

# Deposition Testimony of:

## **Robyn Conmy**

Date: June 26, 2014

Created by:



[www.indatacorp.com](http://www.indatacorp.com)

Page 7:24 to 13:03

00007:24 Q. Great. Dr. Conmy, can you please briefly  
25 summarize your educational background, beginning  
00008:01 with your bachelor's degree?  
02 A. Yes. I received my Bachelor of Science in  
03 1996 from Coastal Carolina University. That's in  
04 South Carolina. And my degree was in marine  
05 science as a major and a minor in chemistry.  
06 From there, I went on for my master's  
07 at the University of South Florida, and I received  
08 a Master of Science, again in marine science with  
09 a specialty in chemical oceanography, and that was  
10 in 1999.  
11 In between 1999 and 2003, I worked  
12 for the university, then went back to school at  
13 the University of South Florida, starting my  
14 doctoral degree in 2003, and I received my  
15 doctorate in 2008, again, in marine science,  
16 chemical oceanography.  
17 Q. Do you have any other advanced degrees?  
18 A. No.  
19 Q. Okay. Where are you currently employed?  
20 A. At the U.S. EPA, Environmental Protection  
21 Agency.  
22 Q. And in what particular office or  
23 department?  
24 A. Okay. I'm in the Office of Research and  
25 Development.  
00009:01 Q. Is that part of the National Risk  
02 Management Research Laboratory?  
03 A. NRMRL, as we call that for short, is  
04 underneath the Office of Research and Development.  
05 Q. Okay. What is your current employment  
06 title at EPA?  
07 A. Officially my series is a research  
08 ecologist.  
09 Q. And how long have you been in that  
10 position?  
11 A. The position I have in NRMRL in Cincinnati  
12 is just over three years.  
13 Q. And who do you report to?  
14 A. My direct line supervisor is Joseph  
15 Schubauer-Berigan. I can spell that if you need  
16 me to.  
17 Q. That would great.  
18 A. S-C-H-B-A-U-E-R, dash, Berigan,  
19 B-E-R-I-G-A-N. Joseph was the first name.  
20 Q. And, Dr. Conmy, what are your current job  
21 responsibilities?  
22 A. I'm leading the oil research program in  
23 NRMRL.  
24 Q. What does that mean?  
25 A. Our office answers to what is a program  
00010:01 office in the agency called the Office of  
02 Emergency Management. So we assist them in

03 technical and research needs for products that are  
04 on the NCP Product Schedule, so things like  
05 setting protocols and testing for surface washing  
06 agents, dispersants, and a lot -- and things like  
07 that.

08 We also do biodegradation studies.  
09 We do oil characterization studies, fluorometric  
10 and particle size analyst -- analyzer studies.

11 So we -- we're doing -- we're  
12 conducting research for oil pollution research.

13 Q. What is -- well, you -- you mentioned that  
14 the -- you work at the EPA's Office of Research  
15 and Development.

16 A. Uh-huh.

17 Q. And for what is that office -- can I call  
18 it the ORD?

19 A. We call it ORD.

20 Q. What -- for what is ORD responsible?

21 A. ORD is responsible for conducting research  
22 that the agency needs to set policy and regulation  
23 out of the D.C. office. To be clear, ORD does not  
24 set policy and regulations; but we provide needs,  
25 fill in gaps, as it pertains to research for them.

00011:01 Q. Thank you.

02 What is EPA's Land Remediation and  
03 Pollution Control Division?

04 A. So we have a lot of structure and tiers in  
05 our agency. So within the EPA, there's ORD.  
06 Within ORD, there are laboratories. I work for  
07 NRMRL, which we've already talked about.

08 Q. Uh-huh.

09 A. NRMRL has different divisions. The Land  
10 Remediation/Pollution Control Division is the one  
11 that I work for and within.

12 Q. And so what -- for what is the division  
13 responsible?

14 A. The division has a lot of different tasks,  
15 many of which I'm not involved with and don't --  
16 I've only been there three years.

17 And so we have three different  
18 buildings --

19 Q. Okay.

20 A. -- and the crux of the matter is we -- we  
21 do research within that division for land as well  
22 as -- as water, even though the name doesn't say  
23 it, for mediation techniques.

