25 6 out or was reported; that's the date of the request. Is that
09:25 7 what you're telling Judge Barbier?

09:25 8 A. That's correct.

09:25 9 Q. Okay. Thank you.

09:25 10 MR. GODWIN: And if we can, let's go back with the
09:25 11 full page, full page of the document.

09:25 12 BY MR. GODWIN:

09:25 13 Q. And here it shows that -- some well information.

09:25 14 MR. GODWIN: And if we can pull that out.

09:25 15 BY MR. GODWIN:

09:25 16 Q. Well information, it shows casing/liner size and it shows
09:25 17 a depth of 19,650. Where did you get that information that you
09:26 18 included in this lab result page?

09:26 19 A. At the time of this request, that was the target depth we
09:26 20 were shooting for, so I received the well schematic from BP
09:26 21 that had that information on it.

09:26 22 Q. All right, sir.

09:26 23 And it goes the hole size and it shows the depth,
09:26 24 TVD. And then we go down to drilling fluid, the mud company,
09:26 25 M-I. And then we go down to cement information.

JESSE GAGLIANO - DIRECT

09:26 1 MR. GODWIN: And here, now, if we just pull up the
09:26 2 part dealing with the cement information, the lead design.

09:26 3 BY MR. GODWIN:

09:26 4 Q. Jesse, here are a number of products listed, and are these
09:26 5 the same products that you used in the actual slurry that was
09:26 6 actually pumped into the Macondo well?

09:26 7 A. Yes.

09:26 8 Q. Okay, sir.

09:26 9 How about -- with regard to the concentrations, are
09:26 10 they the same, over on the left-hand side where it says "Conc"?

09:26 11 A. No. The concentration of SCR-100L in this case is higher.

09:27 12 Q. Okay. Now, Jesse, was this lab result here -- was this
09:27 13 the first or the second -- or what number of lab result test
09:27 14 was it in terms of the test that you have performed there on
09:27 15 the cement slurry?

09:27 16 A. This was the first, sort of the pilot test.

09:27 17 Q. The pilot test. Tell Judge Barbier what you mean by
09:27 18 "pilot test."

09:27 19 A. A pilot test is basically a test you do just to verify
09:27 20 liquid additives you're using for the job. It's very
09:27 21 preliminary, using what information you have at that time.

09:27 22 In this particular case, the cement had been on
09:27 23 location for a very long time, and I wanted to make sure the
09:27 24 cement was still good and had not been contaminated or
09:27 25 moisture-damaged.

JESSE GAGLIANO - DIRECT

09:27 1 Q. All right. And, Jesse, with regard to having the pilot
09:27 2 test run, did you intend for the foam slurry to be run or
09:27 3 pumped -- pumped, if you will, based upon the results of the
09:27 4 pilot test?

09:27 5 A. No. This test was never intended to be put into the hole.

09:27 6 Q. Okay. All right.

09:27 7 Well, it shows here that we've got, again, Lafarge --
09:28 8 that's a cement -- EZ -- D-Air 3000. And you go all the way
09:28 9 down to where you've got your SA-541, your ZoneSealant 2000,
09:28 10 the SCR-100L.

09:28 11 It's got all these other additives that we saw in the
09:28 12 April 18th e-mail that had the information you sent over -- the
09:28 13 HIPS document you sent to BP and others, Halliburton people.
09:28 14 And which document -- which concentration here is it that is
09:28 15 different on this pilot test than what was actually pumped into
09:28 16 the well?

09:28 17 A. The SCR-100L concentration is a lot higher.

09:28 18 Q. Okay. And tell Judge Barbier what you're referring to
09:28 19 there.

09:28 20 A. That's a retarder concentration. In this case and for
09:28 21 this job, since it was predicted to be a lot hotter and a lot
09:28 22 deeper, with the higher pressure, it took a lot more retarder
09:28 23 to get the target time we were looking for.

09:28 24 Q. Okay. So the actual retarder concentration that was
09:28 25 pumped into the forma- -- into the well was what?

JESSE GAGLIANO - DIRECT

09:29 1 A. .09.

09:29 2 Q. And it shows here as being what, the retarder
09:29 3 concentration that you were having tested in the pilot test?

09:29 4 A. .2.

09:29 5 Q. Okay. .20, okay.

09:29 6 Jesse, let's look here, if we can, please.

09:29 7 MR. GODWIN: Go back to the full page, Rob, if you
09:29 8 will, please. Let me see what we have there, and I'll see what
09:29 9 I want to pull out.

09:29 10 BY MR. GODWIN:

09:29 11 Q. Jesse, there appears to be a number of tests here that
09:29 12 were run and reported on as a part of this document --

09:29 13 MR. GODWIN: And if we can include that last line as
09:29 14 well, under Foam Mix and Stability as well -- on that first
09:29 15 page, there, Rob.

09:29 16 BY MR. GODWIN:

09:29 17 Q. You've got to follow along here with me, Jesse. These
09:29 18 were tests that you were having performed?

09:29 19 A. Yes.

09:29 20 Q. And giving these to BP?

09:30 21 A. Yes.

09:30 22 Q. One of them was a thickening time test?

09:30 23 A. That's correct.

09:30 24 MR. BROCK: I'm going to object to that. This test
09:30 25 was not -- this is February --

JESSE GAGLIANO - DIRECT

09:30 1 MR. GODWIN: I'll withdraw it. Let me withdraw it.

09:30 2 MR. BROCK: Yes.

09:30 3 BY MR. GODWIN:

09:30 4 Q. The tests that you were having run here on this pilot
09:30 5 test, were they being performed on BP's -- on the slurry that
09:30 6 was going to be pumped into BP's well?

09:30 7 A. No.

09:30 8 Q. Okay. The thickening time test was being performed;
09:30 9 correct?

09:30 10 A. Yes.

09:30 11 Q. Okay. And the mud balance density test --

09:30 12 A. Yes.

09:30 13 Q. -- that was performed?

09:30 14 A mixability test?

09:30 15 A. Yes.

09:30 16 Q. The foam stability -- mix and stability test?

09:30 17 A. Yes.

09:30 18 MR. GODWIN: Okay. Let's turn over, if we can,
09:30 19 please, now, Rob, to the next page in this same document,
09:30 20 0008631.

09:30 21 BY MR. GODWIN:

09:30 22 Q. And, Jesse, under the foam stability test, it shows up at
09:30 23 the top here --

09:30 24 MR. GODWIN: This was a continuation, Your Honor, of
09:30 25 the specific gravity of what was on the preceding page. This

JESSE GAGLIANO - DIRECT

09:31 1 is the test result at the top.

09:31 2 **BY MR. GODWIN:**

09:31 3 Q. What does the "SG" stand for, Jesse?

09:31 4 A. SG stands for "specific gravity."

09:31 5 Q. Okay. And is that also referred to as weight?

09:31 6 A. Yes.

09:31 7 Q. Okay. And then you -- specific gravity bottom, do you see
09:31 8 that?

09:31 9 A. Yes.

09:31 10 Q. And then you have conditioning time of hours and minutes,
09:31 11 and it shows zero hours and minutes; correct?

09:31 12 A. Yes.

09:31 13 Q. And 1.91 over 1.91, Jesse, what does that show to you, if
09:31 14 anything, the results of that test?

09:31 15 A. That shows that the cement system has the ability to
09:31 16 entrain nitrogen with no nitrogen migration or breakout.

09:31 17 Q. Shows that it would do what, Jesse?

09:31 18 A. It has the ability to entrain nitrogen with no nitrogen
09:31 19 migration or breakout.

09:31 20 Q. Okay. Was that slurry ready to be pumped with the result
09:31 21 of 1.91 over 1.91?

09:31 22 A. No.

09:31 23 Q. Why not, Jesse?

09:31 24 A. We actually needed a calculation. It is a little
09:31 25 weight -- heavier than the target density. So we had them redo

JESSE GAGLIANO - DIRECT

09:32 1 it and get it closer to the target density.

09:32 2 Q. Okay, sir.

09:32 3 And, Jesse, in terms --

09:32 4 MR. GODWIN: And if we can, go back to the second
09:32 5 full page there, Rob, showing all of these various tests.

09:32 6 BY MR. GODWIN:

09:32 7 Q. There were a number of other tests that you had run as far
09:32 8 as a pilot test. And can you tell the judge what some of the
09:32 9 other tests were that you had run there by the Broussard lab in
10 this pilot test?

09:32 11 A. The rheologies are done at different temperatures. And
09:32 12 that's an input that's required for OptiCem. So for the
09:32 13 preliminary modeling that I was doing, I used this information
09:32 14 for that. The UCA, or ultrasonic cement analyzer, is a
09:32 15 compression strength development of cement over time. It shows
09:32 16 you in real-time, over a 24- to 48-period, how hard the cement
17 gets.

09:32 18 And then the crush compressive strength is actually
09:32 19 when you actually foam a cube the desired weight and actually
09:32 20 test the pressure and development of the foam system, not the
21 unfoamed system.

09:32 22 Q. Okay. Jesse, you've listed all of these various tests.
09:33 23 You've listed the foam stability test. At any time that you
09:33 24 were involved in the designing of the foam slurry, did any
09:33 25 member of BP's drilling team or anybody associated with BP ever

JESSE GAGLIANO - DIRECT

09:33 1 ask you to perform a foam stability test on the slurry that was
09:33 2 to be pumped into the Macondo well?

09:33 3 A. No.

09:33 4 Q. Jesse, were there times that you -- over the course of the
09:33 5 design work that you were doing that you provided test results
09:33 6 to BP?

09:33 7 A. Yes.

09:33 8 Q. And did BP at any time -- during the course of your work
09:33 9 on the well, did they ask you to have performed any test and
09:33 10 report to them the results of those tests which you did not do?

09:33 11 A. No. I had provided everything to them.

09:33 12 Q. You provided what, sir?

09:34 13 A. I provided the tests to them.

09:34 14 Q. Did they ask you for any test that you had not performed?

09:34 15 A. No.

09:34 16 Q. Okay, sir.

09:34 17 **MR. GODWIN:** Let's look at TREN No. 7722, please.

09:34 18 **BY MR. GODWIN:**

09:34 19 Q. Jesse, I have here another TREN number exhibit up. It's
09:34 20 also entitled "Lab Results-Primary."

09:34 21 **MR. GODWIN:** And I'd like to show the full page
09:34 22 first, if we can, please, and then we'll back off in a moment.

09:34 23 This is for the cementing of the Gulf of Mexico.
09:34 24 And if we can identify the first four captions up at the top,
09:34 25 right up here, just the top part, Rob. Thank you.

JESSE GAGLIANO - DIRECT

09:34 1 BY MR. GODWIN:

09:34 2 Q. Again, does this pertain to the Macondo well?

09:34 3 A. Yes.

09:34 4 Q. What's the date of this document?

09:34 5 A. April 12th, 2010.

09:34 6 Q. What does that signify to you, that date?

09:34 7 A. That that's the date of this request that I had submitted.

09:34 8 Q. Okay. Jesse, did you receive word back from the Broussard
09:34 9 lab responding to this request for tests on April 12th?

09:35 10 A. Yes.

09:35 11 Q. Did you receive a response back from the lab as to the
09:35 12 results of these tests?

09:35 13 A. Yes.

09:35 14 Q. Okay. What date was that, Jesse?

09:35 15 A. I believe I got the test results over a period of time,
09:35 16 but I got all tests to me before the job was pumped.

09:35 17 Q. Okay. All right. We'll go into that here in a little
09:35 18 bit.

09:35 19 So April 12, then, for Judge Barbier's purposes, was
09:35 20 not the date of the results, of the test results, but it was
09:35 21 the date you made the request; correct?

09:35 22 A. Yes.

09:35 23 Q. Okay. And again it shows information about the well, and
09:35 24 it shows the depth at 18,360. That appears to be more shallow
09:35 25 than the report we saw back in February, does it not?

JESSE GAGLIANO - DIRECT

09:35 1 A. Yes, it is.

09:35 2 Q. Do you know why that is?

09:35 3 A. Because of the problems and issues we had on the well,
09:35 4 they to modify their casing plan and that's the target --
09:35 5 that's the depth they had to go to.

09:35 6 Q. All right. And it shows here your bottom hole static
09:36 7 temperature in the well information at 210 degrees.

09:36 8 Where did you get that information to include here?

09:36 9 A. I got that information off the WELLCAT temperature
09:36 10 modeling that I did.

09:36 11 Q. That you were doing?

09:36 12 A. Yes.

09:36 13 Q. And then the bottom hole circulating temperature of
09:36 14 135 degrees, where did you get that?

09:36 15 A. WELLCAT temperature modeling as well.

09:36 16 Q. And you got that from the modeling that you were using,
09:36 17 the Halliburton tool?

09:36 18 A. Yes.

09:36 19 Q. Okay. Then if we go down now -- let's go down to the
09:36 20 cement information under primary design. And it shows here a
09:36 21 list of products again.

09:36 22 Are these the additives that were actually used, the
09:36 23 names of them first, that were actually used in the slurry
09:36 24 design that was pumped into the well?

09:36 25 A. Yes.

JESSE GAGLIANO - DIRECT

09:36 1 Q. Are the concentrations the same here on this lab result
09:36 2 that were actually pumped into the Macondo well?

09:36 3 A. Yes.

09:36 4 MR. BROCK: Your Honor, I'm just going to object to
09:36 5 continued leading.

09:36 6 MR. GODWIN: That's not leading. I apologize, Judge.

09:36 7 MR. BROCK: He's just saying yes to every question.

09:37 8 THE COURT: Okay.

09:37 9 MR. GODWIN: I'll rephrase, Your Honor. Thank you,
09:37 10 Your Honor.

09:37 11 THE COURT: All right.

09:37 12 MR. GODWIN: I'm trying to get through here, Judge,
09:37 13 in about another 20 to 30 minutes at the outside, so moving
09:37 14 along.

09:37 15 Thank you, Your Honor.

09:37 16 BY MR. GODWIN:

09:37 17 Q. Jesse, with regard to these products shown here, these
09:37 18 additives, again, let's tell Judge Barbier. Will you represent
09:37 19 to the Court whether or not these additives that are listed
09:37 20 here, and all of these concentrations, are exactly what was
09:37 21 pumped into the Macondo well?

09:37 22 A. Yes. These additives and these concentrations were pumped
09:37 23 into the well.

09:37 24 Q. Thank you, sir. All right.

09:37 25 MR. GODWIN: And now, let's look, if we can,

JESSE GAGLIANO - DIRECT

09:37 1 please -- it shows here -- let's pull up the full page there,
09:37 2 Rob, on that same page, 8709.

09:37 3 **BY MR. GODWIN:**

09:37 4 **Q.** Jesse, does the front page of that TREX number, 7722 --
09:37 5 does it show there was a thickening time test that was run and
09:37 6 results came back?

09:37 7 **A.** Yes.

09:37 8 **Q.** Does it show a mud balance density test and results?

09:37 9 **A.** Yes.

09:37 10 **Q.** Does it show mixability with a result?

09:38 11 **A.** Yes.

09:38 12 **Q.** Okay.

09:38 13 **MR. GODWIN:** Let's turn over, if we can, please, to
09:38 14 the very next page.

09:38 15 That's 0028710 in that same TREX number, Judge,
09:38 16 7722, the second page.

09:37 17 **BY MR. GODWIN:**

09:37 18 **Q.** Jesse, if you will tell Judge Barbier briefly the name of
09:38 19 the other tests that you have performed on that slurry that was
09:38 20 to be pumped into the Macondo well.

09:38 21 **A.** I also ran the UCA, which is the ultrasonic cement
09:38 22 analyzer, the pressure and development of it, plus compressive
09:38 23 strength and rheologies and foam stability.

09:38 24 **Q.** Okay.

09:38 25 **MR. GODWIN:** And if we can, pull up -- there you

JESSE GAGLIANO - DIRECT

09:38 1 go -- and the foam stability. All right.

09:39 2 **BY MR. GODWIN:**

09:39 3 Q. And it shows there -- it appears to say "Time to Foam."

09:38 4 Is that "second"? Does that mean, like, seconds on a clock?

09:38 5 A. Yes.

09:38 6 Q. Okay. And it shows 8, does it not?

09:38 7 A. Yes.

09:38 8 Q. What does that mean?

09:38 9 A. You try to target -- you have it foam in less than
10 15 seconds, and it's foamed pretty quick, in 8 seconds.

09:39 11 **MR. GODWIN:** Judge, I'm going to get a bottle of
12 water.

09:39 13 **BY MR. GODWIN:**

09:39 14 Q. Jesse, are you okay? Do you need some water?

09:39 15 A. I'm good.

09:39 16 Q. Okay. So 8 seconds.

09:39 17 It next shows here specific gravity, top and bottom
18 of -- is that 1.8 over 1.8?

09:39 19 A. Yes.

09:39 20 Q. What does this test show to you, Jesse?

09:39 21 A. This tests shows me that it's a stable system.

09:39 22 Q. And it shows there that you have a conditioning time of
23 how many hours, Jesse?

09:39 24 A. Three hours.

09:39 25 Q. Where did you get the three hours from?

JESSE GAGLIANO - DIRECT

09:39 1 A. That was done to kind of mimic what actually was going to
09:39 2 happen on the job, more closely mimic what was going to happen
09:39 3 on location.

09:39 4 Q. Did you make a request of the lab that it use -- that it
09:39 5 condition the slurry for any number of time?

09:39 6 A. Yes.

09:39 7 Q. What did you ask the lab to condition the slurry for?

09:39 8 A. I requested three hours.

09:39 9 Q. And this is the three hours. Okay. And it came back 1.8
09:40 10 over 1.8.

09:40 11 Jesse, was this job -- based upon this finding of the
09:40 12 1.8 over the 1.8, was it ready to be pumped?

09:40 13 A. Yes.

09:40 14 Q. Okay, sir.

09:40 15 Jesse, can you explain to the Court why this specific
09:40 16 result of 1.8 over 1.8 indicates to you -- well, let me ask it
09:40 17 this way. I withdraw that question.

09:40 18 Jesse, does that 1.8 over 1.8 say to you that this
09:40 19 was a stable slurry to be pumped into the Macondo well?

09:40 20 A. Yes, it does.

09:40 21 **MR. BROCK:** I'm going to object to that on the time
09:40 22 frame, Your Honor, because my understanding is he did not see
09:40 23 this test result until after the event. So if he's talking
09:40 24 about what he saw after, that's fine. But if he's referring to
09:40 25 he thought it would be safe before, that's a different

JESSE GAGLIANO - DIRECT

09:40 1 question.

09:40 2 **MR. GODWIN:** Well, Judge, I will state that's an
09:40 3 inaccurate representation.

09:41 4 **THE COURT:** When did you receive the results of this
09:41 5 test?

09:41 6 **THE WITNESS:** I got an e-mail notification that the
09:41 7 tests were finished, passed, and posted on the evening of the
09:41 8 19th. I get -- Viking does an e-mail notification when
09:41 9 everything is completed and passed.

09:41 10 **MR. GODWIN:** Well, Judge, that was before it was
09:41 11 pumped.

09:41 12 **THE COURT:** When did you look at it?

09:41 13 **THE WITNESS:** I looked at -- I actually pulled the
09:41 14 results after the incident, but I got the notification before
09:41 15 the incident.

09:41 16 **MR. GODWIN:** And I'm going to go into that. I'll get
09:41 17 there.

09:41 18 **THE COURT:** Wait a minute. I'm just trying to
09:41 19 understand the timing here.

09:41 20 **MR. GODWIN:** Yeah.

09:41 21 **THE COURT:** So you got some kind of notification, but
09:41 22 you hadn't actually reviewed the test results until after the
09:41 23 incident; is that accurate?

09:41 24 **THE WITNESS:** Yes.

09:41 25 **THE COURT:** Okay.

JESSE GAGLIANO - DIRECT

09:41 1 **MR. GODWIN:** Judge, I'll go into, here in a little
09:41 2 bit, about what he did review and what he saw and what he
09:41 3 didn't see.

09:41 4 **THE COURT:** Okay. All right.

09:41 5 **MR. GODWIN:** Thank you, Your Honor.

09:41 6 **BY MR. GODWIN:**

09:41 7 **Q.** Okay. In terms of the 1.8 over 1.8, did you receive any
09:41 8 type of notification from Halliburton -- from the lab, the
09:41 9 Broussard lab, prior to the time that the cement job was
09:42 10 pumped --

09:42 11 **A.** Yes.

09:42 12 **Q.** -- that led you to conclude that the foam stability test
09:42 13 was a passed test?

09:42 14 **A.** Yes. I received the e-mail notification.

09:42 15 **Q.** Okay. We'll talk it here in a moment. Okay.

09:42 16 **MR. GODWIN:** Let me pull that part and go right
09:42 17 direct to that, Judge.

09:43 18 Let's look at TREX No. 63201.

09:41 19 **BY MR. GODWIN:**

09:41 20 **Q.** Jesse, I have here blown up on the screen a document
09:43 21 entitled "April 19th, 'Finished in Lab,' E-mail Related to
09:43 22 Request 73909.'"

09:43 23 And it shows there "April 19th, 2010, at 1614 hours,
09:43 24 e-mail was sent from Viking to Jesse Gagliano at Halliburton,
09:43 25 indicating that the status of Request 73909 was set to

JESSE GAGLIANO - DIRECT

09:43 1 'Finished in Lab.'"

09:43 2 Did you receive this notification from Viking at
09:43 3 16 -- or at or about 1614 hours on April 19th?

09:43 4 A. Yes.

09:43 5 Q. Did you actually receive this notification prior to the
09:43 6 time that the foam cement slurry job was pumped?

09:43 7 A. Yes.

09:43 8 Q. Okay. And you had mentioned earlier that Viking was a
09:43 9 tool that you used for performing your job for Halliburton;
09:44 10 correct?

09:44 11 A. That's correct.

09:44 12 Q. Okay. Tell Judge Barbier, when you received this
09:44 13 notification from Viking on April 19th, 2010, what did
09:44 14 "finished in lab" mean to you, sir, if anything?

09:44 15 A. Finished in lab means that all parts of the test I
09:44 16 requested have been completed, the results have been posted in
09:44 17 Viking, and it had passed; and they closed the test out to
09:44 18 "finished in lab."

09:44 19 Q. Okay, sir.

09:44 20 So whenever you received the finished-in-lab report,
09:44 21 did that indicate anything to you about what you needed to do
09:44 22 further insofar as additional testing?

09:44 23 A. No. Everything was done.

09:44 24 Q. Everything was done.

09:44 25 Did the finished-in-lab notification to you --

JESSE GAGLIANO - DIRECT

09:44 1 indicate anything to you regarding whether or not the foam
09:44 2 cement slurry that was pumped was a stable system?

09:44 3 A. This indicated to me that it passed and was a stable
09:44 4 system.

09:44 5 Q. Tell Judge Barbier what you mean by "passed."

09:44 6 A. Passed means it would be a stable system, no nitrogen
09:45 7 breakout, no nitrogen migration, no settling, no visual
09:45 8 indications that the lab would have to visually see.

09:45 9 Q. Now, after the incident, was there a point in time that
10 you actually saw the lab -- the actual lab results?

09:45 11 A. I'm sorry. I missed the first part of the question.

09:45 12 Q. After the incident of April 20th, 2010, did you thereafter
13 actually see the lab results?

09:45 14 A. Yes.

09:45 15 Q. Okay, sir. And we'll go into those just here in a moment.
16 All right.

09:45 17 MR. GODWIN: Let's pull up Demonstrative 8242. Okay.

09:41 18 BY MR. GODWIN:

09:41 19 Q. Jesse, I have here on the screen a demonstrative that's
09:46 20 been circulated among all counsel, and I want to go through it
09:46 21 with you briefly.

09:46 22 And it shows there at the top "Request Date, Slurry
09:46 23 ID, Result," and "Comments.

09:46 24 And it shows "Pilot Tests" on the left-hand side for
09:46 25 two tests in February, February 12th and February 16th.

JESSE GAGLIANO - DIRECT

09:46 1 Do you see that, sir?

09:46 2 A. Yes.

09:46 3 Q. And up at the first one, February 12th, it shows there
09:46 4 that it has Slurry ID Number 65112/3, and it shows a .20-gallon
09:46 5 per sack of SCR-100L.

09:46 6 Is that the same retarder concentration that you
09:46 7 referred Judge Barbier to back in the February test we reviewed
09:46 8 earlier?

09:46 9 A. Yes.

09:46 10 Q. And it shows target density of 14.5, and it shows the
09:46 11 result of 2.02 over 2.11. And it shows 16.8 ppg over 17.6 ppg.

09:46 12 What, if anything, does this result suggest to you,
09:47 13 Jesse?

09:47 14 A. Just looking at those results, it appears to be there was
09:47 15 an issue with the mixing of the system.

09:47 16 Q. Okay. Jesse, in terms of this test result, were you
09:47 17 having it tested for purposes of getting back either a pass or
09:47 18 a fail?

09:47 19 A. The primary purpose of the pilot test is to verify the
09:47 20 cement was good, that it wasn't damaged or moisture-damaged.
09:47 21 So you basically focus on thickening time and UCA for that.

09:47 22 Q. In terms of reviewing this test result, the 2.02 over the
09:47 23 2.11, did that indicate whether it was a pass or a fail test or
09:47 24 otherwise?

09:47 25 A. That indicates to me as to be an invalid test because the

JESSE GAGLIANO - DIRECT

09:47 1 weight of the top and bottom are both heavier than the base
09:47 2 density of the cement where you're foaming. So that indicates
09:47 3 to me there was a mixing problem. It wasn't properly mixed in
09:47 4 the first place.

09:47 5 Q. All right. And, Jesse, Did you provide this test result
09:47 6 to BP?

09:47 7 A. No.

09:47 8 Q. Okay. Why not?

09:47 9 A. I actually hadn't seen this test result until after the
09:47 10 incident.

09:47 11 Q. You saw this one after the incident?

09:48 12 A. Yes.

09:48 13 Q. Okay. It was a pilot test result?

09:48 14 A. Yes.

09:48 15 Q. And it was not intended -- the slurry was not intended to
09:48 16 be pumped from this result anyway, was it?

09:48 17 A. No.

09:48 18 MR. BROCK: Object to the continued leading,
09:48 19 Your Honor.

09:48 20 MR. GODWIN: I'll stop --

09:48 21 THE COURT: You are leading.

09:48 22 MR. GODWIN: Thank you, Judge.

09:48 23 THE COURT: Is that arrow that's on there now
09:48 24 intended to be there?

09:48 25 MR. GODWIN: I didn't put it up there, Judge.

JESSE GAGLIANO - DIRECT

09:48 1 THE COURT: I'll get rid of it. There we go. One of
09:48 2 us got rid of it --

09:48 3 MR. GODWIN: I think what I did, Judge, is, I hit it
09:48 4 inadvertently.

09:48 5 THE COURT: -- either you or me, but one of us got
09:48 6 rid of it.

09:48 7 MR. GODWIN: I can assure you it wasn't me, Judge.

09:48 8 Judge, is there anyplace on there you'd like me
09:48 9 to put that arrow?

09:48 10 I'll withdraw the question, Judge.

09:48 11 THE COURT: I'm not saying anything to that.

09:48 12 MR. GODWIN: I hope you had a nice Easter weekend,
09:48 13 Judge. I hope you did.

09:48 14 BY MR. GODWIN:

09:48 15 Q. February 16th, the pilot test. It shows here, again, the
09:49 16 same slurry ID number. It shows the same retarder
09:49 17 concentration, does it not --

09:49 18 A. Yes.

09:49 19 Q. -- the .20, for purposes of brevity. And it shows a 1.91
09:49 20 over 1.91 and a 15.9 over 15.9.

09:49 21 What, if anything -- if anything -- does this suggest
09:49 22 to you about the quality of that slurry, Jesse?

09:49 23 A. That shows you have the ability to entrain nitrogen
09:49 24 without nitrogen breakout or migration.

09:49 25 Q. Okay, sir.

JESSE GAGLIANO - DIRECT

09:49 1 Jesse, does it show -- what, if anything, does it
09:49 2 show you or say to you about the weight of the slurry, the
09:49 3 density of the 15.9 over 15.9?

09:49 4 A. It was heavier than the target density. And if the plan
09:49 5 was to put this in the hole, I would have had the lab reweigh
09:49 6 it to get closer to target density. But the plan was never to
09:49 7 put this in the hole. It was just a pilot.

09:49 8 Q. This was, again, a pilot test. And the plan was never to
09:49 9 put it into the hole?

09:49 10 A. Yes.

09:49 11 Q. Okay. Jesse, was -- this test result here, was it
09:50 12 reported to BP?

09:50 13 A. Yes.

09:50 14 Q. Okay. After you reported this test result to BP, did
09:50 15 anybody with BP call you to talk about this test result or
09:50 16 contact you or walk into your office to see you?

09:50 17 A. No.

09:50 18 Q. Anybody have any questions of you from BP about this test
09:50 19 result?

09:50 20 A. No.

09:50 21 Q. Okay.

09:50 22 Jesse, do you recall about when it was that you first
09:50 23 gave this test result to BP?

09:50 24 A. I believe I gave it to them on two occasions: at the
09:50 25 beginning of March at some point and the beginning of April.

JESSE GAGLIANO - DIRECT

09:50 1 Q. Okay. Thank you.

09:50 2 Jesse, let's go down now to the operational tests,
09:50 3 February 13th, 2010. And it shows here that we have 73909/1.
09:50 4 Why is the slurry ID number there -- different there than it
09:50 5 was for those in the pilot test, if you know?

09:50 6 A. It was a different request number, and it's a separate
09:50 7 request on a different date.

09:50 8 Q. All right. Thank you.

09:50 9 And it shows there 0.08 gallons per sack of retarder,
09:51 10 100L, and target density of 14.5 ppg.

09:51 11 Why, if you know, was the .08 gallons of -- gallon
09:51 12 per sack of retarder, why was it being tested here on this
09:51 13 April 13th request?

09:51 14 A. That's what I initially had recommended to BP, and I was
09:51 15 doing the testing at that point on the .08 gallons.

09:51 16 Q. All right. And it shows, Jesse, that there is a 1.88 over
09:51 17 1.82, "Heavier on top, misweighed in lab."

09:51 18 What, if anything, does that say to you, Jesse, about
09:51 19 the quality of that slurry?

09:51 20 A. Looking at that, it looks odd to me, so it would be an
09:51 21 invalid test. The weight is heavier on the top than the
09:52 22 bottom. You would normally see the weight heavier on the
09:52 23 bottom than the top.

09:52 24 Q. Okay. And, Jesse, did you see this actual test result
09:52 25 before the slurry was pumped?

JESSE GAGLIANO - DIRECT

09:52 1 A. I don't remember looking at it. But I got a call from the
09:52 2 lab, from Richie Dubois, regarding his test result.

09:52 3 Q. And did -- Mr. Dubois is the same gentleman you referenced
09:52 4 earlier as being the lab manager, if you will?

09:52 5 A. Yes.

09:52 6 Q. The person in charge of the lab?

09:52 7 A. Yes.

09:52 8 Q. And what was it that Richard called you and said about
09:52 9 this particular lab result test of April 13th?

09:52 10 A. He gave me a call and said that the results didn't come
09:52 11 out -- they came out looking funny. We discussed it. We both
09:52 12 didn't understand why it would come up looking like that.

09:52 13 So I told him the urgency of it, we need to get it
09:52 14 put on because the job is coming up; and I had him put the test
09:52 15 back on.

09:52 16 Q. Okay. To retest it?

09:52 17 A. Yes.

09:52 18 Q. Okay. And then we go to April 16th. And it shows
09:52 19 there -- you've got your slurry ID number being the same, but
09:52 20 it shows No. 2. Why does it show No. 2, whereas the one just
09:52 21 above it, April 13th of 2010, show 1 on the bottom part of the
09:52 22 ID number?

09:53 23 A. Whenever you change your retarder concentration, you
09:53 24 change the part number, so that was Part 2. And BP requested
09:53 25 to see what .09 gallons of SCR-100L would give us on the

JESSE GAGLIANO - DIRECT

09:53 1 evening of the 15th. So I submitted a request, which became
09:53 2 Part 2, in this case.

09:53 3 Q. Okay. And it shows there that this particular test was
09:53 4 canceled, no foam stability test performed.

09:53 5 Jesse, do you know why this particular test of
09:53 6 April 16th was canceled?

09:53 7 A. BP requested to see how much thickening time 9 gallons
09:53 8 would give us, so I submitted the test using .09, just to see
09:53 9 what it gave us. At this point they hadn't determined whether
09:53 10 they were going with 8 or 9.

09:53 11 And the only difference of the retarder concentration
09:53 12 would be for thickening time and UCA, there would be no
09:53 13 difference for rheologies or foam stability.

09:53 14 Q. Okay. All right. One second, Jesse.

09:54 15 MR. GODWIN: Let me -- at this point let's pull up
09:54 16 TREN No. 1395.

09:55 17 BY MR. GODWIN:

09:55 18 Q. And here in the bottom e-mail, you're writing to Brian
09:54 19 Morel and others -- Mark Hafle, Greg Walz, and Brett Cocalles --
09:54 20 on April 18 at 6:50 p.m. And this was, it looks like, about
09:54 21 two hours earlier than when you sent the e-mail we referred to
09:54 22 earlier with the information, where you sent it to Brett and
09:54 23 Brian and all the other gentlemen with BP, as well as
09:54 24 Halliburton, showing information.

09:54 25 Here you send these gentlemen this e-mail. And

JESSE GAGLIANO - DIRECT

09:54 1 you said, "Brian" -- the subject was "Retarder Concentration."

09:54 2 "Brian, has a decision been made yet if you're
09:54 3 going with the 8 gallons or 9 gallons of retarder?"

09:54 4 Jesse, when was the actual slurry going to be
09:55 5 pumped?

09:55 6 A. The job started on the evening of the 19th.

09:55 7 Q. So about what time of the evening, as best you can recall?

09:55 8 A. I think it was around 7:00 p.m., I believe.

09:55 9 Q. So what you're telling Judge Barbier is, is that here,
09:55 10 about 24 hours prior to the pumping of the cement job, you
09:55 11 still don't know from BP whether they want to use 8 or
09:55 12 9 gallons of retarder? Is that what you're saying?

09:55 13 MR. BROCK: Objection, leading.

09:55 14 THE COURT: That's leading, a very leading question.

09:55 15 MR. GODWIN: I'll withdraw it, Judge.

09:55 16 It was the arrow, Judge.

09:55 17 THE COURT: Yeah.

09:55 18 MR. GODWIN: I got it.

09:55 19 THE COURT: Okay.

09:55 20 BY MR. GODWIN:

09:55 21 Q. The job was going to be pumped on the 19th at around 7:00;
09:55 22 correct?

09:55 23 A. Yes.

09:55 24 Q. You were sending an e-mail at 6:50 asking were they going
09:55 25 to use 8 or 9 gallons; correct?

JESSE GAGLIANO - DIRECT

09:55 1 A. Right.

09:55 2 Q. Did Mr. Morel get back to you and respond to that
09:55 3 question?

09:55 4 A. Yes, he did.

09:55 5 Q. At what time -- on what date and time did he do that, sir?

09:55 6 A. Sunday, April 18th, at 11:51 p.m.

09:56 7 MR. BROCK: I'm sorry, Don. I think this is one of
09:56 8 those e-mails where the GMT issue comes into play. I think we
09:56 9 probably have a chart that would tell what the time of this is.
09:56 10 It's probably less six or five hours from the 2351. Obviously,
09:56 11 the cement -- well, that's all I have to say on that.

09:56 12 MR. GODWIN: Judge, the time of it is not important
09:56 13 to me, whether it's GMT time or what --

09:56 14 THE COURT: Other than reading the time on the top
09:56 15 header of this e-mail, do you recall what time he got back to
09:56 16 you?

09:56 17 THE WITNESS: I don't recall at this time, Your
09:56 18 Honor.

09:56 19 THE COURT: Okay.

09:56 20 MR. GODWIN: May I, Judge?

09:56 21 BY MR. GODWIN:

09:56 22 Q. It's obvious that he got back to you after you wrote to
09:56 23 him on April 18 at 6:50. Is that a fair statement?

09:56 24 A. Yes.

09:56 25 Q. Then without regard to the time when he got back to you,

JESSE GAGLIANO - DIRECT

09:56 1 did Brian Morel, or any of the other drilling engineers, after
09:56 2 you wrote your e-mail at 6:50 on the 18th, get back to you and
09:57 3 ask you if you were in agreement with running the 9 gallons as
09:57 4 opposed to the 8 gallons that Halliburton recommended?

09:57 5 A. I don't remember them getting back with me. I did express
09:57 6 my recommendation of 8 gallons to them, but they just replied
09:57 7 back with 9 gallons in this e-mail.

09:57 8 Q. Thank you, sir.

09:57 9 And in terms of testing for the 8 gallons or the
09:57 10 9 gallons, what result -- what difference, if any, would there
09:57 11 be in the test result by testing on the .08 gallons of retarder
09:57 12 as compared to the .09, if any?

09:57 13 A. The only test results that would change would be
09:57 14 thickening time and UCA compressive strength development.

09:57 15 Q. Was that a significant matter to you or -- of any concern,
09:57 16 going with the 9 gallons as opposed to the 8 from a testing
09:58 17 standpoint?

09:58 18 A. I believe the 9 gallons pumped almost two hours longer
09:58 19 than the 8 gallons.

09:58 20 Q. Okay. Let's take and see --

09:58 21 **MR. GODWIN:** What is that TRES number, the one that
09:58 22 shows that e-mail?

09:58 23 One second, Judge. There's an e-mail I'm
09:58 24 looking for that shows the 8 gallons versus the 9 gallons.

09:58 25 Rob, do you have that number?

JESSE GAGLIANO - DIRECT

09:59 1 One second, Judge. We've got an e-mail here
09:59 2 that shows the time here, but I can't seem to find it.

09:59 3 TREN-287.

10:00 4 **BY MR. GODWIN:**

10:00 5 **Q.** Okay. I've got here a TREN number, which is what I was
10:00 6 looking for, dealing with the run time, the pump time on the
10:00 7 different -- with the different retarders included.

10:00 8 Jesse, we've got here at the bottom an e-mail that
10:00 9 you wrote to Brian Morel, with copies to Mark Hafle, Brett
10:00 10 Cocalles, and Greg Walz on April 17, 2010, and at 10:50 a.m., at
10:00 11 least according to the face of the document.

10:00 12 Follow along here with me while I read this for the
10:00 13 Court. "Attached are the lab tests, one with 8 gallons of
10:00 14 retarder, and one with 9 gallons. Below are the pump times.
10:00 15 The 8 gallons lab test also includes the UCA and foamed crush
10:00 16 CS."

10:00 17 What is "CS" there?

10:00 18 **A.** Compressive strength.

10:00 19 **Q.** Compressive strength. Thank you.

10:00 20 ". . . the 9 gallons UCA" -- and what does that stand
10:00 21 for?

10:00 22 **A.** Ultrasonic cement analyzer.

10:01 23 **Q.** Thank you.

10:01 24 ". . . has only been on for 30 minutes and has not
10:01 25 shown any compressive strength yet," and it shows 8 gallons was

JESSE GAGLIANO - DIRECT

10:01 1 there for five hours and 30 minutes.

10:01 2 What is that referring to there, the five hours and
10:01 3 30 minutes using 8 gallons?

10:01 4 A. That's referring to the thickening time or pump time of
10:01 5 the cement.

10:01 6 Q. Okay. And "pump time" referring to what?

10:01 7 A. The time before the cement becomes unpumpable moving it
10:01 8 downhole.

10:01 9 Q. And then it shows 9 gallons would be at seven hours and
10:01 10 37 minutes. And what does that refer to you, if anything?

10:01 11 A. Same thing again, thickening time or the pumpability of
10:01 12 the cement.

10:01 13 Q. And then there's an e-mail up at the top from Brian Morel
10:01 14 to John Guide. It says: "I would prefer the extra pump time
10:01 15 with the added risk of having issues with the nitrogen. What
10:01 16 are your thoughts? There isn't a compressive strength
10:01 17 development yet, so it's hard to ensure we will get what we
10:01 18 need until it's done."

10:02 19 Now, did Brian tell you, at April 17th, at
10:02 20 10:50 a.m. -- that's a Saturday morning. Did he tell you that
10:02 21 he would prefer the extra pump time even though he was aware
10:02 22 that there were going to be added risks of having issues with
10:02 23 the nitrogen?

10:02 24 **MR. BROCK:** Your Honor, I'm going to object to that.
10:02 25 He's asking him to interpret an e-mail that he did not write,

JESSE GAGLIANO - DIRECT

10:02 1 nor did he receive.

10:02 2 MR. GODWIN: Judge, I'm asking him if Mr. Morel
10:02 3 talked to him about the subject matter of that e-mail.

10:02 4 THE COURT: Go ahead.

10:02 5 BY MR. GODWIN:

10:02 6 Q. Sir, do you remember the question?

10:02 7 A. Yes. Brian never approached me with any concerns or
10:02 8 questions.

10:02 9 Q. Thank you, sir.

10:02 10 MR. GODWIN: Let's go back to the overview of the
10:02 11 test results. 8242, please, Demonstrative 8242.

10:03 12 BY MR. GODWIN:

10:03 13 Q. The last test result we have here under the operational
10:03 14 test is for April 17, 2010, and it shows for .08 gallons per
10:03 15 sack of SCR-100L, target density of 14.5 ppg.

10:03 16 Did I read that correctly?

10:03 17 A. Yes.

10:03 18 Q. And again, this April 17th date, the request date, what
10:03 19 significance, if any, does that have to you?

10:03 20 A. I believe that's the date the test was started.

10:03 21 Q. It was started?

10:03 22 A. Yes.

10:03 23 Q. Okay. And it shows there that it was being tested on
10:03 24 8 gallons of SCR -- 8 gallons per sack of 100 SCR; correct?

10:03 25 A. Yes.

JESSE GAGLIANO - DIRECT

10:03 1 Q. And it shows that the target density was 14.5 ppg;
10:03 2 correct?

10:03 3 A. Yes.

10:03 4 Q. It shows the result being 1.8 over 1.8 with a 15.0 ppg.
10:04 5 Did I read that correctly?

10:04 6 A. That's correct.

10:04 7 Q. What, if anything, does that indicate or suggest to you
10:04 8 about that test result?

10:04 9 A. That indicates it was a stable system.

10:04 10 Q. It was a stable system?

10:04 11 A. Yes.

10:04 12 Q. And when it shows 15.0 ppg, it says the target density of
10:04 13 14.5 ppg, how do you account for the difference there, if you
10:04 14 do?

10:04 15 A. You have a range or a target of a half-pound per gallon
10:04 16 that's acceptable.

10:04 17 Q. That's acceptable?

10:04 18 A. Yes.

10:04 19 Q. Acceptable to whom?

10:04 20 A. It's acceptable for the test to be considered passed.

10:04 21 Q. Certainly within Halliburton's organization?

10:04 22 A. Yes.

10:04 23 Q. Okay. All right. And so did you deem this test result
10:04 24 here -- do you deem -- this test result of 1.8 over 1.8 with a
10:04 25 15.0 ppg, do you deem that to be a passed foam stability test?

JESSE GAGLIANO - DIRECT

10:04 1 A. Yes.

10:04 2 Q. Okay. Now, you said earlier that you did not review the
10:05 3 details of the test result prior to the slurry being pumped;
10:05 4 correct?

10:05 5 A. No, I didn't.

10:05 6 Q. Actually, after the incident did you review the details of
10:05 7 the test result?

10:05 8 A. I did pull the results, per BP's request, to give to them
10:05 9 after the incident.

10:05 10 Q. Okay. And when you reviewed the test results after the
10:05 11 incident, did they confirm or not confirm what you had
10:05 12 understood, interpreted, the finished-in-lab test result
10:05 13 notification to mean to you when you received it, prior to the
10:05 14 pumping of the job?

10:05 15 A. It confirmed what I thought, that it was a passed test.

10:05 16 Q. So regardless of whether you saw the test before or after,
10:05 17 the actual test results confirmed the finished-in-lab
10:05 18 notification?

10:05 19 MR. BROCK: Object to leading.

10:05 20 THE COURT: That is leading.

10:05 21 MR. GODWIN: I'll rephrase, Judge.

10:05 22 BY MR. GODWIN:

10:05 23 Q. Sir, did the test result that you actually saw after the
10:05 24 incident, the horrific incident -- did that test result confirm
10:06 25 or not confirm you the finished-in-lab result that you received

JESSE GAGLIANO - DIRECT

10:06 1 prior to the job being pumped?

10:06 2 A. It confirmed it.

10:06 3 Q. Thank you, sir.

10:06 4 MR. GODWIN: Judge, I've got one last section here.
10:06 5 I think I can cover it in about five to seven minutes, with
10:06 6 your permission.

10:06 7 THE COURT: Go ahead.

10:06 8 MR. GODWIN: Thank you, Your Honor.

10:06 9 Let's pull up Demonstrative 8247, please.

10:06 10 BY MR. GODWIN:

10:06 11 Q. You okay, Jesse? Do you need some water?

10:06 12 A. I still have a little bit left.

10:06 13 Q. You still have some more?

10:06 14 Jesse, in terms of the work that you did on the
10:06 15 Macondo well, did you create what is referred to as a "basis of
10:06 16 design" for the well?

10:06 17 A. Yes.

10:07 18 Q. The document that you see here on the screen, what does
10:07 19 this document -- generally, without the details of it, tell
10:07 20 Judge Barbier what this document purports to represent, in your
10:07 21 opinion.

10:07 22 A. These documents represent different versions of HIPS
10:07 23 proposals that I provided to BP.

10:07 24 Q. You provided to BP?

10:07 25 A. Yes.

JESSE GAGLIANO - DIRECT

10:07 1 Q. Did you provide each and every one of these documents
10:07 2 shown here from June 11, 2009, through April 18, 2010, to BP?

10:07 3 A. Yes.

10:07 4 Q. Okay, sir. And let's start, if we can, please, and go
10:07 5 quickly through this.

10:07 6 MR. GODWIN: June 11, 2009, pull that out.

10:07 7 BY MR. GODWIN:

10:07 8 Q. Can you tell Judge Barbier what this document here is
10:07 9 referring to going back to '09?

10:07 10 A. I believe this is Version 1 of the HIPS document I
10:07 11 provided BP. The "BoD" means basis of design, which basically
10:07 12 provides a recommendation for each of the strings being planned
10:08 13 on the well.

10:08 14 Q. Okay, sir. We then go back to the main deal, to
10:08 15 November 5, 2009. Tell Judge Barbier what this document
10:08 16 purports to represent to you, why you prepared it.

10:08 17 A. The original BoD did not include the production casing
10:08 18 interval because at the time BP wasn't sure if they were going
10:08 19 to -- this would be a "find" or not. So at this point they
10:08 20 were pretty sure it was a find. And I provided them a document
10:08 21 just for the production casing interval.

10:08 22 Q. When you say they were pretty sure it was a find, what are
10:08 23 you referring to there?

10:08 24 A. The verification that they would hit hydrocarbons or not.

10:08 25 Q. Okay. All right. Let's go back to the next one, on

JESSE GAGLIANO - DIRECT

10:08 1 March 17, 2010. Tell Judge Barbier what you were preparing
10:08 2 this particular document for, to be prepared for Brian Morel
10:08 3 there on March 17, 2010.

10:08 4 A. At this point, the production casing design had changed
10:08 5 from a 9 5/8 to a 9 7/8 by 7-inch. So to document that change,
10:08 6 I created this proposal.

10:08 7 Q. Okay. The next one in the lineage, April 2, 2010. Can
10:09 8 you tell Judge Barbier what this one was prepared for?

10:09 9 A. This was the Version 2 of the previous document.
10:09 10 Basically, I received additional information that TD -- I think
10:09 11 they had TD'ed or came close to TD'ing the well, so they had
10:09 12 more information. So I updated the proposal accordingly.

10:09 13 Q. All right. And then the next one. And April 12th, 2010,
10:09 14 briefly tell Judge Barbier why you prepared this document and,
10:09 15 as you say, sent it to BP.

10:09 16 A. At this point, I believe they had TD'ed the well and they
10:09 17 were in the process of logging. They had updated temperature
10:09 18 data, and I inputted that data into this proposal.

10:09 19 Q. And the next one, April 15, 2010, tell Judge Barbier why
10:09 20 you prepared this particular document for Mr. Brian Morel.

10:09 21 A. On the 15th is when we had the discussion of centralizers
10:09 22 and adding the additional 15. So to document that change that
10:09 23 was made, I updated the proposal here.

10:10 24 Q. And when you say adding the additional centralizers, what
10:10 25 are you referring to there?

JESSE GAGLIANO - DIRECT

10:10 1 A. On the 15th is when I noticed there was an issue, and
10:10 2 that's the day I worked with Brett Cocalles and Greg Walz to add
10:10 3 centralizers into the well design.

10:10 4 Q. Okay, sir. Then we go back to the next one, please,
10:10 5 April 17, 2010. Tell Judge Barbier why you were preparing this
10:10 6 document to be sent to Brian Morel for BP.

10:10 7 A. I believe I had received an updated casing tally and also
10:10 8 updated procedure from the rig, and I included that here.

10:10 9 Q. Okay, sir. Did you, in fact, send this along to BP as
10:10 10 well?

10:10 11 A. Yes.

10:10 12 Q. Okay. And then the last one here, this line of basic
10:10 13 of -- basis of design. This is April 18, 2010. Tell
10:10 14 Judge Barbier why you prepared this document.

10:10 15 A. This is the day I learned that BP only ran 6 centralizers
10:10 16 and also the same day that BP verified they were going with
10:11 17 .09 gallons of retarder. So I made changes in this document to
10:11 18 reflect that.

10:11 19 Q. Was this the one that you sent at 8:58 on Sunday evening
10:11 20 on April 18?

10:11 21 A. I believe so, yes.

10:11 22 Q. Thank you. Does that now cover all of those?

10:11 23 MR. GODWIN: If you can, go back to the Macondo basis
10:11 24 of design. You have all of those.

25

JESSE GAGLIANO - DIRECT

10:11 1 BY MR. GODWIN:

10:11 2 Q. Do these documents contain any risk assessments?

10:11 3 A. These documents, no.

10:11 4 Q. Did you provide BP with risk assessment documents?

10:11 5 A. Yes. Our OptiCem report does indicate gas flow potential
10:11 6 to BP.

10:11 7 Q. So we now have you having provided BP with a basis of
10:11 8 design from beginning through April 18; correct?

10:11 9 A. Yes.

10:11 10 Q. And we've talked about the test results that you did and
10:11 11 did not provide to BP; correct?

10:11 12 A. Yes.

10:11 13 Q. We've talked about the risk assessment documents being
10:11 14 those -- the OptiCem reports; correct?

10:12 15 A. Yes.

10:12 16 Q. And the basis of design documents that you were preparing,
10:12 17 the information you included, did you receive all or any part
10:12 18 of that information from BP to use in preparing the basis of
10:12 19 design documents?

10:12 20 A. I would have received that information from BP.

10:12 21 Q. Jesse, you worked closely with the design engineers there
10:12 22 for BP, did you not?

10:12 23 A. Yes.

10:12 24 Q. For a number of years. You worked with them in trying to
10:12 25 come up with a design of a cement slurry to be pumped into the

JESSE GAGLIANO - DIRECT

10:12 1 well, did you not, sir?

10:12 2 A. Yes.

10:12 3 Q. And you had a large responsibility placed upon you in
10:12 4 doing that, did you not?

10:12 5 A. Yes.

10:12 6 Q. Jesse, tell Judge Barbier, do you believe that you used
10:12 7 your best engineering judgment at all times in performing all
10:12 8 of your duties for Halliburton on behalf of BP in connection
10:12 9 with the Macondo well?

10:12 10 A. Yes. I absolutely did, yes.

10:13 11 Q. And, Jesse -- if you were to look back on what you did and
10:13 12 the design that you did in terms of the selection of the dry
10:13 13 blend, looking back on that, would you do it differently today
10:13 14 than you did it then, Jesse?

10:13 15 A. No.

10:13 16 Q. Looking back on the additives that you included in the
10:13 17 slurry design, Jesse, looking back on it and having studied it
10:13 18 and having thought about it now for what's almost three years,
10:13 19 would you have changed any of the additives by name than what
10:13 20 you included in the basis of the slurry design that you
10:13 21 prepared back then?

10:13 22 A. No.

10:13 23 Q. Would you change any of the concentrations, Jesse, than
10:13 24 what you included then?

10:13 25 A. No.

JESSE GAGLIANO - DIRECT

10:13 1 Q. Jesse, do you believe that you always exercised due care
10:13 2 in performing every job function that you performed for BP on
10:13 3 behalf of Halliburton?

10:13 4 A. Absolutely, yes.

10:14 5 Q. And in all of your working with all of the design
10:14 6 engineers there with BP, while there were agreements and
10:14 7 disagreements, do you believe that the two groups, Halliburton
10:14 8 and BP, tried to work together to come up with a design of the
10:14 9 cement slurry that was going to work in that well?

10:14 10 A. Yes.

10:14 11 Q. And were you satisfied that the men who worked alongside
10:14 12 you for BP used professionalism in all they did?

10:14 13 A. Yes.

10:14 14 Q. And were you satisfied that they listened to your
10:14 15 complaints, your recommendations, and your disagreements and
10:14 16 gave you a full audience on every occasion?

10:14 17 A. Yes.

10:14 18 Q. Do you believe that they exercised their best engineering
10:14 19 judgment in the things that you saw them do when you were
10:14 20 engaged with them in connection with the work that you were
10:14 21 doing?

10:14 22 A. Yes.

10:14 23 MR. GODWIN: Thank you, Your Honor. I'll pass the
10:14 24 witness.

10:14 25 THE COURT: All right. Let's take about a 15-minute

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10:14 1 recess.

10:14 2 **THE DEPUTY CLERK:** All rise.

10:14 3 (WHEREUPON, the Court took a recess.)

10:33 4 **THE COURT:** Please be seated, everyone.

10:33 5 All right. Mr. Sterbcow?

10:33 6 **CROSS-EXAMINATION**

10:33 7 **BY MR. STERBCOW:**

10:33 8 **Q.** Good morning, Mr. Gagliano. I'm Paul Sterbcow, on behalf
10:33 9 of the Plaintiffs' Steering Committee, and I have you on
10:33 10 cross-examination.

10:33 11 **A.** Okay.

10:33 12 **Q.** You ended your direct by saying, if I wrote it down
10:33 13 correctly, you wouldn't change a thing; correct?

10:33 14 **A.** Yes.

10:33 15 **Q.** Your job here was to design and ensure appropriate testing
10:33 16 of the cement slurry to be pumped into the production casing
10:33 17 section of the hole, among other things; correct?

10:33 18 **A.** Yes.

10:33 19 **Q.** And you were the only Halliburton employee responsible for
10:33 20 that design. That was your job; correct?

10:33 21 **A.** Yes.

10:33 22 **Q.** You had daily contact with Mr. Morel, Mr. Hafle,
10:33 23 Mr. Guide, Mr. Cocalis. In fact, you were embedded in their
10:33 24 office, were next to them, could talk with them, e-mail them,
10:34 25 eat lunch with them. Whenever you needed them or they needed

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10:34 1 you, there was ready access; correct?

10:34 2 A. Yes.

10:34 3 Q. You had no such arrangement with any Halliburton employee,
10:34 4 did you?

10:34 5 A. They had other Halliburton employees working in BP's
10:34 6 office that I had access to.

10:34 7 Q. You had no access -- or at least you didn't take advantage
10:34 8 of any access -- to any Halliburton employee to whom you could
10:34 9 bounce off your design ideas, though?

10:34 10 A. I had access to other people -- other account
10:34 11 representatives, technical advisers, technology. I had access
10:34 12 to people I could ask questions to.

10:34 13 Q. At any point in time, did you access any of those people
10:34 14 to bounce your design ideas off of with respect to the
10:34 15 production casing cement slurry?

10:34 16 A. No.

10:34 17 Q. Up to April 16th, four days before the blowout, your
10:34 18 direct supervisor, your direct report, was Mr. Roger Dugas?

10:34 19 A. Roger Dugas and Ronnie Faul. Around that time, I had
10:34 20 switched managers. I can't remember the exact date.

10:35 21 Q. If we assume that the record will reflect that it was
10:35 22 about April 16th, does that sound close?

10:35 23 A. It's close.

10:35 24 Q. My understanding is that Dugas had been your supervisor
10:35 25 for some time, though, up to whenever the change date was;

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10:35 1 correct?

10:35 2 A. Yes.

10:35 3 Q. He was also a sales manager; correct?

10:35 4 A. Yes.

10:35 5 Q. And you were part of a sales team at Halliburton?

10:35 6 A. Yes. I was part of HPD, yes.

10:35 7 Q. To your knowledge, Mr. Dugas had no technical expertise in
10:35 8 the design and execution of a foam cement job in deepwater?

10:35 9 A. I believe he was familiar. I'm not sure of his experience
10:35 10 level.

10:35 11 Q. Mr. Dugas wasn't somebody that you could go to directly to
10:35 12 sit down and go through your proposed design and any concerns
10:35 13 you might have had with respect to pumping this foam cement
10:35 14 slurry into this well, though; correct?

10:35 15 A. No, I had other account reps or technical advisers I could
10:35 16 go to for that.

10:35 17 Q. But, again, as we said earlier, you didn't speak to any of
10:35 18 those other account reps or technical advisers with respect to
10:35 19 the project we're talking about now?

10:36 20 A. No, I don't believe so.

10:36 21 Q. On or about April 16th, Mr. Faul became your supervisor.
10:36 22 He took Mr. Dugas' place; right?

10:36 23 A. Yes.

10:36 24 Q. Now, Faul, unlike Dugas, did have some technical
10:36 25 expertise, as we've learned, in cement; correct?

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10:36 1 A. Yes.

10:36 2 Q. He's got expertise in design, testing, and execution of a
10:36 3 job just like this one?

10:36 4 A. Yes.

10:36 5 Q. At any point in time between -- if we assume April 16th is
10:36 6 the appropriate day, between April 16th and the blowout of
10:36 7 April 20th, Mr. Faul never came to you and said, "Mr. Gagliano,
10:36 8 I want to review your work"; correct?

10:36 9 A. No, I don't recall that.

10:36 10 Q. In fact, you've had no discussion or contact with Faul
10:36 11 whatsoever about the production casing cement job at Macondo
10:36 12 prior to the incident; correct?

10:36 13 A. I don't believe so.

10:36 14 Q. And, indeed, after the incident, when we get into the
10:36 15 post-accident forensic phase, you had no direct contact with
10:36 16 Mr. Faul about your design either, did you?

10:36 17 A. No, I don't believe so.

10:36 18 Q. And you were not involved in any form or fashion in what
10:37 19 Mr. Faul was doing to investigate this accident, were you?

10:37 20 A. No.

10:37 21 Q. He never came to you after the accident and said, "I want
10:37 22 to sit down and go through your design or any documents to talk
10:37 23 about your decision making," did he?

10:37 24 A. He never reviewed it with me, but I did provide
10:37 25 information to him when he requested it.

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10:37 1 Q. And that's as far as it went?

10:37 2 A. Yes.

10:37 3 Q. And to this day, he's never sat down with you and said,
10:37 4 "We've reviewed our work at Macondo, and we've reviewed your
10:37 5 work and the work of other Halliburton employees with respect
10:37 6 to the production casing job, and we want to sit and talk to
10:37 7 you about what we've learned."

10:37 8 You've never had that discussion?

10:37 9 A. No.

10:37 10 Q. You've never had that discussion with him or anybody else
10:37 11 at Halliburton?

10:37 12 A. No.

10:37 13 Q. And, indeed, Mr. Roth -- who was the vice president of the
10:37 14 global cementing, correct, at this time?

10:37 15 A. Yes.

10:37 16 Q. Mr. Roth has never come to you post-accident to have what
10:37 17 we would call a "Lessons Learned Session," has he?

10:37 18 A. No.

10:37 19 Q. And Mr. Roth never told you that, in his opinion, the
10:38 20 cement slurry, as designed for this particular well from the
10:38 21 get-go, had a low probability of success. He's never told you
10:38 22 that that's his opinion?

10:38 23 A. That's never been communicated to me.

10:38 24 Q. And he's never told you that it's his opinion that you
10:38 25 should have known that as of at least April 16th, 2010?

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10:38 1 A. That was never communicated to me.

10:38 2 Q. So at the end of the day, regardless of what Halliburton
10:38 3 has done to review your work and to review whether or not your
10:38 4 work contributed to this blowout and, if so, how, you have
10:38 5 never been told by anyone above you or anyone at Halliburton
10:38 6 the results of the investigation or whether or not they have
10:38 7 issues or criticisms with the work that you would not change as
10:38 8 you sit here today?

10:38 9 A. That has never been communicated to me.

10:38 10 Q. So if there's a lesson to be learned, according to others
10:38 11 at Halliburton, they haven't taken the time to make sure you've
10:38 12 learned it, because you testified that you wouldn't change a
10:38 13 thing; fair?

10:39 14 A. Yes.

10:39 15 Q. If I understand correctly, you were the -- basically, the
10:39 16 single point of contact with BP regarding the design of the
10:39 17 production casing cement. You were it, on the Halliburton
10:39 18 side?

10:39 19 A. Yes.

10:39 20 Q. And that would have gone -- that would hold true not just
10:39 21 for production casing, but the entire cement string?

10:39 22 A. Yes, sir.

10:39 23 Q. If you have production casing, whatever casing it might
10:39 24 have been, you were the guy that interfaced with Halliburton on
10:39 25 design and testing and execution?

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10:39 1 A. Yes.

10:39 2 Q. From Halliburton's standpoint, then, you were making the
10:39 3 decisions for Halliburton and then translating those decisions
10:39 4 into recommendations to the BP well team?

10:39 5 A. That's correct. I would give them recommendations.

10:39 6 Q. You had no obligation to submit your design decisions or
10:39 7 recommendations to anyone at Halliburton before you interacted
10:39 8 with the BP well team. There was no procedure or obligation
10:39 9 that required you to do that?

10:40 10 A. There was no obligation, but I did have several
10:40 11 conversations with my counterpart. If I felt the need and had
10:40 12 to talk to, I could talk to Joe Edwards or a technical adviser.

10:40 13 Q. But again, unless I misunderstood you, you told me before
10:40 14 that in terms of this particular job, no such conversations
10:40 15 occurred.

10:40 16 A. I don't recall that, no.

10:40 17 Q. And no such conversation was required?

10:40 18 A. No.

10:40 19 Q. There was no requirement at Halliburton that when you got
10:40 20 to a certain point in the design phase of the production casing
10:40 21 cement slurry, that you had to go see someone, whoever that
10:40 22 someone would be, to bounce your ideas off of them?

10:40 23 A. No.

10:40 24 Q. In fact, that didn't happen?

10:40 25 A. I don't recall that happening, no.

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10:40 1 Q. Having said that, then, can we conclude that there was no
10:40 2 oversight -- management oversight of your work from the time
10:40 3 you began dealing with the design of the production casing
10:40 4 slurry through this blowout? No direct management oversight of
10:40 5 what you did and didn't do?

10:40 6 A. I didn't -- I wasn't required to provide information to
10:41 7 management, no.

10:41 8 Q. And stated differently, if you didn't feel the need to
10:41 9 seek help or ask questions, if you felt comfortable with the
10:41 10 job and your decisions, your recommendations and your decisions
10:41 11 with respect to this job were final on behalf of Halliburton;
10:41 12 and then it was up to BP to decide whether they accepted them
10:41 13 or rejected them?

10:41 14 A. Yes, I provided the final recommendations to BP.

10:41 15 Q. All right. You know both David Bolado and Sam Lewis;
10:41 16 correct?

10:41 17 A. Yes.

10:41 18 Q. And they were with Halliburton throughout this Macondo
10:41 19 project; correct?

10:41 20 A. Yes.

10:41 21 Q. And you're also aware, I think now, that they became
10:41 22 experts in this case on behalf of Halliburton after the
10:41 23 incident occurred?

10:41 24 A. Yes.

10:41 25 Q. Bolado, if I understand correctly -- and he'll testify

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10:41 1 later -- he held your job, your account representative job,
10:41 2 previously, before he moved into another job within
10:41 3 Halliburton; is that true?

10:41 4 A. Yes, he did work with BP prior to me.

10:41 5 Q. And Lewis is a Ph.D. in chemistry; correct?

10:42 6 A. I believe so, yes.

10:42 7 Q. Both of these gentlemen, whether you asked them to or not,
10:42 8 could have involved themselves in any technical issues, any
10:42 9 problems that arose in the design of the production casing
10:42 10 cement before April 16th, 17th, 18th, 19th, 20th of 2010;
10:42 11 correct?

10:42 12 A. If I had questions or concerns I would approach one of
10:42 13 them two, yes.

10:42 14 Q. Exactly. But it would have taken you to go seek them out
10:42 15 rather than them coming to you to check and see whether or not
10:42 16 you had any issues or whether or not they approved of your
10:42 17 design from a physics standpoint or a chemistry standpoint.
10:42 18 You would have to initiate that conversation?

10:42 19 A. I would have to approach them.

10:42 20 Q. Has anyone told you post-accident that Mr. Bolado has some
10:42 21 disagreements with some of the decisions that you made in the
10:42 22 production casing design process?

10:42 23 A. I not aware of that.

10:42 24 Q. Nobody had that discussion with you?

10:43 25 A. No.

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10:43 1 Q. And certainly he hasn't himself?

10:43 2 A. No.

10:43 3 Q. Has Dr. Lewis ever talked to you about some of his
10:43 4 opinions about the chemistry involved in the production casing
10:43 5 cement slurry?

10:43 6 A. No.

10:43 7 Q. All right.

10:43 8 At any point, has Tommy Roth sat down with you and
10:43 9 had a discussion with you about any aspect of what he found in
10:43 10 a post-accident investigation on behalf of Halliburton?

10:43 11 A. No.

10:43 12 Q. Now, my understanding -- correct me if I'm wrong. You met
10:43 13 with Mr. Roth at some point to help him prepare a slide
10:43 14 presentation that's dated December 26th, 2010. Do you recall
10:43 15 meeting with him?

10:43 16 A. Yes.

10:43 17 MR. STERBCOW: Carl, if you'd pull up 0982.

10:43 18 BY MR. STERBCOW:

10:43 19 Q. Have you seen this?

10:43 20 A. I've seen versions of this, yes.

10:43 21 Q. All right. You're not sure whether you've seen the
10:43 22 version that we're looking at now?

10:43 23 A. Correct.

10:44 24 Q. Having seen versions of it, then, is it fair for me to say
10:44 25 that you at least interacted with Mr. Roth in terms of

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10:44 1 preparing what ultimately became the final slide presentation
10:44 2 regarding Halliburton's preliminary insights into the incident?

10:44 3 A. Yes, I was present for this.

10:44 4 Q. And during that time, was anybody else with you other than
10:44 5 Mr. Roth?

10:44 6 A. Yes.

10:44 7 Q. Who was there?

10:44 8 A. Anthony Badalamenti; Kris Ravi, occasionally; and
10:44 9 occasionally Ronnie Faul would come in.

10:44 10 Q. All right. There was ample discussion then during this
10:44 11 time period with Mr. Roth -- are you okay?

10:44 12 A. Excuse me. I'm sorry.

10:44 13 Q. Are you okay?

10:44 14 A. Yes.

10:44 15 Q. -- with Mr. Roth, Mr. Faul, Mr. Ravi, and Mr. Badalamenti.
10:44 16 If anyone had taken the time to sit and talk to you about what
10:44 17 you did and didn't do in the decision making process you
10:44 18 engaged in with respect to this production casing cement
10:44 19 slurry, there would have been ample time to do that during the
10:44 20 preparation of the final PowerPoint presentation?

10:45 21 A. Yes.

10:45 22 Q. At no time did any of these gentlemen broach this issue
10:45 23 with you, did they?

10:45 24 A. No.

10:45 25 **MR. STERBCOW:** Carl, go to 0982.5, please.

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10:45 1 BY MR. STERBCOW:

10:45 2 Q. This is part of what I just showed you, the cover page.
10:45 3 If you look at the top left, this is entitled The Halliburton
10:45 4 Insight. It says: "Using rig cement, additives, and rig
10:45 5 water, a stable foam cement system was designed, tested,
10:45 6 delivered, and quality assured on location."

10:45 7 If I understand your testimony today, you agree with
10:45 8 that statement.

10:45 9 A. Yes.

10:45 10 Q. You -- as of today, you agree that Halliburton used rig
10:45 11 cement, additives, and rig water and came up with a stable foam
10:45 12 cement system that was designed, tested, delivered, and quality
10:45 13 assured on location; correct?

10:45 14 A. Yes. It was a stable system.

10:45 15 Q. Isn't it a fact that the slurry pumped downhole with all
10:46 16 of the additives in the specific concentrations that were
10:46 17 pumped was never tested before it was pumped?

10:46 18 A. The thickening time and UCA was tested.

10:46 19 Q. On the .09?

10:46 20 A. Yes.

10:46 21 Q. And that's what you talked about earlier.

10:46 22 What were the results of those tests?

10:46 23 A. I believe the thickening time went 7 hours, 7 1/2 hours,
10:46 24 roughly.

10:46 25 Q. Right.

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10:46 1 A. And I don't remember what the UCA showed, but it showed
10:46 2 good compressive strength development.

10:46 3 Q. And according, then, to those two tests, your conclusion
10:46 4 is that this slurry as pumped was stable, and the foam, in
10:46 5 particular, was stable as pumped into the hole; correct?

10:46 6 A. Yes.

10:46 7 Q. When was a foam stability test run on the concentration
10:46 8 with the .09 retarder?

10:46 9 A. It wasn't run with the .09. It was run with .08.

10:46 10 Q. So it's your testimony that there was no need to run a
10:47 11 foam stability test on a .09, because if it passed .08, that
10:47 12 was good enough?

10:47 13 A. The same result would have come out.

10:47 14 Q. So the extra 2 1/2 teaspoons of retarder would have no
10:47 15 effect on foam stability?

10:47 16 A. No.

10:47 17 Q. Who trained you on that?

10:47 18 A. I verified it with Richard Dubois in the lab. I felt
10:47 19 that, and I called him and contacted him, ran it against him
10:47 20 and he agreed with me. So that's when I canceled the test.

10:47 21 Q. When did that phone call and that conversation occur?

10:47 22 A. I don't remember the exact date. Maybe on the 16th or the
10:47 23 17th. I don't remember exactly.

10:47 24 Q. Where is that phone call documented?

10:47 25 A. I'm not sure.

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10:47 1 Q. Is there any document that you're aware of that we could
10:47 2 look at that will show us that there was contact between you
10:47 3 and Mr. Dubois, number one; and number two, he specifically
10:47 4 told you in his managerial position that the difference between
10:47 5 .08 and .09 would have no effect whatsoever on foam stability?

10:47 6 A. As far as documentation, I think my phone -- cell phone
10:48 7 records show I called the lab. You can look at those. I
10:48 8 haven't seen them recently, though.

10:48 9 Q. What's Mr. Dubois' qualification to make that decision?

10:48 10 A. He's senior manager of the lab.

10:48 11 Q. What technical expertise does he have in chemistry that
10:48 12 would allow him to come to that conclusion?

10:48 13 A. I'm not sure of his educational background. But he
10:48 14 oversees all the lab tests, and he worked with those on a daily
10:48 15 basis. So he knows what concentrations affect what, looking at
10:48 16 those results on a daily basis.

10:48 17 Q. Would you agree with me that Dr. Lewis, with a Ph.D. in
10:48 18 chemistry, would be in a better position to answer that
10:48 19 question than anyone, as far as you know?

10:48 20 A. Yeah, I would think so.

10:48 21 Q. And you don't know whether that question's been posed to
10:48 22 him by Halliburton before or after this accident, do you?

10:48 23 A. I don't know.

10:48 24 MR. STERBCOW: Carl, TREN-0982.6.

25

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10:48 1 BY MR. STERBCOW:

10:48 2 Q. If you go to the third bullet point, it says: "Using rig
10:49 3 cement, additives, and rig water, on April 12th, Halliburton
10:49 4 tested a stable foam cement slurry using good engineering
10:49 5 practices in accordance with ANSI/API standards."

10:49 6 Is it your position that the April 12 testing showed
10:49 7 a good stable foam slurry?

10:49 8 A. The tests results that were rendered on the 17th showed a
10:49 9 stable system.

10:49 10 Q. This says April 12th.

10:49 11 A. April 12th was the original date I submitted the test.
10:49 12 Not all tests would be run that day. Some tests would be run
10:49 13 after that point, at some point in line.

10:49 14 Q. So when the PowerPoint that was used by Mr. Roth to talk
10:49 15 about the case references April 12th, he actually means a test
10:49 16 that was run on April 17th?

10:49 17 A. The original request for all of the tests were submitted
10:49 18 on the 12th, and there's a certain order they do the tests in.
10:49 19 So they didn't actually get to the foam stability until the
10:49 20 17th, but it was part of that April 12th request.

10:50 21 Q. So if he's referencing the April 17th test, that would
10:50 22 correspond to the April 17th, 2010 lab weigh-up sheet; correct?

10:50 23 A. I believe so.

10:50 24 Q. If we wanted to go to a particular document to test the
10:50 25 accuracy of the statement made by Mr. Roth in his PowerPoint,

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10:50 1 the best document to look at is the April 17th, 2010 weigh-up
10:50 2 sheet; is that fair?

10:50 3 A. For that particular foam stability test, yes.

10:50 4 Q. If we want to see if they used the rig cement, if they
10:50 5 used the additives, if they used the rig water, and if
10:50 6 Halliburton actually tested a stable foam cement slurry, that's
10:50 7 the document that answers those questions; correct?

10:50 8 A. Yes.

10:50 9 Q. All right.

10:50 10 MR. STERBCOW: Go to 0982.7, if you will.

10:50 11 BY MR. STERBCOW:

10:50 12 Q. Now, this is the next page in Mr. Roth's PowerPoint. Can
10:50 13 you at least agree with me, if you go down to the second bullet
10:51 14 point, that the cement was not designed using Halliburton's
10:51 15 "Global Laboratory Best Practices, Volume 4, Cementing,"
10:51 16 because as we've already heard this morning, global best
10:51 17 practices recommend at least that you not use D-Air 3000 in a
10:51 18 foam cement?

10:51 19 A. That's what it states, yeah.

10:51 20 Q. So this statement that says that this design was made or
10:51 21 was performed pursuant to Halliburton's Global Laboratory Best
10:51 22 Practices, Volume 4, is incorrect?

10:51 23 A. My understanding of this document is procedures for the
10:51 24 lab to run the tests. So I can't say if this is incorrect or
10:51 25 not.

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10:51 1 Q. So what you're saying is that this bullet point may refer
10:51 2 only to procedures in the lab versus design decision making?

10:51 3 A. That's my understanding. I believe this has to do with
10:51 4 the procedures the lab has to follow for running the tests.

10:52 5 Q. All right. And you're not aware of any part of this
10:52 6 PowerPoint on this page or any other page where it is noted
10:52 7 that while we say we used Halliburton's Global Laboratory Best
10:52 8 Practices, we're only talking about what we did in the lab and
10:52 9 we're not talking about what we did to design the cement before
10:52 10 it was tested. There's no qualifier in here as far as you
10:52 11 know?

10:52 12 A. As far as I know, no.

10:52 13 Q. Mr. Roth, Mr. Faul, Mr. Ravi, and Mr. Badalamenti knew --
10:52 14 because they met with you -- that you had used a base slurry
10:52 15 that had D-Air 3000 in it, though, didn't they? Because that
10:52 16 wasn't a secret to anybody?

10:52 17 A. No, they saw the lab tests, so I would assume they knew
10:52 18 that.

10:52 19 Q. So knowing that and knowing what Halliburton's Global
10:52 20 Laboratory Best Practices are in terms of not recommending,
10:52 21 according to how we interpret the best practices, that
10:52 22 D-Air 3000 be used in a foam slurry, wouldn't you agree with me
10:52 23 that at least on its face, as you read this slide, it's
10:53 24 misleading?

10:53 25 A. Again, I don't know if the Global Laboratory Best

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1 Practices states that or not. My understanding is this
2 document talks about how to perform the lab tests and the
3 procedures for that.

4 Q. But at the end of the day, you don't even know; right?

5 A. I'm not sure without going in and looking at it.

6 Q. And you are the person who designed the cement and with
7 whom the gentlemen met to put this PowerPoint together?

8 A. I was present for portions of it, yes.

9 Q. Did you see Mr. Roth's prior presentation that he put
10 together for Mr. Probert? Was that shown to you?

11 A. I'm not aware of one for Mr. Probert, no.

12 MR. STERBCOW: Carl, if you would pull up
13 TREN-4357.5.

14 BY MR. STERBCOW:

15 Q. Have you ever seen this?

16 A. No.

17 Q. All right. You talked a lot earlier about that series of
18 documents that started with the BOD, I think it was June '09.

19 Do you remember that?

20 A. I believe so.

21 Q. And then we walked through a series of documents called 9
22 by -- 9 and 7/8 by 7-inch production casing. Do you recall
23 that?

24 A. Yes.

25 Q. And if I understand your testimony correctly, those series

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1 of documents continually updated BP on the chemistry, what was
2 in the slurry, concentrations, and it broke it down into lead
3 cement, foam cement, tail cement, et cetera?

4 A. No. I think the con- -- I think the slurry design didn't
5 change much at all through that series. I think I mainly
6 documented the changes in the well design, depths,
7 temperatures, things of that sort. Any time there's a change
8 in anything, I usually try to update the proposal, not
9 necessarily anything to do with chemistry.

10 Q. So what you would do is you were taking information on
11 changing well design from BP, incorporating it into that series
12 of documents that we looked at, and then were you rerunning any
13 tests? Were you doing anything differently from your side of
14 the equation?

15 A. No, you don't run tests whenever you do a HIPS version.
16 You don't run a test until you get to the end of the well, when
17 you have all the accurate information -- all the actual
18 information to run those tests.

19 Q. So having said that then, is that series of documents
20 entitled "9 and 7/8 by 7-inch Production Casing" your effort to
21 take what BP is telling you about the changing well conditions
22 and design, update your document, and then send it back to BP?

23 A. Correct --

24 Q. -- basically?

25 A. -- depending on what changes. You can change the volumes,

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10:55 1 they can change the top cement. Things can change as far as
10:55 2 volumes. So I just documented that and sent it to BP.

10:55 3 Q. But in terms of the design of the cement slurry itself,
10:55 4 from one document to the next, that never changed?

10:55 5 A. From what I remember, I think they were pretty consistent
10:55 6 through all those versions.

10:55 7 Q. Okay. And you mentioned earlier that risk assessment, to
10:55 8 the extent it was done, would have been included in a
10:55 9 series of OptiCem reports.

10:55 10 A. Yes.

10:55 11 Q. Separate document?

10:55 12 A. Yes.

10:55 13 Q. And the risk that you identified in the OptiCem was gas
10:56 14 flow?

10:56 15 A. Yes.

10:56 16 Q. And that risk changed based upon number and placement of
10:56 17 centralizers?

10:56 18 A. Yes.

10:56 19 Q. So that's a very defined risk, that you may have gas flow
10:56 20 problems during the cement job if you use a certain number of
10:56 21 centralizers and put them in a certain location?

10:56 22 A. Yes. That affects it, yes.

10:56 23 Q. Other than that defined risk of centralizers and their
10:56 24 relationship to gas flow, there is no other risk of this cement
10:56 25 job identified in the OptiCem report, is there?

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10:56 1 A. There's a schematic at the end of it that indicates the
10:56 2 channeling that takes place, and you can actually look at the
10:56 3 channeling that shows in the picture and correspond it to the
10:56 4 gas flow potential.

10:56 5 Q. That's the one with the different colors in it?

10:56 6 A. Yes.

10:56 7 Q. Okay.

10:56 8 A. Different colors indicate different fluids.

10:56 9 Q. All right. And channeling means you may have an area
10:56 10 where, for whatever reason, the cement, once it hardens, will
10:57 11 not cover a particular location you want it to cover and it may
10:57 12 leave a path for hydrocarbons to flow; is that fair?

10:57 13 A. Yes.

10:57 14 Q. All right. So you identified that too?

10:57 15 A. Yes.

10:57 16 Q. And you sent that to BP in a series of OptiCem reports?

10:57 17 A. Yes. When I sent them OptiCem reports, they all included
10:57 18 that information.

10:57 19 Q. All right. Those reports would represent the sum and
10:57 20 substance of what you did from the Halliburton side to assess
10:57 21 and identify risks associated with the production cement casing
10:57 22 job for BP; correct?

10:57 23 A. I'm sorry. Repeat the question.

10:57 24 Q. Those OptiCem reports and what we just talked about --

10:57 25 A. Yes.

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10:57 1 Q. -- would represent Halliburton's effort to identify and
10:57 2 inform BP of risks associated with this production casing
10:57 3 cement slurry job.

10:57 4 A. That's the only way I communicated to BP about the issue.

10:57 5 Q. All right. There's no method in place, from Halliburton's
10:57 6 standpoint, as far as you were concerned back February, March,
10:58 7 April 2010, based on what you just told me, to report to them
10:58 8 increased risks that might be associated with the use of a foam
10:58 9 slurry with, say, for example, synthetic oil-based mud in the
10:58 10 hole? That's not something that's regularly reported from
10:58 11 Halliburton to BP?

10:58 12 A. I disagree with that. I mean, that's the whole purpose of
10:58 13 me being in-house with BP, is for me to communicate those
10:58 14 things to BP.

10:58 15 Q. So you told them that?

10:58 16 A. Yes, I did.

10:58 17 Q. Was that done in any document form?

10:58 18 A. No. It was on a conference call the weekend before the
10:58 19 job.

10:58 20 Q. And you specifically raised the issue of using foam cement
10:58 21 and synthetic oil-based mud?

10:58 22 A. Yes. We had a discussion about putting spacer behind the
10:58 23 plug, and I think there was some e-mail discussion about it as
10:58 24 well. But I recommended the pump spacer behind the plug; in
10:58 25 case the plug failed, they were able to pump around it.

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10:58 1 And I did make sure to tell them that if enough
10:58 2 oil-based mud got contaminated with the cement, it could
10:58 3 potentially destabilize the foam, depending on the
10:58 4 concentration and how much.

10:59 5 Q. Did you ever tell them that in your opinion, foam cement
10:59 6 should not be used with synthetic oil-based mud?

10:59 7 A. No. We have successfully done it in a number of
10:59 8 occasions, so it can be successfully done.

10:59 9 Q. Based on past experience, you were confident that it could
10:59 10 be done in this case as well?

10:59 11 A. Yes.

10:59 12 Q. Did you tell BP about any increased risk associated with
10:59 13 using a base oil, pumping a base oil, with foam cement?

10:59 14 A. The base oil is just the base of the mud, so there was
10:59 15 really no difference, in my mind, of the mud or base oil.

10:59 16 Q. All right. So there's no increased risk, in your mind,
10:59 17 associated with the fact that base oil is part of the system?

10:59 18 A. Yeah. Base oil is part of the mud system. And, you know,
10:59 19 the mud company just adds additives to that to make up whatever
10:59 20 primers that BP wants.

10:59 21 Q. Did you talk to them about any risk -- or did you identify
10:59 22 and speak to them about any risk associated with pumping a
10:59 23 heavier shoe track cement versus the synthetic oil-based mud
10:59 24 that was in the rathole and the potential that they would swap
10:59 25 places?

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10:59 1 A. I've had conversation in the past with BP about that.

10:59 2 They were aware.

10:59 3 Q. And they were aware of that in this particular case too?

11:00 4 A. I believe so, yes.

11:00 5 Q. So the well team we talked about -- Morel, Guide, Hafle,
11:00 6 Cocalles -- they knew about that risk as well?

11:00 7 A. Yes.

11:00 8 Q. Any documentation of identification and discussion of that
11:00 9 particular risk that you're aware of?

11:00 10 A. No, not -- I can't think of any documentation right now.

11:00 11 Q. Was there any identification and discussion between you
11:00 12 and BP about the fact that the shoe track cement did not
11:00 13 contain Halliburton proprietary additives that would assist it
11:00 14 in maintaining a hydrostatic head as the cement hardens?

11:00 15 A. I'm not sure I understand your question.

11:00 16 Q. Let me rephrase it.

11:00 17 Are you aware of Halliburton proprietary additives
11:00 18 that could have been designed into the shoe track cement that
11:00 19 would have assisted that cement in holding a hydrostatic head
11:00 20 in the shoe track as it hardened? Are you aware of any such
11:00 21 additives?

11:00 22 A. We have a number of additives that can change the
11:01 23 properties of the cement, but the whole purpose of the shoe
11:01 24 track is to capture contaminated cement or contaminated cement
11:01 25 and mud.

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11:01 1 Q. All right. So in your mind and in Halliburton's --
11:01 2 according to Halliburton, then, through you as the person
11:01 3 charged with design, the purpose of the shoe track cement is to
11:01 4 catch contaminants, and it should play -- or does not play any
11:01 5 role whatsoever in ensuring that a hydrostatic head is
11:01 6 maintained in the shoe track as the cement system hardens?

11:01 7 A. That's correct. The shoe track should never be considered
11:01 8 as a barrier, and there's a number of technical documents out
11:01 9 there, outside of Halliburton, that state the same thing.

11:01 10 Q. Fair enough.

11:01 11 And you never considered it as a barrier and never
11:01 12 thought about those issues during the design process?

11:01 13 A. No. The whole purpose of the shoe track is to -- for
11:01 14 contaminated cement.

11:01 15 Q. All right. And given that, then, you never discussed the
11:01 16 possibility of using Halliburton proprietary additives in the
11:01 17 shoe track cement to give you an added layer of protection, if
11:01 18 you will, against the risk of hydrocarbon flow? That just
11:02 19 didn't come up?

11:02 20 A. You don't design the shoe track to -- as a barrier; you
11:02 21 design -- the shoe track is there to capture contaminated
11:02 22 cement.

11:02 23 Q. Okay.

11:02 24 A. You can't rely on it as a barrier.

11:02 25 Q. You design the cement that's pumped into the annulus to be

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11:02 1 a barrier, do you not?

11:02 2 A. Yes.

11:02 3 Q. The foam cement is specifically designed to be a barrier;
11:02 4 correct?

11:02 5 A. Yes.

11:02 6 Q. And the name of that barrier or the term that's used when
11:02 7 we're referencing that barrier is zonal isolation; correct?

11:02 8 A. That's correct.

11:02 9 Q. What the cement is designed to do is to make sure that
11:02 10 once completion operations and abandonment operations are under
11:02 11 way, that there is a substance in place in the hole that
11:02 12 prevents hydrocarbons in the earth from flowing back into the
11:02 13 well.

11:02 14 A. That's the purpose of the cement on the back side.

11:02 15 Q. And we can agree that in this case that did not occur?

11:02 16 A. The model predicted channeling. I can't say what
11:03 17 happened -- actually happened on the job.

11:03 18 Q. But we can say that zonal isolation was not achieved.

11:03 19 A. It appears to be.

11:03 20 Q. By virtue of what happened.

11:03 21 A. Correct.

11:03 22 MR. STERBCOW: Okay. Bring back up 4357.5, if you
11:03 23 would.

11:03 24 BY MR. STERBCOW:

11:03 25 Q. Going back to what we talked about earlier, Mr. Roth found

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11:03 1 that there was no formal basis of design standard existing at
11:03 2 Halliburton as of the time your work -- your design work was
11:03 3 being performed.

11:03 4 Do you have any reason, number one, to disagree with
11:03 5 that conclusion?

11:03 6 A. At BP we did have a standard BoD I provided for every
11:03 7 single well. I'm not sure, if he's referring to Halliburton,
11:03 8 why. But at BP, I had a standard BoD I gave them every single
11:03 9 time.

11:03 10 Q. And the BoD you gave BP in this case was the one in June
11:03 11 of '09?

11:03 12 A. I believe so, yes.

11:03 13 Q. And that BoD did not say or reference in any form or
11:03 14 fashion the production casing cement job because at that point
11:04 15 it was unknown, what that job was going to entail?

11:04 16 A. Correct. At that point BP wasn't sure that they were
11:04 17 going to have -- find hydrocarbons, so we didn't put that in
11:04 18 the BoD.

11:04 19 Q. And based on what Mr. Roth is saying and what he's
11:04 20 recommending that needs to happen, you were under no obligation
11:04 21 from Halliburton, correct, to issue a new basis of design that
11:04 22 specifically included the production casing cement job?

11:04 23 **MR. GODWIN:** Your Honor, I object there on the
11:04 24 grounds of subsequent remedial measures about what is going to
11:04 25 happen in the future. My recollection is Your Honor excluded

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11:04 1 that when it was objected to earlier.

11:04 2 MR. STERBCOW: I'll rephrase my question.

11:04 3 THE COURT: Okay.

11:04 4 MR. GODWIN: Thank you, Judge.

11:04 5 BY MR. STERBCOW:

11:04 6 Q. Mr. Gagliano, if I understand you correctly, after the
11:04 7 June 2009 basis of design document, despite all those other
11:04 8 documents we looked at, there was never another document issued
11:04 9 by you that was entitled "Basis of Design" for this well.

11:04 10 A. No. But I did create a separate production casing job
11:05 11 document for BP when -- upon their request.

11:05 12 Q. Understood. But you did not create another document like
11:05 13 the one that you created in June of '09 entitled "Basis of
11:05 14 Design."

11:05 15 A. No. That wasn't the standard practice. Usually, when you
11:05 16 moved on to the next job, you would update that just one
11:05 17 section with the most accurate information. So I had different
11:05 18 versions of each casing that was done.

11:05 19 So many BoDs, I guess, were submitted to them, but it
11:05 20 wasn't called a BoD.

11:05 21 Q. So your testimony is that there were a series of
11:05 22 subsequent documents that were the functional equivalent of a
11:05 23 BoD, but we didn't call them a BoD?

11:05 24 A. Correct. The BoD is a basis of design for the entire
11:05 25 well, and then you would write individual proposals as you went

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11:05 1 through the well. Sometimes you had two or three versions;
11:05 2 sometimes six or seven. It just depends on what changes that
11:05 3 happen. You know, you provide those to BP.

11:05 4 Q. And at the time, according to Mr. Roth, that you were
11:05 5 going through this exercise with BP, you were not required to
11:06 6 issue a specific new basis of design. As long as you did these
11:06 7 updates that you referenced, in your mind, you satisfied your
11:06 8 obligation to BP to continually assess the well, continually
11:06 9 identify and try to mitigate risks, and continually give them
11:06 10 all the information they needed?

11:06 11 A. It wasn't a Halliburton requirement, but BP required us to
11:06 12 update the proposals as we went along through the well.

11:06 13 Q. But it was not a Halliburton requirement.

11:06 14 A. Not that I'm aware of.

11:06 15 Q. All right. He also talks about there was no formal
11:06 16 management of change standard during the design phase -- well,
11:06 17 during the Macondo well at all.

11:06 18 Do you agree with that?

11:06 19 A. In Halliburton?

11:06 20 Q. Right.

11:06 21 A. No.

11:06 22 Q. You don't agree with Mr. Roth's conclusion that there was
11:06 23 no formal management of change?

11:06 24 A. There wasn't one that existed that I'm aware of.

11:06 25 Q. All right. So you agree with Mr. Roth that --

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11:06 1 A. Yes.

11:06 2 Q. -- one did not exist?

11:06 3 A. Yes.

11:06 4 Q. Sorry. My fault.

11:06 5 To the extent that you decided you needed to make
11:07 6 design changes during the course of the Macondo well cement
11:07 7 design process, there was no Halliburton process in place that
11:07 8 required you to go through a series of steps that we would call
11:07 9 management of change; correct?

11:07 10 A. No.

11:07 11 Q. And to the extent that that was done, it was a decision
11:07 12 made by you based on your education, training, and experience,
11:07 13 and you would simply inform somebody with BP that you decided a
11:07 14 change was necessary?

11:07 15 A. Yes. If I felt the change was necessary or if I had a
11:07 16 question, I would approach somebody within Halliburton and ask
11:07 17 questions and I would notify BP.

11:07 18 Q. And that series of interactions, to the extent they took
11:07 19 place, was not required to be documented by Halliburton because
11:07 20 Halliburton had no requirement of a formal management of change
11:07 21 standard?

11:07 22 A. It wasn't required to be documented.

11:07 23 Q. So if you would go see Mr. Hafle, Mr. Morel, Mr. Guide,
11:07 24 Mr. Cocalles, it was a situation where you would visit with them
11:08 25 in the office or e-mail them or talk to them by phone, and that

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11:08 1 would essentially constitute the management of change process?

11:08 2 A. Yeah. It's BP's well, so they had to approve all the
11:08 3 changes.

11:08 4 Q. All right. And none of those changes had to be run by
11:08 5 Halliburton personnel, other than you?

11:08 6 A. No.

11:08 7 Q. Okay. So if for some reason you happen to be wrong in one
11:08 8 of your decisions -- one of the decisions you made with respect
11:08 9 to design, you just made a wrong decision, if BP didn't catch
11:08 10 that decision or if BP didn't disagree with that, there was
11:08 11 nobody at Halliburton who was going to be looking over your
11:08 12 shoulder to say, "Mr. Gagliano, we think this is wrong. We
11:08 13 think you need to rethink this"?

11:08 14 A. I disagree with that. We had testing. Testing proved
11:08 15 that it would work.

11:08 16 Q. That goes back to the Broussard lab?

11:08 17 A. Yes.

11:08 18 Q. So to the extent that there was oversight of your design
11:08 19 decision making, it would come through testing in Broussard?

11:09 20 A. Yes.

11:09 21 Q. And that's where it would end?

11:09 22 A. I mean, the test would prove whether it would work or not.

11:09 23 Q. All right.

11:09 24 MR. STERBCOW: Pull up 7469, if you would, Carl.

25

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11:09 1 BY MR. STERBCOW:

11:09 2 Q. This is an e-mail from you dated June 11, '09, to Morel
11:09 3 and Hafle, where you attach that original basis of design that
11:09 4 we talked about, the first document; okay?

11:09 5 And at the end of the e-mail, you note that the BoD
11:09 6 does not have a recommendation for the 9 7/8 contingency.
11:09 7 "Once the 9 7/8 plan is finalized, I can work something up and
11:09 8 get it to you."

11:09 9 Now, if I understand you correctly, the something
11:09 10 that was worked up that you provided to BP, based on what you
11:09 11 just told me, was not a particular document, but it was a
11:09 12 series of documents over time.

11:10 13 A. Yes. BP requested that I not include it into the BoD; and
11:10 14 then at a later point when they wanted it, I would create a
11:10 15 separate document, which I did.

11:10 16 Q. All right. So in your mind, you satisfied whatever basis
11:10 17 of design requirement existed in the BP/Halliburton contractual
11:10 18 agreement by continually sending the production casing reports,
11:10 19 OptiCem reports; and to the extent there were gaps, you just
11:10 20 spoke to these guys in the office?

11:10 21 A. What do you mean by "spoke to" -- "gaps"?

11:10 22 Q. Well, to the extent that an issue may not have been
11:10 23 covered, a design change that may not have been covered in
11:10 24 either a 9 7/8 by 7-inch production casing report or an OptiCem
11:10 25 report, that would have been covered in discussions that you

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11:10 1 had, ongoing discussions with Morel, Hafle, Cocalles, and Guide?

11:10 2 A. It could be discussions, but it was also documented in the
11:10 3 documents that were provided to BP, which they would review.

11:11 4 Q. And now -- but I want to make sure we're clear on that.
11:11 5 When we say "documents that were provided to BP," we're talking
11:11 6 specifically about the 9 7/8 by 7-inch production casing
11:11 7 reports and the OptiCem reports?

11:11 8 A. That's some of the documents, yes.

11:11 9 Q. There are other documents that you would consider to be
11:11 10 part of basis of design, an ongoing basis of design?

11:11 11 A. Okay. I would provide the laboratory, but I wouldn't
11:11 12 consider that basis of design.

11:11 13 Q. Right. I'm sorry.

11:11 14 A. All right.

11:11 15 Q. I didn't mean to mislead you. I'm talking about basis of
11:11 16 design.

11:11 17 A. Okay.

11:11 18 Q. All right. The other component to this is the lab
11:11 19 reports.

11:11 20 A. Yes.

11:11 21 Q. All right. That's not so much basis of design, but that's
11:11 22 letting them know, "We've got a design in mind; now we're going
11:11 23 to go test it to see if we think it's going to work"?

11:11 24 A. Yes.

11:11 25 Q. And those lab reports that you referenced were sent to BP,

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11:11 1 at least all of them up to the last one, I think, before the
11:11 2 accident.

11:11 3 A. Yes.

11:11 4 Q. And then the last report that would have tested the .09
11:11 5 retarder slurry, is that correct, was not sent until after the
11:12 6 blowout?

11:12 7 A. I think I sent a copy of it to them before, and then they
11:12 8 requested a copy afterwards with the .09.

11:12 9 Q. All right. Other than the production casing reports, the
11:12 10 OptiCem reports, and then, on a somewhat related but different
11:12 11 issue, the lab reports, do those documents represent the sum
11:12 12 and substance of the reporting you did over time regarding any
11:12 13 basis of design, change in basis of design, and any risks
11:12 14 associated with what you were recommending be used in the
11:12 15 production casing cement slurry?

11:12 16 A. It would be documented in those reports, and I would also
11:12 17 have verbal conversations.

11:12 18 Q. Which we have no documentation of.

11:12 19 A. Right.

11:12 20 Q. All right. As you sit here today, though, it sounds like
11:12 21 you are confident that BP had full knowledge, fully aware of
11:12 22 all risks associated with your design decision-making process.

11:13 23 A. I provided to them all my information, and if they had any
11:13 24 questions, they would always ask me. And they never came to me
11:13 25 with any questions.

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11:13 1 Q. And BP had full knowledge of all testing that was done
11:13 2 on -- the cement slurry that was designed by Halliburton and
11:13 3 being recommended to be pumped into the hole, BP had full
11:13 4 knowledge of all testing done by Halliburton at least as of up
11:13 5 to the time the cement job started on the 19th.

11:13 6 A. I provided them with all the testing that they requested.

11:13 7 Q. So there's nothing, in your mind, that BP didn't know, and
11:13 8 they knew everything you knew, about this cement job?

11:13 9 MR. BROCK: I object to that as being overbroad.

11:13 10 THE COURT: Sustained.

11:13 11 BY MR. STERBCOW:

11:13 12 Q. Are you aware of any information that you had about the
11:13 13 design and testing of this cement job that BP did not have?

11:13 14 A. I mean, I provided them with the thickening time, UCA,
11:13 15 which is what they always wanted to see. I provided them with
11:14 16 the testing that they required. I did do some additional
11:14 17 testing that wasn't required to verify it was stable, and it
11:14 18 was stable.

11:14 19 Q. Let's talk a minute about a particular aspect of the
11:14 20 design -- and you talked about it some this morning -- the
11:14 21 D-Air 3000.

11:14 22 You testified that in your mind, the publications and
11:14 23 other information notwithstanding, you were comfortable using
11:14 24 D-Air 3000 in a base slurry -- or a base slurry that had
11:14 25 D-Air 3000 in it in a foam cement job.

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11:14 1 A. Yes.

11:14 2 Q. You were okay with that.

11:14 3 Would you agree with me that D-Air 3000 is a defoamer
11:14 4 that is, by design, intended to accomplish just the opposite of
11:14 5 what you were trying to do?

11:15 6 A. It's an additive that we -- breaks air out of the system.

11:15 7 Q. So in foaming cement, you're not adding air, but you're
11:15 8 adding nitrogen?

11:15 9 A. Correct. D-Air is designed to break out the air.

11:15 10 Q. So D-Air is, by design, by chemical design and makeup,
11:15 11 intended to break up the very air that you're trying to put in,
11:15 12 ultimately, to this foam cement?

11:15 13 A. The purpose of D-Air is to get air out of the -- drained
11:15 14 out of the system.

11:15 15 Q. Stated differently, D-Air 3000 destabilizes foam cement?

11:15 16 A. I disagree with that.

11:15 17 Q. You disagree with that?

11:15 18 A. Correct.

11:15 19 Q. And you disagree with it because it can be counteracted?

11:15 20 A. Yes.

11:15 21 Q. If you don't counteract it and you try a foam cement that
11:15 22 has D-Air 3000 in it, it is inherently, by chemical makeup, a
11:15 23 destabilizer of foam cement; correct?

11:15 24 A. The function is to take air out of the system. To verify
11:15 25 if it would work, you have to test it.

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11:15 1 Q. If you were to try to pump this job without adding
11:16 2 ZoneSealant 2000, it would have a zero chance of success.

11:16 3 MR. GODWIN: Objection --

11:16 4 BY MR. STERBCOW:

11:16 5 Q. Is that fair?

11:16 6 MR. GODWIN: Objection, Your Honor. Speculation.

11:16 7 THE COURT: Overruled.

11:16 8 BY MR. STERBCOW:

11:16 9 Q. If you were to try to pump a foam cement job with a base
11:16 10 slurry that has D-Air 3000 in it and you did not add any
11:16 11 ZoneSealant, that job has a zero, zero percent, chance of being
11:16 12 successful.

11:16 13 A. You can't do a foam job without ZoneSealant. It's
11:16 14 required to foam, so of course it wouldn't. You need to hold
11:16 15 that air in.

11:16 16 Q. And what you've got to do is you've got to make sure that
11:16 17 you put enough ZoneSealant in the slurry with the preexisting
11:16 18 D-Air 3000 to essentially neutralize, if you will, the
11:16 19 D-Air 3000's effects.

11:16 20 A. The D-Air is such a small percentage, and ZoneSealant is
11:16 21 such a powerful surfactant, it definitely overcomes the effects
11:16 22 of the D-Air.

11:16 23 Q. Have you ever been trained or seen any documents giving
11:16 24 the relationship between D-Air 3000 and ZoneSealant in terms of
11:17 25 concentrations needed to overcome the effects of one or the

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11:17 1 other?

11:17 2 A. I've been involved with jobs in the past where we foamed
11:17 3 with D-Air and were successful.

11:17 4 Q. I understand that.

11:17 5 Has Halliburton ever, to your knowledge, provided you
11:17 6 with any documentation of what would be required on a regular
11:17 7 basis in terms of ZoneSealant to counteract the effects of
11:17 8 D-Air 3000 in a particular slurry?

11:17 9 A. I'm not aware of any documentation, but you always would
11:17 10 want to test that to verify.

11:17 11 Q. But you can't go to anything published by Halliburton
11:17 12 either from the Duncan, Oklahoma, lab or from Houston or
11:17 13 anyplace else that you could use a table and, if you have this
11:17 14 much D-Air 3000 and this type of job, make sure you use this
11:17 15 much ZoneSealant. There's no such document that you're aware
11:17 16 of.

11:17 17 A. I'm not aware of that, but that would be hard to do
11:18 18 because every grind of cement is different. You always want to
11:18 19 test each individual grind. It may be -- vary between
11:18 20 grinds -- from grinds.

11:18 21 Q. So it's got to be done on a case-by-case basis?

11:18 22 A. Yes.

11:18 23 Q. If you use a base slurry that does not have D-Air 3000 in
11:18 24 it, that risk is not present, obviously; correct?

11:18 25 A. Correct.

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11:18 1 Q. You just use your ZoneSealant, you conduct your test, you
11:18 2 get a stable foam at a certain density, and you move on.

11:18 3 A. Not necessarily. There could be other additives that
11:18 4 would affect it, but, I mean, you would test it.

11:18 5 Q. Now, you recommended the Kodiak 2 base slurry blend be
11:18 6 used at Macondo.

11:18 7 A. Yes.

11:18 8 Q. BP accepted that recommendation.

11:18 9 A. Yes.

11:18 10 Q. You had mentioned before that you had gotten some pushback
11:18 11 on certain issues. You got no pushback on that?

11:18 12 A. No.

11:19 13 MR. STERBCOW: Carl, pull up TRES-2035, if you would.

11:19 14 BY MR. STERBCOW:

11:19 15 Q. My understanding is that post-accident, you were asked to
11:19 16 produce information on your prior foam production jobs for
11:19 17 BP -- I think it says on the *Horizon, Marianas* since
11:19 18 January 2006; correct?

11:19 19 A. Yes.

11:19 20 Q. And you mentioned earlier today that those jobs were
11:19 21 called Isabella, King South, Na Kika, and then the last one
11:19 22 would be the one we're talking about now, Macondo; right?

11:19 23 A. Yes.

11:19 24 Q. Isabella was April 11, 2007; King South was April 22,
11:19 25 2008; Na Kika was July 2, 2009; and Macondo, April 19, 2010.

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11:19 1 So basically one a year from April 2007 to
11:19 2 April 2010.

11:19 3 A. Yes.

11:19 4 Q. Fair?

11:19 5 A. Yes.

11:19 6 Q. And you were accurate in responding to Mr. Cunningham's
11:19 7 request, and this is an accurate list; correct?

11:19 8 A. I believe so, yes.

11:19 9 Q. As far as you could tell.

11:19 10 A. Yes, that's the ones I've been involved with.

11:20 11 Q. Okay.

11:20 12 MR. STERBCOW: Carl, pull up TREC-20012.2.

11:20 13 BY MR. STERBCOW:

11:20 14 Q. Of these four jobs that we've talked about -- and you see
11:20 15 them listed at the top -- Macondo, Isabella, King South, and
11:20 16 Na Kika -- only one, according to this chart, Macondo, involved
11:20 17 the base slurry that contained D-Air 3000 here at 0.25 percent;
11:20 18 correct?

11:20 19 A. Yes.

11:20 20 Q. Stated differently, you didn't have the issue of dealing
11:20 21 with D-Air 3000 and any risks associated with its presence in a
11:20 22 foam cement in Isabella, King South, or Na Kika; correct?

11:20 23 A. Those didn't have D-Air in it.

11:20 24 Q. All right. In addition, SA-541, which is a viscosifier
11:20 25 that we've discussed in the case, was present in the Macondo

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11:20 1 base slurry .20 percent.

11:20 2 A. Yes.

11:21 3 Q. Again, no SA-541 in Isabella, King South, or Na Kika.

11:21 4 A. No.

11:21 5 Q. From that standpoint, the Macondo well was unique. The
11:21 6 blend that you were talking about using at Macondo was unique
11:21 7 and different from the other three.

11:21 8 A. From those three, yes.

11:21 9 Q. All right. And this represents the four that you had done
11:21 10 in four years.

11:21 11 A. Yes.

11:21 12 Q. So this well was a unique one for you because these
11:21 13 additives or these chemicals were in the Macondo base slurry
11:21 14 and they were not present in the others.

11:21 15 A. Well, this blend was a standard blend that I used for BP
11:21 16 in the last several jobs, so I had experience with it.

11:21 17 Q. I understand.

11:21 18 A. It had been used in the previous jobs.

11:21 19 Q. Understood.

11:21 20 But in terms of what we're identifying now as the
11:21 21 four jobs that were identified by you to Mr. Cunningham, of
11:21 22 those four, Macondo stands alone as being the one job where
11:21 23 you're dealing with a base slurry that has both a defoamer and
11:21 24 a viscosifier in it; the other three did not.

11:21 25 A. The other three did not.

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11:22 1 Q. All right. And in terms of the concentration of ZoneSeal,
11:22 2 you testified earlier that it was typical 0. -- I guess 07
11:22 3 would be the norm.

11:22 4 A. Yes.

11:22 5 Q. All right. You increased the concentration for Macondo to
11:22 6 0.11, as we talked about.

11:22 7 A. Yes.

11:22 8 Q. And I think that was done from the first test in February
11:22 9 all the way through to the end, if I remember. We'll look at
11:22 10 the weigh-up sheets in a minute to verify it, but --

11:22 11 A. I believe so.

11:22 12 Q. -- I think that's true.

11:22 13 A. Okay. I believe so.

11:22 14 Q. All right. So if that's true, then can we conclude that
11:22 15 at no time from the beginning of the production casing slurry
11:22 16 design effort through the testing effort was the concentration
11:22 17 of ZoneSealant ever changed from 0.11 to anything else?

11:22 18 A. I believe we can see a constant .11.

11:22 19 Q. You also used 0.11 at King South and 0.11 at Na Kika H2;
11:22 20 correct?

11:22 21 A. Yes.

11:22 22 Q. Those jobs had no D-Air 3000 that you were trying to
11:23 23 neutralize.

11:23 24 A. Right.

11:23 25 Q. You used 0.14 at Isabella, which is a higher concentration

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1 of ZoneSealant than used at Macondo or the other two.

2 A. Yes.

3 Q. That job had no D-Air 3000 that you were trying to
4 neutralize.

5 A. Correct.

6 Q. So can I conclude, then, that your thought process is that
7 from day one, you decided 0.11 would have been the appropriate
8 increase of ZoneSealant, and then you would conduct a series of
9 tests to see if your decision was correct?

10 A. The whole purpose of increasing the ZoneSealant in these
11 four jobs is because you were in an oil-based environment, so
12 it handles more contamination. It wasn't for the purpose of
13 D-Air.

14 From my past experience, I knew the amount of
15 ZoneSealant here was more than enough to compensate for D-Air,
16 from past jobs I've been involved with.

17 Q. So you're basing this on past experience with other jobs
18 you've been involved with?

19 A. Yes.

20 Q. Can you point to a document or an interview with anybody
21 where you sit down and you describe these other jobs that
22 you're thinking about right now?

23 A. There was a job at BP where we did a foam job with D-Air.
24 My counterpart, Joe Edwards, did it. He actually talked to me
25 about it, and they were able to successfully foam it with less

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11:24 1 than .11 gallons of ZoneSeal, if I remember correctly.

11:24 2 Q. And it had D-Air 3000 in the base?

11:24 3 A. Yes, it did.

11:24 4 Q. And it was a production casing cement job?

11:24 5 A. That was a surface conductor, I believe.

11:24 6 Q. So we're not talking about the depths that we're talking
11:24 7 about here.

11:24 8 A. No, but it still was in the temperature range of the
11:24 9 additives working.

11:24 10 Q. All right. And you just recall that it was within the
11:24 11 same temperature range.

11:24 12 A. No, no. What I'm saying is -- it's not in the same
11:24 13 temperature range, but the -- the temperature range of these
11:24 14 additives, the performance of them would work for the
11:24 15 temperature for conductor surface and for the production.
11:24 16 There's temperature ranges these additives work in, and these
11:24 17 would work in that temperature range.

11:24 18 Q. So whether or not it's a conductor casing, which is higher
11:24 19 up in the hole --

11:24 20 A. Yes.

11:24 21 Q. -- versus production casing, which is at the bottom --

11:24 22 A. Right.

11:24 23 Q. -- that doesn't make any difference.

11:25 24 A. I mean, no. I mean, the ranges of these additives --
11:25 25 there's temperature ranges. So it doesn't matter if it's

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11:25 1 shallow or deeper; as long as it's within that window of the
11:25 2 additive performing, it would work.

11:25 3 Q. All right. And you determined it would work in this case
11:25 4 based on not tinkering with the percentage of ZoneSealant and
11:25 5 going from .11 to .12, 14, 10, whatever the numbers would be;
11:25 6 you stayed constant and just ran a series of tests that would
11:25 7 tell you whether or not that number did the trick.

11:25 8 A. Correct. I ran the tests, and it became stable.

11:25 9 Q. And you concluded that, in fact, .11 was enough to
11:25 10 counteract the D-Air 3000 in the Macondo base cement.

11:25 11 A. Yes.

11:25 12 Q. That decision was based solely on test results.

11:25 13 A. Yes.

11:25 14 Q. Nobody but you and those conducting the tests reviewed
11:25 15 those test results from lab weigh-up sheets; correct?

11:25 16 A. I believe lab personnel reviewed the weigh-up sheets,
11:26 17 but --

11:26 18 Q. Right, the lab people doing the tests.

11:26 19 A. Yes, correct.

11:26 20 Q. Other than the lab people doing the tests and yourself,
11:26 21 nobody else reviewed the specific results of the tests that
11:26 22 were done that you're thinking about on the Macondo production
11:26 23 casing slurry.

11:26 24 A. I forwarded them to BP for review and approval.

11:26 25 Q. Through lab reports --

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11:26 1 A. Yes.

11:26 2 Q. -- not weigh-up sheets.

11:26 3 A. No. I didn't see the weigh-up sheets until after the
11:26 4 incident.

11:26 5 Q. All right. Would you agree with me that Halliburton's
11:26 6 position is the only good foam stability test run on the
11:26 7 Macondo production casing slurry was the one April 17 run on
11:26 8 the .08 gallon per sack retarder formula?

11:26 9 A. Are you referring to the 1.8 over 1.8?

11:27 10 Q. Right.

11:27 11 A. That was the valid test.

11:27 12 Q. That's the valid test.

11:27 13 A. Yes.

11:27 14 Q. So given what you've just told me, can we conclude that
11:27 15 that test is the anchor, the linchpin for your decision that --
11:27 16 the decision you had made as of February to put 0.11
11:27 17 ZoneSealant into the equation did the job of neutralizing
11:27 18 D-Air 3000 and gave you a stable foam cement?

11:27 19 A. That result indicated that was a stable system.

11:27 20 Q. And that's it. There was no other document, no other
11:27 21 test, no other report that we need to go to other than the
11:27 22 April 17 test to base your -- that you based your decision on
11:27 23 that this slurry design was stable from a foam stability
11:27 24 standpoint.

11:27 25 A. The test results showed that it was stable with these

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11:27 1 additives.

11:27 2 Q. All right. And -- but it did that --

11:28 3 MR. STERBCOW: And, Carl, let's pull up TRES-4566.

11:28 4 BY MR. STERBCOW:

11:28 5 Q. Correct me if I'm wrong. This is the April 17, 2010
11:28 6 weigh-up sheet that we've been going back and forth on.

11:28 7 A. Yes.

11:28 8 Q. Okay. And without belaboring this again, if you go down
11:28 9 the list of materials, your base is listed, Lafarge Class H;
11:28 10 EZ-FLO, .070; D-Air 3000, .25; potassium chloride, 1.880 --
11:28 11 what is that, pounds per sack, I guess?

11:28 12 A. Pounds per sack, yes.

11:28 13 Q. Are those things that are highlighted there -- the first
11:28 14 four, can we consider that what I would call the base slurry --
11:28 15 excuse me, the base cement?

11:28 16 A. That's part of the base blend, yes.

11:28 17 Q. All right. And then would the SSA-1, SSA-2 also have been
11:28 18 part of the base cement that was transferred to Macondo --
11:29 19 excuse me, to *Deepwater Horizon*?

11:29 20 A. Yes.

11:29 21 Q. What about .20 SA-541?

11:29 22 A. That was also part of the blend.

11:29 23 Q. That was part of the blend.

11:29 24 So everything that's highlighted now would have been
11:29 25 in the containers that were taken from the Kodiak well and

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11:29 1 shipped to the *Deepwater Horizon* to be used at Macondo.

11:29 2 A. It never left the rig, so they never shipped it. It
11:29 3 stayed on the rig as the rig moved from one well to the other.

11:29 4 Q. To the other.

11:29 5 A. Yes.

11:29 6 Q. Okay. But that's what moved with it, if you will?

11:29 7 A. Yes. It was on the rig, yes.

11:29 8 Q. So the three variables -- or the two variables, the
11:29 9 ZoneSealant and SCR-100L --

11:29 10 And rig water is rig water. I mean, you're just
11:29 11 going to get that from the rig; right?

11:29 12 A. Correct.

11:29 13 Q. So the two variables we've got are the ZoneSealant that
11:29 14 we've talked about, and it's shown here as it was back in
11:29 15 February, 0.110, and then the retarder, 0.080. That's what was
11:29 16 tested on April 17.

11:30 17 A. Yes.

11:30 18 Q. With rig water, obviously. And that means the water was
11:30 19 actually transported in from the *Deepwater Horizon* to make this
11:30 20 as accurate as possible.

11:30 21 A. That's correct.

11:30 22 Q. And what you're trying to do is you're trying to test the
11:30 23 rig blend that's going to actually be pumped in the hole
11:30 24 because it gives you the most accurate picture of how this
11:30 25 stuff is going to react on the job.

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11:30 1 A. That's correct. We send samples in from the rig to test
11:30 2 what actually is going to be going in the hole.

11:30 3 Q. And that's something you knew and you were trained from
11:30 4 the beginning, which is if you want to make sure that you're
11:30 5 pumping a stable slurry into a well, you have to test exactly
11:30 6 what you're pumping.

11:30 7 A. It's best to try to test what's on the rig.

11:30 8 Q. Now, my understanding is, in this particular case, the
11:30 9 difference between what was finally tested and what's being
11:30 10 relied on and what was pumped is 2 1/2 teaspoons of SCR-100L,
11:30 11 which makes no difference.

11:30 12 A. Correct.

11:30 13 Q. Okay. Setting that aside, if you don't test this on
11:31 14 April 17, from your standpoint, you don't know whether or not
11:31 15 what's being pumped in the hole is stable because you haven't
11:31 16 tested what's actually being pumped. Fair?

11:31 17 A. You have to test to make sure it's stable.