24 Q. Thank you.

25 A. Uh-huh.

00012:01 Q. Can you briefly summarize your work  
02 history aft -- let's start with after you received  
03 your Ph.D.?

04 A. After I received my doctoral degree, I  
05 worked for the University of South Florida for one  
06 year as a soft money research scientist or a post  
07 doc. I was conducting research on groundwater  
08 work primarily at that time, and as well as some

09 Gulf of Mexico research crew's work.  
 10 I stayed there for one year and then  
 11 accepted a job offer with the EPA at the Gulf  
 12 Ecology Division in Gulf Breeze, Florida. I  
 13 stayed there for three years plus.  
 14 Q. That gets you up to 2012?  
 15 A. I left -- yeah, I left there December of  
 16 2011.  
 17 Q. Okay. And when you were in Gulf Breeze,  
 18 what were your -- what was your position and your  
 19 responsibilities?  
 20 A. Again, my series was a research ecologist,  
 21 and I was working on water quality issues for  
 22 estuaries in northern Florida.  
 23 Q. And after you left Gulf Breeze, what was  
 24 your next position?  
 25 A. In January of 2012, I began working in  
 00013:01 Cincinnati --  
 02 Q. Okay.  
 03 A. -- for NRMRL.

Page 16:23 to 17:19

00016:23 Q. And so you've been designated to provide  
 24 testimony as to: "Your knowledge," in Topic 1,  
 25 "of data as of December 31, 2013 regarding the  
 00017:01 nature and extent of any environmental impacts  
 02 from the DEEPWATER HORIZON Spill, including any  
 03 environmental resources as to which you contend  
 04 there has been no or limited recovery."  
 05 Is that correct?  
 06 A. Yes.  
 07 Q. And specifically, you've been designated  
 08 to provide testimony on behalf of the United  
 09 States regarding Topics 1, 2C, 2D, and 3 as they  
 10 relate to subsurface dispersant monitoring and JAG  
 11 reports; is that correct?  
 12 A. Yes.  
 13 Q. Are you prepared to testify today on  
 14 behalf of the United States about each of these  
 15 topics as they relate to subsurface dispersant  
 16 monitoring and JAG reports?  
 17 A. Yes.  
 18 Q. What does "JAG" stand for?  
 19 A. The Joint Analysis Group.

Page 18:02 to 18:05

00018:02 Q. (BY MS. PREHEIM) So you're not prepared  
 03 to testify about whether the use of dispersants or  
 04 dispersant constituents had any effect on human  
 05 health?

Page 18:08 to 18:08

00018:08 A. No.

Page 19:11 to 20:04

00019:11 Q. And what did you speak to Mr. Shorr about?

12 A. I spoke to Ben Shorr about data management  
13 issues pertaining to the DEEPWATER HORIZON spill.

14 Q. What do you mean by "data management  
15 issues"?

16 A. Ben Shorr's expertise is setting up data  
17 management plans, databases, and the like. He was  
18 with me on the first R/V BROOKS MCCALL cruise.  
19 And at the time of that cruise, there was no data  
20 management plan that had been established by the  
21 responsible party. This, of course, could be  
22 considered a -- a problem, an impediment.

23 Q. Anything else that you discussed with  
24 Mr. Shorr?

25 A. Yeah. So along the same lines of the  
00020:01 conversation of data management, were -- that  
02 there was some issues with being able to have  
03 access to some of the data, primarily from the --  
04 the BP contracted labs.

Page 24:04 to 27:23

00024:04 Q. Now you just said that you first became  
05 involved in the DEEPWATER HORIZON response on the  
06 initial BROOKS MCCALL cruise; is that right?

07 A. Yes.

08 Q. And approximately what time frame?

09 A. I was told by my supervisor at the Gulf  
10 Ecology Division that there was a sampling cruise  
11 that was going out to collect samples for the  
12 DEEPWATER HORIZON spill incident. That was on  
13 May 5th that I was told of the cruise,.

14 Q. And the cruise went out two days later?

15 A. The boat, R/V BROOKS MCCALL, left Port  
16 Fourchon on May 8th.

17 Q. Can you briefly summarize your involvement  
18 in the DEEPWATER HORIZON response, Dr. Conmy?

19 A. Yes. I was asked again by my supervisor  
20 at the Gulf Ecology Division to first review  
21 fluorescence approaches that would be used aboard  
22 the R/V BROOKS MCCALL, which I provided my input  
23 and feedback there in his office.