11:31 18 Q. So if we want to go back after this blowout, where we know
11:31 19 we didn't achieve zonal isolation, and we want to figure out
11:31 20 whether what was pumped was really stable or not, whether it
11:31 21 really worked, looking back now with hindsight, isn't it fair
11:31 22 to conclude that the best, most accurate way to do that is to
11:31 23 go right back to these materials that you used on April 17 and
11:31 24 test them again exactly the same way they were tested on
11:31 25 April 17?

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11:31 1 A. Not necessarily, because the samples are so old now; there
11:31 2 could be variations of properties, seeing that it's sitting
11:31 3 around for three years.

11:31 4 Q. What if we wanted to test them on April 21st? Would they
11:31 5 be too old then?

11:31 6 A. No.

11:32 7 Q. What if we wanted to test them on April 22nd?

11:32 8 A. No.

11:32 9 Q. What if we wanted to test them through the end of April?

11:32 10 A. I think that would still be good.

11:32 11 Q. So if Halliburton wanted to undertake any effort after
11:32 12 this accident to really find out whether what was pumped into
11:32 13 the Macondo production casing cement on April 19th was capable
11:32 14 of achieving zonal isolation, what they needed to do was right
11:32 15 after this accident, contact you, as the man who designed it
11:32 16 and oversaw the testing, and say, "Jesse, get the same stuff
11:32 17 and run the tests again"; correct?

11:32 18 A. I kind of disagree with your statement saying the design
11:32 19 that you -- I mean, there's a lot of -- number of factors that
11:32 20 you need to do to get zonal isolation. You need
11:32 21 centralization, you need bottoms-up, get the mud out of the
11:32 22 way. So all of those play a factor. It's not just design of
11:32 23 the cement.

11:32 24 Q. I'll rephrase the question.

11:32 25 If Halliburton wants to find out whether or not the

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1 cement slurry pumped into the production casing at Macondo had
2 a chance of success or had a probability of success, the best
3 way to do that, the most accurate way to do that, and the way
4 to get the best and most truthful answer would have been to go
5 right back to you and ask you to do exactly what you did on
6 April 17th, do it again. Fair?

7 A. Nobody asked me to do that.

8 Q. Bingo. Nobody asked you to do that, did they?

9 A. No.

10 Q. Mr. Faul didn't ask you to do it; Mr. Quirk didn't ask you
11 to do it; Mr. Badalamenti, Mr. Ravi. We could list all the
12 names. Nobody ever went to Jesse Gagliano, the single point of
13 contact, the man solely responsible for design and testing with
14 no oversight, and said to you, "Jesse, we have got to retest
15 this stuff immediately to see if it had a probability of
16 success."

17 **MR. GODWIN:** Objection, Your Honor, with regard to
18 him being solely responsible for testing. He was not in charge
19 of testing; he was in charge of design.

20 **THE COURT:** All right. Overrule the objection.

21 **BY MR. STERBCOW:**

22 Q. Correct? That's what you just told me: Nobody ever asked
23 you to do that.

24 A. No. My instructions were just to provide information to
25 BP for them to do their investigation, considering the level of

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11:34 1 the incident.

11:34 2 Q. And nobody contacted you and said, "Jesse, we decided to
11:34 3 run some tests in Duncan, Oklahoma." They never called you and
11:34 4 told you that.

11:34 5 A. I wasn't involved in any testing post-incident.

11:34 6 Q. Nobody called you and said, "We want you to call Rickey
11:34 7 Morgan and make sure he's running tests the way that they
11:34 8 should be run from a design standpoint." You never got that
11:34 9 phone call.

11:34 10 A. No.

11:34 11 Q. And despite the fact that you sat with these gentlemen
11:34 12 when Mr. Roth was putting together his PowerPoint presentation,
11:34 13 not a single one of them ever said to you, "We ran tests after
11:34 14 this accident; the tests showed instability; and we destroyed
11:34 15 the test results."

11:34 16 You didn't know anything about that, did you?

11:34 17 A. No.

11:34 18 Q. Do you find that odd?

11:34 19 A. No.

11:34 20 Q. No.

11:34 21 The tests we're looking at here -- let's go to the
11:35 22 next page, the April 17 critical test that forms your opinion
11:35 23 that this slurry was stable and ready to be pumped.

11:35 24 If we go to the top, if I understand, what you're
11:35 25 telling me is we're looking at "SG top," which is specific

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11:35 1 gravity; correct?

11:35 2 A. Yes, correct.

11:35 3 Q. And "SG bottom," and you want those numbers to be as close
11:35 4 together as possible.

11:35 5 A. Within a half pound per gallon.

11:35 6 Q. Within a half pound.

11:35 7 And you have to convert this from specific gravity to
11:35 8 pounds --

11:35 9 A. Yes --

11:35 10 Q. -- to get to that.

11:35 11 A. -- that's correct.

11:35 12 Q. My understanding, though, is 1.8 and 1.799 roughly
11:35 13 represents 15 pounds per gallon.

11:35 14 A. Approximately, yes.

11:35 15 Q. All right. And it was conditioned for three hours,
11:35 16 though; correct?

11:35 17 A. Yes.

11:35 18 Q. I just accidentally used Mr. Godwin's arrow.

11:35 19 MR. GODWIN: The judge told me to take it down.

11:35 20 THE COURT: I think he's trying to answer your
11:35 21 question.

11:35 22 MR. GODWIN: He took it down, Judge.

11:36 23 BY MR. STERBCOW:

11:36 24 Q. Now, if I understand you correctly -- and I think
11:36 25 Mr. Quirk may have said this, too -- the three hours'

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11:36 1 conditioning time, the purpose of that is to replicate downhole
11:36 2 conditions?

11:36 3 A. Yes. You try to mimic what's going to happen on location.

11:36 4 Q. If that's true, why would you not run every single test
11:36 5 with a three-hour conditioning time? This is the only one you
11:36 6 did that on; correct?

11:36 7 A. No, we also did it on the UCA, ultrasonic cement analyzer.

11:36 8 Q. But you didn't do it from February 12 up to April 17th.
11:36 9 That was never done?

11:36 10 A. My request the whole time was three hours. I'm not sure
11:36 11 where the other condition times came from.

11:36 12 Q. Were there tests run with no condition times?

11:36 13 A. I believe so.

11:36 14 Q. And there was a test run with a 1.5-hour condition time?

11:36 15 A. Yes.

11:36 16 Q. And now there's a final test run with a three-hour
11:36 17 condition time. But I think you testified earlier that with
11:36 18 the .09 concentration of retarder, the actual pump time was
11:37 19 almost eight hours?

11:37 20 A. With .09?

11:37 21 Q. Right.

11:37 22 A. I believe it was like 7 1/2, yes.

11:37 23 Q. So why wouldn't you run this with an eight-hour condition
11:37 24 time?

11:37 25 A. The conditioning time mimics the job placement time, so

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11:37 1 basically from the time you start pumping at surface until you
11:37 2 get the cement in place.

11:37 3 When I submitted this request, based on my
11:37 4 calculations, it would take three hours to get it in place. So
11:37 5 conditioning it before the test mimics it moving downhole for
11:37 6 that three-hour period.

11:37 7 Q. Okay.

11:37 8 A. So you wouldn't do it for eight hours; you would do it for
11:37 9 the actual job placement time. There's always safety factors
11:37 10 built into the thickening time of the cement.

11:37 11 Q. All right. Was your assumption, then, based on your --
11:37 12 let me back up and ask this. Those calculations that you
11:37 13 talked about, coming up with the three hours, is there a
11:37 14 document where we can look at those calculations?

11:37 15 A. OptiCem would show the rates that we planned on at that
11:37 16 point with how fast we planned on pumping that amount of
11:37 17 volume, and then you do the calculation from there.

11:37 18 Q. You do the calculation, then you can go to the OptiCem
11:37 19 report that correlates to this test and you can get the
11:37 20 calculations from that?

11:38 21 A. Yeah.

11:38 22 On April 12th, my calculations show it to be about
11:38 23 three hours. I think the job actually wound up taking four
11:38 24 hours when we got closer. But at this point when I submitted
11:38 25 the test, it was a three-hour job placement time.

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11:38 1 Q. And I was just going to ask you that. The job itself from
11:38 2 pump start to pump finish was a little over four hours; is that
11:38 3 right?

11:38 4 A. I think it was right at four hours.

11:38 5 Q. Right at four hours?

11:38 6 A. Yeah.

11:38 7 Q. If we wanted to forensically recreate exactly what was
11:38 8 going to happen at Macondo on the night of April 19th, we'd
11:38 9 want to do two things. Correct me if I'm wrong. (A) You want
11:38 10 to use the exact blend that's going to go into the hole, which
11:38 11 we talked about, because it's most accurate; and we want to use
11:38 12 a four-hour conditioning time because that's how long it took?

11:38 13 A. Assuming that the cement doesn't start to get thick on
11:38 14 you -- there's a point to where when you do conditioning time
11:38 15 before the job, it actually starts to get too thick. So you
11:38 16 can't just condition it for an endless amount of conditioning
11:39 17 time. You have to be within a reasonable amount of window. So
11:39 18 four hours, it might start to get thick, but you have to run
11:39 19 the test to see what happens.

11:39 20 Q. All right. And that wasn't done?

11:39 21 A. No.

11:39 22 Q. And we don't know whether two-hour conditioning time would
11:39 23 have resulted in the same SG top and bottom as three hours,
11:39 24 because that wasn't done?

11:39 25 A. I don't think conditioning time has an effect on this foam

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11:39 1 stability. It just mimics what's happening on the job.

11:39 2 Q. So is it your testimony that if we took the conditioning
11:39 3 time out altogether and made it zero, you'd still get 1.8 and
11:39 4 1.799 on this slurry?

11:39 5 A. I would think you would get a stable result, yes.

11:39 6 Q. And this specific slurry had been tested prior to
11:39 7 April 17th, and those tests had shown instability; correct?

11:39 8 A. I'm sorry?

11:39 9 Q. Let me pull it up.

11:39 10 MR. STERBCOW: First, let's go to TREN-808.

11:40 11 BY MR. STERBCOW:

11:40 12 Q. This is the 2/12 weigh-up sheet. Now, you mentioned
11:40 13 before this is a pilot test; right?

11:40 14 A. Yes.

11:40 15 Q. And you're just checking to see whether or not the base
11:40 16 blend, because it had been out there for a while, was still
11:40 17 stable?

11:40 18 A. I was making sure there was no contamination --

11:40 19 Q. No contamination.

11:40 20 A. -- or moisture damage because it had been out there so
11:40 21 long.

11:40 22 Q. And you determined it was okay?

11:40 23 A. Yes.

11:40 24 Q. Go to page 2 of this.

11:40 25 For whatever reason, somebody actually did a foam

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11:40 1 mixed and stability test at 180 degrees on 2/13, correct, at
11:40 2 the top?

11:40 3 A. Yes.

11:40 4 Q. And shows instability. We don't have to go into -- it's
11:40 5 2.02, top; 2.11, bottom. That's clearly unstable.

11:40 6 A. That's an invalid test. So you can't determine if it's
11:40 7 stable or not.

11:40 8 Q. Why is that invalid?

11:40 9 A. Because the density of the top and bottom are both higher
11:40 10 than the base density of the cement without any nitrogen in it,
11:40 11 that leads me to believe that this was mixed improperly to
11:40 12 begin with, so you can't determine if this test is a valid test
11:40 13 or not.

11:41 14 Q. So you looked at this result and you determined that the
11:41 15 lab has made a mistake?

11:41 16 A. It was weighed up incorrectly, yes.

11:41 17 Q. It was weighed up incorrectly?

11:41 18 A. Yes.

11:41 19 Q. So you just disregarded the test?

11:41 20 A. I didn't see this test until after the incident, and the
11:41 21 QA/QC procedures in the lab caught it, and they redid the test
11:41 22 without notifying me because they realized it was a mistake.

11:41 23 Q. Where is the redo?

11:41 24 A. I don't think it's shown on this one.

11:41 25 Q. Would it be on the 2/16 weigh-up sheet?

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11:41 1 A. I'd have to see it to see.

11:41 2 MR. STERBCOW: Carl, go to TREX-809.

11:41 3 BY MR. STERBCOW:

11:41 4 Q. Here's the February 16 weigh-up sheet. Again, same base;
11:41 5 that will never change. If we go to the top of page 2 on that
11:41 6 one, again, it says 2.02, 2.11, zero conditioning time, but
11:41 7 it's also written down under Crush Compressive Strength "Hard
11:41 8 on bottom, soft on top."

11:41 9 That's unstable, is it not?

11:41 10 A. I disagree with that.

11:41 11 Q. You think that "hard on bottom, soft on top" is
11:41 12 acceptable?

11:41 13 A. The bottom is closer to the heat source, so it's going to
11:42 14 set up quicker. Indications of instability are settling,
11:42 15 volume change, fluid loss; and none of that's indicated here.

11:42 16 But it does show at 96 hours, you got a compressive
11:42 17 strength of 1145 psi, which indicates it did get hard from top
11:42 18 to bottom.

11:42 19 Q. So in your opinion, the February 16, 2010 weigh-up sheet
11:42 20 indicates a stable slurry?

11:42 21 A. Yes.

11:42 22 MR. STERBCOW: Go to TREX-984.

11:42 23 BY MR. STERBCOW:

11:42 24 Q. Now, we're April 13th. We're a few days before the
11:42 25 ultimate test that we've been talking about, the same blend.

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11:42 1 We don't have an issue with that; right? There was no change
11:42 2 in what you were testing. The same stuff?

11:42 3 A. I believe so, yes.

11:42 4 Q. Right. And if we go to the top of that page -- excuse
11:42 5 me -- page 2. 1.88 on top, which has been translated to
11:42 6 15.7 pounds per gallon; 1.82 on bottom, which translates to
11:43 7 15.1, that is wider than our .5 acceptable deviation; correct?

11:43 8 A. Yes. This is an invalid test.

11:43 9 Q. That's another invalid test. Why is that invalid?

11:43 10 A. The lab actually called me on this one, and they told me
11:43 11 that the test came back looking funny. Of course, the weight
11:43 12 here on top is heavier than the bottom. If you had settling,
11:43 13 you would have a heavier weight on the bottom than at the top.
11:43 14 The particles wouldn't float up; they would settle down.

11:43 15 So we discussed it with Richard Dubois, and we didn't
11:43 16 understand why. I learned after the incident the lab went back
11:43 17 and recalculated, and this was mixed improperly. So you can't
11:43 18 tell whether this is a stable system or not because it's an
11:43 19 invalid test.

11:43 20 Q. So what we've got as of April 13 is a February 12 test
11:43 21 that the lab did wrong. We talked about that. The first one
11:43 22 that showed instability, they didn't do it properly?

11:43 23 A. It was an invalid test.

11:43 24 Q. All right. We'll call it an invalid test. And we've got
11:44 25 an April 13 test that's an invalid test due to mistakes in the

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11:44 1 lab.

11:44 2 A. It was weighed up improperly, so it's an invalid test.

11:44 3 Q. You've got a got a February 16, 2010 test that despite the
11:44 4 fact that it says "hard on bottom, soft on top," it is your
11:44 5 opinion, as the technical adviser for Halliburton, that that
11:44 6 shows a stable foam?

11:44 7 A. After 96 hours, the whole system got hard and it showed no
11:44 8 indications of instability.

11:44 9 Q. All right. Then we go to April 17, and that's the one we
11:44 10 just talked about?

11:44 11 A. Yes.

11:44 12 Q. We've got four tests that we've just looked at, two are
11:44 13 invalid. Both of the invalid tests show an unstable foam, two
11:44 14 valid. Both of the valid tests, according to you, show a
11:44 15 stable foam.

11:44 16 A. You can't determine in two invalid tests if they're stable
11:44 17 or not unless you go back and redo the tests. You can't
11:44 18 determine if it's unstable or not when it's an invalid test.

11:44 19 Q. And at least we don't have in front of us any
11:44 20 documentation on the redo on either one of those tests where
11:44 21 mistakes were made in the lab?

11:44 22 A. I'm not sure I followed your question.

11:45 23 Q. In other words, I don't see a document that's dated
11:45 24 February 13 where they went back and they redid the
11:45 25 February 12 test.

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11:45 1 A. They did redo the February 12 test. They did it twice.

11:45 2 Q. That's the one you're talking about that shows stability,
11:45 3 in your opinion?

11:45 4 A. It shows the ability to be stable. It shows the same
11:45 5 weight top and bottom and no nitrogen breakout.

11:45 6 Q. And the 4/13 test, would be -- would the redo on that be
11:45 7 the 4/17 weigh-up sheet that we talked about?

11:45 8 A. Yes.

11:45 9 Q. The redo on April 17th includes a three-hour conditioning
11:45 10 time that was not present on the invalid test of April 13;
11:45 11 correct?

11:45 12 A. That's what I had requested, three-hour conditioning.

11:45 13 Q. But you didn't request it for the test on April 13?

11:45 14 A. I did request it.

11:45 15 Q. They just didn't do it?

11:45 16 A. Yeah. I'm not sure what happened, but it was in the
11:45 17 request.

11:46 18 **MR. STERBCOW:** Let's go to TRES-7491.

11:46 19 **BY MR. STERBCOW:**

11:46 20 Q. Have you seen this chart before? Do you recall seeing
11:46 21 this?

11:46 22 A. I think I have.

11:46 23 Q. What this chart shows, based on evidence in the case and
11:46 24 what we call discovery responses from Halliburton, a series
11:46 25 of -- one, two, three, four, five -- six jobs using foam cement

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11:46 1 with D-Air 3000 in the Gulf of Mexico, 2005 to 2010, and that
11:46 2 comports with your testimony that D-Air was, in fact, used in
11:46 3 the past with foam cement; correct? This wasn't the first
11:46 4 time?

11:46 5 A. That's correct.

11:46 6 Q. All right. And of the six, according to the information
11:46 7 we have, the two in red did not achieve zonal isolation. Do
11:47 8 you have any reason to disagree with that?

11:47 9 A. Without looking at the data, I couldn't say one way other
11:47 10 the other.

11:47 11 Q. And of the six, only one, the Macondo, is on production
11:47 12 casing. The others are either surface or a conductor or a
11:47 13 drilling liner; correct?

11:47 14 A. That's what it states. I believe this information's
11:47 15 inaccurate, though.

11:47 16 Q. Why is that?

11:47 17 A. The Tiber well, the first one, I actually did that well,
11:47 18 and we never did a foam job on a drilling liner.

11:47 19 Q. So we can take that one out altogether?

11:47 20 A. Yeah, that's not accurate.

11:47 21 Q. So if we now have five jobs, of the five, two -- wow, that
11:47 22 was nifty.

11:47 23 Of the five, two jobs of five resulted in a failure
11:47 24 to achieve zonal isolation, according to this chart; correct?

11:47 25 A. This chart's accurate, yes. I guess.

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11:48 1 Q. That's not an acceptable failure rate, is it?

11:48 2 A. There could be a number of reasons why zonal isolation
11:48 3 couldn't be achieved. It could be lack of centralization, lack
11:48 4 of circulating bottoms-up. You can't just -- it's not just
11:48 5 from cement design.

11:48 6 Q. The bottom line, though, Mr. Gagliano, isn't it true, that
11:48 7 when designing this Macondo production casing cement job, the
11:48 8 base slurry should not have contained D-Air 3000?

11:48 9 A. I see no issue with foaming a system with D-Air 3000 in
11:48 10 it.

11:48 11 MR. STERBCOW: Carl, pull up Demonstrative 3276.

11:48 12 BY MR. STERBCOW:

11:48 13 Q. I know you've already testified about your opinion on
11:48 14 these, but let's be clear for the record.

11:48 15 Halliburton's foam cementing operations manual
11:48 16 specifically says: "D-Air incompatible with foam cement."
11:49 17 Halliburton's *Cement Technology Manual* says: "Interaction with
11:49 18 other additives: Avoid using dispersants or defoamers."

11:49 19 And Halliburton's *Global Laboratory Best Practices*
11:49 20 says, "The defoamer is for base slurry testing purposes only,
11:49 21 and should NOT be included in the foam slurry tests outlined in
11:49 22 this section or in actual job designs."

11:49 23 Now, based on what you just said, you disagree with
11:49 24 all three of these Halliburton publications?

11:49 25 A. We have learned, since these publications were made, that

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11:49 1 we can do it successfully.

11:49 2 Q. And nobody has gone back, to your knowledge, and amended,
11:49 3 supplemented, rewritten, done anything to these three guiding
11:49 4 operations manuals at Halliburton to correct what you say is
11:49 5 misinformation?

11:49 6 A. I'm not aware of them making changes.

11:49 7 Q. So regardless of whether they're old, new, or in between,
11:49 8 as of the time of the Macondo production casing cement job,
11:49 9 these three manuals governed your work; correct?

11:50 10 A. They were guidances. You can veer from them as long as
11:50 11 you test.

11:50 12 Q. Where does it say in the foam operations manual, the
11:50 13 *Cementing Technology Manual*, and the *Global Laboratory Best*
11:50 14 *Practices Manual* that you can deviate from these as long as you
11:50 15 test and you satisfy that everything is okay?

11:50 16 A. I'm not sure if it states that or not.

11:50 17 Q. In fact, it doesn't state that, does it?

11:50 18 A. I'm not sure.

11:50 19 Q. That became a practice at Halliburton simply because it
11:50 20 was done and it turned out to be okay because you never had a
11:50 21 major problem?

11:50 22 A. We tested it and verified it was stable.

11:50 23 Q. But there's nothing in Halliburton's practices,
11:50 24 procedures, rules that allow you to do what you just described,
11:50 25 which is deviate from what they tell you to do -- test it, and

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11:50 1 if it's okay, you can go forward?

11:50 2 A. Just my experience of having successfully done it and
11:50 3 being involved with jobs that have successfully done it.

11:51 4 Q. And nobody above you, from Dubois to Faul to anybody else,
11:51 5 either knew you were deviating and testing and deeming it okay
11:51 6 or came to you to try to find out whether you were deviating
11:51 7 and testing and making sure it was okay. They had no knowledge
11:51 8 of that at all?

11:51 9 A. I don't remember them asking me to be involved with the
11:51 10 design.

11:51 11 Q. And there was no process at Halliburton for management to
11:51 12 know what you were doing?

11:51 13 A. I wasn't required to report to them on that.

11:51 14 MR. STERBCOW: Go to D-3277, if you would, Carl.

11:51 15 BY MR. STERBCOW:

11:51 16 Q. In addition to the manuals, this is a demonstrative that
11:51 17 shows what some folks have said about use of defoaming agents
11:51 18 in foam. And the first gentleman is an expert that already
11:51 19 testified. We won't go through his.

11:51 20 But more importantly, would you agree with me that
11:51 21 Mr. Ben Richard and Ms. Phyllis Stelly are two people who are
11:51 22 actually employed in Broussard doing the tests that you asked
11:52 23 for?

11:52 24 A. They're our lab personnel in the Broussard lab.

11:52 25 Q. They are the people you interact with?

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11:52 1 A. They're the ones that perform the tests I request.

11:52 2 Q. All right. They run the tests, they fill out the lab
11:52 3 sheet, the weigh-up sheets by hand, and they send the results
11:52 4 back to you?

11:52 5 A. Yes, they post the results on Viking, which I'm able to
11:52 6 pull.

11:52 7 Q. And when you say, "That test looks like it was done wrong"
11:52 8 or "You made a mistake" or "I want it redone" or "I want
11:52 9 conditioning time versus no conditioning time," these are the
11:52 10 people who follow your instructions?

11:52 11 A. Yes. They're supposed to follow what I -- the requests I
11:52 12 make.

11:52 13 Q. All right. And are you aware of the fact that both of
11:52 14 them have testified under oath in deposition, which has been
11:52 15 submitted into the record in this case, that you should not use
11:52 16 a defoamer in foam slurries?

11:52 17 A. I wasn't aware of that.

11:52 18 Q. You never had that discussion with them?

11:52 19 A. No.

11:52 20 Q. Would you agree with me that these people, because of
11:52 21 their hands-on daily experience with testing foam cement, would
11:52 22 be in a very good position to have an opinion and an educated,
11:53 23 experienced opinion on whether D-Air 3000 should be in a foam
11:53 24 cement?

11:53 25 A. My experience is, if I ever submitted something that they

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11:53 1 felt wouldn't work, they would call and talk to me about. I
11:53 2 never received a phone call in this case. They just tested it.

11:53 3 Q. We've gone through the base components, and we know about
11:53 4 Lafarge, EZ-FLO, KCL, D-Air 3000.

11:53 5 MR. STERBCOW: Let's pull up TREX-7489.1.1.

11:53 6 BY MR. STERBCOW:

11:53 7 Q. This is an e-mail sent by you to Hafle, Morel, Trent
11:53 8 Fleece, and a guy by the name of George Gray.

11:53 9 Who's George Gray?

11:53 10 A. I believe he was assigned to the *Marianas*.

11:53 11 Q. And the subject is "Bulk cement and chemicals on the
11:53 12 *Marianas*."

11:53 13 A. Yes.

11:53 14 Q. And you're talking about using sacks of cement on the
11:53 15 *Marianas* on another job in this e-mail. Do you recall this?

11:53 16 A. Yes.

11:53 17 Q. And at the bottom, what's highlighted, it says -- you
11:54 18 identify the cement -- base cement that's on the *Marianas*. And
11:54 19 it's premium cement, which is Lafarge Class H; .07 percent
11:54 20 EZ-FLO, which is what we're dealing with; .25 percent
11:54 21 D-Air 3000, which is what we're dealing with; and 1.88 pounds
11:54 22 per sack of potassium chloride, which is what we're dealing
11:54 23 with.

11:54 24 In fact, you designed this base cement at some point,
11:54 25 didn't you?

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11:54 1 A. Yes.

11:54 2 Q. We are essentially dealing with the same base cement in
11:54 3 this e-mail as we're dealing with at the Macondo job?

11:54 4 A. It's a little bit different. It had some additional
11:54 5 additives in it from Macondo production.

11:54 6 Q. Setting aside the additional additives from Macondo
11:54 7 production, which we've talked about already, your next
11:54 8 sentence is: "This cement can be used for any jobs lower than
11:54 9 220 degrees static."

11:54 10 I guess that's static temperature?

11:54 11 A. Yes.

11:54 12 Q. "This cement cannot be used when foaming because of the
11:54 13 D-Air in the blend."

11:54 14 Now, unless I've missed something, that statement
11:55 15 that you made to Morel and Hafle and the others on December 7,
11:55 16 2009, is wholly inconsistent and irreconcilable with everything
11:55 17 you've just told me about using D-Air 3000 in a foam cement.

11:55 18 A. For this situation, they didn't want to use it because it
11:55 19 had D-Air in it. It was a different situation at Macondo.

11:55 20 Q. But it doesn't say they didn't want to use it. It says,
11:55 21 "This cement cannot be used" -- this is an e-mail from you to
11:55 22 them?

11:55 23 A. Yes.

11:55 24 Q. You don't qualify it and say, "This cement can be used in
11:55 25 certain situations, but we can't use it here." You make a

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11:55 1 blanket statement, consistent with all of the Halliburton
11:55 2 publications -- with the two lab workers' opinions, with Tommy
11:55 3 Roth's opinion, with Mr. Quirk's opinion -- that you cannot use
11:55 4 foam cement -- a base cement that has D-Air 3000 in a foam
11:56 5 cement. You don't qualify your statement. You don't relate it
11:56 6 to anything.

11:56 7 What you do is you say exactly what all those other
11:56 8 publications and all those other people say; correct?

11:56 9 A. If you read the rest of the e-mail, though, I'm trying to
11:56 10 help out BP by getting rid of cement on the *Marianas* and sell
11:56 11 it to another customer. The *Marianas* had been damaged in the
11:56 12 hurricane and is going to ENI next. So I was trying to help BP
11:56 13 out by selling the cement to ENI, which they were doing a foam
11:56 14 job, where the amount of cement here was nowhere near enough
11:56 15 for them to do their foam job and conduct their surface casing
11:56 16 jobs.

11:56 17 I talked to Jason Bradley, who was an account rep at
11:56 18 ENI, and he didn't want to take it because it had D-Air in it.
11:56 19 Not because of the fact that he couldn't foam it, but because
11:56 20 of the fact that he would have to load additional cement out on
11:56 21 top of that, which would make his job more difficult. He would
11:56 22 have two different blends of cement; he would have to do twice
11:56 23 the testing. So in this particular case, he didn't want to
11:56 24 take it because it had D-Air in it.

11:56 25 Q. That's what this e-mail says?

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11:56 1 A. That's the story behind the e-mail.

11:57 2 Q. That's the story behind the e-mail?

11:57 3 A. Yes.

11:57 4 Q. Okay.

11:57 5 A. I had spoke to Jason Bradley and that was my discussion
11:57 6 with Jason. I was just communicating to BP that they didn't
11:57 7 want to take the cement, to take it off their hands.

11:57 8 Q. We can't go any place other than this e-mail to get that
11:57 9 story, can we?

11:57 10 A. I was the one that had the conversation with Jason
11:57 11 Bradley, and I was the one who wrote this.

11:57 12 Q. Again, it's a conversation with Jason Bradley that was not
11:57 13 documented or recorded. We have no evidence of that
11:57 14 conversation?

11:57 15 A. It might be in phone records, I don't know.

11:57 16 Q. Nor does this e-mail say anything about what you just told
11:57 17 me about BP's concerns, having to get extra cement. None of
11:57 18 that's referenced in this e-mail?

11:57 19 A. BP --

11:57 20 Q. Nothing about what you just told me is referenced in this
11:57 21 e-mail?

11:57 22 A. I'm explaining to them about the cement on the *Marianas*
11:57 23 that's going to ENI. I'm trying to sell it to them so BP can
11:57 24 get credit for their cement instead of them having to dispose
11:58 25 of it.

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11:58 1 Q. Okay. And in doing so, you specifically tell them, if you
11:58 2 want to do this, that's fine, but the cement cannot be used
11:58 3 when foaming because of the D-Air. It's a plain, simple
11:58 4 English statement that is not qualified?

11:58 5 A. The reason Jason wouldn't want to take it, because it had
11:58 6 D-Air in it and it made his job more difficult. Not because
11:58 7 you couldn't foam it; because he would have to do twice the
11:58 8 amount of work and make his job more difficult for ENI.

11:58 9 Q. But you'll agree with me that that last statement is
11:58 10 absolutely consistent with Halliburton's -- written Halliburton
11:58 11 policy on this issue?

11:58 12 A. That states the same as the policy, but I didn't believe
11:58 13 that. I knew we couldn't test -- I knew we could do it
11:58 14 successfully. We had done jobs prior to this successfully..

11:58 15 Q. And you didn't believe it, but you never told anybody
11:58 16 within Halliburton, A, you didn't believe it; and, B, you were
11:58 17 regularly testing and using, to the extent you were, D-Air 3000
11:58 18 in foam cement in direct violation of every manual we just
11:58 19 looked at. You never told anybody at Halliburton that?

11:58 20 A. I had several conversations with Joe Edwards when he did
11:59 21 his foam jobs with D-Air at BP. So I talked to people at
11:59 22 Halliburton about it, and we had successfully done it.

11:59 23 Q. You talked to Faul?

11:59 24 A. I don't recall Faul, no.

11:59 25 Q. Roth?

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11:59 1 A. No.

11:59 2 Q. Quirk?

11:59 3 A. No.

11:59 4 Q. Vargo?

11:59 5 A. No.

11:59 6 Q. Bolado?

11:59 7 A. No.

11:59 8 Q. Lewis?

11:59 9 A. No. I talked to Joe Edwards, my counterpart in BP.

11:59 10 Q. And that's it?

11:59 11 A. Yes, and he'd successfully done jobs at BP with foam and

11:59 12 D-Air.

11:59 13 Q. Which, again, takes me back one more time to what I'd

11:59 14 started with is that, while you may have spoken to Mr. Edwards,

11:59 15 there was no process in place at Halliburton that required you

11:59 16 or anybody in your job position -- if you were going to deviate

11:59 17 from what clearly was mandated practice at Halliburton through

11:59 18 three separate manuals, there was nothing that required you to

11:59 19 run that up the flagpole to anyone to make sure that what you

11:59 20 were doing was acceptable?

11:59 21 A. I'm not sure of a process, but I had a number of resources

12:00 22 if I had concerns. I could definitely contact those resources.

12:00 23 Q. And nobody at BP told you, as far as I know -- and you

12:00 24 correct me if I'm wrong -- that they had to run this issue up

12:00 25 their management flagpole, whether or not you could use a

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12:00 1 defoamer that destabilizes foam in a foam cement?

12:00 2 A. I provided the information to my BP team, but I don't know

12:00 3 where they went with that.

12:00 4 Q. You don't know where it went from there?

12:00 5 A. I don't know where it went after that.

12:00 6 Q. And Hafle, Morel, Cocalles, Guide, none of those guys sat

12:00 7 down with you and said, Mr. Gagliano -- or I'm sure they called

12:00 8 you "Jesse" -- this is our risk management system and we need

12:00 9 to go through a series of steps to make sure it satisfies our

12:00 10 risk management system?

12:00 11 A. They didn't have that conversation with me.

12:00 12 Q. And nobody ever sat down with you with a document that

12:00 13 described what BP's risk management system was; correct?

12:00 14 A. I don't recall that, no.

12:00 15 Q. You never got a General Practices guide from them, often

12:00 16 referred to as a GP. You never saw anything like that?

12:01 17 A. I don't believe so.

12:01 18 Q. You never got anything called OMS, Operating Management

12:01 19 System?

12:01 20 A. No.

12:01 21 Q. Not a single discussion between you and anybody with BP

12:01 22 where BP told you, "We need to do a risk assessment on your

12:01 23 decision to use D-Air 3000 in a foam cement"?

12:01 24 A. They never communicated to me if they did that or not.

12:01 25 Q. Neither Halliburton nor BP, to your knowledge, required

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12:01 1 any risk assessment of this decision or any decision you made
12:01 2 above you, Mr. Hafle, Mr. Morel, Mr. Guide, and Mr. Cocalles?

12:01 3 A. You test it and that's what you do to determine if it's
12:01 4 going to be stable.

12:01 5 Q. And it was your ballgame with them and that was it. The
12:01 6 decisions you guys made together were the decisions you were
12:01 7 going with?

12:01 8 A. We had a stable system and we moved on with the job.

12:01 9 Q. And now we know -- and now you know -- that the VP of
12:02 10 global cementing has concluded that the slurry as designed and
12:02 11 pumped had a low probability of achieving zonal isolation, but
12:02 12 there was no process in place for any determination of that by
12:02 13 a management person before April 20th, 2010, was there?

12:02 14 A. Well, the way you word that statement, "low probability of
12:02 15 zonal isolation," lack of centralization and lack of bottoms-up
12:02 16 would definitely affect that. It's not just lack of cement
12:02 17 design.

12:02 18 Q. We'll let the record speak for itself.

12:02 19 Having said what we just said, would you agree with
12:02 20 me that maybe, had somebody sat down with you from Halliburton
12:02 21 management or BP management and gone through some of the issues
12:02 22 we just went through, you may not be of the opinion today that
12:02 23 you would do this exactly the same all over again?

12:02 24 A. I had no issues with the design I had.

12:03 25 Q. And despite what you've heard here, what you and I have

JESSE GAGLIANO - CROSS

1 talked about, what you now know, you still have absolutely no
 2 issue with the work you did at Macondo, the design you
 3 recommended, the testing that was done, and the slurry that was
 4 ultimately pumped in the production casing section; correct?

5 A. No, I have no issues with the design, no.

6 **MR. STERBCOW:** I have nothing further. Thank you,
 7 Your Honor.

8 Thank you, Mr. Gagliano.

9 **THE COURT:** All right. Let's take a lunch recess.
 10 It's 12:05, according to my watch, so we'll come back at 1:15.

11 **THE DEPUTY CLERK:** All rise.

12 **(LUNCHEON RECESS)**

13 * * * * *

14 (WHEREUPON, the morning session proceedings were
 15 concluded.)

16 *****

17 **CERTIFICATE**

18 I, Jodi Simcox, RMR, FCRR, Official Court Reporter
 19 for the United States District Court, Eastern District of
 20 Louisiana, do hereby certify that the foregoing is a true and
 21 correct transcript, to the best of my ability and
 22 understanding, from the record of the proceedings in the
 23 above-entitled and numbered matter.

24 *s/Jodi Simcox, RMR, FCRR*
 25 Jodi Simcox, RMR, FCRR
 Official Court Reporter

'09 [6] 6616/24 6679/9 6702/18 6711/11 6712/13 6716/2 '93 [1] 6642/8 '96 [1] 6642/5 'Finished [2] 6660/21 6661/1	6658/16 6658/18 6658/18 6660/7 6660/7 6676/4 6676/4 6676/24 6676/24 6730/9 6730/9 6737/12 6741/3 1.82 [2] 6667/17 6744/6 1.88 [3] 6667/16 6744/5 6752/21 1.880 [1] 6731/10 1.91 [6] 6650/13 6650/13 6650/21 6650/21 6665/19 6665/20 1/2 [3] 6606/19 6697/14 6733/10 10 [2] 6644/24 6729/5 10 barrels [1] 6633/20 10-CV-02771 [1] 6568/7 10-CV-4536 [1] 6568/9 10-MD-2179 [1] 6568/4 100 [3] 6592/4 6605/19 6675/24 100-plus [4] 6586/21 6591/24 6592/5 6592/12 1000 [2] 6572/17 6573/16 1001 [1] 6572/10 100L [12] 6631/3 6637/23 6638/6 6646/11 6647/10 6647/17 6663/5 6667/10 6668/25 6675/15 6732/9 6733/10 101 [1] 6569/16 10:50 a.m [2] 6673/10 6674/20 11 [4] 6679/2 6679/6 6716/2 6723/24 1100 [1] 6572/6 111 barrels [1] 6636/18 1110 [1] 6572/20 1124604 [1] 6642/18 1145 [1] 6743/17 11:51 p.m [1] 6671/6 12 [8] 6634/8 6641/11 6653/19 6699/6 6738/8 6741/12 6744/20 6746/1 1201 [2] 6572/3 6573/9 1221 [1] 6573/5 128952 [1] 6627/1 128958 [1] 6629/6 12:05 [1] 6760/10 12th [8] 6653/5 6653/9 6663/3 6680/13 6699/3 6699/10 6699/15 6739/22 12th, and [1] 6699/18 13 [6] 6742/1 6744/25 6745/24 6746/6 6746/10 6746/13 13 1/2 [2] 6581/16 6581/18 1308 [1] 6569/19 1331 [1] 6573/12 135 degrees [1] 6654/14 1395 [1] 6669/16 13th [4] 6667/3 6667/13 6668/9 6743/24 14 [1] 6729/5 14.5 [6] 6632/5 6632/7 6663/10 6667/10 6676/1 6676/13 14.5 ppg [1] 6675/15 14271 [1] 6570/22 15 [4] 6618/24 6680/19 6680/22 6737/13 15 seconds [1] 6657/10 15-minute [1] 6684/25 15.0 [2] 6676/12 6676/25 15.0 ppg [1] 6676/4 15.1 [1] 6744/7 15.7 pounds [1] 6744/6 15.9 [4] 6665/20 6665/20 6666/3 6666/3 150 barrels [1] 6636/19 150 degrees [1] 6634/18 15th [2] 6604/22 6669/1 15th is [2] 6680/21 6681/1 16 [5] 6661/3 6742/25 6743/4 6743/19 6745/3 16,000 barrels [1] 6618/24 16.8 ppg [1] 6663/11 1601 [1] 6569/3	1614 [2] 6660/23 6661/3 1665 [1] 6573/12 16th [9] 6662/25 6665/15 6668/18 6686/17 6686/22 6687/21 6688/5 6689/25 6693/10 16th or [1] 6697/22 17 [15] 6673/10 6675/14 6680/1 6680/3 6681/5 6730/7 6730/22 6731/5 6732/16 6733/14 6733/23 6733/25 6736/22 6745/9 6746/7 17.6 [1] 6663/11 1700 [1] 6573/9 17th [10] 6674/19 6693/10 6697/23 6699/16 6699/20 6699/22 6700/1 6735/6 6738/8 6741/7 17th showed [1] 6699/8 18 [9] 6627/9 6631/14 6631/23 6669/20 6671/23 6679/2 6681/13 6681/20 6682/8 18,360 [1] 6653/24 180 [1] 6742/1 1885 [1] 6571/12 18th [4] 6628/22 6671/6 6672/2 6693/10 19 [1] 6723/25 19,650 [1] 6645/17 1996 [1] 6642/4 1998 [1] 6582/5 1999 [1] 6640/2 19th [9] 6659/8 6660/21 6660/23 6661/3 6661/13 6670/6 6693/10 6719/5 6740/8 19th at [1] 6670/21 1:15 [1] 6760/10
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. . . has [1] 6673/24 . . . the [1] 6673/20 .07 [2] 6626/3 6752/19 .07 percent [1] 6752/19 .07-gallon [1] 6626/3 .070 [1] 6731/10 .08 [14] 6605/11 6605/15 6606/7 6606/8 6606/14 6631/6 6667/11 6667/15 6672/11 6675/14 6697/9 6697/11 6698/5 6730/8 .08 gallons [6] 6605/11 6606/14 6667/11 6667/15 6672/11 6675/14 .09 [17] 6605/16 6606/16 6631/3 6648/1 6668/25 6669/8 6672/12 6681/17 6696/19 6697/8 6697/9 6697/11 6698/5 6718/4 6718/8 6738/18 6738/20 .09 gallons [4] 6606/16 6631/3 6668/25 6681/17 .11 [6] 6626/4 6630/25 6726/18 6728/1 6729/5 6729/9 .11 gallons [1] 6630/25 .12 [1] 6729/5 .2 [1] 6648/4 .20 [5] 6648/5 6663/4 6665/19 6725/1 6731/21 .20 percent [1] 6725/1 .20-gallon [1] 6663/4 .25 [2] 6731/10 6752/20 .5 [1] 6744/7 .8 [2] 6605/13 6606/6 .9 [3] 6605/12 6605/13 6606/6 .9 gallons [1] 6605/12 .90 [1] 6631/5 .90 gallons [1] 6631/5	1001 [1] 6572/10 100L [12] 6631/3 6637/23 6638/6 6646/11 6647/10 6647/17 6663/5 6667/10 6668/25 6675/15 6732/9 6733/10 101 [1] 6569/16 10:50 a.m [2] 6673/10 6674/20 11 [4] 6679/2 6679/6 6716/2 6723/24 1100 [1] 6572/6 111 barrels [1] 6636/18 1110 [1] 6572/20 1124604 [1] 6642/18 1145 [1] 6743/17 11:51 p.m [1] 6671/6 12 [8] 6634/8 6641/11 6653/19 6699/6 6738/8 6741/12 6744/20 6746/1 1201 [2] 6572/3 6573/9 1221 [1] 6573/5 128952 [1] 6627/1 128958 [1] 6629/6 12:05 [1] 6760/10 12th [8] 6653/5 6653/9 6663/3 6680/13 6699/3 6699/10 6699/15 6739/22 12th, and [1] 6699/18 13 [6] 6742/1 6744/25 6745/24 6746/6 6746/10 6746/13 13 1/2 [2] 6581/16 6581/18 1308 [1] 6569/19 1331 [1] 6573/12 135 degrees [1] 6654/14 1395 [1] 6669/16 13th [4] 6667/3 6667/13 6668/9 6743/24 14 [1] 6729/5 14.5 [6] 6632/5 6632/7 6663/10 6667/10 6676/1 6676/13 14.5 ppg [1] 6675/15 14271 [1] 6570/22 15 [4] 6618/24 6680/19 6680/22 6737/13 15 seconds [1] 6657/10 15-minute [1] 6684/25 15.0 [2] 6676/12 6676/25 15.0 ppg [1] 6676/4 15.1 [1] 6744/7 15.7 pounds [1] 6744/6 15.9 [4] 6665/20 6665/20 6666/3 6666/3 150 barrels [1] 6636/19 150 degrees [1] 6634/18 15th [2] 6604/22 6669/1 15th is [2] 6680/21 6681/1 16 [5] 6661/3 6742/25 6743/4 6743/19 6745/3 16,000 barrels [1] 6618/24 16.8 ppg [1] 6663/11 1601 [1] 6569/3	2 1/2 [1] 6605/25 2 base [1] 6723/5 2.02 [4] 6663/11 6663/22 6742/5 6743/6 2.11 [4] 6663/11 6663/23 6742/5 6743/6 2/12 [1] 6741/12 2/13 [1] 6742/1 2/16 [1] 6742/25 20 [5] 6568/5 6568/14 6582/12 6582/13 6655/13 2000 [8] 6631/1 6637/10 6637/12 6639/12 6639/22 6640/13 6647/9 6721/2 20004 [2] 6570/22 6572/4 20012.2 [1] 6724/12 20044 [2] 6570/17 6571/6 2005 [1] 6747/1 2006 [1] 6723/18 2007 [2] 6723/24 6724/1 2008 [1] 6723/25 2009 [6] 6679/2 6679/6 6679/15 6712/7 6723/25 6753/16 2010 [37] 6568/5 6583/10 6595/6 6617/2 6617/3 6627/9 6631/14 6644/24 6653/5 6660/23 6661/13 6662/12 6667/3 6668/21 6673/10 6675/14 6679/2 6680/1 6680/3 6680/7 6680/13 6680/19 6681/5 6681/13 6689/25 6693/10 6694/14 6699/22 6700/1 6706/7 6723/25 6724/2 6731/5 6743/19 6745/3 6747/1 6759/13 2013 [2] 6568/7 6575/2 2035 [1] 6723/13 2058 hours [1] 6627/10 20th [7] 6583/10 6595/6 6632/22 6662/12 6688/7 6693/10 6759/13 21 [8] 6602/12 6602/13 6602/24 6603/1 6603/5 6604/21 6604/25 6629/20 21 centralizers [3] 6602/17 6603/10 6604/2
0		
0.08 [1] 6667/9 0.080 [1] 6732/15 0.11 [6] 6726/6 6726/17 6726/19 6726/19 6727/7 6730/16 0.110 [1] 6732/15 0.14 [1] 6726/25 0.25 percent [1] 6724/17 0008631 [1] 6649/20 0028710 [1] 6656/15 0045253 [1] 6641/3 0128960 [2] 6634/5 6634/8 02771 [1] 6568/7 07 [1] 6726/2 08 [1] 6605/22 09 [1] 6605/22 0982 [1] 6694/17 0982.5 [1] 6695/25 0982.6 [1] 6698/24 0982.7 [1] 6700/10		
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2	500 feet [2] 6612/1 6635/22 5000 [1] 6571/19 504 [1] 6573/20 5219 [3] 6639/15 6639/21 6641/3 5395 [1] 6570/10 541 [6] 6630/23 6639/7 6647/9 6724/24 6725/3 6731/21 546 [1] 6572/23 556 [1] 6568/20 589-7780 [1] 6573/20	8242 [3] 6662/17 6675/11 6675/11 8247 [1] 6678/9 8709 [1] 6656/2 8958 [1] 6637/16 8:58 [1] 6681/19 8th [2] 6579/4 6640/2
210 [1] 6654/7 210 degrees [1] 6634/15 2179 [1] 6568/4 21st [1] 6734/4 22 [1] 6723/24 220 degrees [1] 6753/9 2211 [1] 6572/20 2216 [1] 6570/6 22A [1] 6641/11 22nd [2] 6569/10 6734/7 23451 [1] 6569/10 2351 [1] 6671/10 24 [2] 6651/16 6670/10 25-barrel [1] 6623/18 2615 [1] 6569/6 26th [1] 6694/14 27th [1] 6575/12 287 [1] 6673/3	6 6 barrels [1] 6633/23 60 [1] 6592/16 600 [3] 6569/10 6569/13 6572/17 60068 [3] 6626/22 6627/1 6637/16 601 [1] 6569/6 60455 [1] 6644/18 60654 [1] 6571/24 618 [1] 6569/22 63201 [1] 6660/18 65112/3 [1] 6663/4 6:50 [4] 6669/20 6670/24 6671/23 6672/2	9 9 5/8 [1] 6680/5 9 7/8 [2] 6628/17 6680/5 9 gallons [10] 6669/7 6670/3 6670/12 6672/3 6672/10 6672/16 6672/18 6672/24 6673/20 6674/9 90071 [1] 6572/14 94 [2] 6605/18 6605/19 94-pound [2] 6605/25 6606/14 94005 [1] 6571/13 94102 [1] 6570/11 96 [2] 6743/16 6745/7 984 [1] 6743/22 9:00 at [1] 6629/17 9th [1] 6569/13
3	7 7 1/2 [2] 6696/23 6738/22 7 inch [1] 6628/17 7-5395 [1] 6570/10 7-inch [5] 6680/5 6702/22 6703/20 6716/24 6717/6 7/8 [6] 6702/22 6703/20 6716/6 6716/7 6716/24 6717/6 70 [1] 6592/16 701 [2] 6571/16 6571/19 70113 [1] 6568/24 70130 [6] 6569/7 6569/13 6570/7 6571/17 6572/24 6573/19 70139 [1] 6571/20 70163 [1] 6572/7 70360 [1] 6569/16 70458 [1] 6569/19 70501 [1] 6572/18 70502 [1] 6568/21 70801 [1] 6569/23 70804 [1] 6571/13 734 [1] 6631/8 73909 [1] 6660/25 73909.' [1] 6660/22 73909/1 [1] 6667/3 7469 [1] 6715/24 7489.1.1 [1] 6752/5 7491 [1] 6746/18 75270 [1] 6573/10 7611 [1] 6570/16 77002 [2] 6572/10 6573/17 77006 [1] 6570/4 77010 [2] 6573/5 6573/13 77098 [1] 6572/21 7722 [3] 6652/17 6656/4 6656/16 7780 [1] 6573/20 7:00 [1] 6670/21 7:00 p.m [1] 6670/8 7:30 [1] 6600/14 7:30 in [2] 6600/15 6601/8	A a.m [2] 6673/10 6674/20 abandonment [1] 6710/10 ability [6] 6644/1 6650/15 6650/18 6665/23 6746/4 6760/21 able [8] 6584/20 6588/22 6598/15 6605/21 6610/8 6706/25 6727/25 6751/5 about [163] 6578/9 6578/17 6579/2 6581/11 6581/18 6582/13 6582/23 6582/24 6584/24 6587/7 6590/17 6591/13 6593/1 6593/13 6594/3 6594/5 6594/6 6594/12 6595/22 6596/22 6598/13 6599/11 6599/24 6600/12 6602/7 6604/1 6604/10 6604/20 6604/20 6604/23 6605/8 6605/17 6605/18 6605/19 6605/25 6606/4 6606/13 6606/19 6606/23 6607/6 6607/7 6607/24 6609/23 6610/11 6610/21 6612/25 6615/2 6618/9 6619/21 6621/16 6630/14 6631/4 6632/3 6632/25 6633/11 6633/20 6633/22 6637/7 6637/8 6637/20 6637/22 6638/10 6641/7 6643/17 6644/1 6644/5 6646/9 6653/23 6655/13 6658/24 6660/2 6661/3 6661/21 6665/22 6666/2 6666/15 6666/18 6666/22 6667/18 6668/8 6669/20 6670/7 6670/10 6675/3 6676/8 6678/5 6682/10 6682/13 6683/18 6684/25 6686/22 6687/19 6687/21 6688/11 6688/16 6688/23 6689/7 6694/3 6694/4 6694/9 6695/16 6696/21 6699/15 6701/8 6701/9 6702/2 6702/17 6703/21 6705/24 6706/4 6706/22 6706/23 6707/12 6707/21 6707/22 6708/1 6708/5 6708/6 6708/12 6709/12 6710/25 6711/24 6713/15 6716/4 6717/6 6717/15 6719/8 6719/12 6719/19 6719/20 6723/22 6724/14 6725/6 6726/6 6727/22 6727/25 6728/6 6728/7 6729/22 6731/21 6732/14 6736/16 6739/13 6739/22 6740/11 6743/25 6744/21 6745/10 6746/2 6746/7 6748/13 6750/17 6752/1 6752/3 6752/14 6753/7 6753/17 6755/16 6755/17 6755/20 6755/22 6756/22 6760/1 above [8] 6594/12 6612/2 6635/23 6668/21 6690/5 6750/4 6759/2 6760/23
3,000 [1] 6623/16 30 [4] 6655/13 6673/24 6674/1 6674/3 30-plus [5] 6592/15 6593/7 6593/8 6593/12 6596/22 300 [1] 6571/23 3000 [49] 6623/13 6623/17 6624/4 6624/12 6624/15 6624/24 6624/25 6625/4 6625/16 6625/23 6626/6 6626/9 6630/18 6637/9 6639/12 6647/8 6700/17 6701/15 6701/22 6719/21 6719/24 6719/25 6720/3 6720/15 6720/22 6721/10 6721/18 6721/24 6722/8 6722/14 6722/23 6724/17 6724/21 6726/22 6727/3 6728/2 6729/10 6730/18 6731/10 6747/1 6748/8 6748/9 6751/23 6752/4 6752/21 6753/17 6754/4 6756/17 6758/23 3000's [1] 6721/19 3089 [1] 6572/17 3276 [1] 6748/11 3277 [1] 6750/14 34 [1] 6628/18 355 [1] 6572/14 35th [1] 6572/14 36028 [1] 6570/10 36130 [1] 6571/10 36604 [1] 6569/4 3668 [1] 6568/20 37 minutes [1] 6674/10 3700 [2] 6572/6 6572/10	8 8 gallons [10] 6670/3 6672/4 6672/6 6672/9 6672/19 6672/24 6673/25 6674/3 6675/24 6675/24 808 [1] 6741/10 809 [1] 6743/2 820 [1] 6568/23	
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4 barrels [1] 6636/20 4/13 [1] 6746/6 4/17 [1] 6746/7 40-plus [1] 6592/15 4000 [1] 6573/16 402 [1] 6569/10 406 [1] 6573/19 4310 [1] 6570/3 4348 [2] 6641/23 6642/18 435 [1] 6569/16 4357.5 [2] 6702/13 6710/22 450 [1] 6570/10 4500 [1] 6573/5 4536 [1] 6568/9 4566 [1] 6731/3 48-period [1] 6651/16	500 [3] 6568/20 6571/9 6573/19	

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6738/18 6739/9 6748/22 actually [73] 6578/11 6586/2 6586/5 6588/11 6588/21 6591/9 6592/8 6595/15 6596/21 6596/25 6603/15 6604/19 6605/4 6611/6 6611/11 6611/18 6613/4 6613/20 6615/15 6615/25 6616/15 6616/18 6618/6 6619/20 6622/7 6622/8 6622/9 6624/3 6629/14 6631/10 6633/1 6633/19 6633/20 6633/23 6637/11 6637/12 6637/12 6637/25 6638/7 6646/6 6647/15 6650/24 6651/18 6651/19 6651/19 6654/22 6654/23 6655/2 6658/1 6659/13 6659/22 6661/5 6662/10 6662/13 6664/9 6677/6 6677/23 6699/15 6699/19 6700/6 6705/2 6710/17 6727/24 6732/19 6732/23 6733/2 6733/16 6739/23 6740/15 6741/25 6744/10 6747/17 6750/22 add [6] 6621/12 6623/17 6626/7 6639/6 6681/2 6721/10 added [6] 6624/17 6638/8 6638/9 6674/15 6674/22 6709/17 adding [5] 6680/22 6680/24 6720/7 6720/8 6721/1 addition [4] 6590/1 6593/21 6724/24 6750/16 additional [11] 6605/3 6623/4 6623/5 6661/22 6680/10 6680/22 6680/24 6719/16 6753/4 6753/6 6754/20 additive [6] 6623/17 6630/20 6630/23 6639/7 6720/6 6729/2 additives [54] 6621/12 6621/13 6624/17 6624/20 6630/9 6630/11 6631/9</p>	<p>6631/14 6631/15 6631/19 6631/25 6633/24 6633/25 6637/7 6637/10 6637/17 6637/21 6638/8 6638/9 6638/10 6641/12 6643/11 6643/12 6643/18 6643/25 6646/20 6647/11 6654/22 6655/18 6655/19 6655/22 6683/16 6683/19 6696/4 6696/11 6696/16 6699/3 6700/5 6707/19 6708/13 6708/17 6708/21 6708/22 6709/16 6723/3 6725/13 6728/9 6728/14 6728/16 6728/24 6731/1 6748/18 6753/5 6753/6 address [1] 6604/17 adds [1] 6707/19 adjust [8] 6605/10 6615/25 6616/2 6618/6 6625/8 6625/15 6637/25 6638/1 admit [3] 6576/20 6577/7 6577/23 admitted [9] 6575/18 6576/3 6576/9 6576/16 6576/25 6577/9 6577/16 6577/25 6578/6 adult [1] 6609/18 advance [1] 6587/6 advantage [2] 6623/3 6686/7 advantages [2] 6584/15 6584/17 adviser [4] 6583/12 6598/22 6691/12 6745/5 advisers [4] 6590/10 6686/11 6687/15 6687/18 affect [4] 6611/18 6698/15 6723/4 6759/16 affects [1] 6704/22 after [43] 6578/21 6596/18 6597/6 6597/18 6610/9 6610/10 6610/12 6614/9 6617/8 6620/20 6631/22 6658/23 6658/24 6659/14 6659/22 6662/9 6662/12 6664/9 6664/11 6666/14 6671/22 6672/1 6677/6 6677/9 6677/10 6677/16 6677/23 6688/14 6688/21 6692/22 6698/22 6699/13 6712/6 6718/5 6730/3 6733/18 6734/11 6734/15 6736/13 6742/20 6744/16 6745/7 6758/5 afternoon [1] 6604/16 afterwards [1] 6718/8 again [25] 6596/24 6602/8 6612/10 6647/7 6653/2 6653/23 6654/21 6655/18 6665/15 6666/8 6674/11 6675/18 6687/17 6691/13 6701/25 6725/3 6731/8 6733/24 6734/17 6735/6 6743/4 6743/6 6755/12 6757/13 6759/23 against [2] 6697/19 6709/18 agent [1] 6639/9 agents [1] 6750/17 ago [1] 6581/18 agree [16] 6641/15 6696/7 6696/10 6698/17 6700/13 6701/22 6710/15 6713/18 6713/22 6713/25 6720/3 6730/5 6750/20 6751/20 6756/9 6759/19 agreed [4] 6601/17 6601/18 6619/12 6697/20 agreement [2] 6672/3 6716/18 agreements [1] 6684/6 ahead [10] 6596/9 6597/4 6604/14 6611/13 6628/8 6633/6 6633/20 6633/23 6675/4 6678/7 aided [1] 6573/24 air [91] 6615/15 6615/16 6623/13 6623/16 6623/17 6623/19 6623/23 6623/24 6623/25 6624/4 6624/12 6624/15 6624/24 6624/25 6625/4 6625/9 6625/16 6625/23 6626/6 6626/9</p>	<p>6626/13 6630/18 6637/9 6639/12 6641/11 6644/1 6644/6 6644/11 6644/13 6647/8 6700/17 6701/15 6701/22 6719/21 6719/24 6719/25 6720/3 6720/6 6720/7 6720/9 6720/9 6720/10 6720/11 6720/13 6720/13 6720/15 6720/22 6720/24 6721/10 6721/15 6721/18 6721/19 6721/20 6721/22 6721/24 6722/3 6722/8 6722/14 6722/23 6724/17 6724/21 6724/23 6726/22 6727/3 6727/13 6727/15 6727/23 6728/2 6729/10 6730/18 6731/10 6747/1 6747/2 6748/8 6748/9 6748/16 6751/23 6752/4 6752/21 6753/13 6753/17 6753/19 6754/4 6754/18 6754/24 6756/3 6756/6 6756/17 6756/21 6757/12 6758/23 al [2] 6568/8 6568/11 Alabama [5] 6569/4 6571/7 6571/8 6571/10 6577/3 ALEX [2] 6573/4 6577/18 all [172] 6575/4 6575/6 6576/1 6577/15 6578/8 6578/24 6579/14 6580/12 6580/15 6581/14 6581/24 6583/9 6584/19 6586/1 6587/10 6588/1 6588/9 6588/25 6590/22 6591/1 6592/24 6593/10 6593/17 6593/20 6593/21 6594/3 6595/7 6597/1 6598/18 6598/23 6599/2 6601/20 6605/5 6610/24 6611/4 6624/10 6624/15 6628/8 6628/24 6630/9 6631/9 6632/18 6632/24 6633/9 6633/24 6633/24 6634/3 6635/4 6635/6 6635/21 6636/1 6636/6 6636/16 6637/8 6637/20 6638/6 6638/10 6638/11 6638/13 6640/24 6642/22 6645/22 6647/1 6647/6 6647/8 6647/11 6651/5 6651/22 6653/16 6653/17 6654/6 6655/11 6655/20 6655/24 6657/1 6660/4 6661/15 6662/16 6662/20 6664/5 6667/8 6667/16 6669/14 6669/23 6671/11 6676/23 6679/25 6680/13 6681/22 6681/24 6682/17 6683/7 6683/7 6684/5 6684/5 6684/12 6684/25 6685/2 6685/5 6692/15 6694/7 6694/21 6695/10 6696/15 6698/14 6699/12 6699/17 6700/9 6701/5 6702/17 6703/5 6703/17 6703/17 6704/6 6705/9 6705/14 6705/17 6705/19 6706/5 6707/16 6709/1 6709/15 6712/7 6713/10 6713/15 6713/17 6713/25 6715/2 6715/4 6715/23 6716/16 6717/14 6717/18 6717/21 6718/1 6718/9 6718/20 6718/22 6718/23 6719/1 6719/4 6719/6 6724/24 6725/9 6726/1 6726/5 6726/9 6726/14 6728/10 6729/3 6730/5 6731/2 6731/17 6734/22 6735/11 6735/20 6737/15 6739/11 6740/20 6744/24 6745/9 6747/6 6748/24 6750/8 6751/2 6751/13 6754/1 6754/7 6754/8 6759/23 6760/9 6760/11 ALLAN [1] 6571/15 allow [4] 6578/16 6578/18 6698/12 6749/24 allowed [1] 6586/3 almost [5] 6592/21 6629/17 6672/18 6683/18 6738/19 alone [1] 6725/22 along [10] 6595/3 6595/23 6627/7 6641/8 6642/21 6648/17 6655/14 6673/12 6681/9 6713/12 alongside [1] 6684/11 already [4] 6700/16 6748/13 6750/18</p>
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<p>A</p> <p>already... [1] 6753/7</p> <p>also [38] 6576/4 6576/4 6577/12 6582/17 6585/9 6587/19 6588/2 6588/5 6588/13 6588/18 6589/6 6591/14 6595/23 6602/1 6611/12 6611/21 6618/5 6621/12 6624/22 6635/13 6637/23 6643/10 6650/5 6652/20 6656/21 6673/15 6681/7 6681/16 6687/3 6692/21 6713/15 6717/2 6718/16 6726/19 6731/17 6731/22 6738/7 6743/7</p> <p>although [3] 6579/7 6597/24 6598/3</p> <p>altogether [2] 6741/3 6747/19</p> <p>always [12] 6583/1 6584/12 6598/11 6601/17 6608/6 6633/17 6684/1 6718/24 6719/15 6722/9 6722/18 6739/9</p> <p>Ambrose [2] 6576/21 6577/21</p> <p>amended [1] 6749/2</p> <p>AMERICA [8] 6568/10 6570/9 6570/13 6570/19 6571/3 6571/19 6571/22 6572/3</p> <p>among [3] 6628/25 6662/20 6685/17</p> <p>amount [11] 6596/7 6596/9 6625/8 6625/24 6626/1 6727/14 6739/16 6740/16 6740/17 6754/14 6756/8</p> <p>ample [2] 6695/10 6695/19</p> <p>analyzer [4] 6651/14 6656/22 6673/22 6738/7</p> <p>anchor [1] 6730/15</p> <p>and/or [1] 6610/7</p> <p>ANDREW [1] 6571/22</p> <p>Angeles [1] 6572/14</p> <p>annulus [1] 6709/25</p> <p>another [15] 6579/2 6588/5 6588/18 6591/18 6605/7 6611/14 6621/21 6652/19 6655/13 6693/2 6712/8 6712/12 6744/9 6752/15 6754/11</p> <p>ANSI [1] 6699/5</p> <p>ANSI/API [1] 6699/5</p> <p>answer [4] 6607/10 6698/18 6735/4 6737/20</p> <p>answered [1] 6607/9</p> <p>answers [1] 6700/7</p> <p>ANTHONY [4] 6570/6 6575/8 6627/15 6695/8</p> <p>anti [1] 6639/9</p> <p>anti-settling [1] 6639/9</p> <p>any [133] 6575/6 6575/17 6576/1 6576/8 6576/15 6576/24 6577/6 6577/8 6577/15 6577/22 6577/24 6578/5 6578/22 6581/15 6581/24 6583/5 6584/15 6586/2 6586/11 6586/17 6590/2 6593/1 6593/3 6594/8 6594/9 6602/3 6602/5 6604/24 6607/17 6608/15 6608/17 6608/19 6608/19 6608/23 6608/23 6608/25 6609/5 6610/17 6612/5 6613/3 6614/3 6618/5 6619/21 6620/1 6620/13 6620/25 6620/25 6621/1 6623/9 6623/10 6624/24 6626/10 6628/20 6631/23 6631/24 6631/24 6631/25 6634/1 6637/4 6643/25 6644/6 6651/23 6651/24 6652/8 6652/9 6652/14 6658/5 6660/7 6666/18 6672/1 6672/10 6672/12 6672/15 6673/25 6675/7 6675/19 6682/2 6682/17 6683/19 6683/23 6686/3 6686/8 6686/8 6686/13 6686/13 6687/12 6687/17 6688/5 6688/18 6688/22 6693/8 6693/8 6693/16 6694/8 6694/9 6695/22 6698/1</p>	<p>6701/5 6701/6 6703/7 6703/12 6706/17 6707/12 6707/21 6707/22 6708/8 6708/10 6708/11 6708/20 6709/4 6711/4 6711/13 6718/12 6718/13 6718/23 6718/25 6719/12 6721/10 6721/23 6722/6 6722/9 6724/21 6728/23 6734/11 6736/5 6742/10 6745/19 6747/8 6753/8 6755/8 6759/1 6759/1 6759/12</p> <p>anybody [19] 6592/25 6594/11 6594/12 6609/10 6609/19 6622/22 6636/22 6651/25 6666/15 6666/18 6689/10 6695/4 6701/16 6727/20 6750/4 6756/15 6756/19 6757/16 6758/21</p> <p>anybody's [1] 6609/19</p> <p>anyone [8] 6620/21 6690/5 6690/5 6691/7 6693/20 6695/16 6698/19 6757/19</p> <p>anyplace [2] 6665/8 6722/13</p> <p>anything [37] 6584/21 6584/22 6598/24 6602/3 6602/20 6602/20 6604/12 6607/6 6609/18 6610/21 6612/21 6620/15 6621/2 6645/2 6650/14 6661/14 6661/21 6662/1 6663/12 6665/11 6665/21 6665/21 6666/1 6667/18 6674/10 6676/7 6703/8 6703/9 6703/13 6722/11 6726/17 6736/16 6749/3 6754/6 6755/16 6758/16 6758/18</p> <p>anyway [1] 6664/16</p> <p>API [1] 6699/5</p> <p>APLC [1] 6571/18</p> <p>apologize [2] 6589/7 6655/6</p> <p>appear [2] 6627/9 6627/14</p> <p>Appearances [6] 6568/17 6569/1 6570/1 6571/1 6572/1 6573/1</p> <p>appears [8] 6627/4 6627/15 6644/24 6648/11 6653/24 6657/3 6663/14 6710/19</p> <p>Applies [1] 6568/6</p> <p>approach [3] 6693/12 6693/19 6714/16</p> <p>approached [2] 6604/6 6675/7</p> <p>appropriate [3] 6685/15 6688/6 6727/7</p> <p>approval [1] 6729/24</p> <p>approve [1] 6715/2</p> <p>approved [2] 6586/6 6693/16</p> <p>approximately [7] 6581/16 6584/8 6592/13 6592/15 6607/24 6618/22 6737/14</p> <p>APRIL [89] 6568/5 6568/7 6575/2 6595/6 6627/9 6628/22 6631/14 6631/23 6632/22 6633/13 6647/12 6653/5 6653/9 6653/19 6660/21 6660/23 6661/3 6661/13 6662/12 6666/25 6667/13 6668/9 6668/18 6668/21 6669/6 6669/20 6671/6 6671/23 6673/10 6674/19 6675/14 6675/18 6679/2 6680/7 6680/13 6680/19 6681/5 6681/13 6681/20 6682/8 6686/17 6686/22 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17th [7] 6674/19 6699/16 6699/22 6700/1 6735/6 6738/8 6741/7</p> <p>April 17th date [1] 6675/18</p> <p>April 17th includes [1] 6746/9</p> <p>April 17th test [1] 6699/21</p> <p>April 18 [9] 6627/9 6631/14 6631/23 6669/20 6671/23 6679/2 6681/13 6681/20 6682/8</p> <p>April 18 e-mail [1] 6633/13</p> <p>April 18th [2] 6628/22 6671/6</p> <p>April 18th e-mail [1] 6647/12</p> <p>April 19 [1] 6723/25</p> <p>April 19th [5] 6660/21 6660/23 6661/3 6661/13 6740/8</p> <p>April 19th was [1] 6734/13</p> <p>April 2 [1] 6680/7</p> <p>April 2007 [1] 6724/1</p> <p>April 2010 [2] 6706/7 6724/2</p> <p>April 20th [5] 6595/6 6632/22 6662/12 6688/7 6759/13</p> <p>April 21st [1] 6734/4</p> <p>April 22 [1] 6723/24</p> <p>April 22nd [1] 6734/7</p> <p>are [82] 6575/18 6576/3 6576/9 6576/16 6576/25 6577/9 6577/16 6577/25 6578/6 6579/14 6580/19 6581/6 6585/8 6587/7 6590/23 6590/24 6591/1 6591/25 6592/1 6600/12 6605/16 6610/17 6612/1 6614/3 6621/13 6624/24 6628/24 6630/3 6630/4 6630/4 6630/9 6631/15 6632/19 6633/24 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6709/20 6709/24 6711/2 6712/25 6713/6 6713/6 6713/12 6718/20 6719/4 6719/9 6724/9 6724/9 6725/20 6725/22 6726/6 6729/1 6729/1 6730/16 6732/3 6732/14 6732/20 6732/20 6734/15 6737/3 6737/4 6740/23 6744/20 6745/5 6749/8 6749/10 6749/10 6749/14 6749/14 6753/3 6756/12 6757/23 6757/23 6758/16 6759/10</p> <p>Asbill [1] 6572/8</p> <p>aside [2] 6733/13 6753/6</p> <p>ask [19] 6583/2 6590/12 6602/6 6632/16 6652/1 6652/9 6652/14 6658/7 6658/16 6672/3 6686/12 6692/9 6714/16 6718/24 6735/5 6735/10 6735/10 6739/12 6740/1</p> <p>asked [11] 6583/5 6605/12 6616/4 6619/6 6636/24 6693/7 6723/15 6735/7 6735/8 6735/22 6750/22</p> <p>asking [8] 6580/25 6583/2 6606/10 6637/20 6670/24 6674/25 6675/2 6750/9</p> <p>aspect [2] 6694/9 6719/19</p> <p>assess [2] 6705/20 6713/8</p> <p>assessment [5] 6682/4 6682/13 6704/7 6758/22 6759/1</p> <p>assessments [1] 6682/2</p> <p>ASSET [1] 6568/8</p> <p>assigned [3] 6616/15 6617/11 6752/10</p> <p>assist [2] 6592/22 6708/13</p> <p>assistance [1] 6590/3</p> <p>assisted [1] 6708/19</p> <p>assisting [1] 6587/13</p> <p>associated [10] 6651/25 6705/21 6706/2 6706/8 6707/12 6707/17 6707/22 6718/14 6718/22 6724/21</p> <p>assume [3] 6686/21 6688/5 6701/17</p> <p>assuming [2] 6627/24 6740/13</p> <p>assumption [1] 6739/11</p> <p>assure [1] 6665/7</p>	<p>assured [2] 6696/6 6696/13</p> <p>attach [1] 6716/3</p> <p>Attached [3] 6628/15 6628/16 6673/13</p> <p>Attaining [1] 6642/23</p> <p>attempting [1] 6643/4</p> <p>attend [3] 6579/3 6579/6 6598/23</p> <p>attended [2] 6584/19 6600/25</p> <p>Attorney [2] 6571/7 6571/11</p> <p>audience [1] 6684/16</p> <p>authority [3] 6609/5 6609/15 6609/20</p> <p>available [4] 6589/1 6590/2 6590/17 6591/15</p> <p>Avenue [5] 6568/23 6570/10 6571/9 6572/3 6572/14</p> <p>average [2] 6632/5 6632/6</p> <p>avoid [3] 6641/20 6643/11 6748/18</p> <p>aware [27] 6594/15 6594/16 6624/24 6640/6 6641/19 6642/10 6674/21 6692/21 6693/23 6698/1 6701/5 6702/11 6708/2 6708/3 6708/9 6708/17 6708/20 6713/14 6713/24 6718/21 6719/12 6722/9 6722/15 6722/17 6749/6 6751/13 6751/17</p> <p>B</p> <p>bachelor's [1] 6582/4</p> <p>back [64] 6575/5 6580/7 6594/13 6596/14 6596/18 6610/2 6610/6 6610/14 6611/5 6618/4 6620/20 6624/16 6645/10 6648/7 6651/4 6652/22 6653/8 6653/11 6653/25 6656/6 6658/9 6663/7 6663/17 6668/15 6671/2 6671/15 6671/22 6671/25 6672/2 6672/5 6672/7 6675/10 6679/9 6679/14 6679/25 6681/4 6681/23 6683/11 6683/13 6683/16 6683/17 6683/21 6703/22 6706/6 6710/12 6710/14 6710/22 6710/25 6715/16 6731/6 6732/14 6733/18 6733/21 6733/23 6735/5 6739/12 6744/11 6744/16 6745/17 6745/24 6749/2 6751/4 6757/13 6760/10</p> <p>back-and-forth [1] 6596/18</p> <p>background [1] 6698/13</p> <p>Badalamenti [4] 6695/8 6695/15 6701/13 6735/11</p> <p>balance [2] 6649/11 6656/8</p> <p>ballgame [1] 6759/5</p> <p>BARBIER [61] 6568/15 6582/1 6583/4 6583/21 6584/2 6586/11 6586/16 6587/16 6587/20 6588/6 6588/19 6589/17 6590/23 6591/1 6593/16 6594/3 6595/21 6596/1 6598/20 6599/16 6601/22 6602/7 6605/6 6605/15 6606/12 6606/18 6607/21 6610/10 6611/23 6618/20 6619/17 6621/7 6623/15 6625/7 6626/8 6629/16 6631/5 6633/12 6634/25 6637/9 6637/22 6640/11 6645/7 6646/17 6647/18 6655/18 6656/18 6661/12 6662/5 6663/7 6670/9 6678/20 6679/8 6679/15 6680/1 6680/8 6680/14 6680/19 6681/5 6681/14 6683/6</p> <p>Barbier's [1] 6653/19</p> <p>barrel [2] 6623/18 6636/19</p> <p>barrels [13] 6607/22 6607/25 6608/10 6608/12 6618/21 6618/21 6618/24 6633/20 6633/23 6636/18 6636/19 6636/20 6643/5</p> <p>barrier [11] 6610/4 6610/5 6610/8 6709/8 6709/11 6709/20 6709/24 6710/1 6710/3 6710/6 6710/7</p> <p>base [36] 6664/1 6701/14 6707/13</p>	<p>6707/13 6707/14 6707/14 6707/15 6707/17 6707/18 6719/24 6719/24 6721/9 6722/23 6723/5 6724/17 6725/1 6725/13 6725/23 6728/2 6729/10 6730/22 6731/9 6731/14 6731/15 6731/16 6731/18 6741/15 6742/10 6743/4 6748/8 6748/20 6752/3 6752/18 6752/24 6753/2 6754/4</p> <p>based [34] 6584/14 6588/24 6595/8 6597/11 6597/13 6602/13 6603/16 6612/14 6614/7 6618/22 6625/3 6635/19 6644/9 6647/3 6658/11 6704/16 6706/7 6706/9 6706/21 6707/2 6707/6 6707/9 6707/23 6711/19 6714/12 6716/10 6727/11 6729/4 6729/12 6730/22 6739/3 6739/11 6746/23 6748/23</p> <p>basic [1] 6681/12</p> <p>basically [27] 6583/23 6584/19 6587/25 6590/24 6596/2 6598/23 6608/1 6609/9 6610/13 6611/4 6611/17 6611/24 6613/3 6615/5 6618/10 6621/11 6625/8 6630/6 6633/14 6646/19 6663/21 6679/11 6680/10 6690/15 6703/24 6724/1 6739/1</p> <p>basing [1] 6727/17</p> <p>basis [34] 6583/23 6584/16 6585/5 6586/4 6587/3 6600/9 6678/15 6679/11 6681/13 6681/23 6682/7 6682/16 6682/18 6683/20 6698/15 6698/16 6711/1 6711/21 6712/7 6712/9 6712/13 6712/24 6713/6 6716/3 6716/16 6717/10 6717/10 6717/12 6717/15 6717/21 6718/13 6718/13 6722/7 6722/21</p> <p>Bates [1] 6642/18</p> <p>Baton [2] 6569/23 6571/13</p> <p>be [157] 6578/14 6578/15 6578/22 6578/24 6579/9 6580/7 6580/23 6583/2 6585/21 6586/3 6586/6 6588/22 6591/8 6591/18 6592/17 6592/18 6594/19 6595/22 6599/12 6599/12 6599/18 6599/18 6605/21 6605/24 6608/4 6610/4 6610/7 6610/19 6611/9 6611/25 6612/16 6612/21 6614/10 6614/10 6616/5 6622/18 6622/19 6623/4 6623/22 6624/17 6625/10 6626/7 6626/16 6627/4 6627/9 6627/15 6628/15 6630/11 6630/14 6631/19 6635/6 6635/11 6635/19 6640/13 6640/19 6643/21 6644/24 6647/2 6647/5 6647/21 6648/11 6649/6 6650/20 6652/2 6653/2 6656/20 6658/12 6658/19 6658/25 6662/6 6663/14 6663/25 6664/16 6664/24 6667/20 6669/12 6669/12 6670/4 6670/21 6672/11 6672/13 6674/9 6674/22 6676/20 6676/25 6679/19 6680/2 6681/6 6682/25 6685/4 6685/16 6690/10 6691/22 6698/18 6699/12 6699/12 6701/22 6706/8 6707/6 6707/8 6707/10 6709/7 6709/25 6710/3 6710/19 6714/19 6714/22 6715/4 6715/7 6715/11 6717/2 6717/9 6718/14 6718/16 6719/3 6720/19 6722/6 6722/17 6722/19 6722/21 6723/3 6723/5 6723/22 6726/3 6729/5 6732/1 6732/23 6733/2 6734/2 6734/5 6734/10 6736/8 6736/23 6737/3 6739/22 6740/17 6742/25 6746/4 6746/6 6746/6 6748/2 6748/3 6748/3 6748/14 6748/21 6749/20 6750/9 6751/22 6751/23 6753/8 6753/12 6753/21 6753/24</p>
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<p>B</p> <p>be... [4] 6755/15 6756/2 6759/4 6759/22 Beach [1] 6569/10 bearing [4] 6610/15 6612/2 6635/16 6635/23 became [7] 6597/1 6669/1 6687/21 6692/21 6695/1 6729/8 6749/19 because [44] 6596/22 6615/18 6618/3 6643/5 6654/3 6658/22 6663/25 6668/14 6679/18 6690/12 6697/11 6700/16 6701/14 6701/15 6711/14 6714/19 6720/19 6722/18 6725/12 6727/11 6732/24 6733/15 6734/1 6740/11 6740/12 6740/24 6741/16 6741/20 6742/9 6742/22 6744/18 6749/19 6749/20 6751/20 6753/12 6753/18 6754/18 6754/19 6754/19 6754/24 6756/3 6756/5 6756/6 6756/7 Beck [2] 6573/2 6573/3 become [1] 6623/19 becomes [1] 6674/7 been [64] 6575/13 6575/13 6575/22 6575/23 6576/6 6576/23 6579/22 6580/13 6582/16 6593/25 6594/15 6594/16 6597/6 6603/3 6603/11 6613/7 6614/23 6618/16 6618/21 6620/7 6621/23 6624/3 6631/16 6632/25 6642/8 6643/6 6644/5 6646/22 6646/24 6661/16 6661/16 6662/20 6670/2 6673/24 6686/24 6689/23 6690/5 6690/9 6690/24 6695/19 6698/21 6704/8 6708/18 6716/22 6716/23 6716/25 6721/23 6722/2 6724/10 6725/18 6727/7 6727/16 6727/18 6731/6 6731/17 6731/24 6735/4 6741/6 6741/16 6741/20 6743/25 6744/5 6751/14 6754/11 before [43] 6568/15 6575/6 6576/4 6580/1 6581/17 6586/3 6588/10 6594/19 6607/7 6607/20 6608/4 6608/11 6631/14 6631/16 6633/19 6633/20 6633/23 6638/2 6653/16 6658/25 6659/10 6659/14 6667/25 6674/7 6677/16 6686/17 6691/7 6691/13 6693/2 6693/10 6696/17 6698/22 6701/9 6706/18 6718/1 6718/7 6723/10 6739/5 6740/15 6741/13 6743/24 6746/20 6759/13 began [1] 6692/3 begin [1] 6742/12 beginning [6] 6617/2 6666/25 6666/25 6682/8 6726/15 6733/4 behalf [21] 6575/21 6577/10 6577/19 6578/4 6587/24 6588/7 6588/7 6593/2 6595/7 6601/21 6608/24 6617/7 6620/21 6620/22 6622/1 6683/8 6684/3 6685/8 6692/11 6692/22 6694/10 behind [4] 6706/22 6706/24 6755/1 6755/2 being [37] 6582/24 6584/14 6584/16 6586/15 6595/25 6598/14 6600/1 6608/7 6609/14 6610/8 6611/14 6611/21 6617/11 6634/12 6648/2 6649/5 6649/8 6667/12 6668/4 6668/19 6675/23 6676/4 6677/3 6678/1 6679/12 6682/13 6706/13 6711/3 6719/3 6719/9 6721/11 6725/22 6733/9 6733/15 6733/16 6735/18 6750/3 belaboring [1] 6731/8 belief [1] 6594/25 believe [57] 6586/7 6589/23 6593/14 6598/4 6600/14 6603/12 6603/15</p>	<p>6607/12 6608/9 6612/1 6613/15 6616/24 6618/22 6620/15 6621/2 6634/20 6635/19 6653/15 6666/24 6670/8 6672/18 6675/20 6679/10 6680/16 6681/7 6681/21 6683/6 6684/1 6684/7 6684/18 6687/9 6687/20 6688/13 6688/17 6693/6 6696/23 6699/23 6701/3 6702/20 6708/4 6711/12 6724/8 6726/11 6726/13 6726/18 6728/5 6729/16 6738/13 6738/22 6742/11 6744/3 6747/14 6752/10 6756/12 6756/15 6756/16 6758/17 believed [1] 6592/17 below [3] 6628/19 6643/10 6673/14 Ben [5] 6571/5 6580/5 6580/6 6580/8 6750/21 benefit [2] 6578/15 6584/4 benefits [1] 6600/1 best [33] 6579/6 6590/20 6590/22 6590/23 6590/24 6591/3 6591/7 6592/14 6597/13 6599/1 6619/7 6640/10 6640/13 6640/18 6640/19 6670/7 6683/7 6684/18 6700/1 6700/15 6700/16 6700/21 6701/7 6701/20 6701/21 6701/25 6733/7 6733/22 6735/2 6735/4 6748/19 6749/13 6760/21 better [5] 6623/21 6627/22 6628/9 6628/12 6698/18 between [14] 6594/2 6597/25 6605/22 6612/5 6688/5 6688/6 6698/2 6698/4 6708/11 6721/24 6722/19 6733/9 6749/7 6758/21 Bill [2] 6576/21 6577/21 Bingo [1] 6735/8 bit [12] 6584/3 6596/4 6596/5 6598/13 6609/22 6628/9 6629/13 6638/24 6653/18 6660/2 6678/12 6753/4 blanket [1] 6754/1 Bldg [1] 6570/10 blend [33] 6621/11 6621/16 6621/17 6622/2 6622/5 6622/17 6622/23 6623/7 6623/9 6623/12 6624/18 6625/4 6625/16 6626/6 6630/14 6630/15 6638/7 6643/18 6643/24 6644/6 6683/13 6723/5 6725/6 6725/15 6725/15 6731/16 6731/22 6731/23 6732/23 6740/10 6741/16 6743/25 6753/13 blended [2] 6638/13 6638/17 blends [1] 6754/22 blow [4] 6627/19 6627/22 6628/3 6628/4 blown [1] 6660/20 blowout [7] 6614/25 6686/17 6688/6 6690/4 6692/4 6718/6 6733/18 board [1] 6605/3 Bockius [1] 6573/14 BoD [14] 6679/11 6679/17 6702/18 6711/6 6711/8 6711/10 6711/13 6711/18 6712/20 6712/23 6712/23 6712/24 6716/5 6716/13 BoDs [1] 6712/19 body [2] 6628/11 6628/14 Bolado [4] 6692/15 6692/25 6693/20 6757/6 book [1] 6641/5 both [13] 6604/14 6605/3 6620/2 6633/15 6664/1 6668/11 6692/15 6693/7 6725/23 6742/9 6745/13 6745/14 6751/13 bottle [2] 6639/17 6657/11 bottom [32] 6608/2 6612/13 6612/16</p>	<p>6632/3 6634/14 6642/1 6650/7 6654/6 6654/13 6657/17 6664/1 6667/22 6667/23 6668/21 6669/18 6673/8 6728/21 6737/3 6740/23 6742/5 6742/9 6743/8 6743/11 6743/13 6743/18 6744/6 6744/12 6744/13 6745/4 6746/5 6748/6 6752/17 bottoms [12] 6607/6 6607/7 6607/17 6607/19 6607/22 6607/25 6608/4 6608/13 6611/11 6734/21 6748/4 6759/15 bottoms-up [12] 6607/6 6607/7 6607/17 6607/19 6607/22 6607/25 6608/4 6608/13 6611/11 6734/21 6748/4 6759/15 bought [2] 6622/10 6622/13 Boulevard [1] 6570/3 bounce [3] 6686/9 6686/14 6691/22 Bounds [1] 6569/2 BOWMAN [1] 6573/8 Box [6] 6568/20 6570/10 6570/16 6570/22 6571/13 6572/17 BP [245] BP's [19] 6578/5 6583/23 6584/7 6585/9 6586/10 6586/15 6586/23 6588/14 6593/1 6617/24 6633/1 6649/5 6649/6 6651/25 6677/8 6686/5 6715/2 6755/17 6758/13 BP/Halliburton [1] 6716/17 BRAD [1] 6572/13 Bradley [4] 6754/17 6755/5 6755/11 6755/12 branch [4] 6570/9 6570/19 6571/3 6582/8 break [3] 6611/12 6720/9 6720/11 breakdown [2] 6588/3 6642/24 breaking [1] 6637/13 breakout [5] 6650/16 6650/19 6662/7 6665/24 6746/5 breaks [2] 6623/25 6720/6 Breit [2] 6569/8 6569/9 Brennan [1] 6572/8 Brett [11] 6585/7 6594/20 6604/7 6604/15 6605/2 6605/2 6627/15 6669/19 6669/22 6673/9 6681/2 brevity [1] 6665/19 BRIAN [19] 6572/13 6585/8 6594/20 6597/3 6598/1 6616/10 6627/17 6669/18 6669/23 6670/1 6670/2 6672/1 6673/9 6674/13 6674/19 6675/7 6680/2 6680/20 6681/6 brief [1] 6607/11 briefing [2] 6578/20 6578/21 briefly [13] 6583/21 6587/21 6587/22 6602/9 6605/8 6610/25 6611/2 6613/2 6617/15 6629/10 6656/18 6662/21 6680/14 briefs [1] 6578/25 bring [2] 6623/2 6710/22 broach [1] 6695/22 brochures [1] 6591/14 BROCK [1] 6572/3 broke [1] 6703/2 brought [1] 6596/21 Broussard [13] 6589/13 6589/14 6589/17 6589/22 6591/10 6644/21 6651/9 6653/8 6660/9 6715/16 6715/19 6750/22 6750/24 BRUCE [1] 6573/8 bubbles [1] 6633/21 built [1] 6739/10 Bulk [1] 6752/11 bullet [3] 6699/2 6700/13 6701/1</p>
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<p>B</p> <p>bulletin [3] 6639/21 6640/7 6640/12 bulletins [2] 6590/20 6591/20 bunch [1] 6638/18 Burling [1] 6572/2 buy [2] 6623/1 6623/1</p>	<p>career [4] 6591/23 6591/24 6613/7 6631/15 careers [1] 6587/6 careless [1] 6608/21 CARL [12] 6568/15 6694/17 6695/25 6698/24 6702/12 6715/24 6723/13 6724/12 6731/3 6743/2 6748/11 6750/14 Carondelet [2] 6569/13 6572/23 CARRIE [1] 6571/22 case [25] 6579/15 6607/24 6624/21 6626/3 6644/10 6646/11 6646/22 6647/20 6669/2 6692/22 6699/15 6706/25 6707/10 6708/3 6710/15 6711/10 6722/21 6722/21 6724/25 6729/3 6733/8 6746/23 6751/15 6752/2 6754/23 case-by-case [1] 6722/21 casing [59] 6601/24 6602/11 6603/14 6616/6 6617/23 6618/2 6620/17 6622/21 6628/17 6631/18 6635/5 6638/5 6640/6 6645/16 6654/4 6679/17 6679/21 6680/4 6681/7 6685/16 6686/15 6688/11 6689/6 6690/17 6690/21 6690/23 6690/23 6691/20 6692/3 6693/9 6693/22 6694/4 6695/18 6702/22 6703/20 6705/21 6706/2 6711/14 6711/22 6712/10 6712/18 6716/18 6716/24 6717/6 6718/9 6718/15 6726/15 6728/4 6728/18 6728/21 6729/23 6730/7 6734/13 6735/1 6747/12 6748/7 6749/8 6754/15 6760/4 casing/liner [1] 6645/16 casings [1] 6593/18 catch [3] 6586/19 6709/4 6715/9 caught [1] 6742/21 caused [2] 6597/25 6623/10 Caution [1] 6641/8 cell [1] 6698/6 cement [265] cement cannot [1] 6753/21 cement's [1] 6610/13 cement-related [1] 6598/24 cementing [16] 6586/12 6592/5 6592/22 6601/11 6620/14 6636/2 6642/1 6642/10 6643/16 6644/20 6652/23 6689/14 6700/15 6748/15 6749/13 6759/10 center [1] 6590/11 centralization [3] 6734/21 6748/3 6759/15 centralizers [26] 6601/25 6602/6 6602/8 6602/10 6602/13 6602/17 6602/22 6602/24 6603/1 6603/5 6603/10 6603/14 6604/2 6604/17 6604/21 6604/23 6604/25 6605/4 6629/19 6680/21 6680/24 6681/3 6681/15 6704/17 6704/21 6704/23 CERNICH [1] 6570/14 certain [9] 6584/3 6605/6 6691/20 6699/18 6704/20 6704/21 6723/2 6723/11 6753/25 certainly [6] 6578/18 6631/16 6636/17 6637/8 6676/21 6694/1 CERTIFICATE [1] 6760/17 certify [1] 6760/20 cetera [1] 6703/3 CFR [2] 6641/11 6641/11 CFR-2 [1] 6641/11 CFR-3 [1] 6641/11 Chaisson [6] 6575/12 6575/16 6575/23 6578/4 6636/9 6636/21</p>	<p>Chaisson's [1] 6577/13 CHAKERES [1] 6570/16 challenged [1] 6620/22 chance [3] 6721/2 6721/11 6735/2 CHANG [1] 6570/15 change [29] 6579/7 6668/23 6668/24 6672/13 6680/5 6680/22 6683/23 6685/13 6686/25 6690/7 6690/12 6703/5 6703/7 6703/25 6704/1 6704/1 6708/22 6713/16 6713/23 6714/9 6714/14 6714/15 6714/20 6715/1 6716/23 6718/13 6743/5 6743/15 6744/1 changed [5] 6680/4 6683/19 6704/4 6704/16 6726/17 changes [9] 6618/5 6681/17 6703/6 6703/25 6713/2 6714/6 6715/3 6715/4 6749/6 changing [2] 6703/11 6703/21 channeling [9] 6610/20 6610/25 6611/2 6612/13 6613/3 6705/2 6705/3 6705/9 6710/16 Channeling's [1] 6611/4 channels [1] 6611/6 charge [3] 6668/6 6735/18 6735/19 charged [1] 6709/3 chart [6] 6628/19 6671/9 6724/16 6746/20 6746/23 6747/24 chart's [1] 6747/25 check [1] 6693/15 checking [1] 6741/15 chemical [2] 6720/10 6720/22 chemicals [2] 6725/13 6752/11 chemistry [7] 6693/5 6693/17 6694/4 6698/11 6698/18 6703/1 6703/9 Chicago [1] 6571/24 chloride [2] 6731/10 6752/22 chose [1] 6600/3 chosen [1] 6603/4 Christopher [1] 6627/15 Circuit [1] 6579/3 circulate [4] 6588/17 6608/11 6636/18 6636/19 circulated [10] 6575/10 6575/23 6576/6 6576/23 6577/12 6577/20 6580/13 6608/8 6629/23 6662/20 circulating [4] 6607/7 6634/14 6654/13 6748/4 circulation [1] 6642/25 Civil [2] 6570/9 6570/19 clarify [1] 6633/5 Class [2] 6731/9 6752/19 Class H [1] 6752/19 classes [1] 6587/4 clear [3] 6606/12 6717/4 6748/14 clearly [2] 6742/5 6757/17 CLERK [1] 6579/24 CLINGMAN [2] 6572/9 6576/19 clock [1] 6657/4 close [5] 6612/7 6680/11 6686/22 6686/23 6737/3 closed [1] 6661/17 closely [2] 6658/2 6682/21 closer [5] 6638/24 6651/1 6666/6 6739/24 6743/13 closing [3] 6578/10 6578/12 6578/24 Cocales [18] 6585/7 6594/20 6594/21 6604/7 6604/8 6605/2 6614/19 6617/18 6627/15 6669/19 6673/10 6681/2 6685/23 6708/6 6714/24 6717/1 6758/6 6759/2 code [1] 6601/7 cold [1] 6639/17</p>
<p>C</p> <p>calculation [4] 6634/9 6650/24 6739/17 6739/18 calculations [5] 6739/4 6739/12 6739/14 6739/20 6739/22 CALDWELL [1] 6571/12 California [2] 6570/11 6572/14 call [27] 6579/20 6580/23 6584/20 6590/14 6596/5 6596/21 6596/24 6600/25 6601/7 6612/23 6619/4 6666/15 6668/1 6668/10 6689/17 6697/21 6697/24 6706/18 6712/23 6714/8 6731/14 6736/6 6736/9 6744/24 6746/24 6752/1 6752/2 called [12] 6587/3 6668/8 6697/19 6698/7 6702/21 6712/20 6723/21 6736/3 6736/6 6744/10 6758/7 6758/18 calls [9] 6584/19 6598/23 6599/20 6600/12 6600/13 6600/14 6600/15 6601/4 6601/9 came [20] 6585/23 6587/5 6596/25 6597/3 6617/8 6636/11 6636/12 6645/5 6656/6 6658/9 6668/11 6680/11 6688/7 6688/21 6696/11 6697/13 6718/24 6738/11 6744/11 6750/6 Cameron [3] 6572/22 6573/2 6577/19 Cameron's [1] 6577/24 Camp [1] 6571/16 can [104] 6579/6 6579/18 6586/10 6586/13 6586/16 6587/16 6587/20 6588/13 6588/19 6590/20 6591/2 6591/7 6592/14 6595/21 6599/16 6601/22 6602/24 6605/8 6605/23 6607/12 6609/10 6610/11 6610/17 6611/11 6611/18 6612/23 6613/4 6613/13 6615/25 6618/4 6618/5 6618/19 6621/7 6623/19 6623/22 6623/23 6625/8 6627/4 6627/7 6627/19 6627/22 6629/9 6633/21 6634/4 6636/16 6639/14 6640/19 6641/2 6642/1 6642/14 6642/17 6642/20 6643/21 6645/10 6645/14 6648/6 6648/13 6649/18 6651/4 6651/8 6652/22 6652/24 6655/25 6656/13 6656/25 6658/15 6665/7 6670/7 6678/5 6679/4 6679/8 6680/7 6681/23 6692/1 6698/7 6700/12 6703/25 6704/1 6704/1 6705/2 6707/8 6708/22 6710/15 6710/18 6716/7 6720/19 6726/14 6726/18 6727/6 6727/20 6730/14 6731/14 6739/14 6739/18 6739/19 6747/19 6749/1 6749/10 6749/14 6750/1 6753/8 6753/24 6755/9 6755/23 can't [19] 6591/1 6602/5 6673/2 6686/20 6700/24 6708/10 6709/24 6710/16 6721/13 6722/11 6740/16 6742/6 6742/12 6744/17 6745/16 6745/17 6748/4 6753/25 6755/8 canceled [3] 6669/4 6669/6 6697/20 cannot [4] 6753/12 6753/21 6754/3 6756/2 capable [1] 6734/13 captions [1] 6652/24 capture [2] 6708/24 6709/21 care [1] 6684/1</p>		

<p>C</p> <p>college [1] 6581/24</p> <p>colors [2] 6705/5 6705/8</p> <p>come [21] 6597/6 6608/2 6608/25 6612/19 6614/8 6616/8 6619/6 6621/9 6624/16 6635/19 6636/21 6668/10 6668/12 6682/25 6684/8 6689/16 6695/9 6698/12 6709/19 6715/19 6760/10</p> <p>comes [1] 6671/8</p> <p>comfortable [4] 6580/23 6598/15 6692/9 6719/23</p> <p>coming [3] 6668/14 6693/15 6739/13</p> <p>Comments [1] 6662/23</p> <p>Commercial [1] 6571/3</p> <p>Committee [1] 6685/9</p> <p>common [1] 6631/15</p> <p>communicate [1] 6706/13</p> <p>communicated [5] 6689/23 6690/1 6690/9 6706/4 6758/24</p> <p>communicating [1] 6755/6</p> <p>communication [2] 6584/24 6631/24</p> <p>company [11] 6571/20 6571/23 6572/4 6581/23 6613/20 6636/20 6636/25 6637/4 6637/5 6645/24 6707/19</p> <p>compared [1] 6672/12</p> <p>compatibility [1] 6641/7</p> <p>compensate [3] 6625/9 6626/12 6727/15</p> <p>compensating [1] 6643/21</p> <p>complain [2] 6593/1 6594/11</p> <p>complained [1] 6594/6</p> <p>COMPLAINT [1] 6568/7</p> <p>complaints [4] 6593/3 6594/8 6594/9 6684/15</p> <p>complete [1] 6635/11</p> <p>completed [3] 6628/18 6659/9 6661/16</p> <p>completing [1] 6576/4</p> <p>completion [1] 6710/10</p> <p>component [1] 6717/18</p> <p>components [1] 6752/3</p> <p>comports [1] 6747/2</p> <p>compression [2] 6611/18 6651/15</p> <p>compressive [11] 6628/17 6651/18 6656/22 6672/14 6673/18 6673/19 6673/25 6674/16 6697/2 6743/7 6743/16</p> <p>comprised [3] 6585/6 6585/7 6621/11</p> <p>computer [1] 6573/24</p> <p>computer-aided [1] 6573/24</p> <p>con [1] 6703/4</p> <p>Conc [1] 6646/10</p> <p>concentration [30] 6602/1 6602/2 6605/5 6605/7 6605/10 6605/23 6606/1 6606/2 6606/24 6625/15 6625/17 6644/12 6646/11 6647/14 6647/17 6647/20 6647/24 6648/3 6663/6 6665/17 6668/23 6669/11 6670/1 6697/7 6707/4 6726/1 6726/5 6726/16 6726/25 6738/18</p> <p>concentrations [9] 6646/9 6655/1 6655/20 6655/22 6683/23 6696/16 6698/15 6703/2 6721/25</p> <p>concern [2] 6623/10 6672/15</p> <p>concerned [3] 6604/1 6618/9 6706/6</p> <p>concerns [9] 6596/15 6604/10 6604/20 6643/25 6675/7 6687/12 6693/12 6755/17 6757/22</p> <p>conclude [8] 6597/11 6614/8 6660/12 6692/1 6726/14 6727/6 6730/14 6733/22</p> <p>concluded [3] 6729/9 6759/10 6760/15</p>	<p>conclusion [7] 6578/13 6578/17 6608/25 6697/3 6698/12 6711/5 6713/22</p> <p>conclusions [1] 6578/19</p> <p>condition [8] 6658/5 6658/7 6738/11 6738/12 6738/14 6738/17 6738/23 6740/16</p> <p>conditioned [1] 6737/15</p> <p>conditioning [17] 6650/10 6657/22 6738/1 6738/5 6738/25 6739/5 6740/12 6740/14 6740/16 6740/22 6740/25 6741/2 6743/6 6746/9 6746/12 6751/9 6751/9</p> <p>conditions [2] 6703/21 6738/2</p> <p>conduct [3] 6723/1 6727/8 6754/15</p> <p>conducting [1] 6729/14</p> <p>conductor [4] 6728/5 6728/15 6728/18 6747/12</p> <p>conference [3] 6579/3 6584/20 6706/18</p> <p>confident [2] 6707/9 6718/21</p> <p>confirm [4] 6677/11 6677/11 6677/24 6677/25</p> <p>confirmed [3] 6677/15 6677/17 6678/2</p> <p>connection [3] 6575/11 6683/8 6684/20</p> <p>CONRAD [1] 6569/15</p> <p>consequences [1] 6614/3</p> <p>consider [4] 6578/21 6717/9 6717/12 6731/14</p> <p>considered [4] 6640/19 6676/20 6709/7 6709/11</p> <p>considering [1] 6735/25</p> <p>consistent [5] 6625/19 6625/20 6704/5 6754/1 6756/10</p> <p>consistently [1] 6644/9</p> <p>constant [4] 6634/10 6634/12 6726/18 6729/6</p> <p>constitute [1] 6715/1</p> <p>contact [9] 6666/16 6685/22 6688/10 6688/15 6690/16 6698/2 6734/15 6735/13 6757/22</p> <p>contacted [2] 6697/19 6736/2</p> <p>contain [2] 6682/2 6708/13</p> <p>contained [2] 6724/17 6748/8</p> <p>containers [1] 6731/25</p> <p>contaminants [1] 6709/4</p> <p>contaminated [6] 6646/24 6707/2 6708/24 6708/24 6709/14 6709/21</p> <p>contaminating [1] 6611/9</p> <p>contamination [7] 6610/20 6611/14 6611/16 6611/17 6727/12 6741/18 6741/19</p> <p>context [3] 6579/1 6611/3 6611/16</p> <p>contingency [1] 6716/6</p> <p>continually [5] 6703/1 6713/8 6713/8 6713/9 6716/18</p> <p>continuation [1] 6649/24</p> <p>continue [2] 6587/2 6617/7</p> <p>continued [5] 6586/7 6587/2 6587/6 6655/5 6664/18</p> <p>contractual [1] 6716/17</p> <p>contributed [1] 6690/4</p> <p>conversation [8] 6691/17 6693/18 6697/21 6708/1 6755/10 6755/12 6755/14 6758/11</p> <p>conversations [6] 6599/19 6599/20 6691/11 6691/14 6718/17 6756/20</p> <p>conversing [1] 6585/4</p> <p>convert [1] 6737/7</p> <p>convey [1] 6599/16</p> <p>copies [1] 6673/9</p> <p>copy [2] 6718/7 6718/8</p> <p>COREY [2] 6571/8 6577/2</p> <p>corner [3] 6642/2 6644/22 6644/25</p> <p>Corporate [1] 6569/16</p>	<p>Corporation [2] 6572/23 6573/3</p> <p>Corps [3] 6582/9 6582/10 6582/17</p> <p>correct [105] 6579/25 6582/18 6594/8 6606/25 6607/1 6615/10 6617/19 6619/8 6627/13 6631/7 6632/15 6632/23 6645/8 6648/23 6649/9 6650/11 6653/21 6661/10 6661/11 6670/22 6670/25 6675/24 6676/2 6676/6 6677/4 6682/8 6682/11 6682/14 6685/13 6685/17 6685/20 6686/1 6687/1 6687/3 6687/14 6687/25 6688/8 6688/12 6689/14 6691/5 6692/16 6692/19 6693/5 6693/11 6694/12 6694/23 6696/13 6697/5 6699/22 6700/7 6703/23 6705/22 6709/7 6710/4 6710/7 6710/8 6710/21 6711/16 6711/21 6712/24 6714/9 6718/5 6720/9 6720/18 6720/23 6722/24 6722/25 6723/18 6724/7 6724/18 6724/22 6726/20 6727/5 6727/9 6729/8 6729/15 6729/19 6731/5 6732/12 6732/21 6733/1 6733/12 6734/17 6735/22 6737/1 6737/2 6737/11 6737/16 6738/6 6740/9 6741/7 6742/1 6744/7 6746/11 6747/3 6747/5 6747/13 6747/24 6749/4 6749/9 6754/8 6757/24 6758/13 6760/4 6760/21</p> <p>correctly [16] 6594/7 6614/1 6639/24 6641/13 6643/2 6643/13 6675/16 6676/5 6685/13 6690/15 6692/25 6702/25 6712/6 6716/9 6728/1 6737/24</p> <p>correlates [1] 6739/19</p> <p>correspond [2] 6699/22 6705/3</p> <p>cost [1] 6588/2</p> <p>could [51] 6579/7 6590/3 6590/6 6590/10 6590/11 6590/12 6599/18 6599/18 6600/2 6600/3 6610/9 6610/19 6611/1 6611/8 6611/15 6611/22 6612/21 6614/10 6614/10 6619/7 6622/21 6622/25 6623/4 6625/4 6625/5 6625/6 6627/19 6637/15 6637/15 6685/24 6686/8 6686/12 6687/11 6687/15 6691/12 6693/8 6698/1 6707/2 6707/9 6708/18 6717/2 6722/13 6723/3 6724/9 6734/2 6735/11 6748/2 6748/3 6756/13 6757/22 6757/25</p> <p>couldn't [6] 6638/17 6747/9 6748/3 6754/19 6756/7 6756/13</p> <p>counsel [1] 6662/20</p> <p>counteract [3] 6720/21 6722/7 6729/10</p> <p>counteracted [1] 6720/19</p> <p>counterpart [4] 6590/5 6691/11 6727/24 6757/9</p> <p>couple [4] 6578/9 6608/10 6608/12 6637/20</p> <p>course [11] 6587/4 6591/22 6599/2 6599/5 6625/14 6626/14 6652/4 6652/8 6714/6 6721/14 6744/11</p> <p>court [12] 6568/1 6573/18 6578/10 6578/16 6584/4 6655/19 6658/15 6673/13 6685/3 6760/18 6760/19 6760/25</p> <p>cover [7] 6602/9 6635/20 6678/5 6681/22 6696/2 6705/11 6705/11</p> <p>coverage [1] 6612/3</p> <p>covered [3] 6716/23 6716/23 6716/25</p> <p>Covington [1] 6572/2</p> <p>create [6] 6611/22 6644/2 6678/15 6712/10 6712/12 6716/14</p> <p>created [3] 6608/17 6680/6 6712/13</p> <p>creating [1] 6609/19</p> <p>credit [1] 6755/24</p> <p>critical [1] 6736/22</p>
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<p>C</p> <p>criticisms [3] 6644/5 6644/7 6690/7 cross [2] 6685/6 6685/10 cross-examination [2] 6685/6 6685/10 crush [3] 6651/18 6673/15 6743/7 CS [2] 6673/16 6673/17 cube [1] 6651/19 Cunningham [13] 6569/2 6569/3 6619/15 6619/17 6619/19 6619/24 6620/1 6620/4 6620/6 6620/10 6620/13 6620/21 6725/21 Cunningham's [1] 6724/6 Cupit [1] 6627/15 cure [1] 6612/21 current [1] 6584/21 currently [4] 6581/3 6581/6 6582/11 6628/18 customer [2] 6588/23 6754/11 cutting [1] 6597/15 CV [2] 6568/7 6568/9</p>	<p>dealing [14] 6589/16 6597/11 6612/10 6640/12 6646/2 6673/6 6692/3 6724/20 6725/23 6752/20 6752/21 6752/22 6753/2 6753/3 dealt [1] 6589/18 DEANNA [1] 6570/15 December [3] 6640/2 6694/14 6753/15 December 26th [1] 6694/14 December 7 [1] 6753/15 December 8th [1] 6640/2 decide [5] 6579/8 6579/10 6579/12 6597/21 6692/12 decided [8] 6597/7 6602/2 6605/7 6608/10 6714/5 6714/13 6727/7 6736/2 decision [25] 6597/12 6612/16 6617/22 6617/22 6620/7 6622/14 6622/15 6670/2 6688/23 6695/17 6698/9 6701/2 6714/11 6715/9 6715/10 6715/19 6718/22 6727/9 6729/12 6730/15 6730/16 6730/22 6758/23 6759/1 6759/1</p>	<p>depends [1] 6713/2 deposition [1] 6751/14 depth [8] 6638/23 6638/25 6639/1 6645/17 6645/19 6645/23 6653/24 6654/5 depths [2] 6703/6 6728/6 DEPUTY [1] 6579/24 describe [6] 6586/11 6586/16 6587/20 6587/22 6605/8 6727/21 described [3] 6590/1 6749/24 6758/13 description [1] 6605/23 design [119] 6592/18 6613/14 6617/17 6619/6 6624/2 6625/1 6625/5 6625/14 6626/15 6629/15 6630/6 6631/10 6631/17 6631/20 6632/1 6634/9 6634/21 6635/2 6635/5 6635/20 6635/25 6637/21 6637/24 6644/1 6644/2 6644/7 6646/2 6652/5 6654/20 6654/24 6678/16 6679/11 6680/4 6681/3 6681/13 6681/24 6682/8 6682/16 6682/19 6682/21 6682/25 6683/12 6683/17 6683/20 6684/5 6684/8 6685/15 6685/20 6686/9 6686/14 6687/8 6687/12 6688/2 6688/16 6688/22 6690/16 6690/25 6691/6 6691/20 6692/3 6693/9 6693/17 6693/22 6700/20 6701/2 6701/9 6703/4 6703/6 6703/11 6703/22 6704/3 6709/3 6709/12 6709/20 6709/21 6709/25 6711/1 6711/2 6711/21 6712/7 6712/9 6712/14 6712/24 6713/6 6713/16 6714/6 6714/7 6715/9 6715/18 6716/3 6716/17 6716/23 6717/10 6717/10 6717/12 6717/16 6717/21 6717/22 6718/13 6718/13 6718/22 6719/13 6719/20 6720/4 6720/10 6720/10 6726/16 6730/23 6734/18 6734/22 6735/13 6735/19 6736/8 6748/5 6750/10 6759/17 6759/24 6760/2 6760/5</p>
<p>D</p> <p>D-3277 [1] 6750/14 D-Air [49] 6623/16 6623/17 6623/24 6625/9 6626/13 6630/18 6641/11 6644/1 6644/6 6644/11 6644/13 6700/17 6701/15 6719/21 6719/24 6720/9 6720/10 6720/13 6721/10 6721/18 6721/20 6721/22 6721/24 6722/3 6722/8 6722/14 6722/23 6724/17 6724/21 6724/23 6726/22 6727/3 6727/13 6727/15 6727/23 6728/2 6729/10 6731/10 6747/2 6748/16 6752/4 6753/13 6753/19 6754/18 6754/24 6756/3 6756/6 6756/21 6757/12 D-Air 3000 [29] 6623/13 6624/4 6624/12 6624/15 6624/24 6624/25 6625/4 6625/16 6625/23 6626/6 6626/9 6637/9 6639/12 6647/8 6701/22 6719/25 6720/3 6720/15 6720/22 6730/18 6747/1 6748/8 6748/9 6751/23 6752/21 6753/17 6754/4 6756/17 6758/23 D-Air 3000's [1] 6721/19 D.C [4] 6570/17 6570/22 6571/6 6572/4 daily [7] 6583/23 6584/16 6600/9 6685/22 6698/14 6698/16 6751/21 Dallas [1] 6573/10 damage [1] 6741/20 damaged [6] 6616/19 6616/24 6646/25 6663/20 6663/20 6754/11 DANIEL [1] 6571/4 data [3] 6680/18 6680/18 6747/9 date [23] 6640/1 6642/2 6644/24 6645/2 6645/3 6645/5 6645/6 6653/4 6653/6 6653/7 6653/14 6653/20 6653/21 6662/22 6667/7 6671/5 6675/18 6675/18 6675/20 6686/20 6686/25 6697/22 6699/11 dated [4] 6627/9 6694/14 6716/2 6745/23 Dauphin [1] 6569/3 DAVID [3] 6573/3 6573/3 6692/15 day [20] 6568/14 6579/10 6587/23 6587/23 6589/2 6589/2 6595/9 6595/9 6598/21 6598/21 6599/11 6681/2 6681/15 6681/16 6688/6 6689/3 6690/2 6699/12 6702/4 6727/7 day-to-day [3] 6587/23 6589/2 6598/21 days [5] 6600/10 6600/16 6600/21 6686/17 6743/24 deal [2] 6589/12 6679/14</p>	<p>decision-making [1] 6718/22 decisions [13] 6599/11 6609/1 6609/13 6691/3 6691/3 6691/6 6692/10 6692/10 6693/21 6715/8 6715/8 6759/6 6759/6 deem [3] 6676/23 6676/24 6676/25 deemed [1] 6609/10 deeming [1] 6750/5 deeper [3] 6639/4 6647/22 6729/1 deepwater [36] 6568/4 6572/6 6572/7 6572/9 6572/10 6572/13 6572/13 6572/17 6572/17 6572/20 6572/21 6583/10 6586/12 6586/17 6586/20 6586/24 6592/10 6592/18 6593/13 6593/21 6612/15 6614/23 6616/14 6616/22 6617/8 6617/17 6621/18 6621/20 6622/6 6622/11 6622/18 6638/8 6687/8 6731/19 6732/1 6732/19 Deepwater Horizon [2] 6583/10 6638/8 defense [1] 6597/1 define [1] 6623/15 defined [3] 6612/11 6704/19 6704/23 definitely [4] 6601/13 6721/21 6757/22 6759/16 defoamer [6] 6630/18 6720/3 6725/23 6748/20 6751/16 6758/1 defoamers [8] 6641/8 6641/10 6641/11 6641/15 6641/21 6643/11 6643/18 6748/18 defoaming [1] 6750/17 deGravelles [2] 6569/21 6569/22 degree [2] 6582/1 6582/2 degrees [9] 6581/24 6582/1 6582/3 6634/15 6634/18 6654/7 6654/14 6742/1 6753/9 delay [1] 6639/5 DELEMARRE [1] 6570/20 delivered [2] 6696/6 6696/12 demonstrative [7] 6580/3 6662/17 6662/19 6675/11 6678/9 6748/11 6750/16 demonstratives [4] 6575/11 6575/14 6577/5 6577/21 DENISE [1] 6573/15 denote [1] 6632/8 density [22] 6623/25 6632/5 6632/6 6632/8 6632/13 6642/23 6649/11 6650/25 6651/1 6656/8 6663/10 6664/2 6666/3 6666/4 6666/6 6667/10 6675/15 6676/1 6676/12 6723/2 6742/9 6742/10 Department [4] 6570/8 6570/12 6570/18 6571/2 depending [2] 6703/25 6707/3</p>	<p>designed [20] 6591/22 6593/6 6593/12 6595/25 6610/3 6622/19 6642/11 6689/20 6696/5 6696/12 6700/14 6702/6 6708/18 6710/3 6710/9 6719/2 6720/9 6734/15 6752/24 6759/10 designer [2] 6592/5 6592/14 designing [7] 6607/16 6613/8 6613/11 6626/14 6640/5 6651/24 6748/7 designs [4] 6589/11 6592/22 6641/21 6748/22 desired [2] 6621/15 6651/19 desk [2] 6597/3 6599/21 despite [4] 6712/7 6736/11 6745/3 6759/25 destabilize [3] 6641/12 6641/16 6707/3 destabilizer [1] 6720/23 destabilizes [2] 6720/15 6758/1 destroyed [1] 6736/14 detail [1] 6595/21 details [3] 6677/3 6677/6 6678/19 deteriorate [2] 6595/11 6595/13 determination [1] 6759/12 determine [11] 6603/13 6603/17 6620/18 6626/16 6626/19 6644/12 6742/6 6742/12 6745/16 6745/18 6759/3 determined [8] 6605/13 6612/9 6613/18 6613/19 6669/9 6729/3 6741/22 6742/14 developed [1] 6594/25 development [7] 6611/18 6651/15 6651/20 6656/22 6672/14 6674/17 6697/2</p>