24 And I was then asked to pack my bags  
25 and to go aboard the R/V BROOKS MCCALL to help  
00025:01 with overseeing the way in which samples would be  
02 collected for the spill.

03 So I did that along with a colleague,  
04 Blake Schaeffer, also with the Gulf Ecology  
05 Division, and the two of us boarded the R/V BROOKS  
06 MCCALL on May 7th, and we left port May 8th,

07 returning I believe it was the 12th, and then  
08 being sent to Unified Area Command in Robert,  
09 Louisiana, on May 12th.

10 Q. And what were -- what was your role in the  
11 Unified Area Command in Robert?

12 A. Mr. Schaeffer -- or Dr. Schaeffer and  
13 myself were asked to go to Robert and report back  
14 on the sampling cruise from the R/V BROOKS MCCALL,  
15 provide our feedback. We were stationed within  
16 the EPA command center that was under the  
17 direction of Sam Coleman, and we provided feedback  
18 and guidance on the samples that were collected  
19 and the manner in which they were being collected.

20 Q. And how long were you in the Unified  
21 Command Center in Robert?

22 A. That was approximately two to three days.

23 Q. And did you have any involvement after  
24 that?

25 A. After that time frame -- so that's about  
00026:01 May 14th or so -- I returned back to the Gulf  
02 Ecology Division with Dr. Schaeffer. And at that  
03 point, we were asked to help with -- before the  
04 JAG was actually stood up in June, it was sort of  
05 just reviewing sampling plans. And I really did  
06 not have any involvement again until after the JAG  
07 was officially established.

08 Q. And you became a member of the JAG?

09 A. For the first JAG report, which I don't  
10 know officially which date that was released, I  
11 was not a named person at that time. However, I  
12 was helping assist Dr. Schaeffer and Dr. Jan Kurtz  
13 from the Gulf Ecology Division on -- with the JAG  
14 data and analysis.

15 Q. So once the JAG was stood up, as -- as you  
16 describe it, you were involved in data analysis  
17 with respect to the JAG?

18 A. Yes.

19 Q. Okay. And eventually became a member of  
20 the JAG?

21 A. Yes. I became an official member of the  
22 JAG and remained one through I think December of  
23 2011 -- oh, no, excuse me. 2010.

24 Q. So let's go back a little bit to when you  
25 were on the BROOKS MCCALL, were you working at the  
00027:01 direction of the Unified Command or EPA?

02 A. Dr. Schaeffer and myself were told that we  
03 needed to be EPA eyes and ears and representatives  
04 on the boat. That's how it was phrased to us.

05 Q. And when you were in Robert, Louisiana,  
06 the Unified Area Command, were you working under  
07 the direction of the Unified Command or EPA?

08 A. As a named personnel, I was under the EPA.

09 Q. You've identified being on the BROOKS  
10 MCCALL during the cruise in Robert, Louisiana, and  
11 then back in your office in -- is it Cincinnati or  
12 Gulf Breeze at the time?

13 A. At the time it was Gulf Breeze.  
14 Q. Gulf Breeze.  
15 Were you physically located any --  
16 anywhere else, excuse me, during the response?  
17 A. Can you rephrase that?  
18 Q. During -- during your work on the  
19 response, were you physically located in any other  
20 location than those that you've just mentioned?  
21 A. For work that I did for the response, I  
22 was in Gulf Breeze, Port Fourchon, on the boat,  
23 Robert, Louisiana.

Page 28:07 to 28:09

00028:07 Q. What were your responsibilities with  
08 respect to the use of dispersants during the  
09 DEEPWATER HORIZON response?

Page 28:14 to 29:10

00028:14 A. I did not have any specific  
15 responsibilities in terms of the use of  
16 dispersants. I -- my responsibility on the boat  
17 was to make sure samples were collected prior,  
18 during, and post subsea dispersant injection  
19 tests.  
20 Q. Did you review data and other test results  
21 related to the use of subsea dispersants?  
22 A. While aboard the BROOKS MCCALL, we were --  
23 when I say "we," I mean the science party, all  
24 members that were involved in the cruise -- were  
25 charged with not just data collection, but writing  
00029:01 up sections for a data report for what we  
02 collected onboard that could be analyzed onboard.  
03 Q. And then did you -- did there ever come a  
04 point where you were reviewing the data that was  
05 reported and analyzing that data?  
06 A. The nature of my JAG work, the collective  
07 group on the JAG then reviewed this data later.  
08 Q. Did you review data and other test results  
09 related to the use of aerial dispersants?  
10 A. No.