<p>D</p> <p>deviate [3] 6749/14 6749/25 6757/16 deviating [2] 6750/5 6750/6 deviation [1] 6744/7 Dexter [1] 6571/9 dial [1] 6601/7 dial-in [1] 6601/7 dialog [1] 6599/22 did [254] didn't [48] 6617/9 6618/6 6629/2 6660/3 6664/25 6668/10 6668/12 6677/5 6686/7 6687/17 6691/24 6692/5 6692/6 6692/8 6695/17 6699/19 6701/15 6703/4 6709/19 6711/17 6712/23 6715/9 6715/10 6717/15 6719/7 6724/20 6724/23 6730/3 6733/19 6735/10 6735/10 6736/16 6738/8 6742/20 6744/15 6744/22 6746/13 6746/15 6752/25 6753/18 6753/20 6754/18 6754/23 6755/6 6756/12 6756/15 6756/16 6758/11 difference [11] 6605/22 6638/18 6669/11 6669/13 6672/10 6676/13 6698/4 6707/15 6728/23 6733/9 6733/11 differences [1] 6634/1 different [20] 6617/13 6647/15 6651/11 6658/25 6667/4 6667/6 6667/7 6673/7 6673/7 6678/22 6705/5 6705/8 6705/8 6712/17 6718/10 6722/18 6725/7 6753/4 6753/19 6754/22 differently [5] 6683/13 6692/8 6703/13 6720/15 6724/20 difficult [3] 6754/21 6756/6 6756/8 direct [9] 6580/2 6580/17 6660/17 6685/12 6686/18 6686/18 6688/15 6692/4 6756/18 directly [1] 6687/11 dirt [1] 6638/18 disagree [12] 6622/22 6706/12 6711/4 6715/10 6715/14 6720/16 6720/17 6720/19 6734/18 6743/10 6747/8 6748/23 disagreed [4] 6601/18 6601/18 6620/15 6621/2 disagreement [1] 6597/7 disagreements [3] 6684/7 6684/15 6693/21 discovery [1] 6746/24 discuss [3] 6603/23 6604/4 6636/2 discussed [5] 6578/12 6668/11 6709/15 6724/25 6744/15 discussion [16] 6597/1 6597/2 6680/21 6688/10 6689/8 6689/10 6693/24 6694/9 6695/10 6706/22 6706/23 6708/8 6708/11 6751/18 6755/5 6758/21 discussions [4] 6604/23 6716/25 6717/1 6717/2 dispersants [5] 6641/10 6641/15 6643/11 6643/18 6748/18 dispose [1] 6755/24 disregarded [1] 6742/19 DISTRICT [5] 6568/1 6568/2 6568/15 6760/19 6760/19 Division [2] 6570/9 6570/19 do [139] 6578/24 6580/22 6581/2 6581/24 6581/25 6587/3 6587/4 6590/19 6591/1 6591/25 6592/9 6593/20 6596/20 6598/24 6601/6 6601/10 6601/12 6602/25 6603/1 6603/3 6607/19 6608/21 6609/5</p>	<p>6610/14 6610/21 6611/11 6611/16 6612/23 6614/24 6618/22 6619/14 6619/21 6622/10 6624/18 6625/7 6625/25 6629/25 6635/3 6636/4 6636/17 6637/1 6637/2 6639/10 6639/17 6641/10 6641/15 6643/4 6644/6 6644/22 6646/19 6650/7 6650/17 6652/10 6654/2 6657/14 6661/21 6663/1 6666/22 6669/5 6671/5 6671/15 6672/25 6675/6 6676/13 6676/14 6676/24 6676/25 6678/11 6682/2 6683/6 6683/13 6684/1 6684/7 6684/18 6684/19 6691/9 6692/5 6694/14 6695/17 6695/19 6698/22 6699/18 6701/3 6702/19 6702/22 6703/9 6703/10 6703/15 6710/1 6710/9 6711/4 6713/18 6716/21 6718/11 6719/16 6720/5 6721/13 6721/16 6722/17 6732/22 6733/22 6734/14 6734/20 6735/3 6735/3 6735/5 6735/6 6735/7 6735/8 6735/10 6735/11 6735/23 6735/25 6736/18 6738/8 6739/8 6739/8 6739/17 6739/18 6740/9 6740/14 6744/22 6746/15 6746/20 6747/7 6749/1 6749/24 6749/25 6752/15 6754/7 6754/15 6754/22 6756/2 6756/7 6756/13 6758/22 6759/3 6759/23 6760/20 Docket [3] 6568/4 6568/7 6568/9 document [58] 6629/11 6629/18 6629/22 6637/1 6639/20 6640/1 6641/25 6642/3 6642/18 6644/20 6644/25 6645/11 6647/13 6647/14 6648/12 6649/19 6653/4 6660/20 6673/11 6678/18 6678/19 6678/20 6679/8 6679/10 6679/15 6679/20 6680/2 6680/5 6680/9 6680/14 6680/20 6680/22 6681/6 6681/14 6681/17 6698/1 6699/24 6700/1 6700/7 6700/23 6702/2 6703/22 6704/4 6704/11 6706/17 6712/7 6712/8 6712/11 6712/12 6716/4 6716/11 6716/15 6722/15 6727/20 6730/20 6739/14 6745/23 6758/12 documentation [8] 6629/21 6698/6 6708/8 6708/10 6718/18 6722/6 6722/9 6745/20 documented [8] 6697/24 6703/6 6704/2 6714/19 6714/22 6717/2 6718/16 6755/13 documents [29] 6580/3 6599/1 6602/25 6629/20 6643/20 6678/22 6679/1 6682/2 6682/3 6682/4 6682/13 6682/16 6682/19 6688/22 6702/18 6702/21 6703/1 6703/12 6703/19 6709/8 6712/8 6712/22 6716/12 6717/3 6717/5 6717/8 6717/9 6718/11 6721/23 does [52] 6607/17 6607/22 6609/7 6614/24 6627/8 6627/14 6628/12 6637/4 6637/9 6642/5 6644/25 6645/1 6645/2 6650/3 6650/13 6653/2 6653/6 6653/25 6656/4 6656/5 6656/8 6656/10 6657/4 6657/6 6657/8 6657/20 6658/18 6658/20 6659/8 6663/12 6665/17 6665/21 6666/1 6666/1 6667/18 6668/20 6673/20 6674/10 6675/19 6676/7 6678/18 6681/22 6682/5 6686/22 6698/11 6709/4 6716/6 6722/23 6743/16 6749/12 6749/17 6755/16 doesn't [8] 6628/3 6628/4 6645/5 6728/23 6728/25 6740/13 6749/17 6753/20</p>	<p>doing [27] 6580/20 6580/23 6581/21 6594/7 6594/13 6597/13 6609/19 6614/11 6632/18 6632/25 6634/22 6635/1 6651/13 6652/5 6654/11 6667/15 6683/4 6684/21 6688/19 6703/13 6729/18 6729/20 6750/12 6750/22 6754/13 6756/1 6757/20 Domengeaux [1] 6568/18 DON [3] 6571/19 6575/19 6671/7 don't [54] 6577/6 6578/13 6580/6 6583/3 6583/5 6602/24 6608/9 6616/1 6618/12 6623/1 6635/15 6638/4 6668/1 6670/11 6671/17 6672/5 6687/20 6688/9 6688/13 6688/17 6691/16 6691/25 6697/1 6697/22 6697/23 6698/21 6698/23 6701/25 6702/4 6703/15 6703/16 6709/20 6713/22 6720/21 6733/13 6733/14 6740/22 6740/25 6742/4 6742/24 6744/1 6745/19 6745/23 6750/9 6753/24 6754/5 6754/5 6755/15 6756/24 6758/2 6758/4 6758/5 6758/14 6758/17 DONALD [2] 6573/7 6627/16 done [37] 6599/12 6612/21 6615/18 6628/6 6643/19 6643/21 6651/11 6658/1 6661/23 6661/24 6674/18 6690/3 6704/8 6706/17 6707/7 6707/8 6707/10 6712/18 6714/11 6719/1 6719/4 6722/21 6725/9 6726/8 6729/22 6738/9 6740/20 6740/24 6749/3 6749/20 6750/2 6750/3 6751/7 6756/14 6756/22 6757/11 6760/3 DOUGLAS [1] 6571/16 down [29] 6596/4 6597/16 6613/4 6614/5 6630/21 6638/5 6643/10 6645/24 6645/25 6647/9 6654/19 6654/19 6667/2 6685/12 6687/12 6688/22 6689/3 6694/8 6700/13 6703/2 6727/21 6731/8 6737/19 6737/22 6743/7 6744/14 6758/7 6758/12 6759/20 downhole [9] 6621/15 6623/24 6624/1 6626/17 6638/2 6674/8 6696/15 6738/1 6739/5 DOYEN [1] 6572/12 Dr. [3] 6577/5 6694/3 6698/17 Dr. Lewis [2] 6694/3 6698/17 Dr. Richard [1] 6577/5 drained [1] 6720/13 Drescher [1] 6569/8 drill [1] 6596/6 drilling [24] 6572/6 6572/9 6572/13 6572/17 6572/20 6585/9 6585/15 6594/18 6594/23 6600/7 6603/24 6604/4 6604/20 6612/15 6614/7 6614/16 6618/14 6618/23 6621/1 6645/24 6651/25 6672/1 6747/13 6747/18 drive [2] 6569/16 6576/11 dry [19] 6621/11 6621/16 6621/17 6622/2 6622/5 6622/17 6622/23 6623/12 6624/18 6625/4 6625/16 6626/6 6630/14 6630/15 6638/7 6638/17 6643/24 6644/6 6683/12 Dubois [8] 6589/19 6589/20 6668/2 6668/3 6697/18 6698/3 6744/15 6750/4 Dubois' [1] 6698/9 due [2] 6684/1 6744/25 Dugas [6] 6686/18 6686/19 6686/24 6687/7 6687/11 6687/24 Dugas' [1] 6687/22 DUKE [1] 6569/15 duly [1] 6579/22</p>
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<p>D</p> <p>Duncan [2] 6722/12 6736/3 during [16] 6580/3 6582/17 6593/25 6601/9 6618/17 6625/14 6626/14 6652/8 6695/4 6695/10 6695/19 6704/20 6709/12 6713/16 6713/17 6714/6 duties [1] 6683/8</p>	<p>6690/2 6702/4 6703/16 6705/1 6715/21 6716/5 6726/9 6734/9 ended [1] 6685/12 endless [1] 6740/16 Energy [2] 6573/7 6573/11 Enforcement [1] 6570/13 engaged [2] 6684/20 6695/18 engineer [3] 6581/22 6586/19 6636/9 engineering [7] 6582/4 6594/18 6594/24 6634/21 6683/7 6684/18 6699/4 engineers [14] 6585/10 6585/16 6594/18 6599/23 6614/8 6618/15 6618/23 6620/11 6621/1 6635/20 6641/20 6672/1 6682/21 6684/6 English [1] 6756/4 ENI [5] 6754/12 6754/13 6754/18 6755/23 6756/8 enough [12] 6596/4 6596/22 6622/20 6626/12 6638/1 6697/12 6707/1 6709/10 6721/17 6727/15 6729/9 6754/14 ensure [2] 6674/17 6685/15 ensuring [1] 6709/5 entail [1] 6711/15 entire [4] 6581/23 6584/11 6690/21 6712/24 entitled [9] 6639/21 6641/25 6652/20 6660/21 6696/3 6703/20 6712/9 6712/13 6760/23 entrap [3] 6650/16 6650/18 6665/23 entrap [2] 6623/19 6623/23 environment [2] 6570/13 6727/11 Environmental [1] 6570/13 equates [1] 6606/18 equation [2] 6703/14 6730/17 equivalent [1] 6712/22 Eric [9] 6619/14 6619/17 6619/19 6619/24 6620/1 6620/4 6620/6 6620/10 6620/13 ESQ [57] 6568/19 6568/23 6569/3 6569/6 6569/9 6569/12 6569/15 6569/18 6569/22 6570/3 6570/6 6570/9 6570/14 6570/14 6570/15 6570/15 6570/16 6570/19 6570/20 6570/20 6570/21 6570/21 6571/4 6571/4 6571/5 6571/16 6571/19 6571/22 6571/22 6571/23 6572/3 6572/6 6572/9 6572/9 6572/12 6572/13 6572/13 6572/16 6572/20 6572/23 6573/3 6573/3 6573/4 6573/4 6573/7 6573/8 6573/8 6573/9 6573/12 6573/15 6573/15 6573/16 essentially [3] 6715/1 6721/18 6753/2 et [3] 6568/8 6568/11 6703/3 etc [1] 6641/12 even [4] 6596/6 6600/18 6674/21 6702/4 evening [7] 6604/22 6627/12 6659/7 6669/1 6670/6 6670/7 6681/19 event [1] 6658/23 events [1] 6582/23 eventually [1] 6597/21 ever [18] 6592/25 6594/6 6594/11 6602/7 6609/13 6621/1 6651/25 6694/3 6702/15 6707/5 6721/23 6722/5 6726/17 6735/12 6735/22 6736/13 6751/25 6758/12 every [12] 6583/4 6600/15 6600/25 6655/7 6679/1 6684/2 6684/16 6711/6 6711/8 6722/18 6738/4 6756/18 everybody [1] 6579/11 everyone [2] 6575/5 6685/4 everything [8] 6652/11 6659/9 6661/23</p>	<p>6661/24 6719/8 6731/24 6749/15 6753/16 evidence [4] 6575/25 6576/13 6746/23 6755/13 exact [4] 6608/9 6686/20 6697/22 6740/10 exactly [10] 6630/4 6655/20 6693/14 6697/23 6733/5 6733/24 6735/5 6740/7 6754/7 6759/23 examination [10] 6575/11 6575/23 6576/5 6576/21 6577/21 6580/2 6580/4 6580/17 6685/6 6685/10 examining [1] 6580/1 example [1] 6706/9 examples [2] 6601/22 6634/25 exceed [1] 6618/12 except [1] 6600/9 excess [1] 6618/24 excluded [1] 6711/25 excuse [7] 6603/8 6605/2 6625/18 6695/12 6731/15 6731/19 6744/4 execute [1] 6635/3 executed [5] 6586/21 6588/11 6588/22 6589/9 6592/8 execution [3] 6687/8 6688/2 6690/25 exercise [1] 6713/5 exercised [3] 6609/20 6684/1 6684/18 exercising [1] 6609/14 exhibit [1] 6652/19 exhibits [16] 6575/10 6575/14 6575/22 6576/2 6576/5 6576/12 6576/20 6576/24 6577/5 6577/12 6577/14 6577/20 6577/24 6578/3 6578/3 6578/5 exist [1] 6714/2 existed [3] 6598/3 6713/24 6716/17 existence [2] 6625/23 6631/19 existing [6] 6622/17 6622/23 6623/7 6623/9 6643/24 6711/1 expect [1] 6614/25 expected [1] 6635/9 expediency [2] 6627/8 6642/2 experience [17] 6585/24 6586/11 6586/16 6586/20 6588/25 6612/15 6625/3 6644/9 6687/9 6707/9 6714/12 6725/16 6727/14 6727/17 6750/2 6751/21 6751/25 experienced [1] 6751/23 expert [1] 6750/18 expertise [4] 6687/7 6687/25 6688/2 6698/11 experts [2] 6620/14 6692/22 explain [6] 6583/21 6598/5 6598/7 6598/8 6621/7 6658/15 explained [1] 6597/18 explaining [1] 6755/22 exploration [5] 6568/10 6571/18 6571/21 6572/2 6585/6 express [1] 6672/5 extend [1] 6635/13 extent [8] 6704/8 6714/5 6714/11 6714/18 6715/18 6716/19 6716/22 6756/17 external [1] 6604/13 extra [4] 6674/14 6674/21 6697/14 6755/17 extremely [1] 6642/23 EZ [5] 6630/16 6647/8 6731/10 6752/4 6752/20 EZ-FLO [4] 6630/16 6731/10 6752/4 6752/20</p>
<p>E</p> <p>e-mail [47] 6599/18 6599/21 6599/23 6626/25 6627/9 6627/14 6628/12 6631/18 6631/22 6636/7 6636/23 6659/6 6659/8 6660/14 6660/21 6660/24 6669/18 6669/21 6669/25 6670/24 6671/15 6672/2 6672/7 6672/22 6672/23 6673/1 6673/8 6674/13 6674/25 6675/3 6685/24 6706/23 6714/25 6716/2 6716/5 6752/7 6752/15 6753/3 6753/21 6754/9 6754/25 6755/1 6755/2 6755/8 6755/16 6755/18 6755/21 e-mails [1] 6671/8 each [6] 6578/19 6598/6 6679/1 6679/12 6712/18 6722/19 earlier [18] 6613/24 6631/4 6640/11 6661/8 6663/8 6668/4 6669/21 6669/22 6677/2 6687/17 6696/21 6702/17 6704/7 6710/25 6712/1 6723/20 6726/2 6738/17 early [2] 6616/10 6617/3 earned [1] 6582/2 earth [1] 6710/12 easily [1] 6623/1 Easter [1] 6665/12 EASTERN [2] 6568/2 6760/19 eat [1] 6685/25 educated [1] 6751/22 education [1] 6714/12 educational [1] 6698/13 Edwards [8] 6568/19 6590/8 6590/9 6691/12 6727/24 6756/20 6757/9 6757/14 effect [3] 6697/15 6698/5 6740/25 effects [6] 6644/1 6644/13 6721/19 6721/21 6721/25 6722/7 effort [6] 6600/25 6703/20 6706/1 6726/16 6726/16 6734/11 eight [3] 6738/19 6738/23 6739/8 eight-hour [1] 6738/23 either [11] 6584/19 6599/21 6636/21 6663/17 6665/5 6688/16 6716/24 6722/12 6745/20 6747/12 6750/5 ELIZABETH [1] 6571/5 Ellis [1] 6571/21 Elm [1] 6573/9 else [9] 6602/3 6611/22 6620/21 6689/10 6695/4 6722/13 6726/17 6729/21 6750/4 embedded [20] 6582/24 6583/18 6583/21 6584/7 6584/9 6584/11 6584/14 6584/16 6585/18 6585/21 6586/3 6586/6 6586/15 6587/11 6589/25 6592/21 6592/25 6594/5 6600/2 6685/23 employed [4] 6581/6 6581/7 6581/18 6750/22 employee [3] 6685/19 6686/3 6686/8 employees [2] 6686/5 6689/5 encapsulates [1] 6637/13 end [16] 6578/2 6578/10 6579/11 6595/6 6599/11 6611/8 6617/1 6617/3</p>	<p>6690/2 6702/4 6703/16 6705/1 6715/21 6716/5 6726/9 6734/9 ended [1] 6685/12 endless [1] 6740/16 Energy [2] 6573/7 6573/11 Enforcement [1] 6570/13 engaged [2] 6684/20 6695/18 engineer [3] 6581/22 6586/19 6636/9 engineering [7] 6582/4 6594/18 6594/24 6634/21 6683/7 6684/18 6699/4 engineers [14] 6585/10 6585/16 6594/18 6599/23 6614/8 6618/15 6618/23 6620/11 6621/1 6635/20 6641/20 6672/1 6682/21 6684/6 English [1] 6756/4 ENI [5] 6754/12 6754/13 6754/18 6755/23 6756/8 enough [12] 6596/4 6596/22 6622/20 6626/12 6638/1 6697/12 6707/1 6709/10 6721/17 6727/15 6729/9 6754/14 ensure [2] 6674/17 6685/15 ensuring [1] 6709/5 entail [1] 6711/15 entire [4] 6581/23 6584/11 6690/21 6712/24 entitled [9] 6639/21 6641/25 6652/20 6660/21 6696/3 6703/20 6712/9 6712/13 6760/23 entrap [3] 6650/16 6650/18 6665/23 entrap [2] 6623/19 6623/23 environment [2] 6570/13 6727/11 Environmental [1] 6570/13 equates [1] 6606/18 equation [2] 6703/14 6730/17 equivalent [1] 6712/22 Eric [9] 6619/14 6619/17 6619/19 6619/24 6620/1 6620/4 6620/6 6620/10 6620/13 ESQ [57] 6568/19 6568/23 6569/3 6569/6 6569/9 6569/12 6569/15 6569/18 6569/22 6570/3 6570/6 6570/9 6570/14 6570/14 6570/15 6570/15 6570/16 6570/19 6570/20 6570/20 6570/21 6570/21 6571/4 6571/4 6571/5 6571/16 6571/19 6571/22 6571/22 6571/23 6572/3 6572/6 6572/9 6572/9 6572/12 6572/13 6572/13 6572/16 6572/20 6572/23 6573/3 6573/3 6573/4 6573/4 6573/7 6573/8 6573/8 6573/9 6573/12 6573/15 6573/15 6573/16 essentially [3] 6715/1 6721/18 6753/2 et [3] 6568/8 6568/11 6703/3 etc [1] 6641/12 even [4] 6596/6 6600/18 6674/21 6702/4 evening [7] 6604/22 6627/12 6659/7 6669/1 6670/6 6670/7 6681/19 event [1] 6658/23 events [1] 6582/23 eventually [1] 6597/21 ever [18] 6592/25 6594/6 6594/11 6602/7 6609/13 6621/1 6651/25 6694/3 6702/15 6707/5 6721/23 6722/5 6726/17 6735/12 6735/22 6736/13 6751/25 6758/12 every [12] 6583/4 6600/15 6600/25 6655/7 6679/1 6684/2 6684/16 6711/6 6711/8 6722/18 6738/4 6756/18 everybody [1] 6579/11 everyone [2] 6575/5 6685/4 everything [8] 6652/11 6659/9 6661/23</p>	<p>6661/24 6719/8 6731/24 6749/15 6753/16 evidence [4] 6575/25 6576/13 6746/23 6755/13 exact [4] 6608/9 6686/20 6697/22 6740/10 exactly [10] 6630/4 6655/20 6693/14 6697/23 6733/5 6733/24 6735/5 6740/7 6754/7 6759/23 examination [10] 6575/11 6575/23 6576/5 6576/21 6577/21 6580/2 6580/4 6580/17 6685/6 6685/10 examining [1] 6580/1 example [1] 6706/9 examples [2] 6601/22 6634/25 exceed [1] 6618/12 except [1] 6600/9 excess [1] 6618/24 excluded [1] 6711/25 excuse [7] 6603/8 6605/2 6625/18 6695/12 6731/15 6731/19 6744/4 execute [1] 6635/3 executed [5] 6586/21 6588/11 6588/22 6589/9 6592/8 execution [3] 6687/8 6688/2 6690/25 exercise [1] 6713/5 exercised [3] 6609/20 6684/1 6684/18 exercising [1] 6609/14 exhibit [1] 6652/19 exhibits [16] 6575/10 6575/14 6575/22 6576/2 6576/5 6576/12 6576/20 6576/24 6577/5 6577/12 6577/14 6577/20 6577/24 6578/3 6578/3 6578/5 exist [1] 6714/2 existed [3] 6598/3 6713/24 6716/17 existence [2] 6625/23 6631/19 existing [6] 6622/17 6622/23 6623/7 6623/9 6643/24 6711/1 expect [1] 6614/25 expected [1] 6635/9 expediency [2] 6627/8 6642/2 experience [17] 6585/24 6586/11 6586/16 6586/20 6588/25 6612/15 6625/3 6644/9 6687/9 6707/9 6714/12 6725/16 6727/14 6727/17 6750/2 6751/21 6751/25 experienced [1] 6751/23 expert [1] 6750/18 expertise [4] 6687/7 6687/25 6688/2 6698/11 experts [2] 6620/14 6692/22 explain [6] 6583/21 6598/5 6598/7 6598/8 6621/7 6658/15 explained [1] 6597/18 explaining [1] 6755/22 exploration [5] 6568/10 6571/18 6571/21 6572/2 6585/6 express [1] 6672/5 extend [1] 6635/13 extent [8] 6704/8 6714/5 6714/11 6714/18 6715/18 6716/19 6716/22 6756/17 external [1] 6604/13 extra [4] 6674/14 6674/21 6697/14 6755/17 extremely [1] 6642/23 EZ [5] 6630/16 6647/8 6731/10 6752/4 6752/20 EZ-FLO [4] 6630/16 6731/10 6752/4 6752/20</p> <p>F</p> <p>face [8] 6599/23 6599/24 6599/25</p>

F		
face... [5] 6599/25 6600/1 6600/1 6673/11 6701/23	6679/22 6711/17 6734/12 6734/25 6736/18 6750/6	6730/23 6740/25 6741/25 6745/6 6745/13 6745/15 6746/25 6747/3 6747/18 6748/15 6748/16 6748/21 6749/12 6750/18 6751/16 6751/21 6751/23 6753/17 6754/4 6754/4 6754/13 6754/15 6754/19 6756/7 6756/18 6756/21 6757/11 6758/1 6758/1 6758/23
Face-to-face [1] 6600/1	finding [1] 6658/11	foamed [7] 6632/4 6632/4 6632/6 6633/11 6657/10 6673/15 6722/2
facility [1] 6584/12	findings [1] 6578/19	foamer [3] 6631/1 6637/12 6639/22
fact [20] 6597/19 6614/10 6626/19 6626/20 6681/9 6685/23 6688/10 6691/24 6696/15 6707/17 6708/12 6729/9 6736/11 6745/4 6747/2 6749/17 6751/13 6752/24 6754/19 6754/20	fine [4] 6580/20 6580/25 6658/24 6756/2	Foamer/Stabilizer [1] 6639/22
factor [1] 6734/22	finish [1] 6740/2	foaming [7] 6624/23 6632/9 6664/2 6720/7 6748/9 6753/12 6756/3
factors [2] 6734/19 6739/9	finished [9] 6659/7 6661/14 6661/15 6661/18 6661/20 6661/25 6677/12 6677/17 6677/25	focus [1] 6663/21
Fahrenheit [2] 6634/15 6634/19	finished-in-lab [5] 6661/20 6661/25 6677/12 6677/17 6677/25	folks [3] 6629/1 6629/5 6750/17
fail [3] 6613/25 6663/18 6663/23	Firm [2] 6569/18 6570/5	follow [15] 6590/25 6596/15 6597/12 6597/21 6603/4 6608/16 6608/20 6609/10 6627/7 6641/8 6648/17 6673/12 6701/4 6751/10 6751/11
failed [2] 6612/20 6706/25	first [26] 6578/9 6597/16 6604/6 6617/5 6622/16 6624/12 6642/8 6642/21 6646/13 6646/16 6648/14 6652/22 6652/24 6654/23 6662/11 6663/3 6664/4 6666/22 6716/4 6726/8 6731/13 6741/10 6744/21 6747/3 6747/17 6750/18	followed [6] 6597/20 6598/11 6601/21 6601/23 6602/1 6745/22
fails [1] 6614/3	fitting [1] 6581/22	follows [1] 6579/23
failure [3] 6611/4 6747/23 6748/1	five [15] 6584/8 6586/8 6592/21 6592/25 6594/4 6594/5 6671/10 6674/1 6674/2 6678/5 6746/25 6747/21 6747/21 6747/23 6747/23	forces [1] 6582/6
fair [11] 6671/23 6690/13 6694/24 6700/2 6705/12 6709/10 6721/5 6724/4 6733/16 6733/21 6735/6	fix [1] 6604/15	foregoing [1] 6760/20
fairness [1] 6597/10	flagpole [2] 6757/19 6757/25	forensic [1] 6688/15
familiar [1] 6687/9	Fleece [4] 6616/10 6616/12 6617/5 6752/8	forensically [1] 6740/7
family [1] 6581/4	flexibility [2] 6616/2 6618/5	form [8] 6606/20 6625/3 6638/11 6638/12 6638/15 6688/18 6706/17 6711/13
Fannin [1] 6572/10	FLO [4] 6630/16 6731/10 6752/4 6752/20	forma [1] 6647/25
far [14] 6595/2 6596/8 6600/13 6635/4 6651/7 6689/1 6698/6 6698/19 6701/10 6701/12 6704/1 6706/6 6724/9 6757/23	float [1] 6744/14	formal [4] 6711/1 6713/15 6713/23 6714/20
fashion [2] 6688/18 6711/14	floor [3] 6569/13 6572/14 6584/22	formation [8] 6616/1 6618/11 6618/16 6619/1 6619/4 6619/8 6642/24 6643/6
fast [1] 6739/16	flow [17] 6602/21 6602/23 6603/2 6603/11 6603/16 6603/19 6603/20 6603/21 6611/6 6634/10 6682/5 6704/14 6704/19 6704/24 6705/4 6705/12 6709/18	formations [1] 6642/24
Faul [15] 6576/13 6686/19 6687/21 6687/24 6688/7 6688/10 6688/16 6688/19 6695/9 6695/15 6701/13 6735/10 6750/4 6756/23 6756/24	flowing [4] 6611/5 6633/18 6633/18 6710/12	formats [1] 6599/18
fault [1] 6714/4	flown [1] 6605/4	formatting [1] 6628/7
FCRR [4] 6573/18 6760/18 6760/24 6760/25	FLOYD [1] 6573/8	forms [1] 6736/22
February [24] 6617/2 6617/3 6644/24 6648/25 6653/25 6662/25 6662/25 6662/25 6663/3 6663/7 6665/15 6667/3 6706/6 6726/8 6730/16 6732/15 6738/8 6743/4 6743/19 6744/20 6745/3 6745/24 6745/25 6746/1	fluid [10] 6629/24 6630/5 6631/10 6632/3 6633/11 6633/13 6633/25 6633/25 6645/24 6743/15	formula [1] 6730/8
February 10 [1] 6644/24	Fluid 3 [3] 6630/5 6631/10 6633/25	Fort [1] 6579/4
February 12 [3] 6738/8 6744/20 6746/1	Fluid 4 [4] 6632/3 6633/11 6633/13 6633/25	forth [2] 6596/18 6731/6
February 12th [1] 6745/25	fluids [1] 6705/8	forward [3] 6598/1 6598/6 6750/1
February 12th and [1] 6662/25	fly [1] 6616/2	forwarded [1] 6729/24
February 13 [1] 6745/24	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	found [2] 6694/9 6710/25
February 13th [1] 6667/3	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	four [21] 6584/8 6586/7 6593/14 6593/20 6652/24 6686/17 6724/14 6725/9 6725/10 6725/21 6725/22 6727/11 6731/14 6739/23 6740/2 6740/4 6740/5 6740/12 6740/18 6745/12 6746/25
February 16 [3] 6743/4 6743/19 6745/3	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	four-hour [1] 6740/12
February 16th [2] 6662/25 6665/15	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	frac [3] 6615/24 6618/3 6618/3
February 2010 [1] 6617/3	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	fracking [1] 6588/11
federal [2] 6570/10 6612/1	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	fracture [7] 6616/1 6618/7 6618/8 6618/10 6618/11 6635/4 6643/8
feel [6] 6583/1 6588/24 6597/18 6601/14 6609/10 6692/8	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	fragile [2] 6619/4 6619/8
feet [2] 6612/1 6635/22	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	frame [1] 6658/22
felt [11] 6585/24 6595/11 6596/22 6597/16 6598/15 6625/22 6691/11 6692/9 6697/18 6714/15 6752/1	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	Francisco [1] 6570/11
few [2] 6637/7 6743/24	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/22 6621/3 6621/7 6621/9 6621/10 6622/18 6624/25 6625/25 6626/1 6626/14 6634/8 6634/9 6635/25 6636/2 6637/14 6638/21 6640/5 6641/12 6641/16 6641/21 6642/19 6644/2 6644/15 6647/2 6648/14 6649/16 6649/22 6651/19 6651/20 6651/23 6651/24 6652/1 6656/23 6657/1 6657/3 6657/9 6660/12 6661/6 6662/1 6669/4 6669/13 6676/25 6687/8 6687/13 6696/5 6696/11 6697/4 6697/7 6697/11 6697/15 6698/5 6699/4 6699/7 6699/19 6700/3 6700/6 6700/18 6701/22 6703/3 6706/8 6706/20 6707/3 6707/5 6707/13 6710/3 6719/25 6720/12 6720/15 6720/21 6720/23 6721/9 6721/13 6721/14 6723/2 6723/16 6724/22 6727/23 6727/25 6730/6 6730/18	Franklin [1] 6571/5
fewer [3] 6604/1 6604/21 6604/25	foam [127] 6586/21 6591/22 6592/5 6592/12 6593/5 6593/6 6615/2 6615/4 6615/5 6615/20 6615/23 6617/23 6618/1 6618/4 6619/10 6620/7 6620/16 6620/	

F	6743/17 6755/8 6755/17 6755/24 get-go [1] 6689/21 gets [2] 6596/4 6651/17 getting [7] 6605/4 6635/9 6635/10 6638/4 6663/17 6672/5 6754/10 give [17] 6580/8 6593/16 6595/19 6595/21 6596/11 6598/25 6601/22 6605/12 6605/23 6623/25 6634/25 6668/25 6669/8 6677/8 6691/5 6709/17 6713/9 given [3] 6601/9 6709/15 6730/14 gives [2] 6616/1 6732/24 giving [2] 6648/20 6721/23 global [10] 6689/14 6700/15 6700/16 6700/21 6701/7 6701/19 6701/25 6748/19 6749/13 6759/10 GmbH [1] 6568/8 GMT [2] 6671/8 6671/13 go [102] 6579/8 6579/9 6579/10 6579/12 6579/13 6584/23 6587/4 6590/6 6590/10 6590/11 6590/12 6595/22 6596/4 6597/4 6597/8 6600/2 6600/3 6602/2 6602/25 6603/5 6604/14 6605/7 6605/13 6613/4 6614/5 6617/10 6621/15 6628/8 6631/5 6631/6 6632/12 6633/5 6634/4 6641/3 6642/21 6645/10 6645/24 6645/25 6647/8 6648/7 6651/4 6653/17 6654/5 6654/19 6654/19 6657/1 6659/16 6660/1 6660/16 6662/15 6662/20 6665/1 6667/2 6668/18 6675/4 6675/10 6678/7 6679/4 6679/14 6679/25 6681/4 6681/23 6687/11 6687/12 6687/16 6688/22 6689/21 6691/21 6693/14 6695/25 6699/2 6699/24 6700/10 6700/13 6714/8 6714/23 6717/23 6722/11 6730/21 6731/8 6733/18 6733/23 6735/4 6736/21 6736/24 6739/18 6740/10 6741/10 6741/24 6742/4 6743/2 6743/5 6743/22 6744/4 6745/9 6745/17 6746/18 6750/1 6750/14 6750/19 6755/8 6758/9 Godwin [4] 6573/7 6573/7 6573/11 6575/19 Godwin's [1] 6737/18 goes [3] 6630/20 6645/23 6715/16 going [69] 6579/6 6579/12 6582/25 6583/2 6586/10 6586/15 6591/8 6596/20 6597/8 6597/10 6598/15 6599/12 6607/8 6615/13 6622/19 6623/24 6624/1 6624/6 6626/16 6635/11 6636/16 6636/17 6637/1 6648/24 6649/6 6655/4 6657/11 6658/1 6658/2 6658/21 6659/16 6669/10 6670/3 6670/4 6670/21 6670/24 6672/16 6674/22 6674/24 6679/9 6679/18 6681/16 6684/9 6702/5 6710/25 6711/15 6711/17 6711/24 6713/5 6715/11 6717/22 6717/23 6729/5 6731/6 6732/11 6732/23 6732/25 6733/2 6733/2 6738/3 6740/1 6740/8 6740/10 6743/13 6754/12 6755/23 6757/16 6759/4 6759/7 Golden [1] 6570/10 gone [4] 6690/20 6749/2 6752/3 6759/21 good [27] 6575/5 6575/19 6576/18 6577/2 6577/10 6577/18 6578/1 6580/19 6580/20 6580/21 6580/21 6588/16 6591/8 6633/7 6633/18 6633/19 6646/24 6657/15 6663/20 6685/8 6697/2 6697/12 6699/4 6699/7 6730/6 6734/10 6751/22	got [57] 6579/12 6595/3 6595/15 6596/2 6596/8 6596/11 6610/19 6630/13 6630/18 6630/23 6630/25 6631/3 6634/17 6647/7 6647/9 6647/11 6648/17 6653/15 6653/16 6654/9 6654/16 6659/6 6659/14 6659/21 6665/2 6665/5 6668/1 6668/19 6670/18 6671/15 6671/22 6671/25 6673/1 6673/5 6673/8 6678/4 6688/2 6691/19 6707/2 6717/22 6721/16 6721/16 6722/21 6723/11 6732/13 6735/14 6736/8 6739/24 6743/16 6744/20 6744/24 6745/3 6745/3 6745/7 6745/12 6758/15 6758/18 gotten [1] 6723/10 governed [1] 6749/9 GP [1] 6758/16 gradient [7] 6615/25 6618/3 6618/4 6618/8 6618/10 6635/4 6643/8 graduated [1] 6582/5 Grand [1] 6572/14 gravity [6] 6649/25 6650/4 6650/7 6657/17 6737/1 6737/7 Gray [2] 6752/8 6752/9 great [1] 6595/3 greater [1] 6578/15 Greg [9] 6585/7 6594/20 6604/16 6604/19 6605/3 6617/18 6669/19 6673/10 6681/2 grind [2] 6722/18 6722/19 grinds [2] 6722/20 6722/20 grounds [1] 6711/24 Group [1] 6569/15 groups [4] 6585/15 6594/18 6594/24 6684/7 guess [7] 6578/11 6580/9 6712/19 6726/2 6731/11 6747/25 6753/10 guessed [1] 6621/3 guidance [8] 6590/3 6590/13 6639/11 6640/15 6640/16 6640/20 6641/19 6643/16 guidances [3] 6590/24 6591/4 6749/10 guide [13] 6585/7 6594/19 6595/7 6617/18 6627/16 6674/14 6685/23 6708/5 6714/23 6717/1 6758/6 6758/15 6759/2 guiding [1] 6749/3 GULF [9] 6568/5 6586/19 6586/21 6593/10 6593/13 6593/22 6644/21 6652/23 6747/1 guy [2] 6690/24 6752/8 guys [3] 6716/20 6758/6 6759/6
G	H	
Gagliano [13] 6579/20 6579/22 6580/2 6580/19 6660/24 6685/8 6688/7 6712/6 6715/12 6735/12 6748/6 6758/7 6760/8 gained [2] 6586/11 6586/17 gallon [8] 6626/3 6663/4 6667/11 6676/15 6730/8 6737/5 6737/13 6744/6 gallons [44] 6605/11 6605/12 6605/15 6605/16 6606/14 6606/16 6607/22 6626/4 6630/25 6631/3 6631/5 6667/9 6667/11 6667/15 6668/25 6669/7 6670/3 6670/3 6670/12 6670/25 6672/3 6672/4 6672/6 6672/7 6672/9 6672/10 6672/11 6672/16 6672/18 6672/19 6672/24 6672/24 6673/13 6673/14 6673/15 6673/20 6673/25 6674/3 6674/9 6675/14 6675/24 6675/24 6681/17 6728/1 GANNAWAY [1] 6573/4 gaps [2] 6716/19 6716/21 Gardner [1] 6576/12 Garrison [1] 6576/12 Gary [1] 6627/17 gas [17] 6602/21 6602/23 6603/2 6603/11 6603/16 6603/18 6603/18 6603/20 6603/21 6615/6 6634/10 6634/12 6682/5 6704/13 6704/19 6704/24 6705/4 Gate [1] 6570/10 gave [14] 6588/1 6588/2 6596/7 6598/4 6618/5 6629/15 6666/23 6666/24 6668/10 6669/9 6684/16 6711/8 6711/10 6730/18 GAVIN [1] 6573/9 gears [3] 6609/22 6612/25 6615/2 gels [1] 6611/12 General [3] 6571/7 6571/11 6758/15 generally [5] 6585/2 6598/21 6630/3 6635/15 6678/19 gentleman [3] 6619/14 6668/3 6750/18 gentleman's [1] 6590/7 gentlemen [10] 6585/9 6614/19 6617/14 6617/16 6669/23 6669/25 6693/7 6695/22 6702/7 6736/11 GEOFFREY [1] 6573/4 George [2] 6752/8 6752/9 get [59] 6583/4 6584/23 6591/1 6596/23 6597/16 6607/25 6612/1 6621/14 6622/5 6623/1 6628/12 6634/15 6634/19 6635/4 6635/7 6636/6 6638/2 6639/4 6645/17 6647/23 6651/1 6654/8 6654/14 6655/12 6657/11 6657/25 6659/8 6659/16 6665/1 6666/6 6668/13 6671/2 6672/2 6674/17 6688/14 6689/21 6699/19 6703/16 6716/8 6720/13 6723/2 6732/11 6734/16 6734/20 6734/21 6735/4 6737/10 6739/2 6739/4 6739/19 6740/13 6740/15 6740/18 6741/3 6741/5	H2 [1] 6726/19 had [174] 6577/6 6578/9 6578/11 6579/2 6585/1 6585/15 6585/23 6587/3 6587/3 6587/4 6587/4 6590/5 6590/5 6590/10 6590/10 6590/11 6594/17 6594/25 6595/15 6596/3 6596/21 6597/2 6597/7 6598/24 6601/12 6601/24 6602/12 6602/14 6603/4 6604/23 6605/12 6612/20 6614/15 6618/4 6618/15 6618/17 6619/3 6619/23 6620/6 6620/10 6621/11 6621/21 6621/22 6621/23 6623/9 6624/3 6624/15 6624/21 6624/22 6629/19 6631/13 6631/18 6636/10 6636/25 6637/2 6639/17 6642/8 6643/5 6643/8 6643/19 6643/19 6643/20 6644/10 6645/21 6646/22 6646/24 6647/12 6650/25 6651/7 6651/9 6652/11 6652/14 6653/7 6654/3 6654/5	

H		
had... [99] 6661/8 6661/17 6665/12 6666/5 6667/14 6668/14 6677/11 6680/4 6680/11 6680/11 6680/16 6680/17 6680/21 6681/7 6683/3 6685/22 6686/3 6686/5 6686/6 6686/7 6686/10 6686/11 6686/19 6686/24 6687/7 6687/13 6687/15 6688/10 6688/15 6689/8 6689/10 6689/21 6691/6 6691/11 6691/21 6693/12 6693/16 6693/24 6694/9 6695/16 6701/14 6701/15 6706/22 6708/1 6711/8 6712/17 6713/1 6714/15 6714/20 6715/2 6715/4 6715/14 6717/1 6718/21 6718/23 6719/1 6719/3 6719/12 6719/24 6723/10 6723/10 6725/9 6725/16 6725/18 6726/22 6727/3 6728/2 6730/16 6735/1 6735/2 6735/15 6741/6 6741/7 6741/16 6741/20 6744/12 6746/12 6749/20 6750/7 6751/18 6753/4 6753/19 6754/11 6754/18 6754/24 6755/5 6755/10 6756/5 6756/14 6756/20 6756/22 6757/21 6757/22 6757/24 6759/8 6759/11 6759/20 6759/24 6759/24 hadn't [4] 6594/15 6659/22 6664/9 6669/9 Hafle [22] 6585/7 6594/21 6594/21 6594/22 6604/7 6604/8 6604/13 6614/19 6616/11 6617/18 6627/17 6669/19 6673/9 6685/22 6708/5 6714/23 6716/3 6717/1 6752/7 6753/15 6758/6 6759/2 Haire [1] 6627/15 Halad [3] 6641/11 6641/11 6641/11 Halad-12 [1] 6641/11 Halad-22A [1] 6641/11 Halad-9 [1] 6641/11 half [4] 6586/7 6676/15 6737/5 6737/6 half-pound [1] 6676/15 Halliburton [120] 6573/7 6573/11 6575/20 6575/21 6581/7 6581/8 6581/15 6581/17 6582/16 6583/11 6583/12 6587/7 6587/8 6587/17 6587/24 6588/8 6588/25 6590/2 6590/18 6590/23 6591/15 6591/23 6594/12 6594/14 6598/22 6599/8 6601/21 6608/24 6613/22 6622/12 6622/13 6624/25 6629/1 6629/5 6629/18 6630/16 6634/5 6636/8 6636/15 6639/10 6640/12 6640/14 6641/20 6644/20 6647/13 6654/17 6660/8 6660/24 6661/9 6669/24 6672/4 6683/8 6684/3 6684/7 6685/19 6686/3 6686/5 6686/8 6687/5 6689/5 6689/11 6690/2 6690/5 6690/11 6690/17 6690/24 6691/3 6691/7 6691/19 6692/11 6692/18 6692/22 6693/3 6694/10 6696/3 6696/10 6698/22 6699/3 6700/6 6705/20 6706/11 6708/13 6708/17 6709/2 6709/9 6709/16 6711/2 6711/7 6711/21 6713/11 6713/13 6713/19 6714/7 6714/16 6714/19 6714/20 6715/5 6715/11 6716/17 6719/2 6719/4 6722/5 6722/11 6734/11 6734/25 6745/5 6746/24 6748/24 6749/4 6749/19 6750/11 6754/1 6756/10 6756/16 6756/19 6756/22 6757/15 6757/17 6758/25 6759/20 Halliburton 0128960 [1] 6634/5	Halliburton's [21] 6576/2 6579/15 6603/4 6622/25 6623/2 6676/21 6691/2 6695/2 6700/14 6700/21 6701/7 6701/19 6706/1 6706/5 6709/1 6730/5 6748/15 6748/17 6748/19 6749/23 6756/10 hand [7] 6580/4 6642/2 6644/22 6644/25 6646/10 6662/24 6751/3 handful [1] 6586/5 handles [1] 6727/12 hands [2] 6751/21 6755/7 hands-on [1] 6751/21 HANKEY [1] 6570/15 happen [9] 6658/2 6658/2 6691/24 6711/20 6711/25 6713/3 6715/7 6738/3 6740/8 happened [5] 6580/6 6710/17 6710/17 6710/20 6746/16 happening [2] 6691/25 6741/1 happens [1] 6740/19 hard [10] 6596/4 6634/20 6651/16 6674/17 6722/17 6743/7 6743/11 6743/17 6745/4 6745/7 hardened [1] 6708/20 hardens [3] 6705/10 6708/14 6709/6 HARIKLIA [1] 6571/22 HARTLEY [1] 6573/8 has [34] 6588/15 6590/19 6602/7 6609/17 6619/22 6628/18 6650/15 6650/18 6663/4 6670/2 6673/24 6673/24 6689/16 6689/17 6690/3 6690/9 6693/20 6693/20 6694/3 6694/8 6701/3 6701/4 6720/22 6721/10 6721/11 6722/5 6725/23 6740/25 6742/15 6744/5 6749/2 6751/14 6754/4 6759/10 hasn't [1] 6694/1 HAUSER [1] 6571/4 have [204] haven't [3] 6690/11 6698/8 6733/15 having [24] 6579/22 6602/8 6607/17 6614/22 6614/23 6634/12 6643/24 6647/1 6648/3 6648/18 6649/4 6663/17 6674/15 6674/22 6682/7 6683/17 6683/18 6692/1 6694/24 6703/19 6750/2 6755/17 6755/24 6759/19 HAYCRAFT [1] 6571/19 hazard [1] 6608/17 hazards [1] 6636/3 HB [1] 6573/19 HB-406 [1] 6573/19 he [74] 6597/3 6597/4 6602/7 6607/12 6616/14 6616/15 6617/7 6617/9 6617/10 6617/11 6617/12 6617/12 6617/14 6619/24 6620/14 6620/15 6620/21 6636/24 6636/25 6636/25 6637/1 6637/2 6658/22 6658/24 6658/25 6660/2 6660/2 6660/2 6668/10 6671/4 6671/5 6671/15 6671/22 6671/25 6674/20 6674/21 6674/21 6674/25 6675/1 6687/3 6687/9 6687/22 6688/21 6688/23 6688/24 6688/25 6689/17 6693/1 6693/2 6693/4 6694/1 6694/9 6697/20 6698/3 6698/11 6698/13 6698/14 6698/15 6699/15 6702/9 6713/15 6727/24 6735/18 6735/19 6737/22 6752/10 6754/18 6754/19 6754/20 6754/21 6754/22 6754/23 6756/7 6756/20 he'd [1] 6757/11 he'll [2] 6580/7 6692/25 he's [15] 6607/9 6655/7 6658/23 6658/24 6674/25 6688/2 6689/3	6689/21 6689/24 6698/10 6699/21 6711/7 6711/19 6736/7 6737/20 head [3] 6708/14 6708/19 6709/5 header [1] 6671/15 hear [4] 6578/10 6579/18 6602/7 6620/20 heard [12] 6593/3 6594/8 6594/9 6594/13 6596/14 6602/7 6617/6 6624/3 6624/7 6632/24 6700/16 6759/25 Hearing [3] 6576/9 6577/16 6578/6 heat [1] 6743/13 heavier [9] 6650/25 6664/1 6666/4 6667/17 6667/21 6667/22 6707/23 6744/12 6744/13 held [3] 6581/10 6583/14 6693/1 help [5] 6590/21 6692/9 6694/13 6754/10 6754/12 helpful [1] 6578/22 helps [1] 6590/25 here [94] 6580/2 6582/23 6595/22 6606/12 6609/22 6617/15 6626/2 6626/24 6627/4 6627/7 6629/9 6630/3 6632/4 6634/7 6634/9 6635/25 6636/1 6636/6 6637/21 6638/6 6638/11 6639/7 6639/20 6641/2 6641/7 6641/8 6641/25 6643/17 6644/20 6645/13 6646/1 6646/4 6646/12 6647/7 6647/14 6648/2 6648/6 6648/11 6648/17 6649/4 6649/23 6652/19 6652/25 6653/17 6654/6 6654/8 6654/20 6655/1 6655/12 6655/17 6655/20 6656/1 6657/17 6659/19 6660/1 6660/15 6660/20 6662/15 6662/19 6665/15 6666/11 6667/3 6667/12 6669/18 6669/25 6670/9 6673/1 6673/2 6673/5 6673/8 6673/12 6675/13 6676/24 6678/4 6678/18 6679/2 6679/8 6680/23 6681/8 6681/12 6685/15 6690/8 6701/10 6718/20 6724/17 6727/15 6728/7 6732/14 6736/21 6743/15 6744/12 6753/25 6754/14 6759/25 Here's [1] 6743/4 hereby [1] 6760/20 Herman [3] 6568/22 6568/22 6568/23 high [1] 6611/25 higher [9] 6602/23 6606/24 6625/24 6646/11 6647/17 6647/22 6726/25 6728/18 6742/9 highest [1] 6612/2 highlight [1] 6627/1 highlighted [3] 6731/13 6731/24 6752/17 HILL [1] 6573/9 him [22] 6587/20 6607/13 6623/16 6636/24 6637/1 6637/2 6668/13 6668/14 6671/23 6674/25 6675/2 6675/3 6688/25 6689/10 6694/13 6694/15 6697/19 6697/19 6697/19 6698/12 6698/22 6735/18 himself [1] 6694/1 hindsight [1] 6733/21 HIPS [8] 6587/17 6587/21 6629/11 6634/20 6647/13 6678/22 6679/10 6703/15 his [21] 6580/3 6580/9 6589/22 6589/23 6617/6 6620/21 6668/2 6687/9 6689/19 6689/22 6689/24 6694/3 6698/4 6698/13 6699/25 6736/12 6750/19 6754/21 6756/6 6756/8 6756/21 hit [3] 6596/4 6665/3 6679/24 hold [7] 6578/12 6578/22 6581/24 6583/13 6636/1 6690/20 6721/14 holding [1] 6708/19 Holdings [5] 6572/5 6572/8 6572/12

H	6614/24 6679/24 6705/12 6710/12 6711/17	6631/19 6633/12 6636/7 6637/23 6645/18 6673/7 6681/8 6682/17 6683/16 6683/20 6683/24 6704/8 6705/17 6711/22 6748/21
Holdings... [2] 6572/16 6572/19 hole [21] 6596/3 6596/6 6608/2 6634/14 6645/23 6647/5 6654/6 6654/13 6666/5 6666/7 6666/9 6685/17 6697/5 6706/10 6710/11 6719/3 6728/19 6732/23 6733/2 6733/15 6740/10	hydrostatic [3] 6708/14 6708/19 6709/5 HYMEL [1] 6572/16	includes [2] 6673/15 6746/9 including [1] 6593/5 inclusion [2] 6631/25 6638/21 incompatible [1] 6748/16 inconsistent [1] 6753/16 incorporating [1] 6703/11 incorrect [2] 6700/22 6700/24 incorrectly [2] 6742/16 6742/17 increase [2] 6590/25 6727/8 increased [4] 6706/8 6707/12 6707/16 6726/5
holidays [1] 6600/18 Holthaus [1] 6569/21 Honor [39] 6575/8 6575/24 6576/18 6577/1 6577/2 6577/10 6577/17 6577/18 6578/1 6579/16 6579/21 6580/1 6606/5 6607/3 6607/9 6628/11 6628/24 6633/2 6633/4 6640/22 6641/4 6642/15 6649/24 6655/4 6655/9 6655/10 6655/15 6658/22 6660/5 6664/19 6671/18 6674/24 6678/8 6684/23 6711/23 6711/25 6721/6 6735/17 6760/7	I	increasing [1] 6727/10 indeed [2] 6688/14 6689/13 indicate [7] 6644/15 6661/21 6662/1 6663/23 6676/7 6682/5 6705/8 indicated [4] 6602/23 6662/3 6730/19 6743/15 indicates [7] 6658/16 6663/25 6664/2 6676/9 6705/1 6743/17 6743/20 indicating [1] 6660/25 indications [3] 6662/8 6743/14 6745/8 individual [3] 6596/25 6712/25 6722/19 individuals [2] 6585/3 6614/16 industrial [2] 6581/22 6582/4 industry [1] 6609/17 inform [3] 6612/19 6706/2 6714/13 information [50] 6584/23 6588/1 6588/10 6590/20 6628/16 6634/15 6634/22 6635/1 6635/4 6635/7 6635/9 6635/10 6636/6 6636/8 6645/13 6645/16 6645/17 6645/21 6645/25 6646/2 6646/21 6647/12 6651/13 6653/23 6654/7 6654/8 6654/9 6654/20 6669/22 6669/24 6680/10 6680/12 6682/17 6682/18 6682/20 6688/25 6692/6 6703/10 6703/17 6703/18 6705/18 6712/17 6713/10 6718/23 6719/12 6719/23 6723/16 6735/24 6747/6 6758/2
Honor's [1] 6580/4 HONORABLE [1] 6568/15 hope [2] 6665/12 6665/13 HORIZON [18] 6568/4 6583/10 6616/14 6616/20 6616/23 6617/1 6617/8 6617/17 6621/18 6621/20 6622/6 6622/11 6622/18 6638/8 6723/17 6731/19 6732/1 6732/19	I'd [4] 6575/24 6652/21 6743/1 6757/13 I'll [19] 6579/10 6580/4 6580/8 6624/8 6640/22 6640/23 6648/8 6649/1 6655/9 6659/16 6660/1 6664/20 6665/1 6665/10 6670/15 6677/21 6684/23 6712/2 6734/24 I'm [75] 6578/1 6578/23 6579/5 6579/5 6579/12 6579/12 6580/20 6581/7 6582/11 6582/11 6582/25 6583/1 6586/13 6597/15 6599/4 6606/9 6607/8 6615/22 6617/12 6624/6 6627/24 6628/25 6632/20 6633/1 6636/14 6637/20 6642/21 6648/24 6655/4 6655/12 6657/11 6657/15 6658/21 6659/16 6659/18 6662/11 6665/11 6671/7 6672/23 6674/24 6675/2 6685/8 6687/9 6694/12 6695/12 6697/25 6698/13 6702/5 6702/11 6705/23 6708/15 6711/7 6713/14 6713/24 6717/13 6717/15 6722/9 6722/17 6728/12 6731/5 6738/10 6740/9 6741/8 6745/22 6746/16 6749/6 6749/16 6749/18 6751/5 6754/9 6755/22 6755/23 6757/21 6757/24 6758/7 I've [14] 6578/9 6579/5 6579/11 6580/22 6583/5 6631/15 6673/5 6678/4 6694/20 6708/1 6722/2 6724/10 6727/16 6753/14	information's [1] 6747/14 informed [1] 6631/18 ingredient [1] 6623/10 inherently [1] 6720/22 initial [2] 6623/10 6623/12 initially [2] 6604/6 6667/14 initiate [1] 6693/18 inject [3] 6615/5 6621/14 6624/20 injected [3] 6615/7 6615/11 6634/13 input [5] 6588/9 6590/15 6634/20 6635/7 6651/12 inputted [1] 6680/18 inquiries [1] 6578/9 Insight [1] 6696/4 insights [1] 6695/2 insofar [8] 6586/24 6595/5 6595/24 6596/20 6610/11 6618/9 6644/7 6661/22 instability [6] 6736/14 6741/7 6742/4 6743/14 6744/22 6745/8 instead [3] 6605/13 6629/20 6755/24 institution [1] 6582/2 instructions [2] 6735/24 6751/10 instructs [1] 6641/20 Integrated [1] 6587/17 intend [1] 6647/2 intended [12] 6609/25 6610/1 6610/3 6612/10 6625/7 6629/3 6647/5 6664/15 6664/15 6664/24 6720/4 6720/11 interact [1] 6750/25
Honor's [1] 6580/4 HONORABLE [1] 6568/15 hope [2] 6665/12 6665/13 HORIZON [18] 6568/4 6583/10 6616/14 6616/20 6616/23 6617/1 6617/8 6617/17 6621/18 6621/20 6622/6 6622/11 6622/18 6638/8 6723/17 6731/19 6732/1 6732/19	ID [6] 6662/23 6663/4 6665/16 6667/4 6668/19 6668/22 ideas [3] 6686/9 6686/14 6691/22 identification [2] 6708/8 6708/11 identified [4] 6704/13 6704/25 6705/14 6725/21 identify [7] 6629/9 6652/24 6705/21 6706/1 6707/21 6713/9 6752/18 identifying [1] 6725/20 iLearns [1] 6587/3 Illinois [1] 6571/24 immediately [3] 6581/19 6581/20 6735/15 importance [3] 6626/8 6626/10 6626/11 important [4] 6583/3 6589/1 6592/2 6671/12 importantly [1] 6750/20 imported [1] 6588/1 Imprevento [1] 6569/8 improperly [3] 6742/11 6744/17 6745/2 in-house [1] 6706/13 inaccurate [2] 6659/3 6747/15 inactive [1] 6582/11 inadvertently [1] 6665/4 INC [16] 6568/11 6571/19 6571/22 6572/3 6572/6 6572/7 6572/9 6572/10 6572/13 6572/13 6572/17 6572/17 6572/20 6572/21 6573/7 6573/12 inch [7] 6628/17 6628/17 6680/5 6702/22 6703/20 6716/24 6717/6 incident [23] 6583/10 6583/19 6659/14 6659/15 6659/23 6662/9 6662/12 6664/10 6664/11 6677/6 6677/9 6677/11 6677/24 6677/24 6688/12 6688/14 6692/23 6695/2 6730/4 6736/1 6736/5 6742/20 6744/16 include [6] 6632/6 6643/25 6648/13 6654/8 6679/17 6716/13 included [18] 6630/9 6630/11 6631/10	horrific [1] 6677/24 hotter [1] 6647/21 Houma [1] 6569/16 hour [10] 6738/5 6738/14 6738/16 6738/23 6739/6 6739/25 6740/12 6740/22 6746/9 6746/12 hours [35] 6627/10 6628/18 6650/10 6650/11 6657/23 6657/24 6657/25 6658/8 6658/9 6660/23 6661/3 6669/21 6670/10 6671/10 6672/18 6674/1 6674/2 6674/9 6696/23 6696/23 6737/15 6738/10 6738/19 6739/4 6739/8 6739/13 6739/23 6739/24 6740/2 6740/4 6740/5 6740/18 6740/23 6743/16 6745/7 hours' [1] 6737/25 house [1] 6706/13 Houston [13] 6570/4 6572/10 6572/21 6573/5 6573/13 6573/17 6584/10 6617/17 6619/20 6632/18 6632/25 6633/1 6722/12 how [50] 6580/19 6581/6 6581/10 6581/14 6582/10 6584/7 6585/21 6587/2 6587/23 6588/7 6588/14 6588/19 6590/17 6591/13 6591/21 6592/13 6593/5 6593/5 6593/13 6594/24 6599/16 6600/6 6601/6 6602/10 6604/17 6605/24 6606/23 6610/21 6611/9 6611/25 6612/9 6613/13 6613/13 6618/21 6619/21 6621/7 6621/9 6625/7 6646/9 6651/16 6657/23 6669/7 6676/13 6690/4 6701/21 6702/2 6707/4 6732/24 6739/16 6740/12 HPD [1] 6687/6 HUGH [1] 6573/15 Hughes [1] 6572/19 hundred [2] 6608/10 6608/12 hurricane [2] 6616/19 6754/12 hydrocarbon [7] 6610/15 6612/2 6635/13 6635/16 6635/21 6635/23 6709/18 hydrocarbon-bearing [4] 6610/15 6612/2 6635/16 6635/23 hydrocarbons [7] 6610/5 6611/7

<p>interacted [2] 6691/7 6694/25 interaction [4] 6600/6 6639/11 6643/10 6748/17 interactions [1] 6714/18 interfaced [1] 6690/24 intermix [1] 6611/18 internal [3] 6590/19 6597/1 6597/2 International [2] 6572/22 6573/2 interpret [2] 6674/25 6701/21 interpreted [1] 6677/12 interval [3] 6616/6 6679/18 6679/21 intervals [1] 6593/14 interview [2] 6586/2 6727/20 interviewed [1] 6586/5 introduce [2] 6575/14 6577/14 invalid [17] 6663/25 6667/21 6742/6 6742/8 6744/8 6744/9 6744/9 6744/19 6744/23 6744/24 6744/25 6745/2 6745/13 6745/13 6745/16 6745/18 6746/10 investigate [1] 6688/19 investigation [3] 6690/6 6694/10 6735/25 invited [1] 6601/14 involved [25] 6585/12 6592/4 6592/13 6594/23 6601/11 6609/12 6613/7 6613/11 6614/23 6624/3 6624/3 6624/7 6640/4 6651/24 6688/18 6693/8 6694/4 6722/2 6724/10 6724/16 6727/16 6727/18 6736/5 6750/3 6750/9 involvement [1] 6624/12 Irpino [3] 6570/5 6570/6 6575/8 irreconcilable [1] 6753/16 is [271] Isabella [7] 6593/19 6723/21 6723/24 6724/15 6724/22 6725/3 6726/25 isn't [4] 6674/16 6696/15 6733/21 6748/6 isolate [5] 6610/5 6612/20 6613/5 6614/6 6614/24 isolating [1] 6611/15 isolation [20] 6610/1 6610/15 6610/18 6610/22 6611/1 6611/23 6612/6 6613/6 6613/25 6614/4 6710/7 6710/18 6733/19 6734/14 6734/20 6747/7 6747/24 6748/2 6759/11 6759/15 issue [19] 6604/18 6613/18 6614/9 6663/15 6671/8 6681/1 6695/22 6706/4 6706/20 6711/21 6713/6 6716/22 6718/11 6724/20 6744/1 6748/9 6756/11 6757/24 6760/2 issued [1] 6712/8 issues [14] 6596/15 6598/24 6625/10 6654/3 6674/15 6674/22 6690/7 6693/8 6693/16 6709/12 6723/11 6759/21 6759/24 6760/5 it [599] it's [77] 6578/11 6580/24 6583/3 6583/15 6591/8 6606/1 6606/6 6606/7 6607/24 6609/9 6609/10 6610/10 6610/12 6610/13 6610/19 6625/10 6628/15 6628/25 6629/13 6633/14 6634/8 6635/22 6637/14 6639/9 6639/21 6640/15 6640/16 6640/20 6646/20 6647/11 6652/19 6657/10 6657/21 6667/6 6671/10 6671/13 6671/22 6674/17 6674/18 6676/20 6686/23 6689/24 6697/10 6701/23 6715/2 6717/23 6720/6 6721/13 6722/21 6728/12 6728/18 6728/25 6729/1 6732/14 6733/7 6733/17 6734/2</p>	<p>6734/22 6740/11 6742/4 6742/6 6742/24 6743/7 6743/13 6744/18 6745/2 6745/18 6745/18 6748/4 6750/1 6752/19 6753/4 6755/12 6756/3 6759/3 6759/16 6760/10 its [3] 6641/20 6701/23 6724/21 itself [3] 6704/3 6740/1 6759/18 J JAMES [2] 6568/19 6571/12 January [5] 6617/2 6617/3 6642/4 6642/5 6723/18 January 1996 [1] 6642/4 January 2006 [1] 6723/18 Jason [6] 6754/17 6755/5 6755/6 6755/10 6755/12 6756/5 Jeff [1] 6576/22 Jefferson [2] 6568/20 6572/17 JEFFREY [1] 6569/9 JERRY [1] 6573/12 Jesse [175] 6579/20 6579/22 6580/23 6581/2 6581/6 6581/10 6581/24 6582/6 6582/23 6583/8 6583/9 6584/1 6584/6 6584/7 6584/14 6585/22 6586/10 6587/11 6588/4 6588/24 6589/6 6589/25 6591/6 6591/21 6592/14 6592/21 6592/24 6593/5 6593/25 6594/17 6595/5 6595/14 6597/10 6598/19 6600/6 6600/11 6600/20 6601/20 6604/5 6605/17 6605/21 6606/12 6607/16 6608/15 6609/5 6609/12 6609/17 6609/22 6609/24 6610/17 6611/10 6611/16 6611/21 6612/4 6612/5 6612/9 6612/19 6613/2 6613/7 6613/24 6614/22 6615/2 6615/4 6615/20 6616/3 6617/22 6618/1 6618/14 6621/7 6621/17 6623/20 6624/2 6626/24 6627/4 6629/9 6629/13 6629/16 6629/22 6630/2 6631/9 6631/13 6631/22 6632/3 6633/24 6634/3 6634/7 6634/22 6637/7 6638/3 6638/6 6638/10 6638/20 6638/21 6639/3 6639/10 6639/17 6639/20 6640/1 6640/4 6640/10 6640/11 6641/2 6641/9 6641/13 6641/15 6641/19 6641/25 6642/10 6642/14 6642/21 6643/10 6643/16 6643/24 6644/5 6644/11 6644/20 6644/24 6646/4 6646/12 6647/1 6648/6 6648/11 6648/17 6649/22 6650/3 6650/13 6650/17 6650/23 6651/3 6651/22 6652/4 6652/19 6653/8 6653/14 6655/17 6656/4 6656/18 6657/14 6657/20 6657/23 6658/11 6658/15 6658/18 6660/20 6660/24 6662/19 6663/13 6663/16 6664/5 6665/22 6666/1 6666/11 6666/22 6667/2 6667/16 6667/18 6667/24 6669/5 6669/14 6670/4 6673/8 6678/11 6678/14 6682/21 6683/6 6683/11 6683/14 6683/17 6683/23 6684/1 6734/16 6735/12 6735/14 6736/2 6758/8 JESSICA [2] 6570/19 6570/20 Jessie [1] 6639/7 JIMMY [1] 6570/3 job [115] 6587/4 6587/13 6587/23 6588/10 6590/4 6590/25 6592/5 6592/12 6597/16 6601/24 6602/11 6607/7 6607/20 6608/5 6608/7 6608/11 6609/10 6610/18 6612/20 6612/23 6613/2 6613/3 6613/14 6613/19 6613/20 6614/3 6614/9 6614/11</p>	<p>6614/24 6615/21 6615/23 6617/23 6618/2 6621/13 6622/21 6626/1 6626/14 6628/17 6632/11 6634/13 6637/14 6646/20 6647/21 6653/16 6658/2 6658/11 6660/9 6661/6 6661/9 6668/14 6670/6 6670/10 6670/21 6677/14 6678/1 6684/2 6685/15 6685/20 6687/8 6688/3 6688/11 6689/6 6691/14 6692/10 6692/11 6693/1 6693/1 6693/2 6704/20 6704/25 6705/22 6706/3 6706/19 6710/17 6711/14 6711/15 6711/22 6712/10 6712/16 6719/5 6719/8 6719/13 6719/25 6721/1 6721/9 6721/11 6721/13 6722/14 6725/22 6727/3 6727/23 6727/23 6728/4 6730/17 6732/25 6738/25 6739/9 6739/23 6739/25 6740/1 6740/15 6741/1 6747/18 6748/7 6748/22 6749/8 6752/15 6753/3 6754/14 6754/15 6754/21 6756/6 6756/8 6757/16 6759/8 jobs [38] 6586/19 6586/21 6590/21 6591/22 6592/4 6592/5 6592/12 6593/5 6593/6 6613/1 6613/8 6613/11 6613/16 6613/24 6614/17 6625/25 6643/19 6722/2 6723/16 6723/20 6724/14 6725/16 6725/18 6725/21 6726/22 6727/11 6727/16 6727/17 6727/21 6746/25 6747/21 6747/23 6750/3 6753/8 6754/16 6756/14 6756/21 6757/11 Jodi [5] 6573/18 6573/20 6760/18 6760/24 6760/25 Joe [6] 6590/8 6590/9 6691/12 6727/24 6756/20 6757/9 JOHN [9] 6569/22 6572/20 6573/16 6585/7 6594/19 6595/7 6617/18 6627/16 6674/14 joined [2] 6581/18 6604/16 JONES [1] 6573/3 JR [3] 6569/12 6573/8 6573/8 judge [118] 6568/15 6575/19 6575/21 6576/4 6576/10 6576/17 6580/10 6580/14 6582/1 6583/4 6583/21 6584/1 6586/11 6586/16 6587/16 6587/20 6588/6 6588/19 6589/17 6590/23 6591/21 6593/16 6594/3 6595/21 6596/1 6598/20 6599/16 6601/22 6602/7 6605/6 6605/15 6606/7 6606/9 6606/12 6606/18 6607/4 6607/11 6607/14 6607/21 6609/8 6610/10 6611/23 6618/20 6619/17 6621/7 6623/15 6624/8 6624/9 6624/18 6625/7 6626/8 6627/21 6627/23 6628/1 6628/2 6628/6 6628/10 6629/3 6629/9 6629/16 6631/5 6632/17 6633/7 6633/12 6634/25 6637/9 6637/22 6640/11 6640/23 6640/25 6645/7 6646/17 6647/18 6651/8 6653/19 6655/6 6655/12 6655/18 6656/15 6656/18 6657/11 6659/2 6659/10 6660/1 6660/17 6661/12 6662/5 6663/7 6664/22 6664/25 6665/3 6665/7 6665/8 6665/10 6665/13 6670/9 6670/15 6670/16 6671/12 6671/20 6672/23 6673/1 6675/2 6677/21 6678/4 6678/20 6679/8 6679/15 6680/1 6680/8 6680/14 6680/19 6681/5 6681/14 6683/6 6712/4 6737/19 6737/22 Judge Barbier [58] 6582/1 6583/4 6583/21 6586/11 6586/16 6587/16 6587/20 6588/6 6588/19 6589/17 6590/23 6591/21 6593/16 6594/3</p>
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<p>J</p> <p>Judge Barbier... [44] 6595/21 6596/1 6598/20 6599/16 6601/22 6602/7 6605/6 6605/15 6606/12 6606/18 6607/21 6610/10 6611/23 6619/17 6621/7 6623/15 6625/7 6626/8 6629/16 6631/5 6633/12 6634/25 6637/9 6637/22 6640/11 6645/7 6646/17 6647/18 6655/18 6656/18 6661/12 6662/5 6663/7 6670/9 6678/20 6679/8 6679/15 6680/1 6680/8 6680/14 6680/19 6681/5 6681/14 6683/6</p> <p>Judge Barbier's [1] 6653/19</p> <p>judgment [2] 6683/7 6684/19</p> <p>July [1] 6723/25</p> <p>July 2 [1] 6723/25</p> <p>junction [1] 6598/6</p> <p>June [7] 6679/2 6679/6 6702/18 6711/10 6712/7 6712/13 6716/2</p> <p>June 11 [3] 6679/2 6679/6 6716/2</p> <p>June 2009 [1] 6712/7</p> <p>just [83] 6578/16 6580/9 6587/21 6591/7 6595/21 6604/14 6605/19 6607/11 6611/2 6622/8 6622/25 6624/6 6628/1 6629/10 6630/3 6632/8 6633/5 6634/12 6637/16 6637/17 6637/20 6638/18 6638/24 6642/22 6646/1 6646/19 6652/25 6655/4 6655/7 6659/18 6662/15 6663/14 6666/7 6668/20 6669/8 6672/6 6679/21 6688/3 6690/20 6696/2 6704/2 6705/24 6706/7 6707/14 6707/19 6709/18 6712/16 6713/2 6715/9 6716/11 6716/19 6720/4 6723/1 6728/10 6729/6 6730/14 6732/10 6734/22 6735/22 6735/24 6737/18 6740/1 6740/16 6741/1 6741/15 6742/19 6745/10 6745/12 6746/15 6748/4 6748/4 6748/23 6749/24 6750/2 6752/2 6753/17 6755/6 6755/16 6755/20 6756/18 6759/16 6759/19 6759/22</p> <p>Justice [4] 6570/8 6570/12 6570/18 6571/2</p> <p>justified [1] 6609/14</p>	<p>6756/13</p> <p>know [47] 6579/11 6580/6 6583/1 6583/6 6587/19 6590/19 6595/2 6619/14 6622/5 6622/10 6623/9 6628/19 6632/21 6636/14 6639/10 6654/2 6667/5 6667/11 6669/5 6670/11 6692/15 6698/19 6698/21 6698/23 6701/11 6701/12 6701/25 6702/4 6707/18 6713/3 6717/22 6719/7 6733/14 6733/18 6736/16 6740/22 6748/13 6750/12 6752/3 6755/15 6757/23 6758/2 6758/4 6758/5 6759/9 6759/9 6760/1</p> <p>knowing [2] 6701/19 6701/19</p> <p>knowledge [14] 6575/24 6576/7 6594/11 6603/16 6619/21 6643/5 6687/7 6718/21 6719/1 6719/4 6722/5 6749/2 6750/7 6758/25</p> <p>known [5] 6580/22 6585/9 6623/13 6635/21 6689/25</p> <p>knows [1] 6698/15</p> <p>Kodiak [6] 6621/22 6621/23 6621/23 6622/8 6723/5 6731/25</p> <p>KRAUS [1] 6571/16</p> <p>Kris [1] 6695/8</p> <p>Kullman [1] 6569/5</p>	<p>lawyer [2] 6583/5 6591/25</p> <p>lawyers [3] 6583/1 6591/25 6592/1</p> <p>layer [1] 6709/17</p> <p>lead [13] 6591/25 6592/4 6592/7 6592/13 6607/13 6610/18 6611/1 6611/15 6629/24 6633/15 6644/21 6646/2 6703/2</p> <p>leading [12] 6604/13 6607/8 6640/22 6655/5 6655/6 6664/18 6664/21 6670/13 6670/14 6670/14 6677/19 6677/20</p> <p>leads [1] 6742/11</p> <p>learn [3] 6608/7 6618/15 6636/21</p> <p>learned [11] 6618/23 6629/19 6643/20 6681/15 6687/25 6689/7 6689/17 6690/10 6690/12 6744/16 6748/25</p> <p>LEASING [1] 6568/8</p> <p>least [12] 6607/19 6635/22 6673/11 6686/7 6689/25 6694/25 6700/13 6700/17 6701/23 6718/1 6719/4 6745/19</p> <p>leave [5] 6611/6 6637/16 6637/16 6637/17 6705/12</p> <p>led [3] 6620/15 6621/2 6660/12</p> <p>left [11] 6597/2 6617/12 6617/14 6617/16 6622/7 6642/2 6646/10 6662/24 6678/12 6696/3 6732/2</p> <p>left-hand [3] 6642/2 6646/10 6662/24</p> <p>leftover [1] 6622/7</p> <p>Leger [2] 6569/12 6569/12</p> <p>length [2] 6595/12 6595/13</p> <p>lengthy [1] 6579/1</p> <p>less [4] 6626/2 6657/9 6671/10 6727/25</p> <p>lesson [1] 6690/10</p> <p>Lessons [1] 6689/17</p> <p>let [15] 6579/11 6583/6 6602/6 6617/14 6628/19 6632/16 6648/8 6649/1 6658/16 6660/16 6669/15 6708/16 6739/12 6741/9 6759/18</p> <p>let's [52] 6579/13 6579/14 6582/23 6587/20 6609/22 6609/22 6612/25 6615/2 6615/2 6621/16 6626/22 6629/6 6632/3 6633/11 6636/16 6637/7 6637/16 6639/14 6641/2 6641/3 6641/23 6642/14 6642/17 6642/18 6644/18 6645/10 6648/6 6649/18 6652/17 6654/19 6655/18 6655/25 6656/1 6656/13 6660/18 6662/17 6667/2 6669/15 6672/20 6675/10 6678/9 6679/4 6679/25 6684/25 6719/19 6731/3 6736/21 6741/10 6746/18 6748/14 6752/5 6760/9</p> <p>letting [1] 6717/22</p> <p>level [7] 6583/15 6583/16 6594/12 6597/25 6625/22 6687/10 6735/25</p> <p>Lewis [10] 6569/5 6571/18 6573/7 6573/11 6573/14 6692/15 6693/5 6694/3 6698/17 6757/8</p> <p>LI [2] 6572/13 6577/10</p> <p>life [2] 6609/18 6618/17</p> <p>lighten [1] 6615/6</p> <p>like [19] 6575/13 6580/5 6582/15 6601/14 6605/24 6625/22 6638/18 6638/19 6652/21 6657/4 6665/8 6668/12 6669/20 6688/3 6712/12 6718/20 6738/22 6751/7 6758/16</p> <p>likewise [2] 6575/21 6577/4</p> <p>linchpin [1] 6730/15</p> <p>line [6] 6578/2 6628/14 6648/13 6681/12 6699/13 6748/6</p> <p>lineage [1] 6680/7</p> <p>liner [4] 6620/19 6645/16 6747/13 6747/18</p>
<p>K</p> <p>Kanner [2] 6571/15 6571/15</p> <p>KARIS [1] 6571/22</p> <p>Katy [1] 6581/3</p> <p>Katz [1] 6568/22</p> <p>KCL [2] 6630/20 6752/4</p> <p>keep [3] 6584/20 6588/11 6637/13</p> <p>KELLEY [1] 6571/4</p> <p>kept [2] 6625/19 6625/20</p> <p>KERRY [1] 6572/6</p> <p>key [1] 6592/17</p> <p>kick [1] 6633/20</p> <p>kickoff [4] 6595/16 6595/20 6595/25 6596/6</p> <p>Kika [7] 6593/19 6723/21 6723/25 6724/16 6724/22 6725/3 6726/19</p> <p>Kinchen [2] 6572/19 6572/20</p> <p>kind [8] 6578/22 6588/16 6596/5 6604/16 6631/24 6658/1 6659/21 6734/18</p> <p>kinds [1] 6634/25</p> <p>King [7] 6593/19 6723/21 6723/24 6724/15 6724/22 6725/3 6726/19</p> <p>Kirkland [1] 6571/21</p> <p>knew [14] 6599/2 6599/5 6643/19 6644/9 6701/13 6701/17 6708/6 6719/8 6719/8 6727/14 6733/3 6750/5 6756/13</p>	<p>L</p> <p>lab [84] 6588/17 6588/21 6588/22 6588/22 6589/7 6589/9 6589/10 6589/11 6589/13 6589/17 6589/22 6589/23 6589/24 6591/10 6615/15 6615/16 6615/18 6644/16 6644/21 6645/3 6645/18 6646/12 6646/13 6651/9 6652/20 6653/9 6653/11 6655/1 6658/4 6658/7 6660/8 6660/9 6661/14 6661/15 6661/18 6661/20 6661/25 6662/8 6662/10 6662/10 6662/13 6666/5 6667/17 6668/2 6668/4 6668/6 6668/9 6673/13 6673/15 6677/12 6677/17 6677/25 6697/18 6698/7 6698/10 6698/14 6699/22 6700/24 6701/2 6701/4 6701/8 6701/17 6702/2 6715/16 6717/18 6717/25 6718/11 6722/12 6729/15 6729/16 6729/18 6729/20 6729/25 6742/15 6742/21 6744/10 6744/16 6744/21 6745/1 6745/21 6750/24 6750/24 6751/2 6754/2</p> <p>Lab.' [1] 6660/21</p> <p>Lab.' [1] 6661/1</p> <p>laboratory [9] 6615/14 6700/15 6700/21 6701/7 6701/20 6701/25 6717/11 6748/19 6749/13</p> <p>lack [5] 6748/3 6748/3 6759/15 6759/15 6759/16</p> <p>lady [1] 6623/21</p> <p>laed.uscourts.gov [1] 6573/20</p> <p>Lafarge [4] 6647/7 6731/9 6752/4 6752/19</p> <p>Lafayette [3] 6568/21 6572/18 6586/18</p> <p>Lafleur [1] 6572/16</p> <p>Lamar [1] 6573/12</p> <p>LANGAN [1] 6571/22</p> <p>large [2] 6638/19 6683/3</p> <p>Lasalle [1] 6571/23</p> <p>last [11] 6576/11 6631/8 6648/13 6675/13 6678/4 6681/12 6718/1 6718/4 6723/21 6725/16 6756/9</p> <p>later [5] 6597/3 6604/16 6628/12 6693/1 6716/14</p> <p>Law [3] 6569/15 6569/18 6570/5</p> <p>LAWRENCE [1] 6570/21</p>	<p>lawyer [2] 6583/5 6591/25</p> <p>lawyers [3] 6583/1 6591/25 6592/1</p> <p>layer [1] 6709/17</p> <p>lead [13] 6591/25 6592/4 6592/7 6592/13 6607/13 6610/18 6611/1 6611/15 6629/24 6633/15 6644/21 6646/2 6703/2</p> <p>leading [12] 6604/13 6607/8 6640/22 6655/5 6655/6 6664/18 6664/21 6670/13 6670/14 6670/14 6677/19 6677/20</p> <p>leads [1] 6742/11</p> <p>learn [3] 6608/7 6618/15 6636/21</p> <p>learned [11] 6618/23 6629/19 6643/20 6681/15 6687/25 6689/7 6689/17 6690/10 6690/12 6744/16 6748/25</p> <p>LEASING [1] 6568/8</p> <p>least [12] 6607/19 6635/22 6673/11 6686/7 6689/25 6694/25 6700/13 6700/17 6701/23 6718/1 6719/4 6745/19</p> <p>leave [5] 6611/6 6637/16 6637/16 6637/17 6705/12</p> <p>led [3] 6620/15 6621/2 6660/12</p> <p>left [11] 6597/2 6617/12 6617/14 6617/16 6622/7 6642/2 6646/10 6662/24 6678/12 6696/3 6732/2</p> <p>left-hand [3] 6642/2 6646/10 6662/24</p> <p>leftover [1] 6622/7</p> <p>Leger [2] 6569/12 6569/12</p> <p>length [2] 6595/12 6595/13</p> <p>lengthy [1] 6579/1</p> <p>less [4] 6626/2 6657/9 6671/10 6727/25</p> <p>lesson [1] 6690/10</p> <p>Lessons [1] 6689/17</p> <p>let [15] 6579/11 6583/6 6602/6 6617/14 6628/19 6632/16 6648/8 6649/1 6658/16 6660/16 6669/15 6708/16 6739/12 6741/9 6759/18</p> <p>let's [52] 6579/13 6579/14 6582/23 6587/20 6609/22 6609/22 6612/25 6615/2 6615/2 6621/16 6626/22 6629/6 6632/3 6633/11 6636/16 6637/7 6637/16 6639/14 6641/2 6641/3 6641/23 6642/14 6642/17 6642/18 6644/18 6645/10 6648/6 6649/18 6652/17 6654/19 6655/18 6655/25 6656/1 6656/13 6660/18 6662/17 6667/2 6669/15 6672/20 6675/10 6678/9 6679/4 6679/25 6684/25 6719/19 6731/3 6736/21 6741/10 6746/18 6748/14 6752/5 6760/9</p> <p>letting [1] 6717/22</p> <p>level [7] 6583/15 6583/16 6594/12 6597/25 6625/22 6687/10 6735/25</p> <p>Lewis [10] 6569/5 6571/18 6573/7 6573/11 6573/14 6692/15 6693/5 6694/3 6698/17 6757/8</p> <p>LI [2] 6572/13 6577/10</p> <p>life [2] 6609/18 6618/17</p> <p>lighten [1] 6615/6</p> <p>like [19] 6575/13 6580/5 6582/15 6601/14 6605/24 6625/22 6638/18 6638/19 6652/21 6657/4 6665/8 6668/12 6669/20 6688/3 6712/12 6718/20 6738/22 6751/7 6758/16</p> <p>likewise [2] 6575/21 6577/4</p> <p>linchpin [1] 6730/15</p> <p>line [6] 6578/2 6628/14 6648/13 6681/12 6699/13 6748/6</p> <p>lineage [1] 6680/7</p> <p>liner [4] 6620/19 6645/16 6747/13 6747/18</p>

<p>L</p> <p>liquid [8] 6621/13 6624/17 6624/20 6638/9 6638/11 6638/13 6638/15 6646/20</p> <p>Liskow [1] 6571/18</p> <p>list [13] 6575/10 6575/12 6575/22 6577/4 6577/12 6577/20 6630/2 6631/13 6636/23 6654/21 6724/7 6731/9 6735/11</p> <p>listed [7] 6637/21 6646/4 6651/22 6651/23 6655/19 6724/15 6731/9</p> <p>listen [2] 6597/19 6597/19</p> <p>listened [1] 6684/14</p> <p>listening [1] 6584/6</p> <p>literature [1] 6590/17</p> <p>Litigation [1] 6571/3</p> <p>little [15] 6584/3 6595/21 6598/13 6609/22 6623/20 6627/22 6628/8 6629/13 6638/24 6650/24 6653/17 6660/1 6678/12 6740/2 6753/4</p> <p>live [2] 6581/3 6581/4</p> <p>lives [2] 6608/25 6609/20</p> <p>LLC [13] 6568/19 6568/22 6569/2 6569/15 6571/15 6572/5 6572/6 6572/9 6572/12 6572/16 6572/20 6572/22 6573/14</p> <p>LLP [7] 6569/21 6571/21 6572/2 6572/8 6572/12 6572/19 6573/2</p> <p>load [1] 6754/20</p> <p>located [1] 6622/6</p> <p>location [18] 6584/9 6584/12 6592/8 6592/9 6597/14 6612/10 6616/22 6616/23 6617/8 6635/13 6636/9 6646/23 6658/3 6696/6 6696/13 6704/21 6705/11 6738/3</p> <p>log [1] 6612/16</p> <p>logging [1] 6680/17</p> <p>logs [1] 6612/13</p> <p>long [14] 6581/10 6581/14 6582/10 6584/7 6620/19 6625/9 6625/12 6646/23 6713/6 6729/1 6740/12 6741/21 6749/10 6749/14</p> <p>longer [2] 6606/25 6672/18</p> <p>look [22] 6605/24 6626/22 6633/14 6635/25 6636/16 6636/17 6640/15 6641/2 6644/18 6648/6 6652/17 6655/25 6659/12 6660/18 6683/11 6696/3 6698/2 6698/7 6700/1 6705/2 6726/9 6739/14</p> <p>looked [6] 6659/13 6703/12 6712/8 6742/14 6745/12 6756/19</p> <p>looking [21] 6585/25 6647/23 6663/14 6667/20 6668/1 6668/11 6668/12 6672/24 6673/6 6683/13 6683/16 6683/17 6694/22 6698/15 6702/5 6715/11 6733/21 6736/21 6736/25 6744/11 6747/9</p> <p>looks [5] 6638/18 6638/19 6667/20 6669/20 6751/7</p> <p>Los [1] 6572/14</p> <p>loss [1] 6743/15</p> <p>losses [5] 6618/11 6618/12 6618/16 6618/17 6618/19</p> <p>lost [6] 6618/22 6618/24 6619/1 6642/24 6643/5 6643/6</p> <p>lot [14] 6584/24 6588/15 6596/8 6599/19 6604/23 6618/17 6618/19 6623/25 6647/17 6647/21 6647/21 6647/22 6702/17 6734/19</p> <p>louder [1] 6629/13</p> <p>LOUISIANA [25] 6568/2 6568/6 6568/21 6568/24 6569/7 6569/13 6569/16</p>	<p>6569/19 6569/23 6570/7 6571/11 6571/12 6571/13 6571/15 6571/17 6571/20 6572/7 6572/18 6572/24 6573/16 6573/19 6586/18 6589/14 6589/15 6760/20</p> <p>low [8] 6615/24 6618/3 6618/8 6642/23 6643/8 6689/21 6759/11 6759/14</p> <p>lower [1] 6753/8</p> <p>LSU [1] 6582/4</p> <p>LUIIS [2] 6572/13 6577/10</p> <p>lunch [2] 6685/25 6760/9</p> <p>LUNCHEON [1] 6760/12</p> <p>LUTHER [1] 6571/8</p> <p>M</p> <p>M-I [2] 6573/14 6645/25</p> <p>Macondo [88] 6585/8 6585/12 6589/4 6593/5 6593/19 6593/21 6594/19 6595/8 6598/19 6599/3 6599/5 6600/7 6602/11 6609/12 6609/24 6612/14 6613/10 6613/14 6613/21 6614/17 6614/22 6616/4 6616/6 6616/19 6616/23 6617/23 6618/2 6618/15 6618/17 6620/3 6620/5 6620/8 6620/16 6620/23 6621/21 6621/24 6622/9 6624/2 6624/13 6626/17 6631/11 6631/17 6640/5 6642/12 6643/4 6646/6 6652/2 6653/2 6655/2 6655/21 6656/20 6658/19 6678/15 6681/23 6683/9 6688/11 6689/4 6692/18 6713/17 6714/6 6723/6 6723/22 6723/25 6724/15 6724/16 6724/25 6725/5 6725/6 6725/13 6725/22 6726/5 6727/1 6729/10 6729/22 6730/7 6731/18 6732/1 6734/13 6735/1 6740/8 6747/11 6748/7 6749/8 6753/3 6753/5 6753/6 6753/19 6760/2</p> <p>made [35] 6588/25 6590/17 6594/15 6594/16 6597/12 6599/12 6599/12 6600/25 6601/21 6609/14 6616/8 6620/7 6621/9 6623/6 6636/24 6653/21 6670/2 6680/23 6681/17 6693/21 6699/25 6700/20 6714/12 6715/8 6715/9 6730/16 6741/3 6742/15 6745/21 6748/25 6751/8 6753/15 6756/6 6759/1 6759/6</p> <p>Magazine [1] 6570/6</p> <p>Mahtook [1] 6572/16</p> <p>mail [49] 6599/18 6599/21 6599/23 6626/25 6627/9 6627/14 6628/12 6631/18 6631/22 6633/13 6636/7 6636/23 6647/12 6659/6 6659/8 6660/14 6660/21 6660/24 6669/18 6669/21 6669/25 6670/24 6671/15 6672/2 6672/7 6672/22 6672/23 6673/1 6673/8 6674/13 6674/25 6675/3 6685/24 6706/23 6714/25 6716/2 6716/5 6752/7 6752/15 6753/3 6753/21 6754/9 6754/25 6755/1 6755/2 6755/8 6755/16 6755/18 6755/21</p> <p>mails [1] 6671/8</p> <p>main [5] 6569/22 6585/8 6588/15 6615/24 6679/14</p> <p>mainly [2] 6585/6 6703/5</p> <p>maintained [1] 6709/6</p> <p>maintaining [1] 6708/14</p> <p>major [1] 6749/21</p> <p>majority [4] 6586/20 6599/25 6601/5 6630/15</p> <p>make [41] 6578/25 6584/3 6591/8 6591/8 6596/3 6608/24 6612/15 6616/1 6618/6 6622/14 6622/14 6622/16 6626/11 6627/4 6632/11 6633/17</p>	<p>6633/21 6638/1 6638/4 6646/23 6658/4 6690/11 6698/9 6707/1 6707/19 6710/9 6714/5 6717/4 6721/16 6722/14 6728/23 6732/19 6733/4 6733/17 6736/7 6751/12 6753/25 6754/21 6756/8 6757/19 6758/9</p> <p>makes [1] 6733/11</p> <p>makeup [2] 6720/10 6720/22</p> <p>making [10] 6609/2 6688/23 6691/2 6695/17 6701/2 6715/19 6718/22 6741/18 6749/6 6750/7</p> <p>MALINDA [1] 6570/21</p> <p>man [6] 6609/17 6636/20 6637/4 6637/5 6734/15 6735/13</p> <p>management [17] 6692/2 6692/4 6692/7 6713/16 6713/23 6714/9 6714/20 6715/1 6750/11 6757/25 6758/8 6758/10 6758/13 6758/18 6759/13 6759/21 6759/21</p> <p>manager [5] 6589/23 6589/24 6668/4 6687/3 6698/10</p> <p>managerial [1] 6698/4</p> <p>managers [1] 6686/20</p> <p>mandate [1] 6640/20</p> <p>mandated [1] 6757/17</p> <p>manner [1] 6608/21</p> <p>manual [9] 6642/1 6642/11 6643/17 6748/15 6748/17 6749/12 6749/13 6749/14 6756/18</p> <p>manuals [4] 6749/4 6749/9 6750/16 6757/18</p> <p>manufacturing [1] 6581/23</p> <p>many [13] 6591/21 6592/13 6593/5 6593/6 6593/13 6602/10 6604/17 6613/13 6613/13 6618/21 6619/21 6657/23 6712/19</p> <p>March [5] 6575/12 6666/25 6680/1 6680/3 6706/6</p> <p>March 17 [2] 6680/1 6680/3</p> <p>March 27th [1] 6575/12</p> <p>Marianas [15] 6616/15 6616/16 6616/18 6616/22 6616/24 6617/11 6617/12 6723/17 6752/10 6752/12 6752/15 6752/18 6754/10 6754/11 6755/22</p> <p>Marine [3] 6582/9 6582/10 6582/17</p> <p>Mark [9] 6585/7 6594/21 6594/22 6604/7 6605/2 6616/10 6627/17 6669/19 6673/9</p> <p>matched [1] 6585/24</p> <p>material [3] 6630/20 6630/23 6639/8</p> <p>materials [3] 6641/12 6731/9 6733/23</p> <p>Matt [1] 6578/2</p> <p>matter [4] 6672/15 6675/3 6728/25 6760/23</p> <p>matters [2] 6575/6 6578/9</p> <p>MATTHEW [1] 6571/23</p> <p>may [20] 6578/21 6579/4 6580/3 6580/12 6580/12 6582/5 6583/10 6584/1 6584/2 6671/20 6701/1 6704/19 6705/9 6705/11 6716/22 6716/23 6722/19 6737/25 6757/14 6759/22</p> <p>May 20th [1] 6583/10</p> <p>May 5th through [1] 6579/4</p> <p>maybe [3] 6579/11 6697/22 6759/20</p> <p>MAZE [2] 6571/8 6577/2</p> <p>McCLELLAN [1] 6570/19</p> <p>McKinney [1] 6573/5</p> <p>MD [1] 6568/4</p> <p>me [91] 6578/16 6579/18 6590/6 6590/6 6602/6 6603/8 6604/14 6604/14 6604/15 6605/3 6617/15 6625/18 6627/7 6628/19 6632/16 6635/15 6635/16 6641/8 6642/21 6648/8</p>
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<p>M</p> <p>me... [71] 6648/17 6649/1 6653/16 6657/21 6658/16 6660/16 6662/3 6663/25 6664/3 6665/5 6665/7 6665/8 6667/20 6668/10 6669/15 6671/13 6672/5 6673/12 6675/7 6688/24 6689/23 6690/1 6690/9 6691/13 6693/4 6694/12 6694/24 6695/12 6697/20 6698/17 6700/13 6701/22 6706/7 6706/13 6706/13 6708/16 6716/11 6718/24 6718/24 6720/3 6727/24 6730/5 6730/14 6731/5 6731/15 6731/19 6735/7 6735/22 6736/25 6737/19 6739/12 6740/9 6741/9 6742/11 6742/22 6744/5 6744/10 6744/10 6750/9 6750/20 6751/20 6752/1 6753/17 6755/17 6755/20 6756/9 6757/13 6757/24 6758/11 6758/24 6759/20</p> <p>mean [30] 6591/6 6591/9 6592/9 6605/2 6607/23 6609/8 6611/2 6611/16 6611/23 6624/19 6629/2 6635/18 6645/2 6645/5 6646/17 6657/4 6657/8 6661/14 6662/5 6677/13 6706/12 6715/22 6716/21 6717/15 6719/14 6723/4 6728/24 6728/24 6732/10 6734/19</p> <p>meaning [3] 6607/18 6609/6 6637/4 means [7] 6607/21 6661/15 6662/6 6679/11 6699/15 6705/9 6732/18 meant [2] 6583/22 6636/22 measures [1] 6711/24 mechanical [1] 6573/23 medium [1] 6603/3 meeting [14] 6604/14 6620/2 6620/4 6620/6 6620/10 6620/11 6620/13 6620/18 6620/20 6620/25 6636/1 6636/10 6636/14 6694/15 meetings [1] 6600/1 member [1] 6651/25 members [4] 6594/2 6600/7 6603/24 6604/20 memoranda [2] 6591/13 6591/18 men [4] 6595/9 6609/1 6616/3 6684/11 mention [2] 6589/6 6589/7 mentioned [17] 6588/5 6588/13 6588/18 6590/22 6600/11 6601/20 6611/14 6611/21 6613/24 6617/5 6624/17 6640/10 6661/8 6704/7 6723/10 6723/20 6741/12 met [3] 6694/12 6701/14 6702/7 method [2] 6634/10 6706/5 MEXICO [9] 6568/5 6586/19 6586/21 6593/10 6593/13 6593/22 6644/21 6652/23 6747/1 mic [2] 6629/13 6638/24 MICHAEL [2] 6570/9 6572/12 MICHELLE [1] 6570/20 microphone [3] 6584/2 6584/4 6623/20 might [10] 6579/10 6603/3 6603/17 6611/5 6618/21 6687/13 6690/23 6706/8 6740/18 6755/15 migration [4] 6650/16 6650/19 6662/7 6665/24 MIKE [1] 6572/3 MILLER [1] 6572/6 mimic [3] 6658/1 6658/2 6738/3 mimics [3] 6738/25 6739/5 6741/1 mind [12] 6579/7 6580/22 6601/15 6614/22 6707/15 6707/16 6709/1 6713/7 6716/16 6717/22 6719/7 6719/22</p>	<p>minimal [3] 6603/6 6603/9 6603/11 minor [1] 6603/2 minute [6] 6636/19 6636/20 6659/18 6684/25 6719/19 6726/10 minutes [8] 6650/10 6650/11 6655/13 6673/24 6674/1 6674/3 6674/10 6678/5 misinformation [1] 6749/5 mislead [1] 6717/15 misleading [1] 6701/24 missed [4] 6599/4 6615/22 6662/11 6753/14 misspoke [1] 6606/9 mistake [4] 6624/9 6742/15 6742/22 6751/8 mistakes [2] 6744/25 6745/21 misunderstood [1] 6691/13 misweighed [1] 6667/17 mitigate [1] 6713/9 mix [3] 6621/14 6648/14 6649/16 mixability [2] 6649/14 6656/10 mixed [5] 6621/12 6664/3 6742/1 6742/11 6744/17 mixing [4] 6623/18 6623/22 6663/15 6664/3 Mobile [1] 6569/4 model [2] 6588/10 6710/16 modeling [10] 6587/19 6588/9 6588/16 6602/13 6602/16 6634/17 6651/13 6654/10 6654/15 6654/16 models [1] 6635/7 modify [1] 6654/4 moisture [3] 6646/25 6663/20 6741/20 moisture-damaged [2] 6646/25 6663/20 moment [4] 6624/16 6652/22 6660/15 6662/15 Monday [3] 6600/22 6600/23 6601/1 Montgomery [1] 6571/10 month [1] 6616/21 months [2] 6581/11 6581/12 more [24] 6578/25 6580/23 6585/15 6594/23 6595/21 6597/17 6600/7 6602/2 6602/7 6603/24 6607/12 6639/4 6647/22 6653/24 6658/2 6678/13 6680/12 6727/12 6727/15 6750/20 6754/21 6756/6 6756/8 6757/13 Morel [28] 6585/8 6594/20 6597/3 6597/6 6597/10 6598/1 6614/19 6616/10 6617/19 6627/17 6669/19 6671/2 6672/1 6673/9 6674/13 6675/2 6680/2 6680/20 6681/6 6685/22 6708/5 6714/23 6716/2 6717/1 6752/7 6753/15 6758/6 6759/2 Morgan [3] 6573/14 6576/13 6736/7 morning [30] 6568/14 6575/1 6575/5 6575/19 6576/18 6577/2 6577/10 6577/18 6578/1 6580/19 6580/20 6584/19 6596/21 6596/24 6597/3 6598/23 6599/20 6600/12 6600/12 6600/13 6600/14 6600/15 6600/16 6601/8 6632/25 6674/20 6685/8 6700/16 6719/20 6760/14 most [9] 6591/1 6599/22 6609/18 6712/17 6732/24 6733/22 6735/3 6735/4 6740/11 move [5] 6576/20 6577/7 6577/22 6595/23 6723/2 moved [12] 6616/22 6616/23 6621/20 6621/21 6621/22 6621/23 6622/2 6693/2 6712/16 6732/3 6732/6 6759/8 moving [3] 6655/13 6674/7 6739/5 Mr [6] 6594/20 6619/14 6695/11 6695/15 6714/23 6735/11 Mr. [96] 6575/12 6575/16 6575/23</p>	<p>6576/5 6577/13 6579/20 6580/2 6580/19 6594/19 6594/20 6594/20 6597/6 6597/10 6604/8 6604/8 6604/13 6604/19 6604/24 6614/19 6616/12 6617/5 6617/18 6617/18 6617/18 6617/18 6617/19 6620/21 6668/3 6671/2 6675/2 6680/20 6685/5 6685/8 6685/22 6685/22 6685/23 6685/23 6686/18 6687/7 6687/11 6687/21 6687/22 6688/7 6688/7 6688/16 6688/19 6689/13 6689/16 6689/19 6693/20 6694/13 6694/25 6695/5 6695/15 6695/15 6695/15 6698/3 6698/9 6699/14 6699/25 6700/12 6701/13 6701/13 6701/13 6701/13 6702/9 6702/10 6702/11 6710/25 6711/19 6712/6 6713/4 6713/22 6713/25 6714/23 6714/23 6714/24 6715/12 6724/6 6725/21 6735/10 6735/10 6735/11 6736/12 6737/18 6737/25 6748/6 6750/21 6754/3 6757/14 6758/7 6759/2 6759/2 6759/2 6759/2 6760/8 Mr. Badalamenti [3] 6695/15 6701/13 6735/11 Mr. Ben [1] 6750/21 Mr. Bolado [1] 6693/20 Mr. Brett [1] 6594/20 Mr. Brian [2] 6594/20 6680/20 Mr. Chaisson [3] 6575/12 6575/16 6575/23 Mr. Chaisson's [1] 6577/13 Mr. Cocales [5] 6604/8 6617/18 6685/23 6714/24 6759/2 Mr. Cunningham [2] 6620/21 6725/21 Mr. Cunningham's [1] 6724/6 Mr. Dubois [2] 6668/3 6698/3 Mr. Dubois' [1] 6698/9 Mr. Dugas [2] 6687/7 6687/11 Mr. Dugas' [1] 6687/22 Mr. Edwards [1] 6757/14 Mr. Faul [7] 6687/21 6688/7 6688/16 6688/19 6695/15 6701/13 6735/10 Mr. Fleece [2] 6616/12 6617/5 Mr. Gagliano [9] 6580/2 6580/19 6685/8 6688/7 6712/6 6715/12 6748/6 6758/7 6760/8 Mr. Godwin's [1] 6737/18 Mr. Greg [2] 6604/19 6617/18 Mr. Guide [3] 6685/23 6714/23 6759/2 Mr. Hafle [7] 6604/8 6604/13 6614/19 6617/18 6685/22 6714/23 6759/2 Mr. Jesse [1] 6579/20 Mr. John [2] 6594/19 6617/18 Mr. Morel [7] 6597/6 6597/10 6617/19 6671/2 6675/2 6685/22 6759/2 Mr. Probert [2] 6702/10 6702/11 Mr. Quirk [2] 6735/10 6737/25 Mr. Quirk's [1] 6754/3 Mr. Ravi [1] 6701/13 Mr. Richard [1] 6576/5 Mr. Roger [1] 6686/18 Mr. Roth [15] 6689/13 6689/16 6689/19 6694/13 6694/25 6695/5 6695/15 6699/14 6699/25 6701/13 6710/25 6711/19 6713/4 6713/25 6736/12 Mr. Roth's [3] 6700/12 6702/9 6713/22 Mr. Sterbcow [1] 6685/5 Mr. Walz [1] 6604/24 Ms. [1] 6750/21 Ms. Phyllis [2] 6750/21 much [10] 6591/2 6600/9 6605/24 6635/3 6669/7 6703/5 6707/4 6717/21</p>
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<p>M</p> <p>much... [2] 6722/14 6722/15 mud [31] 6608/2 6608/8 6610/20 6611/4 6611/6 6611/8 6611/9 6611/12 6611/13 6611/17 6618/16 6618/21 6618/22 6618/24 6634/18 6635/5 6643/5 6645/24 6649/11 6656/8 6706/9 6706/21 6707/2 6707/6 6707/14 6707/15 6707/18 6707/19 6707/23 6708/25 6734/21 Munger [1] 6572/12 Murry [1] 6627/16 my [53] 6575/24 6576/6 6578/12 6579/7 6583/23 6585/24 6586/20 6588/1 6589/9 6591/24 6595/11 6595/18 6596/22 6596/25 6597/3 6597/21 6598/7 6605/13 6624/8 6629/20 6631/15 6635/7 6644/9 6658/22 6672/6 6686/24 6691/11 6694/12 6698/6 6700/23 6701/3 6702/1 6707/15 6711/25 6712/2 6714/4 6718/23 6723/15 6727/14 6727/24 6733/8 6735/24 6737/12 6738/10 6739/3 6739/22 6750/2 6751/25 6755/5 6757/9 6758/2 6760/10 6760/21</p>	<p>6758/15 6758/16 6758/18 6758/24 new [16] 6568/6 6568/24 6569/7 6569/13 6570/7 6571/17 6571/20 6572/7 6572/24 6573/19 6587/5 6623/1 6623/2 6711/21 6713/6 6749/7 next [17] 6579/19 6636/19 6649/19 6656/14 6657/17 6679/25 6680/7 6680/13 6680/19 6681/4 6685/24 6700/12 6704/4 6712/16 6736/22 6753/7 6754/12 NF [1] 6641/10 nice [1] 6665/12 nifty [1] 6747/22 night [5] 6628/22 6629/17 6629/17 6631/23 6740/8 Ninth [1] 6569/19 nitrogen [23] 6615/5 6615/7 6615/14 6615/16 6621/14 6633/19 6633/21 6633/21 6633/23 6637/13 6650/16 6650/16 6650/18 6650/18 6662/6 6662/7 6665/23 6665/24 6674/15 6674/23 6720/8 6742/10 6746/5 no [191] 6575/13 6575/24 6576/7 6576/23 6577/22 6580/13 6587/1 6593/3 6593/3 6594/6 6594/10 6594/15 6595/2 6598/12 6608/18 6608/22 6609/3 6609/16 6612/13 6615/1 6615/15 6616/15 6617/9 6620/18 6620/24 6621/5 6622/24 6623/11 6624/14 6625/10 6625/19 6629/2 6632/2 6633/4 6634/2 6636/17 6636/22 6640/21 6641/3 6641/3 6641/17 6644/3 6646/11 6647/5 6649/7 6650/16 6650/18 6650/22 6652/3 6652/11 6652/15 6652/17 6660/18 6661/23 6662/6 6662/7 6662/7 6662/7 6664/7 6664/17 6666/17 6666/20 6668/20 6668/20 6669/4 6669/12 6669/16 6677/5 6682/3 6683/15 6683/22 6683/25 6686/3 6686/7 6686/16 6687/7 6687/15 6687/20 6688/9 6688/10 6688/15 6688/17 6688/20 6689/9 6689/12 6689/18 6691/6 6691/8 6691/10 6691/14 6691/16 6691/17 6691/18 6691/19 6691/23 6691/25 6692/1 6692/4 6692/7 6693/25 6694/2 6694/6 6694/11 6695/22 6695/24 6697/10 6697/14 6697/16 6698/5 6701/10 6701/12 6701/17 6702/11 6702/16 6703/4 6703/15 6704/24 6706/5 6706/18 6707/7 6707/15 6707/16 6708/10 6709/13 6711/1 6711/20 6712/10 6712/15 6713/15 6713/21 6713/23 6714/7 6714/10 6714/20 6715/6 6718/18 6722/15 6723/11 6723/12 6725/3 6725/4 6726/15 6726/22 6727/3 6728/8 6728/12 6728/12 6728/24 6730/3 6730/20 6730/20 6730/21 6733/11 6734/6 6734/8 6735/9 6735/14 6735/24 6736/10 6736/17 6736/19 6736/20 6738/7 6738/12 6740/21 6741/18 6741/19 6744/1 6745/7 6746/5 6748/9 6750/7 6750/11 6751/9 6751/19 6755/13 6756/24 6757/1 6757/3 6757/5 6757/7 6757/9 6757/15 6758/14 6758/20 6759/12 6759/24 6760/1 6760/5 6760/5 6760/5 No. [1] 6642/18 No. 1124604 [1] 6642/18 nobody [14] 6693/24 6715/11 6729/14 6729/21 6735/7 6735/8 6735/12 6735/22 6736/2 6736/6 6749/2 6750/4</p>	<p>6757/23 6758/12 none [7] 6576/9 6577/16 6578/6 6715/4 6743/15 6755/17 6758/6 NONJURY [1] 6568/14 Norfolk [1] 6572/20 norm [1] 6726/3 normally [1] 6667/22 North [1] 6571/12 not [181] 6578/11 6578/12 6578/22 6578/23 6578/23 6579/5 6579/5 6579/6 6579/12 6580/12 6585/3 6596/15 6597/15 6599/3 6601/20 6601/23 6607/13 6608/16 6608/20 6610/18 6610/22 6611/1 6611/15 6611/22 6614/24 6615/18 6617/12 6618/15 6623/3 6623/7 6624/25 6628/18 6628/25 6633/3 6636/14 6636/17 6637/8 6638/13 6638/15 6641/10 6642/6 6642/22 6644/25 6646/24 6648/25 6650/23 6651/20 6652/10 6652/14 6653/20 6653/25 6655/6 6655/19 6657/6 6658/22 6662/1 6664/8 6664/15 6664/15 6665/11 6665/17 6671/12 6673/24 6674/25 6677/2 6677/11 6677/25 6679/17 6679/19 6679/24 6682/11 6682/22 6683/1 6683/4 6687/9 6688/18 6690/3 6690/6 6690/7 6690/20 6693/7 6693/15 6693/16 6693/23 6694/21 6697/25 6698/13 6699/12 6700/14 6700/17 6700/25 6701/5 6701/9 6701/20 6702/1 6702/5 6702/11 6703/8 6705/11 6706/10 6707/6 6708/10 6708/12 6708/15 6709/4 6710/1 6710/15 6710/18 6711/7 6711/13 6712/12 6713/5 6713/13 6713/14 6714/2 6714/19 6715/22 6716/6 6716/11 6716/13 6716/22 6716/23 6717/21 6718/5 6719/13 6720/7 6721/10 6722/9 6722/17 6722/23 6722/24 6723/3 6725/14 6725/24 6725/25 6728/6 6728/12 6728/18 6729/4 6729/7 6730/2 6733/14 6733/20 6734/1 6734/22 6734/25 6735/18 6736/13 6738/4 6738/10 6741/15 6742/7 6742/13 6743/9 6744/18 6745/17 6745/18 6745/22 6746/10 6746/16 6747/7 6747/20 6748/1 6748/4 6748/8 6748/21 6749/6 6749/16 6749/16 6749/18 6751/15 6754/19 6755/12 6756/4 6756/6 6757/21 6757/25 6758/21 6758/24 6759/16 6759/22 note [1] 6716/5 notebook [1] 6580/2 noted [1] 6701/6 notes [1] 6633/22 nothing [5] 6719/7 6749/23 6755/20 6757/18 6760/6 noticed [1] 6681/1 notification [12] 6659/6 6659/8 6659/14 6659/21 6660/8 6660/14 6661/2 6661/5 6661/13 6661/25 6677/13 6677/18 notify [1] 6714/17 notifying [1] 6742/22 notwithstanding [1] 6719/23 November [1] 6679/15 November 5 [1] 6679/15 now [48] 6579/12 6580/22 6583/13 6605/5 6606/3 6629/9 6635/25 6646/1 6646/12 6649/19 6654/19 6655/25 6662/9 6664/23 6667/2 6674/19 6677/2 6681/22 6682/7 6683/18 6687/19 6687/24 6692/21 6694/12 6694/22</p>
<p>N</p> <p>Na [7] 6593/19 6723/21 6723/25 6724/16 6724/22 6725/3 6726/19 Na Kika [6] 6593/19 6723/25 6724/16 6724/22 6725/3 6726/19 name [8] 6579/24 6590/7 6617/6 6619/14 6656/18 6683/19 6710/6 6752/8 named [1] 6590/1 names [4] 6585/3 6593/16 6654/23 6735/12 narrative [1] 6607/9 NATHANIEL [5] 6570/16 6636/9 6636/14 6636/21 6636/24 Natural [1] 6570/13 nature [1] 6591/14 near [1] 6754/14 necessarily [4] 6645/5 6703/9 6723/3 6734/1 necessary [4] 6613/19 6638/21 6714/14 6714/15 need [21] 6612/2 6635/7 6635/17 6639/4 6639/6 6641/5 6657/14 6668/13 6674/18 6678/11 6691/11 6692/8 6697/10 6715/13 6721/14 6730/21 6734/20 6734/20 6734/21 6758/8 6758/22 needed [15] 6584/21 6584/21 6590/15 6597/17 6604/17 6635/3 6635/3 6650/24 6661/21 6685/25 6685/25 6713/10 6714/5 6721/25 6734/14 needs [3] 6635/6 6635/18 6711/20 negative [1] 6610/14 Neither [1] 6758/25 neutralize [3] 6721/18 6726/23 6727/4 neutralizing [1] 6730/17 never [47] 6593/3 6594/8 6594/9 6594/16 6622/7 6647/5 6666/6 6666/8 6675/7 6688/7 6688/21 6688/24 6689/3 6689/8 6689/10 6689/16 6689/19 6689/21 6689/23 6689/24 6690/1 6690/5 6690/9 6696/17 6704/4 6709/7 6709/11 6709/11 6709/15 6712/8 6718/24 6732/2 6732/2 6736/3 6736/8 6738/9 6743/5 6747/18 6749/20 6751/18 6752/2 6756/15 6756/19</p>		

N
now... [23] 6700/12 6708/10 6716/9
6717/4 6717/22 6723/5 6723/22
6725/20 6727/22 6731/24 6733/8
6733/21 6734/1 6737/24 6738/16
6741/12 6743/24 6747/21 6748/23
6753/14 6759/9 6759/9 6760/1
nowhere [1] 6754/14
number [45] 6582/25 6587/5 6590/11
6601/7 6601/25 6602/22 6603/13
6605/1 6606/3 6614/23 6618/20
6628/21 6629/7 6634/5 6646/4 6646/13
6648/11 6651/7 6652/19 6656/4
6656/15 6658/5 6663/4 6665/16 6667/4
6667/6 6668/19 6668/22 6668/24
6672/21 6672/25 6673/5 6682/24
6698/3 6698/3 6704/16 6704/20 6707/7
6708/22 6709/8 6711/4 6729/7 6734/19
6748/2 6757/21
numbered [2] 6634/7 6760/23
numbers [3] 6636/7 6729/5 6737/3
NW [1] 6572/3

O
O'Keefe [1] 6568/23
O'ROURKE [1] 6570/14
oath [1] 6751/14
object [11] 6607/8 6624/6 6640/22
6648/24 6655/4 6658/21 6664/18
6674/24 6677/19 6711/23 6719/9
objected [2] 6631/24 6712/1
objection [16] 6575/18 6576/1 6576/3
6576/7 6576/15 6576/24 6576/25
6577/24 6577/25 6578/5 6628/24
6670/13 6721/3 6721/6 6735/17
6735/20
objections [10] 6575/13 6575/17
6575/24 6576/8 6576/23 6577/6 6577/8
6577/15 6577/22 6580/14
obligation [5] 6691/6 6691/8 6691/10
6711/20 6713/8
obvious [1] 6671/22
obviously [3] 6671/10 6722/24 6732/18
occasion [1] 6684/16
occasionally [2] 6695/8 6695/9
occasions [2] 6666/24 6707/8
occur [3] 6600/15 6697/21 6710/15
occurred [3] 6596/19 6691/15 6692/23
October [2] 6616/24 6642/8
odd [2] 6667/20 6736/18
off [13] 6591/7 6596/5 6597/5 6600/10
6616/22 6623/23 6634/17 6652/22
6654/9 6686/9 6686/14 6691/22 6755/7
offer [6] 6575/14 6575/24 6576/7
6576/13 6577/13 6578/4
offered [2] 6576/5 6591/16
office [17] 6568/20 6570/16 6570/22
6571/13 6572/17 6583/23 6584/10
6599/19 6600/2 6600/21 6632/20
6633/1 6666/16 6685/24 6686/6
6714/25 6716/20
offices [5] 6584/7 6586/10 6586/15
6586/23 6588/14
Official [3] 6573/18 6760/18 6760/25
offset [3] 6625/11 6625/16 6625/23
Offshore [5] 6572/6 6572/9 6572/12
6572/16 6572/20
often [2] 6600/6 6758/15
oil [16] 6568/4 6568/4 6609/17 6618/25
6706/9 6706/21 6707/2 6707/6 6707/13
6707/13 6707/14 6707/15 6707/17
6707/18 6707/23 6727/11

oil-based [6] 6706/9 6706/21 6707/2
6707/6 6707/23 6727/11
okay [204]
Oklahoma [2] 6722/12 6736/3
old [3] 6734/1 6734/5 6749/7
Olson [1] 6572/12
OMS [1] 6758/18
on-the-job [1] 6587/4
once [5] 6610/13 6617/11 6705/10
6710/10 6716/7
one [92] 6578/11 6578/13 6580/4
6580/8 6585/15 6587/17 6594/6
6594/21 6594/23 6600/1 6600/6
6603/23 6604/19 6607/12 6610/25
6615/24 6616/18 6619/19 6619/24
6620/4 6620/13 6626/15 6629/11
6637/10 6638/8 6638/9 6642/15
6648/22 6663/3 6664/11 6665/1 6665/5
6668/20 6669/14 6671/7 6672/21
6672/23 6673/1 6673/13 6673/14
6678/4 6679/1 6679/25 6680/7 6680/8
6680/13 6680/19 6681/4 6681/12
6681/19 6688/3 6693/12 6698/3
6702/11 6704/4 6705/5 6711/4 6711/10
6712/13 6712/16 6713/24 6714/2
6715/7 6715/8 6718/1 6721/25 6723/21
6723/22 6724/1 6724/16 6725/12
6725/22 6727/7 6730/7 6732/3 6736/13
6738/5 6742/24 6743/6 6744/10
6744/21 6745/9 6745/20 6746/2
6746/25 6747/9 6747/11 6747/17
6747/19 6755/10 6755/11 6757/13
ones [4] 6585/8 6638/15 6724/10
6751/1
ongoing [2] 6717/1 6717/10
only [21] 6608/9 6608/10 6610/9
6612/12 6619/23 6620/4 6628/14
6629/19 6669/11 6672/13 6673/24
6681/15 6685/19 6701/2 6701/8 6706/4
6724/16 6730/6 6738/5 6747/11
6748/20
open [1] 6585/23
opening [1] 6585/23
Operating [1] 6758/18
operational [2] 6667/2 6675/13
operationally [1] 6633/17
operations [9] 6583/25 6584/21 6609/23
6636/2 6710/10 6710/10 6748/15
6749/4 6749/12
opinion [17] 6610/7 6625/3 6678/21
6689/19 6689/22 6689/24 6707/5
6736/22 6743/19 6745/5 6746/3
6748/13 6751/22 6751/23 6754/3
6754/3 6759/22
opinions [2] 6694/4 6754/2
opportunity [2] 6598/5 6601/10
opposed [5] 6604/25 6608/12 6640/20
6672/4 6672/16
opposite [1] 6720/4
OptiCem [22] 6587/18 6588/5 6588/6
6588/9 6602/18 6602/19 6603/16
6651/12 6682/5 6682/14 6704/9
6704/13 6704/25 6705/16 6705/17
6705/24 6716/19 6716/24 6717/7
6718/10 6739/15 6739/18
oral [1] 6578/22
order [2] 6639/5 6699/18
organization [1] 6676/21
original [4] 6679/17 6699/11 6699/17
6716/3
Orleans [10] 6568/6 6568/24 6569/7
6569/13 6570/7 6571/17 6571/20
6572/7 6572/24 6573/19

other [70] 6578/8 6583/1 6583/5 6585/3
6585/15 6590/2 6590/5 6592/1 6592/22
6593/16 6594/18 6594/21 6594/23
6595/1 6595/2 6602/3 6614/23 6620/11
6621/9 6629/18 6638/12 6641/19
6643/10 6647/11 6651/7 6651/9
6656/19 6669/23 6671/14 6672/1
6685/17 6686/5 6686/10 6686/10
6687/15 6687/18 6689/5 6695/4 6701/6
6704/23 6704/24 6712/7 6715/5 6717/9
6717/18 6718/9 6719/23 6722/1 6723/3
6725/7 6725/24 6725/25 6727/1
6727/17 6727/21 6729/20 6730/20
6730/20 6730/21 6730/21 6732/3
6732/4 6738/11 6745/23 6747/9
6747/10 6748/18 6754/7 6754/8 6755/8
others [14] 6584/6 6592/16 6595/7
6598/1 6610/7 6627/17 6628/22
6628/25 6647/13 6669/19 6690/10
6725/14 6747/12 6753/15
otherwise [1] 6663/24
our [21] 6575/10 6575/22 6577/4
6577/21 6578/20 6580/3 6587/6 6588/9
6588/21 6590/21 6602/18 6608/6
6629/11 6629/11 6636/9 6682/5 6689/4
6744/7 6750/24 6758/8 6758/9
out [44] 6587/5 6588/23 6592/9 6595/9
6597/24 6602/20 6604/17 6605/4
6627/5 6629/11 6629/21 6632/19
6633/3 6637/13 6640/15 6645/6
6645/14 6648/9 6661/17 6668/11
6668/11 6679/6 6693/14 6697/13
6709/8 6720/6 6720/9 6720/13 6720/14
6720/24 6733/19 6734/12 6734/21
6734/25 6741/3 6741/16 6741/20
6747/19 6749/20 6750/6 6751/2
6754/10 6754/13 6754/20
outlet [1] 6634/18
outlined [1] 6748/21
outside [2] 6655/13 6709/9
over [55] 6580/4 6584/2 6586/3 6586/23
6591/22 6592/4 6599/21 6600/7
6616/20 6616/23 6621/21 6621/21
6621/22 6621/24 6622/2 6628/2
6628/21 6629/6 6634/3 6641/3 6642/14
6642/17 6642/18 6644/22 6646/10
6647/12 6649/18 6650/13 6650/21
6651/15 6651/16 6652/4 6653/15
6656/13 6657/18 6658/10 6658/12
6658/16 6658/18 6660/7 6663/11
6663/11 6663/22 6665/20 6665/20
6666/3 6667/16 6676/4 6676/24
6715/11 6716/12 6718/12 6730/9
6740/2 6759/23
overbroad [1] 6719/9
overcome [2] 6644/13 6721/25
overcomes [1] 6721/21
overlay [1] 6582/15
Overrule [1] 6735/20
Overruled [1] 6721/7
oversaw [1] 6734/16
oversees [1] 6698/14
oversight [5] 6692/2 6692/2 6692/4
6715/18 6735/14
overview [1] 6675/10
owned [2] 6599/2 6599/5
owner [1] 6599/3

P
p.m [3] 6669/20 6670/8 6671/6
page [30] 6574/2 6629/6 6629/10
6634/7 6637/16 6641/3 6641/4 6645/11
6645/11 6645/18 6648/7 6648/15

P	6709/2 6759/13 personnel [4] 6636/2 6715/5 6729/16 6750/24 pertain [1] 6653/2 PETITION [1] 6568/8 Ph.D [2] 6693/5 6698/17 phase [6] 6578/11 6578/13 6625/14 6688/15 6691/20 6713/16 Phase One [1] 6578/11 PHILLIP [1] 6572/23 phone [9] 6620/2 6697/21 6697/24 6698/6 6698/6 6714/25 6736/9 6752/2 6755/15 Phyllis [1] 6750/21 physics [1] 6693/17 picture [2] 6705/3 6732/24 Pigman [1] 6572/22 pilot [19] 6646/16 6646/17 6646/18 6646/19 6647/1 6647/4 6647/15 6648/3 6649/4 6651/8 6651/10 6662/24 6663/19 6664/13 6665/15 6666/7 6666/8 6667/5 6741/13 place [16] 6584/24 6599/20 6610/13 6639/5 6664/4 6687/22 6705/2 6706/5 6710/11 6714/7 6714/19 6739/2 6739/4 6755/8 6757/15 6759/12 placed [2] 6612/10 6683/3 placement [9] 6609/23 6610/21 6611/21 6612/6 6612/11 6704/16 6738/25 6739/9 6739/25 places [1] 6707/25 plain [1] 6756/3 Plaintiffs [11] 6568/18 6568/22 6569/2 6569/5 6569/8 6569/12 6569/15 6569/18 6569/21 6570/2 6570/5 Plaintiffs' [1] 6685/9 plan [7] 6578/12 6595/16 6654/4 6666/4 6666/6 6666/8 6716/7 planned [5] 6578/10 6586/21 6679/12 6739/15 6739/16 planning [2] 6579/3 6584/25 play [6] 6592/1 6592/17 6671/8 6709/4 6709/4 6734/22 PLC [3] 6571/20 6571/23 6572/4 please [35] 6579/24 6583/6 6585/22 6587/22 6588/6 6591/21 6609/8 6619/18 6624/18 6626/22 6627/2 6627/8 6629/7 6634/3 6636/16 6637/17 6639/14 6641/2 6641/23 6642/17 6642/20 6644/18 6648/6 6648/8 6649/19 6652/17 6652/22 6656/1 6656/13 6675/11 6678/9 6679/4 6681/4 6685/4 6695/25 plug [7] 6595/16 6595/20 6595/25 6596/3 6706/23 6706/24 6706/25 plus [11] 6586/21 6591/24 6592/5 6592/12 6592/15 6592/15 6593/7 6593/8 6593/12 6596/22 6656/22 point [34] 6595/13 6595/24 6596/18 6598/14 6604/13 6607/2 6662/9 6666/25 6667/15 6669/9 6669/15 6679/19 6680/4 6680/16 6686/13 6688/5 6690/16 6691/20 6694/8 6694/13 6699/2 6699/13 6699/13 6700/14 6701/1 6711/14 6711/16 6716/14 6727/20 6735/12 6739/16 6739/24 6740/14 6752/24 policy [3] 6609/9 6756/11 6756/12 pore [2] 6618/4 6635/4 portions [1] 6702/8 posed [1] 6698/21 position [16] 6581/8 6581/10 6581/15 6581/22 6583/11 6583/13 6583/14	6585/23 6589/22 6597/18 6698/4 6698/18 6699/6 6730/6 6751/22 6757/16 positioned [1] 6587/8 possibility [1] 6709/16 possible [3] 6636/2 6732/20 6737/4 post [14] 6568/20 6570/16 6570/22 6571/13 6572/17 6578/20 6578/25 6688/15 6689/16 6693/20 6694/10 6723/15 6736/5 6751/5 post-accident [5] 6688/15 6689/16 6693/20 6694/10 6723/15 post-incident [1] 6736/5 post-trial [2] 6578/20 6578/25 posted [2] 6659/7 6661/16 potassium [2] 6731/10 6752/22 potential [13] 6602/21 6602/23 6603/2 6603/11 6603/17 6603/18 6603/19 6603/20 6603/21 6639/11 6682/5 6705/4 6707/24 potentially [2] 6610/22 6707/3 pound [5] 6605/25 6606/14 6676/15 6737/5 6737/6 pounds [8] 6605/18 6605/19 6731/11 6731/12 6737/8 6737/13 6744/6 6752/21 powerful [1] 6721/21 PowerPoint [7] 6695/20 6699/14 6699/25 6700/12 6701/6 6702/7 6736/12 Poydras [4] 6569/6 6571/19 6572/6 6573/19 ppg [10] 6632/7 6663/11 6663/11 6667/10 6675/15 6676/1 6676/4 6676/12 6676/13 6676/25 ppgs [1] 6632/5 practice [6] 6599/1 6640/18 6640/19 6712/15 6749/19 6757/17 practices [20] 6590/20 6590/22 6590/23 6590/24 6591/3 6591/7 6640/11 6640/14 6699/5 6700/15 6700/17 6700/22 6701/8 6701/20 6701/21 6702/1 6748/19 6749/14 6749/23 6758/15 preceding [1] 6649/25 predict [1] 6588/16 predicted [2] 6647/21 6710/16 preexisting [1] 6721/17 prefer [2] 6674/14 6674/21 preliminary [5] 6575/6 6578/8 6646/21 6651/13 6695/2 prematurely [1] 6638/5 premium [2] 6630/13 6752/19 preparation [1] 6695/20 prepare [1] 6694/13 prepared [7] 6679/16 6680/2 6680/8 6680/14 6680/20 6681/14 6683/21 preparing [5] 6680/1 6681/5 6682/16 6682/18 6695/1 presence [1] 6724/21 present [7] 6636/15 6695/3 6702/8 6722/24 6724/25 6725/14 6746/10 presentation [6] 6576/22 6694/14 6695/1 6695/20 6702/9 6736/12 presented [1] 6576/22 president [1] 6689/13 pressure [8] 6615/11 6615/18 6618/4 6618/10 6618/12 6647/22 6651/20 6656/22 pressures [1] 6635/5 pretty [6] 6600/9 6635/3 6657/10 6679/20 6679/22 6704/5 prevent [2] 6642/23 6642/24
---	---	--

<p>P</p> <p>prevents [1] 6710/12 previous [2] 6680/9 6725/18 previously [3] 6578/12 6624/4 6693/2 primary [4] 6620/18 6652/20 6654/20 6663/19 primers [1] 6707/20 principal [2] 6599/3 6599/6 principally [1] 6589/18 print [1] 6602/20 prior [24] 6581/17 6581/19 6581/20 6585/14 6586/10 6586/15 6602/11 6608/7 6615/9 6624/2 6626/25 6631/18 6660/9 6661/5 6670/10 6677/3 6677/13 6678/1 6688/12 6693/4 6702/9 6723/16 6741/6 6756/14 probability [5] 6689/21 6735/2 6735/15 6759/11 6759/14 probably [11] 6579/5 6581/11 6586/20 6591/24 6592/15 6593/7 6602/8 6606/9 6607/24 6671/9 6671/10 Probert [2] 6702/10 6702/11 problem [10] 6603/19 6604/6 6604/15 6604/22 6612/22 6612/24 6614/10 6638/4 6664/3 6749/21 problems [4] 6595/2 6654/3 6693/9 6704/20 procedure [5] 6587/21 6587/25 6636/10 6681/8 6691/8 procedures [7] 6588/2 6700/23 6701/2 6701/4 6702/3 6742/21 6749/24 proceedings [3] 6573/23 6760/14 6760/22 process [13] 6680/17 6693/22 6695/17 6709/12 6714/7 6714/7 6715/1 6718/22 6727/6 6750/11 6757/15 6757/21 6759/12 produce [1] 6723/16 product [2] 6590/17 6623/13 production [61] 6568/10 6571/19 6571/19 6571/22 6571/22 6572/3 6572/3 6593/14 6593/17 6601/24 6616/6 6617/23 6618/2 6620/17 6622/21 6628/17 6631/18 6640/6 6679/17 6679/21 6680/4 6685/16 6686/15 6688/11 6689/6 6690/17 6690/21 6690/23 6691/20 6692/3 6693/9 6693/22 6694/4 6695/18 6702/22 6703/20 6705/21 6706/2 6711/14 6711/22 6712/10 6716/18 6716/24 6717/6 6718/9 6718/15 6723/16 6726/15 6728/4 6728/15 6728/21 6729/22 6730/7 6734/13 6735/1 6747/11 6748/7 6749/8 6753/5 6753/7 6760/4 productive [1] 6578/14 products [8] 6591/15 6630/2 6630/3 6630/4 6646/4 6646/5 6654/21 6655/17 professionalism [1] 6684/12 program [1] 6587/22 progress [1] 6628/19 project [2] 6687/19 6692/19 promotion [1] 6583/13 properly [2] 6664/3 6744/22 properties [2] 6708/23 6734/2 proposal [9] 6587/17 6587/18 6588/21 6629/12 6680/6 6680/12 6680/18 6680/23 6703/8 proposals [3] 6678/23 6712/25 6713/12 proposed [2] 6578/19 6687/12 proprietary [3] 6708/13 6708/17 6709/16 protection [1] 6709/17</p>	<p>prove [1] 6715/2 proved [1] 6715/14 provide [18] 6583/24 6590/15 6596/23 6598/25 6610/1 6613/5 6616/4 6629/12 6634/22 6664/5 6679/1 6682/4 6682/11 6688/24 6692/6 6713/3 6717/11 6735/24 provided [23] 6613/22 6630/7 6631/13 6652/5 6652/11 6652/12 6652/13 6678/23 6678/24 6679/11 6679/20 6682/7 6692/14 6711/6 6716/10 6717/3 6717/5 6718/23 6719/6 6719/14 6719/15 6722/5 6758/2 provider [1] 6599/8 provides [1] 6679/12 providing [2] 6610/22 6635/1 PSC [1] 6575/9 psi [1] 6743/17 publications [5] 6719/22 6748/24 6748/25 6754/2 6754/8 published [3] 6639/10 6643/21 6722/11 pull [26] 6584/2 6588/23 6638/24 6639/14 6641/23 6645/14 6646/1 6648/9 6656/1 6656/25 6660/16 6662/17 6669/15 6677/8 6678/9 6679/6 6694/17 6702/12 6715/24 6723/13 6724/12 6731/3 6741/9 6748/11 6751/6 6752/5 pulled [2] 6637/18 6659/13 pump [21] 6596/8 6597/4 6605/10 6611/12 6633/19 6633/22 6636/18 6638/1 6673/6 6673/14 6674/4 6674/6 6674/14 6674/21 6706/24 6706/25 6721/1 6721/9 6738/18 6740/2 6740/2 pumpability [1] 6674/11 pumped [55] 6592/18 6608/7 6608/12 6615/9 6616/5 6626/17 6626/20 6631/11 6637/11 6646/6 6647/3 6647/3 6647/15 6647/25 6649/6 6650/20 6652/2 6653/16 6654/24 6655/2 6655/21 6655/22 6656/20 6658/12 6658/19 6659/11 6660/10 6661/6 6662/2 6664/16 6667/25 6670/5 6670/21 6672/18 6677/3 6678/1 6682/25 6685/16 6696/15 6696/17 6696/17 6697/4 6697/5 6709/25 6719/3 6732/23 6733/10 6733/15 6733/16 6733/20 6734/12 6735/1 6736/23 6759/11 6760/4 pumping [10] 6607/25 6670/10 6677/14 6687/13 6707/13 6707/22 6733/5 6733/6 6739/1 6739/16 pumps [1] 6636/18 purchased [1] 6622/12 purports [3] 6629/10 6678/20 6679/16 purpose [15] 6583/24 6615/20 6615/23 6620/18 6638/3 6663/19 6706/12 6708/23 6709/3 6709/13 6710/14 6720/13 6727/10 6727/12 6738/1 purposes [12] 6584/25 6615/24 6622/18 6627/8 6629/21 6634/21 6634/23 6642/2 6653/19 6663/17 6665/19 6748/20 pursuant [1] 6700/21 pushback [5] 6596/8 6596/11 6596/23 6723/10 6723/11 pushes [1] 6596/5 put [22] 6579/6 6579/13 6580/9 6606/19 6621/8 6629/13 6640/15 6647/5 6664/25 6665/9 6666/5 6666/7 6666/9 6668/14 6668/14 6702/7 6702/9 6704/21 6711/17 6720/11 6721/17 6730/16</p>	<p>Q</p> <p>QA [1] 6742/21 QA/QC [1] 6742/21 QC [1] 6742/21 qualification [1] 6698/9 qualified [1] 6756/4 qualifier [1] 6701/10 qualify [2] 6753/24 6754/5 quality [4] 6665/22 6667/19 6696/6 6696/12 quantify [1] 6618/19 question [27] 6579/2 6583/2 6583/4 6586/13 6599/4 6606/10 6607/9 6615/22 6624/6 6632/16 6633/7 6655/7 6658/17 6659/1 6662/11 6665/10 6670/14 6671/3 6675/6 6698/19 6705/23 6708/15 6712/2 6714/16 6734/24 6737/21 6745/22 question's [1] 6698/21 questioned [1] 6631/25 questions [12] 6583/2 6590/12 6628/20 6666/18 6675/8 6686/12 6692/9 6693/12 6700/7 6714/17 6718/24 6718/25 quick [2] 6595/22 6657/10 quicker [1] 6743/14 quickly [2] 6602/25 6679/5 Quirk [3] 6735/10 6737/25 6757/2 Quirk's [1] 6754/3</p> <p>R</p> <p>RACHEL [3] 6570/15 6572/9 6576/18 raised [2] 6579/2 6706/20 ran [10] 6602/18 6602/19 6603/15 6629/19 6656/21 6681/15 6697/19 6729/6 6729/8 6736/13 range [6] 6676/15 6728/8 6728/11 6728/13 6728/13 6728/17 ranges [3] 6728/16 6728/24 6728/25 rate [2] 6634/12 6748/1 rates [1] 6739/15 rather [1] 6693/15 rathole [1] 6707/24 Ravi [4] 6695/8 6695/15 6701/13 6735/11 RE [2] 6568/4 6568/7 react [1] 6732/25 read [12] 6627/7 6629/25 6639/24 6641/9 6641/13 6643/2 6643/13 6673/12 6675/16 6676/5 6701/23 6754/9 reading [2] 6642/22 6671/14 reads [2] 6628/11 6643/10 ready [4] 6650/20 6658/12 6686/1 6736/23 real [1] 6651/16 real-time [1] 6651/16 realized [1] 6742/22 really [5] 6638/18 6707/15 6733/20 6733/21 6734/12 reason [7] 6597/15 6705/10 6711/4 6715/7 6741/25 6747/8 6756/5 reasonable [3] 6578/17 6578/18 6740/17 reasons [1] 6748/2 recalculated [1] 6744/17 recall [21] 6592/14 6602/24 6603/2 6603/3 6603/6 6613/13 6618/20 6666/22 6670/7 6671/15 6671/17 6688/9 6691/16 6691/25 6694/14 6702/22 6728/10 6746/20 6752/15</p>
---	---	--

R	6690/16 6695/2 6718/12 regardless [3] 6677/16 6690/2 6749/7 registered [1] 6579/5 regular [2] 6585/5 6722/6 regularly [2] 6706/10 6756/17 regulations [1] 6612/1 rejected [1] 6692/13 relate [1] 6754/5 related [4] 6575/16 6598/24 6660/21 6718/10 relationship [6] 6594/25 6595/10 6595/11 6612/5 6704/24 6721/24 relationships [1] 6594/17 release [2] 6642/5 6642/8 relied [2] 6587/12 6733/10 rely [6] 6589/10 6590/3 6610/8 6610/9 6610/11 6709/24 remedial [3] 6612/23 6612/25 6711/24 remediate [2] 6612/24 6614/5 remediated [1] 6614/10 remediating [1] 6613/1 remember [13] 6608/9 6668/1 6672/5 6675/6 6686/20 6697/1 6697/22 6697/23 6702/19 6704/5 6726/9 6728/1 6750/9 remove [3] 6611/4 6611/12 6611/13 removed [1] 6611/9 rendered [1] 6699/8 rep [1] 6754/17 repeat [2] 6586/13 6705/23 rephrase [5] 6655/9 6677/21 6708/16 6712/2 6734/24 replicate [1] 6738/1 replied [1] 6672/6 report [13] 6652/10 6653/25 6661/20 6682/5 6686/18 6704/25 6706/7 6716/24 6716/25 6718/4 6730/21 6739/19 6750/13 reported [6] 6583/23 6645/6 6648/12 6666/12 6666/14 6706/10 Reporter [3] 6573/18 6760/18 6760/25 reporters [1] 6584/4 reporting [1] 6718/12 reports [18] 6588/23 6682/14 6704/9 6705/16 6705/17 6705/19 6705/24 6716/18 6716/19 6717/7 6717/7 6717/19 6717/25 6718/9 6718/10 6718/11 6718/16 6729/25 represent [8] 6629/10 6655/18 6678/20 6678/22 6679/16 6705/19 6706/1 6718/11 representation [1] 6659/3 representative [3] 6581/9 6637/5 6693/1 representatives [1] 6686/11 represents [3] 6636/15 6725/9 6737/13 reps [3] 6590/5 6687/15 6687/18 request [30] 6589/8 6589/9 6599/1 6616/8 6645/3 6645/6 6645/19 6653/7 6653/9 6653/21 6658/4 6660/22 6660/25 6662/22 6667/6 6667/7 6667/13 6669/1 6675/18 6677/8 6699/17 6699/20 6712/11 6724/7 6738/10 6739/3 6746/13 6746/14 6746/17 6751/1 requested [9] 6658/8 6661/16 6668/24 6669/7 6688/25 6716/13 6718/8 6719/6 6746/12 requests [2] 6588/22 6751/11 required [20] 6621/13 6624/22 6637/14 6651/12 6691/9 6691/17 6692/6 6713/5 6713/11 6714/8 6714/19 6714/22 6719/16 6719/17 6721/14 6722/6 6750/13 6757/15 6757/18 6758/25	requirement [6] 6635/22 6691/19 6713/11 6713/13 6714/20 6716/17 rerunning [1] 6703/12 resent [1] 6629/21 reserve [1] 6579/7 Reserves [1] 6582/20 reside [1] 6581/2 resources [6] 6570/13 6590/2 6590/12 6590/15 6757/21 6757/22 respect [7] 6686/14 6687/13 6687/18 6689/5 6692/11 6695/18 6715/8 respond [2] 6604/24 6671/2 responding [2] 6653/9 6724/6 response [3] 6604/12 6644/7 6653/11 responses [2] 6583/4 6746/24 responsibilities [3] 6587/13 6589/2 6598/21 responsibility [1] 6683/3 responsible [3] 6685/19 6735/13 6735/18 rest [1] 6754/9 result [45] 6612/20 6614/25 6645/18 6646/12 6646/13 6650/1 6650/20 6655/1 6656/10 6658/16 6658/23 6662/23 6663/11 6663/12 6663/16 6663/22 6664/5 6664/9 6664/13 6664/16 6666/11 6666/14 6666/15 6666/19 6666/23 6667/24 6668/2 6668/9 6672/10 6672/11 6675/13 6676/4 6676/8 6676/23 6676/24 6677/3 6677/7 6677/12 6677/23 6677/24 6677/25 6697/13 6730/19 6741/5 6742/14 resulted [2] 6740/23 6747/23 results [38] 6644/15 6644/21 6647/3 6650/14 6652/5 6652/10 6652/20 6653/12 6653/15 6653/20 6653/20 6656/6 6656/8 6659/4 6659/14 6659/22 6661/16 6662/10 6662/13 6663/14 6668/10 6672/13 6675/11 6677/8 6677/10 6677/17 6682/10 6690/6 6696/22 6698/16 6699/8 6729/12 6729/15 6729/21 6730/25 6736/15 6751/3 6751/5 results-lead [1] 6644/21 Results-Primary [1] 6652/20 resume [1] 6575/7 retarder [40] 6602/1 6602/2 6605/5 6605/7 6605/10 6605/22 6606/13 6606/25 6624/21 6625/15 6625/17 6631/3 6631/4 6637/23 6637/25 6638/3 6638/21 6639/6 6647/20 6647/22 6647/24 6648/2 6663/6 6665/16 6667/9 6667/12 6668/23 6669/11 6670/1 6670/3 6670/12 6672/11 6673/14 6681/17 6697/8 6697/14 6718/5 6730/8 6732/15 6738/18 retarders [1] 6673/7 retest [2] 6668/16 6735/14 rethink [1] 6715/13 revenue [1] 6623/5 review [8] 6660/2 6677/2 6677/6 6688/8 6690/3 6690/3 6717/3 6729/24 reviewed [9] 6659/22 6663/7 6677/10 6688/24 6689/4 6689/4 6729/14 6729/16 6729/21 reviewing [1] 6663/22 revised [1] 6628/16 reweigh [1] 6666/5 rewritten [1] 6749/3 rheologies [3] 6651/11 6656/23 6669/13 RICHARD [9] 6572/16 6576/5 6577/5 6589/19 6589/20 6668/8 6697/18
----------	--	---

R
RICHARD... [2] 6744/15 6750/21
Richie [1] 6668/2
Rickey [1] 6736/6
rid [5] 6623/1 6665/1 6665/2 6665/6
6754/10
rig [44] 6568/4 6592/9 6605/4 6609/1
6609/20 6611/7 6615/7 6615/17
6616/16 6621/11 6621/17 6622/7
6622/9 6632/11 6632/19 6632/21
6633/3 6633/17 6636/10 6636/11
6636/12 6636/18 6637/5 6638/9 6681/8
6696/4 6696/4 6696/10 6696/11 6699/2
6699/3 6700/4 6700/5 6732/2 6732/3
6732/3 6732/7 6732/10 6732/10
6732/11 6732/18 6732/23 6733/1
6733/7
right [124] 6575/6 6575/16 6576/1
6577/15 6578/8 6579/7 6579/12
6579/14 6580/15 6581/14 6581/24
6582/11 6583/9 6584/22 6586/1
6587/10 6590/22 6598/18 6599/2
6603/6 6605/5 6610/24 6624/10
6624/15 6628/8 6633/9 6633/24 6634/3
6636/6 6637/20 6638/6 6640/24
6644/22 6644/25 6645/22 6647/1
6647/6 6652/25 6653/17 6654/6
6655/11 6655/24 6657/1 6660/4
6660/16 6662/16 6664/5 6667/8
6667/16 6669/14 6671/1 6676/23
6679/25 6680/13 6684/25 6685/5
6687/22 6692/15 6694/7 6694/21
6695/10 6696/25 6700/9 6701/5 6702/4
6702/17 6705/9 6705/14 6705/19
6706/5 6707/16 6708/10 6709/1
6709/15 6713/15 6713/20 6713/25
6715/4 6715/23 6716/16 6717/13
6717/14 6717/18 6717/21 6718/9
6718/19 6718/20 6723/22 6724/24
6725/9 6726/1 6726/5 6726/14 6726/24
6727/22 6728/10 6728/22 6729/3
6729/18 6730/5 6730/10 6731/2
6731/17 6732/11 6733/23 6734/14
6735/5 6735/20 6737/15 6738/21
6739/11 6740/3 6740/4 6740/5 6740/20
6741/13 6744/1 6744/4 6744/24 6745/9
6747/6 6751/2 6751/13 6760/9
right-hand [2] 6644/22 6644/25
rise [3] 6575/4 6685/2 6760/11
risk [27] 6608/17 6609/1 6609/19
6611/22 6674/15 6682/2 6682/4
6682/13 6704/7 6704/13 6704/16
6704/19 6704/23 6704/24 6707/12
6707/16 6707/21 6707/22 6708/6
6708/9 6709/18 6722/24 6758/8
6758/10 6758/13 6758/22 6759/1
risks [8] 6674/22 6705/21 6706/2 6706/8
6713/9 6718/13 6718/22 6724/21
RMR [4] 6573/18 6760/18 6760/24
6760/25
Rob [11] 6627/2 6627/22 6634/4
6637/15 6648/7 6648/15 6649/19
6651/5 6652/25 6656/2 6672/25
ROBERT [2] 6569/3 6572/3
ROBERTS [3] 6572/9 6573/4 6577/18
Roger [2] 6686/18 6686/19
role [6] 6592/6 6592/8 6592/17 6609/25
6610/1 6709/5
Ronnie [2] 6686/19 6695/9
Room [1] 6573/19
Roth [18] 6689/13 6689/16 6689/19
6694/8 6694/13 6694/25 6695/5

6695/11 6695/15 6699/14 6699/25
6701/13 6710/25 6711/19 6713/4
6713/25 6736/12 6756/25
Roth's [4] 6700/12 6702/9 6713/22
6754/3
Rouge [2] 6569/23 6571/13
roughly [3] 6581/11 6696/24 6737/12
Roy [2] 6568/18 6568/19
rule [1] 6609/9
rules [1] 6749/24
run [45] 6601/25 6602/10 6602/14
6602/16 6603/14 6606/16 6607/7
6607/17 6608/4 6612/16 6620/19
6647/2 6647/2 6648/12 6649/4 6651/7
6651/9 6656/5 6673/6 6697/7 6697/9
6697/9 6697/10 6699/12 6699/12
6699/16 6700/24 6703/15 6703/16
6703/18 6715/4 6730/6 6730/7 6734/17
6736/3 6736/8 6738/4 6738/12 6738/14
6738/16 6738/23 6740/18 6751/2
6757/19 6757/24
running [10] 6603/17 6603/20 6604/1
6604/21 6604/25 6605/3 6612/13
6672/3 6701/4 6736/7
Rusnak [1] 6570/2

S
s/Jodi [1] 6760/24
SA [6] 6630/23 6639/7 6647/9 6724/24
6725/3 6731/21
SA-541 [6] 6630/23 6639/7 6647/9
6724/24 6725/3 6731/21
sack [22] 6605/11 6605/12 6605/16
6605/16 6605/16 6605/18 6605/25
6606/3 6606/14 6606/14 6606/16
6630/25 6631/5 6663/5 6667/9 6667/12
6675/15 6675/24 6730/8 6731/11
6731/12 6752/22
sacks [1] 6752/14
safe [1] 6658/25
safety [2] 6636/1 6739/9
said [35] 6586/7 6591/3 6594/17
6594/23 6597/4 6597/7 6602/8 6606/6
6614/15 6616/12 6623/1 6625/11
6626/5 6636/25 6639/17 6668/8
6668/10 6670/1 6677/2 6687/17 6688/7
6688/21 6689/3 6692/1 6703/9
6735/14 6736/2 6736/6 6736/13
6737/25 6748/23 6750/17 6758/7
6759/19 6759/19
sales [2] 6687/3 6687/5
Salt [1] 6639/23
Sam [1] 6692/15
same [38] 6583/1 6583/15 6583/16
6584/22 6584/23 6599/24 6614/16
6633/14 6633/25 6634/5 6642/17
6646/5 6646/10 6649/19 6655/1 6656/2
6656/15 6663/6 6665/16 6665/16
6668/3 6668/19 6674/11 6681/16
6697/13 6709/9 6728/11 6728/12
6733/24 6734/16 6740/23 6743/4
6743/25 6744/2 6746/4 6753/2 6756/12
6759/23
samples [2] 6733/1 6734/1
San [1] 6570/11
sat [6] 6689/3 6694/8 6736/11 6758/6
6758/12 6759/20
satisfied [4] 6684/11 6684/14 6713/7
6716/16
satisfies [1] 6758/9
satisfy [1] 6749/15
Saturated [1] 6639/23
Saturated-Salt [1] 6639/23

Saturday [2] 6601/3 6674/20
saw [12] 6604/6 6647/11 6653/25
6658/24 6660/2 6662/10 6664/11
6677/16 6677/23 6684/19 6701/17
6758/16
say [56] 6584/2 6585/1 6587/7 6587/21
6591/3 6591/9 6592/3 6592/9 6593/20
6594/4 6595/20 6595/24 6599/25
6601/15 6601/17 6602/20 6604/12
6610/10 6610/25 6611/8 6618/8
6618/19 6620/14 6621/1 6621/17
6626/2 6629/2 6632/10 6636/12 6657/3
6658/18 6666/2 6667/18 6671/11
6679/22 6680/15 6680/24 6694/24
6700/24 6701/7 6706/9 6710/16
6710/18 6711/13 6715/12 6717/5
6734/16 6747/9 6749/4 6749/12 6751/7
6753/20 6753/24 6754/7 6754/8
6755/16
saying [11] 6578/23 6591/19 6630/3
6655/7 6665/11 6670/12 6685/12
6701/1 6711/19 6728/12 6734/18
says [24] 6628/14 6628/15 6632/4
6634/14 6636/1 6636/18 6641/10
6643/11 6646/10 6674/14 6676/12
6696/4 6699/2 6699/10 6700/20
6723/17 6743/6 6745/4 6748/16
6748/17 6748/20 6752/17 6753/20
6754/25
scheduled [2] 6579/4 6579/13
schematic [2] 6645/20 6705/1
SCOFIELD [1] 6573/15
SCOTT [1] 6570/14
SCR [13] 6631/3 6637/23 6638/6
6646/11 6647/10 6647/17 6663/5
6668/25 6675/15 6675/24 6675/24
6732/9 6733/10
SCR-100L [11] 6631/3 6637/23 6638/6
6646/11 6647/10 6647/17 6663/5
6668/25 6675/15 6732/9 6733/10
screen [6] 6627/5 6639/20 6641/25
6660/20 6662/19 6678/18
seal [4] 6625/8 6625/11 6626/12
6633/18
sealant [7] 6624/22 6625/18 6625/18
6626/3 6626/7 6626/9 6644/12
seated [1] 6685/4
second [11] 6621/3 6642/5 6642/15
6646/13 6651/4 6656/16 6657/4
6669/14 6672/23 6673/1 6700/13
second-guessed [1] 6621/3
seconds [4] 6657/4 6657/10 6657/10
6657/16
Secrest [1] 6573/2
secret [1] 6701/16
section [13] 6568/5 6570/13 6571/3
6595/15 6595/19 6595/21 6596/2
6633/12 6678/4 6685/17 6712/17
6748/22 6760/4
see [43] 6579/14 6605/12 6608/1
6608/2 6636/4 6641/7 6642/1 6644/22
6648/8 6648/8 6650/7 6658/22 6660/3
6662/8 6662/13 6663/1 6666/16
6667/22 6667/24 6668/25 6669/7
6669/8 6672/20 6678/18 6691/21
6693/15 6700/4 6702/9 6714/23
6717/23 6719/15 6724/14 6726/18
6727/9 6730/3 6735/15 6740/19
6741/15 6742/20 6743/1 6743/1
6745/23 6748/9
seeing [2] 6734/2 6746/20
seek [2] 6692/9 6693/14
seem [1] 6673/2

<p>S</p> <p>seemed [1] 6597/4</p> <p>seen [10] 6631/16 6664/9 6694/19 6694/20 6694/21 6694/24 6698/8 6702/15 6721/23 6746/20</p> <p>selected [2] 6585/21 6586/3</p> <p>selection [1] 6683/12</p> <p>sell [2] 6754/10 6755/23</p> <p>selling [1] 6754/13</p> <p>send [5] 6669/25 6681/9 6703/22 6733/1 6751/3</p> <p>sending [3] 6629/17 6670/24 6716/18</p> <p>senior [3] 6581/9 6604/20 6698/10</p> <p>sense [1] 6578/25</p> <p>sent [20] 6575/13 6627/14 6628/21 6631/22 6636/8 6647/12 6647/13 6660/24 6669/21 6669/22 6680/15 6681/6 6681/19 6704/2 6705/16 6705/17 6717/25 6718/5 6718/7 6752/7</p> <p>sentence [2] 6642/22 6753/8</p> <p>separate [5] 6667/6 6704/11 6712/10 6716/15 6757/18</p> <p>Sepulvado [1] 6627/16</p> <p>series [16] 6702/17 6702/21 6702/25 6703/5 6703/11 6703/19 6704/9 6705/16 6712/21 6714/8 6714/18 6716/12 6727/8 6729/6 6746/24 6758/9</p> <p>serve [1] 6586/7</p> <p>served [1] 6582/6</p> <p>service [2] 6599/8 6613/22</p> <p>Services [2] 6573/7 6573/12</p> <p>Serving [1] 6582/20</p> <p>session [4] 6568/14 6575/1 6689/17 6760/14</p> <p>set [8] 6585/24 6596/3 6606/25 6610/13 6638/5 6639/5 6660/25 6743/14</p> <p>setting [3] 6638/2 6733/13 6753/6</p> <p>settle [1] 6744/14</p> <p>settling [4] 6639/9 6662/7 6743/14 6744/12</p> <p>seven [6] 6581/11 6581/12 6600/16 6674/9 6678/5 6713/2</p> <p>several [6] 6599/18 6610/19 6611/11 6691/10 6725/16 6756/20</p> <p>severe [3] 6603/3 6603/20 6603/21</p> <p>SG [5] 6650/3 6650/4 6736/25 6737/3 6740/23</p> <p>shallow [2] 6653/24 6729/1</p> <p>share [1] 6635/15</p> <p>SHARON [1] 6570/21</p> <p>Shaw [1] 6569/12</p> <p>sheet [9] 6699/22 6700/2 6731/6 6741/12 6742/25 6743/4 6743/19 6746/7 6751/3</p> <p>sheets [6] 6726/10 6729/15 6729/16 6730/2 6730/3 6751/3</p> <p>shipped [2] 6732/1 6732/2</p> <p>shoe [12] 6707/23 6708/12 6708/18 6708/20 6708/23 6709/3 6709/6 6709/7 6709/13 6709/17 6709/20 6709/21</p> <p>shooting [3] 6632/8 6632/10 6645/20</p> <p>should [10] 6596/8 6689/25 6707/6 6709/4 6709/7 6736/8 6748/8 6748/21 6751/15 6751/23</p> <p>shoulder [1] 6715/12</p> <p>show [25] 6602/20 6602/22 6603/18 6603/18 6607/12 6630/18 6638/6 6638/11 6650/13 6652/21 6656/5 6656/8 6656/10 6657/20 6666/1 6666/2 6668/20 6668/21 6698/2 6698/7 6739/15 6739/22 6743/16 6745/13 6745/14</p>	<p>showed [12] 6603/20 6604/14 6644/10 6696/2 6697/1 6697/1 6699/6 6699/8 6730/25 6736/14 6744/22 6745/7</p> <p>showing [3] 6637/17 6651/5 6669/24</p> <p>shown [8] 6639/7 6655/17 6673/25 6679/2 6702/10 6732/14 6741/7 6742/24</p> <p>shows [75] 6629/14 6629/23 6629/23 6630/2 6630/13 6630/16 6630/20 6630/23 6630/25 6631/3 6631/8 6634/7 6634/8 6634/9 6641/8 6642/5 6642/20 6644/21 6645/13 6645/16 6645/16 6645/23 6647/7 6648/2 6649/22 6650/11 6650/15 6650/17 6651/15 6653/23 6653/24 6654/6 6654/20 6656/1 6657/3 6657/6 6657/17 6657/21 6657/22 6660/23 6662/22 6662/24 6663/3 6663/4 6663/10 6663/10 6663/11 6665/15 6665/16 6665/19 6665/23 6667/3 6667/9 6667/16 6668/18 6668/20 6669/3 6672/22 6672/24 6673/2 6673/25 6674/9 6675/14 6675/23 6676/1 6676/4 6676/12 6705/3 6742/4 6745/6 6746/2 6746/4 6746/4 6746/23 6750/17</p> <p>SHUTLER [1] 6570/21</p> <p>side [10] 6610/2 6610/6 6610/14 6611/5 6646/10 6662/24 6690/18 6703/13 6705/20 6710/14</p> <p>significance [1] 6675/19</p> <p>significant [1] 6672/15</p> <p>signify [1] 6653/6</p> <p>Simcox [5] 6573/18 6573/20 6760/18 6760/24 6760/25</p> <p>similar [1] 6612/7</p> <p>similarly [1] 6587/8</p> <p>simple [1] 6756/3</p> <p>simply [2] 6714/13 6749/19</p> <p>simulations [1] 6598/25</p> <p>since [5] 6599/19 6643/20 6647/21 6723/17 6748/25</p> <p>SINCLAIR [1] 6571/9</p> <p>single [7] 6690/16 6711/7 6711/8 6735/12 6736/13 6738/4 6758/21</p> <p>sir [85] 6578/7 6580/19 6580/22 6580/25 6581/2 6581/21 6582/6 6582/10 6582/14 6582/21 6582/22 6583/7 6583/18 6583/22 6584/1 6584/18 6585/20 6586/1 6586/9 6586/10 6586/14 6586/22 6587/10 6588/4 6588/13 6590/16 6592/11 6593/4 6593/9 6593/10 6593/15 6593/24 6595/4 6595/17 6600/5 6603/23 6603/25 6604/9 6610/16 6610/24 6611/20 6612/8 6613/9 6613/23 6615/19 6616/25 6617/25 6619/18 6621/6 6625/11 6626/5 6633/8 6633/16 6635/24 6636/12 6637/3 6640/3 6640/9 6641/18 6643/15 6643/23 6645/22 6646/8 6651/2 6652/12 6652/16 6655/24 6658/14 6661/14 6661/19 6662/15 6663/1 6665/25 6671/5 6672/8 6675/6 6675/9 6677/23 6678/3 6679/4 6679/14 6681/4 6681/9 6683/1 6690/22</p> <p>sit [7] 6687/12 6688/22 6689/6 6690/8 6695/16 6718/20 6727/21</p> <p>site [1] 6590/19</p> <p>sitting [1] 6734/2</p> <p>situation [3] 6714/24 6753/18 6753/19</p> <p>situations [1] 6753/25</p> <p>six [7] 6581/11 6581/12 6671/10 6713/2 6746/25 6747/6 6747/11</p>	<p>size [4] 6605/16 6605/18 6645/16 6645/23</p> <p>skill [1] 6585/24</p> <p>slide [3] 6694/13 6695/1 6701/23</p> <p>Slidell [1] 6569/19</p> <p>slurries [3] 6592/18 6639/23 6751/16</p> <p>slurry [107] 6588/2 6589/11 6607/16 6615/9 6615/13 6619/6 6619/10 6620/7 6620/16 6620/23 6621/4 6621/8 6621/9 6621/10 6622/18 6625/1 6626/19 6631/20 6632/1 6637/11 6638/22 6640/5 6640/5 6642/11 6644/6 6644/11 6644/15 6646/5 6646/15 6647/2 6649/5 6650/20 6651/24 6652/1 6654/23 6656/19 6658/5 6658/7 6658/19 6661/6 6662/2 6662/22 6663/4 6664/15 6665/16 6665/22 6666/2 6667/4 6667/19 6667/25 6668/19 6670/4 6677/3 6682/25 6683/17 6683/20 6684/9 6685/16 6686/15 6687/14 6689/20 6691/21 6692/4 6694/5 6695/19 6696/15 6697/4 6699/4 6699/7 6700/6 6701/14 6701/22 6703/2 6703/4 6704/3 6706/3 6706/9 6718/5 6718/15 6719/2 6719/24 6719/24 6721/10 6721/17 6722/8 6722/23 6723/5 6724/17 6725/1 6725/13 6725/23 6726/15 6729/23 6730/7 6730/23 6731/14 6733/5 6735/1 6736/23 6741/4 6741/6 6743/20 6748/8 6748/20 6748/21 6759/10 6760/3</p> <p>small [4] 6606/1 6606/2 6627/4 6721/20</p> <p>smoother [1] 6623/25</p> <p>so [173] 6576/7 6577/6 6579/12 6580/23 6583/4 6584/3 6590/11 6591/3 6597/1 6597/6 6599/21 6599/22 6601/10 6602/24 6603/12 6605/21 6606/1 6608/21 6616/19 6617/11 6617/14 6618/12 6619/3 6619/6 6622/9 6623/24 6624/15 6625/11 6625/14 6625/15 6629/20 6631/16 6632/13 6633/11 6633/19 6633/22 6635/6 6637/1 6637/13 6637/22 6645/20 6647/24 6650/25 6651/12 6653/19 6655/13 6657/16 6658/23 6659/21 6661/20 6663/21 6664/2 6667/20 6668/13 6668/24 6669/1 6669/8 6670/7 6670/9 6674/17 6676/23 6677/16 6679/19 6680/5 6680/11 6680/12 6680/22 6681/17 6681/21 6682/7 6687/20 6688/13 6688/17 6690/2 6690/4 6690/10 6693/6 6697/10 6697/14 6697/20 6698/15 6698/20 6699/14 6699/19 6699/21 6699/23 6700/20 6700/24 6701/1 6701/17 6701/19 6702/20 6703/10 6703/19 6704/2 6704/19 6705/14 6706/15 6707/8 6707/14 6707/16 6708/4 6708/5 6709/1 6711/12 6711/17 6712/17 6712/19 6712/21 6713/25 6714/23 6715/2 6715/7 6715/18 6716/16 6717/21 6719/7 6720/7 6720/10 6721/14 6722/21 6724/1 6724/8 6725/12 6725/16 6726/11 6726/13 6726/14 6727/6 6727/11 6727/17 6728/6 6728/18 6728/25 6730/14 6731/24 6732/2 6732/8 6732/13 6733/18 6734/1 6734/11 6734/22 6738/13 6738/23 6738/25 6739/4 6739/8 6740/15 6740/17 6741/2 6741/20 6742/6 6742/12 6742/14 6742/19 6743/13 6743/19 6744/3 6744/15 6744/17 6744/20 6745/2</p>
--	--	--

<p>S</p> <p>so... [10] 6747/19 6747/21 6749/7 6754/12 6754/23 6755/23 6756/1 6756/21 6758/17 6760/10</p> <p>soft [3] 6743/8 6743/11 6745/4</p> <p>software [5] 6573/24 6588/9 6602/18 6602/19 6634/17</p> <p>sold [1] 6623/4</p> <p>sole [1] 6583/24</p> <p>solely [3] 6729/12 6735/13 6735/18</p> <p>solved [1] 6614/11</p> <p>some [54] 6580/22 6582/16 6587/16 6591/1 6593/25 6594/1 6595/18 6595/18 6596/7 6596/14 6596/18 6597/25 6601/22 6605/23 6610/17 6610/19 6611/6 6616/2 6617/3 6618/5 6621/12 6621/12 6624/20 6628/25 6634/8 6634/25 6638/12 6638/13 6645/13 6651/8 6657/14 6659/21 6666/25 6678/11 6678/13 6686/25 6687/24 6693/20 6693/21 6694/3 6694/13 6699/12 6699/13 6706/23 6715/7 6717/8 6719/16 6719/20 6723/10 6736/3 6750/17 6752/24 6753/4 6759/21</p> <p>somebody [5] 6687/11 6714/13 6714/16 6741/25 6759/20</p> <p>someone [5] 6579/2 6594/13 6627/19 6691/21 6691/22</p> <p>something [12] 6578/11 6583/5 6601/12 6608/16 6609/9 6611/22 6706/10 6716/7 6716/9 6733/3 6751/25 6753/14 sometime [1] 6613/25</p> <p>sometimes [7] 6592/7 6592/7 6592/8 6623/19 6623/22 6713/1 6713/2</p> <p>somewhat [1] 6718/10</p> <p>soon [1] 6579/12</p> <p>sorry [12] 6586/13 6599/4 6606/9 6615/22 6628/25 6662/11 6671/7 6695/12 6705/23 6714/4 6717/13 6741/8</p> <p>sort [4] 6588/12 6635/6 6646/16 6703/7</p> <p>sound [1] 6686/22</p> <p>sounds [2] 6582/15 6718/20</p> <p>source [1] 6743/13</p> <p>South [7] 6593/19 6723/21 6723/24 6724/15 6724/22 6725/3 6726/19</p> <p>spacer [9] 6596/7 6596/9 6597/5 6597/15 6597/17 6611/12 6629/15 6706/22 6706/24</p> <p>speak [9] 6601/9 6601/13 6601/14 6601/17 6623/20 6636/24 6687/17 6707/22 6759/18</p> <p>special [1] 6586/18</p> <p>specialists [2] 6619/19 6619/22</p> <p>specific [11] 6649/25 6650/4 6650/7 6657/17 6658/15 6696/16 6713/6 6729/21 6736/25 6737/7 6741/6</p> <p>specifically [8] 6601/24 6698/3 6706/20 6710/3 6711/22 6717/6 6748/16 6756/1</p> <p>specifications [3] 6621/13 6634/9 6636/1</p> <p>Speculation [1] 6721/6</p> <p>spelling [1] 6579/25</p> <p>SPILL [1] 6568/4</p> <p>SPIRO [1] 6571/4</p> <p>spoke [3] 6716/20 6716/21 6755/5</p> <p>spoken [1] 6757/14</p> <p>squeeze [12] 6612/23 6613/1 6613/2 6613/3 6613/4 6613/8 6613/11 6613/14 6613/19 6613/20 6614/11 6614/17</p> <p>SSA [2] 6731/17 6731/17</p>	<p>SSA-1 [1] 6731/17</p> <p>SSA-2 [1] 6731/17</p> <p>stability [23] 6648/14 6649/16 6649/16 6649/22 6651/23 6652/1 6656/23 6657/1 6660/12 6669/4 6669/13 6676/25 6697/7 6697/11 6697/15 6698/5 6699/19 6700/3 6730/6 6730/23 6741/1 6742/1 6746/2</p> <p>Stabilizer [1] 6639/22</p> <p>stable [48] 6625/10 6626/12 6626/16 6626/20 6644/2 6644/10 6644/16 6657/21 6658/19 6662/2 6662/3 6662/6 6676/9 6676/10 6696/5 6696/11 6696/14 6697/4 6697/5 6699/4 6699/7 6699/9 6700/6 6719/17 6719/18 6723/2 6729/8 6730/18 6730/19 6730/23 6730/25 6733/5 6733/15 6733/17 6733/20 6736/23 6741/5 6741/17 6742/7 6743/20 6744/18 6745/6 6745/15 6745/16 6746/4 6749/22 6759/4 6759/8</p> <p>stand [3] 6579/21 6650/3 6673/20</p> <p>standard [7] 6711/1 6711/6 6711/8 6712/15 6713/16 6714/21 6725/15</p> <p>standardly [1] 6625/25</p> <p>standards [1] 6699/5</p> <p>standpoint [10] 6622/25 6672/17 6691/2 6693/17 6693/17 6706/6 6725/5 6730/24 6733/14 6736/8</p> <p>stands [2] 6650/4 6725/22</p> <p>start [7] 6580/1 6626/6 6679/4 6739/1 6740/2 6740/13 6740/18</p> <p>started [11] 6585/14 6595/11 6595/13 6600/14 6616/18 6670/6 6675/20 6675/21 6702/18 6719/5 6757/14</p> <p>starts [1] 6740/15</p> <p>state [8] 6571/7 6571/11 6571/15 6577/3 6579/24 6659/2 6709/9 6749/17</p> <p>stated [3] 6692/8 6720/15 6724/20</p> <p>statement [11] 6671/23 6696/8 6699/25 6700/20 6734/18 6753/14 6754/1 6754/5 6756/4 6756/9 6759/14</p> <p>states [13] 6568/1 6568/10 6568/15 6570/8 6570/12 6570/18 6571/2 6700/19 6702/1 6747/14 6749/16 6756/12 6760/19</p> <p>static [4] 6588/17 6654/6 6753/9 6753/10</p> <p>Station [1] 6571/5</p> <p>status [2] 6582/11 6660/25</p> <p>stayed [3] 6622/9 6729/6 6732/3</p> <p>Steering [1] 6685/9</p> <p>Stelly [1] 6750/21</p> <p>stenography [1] 6573/23</p> <p>STEPHEN [1] 6568/23</p> <p>steps [2] 6714/8 6758/9</p> <p>Sterbcow [4] 6569/5 6569/6 6685/5 6685/8</p> <p>STERNBERG [1] 6573/12</p> <p>STEVEN [2] 6570/14 6572/9</p> <p>Stickland [2] 6576/6 6578/3</p> <p>still [12] 6579/7 6579/15 6582/11 6646/24 6670/11 6678/12 6678/13 6728/8 6734/10 6741/3 6741/16 6760/1</p> <p>Stone [1] 6572/22</p> <p>stop [6] 6586/24 6609/5 6609/10 6609/14 6609/20 6664/20</p> <p>stormed [1] 6597/5</p> <p>story [3] 6755/1 6755/2 6755/9</p> <p>STRANGE [1] 6571/8</p> <p>stream [1] 6603/14</p> <p>Street [19] 6568/20 6569/3 6569/6 6569/10 6569/13 6569/19 6569/22</p>	<p>6570/6 6571/12 6571/16 6571/19 6572/6 6572/10 6572/17 6572/23 6573/5 6573/9 6573/16 6573/19</p> <p>strength [12] 6628/18 6651/15 6651/18 6656/23 6672/14 6673/18 6673/19 6673/25 6674/16 6697/2 6743/7 6743/17</p> <p>Strickland [1] 6577/5</p> <p>strike [1] 6622/15</p> <p>string [3] 6620/19 6640/6 6690/21</p> <p>strings [1] 6679/12</p> <p>strong [1] 6596/22</p> <p>stuck [2] 6595/15 6596/2</p> <p>studied [1] 6683/17</p> <p>stuff [4] 6732/25 6734/16 6735/15 6744/2</p> <p>subject [4] 6639/22 6670/1 6675/3 6752/11</p> <p>subjects [1] 6582/25</p> <p>submit [2] 6578/19 6691/6</p> <p>submitted [13] 6577/4 6588/22 6589/8 6653/7 6669/1 6669/8 6699/11 6699/17 6712/19 6739/3 6739/24 6751/15 6751/25</p> <p>submitting [1] 6589/10</p> <p>subsequent [2] 6711/24 6712/22</p> <p>substance [3] 6705/20 6710/11 6718/12</p> <p>success [6] 6590/25 6689/21 6721/2 6735/2 6735/2 6735/16</p> <p>successful [3] 6597/16 6721/12 6722/3</p> <p>successfully [12] 6643/20 6643/21 6707/7 6707/8 6727/25 6749/1 6750/2 6750/3 6756/14 6756/14 6756/22 6757/11</p> <p>such [7] 6686/3 6691/14 6691/17 6708/20 6721/20 6721/21 6722/15</p> <p>sufficient [1] 6644/13</p> <p>suggest [3] 6663/12 6665/21 6676/7</p> <p>suggesting [1] 6607/10</p> <p>Suite [13] 6568/20 6569/6 6569/10 6569/16 6571/19 6572/6 6572/10 6572/17 6572/20 6573/5 6573/9 6573/12 6573/16</p> <p>SULLIVAN [1] 6570/20</p> <p>sum [2] 6705/19 6718/11</p> <p>Sunday [8] 6601/3 6627/12 6628/22 6629/16 6629/19 6631/23 6671/6 6681/19</p> <p>supervisor [3] 6686/18 6686/24 6687/21</p> <p>supplemented [1] 6749/3</p> <p>support [5] 6583/25 6592/1 6592/6 6592/7 6598/25</p> <p>supporting [1] 6629/20</p> <p>supposed [2] 6628/15 6751/11</p> <p>sure [46] 6591/8 6591/8 6596/3 6597/15 6616/1 6617/12 6618/6 6626/11 6632/11 6633/18 6633/21 6636/14 6638/1 6638/4 6646/23 6679/18 6679/20 6679/22 6687/9 6690/11 6694/21 6697/25 6698/13 6702/5 6707/1 6708/15 6710/9 6711/7 6711/16 6717/4 6721/16 6722/14 6733/4 6733/17 6736/7 6738/10 6741/18 6745/22 6746/16 6749/16 6749/18 6750/7 6757/19 6757/21 6758/7 6758/9</p> <p>surface [7] 6608/2 6623/18 6728/5 6728/15 6739/1 6747/12 6754/15</p> <p>surfactant [1] 6721/21</p> <p>Sustained [1] 6719/10</p> <p>Sutherland [1] 6572/8</p> <p>swap [1] 6707/24</p> <p>switch [3] 6609/22 6612/25 6615/2</p> <p>switched [2] 6616/20 6686/20</p>
--	---	--

S
sworn [1] 6579/22
synthetic [4] 6706/9 6706/21 6707/6 6707/23
system [42] 6587/18 6587/18 6587/25 6588/21 6624/23 6626/12 6626/16 6629/12 6630/10 6630/11 6632/9 6641/16 6644/10 6650/15 6651/20 6651/21 6657/21 6662/2 6662/4 6662/6 6663/15 6676/9 6676/10 6696/5 6696/12 6696/14 6699/9 6707/17 6707/18 6709/6 6720/6 6720/14 6720/24 6730/19 6744/18 6745/7 6748/9 6758/8 6758/10 6758/13 6758/19 6759/8

T
table [2] 6580/9 6722/13
Tabler [1] 6627/16
tablespoons [1] 6605/25
tail [4] 6632/4 6633/11 6633/15 6703/3
take [19] 6582/25 6606/25 6626/22 6641/2 6642/14 6672/20 6684/25 6686/7 6703/21 6720/24 6737/19 6739/4 6747/19 6754/18 6754/24 6755/7 6755/7 6756/5 6760/9
taken [4] 6690/11 6693/14 6695/16 6731/25
takes [3] 6618/10 6705/2 6757/13
taking [2] 6703/10 6739/23
talk [26] 6578/17 6582/23 6582/24 6590/6 6598/13 6604/19 6609/23 6612/25 6615/2 6621/16 6632/3 6633/11 6637/7 6660/15 6666/15 6685/24 6688/22 6689/6 6691/12 6691/12 6695/16 6699/14 6707/21 6714/25 6719/19 6752/1
talked [31] 6630/14 6637/8 6637/22 6638/10 6643/17 6675/3 6682/10 6682/13 6694/3 6696/21 6702/17 6705/24 6708/5 6710/25 6716/4 6719/20 6724/14 6726/6 6727/24 6732/14 6739/13 6740/11 6744/21 6745/10 6746/7 6753/7 6754/17 6756/21 6756/23 6757/9 6760/1
talking [25] 6584/3 6587/7 6600/12 6605/8 6605/17 6606/4 6606/13 6610/11 6618/9 6620/25 6631/4 6632/25 6658/23 6687/19 6701/8 6701/9 6717/5 6717/15 6723/22 6725/6 6728/6 6728/6 6743/25 6746/2 6752/14
talks [3] 6641/7 6702/2 6713/15
tally [1] 6681/7
tanks [1] 6638/19
TANNER [1] 6573/15
target [19] 6611/24 6632/8 6635/5 6635/17 6635/18 6645/19 6647/23 6650/25 6651/1 6654/4 6657/9 6663/10 6666/4 6666/6 6667/10 6675/15 6676/1 6676/12 6676/15
TD [1] 6680/10
TD'ed [2] 6680/11 6680/16
TD'ing [1] 6680/11
team [19] 6585/6 6585/15 6594/2 6595/5 6598/1 6600/7 6603/24 6604/4 6604/20 6614/16 6617/13 6617/17 6629/21 6651/25 6687/5 6691/4 6691/8 6708/5 6758/2
teams [2] 6595/1 6595/3
teaspoons [3] 6606/19 6697/14 6733/10
tech [1] 6590/20
technical [20] 6583/12 6586/18 6590/10

6591/13 6591/13 6591/18 6591/20 6598/22 6639/11 6641/19 6686/11 6687/7 6687/15 6687/18 6687/24 6691/12 6693/8 6698/11 6709/8 6745/5 technology [10] 6590/11 6639/21 6640/7 6640/12 6642/1 6642/10 6643/17 6686/11 6748/17 6749/13
tell [58] 6582/1 6587/16 6587/20 6588/6 6588/13 6588/19 6589/17 6590/22 6591/21 6595/25 6598/20 6599/16 6605/15 6607/21 6609/8 6610/10 6611/2 6611/23 6618/8 6619/17 6623/16 6624/18 6625/7 6626/8 6629/16 6633/11 6635/16 6637/9 6637/22 6638/18 6646/17 6647/18 6651/8 6655/18 6656/18 6661/12 6662/5 6671/9 6674/19 6674/20 6678/19 6679/8 6679/15 6680/1 6680/8 6680/14 6680/19 6681/5 6681/13 6683/6 6707/1 6707/5 6707/12 6724/9 6729/7 6744/18 6749/25 6756/1
telling [6] 6598/16 6606/18 6645/7 6670/9 6703/21 6736/25
temperature [21] 6587/19 6588/16 6588/17 6588/17 6634/14 6634/17 6634/18 6654/7 6654/9 6654/13 6654/15 6680/17 6728/8 6728/11 6728/13 6728/13 6728/15 6728/16 6728/17 6728/25 6753/10
temperatures [2] 6651/11 6703/7
tend [1] 6641/15
tension [2] 6597/25 6598/3
term [1] 6710/6
terms [27] 6603/2 6603/18 6605/21 6607/16 6607/21 6607/22 6609/24 6616/21 6618/20 6626/5 6631/17 6646/14 6651/3 6660/7 6663/16 6663/22 6672/9 6678/14 6683/12 6691/14 6694/25 6701/20 6704/3 6721/24 6722/7 6725/20 6726/1
test [177] 6591/8 6591/9 6591/9 6610/9 6610/14 6615/13 6625/9 6625/12 6644/15 6645/4 6646/13 6646/14 6646/16 6646/17 6646/18 6646/19 6646/19 6647/2 6647/4 6647/5 6647/15 6648/3 6648/22 6648/24 6649/5 6649/8 6649/11 6649/11 6649/16 6649/16 6649/22 6650/1 6650/14 6651/8 6651/10 6651/20 6651/23 6652/1 6652/5 6652/9 6652/14 6653/15 6653/20 6656/5 6656/8 6657/20 6658/23 6659/5 6659/22 6660/12 6660/13 6661/15 6661/17 6663/7 6663/16 6663/19 6663/22 6663/23 6663/25 6664/5 6664/9 6664/13 6665/15 6666/8 6666/11 6666/14 6666/15 6666/18 6666/23 6667/5 6667/21 6667/24 6668/2 6668/9 6668/14 6669/3 6669/4 6669/5 6669/8 6672/11 6672/13 6673/15 6675/11 6675/13 6675/14 6675/20 6676/8 6676/20 6676/23 6676/24 6676/25 6677/3 6677/7 6677/10 6677/12 6677/15 6677/16 6677/17 6677/23 6677/24 6682/10 6697/7 6697/11 6697/20 6699/11 6699/15 6699/21 6699/24 6700/3 6703/16 6715/22 6717/23 6720/25 6722/10 6722/19 6723/1 6723/4 6726/8 6729/12 6729/15 6730/6 6730/11 6730/12 6730/15 6730/21 6730/22 6730/25 6732/22 6733/1 6733/5 6733/7 6733/13 6733/17 6733/24 6734/4 6734/7 6734/9 6736/15 6736/22 6738/4

6738/14 6738/16 6739/5 6739/19 6739/25 6740/19 6741/13 6742/1 6742/6 6742/12 6742/12 6742/19 6742/20 6742/21 6743/25 6744/8 6744/9 6744/11 6744/19 6744/20 6744/23 6744/24 6744/25 6744/25 6745/2 6745/3 6745/18 6745/25 6746/1 6746/6 6746/10 6746/13 6749/11 6749/15 6749/25 6751/7 6756/13 6759/3
tested [25] 6610/10 6610/12 6626/7 6626/15 6644/11 6644/15 6648/3 6663/17 6667/12 6675/23 6696/5 6696/12 6696/17 6696/18 6699/4 6700/6 6701/10 6718/4 6732/16 6733/9 6733/16 6733/24 6741/6 6749/22 6752/2
testified [8] 6579/23 6690/12 6719/22 6726/2 6738/17 6748/13 6750/19 6751/14
testify [1] 6692/25
testimony [9] 6575/7 6577/13 6593/25 6696/7 6697/10 6702/25 6712/21 6741/2 6747/2
testing [43] 6588/17 6612/21 6614/9 6615/14 6615/15 6615/18 6626/8 6626/10 6626/11 6626/19 6644/10 6661/22 6667/15 6672/9 6672/11 6672/16 6685/15 6688/2 6690/25 6699/6 6715/14 6715/14 6715/19 6719/1 6719/4 6719/6 6719/13 6719/16 6719/17 6726/16 6734/16 6735/13 6735/18 6735/19 6736/5 6744/2 6748/20 6750/5 6750/7 6751/21 6754/23 6756/17 6760/3
tests [60] 6589/10 6648/11 6648/18 6649/4 6651/5 6651/7 6651/9 6651/22 6652/10 6652/13 6653/9 6653/12 6653/16 6656/19 6657/21 6659/7 6662/24 6662/25 6667/2 6673/13 6696/22 6697/3 6698/14 6699/8 6699/12 6699/12 6699/17 6699/18 6700/24 6701/4 6701/17 6702/2 6703/13 6703/15 6703/18 6727/9 6729/6 6729/8 6729/14 6729/18 6729/20 6729/21 6734/17 6736/3 6736/7 6736/13 6736/14 6736/21 6738/12 6741/7 6745/12 6745/13 6745/14 6745/16 6745/17 6745/20 6748/21 6750/22 6751/1 6751/2
Texas [8] 6570/4 6572/10 6572/21 6573/5 6573/10 6573/13 6573/17 6581/3
than [37] 6602/7 6604/1 6604/21 6625/24 6626/2 6647/15 6650/25 6653/25 6657/9 6664/1 6666/4 6667/4 6667/21 6667/23 6669/21 6671/14 6672/19 6683/14 6683/19 6683/23 6693/15 6695/4 6698/19 6704/23 6715/5 6718/9 6727/1 6727/15 6728/1 6729/20 6730/21 6742/10 6744/7 6744/12 6744/13 6753/8 6755/8
thank [59] 6576/10 6576/17 6577/1 6577/17 6578/7 6580/10 6580/25 6581/1 6583/8 6584/6 6585/20 6588/4 6589/24 6591/12 6593/4 6597/23 6598/18 6599/15 6600/5 6606/22 6607/4 6607/14 6609/4 6611/20 6612/18 6613/23 6614/21 6617/21 6621/6 6627/1 6627/2 6628/10 6633/7 6635/24 6637/3 6637/6 6638/20 6640/25 6644/4 6645/9 6652/25 6655/9 6655/15 6655/24 6660/5 6664/22

<p>T</p> <p>thank... [13] 6667/1 6667/8 6672/8 6673/19 6673/23 6675/9 6678/3 6678/8 6681/22 6684/23 6712/4 6760/6 6760/8 Thanks [1] 6628/20 that [1007] that's [120] 6575/12 6579/6 6580/25 6594/3 6594/8 6598/5 6607/1 6607/2 6607/10 6615/10 6617/5 6624/8 6627/13 6628/6 6628/8 6630/6 6630/9 6631/7 6632/13 6633/7 6634/20 6637/25 6637/25 6641/4 6645/3 6645/6 6645/8 6647/8 6647/20 6648/23 6651/12 6651/12 6653/7 6654/4 6654/5 6655/6 6656/15 6658/24 6658/25 6659/2 6661/11 6662/19 6664/23 6667/14 6670/14 6671/11 6674/4 6674/20 6675/20 6676/6 6676/16 6676/17 6681/2 6689/1 6689/22 6689/23 6691/5 6694/14 6696/21 6697/20 6700/6 6700/19 6701/3 6704/19 6705/5 6706/4 6706/10 6706/10 6706/12 6709/7 6709/25 6710/6 6710/8 6710/14 6715/21 6717/8 6717/21 6717/21 6724/10 6726/12 6726/14 6730/12 6730/20 6731/16 6731/24 6732/6 6732/15 6732/21 6732/23 6733/1 6733/3 6735/22 6737/11 6738/4 6740/10 6740/12 6742/5 6742/6 6743/9 6743/15 6744/9 6744/25 6745/9 6745/23 6746/2 6746/12 6747/5 6747/14 6747/20 6748/1 6752/18 6753/10 6754/25 6755/1 6755/2 6755/18 6755/23 6756/2 6757/10 6759/3 their [17] 6583/25 6584/10 6597/15 6599/21 6600/2 6654/4 6684/18 6685/23 6704/23 6712/11 6735/25 6751/21 6754/15 6754/15 6755/7 6755/24 6757/25 them [105] 6575/24 6577/23 6580/12 6584/23 6591/1 6591/2 6591/20 6592/8 6593/13 6595/3 6595/10 6595/11 6595/19 6596/11 6596/14 6596/15 6597/11 6598/16 6599/1 6600/2 6601/5 6604/10 6605/4 6610/19 6621/1 6623/4 6631/24 6636/17 6637/8 6638/13 6638/13 6648/22 6650/25 6652/10 6652/11 6652/13 6654/23 6666/24 6672/5 6672/6 6677/8 6679/20 6682/24 6684/19 6684/20 6685/24 6685/24 6685/24 6685/25 6685/25 6691/5 6691/22 6692/12 6692/13 6693/7 6693/13 6693/14 6693/15 6693/19 6698/8 6704/21 6705/17 6706/7 6706/15 6707/1 6707/5 6707/21 6707/22 6711/8 6712/19 6712/23 6713/9 6714/24 6714/25 6714/25 6717/22 6718/1 6718/7 6718/23 6719/6 6719/14 6719/15 6724/15 6728/14 6729/24 6733/24 6734/4 6734/7 6734/9 6735/25 6736/13 6749/6 6749/10 6750/9 6750/13 6751/14 6751/18 6753/22 6754/15 6755/22 6755/23 6755/24 6756/1 6758/15 6759/5 themselves [1] 6693/8 then [77] 6579/11 6582/15 6583/14 6592/1 6594/13 6596/14 6596/18 6597/20 6604/15 6607/16 6608/4 6616/19 6619/3 6619/3 6621/12 6621/14 6621/15 6624/21 6625/9 6625/10 6625/12 6626/6 6626/7</p>	<p>6626/15 6631/8 6634/18 6638/5 6638/15 6645/24 6645/25 6650/7 6650/10 6651/18 6652/22 6653/19 6654/13 6654/19 6668/18 6671/25 6674/9 6674/13 6679/14 6680/13 6681/4 6681/12 6683/14 6683/21 6683/24 6691/2 6691/3 6692/1 6692/12 6694/24 6695/10 6697/3 6702/21 6703/12 6703/19 6703/22 6709/2 6709/15 6712/25 6716/14 6718/4 6718/7 6718/10 6723/21 6726/14 6727/6 6727/8 6731/17 6732/15 6734/5 6739/11 6739/17 6739/18 6745/9 there [251] there'd [1] 6597/6 there's [26] 6587/5 6587/5 6593/25 6607/11 6612/13 6624/20 6628/25 6672/23 6674/13 6690/10 6699/18 6701/10 6703/7 6705/1 6706/5 6707/16 6709/8 6719/7 6722/15 6728/16 6728/25 6734/19 6738/16 6739/9 6740/14 6749/23 thereafter [2] 6586/6 6662/12 these [59] 6576/22 6588/25 6600/13 6600/15 6630/3 6630/4 6631/9 6631/13 6631/15 6631/19 6631/25 6635/25 6637/20 6638/10 6641/12 6643/20 6646/4 6647/11 6648/17 6648/20 6651/5 6651/22 6653/12 6654/22 6655/17 6655/17 6655/19 6655/20 6655/22 6655/22 6669/25 6678/22 6679/1 6682/2 6682/3 6693/7 6695/22 6713/6 6716/20 6724/14 6725/12 6725/13 6727/10 6727/21 6728/13 6728/16 6728/16 6728/24 6730/25 6733/23 6736/11 6748/14 6748/24 6748/25 6749/3 6749/9 6749/14 6751/9 6751/20 they [156] 6576/6 6580/13 6585/23 6589/3 6591/17 6596/19 6597/2 6597/7 6597/21 6598/4 6598/11 6599/1 6599/23 6599/23 6600/3 6601/23 6602/1 6603/15 6604/12 6604/14 6605/13 6608/10 6608/16 6608/20 6608/20 6609/1 6609/10 6614/8 6614/12 6614/13 6619/23 6621/2 6622/13 6630/4 6631/5 6631/10 6632/12 6633/25 6635/15 6635/16 6636/9 6636/11 6636/12 6636/13 6638/11 6638/11 6638/16 6638/17 6640/15 6646/10 6649/5 6652/9 6652/14 6654/4 6654/5 6661/17 6668/11 6669/9 6669/10 6670/11 6670/24 6672/6 6677/11 6679/18 6679/19 6679/22 6679/24 6680/11 6680/11 6680/16 6680/16 6680/17 6681/16 6684/12 6684/14 6684/18 6685/25 6686/5 6690/6 6690/11 6692/12 6692/18 6692/21 6693/16 6695/23 6699/18 6699/19 6700/4 6700/4 6700/5 6701/14 6701/15 6701/17 6701/17 6704/1 6704/5 6705/17 6706/25 6707/24 6708/2 6708/3 6708/6 6711/16 6713/10 6714/18 6715/2 6716/14 6717/3 6718/7 6718/23 6718/24 6718/24 6719/6 6719/8 6719/15 6719/16 6725/14 6727/25 6732/2 6733/24 6734/4 6734/14 6735/8 6736/3 6736/7 6742/21 6742/22 6744/10 6744/14 6744/22 6745/24 6745/24 6746/1 6746/1 6746/15 6749/10 6749/25 6750/7 6750/25 6751/2 6751/2 6751/3 6751/5</p>	<p>6751/25 6752/1 6752/2 6753/18 6753/20 6754/13 6755/6 6757/24 6758/3 6758/7 6758/11 6758/24 6758/24 they're [8] 6612/7 6612/7 6623/24 6745/16 6749/7 6750/24 6751/1 6751/11 they've [2] 6575/23 6631/16 thick [5] 6623/19 6623/23 6740/13 6740/15 6740/18 thickening [13] 6648/22 6649/8 6656/5 6663/21 6669/7 6669/12 6672/14 6674/4 6674/11 6696/18 6696/23 6719/14 6739/10 thing [7] 6576/11 6607/12 6611/15 6674/11 6685/13 6690/13 6709/9 things [15] 6588/12 6591/14 6598/5 6610/17 6610/19 6611/1 6611/11 6635/6 6684/19 6685/17 6703/7 6704/1 6706/14 6731/13 6740/9 think [53] 6577/6 6578/1 6578/14 6578/15 6578/25 6579/5 6580/13 6583/15 6591/20 6602/5 6604/16 6607/10 6608/17 6608/20 6617/1 6617/2 6626/4 6628/9 6665/3 6670/8 6671/7 6671/8 6678/5 6680/10 6692/21 6698/6 6698/20 6702/18 6703/4 6703/4 6703/5 6704/5 6706/23 6708/10 6715/12 6715/13 6717/23 6718/1 6718/7 6723/17 6726/8 6726/12 6734/10 6737/20 6737/24 6738/17 6739/23 6740/4 6740/25 6741/5 6742/24 6743/11 6746/22 thinking [2] 6727/22 6729/22 third [3] 6571/12 6597/2 6699/2 this [293] Thornhill [2] 6569/18 6569/18 thoroughly [1] 6595/23 those [91] 6575/14 6575/18 6576/3 6576/7 6576/9 6576/13 6576/16 6576/21 6576/25 6577/7 6577/9 6577/14 6577/16 6577/25 6578/6 6584/18 6585/8 6585/9 6587/16 6590/1 6590/15 6591/14 6592/5 6592/18 6592/21 6593/10 6593/14 6593/20 6594/25 6595/9 6598/11 6598/13 6601/9 6601/22 6609/8 6613/5 6614/7 6614/15 6614/19 6616/3 6619/24 6628/24 6644/7 6652/10 6662/15 6663/14 6667/5 6671/8 6681/22 6681/24 6682/14 6686/13 6687/18 6691/3 6696/22 6697/3 6698/7 6698/14 6698/16 6700/7 6702/25 6703/18 6704/6 6705/19 6705/24 6706/13 6709/12 6712/7 6713/3 6715/4 6717/25 6718/11 6718/16 6723/20 6724/23 6725/8 6725/22 6726/22 6729/14 6729/15 6731/13 6734/22 6737/3 6739/12 6739/14 6741/7 6745/20 6754/7 6754/8 6757/22 6758/6 though [15] 6597/6 6607/13 6623/6 6674/21 6686/9 6686/25 6687/14 6698/8 6701/15 6718/20 6737/12 6737/16 6747/15 6748/6 6754/9 thought [8] 6597/13 6609/13 6609/18 6658/25 6677/15 6683/18 6709/12 6727/6 thoughts [1] 6674/16 three [34] 6593/21 6613/15 6613/16 6614/17 6657/24 6657/25 6658/8 6658/9 6683/18 6713/1 6725/7 6725/8 6725/24 6725/25 6732/8 6734/3 6737/15 6737/25 6738/5 6738/10</p>
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<p>T</p> <p>three... [14] 6738/16 6739/4 6739/6 6739/13 6739/23 6739/25 6740/23 6746/9 6746/12 6746/25 6748/24 6749/3 6749/9 6757/18</p> <p>three-hour [6] 6738/5 6738/16 6739/6 6739/25 6746/9 6746/12</p> <p>through [39] 6579/4 6582/25 6595/12 6595/23 6600/22 6600/23 6601/1 6602/25 6604/13 6604/15 6631/15 6636/7 6655/12 6662/20 6679/2 6679/5 6682/8 6687/12 6688/22 6692/4 6702/21 6703/5 6704/6 6709/2 6713/1 6713/5 6713/12 6714/8 6715/19 6726/9 6726/16 6729/25 6734/9 6750/19 6752/3 6757/17 6758/9 6759/21 6759/22</p> <p>throughout [1] 6692/18</p> <p>throw [1] 6623/23</p> <p>thumb [1] 6576/11</p> <p>Tiber [1] 6747/17</p> <p>tight [1] 6618/3</p> <p>time [152] 6575/25 6576/14 6577/6 6577/23 6578/17 6578/17 6578/18 6579/9 6580/22 6581/8 6582/16 6583/9 6583/18 6583/22 6584/11 6585/3 6585/14 6586/4 6586/25 6587/11 6589/16 6590/14 6590/14 6594/1 6594/1 6594/1 6594/4 6597/16 6598/8 6598/8 6599/17 6599/17 6600/8 6600/12 6602/5 6605/11 6608/15 6608/17 6608/19 6608/23 6609/13 6612/21 6615/9 6616/17 6617/5 6619/23 6620/1 6620/7 6620/13 6620/25 6621/20 6625/15 6625/15 6638/1 6638/2 6639/4 6640/4 6642/11 6645/19 6646/21 6646/23 6647/23 6648/22 6649/8 6650/10 6651/15 6651/16 6651/23 6652/8 6653/15 6656/5 6657/3 6657/22 6658/5 6658/21 6660/9 6661/6 6662/9 6663/21 6669/7 6669/12 6670/7 6671/5 6671/5 6671/9 6671/12 6671/13 6671/14 6671/15 6671/17 6671/25 6672/14 6673/2 6673/6 6673/6 6674/4 6674/4 6674/6 6674/7 6674/11 6674/14 6674/21 6679/18 6686/13 6686/19 6686/25 6688/5 6689/14 6690/11 6692/2 6695/4 6695/11 6695/16 6695/19 6695/22 6696/18 6696/23 6703/7 6711/2 6711/9 6713/4 6716/12 6718/12 6719/5 6719/14 6726/15 6738/1 6738/5 6738/10 6738/14 6738/17 6738/18 6738/24 6738/25 6738/25 6739/1 6739/9 6739/10 6739/25 6740/12 6740/14 6740/17 6740/22 6740/25 6741/3 6743/6 6746/10 6747/4 6749/8 6751/9 6751/9 6757/13</p> <p>times [7] 6591/1 6613/13 6652/4 6673/14 6683/7 6738/11 6738/12</p> <p>timing [1] 6659/19</p> <p>tinkering [1] 6729/4</p> <p>title [1] 6589/23</p> <p>today [10] 6582/24 6583/1 6595/22 6683/13 6690/8 6696/7 6696/10 6718/20 6723/20 6759/22</p> <p>together [9] 6612/7 6621/8 6621/9 6684/8 6702/7 6702/10 6736/12 6737/4 6759/6</p> <p>told [28] 6604/10 6604/14 6605/6 6636/25 6637/2 6668/13 6689/19 6689/21 6689/24 6690/5 6691/13</p>	<p>6693/20 6698/4 6706/7 6706/15 6716/11 6730/14 6735/22 6736/4 6737/19 6744/10 6753/17 6755/16 6755/20 6756/15 6756/19 6757/23 6758/22</p> <p>Tolles [1] 6572/12</p> <p>TOM [1] 6569/18</p> <p>Tommy [2] 6694/8 6754/2</p> <p>too [5] 6705/14 6708/3 6734/5 6737/25 6740/15</p> <p>took [9] 6584/24 6599/20 6647/22 6685/3 6687/22 6714/18 6737/22 6740/12 6741/2</p> <p>tool [5] 6588/5 6588/18 6589/7 6654/17 6661/9</p> <p>tools [5] 6587/12 6587/16 6588/25 6590/1 6591/14</p> <p>top [40] 6611/24 6619/21 6627/24 6628/1 6635/5 6635/17 6635/18 6635/20 6649/23 6650/1 6652/24 6652/25 6657/17 6662/22 6664/1 6667/17 6667/21 6667/23 6671/14 6674/13 6696/3 6704/1 6724/15 6736/24 6736/25 6740/23 6742/2 6742/5 6742/9 6743/5 6743/8 6743/11 6743/17 6744/4 6744/5 6744/12 6744/13 6745/4 6746/5 6754/21</p> <p>Torts [2] 6570/9 6570/19</p> <p>total [2] 6591/24 6618/11</p> <p>track [12] 6707/23 6708/12 6708/18 6708/20 6708/24 6709/3 6709/6 6709/7 6709/13 6709/17 6709/20 6709/21</p> <p>trained [3] 6697/17 6721/23 6733/3</p> <p>training [4] 6586/24 6587/4 6587/6 6714/12</p> <p>transcript [2] 6568/14 6760/21</p> <p>transcription [1] 6573/24</p> <p>transferred [2] 6622/8 6731/18</p> <p>translated [1] 6744/5</p> <p>translates [1] 6744/6</p> <p>translating [1] 6691/3</p> <p>Transocean [18] 6572/5 6572/6 6572/7 6572/8 6572/9 6572/10 6572/12 6572/12 6572/13 6572/16 6572/16 6572/17 6572/19 6572/20 6572/21 6576/19 6577/11 6629/2</p> <p>Transocean's [1] 6576/24</p> <p>transported [1] 6732/19</p> <p>trap [1] 6633/21</p> <p>Trent [2] 6616/10 6752/7</p> <p>TREX [31] 6626/22 6627/1 6629/6 6634/5 6634/8 6637/16 6639/15 6639/21 6641/2 6641/23 6642/18 6644/18 6652/17 6652/19 6656/4 6656/15 6660/18 6669/16 6672/21 6673/3 6673/5 6698/24 6702/13 6723/13 6724/12 6731/3 6741/10 6743/2 6743/22 6746/18 6752/5</p> <p>TREX-0982.6 [1] 6698/24</p> <p>TREX-20012.2 [1] 6724/12</p> <p>TREX-2035 [1] 6723/13</p> <p>TREX-287 [1] 6673/3</p> <p>TREX-4348 [2] 6641/23 6642/18</p> <p>TREX-4357.5 [1] 6702/13</p> <p>TREX-4566 [1] 6731/3</p> <p>TREX-5219 [2] 6639/15 6639/21</p> <p>TREX-60068 [3] 6626/22 6627/1 6637/16</p> <p>TREX-60455 [1] 6644/18</p> <p>TREX-7489.1.1 [1] 6752/5</p> <p>TREX-7491 [1] 6746/18</p> <p>TREX-808 [1] 6741/10</p> <p>TREX-809 [1] 6743/2</p>	<p>TREX-984 [1] 6743/22</p> <p>trial [7] 6568/14 6578/11 6578/13 6578/18 6578/20 6578/25 6579/1</p> <p>trick [1] 6729/7</p> <p>tried [2] 6628/2 6684/8</p> <p>TRITON [1] 6568/8</p> <p>true [7] 6690/20 6693/3 6726/12 6726/14 6738/4 6748/6 6760/20</p> <p>truthful [1] 6735/4</p> <p>try [20] 6579/10 6588/10 6588/11 6590/24 6591/1 6598/7 6607/13 6607/19 6611/24 6612/1 6615/13 6657/9 6703/8 6713/9 6720/21 6721/1 6721/9 6733/7 6738/3 6750/6</p> <p>trying [17] 6595/16 6595/19 6595/22 6632/12 6655/12 6659/18 6682/24 6720/5 6720/11 6726/22 6727/3 6732/22 6732/22 6737/20 6754/9 6754/12 6755/23</p> <p>tub [1] 6623/18</p> <p>turn [9] 6629/6 6633/19 6633/23 6634/3 6642/14 6642/17 6642/18 6649/18 6656/13</p> <p>turned [1] 6749/20</p> <p>TVD [1] 6645/24</p> <p>twice [3] 6746/1 6754/22 6756/7</p> <p>two [29] 6578/8 6579/10 6619/23 6619/24 6620/14 6662/25 6666/24 6669/21 6672/18 6684/7 6693/13 6697/3 6698/3 6713/1 6727/1 6732/8 6732/13 6740/9 6740/22 6745/12 6745/13 6745/16 6746/25 6747/7 6747/21 6747/23 6750/21 6754/2 6754/22</p> <p>two-hour [1] 6740/22</p> <p>type [5] 6616/5 6623/9 6638/12 6660/8 6722/14</p> <p>typical [1] 6726/2</p> <p>typically [2] 6600/20 6626/1</p> <p>U</p> <p>U.S [4] 6570/8 6570/12 6570/18 6571/2</p> <p>UCA [11] 6651/14 6656/21 6663/21 6669/12 6672/14 6673/15 6673/20 6696/18 6697/1 6719/14 6738/7</p> <p>ultimate [2] 6617/22 6743/25</p> <p>ultimately [7] 6599/13 6603/13 6609/2 6610/4 6695/1 6720/12 6760/4</p> <p>ultrasonic [4] 6651/14 6656/21 6673/22 6738/7</p> <p>under [18] 6605/19 6615/11 6615/18 6629/23 6630/4 6631/9 6640/10 6641/7 6642/18 6642/20 6648/14 6649/22 6654/20 6675/13 6710/10 6711/20 6743/7 6751/14</p> <p>UNDERHILL [1] 6570/9</p> <p>understand [22] 6583/3 6583/5 6593/20 6594/7 6605/22 6613/25 6640/12 6640/13 6659/19 6668/12 6690/15 6692/25 6696/7 6702/25 6708/15 6712/6 6716/9 6722/4 6725/17 6736/24 6737/24 6744/16</p> <p>understanding [11] 6594/3 6658/22 6686/24 6694/12 6700/23 6701/3 6702/1 6723/15 6733/8 6737/12 6760/22</p> <p>understood [8] 6594/4 6614/8 6614/12 6614/13 6632/12 6677/12 6712/12 6725/19</p> <p>undertake [1] 6734/11</p> <p>unfoamed [2] 6629/24 6651/21</p> <p>unheard [1] 6618/25</p> <p>unique [3] 6725/5 6725/6 6725/12</p>
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<p>U</p> <p>UNITED [8] 6568/1 6568/10 6568/15 6570/8 6570/12 6570/18 6571/2 6760/19 unknown [1] 6711/15 unless [3] 6691/13 6745/17 6753/14 unlike [1] 6687/24 unpumpable [1] 6674/7 unsafe [1] 6609/11 unstable [4] 6742/5 6743/9 6745/13 6745/18 until [11] 6578/24 6658/23 6659/22 6664/9 6674/18 6699/19 6703/16 6718/5 6730/3 6739/1 6742/20 up [100] 6584/20 6596/21 6601/13 6601/14 6601/17 6606/12 6607/6 6607/7 6607/17 6607/19 6607/22 6607/25 6608/4 6608/13 6610/13 6611/8 6611/11 6616/9 6619/6 6621/10 6627/20 6627/22 6627/25 6628/3 6628/4 6636/11 6636/12 6637/16 6637/16 6637/18 6638/2 6639/14 6646/1 6649/22 6652/19 6652/24 6652/25 6656/1 6656/25 6660/20 6662/17 6663/3 6664/25 6668/12 6668/14 6669/15 6674/13 6678/9 6682/25 6684/8 6686/17 6686/25 6692/12 6694/17 6696/11 6699/22 6700/1 6702/12 6707/19 6709/19 6710/22 6715/24 6716/7 6716/10 6718/1 6719/4 6720/11 6723/13 6724/12 6726/10 6728/19 6729/15 6729/16 6730/2 6730/3 6731/3 6731/6 6734/21 6738/8 6739/12 6739/13 6739/23 6741/9 6741/12 6742/16 6742/17 6742/25 6743/4 6743/14 6743/19 6744/14 6745/2 6746/7 6748/4 6748/11 6751/3 6752/5 6757/19 6757/24 6759/15 upcoming [1] 6628/16 update [4] 6703/8 6703/22 6712/16 6713/12 updated [7] 6629/20 6680/12 6680/17 6680/23 6681/7 6681/8 6703/1 updates [1] 6713/7 upon [20] 6584/14 6587/12 6588/24 6589/10 6590/3 6590/14 6597/11 6597/13 6610/8 6610/11 6612/14 6614/7 6618/22 6625/3 6635/19 6647/3 6658/11 6683/3 6704/16 6712/11 upper [1] 6644/25 urgency [1] 6668/13 us [19] 6575/12 6583/6 6588/13 6590/21 6597/16 6605/12 6605/23 6611/2 6618/8 6623/5 6640/15 6665/2 6665/5 6668/25 6669/8 6669/9 6698/2 6713/11 6745/19 use [41] 6580/3 6580/12 6590/20 6615/14 6615/15 6617/23 6618/1 6620/7 6620/16 6620/22 6621/3 6622/21 6622/23 6623/6 6624/25 6625/4 6626/1 6626/3 6641/10 6643/18 6658/4 6670/11 6670/25 6682/18 6700/17 6704/20 6706/8 6722/13 6722/14 6722/23 6723/1 6740/10 6740/11 6750/17 6751/15 6753/18 6753/20 6753/25 6754/3 6757/25 6758/23 used [62] 6575/11 6575/22 6576/12 6576/20 6576/21 6577/5 6577/13 6577/21 6587/12 6587/18 6587/23 6588/6 6588/7 6588/14 6588/16</p>	<p>6588/16 6588/19 6615/16 6615/16 6621/8 6622/18 6625/11 6625/24 6626/2 6626/4 6631/15 6634/22 6635/1 6643/24 6646/5 6651/13 6654/22 6654/23 6661/9 6683/6 6684/12 6696/10 6699/14 6700/4 6700/5 6700/5 6701/7 6701/14 6701/22 6707/6 6710/6 6718/14 6723/6 6725/15 6725/18 6726/19 6726/25 6727/1 6732/1 6733/23 6737/18 6747/2 6753/8 6753/12 6753/21 6753/24 6756/2 useful [1] 6642/23 using [26] 6573/23 6615/20 6615/23 6619/10 6641/20 6643/11 6644/5 6646/20 6646/21 6654/16 6669/8 6674/3 6696/4 6699/2 6699/4 6700/14 6706/20 6707/13 6709/16 6719/23 6725/6 6746/25 6748/18 6752/14 6753/17 6756/17 usually [8] 6600/25 6626/3 6633/19 6635/16 6637/5 6639/4 6703/8 6712/15</p> <p>V</p> <p>valid [5] 6730/11 6730/12 6742/12 6745/14 6745/14 Vargo [1] 6757/4 variables [3] 6732/8 6732/8 6732/13 variations [1] 6734/2 various [4] 6589/11 6637/17 6651/5 6651/22 vary [1] 6722/19 veer [2] 6591/7 6749/10 verbal [3] 6584/24 6599/19 6718/17 verbally [1] 6599/21 verification [1] 6679/24 verified [3] 6681/16 6697/18 6749/22 verify [9] 6610/14 6612/12 6625/10 6646/19 6663/19 6719/17 6720/24 6722/10 6726/10 version [4] 6679/10 6680/9 6694/22 6703/15 Version 1 [1] 6679/10 Version 2 [1] 6680/9 versions [6] 6678/22 6694/20 6694/24 6704/6 6712/18 6713/1 versus [5] 6672/24 6701/2 6707/23 6728/21 6751/9 very [26] 6578/14 6580/15 6583/3 6583/21 6587/21 6587/22 6592/1 6592/1 6602/9 6606/1 6606/2 6607/11 6610/25 6612/7 6612/7 6613/2 6627/4 6628/3 6628/4 6646/20 6646/23 6656/14 6670/14 6704/19 6720/11 6751/22 vice [1] 6689/13 video [1] 6576/22 videos [1] 6576/12 Vidrine [1] 6627/16 Viking [12] 6587/18 6588/18 6588/19 6588/21 6589/8 6659/8 6660/24 6661/2 6661/8 6661/13 6661/17 6751/5 Vincent [1] 6627/16 violation [1] 6756/18 Virginia [2] 6569/10 6569/10 virtue [1] 6710/20 viscosifier [2] 6724/24 6725/24 visit [1] 6714/24 visual [1] 6662/7 visually [1] 6662/8 voids [1] 6613/4 volume [14] 6597/4 6605/6 6605/21 6605/24 6606/13 6606/19 6607/21 6608/8 6608/9 6638/19 6700/15</p>	<p>6700/22 6739/17 6743/15 Volume 4 [1] 6700/22 volume's [1] 6605/25 volumes [5] 6588/2 6622/20 6629/14 6703/25 6704/2 volumetric [1] 6606/19 VON [1] 6573/12 VP [1] 6759/9</p> <p>W</p> <p>Wait [1] 6659/18 walk [2] 6599/20 6666/16 walked [1] 6702/21 Walker [1] 6569/9 WALTER [1] 6569/12 Walther [1] 6572/22 Walz [12] 6585/7 6594/20 6604/16 6604/19 6604/24 6605/2 6605/3 6617/18 6627/17 6669/19 6673/10 6681/2 want [44] 6582/24 6594/2 6595/23 6597/5 6602/8 6602/25 6602/25 6608/1 6608/1 6610/14 6611/24 6611/25 6611/25 6618/12 6627/24 6633/17 6648/9 6662/20 6670/11 6688/8 6688/21 6689/6 6700/4 6705/11 6717/4 6722/10 6722/18 6733/4 6733/18 6733/19 6736/6 6737/3 6740/9 6740/9 6740/11 6751/8 6751/8 6753/18 6753/20 6754/18 6754/23 6755/7 6756/2 6756/5 wanted [16] 6606/16 6620/19 6631/5 6631/6 6632/13 6633/5 6637/1 6646/23 6699/24 6716/14 6719/15 6734/4 6734/7 6734/9 6734/11 6740/7 wanting [1] 6596/15 wants [3] 6602/7 6707/20 6734/25 warranted [1] 6609/14 was [448] Washington [4] 6570/17 6570/22 6571/6 6572/4 wasn't [22] 6663/20 6664/3 6665/7 6679/18 6687/11 6692/6 6697/9 6701/16 6711/16 6712/15 6712/20 6713/11 6713/24 6714/22 6719/17 6727/12 6736/5 6740/20 6740/24 6747/3 6750/13 6751/17 watch [1] 6760/10 water [12] 6639/18 6657/12 6657/14 6678/11 6696/5 6696/11 6699/3 6700/5 6732/10 6732/10 6732/18 6732/18 way [23] 6579/6 6579/13 6583/1 6591/18 6604/24 6607/9 6612/12 6628/6 6632/16 6647/8 6658/17 6706/4 6710/11 6726/9 6733/22 6733/24 6734/22 6735/3 6735/3 6735/3 6736/7 6747/9 6759/14 ways [1] 6587/5 we [253] we'd [3] 6575/13 6576/7 6740/8 we'll [12] 6578/17 6598/13 6624/15 6635/25 6652/22 6653/17 6660/15 6662/15 6726/9 6744/24 6759/18 6760/10 we're [27] 6579/14 6582/23 6595/22 6606/13 6623/18 6636/17 6637/1 6687/19 6694/22 6701/8 6701/9 6710/7 6717/4 6717/5 6717/22 6723/22 6725/20 6728/6 6728/6 6736/21 6736/25 6743/24 6743/24 6752/20 6752/21 6752/22 6753/3 we've [30] 6576/23 6577/6 6577/20 6577/22 6617/5 6630/13 6638/10</p>
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<p>W</p> <p>we've... [23] 6647/7 6673/1 6673/8 6682/10 6682/13 6687/25 6689/4 6689/4 6689/7 6700/16 6717/22 6724/14 6724/25 6731/6 6732/13 6732/14 6743/25 6744/20 6744/24 6745/12 6745/12 6752/3 6753/7</p> <p>weak [1] 6642/24</p> <p>Web [1] 6590/19</p> <p>week [3] 6579/11 6600/16 6600/21</p> <p>weekend [3] 6628/2 6665/12 6706/18</p> <p>weigh [14] 6699/22 6700/1 6726/10 6729/15 6729/16 6730/2 6730/3 6731/6 6741/12 6742/25 6743/4 6743/19 6746/7 6751/3</p> <p>weigh-up [14] 6699/22 6700/1 6726/10 6729/15 6729/16 6730/2 6730/3 6731/6 6741/12 6742/25 6743/4 6743/19 6746/7 6751/3</p> <p>weighed [3] 6742/16 6742/17 6745/2</p> <p>weight [17] 6615/6 6615/25 6616/2 6618/6 6621/15 6623/23 6632/13 6650/5 6650/25 6651/19 6664/1 6666/2 6667/21 6667/22 6744/11 6744/13 6746/5</p> <p>weights [1] 6635/5</p> <p>welcome [3] 6575/5 6580/16 6581/1</p> <p>well [148] 6576/6 6576/7 6577/7 6580/15 6585/8 6585/12 6588/1 6588/10 6589/4 6594/19 6594/24 6595/8 6595/12 6595/14 6595/24 6596/2 6597/13 6598/13 6598/20 6599/3 6599/3 6599/5 6599/9 6599/12 6600/3 6600/7 6601/10 6601/11 6602/11 6609/12 6609/24 6609/25 6610/2 6610/4 6612/14 6612/25 6613/10 6613/14 6613/21 6614/17 6614/23 6616/4 6616/6 6616/16 6616/23 6617/1 6618/2 6618/7 6618/9 6618/13 6618/18 6619/3 6620/3 6620/8 6620/16 6620/20 6620/23 6621/4 6621/8 6621/21 6621/22 6621/23 6621/23 6622/9 6624/2 6624/13 6626/17 6628/3 6628/4 6628/22 6631/11 6631/17 6639/4 6640/5 6642/12 6643/4 6643/8 6645/13 6645/16 6645/20 6646/6 6647/7 6647/16 6647/25 6648/14 6648/14 6649/6 6652/2 6652/9 6653/2 6653/23 6654/3 6654/7 6654/15 6654/24 6655/2 6655/21 6655/23 6656/20 6658/16 6658/19 6659/2 6659/10 6669/23 6671/11 6678/15 6678/16 6679/13 6680/11 6680/16 6681/3 6681/10 6683/1 6683/9 6684/9 6687/14 6689/20 6691/4 6691/8 6703/6 6703/11 6703/16 6703/21 6706/24 6707/10 6708/5 6708/6 6710/13 6711/7 6712/9 6712/25 6713/1 6713/8 6713/12 6713/16 6713/17 6714/6 6715/2 6716/22 6725/5 6725/12 6725/15 6731/25 6732/3 6733/5 6747/17 6747/17 6759/14</p> <p>WELLCAT [7] 6587/19 6588/13 6588/14 6588/15 6634/17 6654/9 6654/15</p> <p>WellLife [1] 6631/8</p> <p>wells [11] 6584/25 6586/12 6586/17 6586/24 6588/11 6592/19 6592/22 6592/24 6593/17 6593/21 6614/24</p> <p>went [18] 6586/23 6589/8 6592/8 6598/1 6598/6 6617/1 6617/12 6689/1 6696/23 6712/25 6713/12 6735/12 6744/16 6745/24 6758/3 6758/4 6758/5</p>	<p>6759/22</p> <p>were [234]</p> <p>weren't [2] 6601/25 6632/21</p> <p>Westlake [1] 6584/10</p> <p>what [285]</p> <p>what's [12] 6608/1 6638/3 6653/4 6683/18 6698/9 6733/7 6733/9 6733/15 6733/16 6738/3 6741/1 6752/17</p> <p>whatever [8] 6592/16 6603/3 6690/23 6705/10 6707/19 6716/16 6729/5 6741/25</p> <p>whatsoever [3] 6688/11 6698/5 6709/5</p> <p>when [82] 6587/21 6589/8 6591/3 6591/9 6592/3 6592/9 6595/20 6600/9 6600/20 6601/9 6601/17 6601/18 6604/6 6604/22 6604/24 6605/15 6608/15 6608/19 6608/23 6609/12 6609/13 6610/3 6610/7 6610/10 6610/25 6611/17 6613/18 6616/21 6618/8 6618/19 6620/25 6622/2 6623/17 6623/22 6623/24 6632/9 6632/10 6634/14 6635/18 6651/19 6659/4 6659/8 6659/12 6661/12 6666/22 6669/21 6670/4 6671/25 6676/12 6677/10 6677/13 6679/22 6680/21 6680/24 6681/1 6684/19 6688/14 6688/25 6691/19 6697/7 6697/20 6697/21 6699/14 6703/16 6705/17 6710/6 6712/11 6712/11 6712/15 6716/14 6717/5 6736/12 6739/3 6739/24 6739/24 6740/14 6745/18 6748/7 6751/7 6753/12 6756/3 6756/20</p> <p>whenever [8] 6586/23 6596/11 6598/14 6661/20 6668/23 6685/25 6686/25 6703/15</p> <p>where [65] 6579/14 6581/2 6581/18 6585/1 6588/21 6595/15 6595/22 6595/24 6596/2 6596/4 6601/23 6611/5 6612/12 6617/10 6617/12 6618/11 6620/21 6622/5 6622/10 6625/22 6629/13 6631/5 6631/24 6632/4 6634/15 6634/19 6635/5 6635/16 6635/18 6636/6 6636/18 6641/7 6642/21 6645/17 6646/10 6647/9 6654/8 6654/14 6657/25 6664/2 6669/22 6671/8 6697/24 6701/6 6705/10 6714/24 6715/21 6716/3 6722/2 6725/22 6727/21 6727/23 6733/18 6738/11 6739/14 6740/14 6742/23 6745/20 6745/24 6749/12 6754/14 6758/3 6758/4 6758/5 6758/22</p> <p>whereas [2] 6615/16 6668/20</p> <p>WHEREUPON [3] 6579/22 6685/3 6760/14</p> <p>whether [40] 6578/9 6578/22 6579/3 6592/16 6612/9 6612/16 6618/15 6620/2 6635/15 6644/12 6655/19 6662/1 6663/23 6669/9 6670/11 6671/13 6677/16 6690/3 6690/6 6692/12 6693/7 6693/15 6693/16 6694/21 6698/21 6715/22 6728/18 6729/7 6733/14 6733/20 6733/20 6734/12 6734/25 6740/22 6741/15 6744/18 6749/7 6750/6 6751/23 6757/25</p> <p>which [52] 6579/4 6582/2 6585/6 6589/9 6589/10 6589/11 6590/1 6603/6 6603/9 6611/6 6613/20 6618/24 6623/4 6623/23 6624/22 6636/17 6637/10 6637/23 6639/20 6647/14 6647/14 6652/10 6656/21 6669/1 6673/5 6679/11 6716/15 6717/3 6718/18</p>	<p>6719/15 6724/24 6726/25 6728/18 6728/21 6733/4 6733/11 6736/25 6740/10 6743/17 6744/5 6744/6 6749/25 6751/5 6751/14 6752/19 6752/20 6752/21 6752/22 6753/7 6754/13 6754/21 6757/13</p> <p>while [13] 6585/18 6589/25 6590/14 6592/21 6592/25 6613/10 6618/14 6641/9 6673/12 6684/6 6701/7 6741/16 6757/14</p> <p>Whiteley [1] 6571/15</p> <p>who [26] 6576/22 6579/21 6589/16 6592/1 6596/25 6609/17 6612/14 6612/15 6616/8 6619/17 6619/19 6632/10 6636/12 6636/14 6637/2 6684/11 6689/13 6695/7 6697/17 6702/6 6715/11 6734/15 6750/21 6751/10 6754/17 6755/11</p> <p>Who's [2] 6579/19 6752/9</p> <p>whoever [1] 6691/21</p> <p>whole [8] 6579/9 6607/2 6706/12 6708/23 6709/13 6727/10 6738/10 6745/7</p> <p>wholly [1] 6753/16</p> <p>whom [6] 6585/2 6589/17 6604/4 6676/19 6686/8 6702/7</p> <p>whose [1] 6617/22</p> <p>why [32] 6615/16 6618/1 6623/1 6629/16 6629/17 6632/6 6633/12 6639/3 6643/17 6650/23 6654/2 6658/15 6664/8 6667/4 6667/11 6667/12 6668/12 6668/20 6669/5 6679/16 6680/14 6680/19 6681/5 6681/14 6711/8 6738/4 6738/23 6742/8 6744/9 6744/16 6747/16 6748/2</p> <p>wider [1] 6744/7</p> <p>will [46] 6578/18 6578/23 6579/20 6580/10 6580/13 6582/1 6583/6 6585/22 6587/22 6588/6 6589/17 6591/21 6593/16 6595/6 6598/20 6601/11 6606/25 6607/14 6609/8 6619/17 6621/10 6623/15 6623/23 6624/18 6625/10 6627/8 6629/16 6634/3 6637/8 6637/17 6641/12 6647/3 6648/8 6655/18 6656/18 6659/2 6668/4 6674/17 6686/21 6698/2 6700/10 6705/10 6709/18 6721/18 6732/6 6743/5</p> <p>Williams [2] 6569/15 6569/15</p> <p>Williamson [2] 6570/2 6570/3</p> <p>willing [1] 6597/19</p> <p>Wimco [1] 6581/20</p> <p>window [3] 6618/4 6729/1 6740/17</p> <p>WINFIELD [1] 6571/9</p> <p>withdraw [7] 6624/8 6640/23 6649/1 6649/1 6658/17 6665/10 6670/15</p> <p>within [11] 6584/22 6634/5 6676/21 6693/2 6714/16 6728/10 6729/1 6737/5 6737/6 6740/17 6756/16</p> <p>without [16] 6575/18 6576/3 6576/25 6577/25 6630/3 6636/16 6665/24 6671/25 6678/19 6702/5 6721/1 6721/13 6731/8 6742/10 6742/22 6747/9</p> <p>witness [3] 6579/19 6579/21 6684/24</p> <p>Wittmann [2] 6572/22 6572/23</p> <p>Wolfe [1] 6576/22</p> <p>won't [3] 6578/23 6578/24 6750/19</p> <p>word [3] 6596/19 6653/8 6759/14</p> <p>words [4] 6585/3 6609/5 6621/9 6745/23</p> <p>work [45] 6593/1 6594/6 6598/19 6609/5 6609/15 6609/20 6612/23</p>
---	---	---

W
work... [38] 6614/5 6619/7 6620/1
6631/17 6634/23 6635/2 6644/7 6652/5
6652/8 6678/14 6684/8 6684/9 6684/20
6688/8 6689/4 6689/5 6689/5 6690/3
6690/4 6690/7 6692/2 6693/4 6711/2
6711/2 6715/15 6715/22 6716/7
6717/23 6720/25 6728/14 6728/16
6728/17 6729/2 6729/3 6749/9 6752/1
6756/8 6760/2
worked [25] 6581/14 6585/15 6589/25
6590/6 6590/6 6592/24 6593/17 6595/7
6595/25 6597/24 6604/15 6609/17
6614/15 6614/16 6614/22 6616/3
6618/14 6623/2 6681/2 6682/21
6682/24 6684/11 6698/14 6716/10
6733/21
workers' [1] 6754/2
working [22] 6581/17 6581/20 6585/2
6585/2 6585/14 6586/17 6586/24
6589/11 6594/17 6595/5 6595/9 6595/9
6598/4 6612/14 6613/10 6614/7 6617/7
6617/12 6635/19 6684/5 6686/5 6728/9
world [4] 6591/25 6592/3 6619/22
6620/14
Worth [1] 6579/4
would [185] 6576/13 6576/20 6577/7
6577/13 6578/14 6578/15 6578/22
6578/25 6580/23 6584/2 6586/19
6588/9 6591/18 6594/19 6598/7
6598/23 6598/24 6599/12 6599/16
6599/20 6599/25 6601/7 6601/9
6601/12 6603/11 6603/18 6605/12
6605/21 6605/24 6605/24 6609/20
6610/7 6610/21 6611/9 6612/15
6612/16 6614/5 6615/14 6616/5
6618/11 6619/3 6623/2 6623/3 6623/4
6624/17 6625/23 6626/1 6626/5 6626/6
6626/7 6630/14 6635/13 6635/20
6650/17 6658/25 6662/6 6662/8 6666/5
6667/20 6667/22 6668/12 6668/25
6669/8 6669/12 6669/12 6671/9
6672/10 6672/13 6672/13 6674/9
6674/14 6674/21 6679/19 6679/24
6682/20 6683/13 6683/19 6683/23
6689/17 6690/7 6690/20 6690/20
6691/5 6691/22 6693/12 6693/14
6693/18 6693/19 6695/9 6695/19
6697/13 6697/14 6698/5 6698/12
6698/17 6698/18 6698/20 6699/12
6699/12 6699/21 6701/17 6702/12
6703/10 6704/8 6705/19 6706/1
6707/24 6708/13 6708/19 6710/23
6712/16 6712/25 6714/8 6714/13
6714/16 6714/17 6714/23 6714/24
6715/1 6715/15 6715/19 6715/21
6715/22 6715/22 6715/24 6716/14
6716/25 6717/3 6717/9 6717/11 6718/4
6718/16 6718/16 6718/24 6720/3
6720/25 6721/2 6722/6 6722/9 6722/17
6723/4 6723/4 6723/13 6723/22 6726/3
6727/7 6727/8 6728/14 6728/17 6729/2
6729/3 6729/5 6729/6 6730/5 6731/14
6731/17 6731/24 6734/4 6734/10
6735/4 6738/4 6739/4 6739/8 6739/15
6740/22 6741/5 6741/5 6742/25
6744/13 6744/14 6746/6 6746/6
6750/14 6750/20 6751/20 6751/21
6752/1 6754/20 6754/21 6754/21
6754/22 6756/7 6759/16 6759/19
6759/23
wouldn't [11] 6579/9 6685/13 6690/12

6701/22 6717/11 6721/14 6738/23
6739/8 6744/14 6752/1 6756/5
wound [1] 6739/23
wow [1] 6747/21
Wright [1] 6568/18
write [2] 6674/25 6712/25
writing [1] 6669/18
written [2] 6743/7 6756/10
wrong [9] 6694/12 6715/7 6715/9
6715/12 6731/5 6740/9 6744/21 6751/7
6757/24
wrote [6] 6587/25 6671/22 6672/2
6673/9 6685/12 6755/11

Y
yeah [11] 6633/9 6659/20 6670/17
6698/20 6700/19 6707/18 6715/2
6739/21 6740/6 6746/16 6747/20
year [3] 6582/3 6616/21 6724/1
yearly [1] 6587/3
years [15] 6581/16 6581/18 6582/12
6582/13 6584/8 6586/8 6592/22
6592/25 6594/5 6594/5 6635/19
6682/24 6683/18 6725/10 6734/3
yes [379]
yet [4] 6628/18 6670/2 6673/25 6674/17
Yoakum [1] 6570/3
you [1239]
you'd [4] 6580/5 6665/8 6694/17 6741/3
you'll [1] 6756/9
you're [44] 6580/16 6581/1 6584/3
6596/1 6605/8 6606/4 6606/18 6610/11
6618/9 6623/22 6632/18 6632/25
6633/3 6645/7 6646/20 6647/18 6664/2
6669/18 6670/2 6670/9 6670/12
6692/21 6694/21 6698/1 6701/1 6701/5
6708/9 6720/7 6720/7 6720/11 6722/15
6725/23 6727/17 6727/22 6729/22
6732/10 6732/22 6732/22 6733/4
6733/6 6736/24 6741/15 6746/2
6752/14
you've [30] 6582/16 6590/1 6593/17
6619/7 6621/16 6630/14 6630/18
6630/23 6630/25 6631/3 6632/24
6637/8 6647/9 6648/17 6651/22
6651/23 6668/19 6688/10 6689/8
6689/10 6690/11 6694/21 6721/16
6721/16 6727/18 6730/14 6745/3
6748/13 6753/17 6759/25
you-all [1] 6578/24
YOUNG [1] 6571/5
your [204]
your Honor [4] 6575/24 6607/9 6633/2
6664/19
yours [1] 6600/3
yourself [1] 6729/20

Z
zero [6] 6650/11 6721/2 6721/11
6721/11 6741/3 6743/6
zonal [19] 6610/1 6610/18 6610/22
6611/1 6611/22 6612/6 6613/5 6613/25
6614/4 6710/7 6710/18 6733/19
6734/14 6734/20 6747/7 6747/24
6748/2 6759/11 6759/15
zone [12] 6612/2 6624/22 6625/8
6625/11 6625/18 6625/18 6626/3
6626/7 6626/9 6626/12 6633/18
6644/12
zones [9] 6610/15 6611/15 6612/20
6613/6 6614/6 6635/14 6635/16
6635/21 6635/23
ZoneSeal [3] 6643/22 6726/1 6728/1

ZoneSealant [26] 6631/1 6637/10
6637/12 6637/22 6639/12 6639/22
6640/13 6647/9 6721/2 6721/11
6721/13 6721/17 6721/20 6721/24
6722/7 6722/15 6723/1 6726/17 6727/1
6727/8 6727/10 6727/15 6729/4
6730/17 6732/9 6732/13
ZoneSealant 2000 [7] 6631/1 6637/10
6637/12 6639/12 6639/22 6640/13
6647/9