Page 29:12 to 29:14

00029:12 Q. (BY MS. PREHEIM) Did you review data and  
13 other test results related to the use of  
14 dispersants applied from vessels?

Page 29:16 to 29:16

00029:16 A. No.

Page 30:01 to 30:18

00030:01 Q. (BY MS. PREHEIM) Do you understand that  
02 there were certain directives that postdated the  
03 BROOKS MCCALL cruise?  
04 A. I do.  
05 Q. Were you involved in preparing any of  
06 those directives?  
07 A. The only document, to my recollection,  
08 that I had direct involvement was an addendum to a  
09 directive, not the directive itself.  
10 Q. Understood. Thanks for that  
11 clarification.  
12 And do you recall which addendum?  
13 A. I don't remember the date or the time or  
14 the number, but the scope of it.  
15 Q. What was the scope?  
16 A. The scope of it was on improved sampling  
17 strategies that could be used to collect water  
18 column measurements.

Page 32:14 to 33:22

00032:14 Q. (BY MS. PREHEIM) Just gen -- in general,  
15 what is a dispersant designed to do?  
16 A. Dispersants are designed, in a technical  
17 sense, to change the surface tension of oil  
18 droplets so that they don't -- so oil doesn't  
19 remain as, on the surface of the water, a slick or  
20 in the water column altogether. It allows the  
21 water to -- with mixing energy, it allows the oil  
22 to become smaller droplet size.  
23 Q. And what -- what then happens when it  
24 becomes smaller droplet size?  
25 A. Your density and buoyancy changes --  
00033:01 Q. Uh-huh.  
02 A. -- as a result of your surface area to  
03 volume ratio of each individual droplet, so it  
04 allows the oil to not be as light, if you will,  
05 and float to the surface.  
06 Q. Okay. So the -- the smaller droplets  
07 disperse into the water?  
08 A. The smaller droplets inherently just have  
09 a lower -- the -- the buoyancy and the density are  
10 changed such that they may not rise to the  
11 surface.  
12 Q. Okay. And when you say that the  
13 dispersants are designed to break up the oil into  
14 smaller droplets, and you've said that that  
15 increases the surface area to water volume -- did  
16 I say that correctly -- ratio?  
17 A. Yes. Smaller droplets have a larger  
18 surface area to volume ratio.  
19 Q. Thank you. Surface area to volume ratio.  
20 That also then allows bacteria and



21 other microscopic organisms to act more quickly on  
22 those droplets?

Page 33:24 to 34:10

00033:24 A. In a basic and technical sense, microbes,  
25 bacteria, are small. So having smaller droplets  
00034:01 assist in the -- that droplet being available to  
02 the microbes.  
03 Q. (BY MS. PREHEIM) Okay. And they are more  
04 available to the microbes to become biodegraded?  
05 A. Yes.  
06 Q. Does oil disperse naturally into the water  
07 column even without the use of chemical  
08 dispersants?  
09 A. Oil dispersion, dispersion of any kind,  
10 happens naturally in the water.

Page 36:14 to 36:16

00036:14 Q. (BY MS. PREHEIM) And what are some  
15 advantages of dispersants as compared to  
16 mechanical recovery response measures?

Page 36:19 to 37:03

00036:19 A. Mechanical operations cannot always be  
20 accomplished properly. There are weather and  
21 environmental conditions that effect whether or  
22 not you can skim or burn. And so dispersants have  
23 been previously stated and used as a response tool  
24 for conditions when mechanical recovery is not a  
25 viable option for surface spills.  
00037:01 Q. (BY MS. PREHEIM) Are there any other  
02 advantages of dispersants as compared to  
03 mechanical recovery response measures?

Page 37:05 to 37:11

00037:05 A. I'm sure if you were to look at all the  
06 advantages and disadvantages of each of the tools,  
07 there would be a list on all sides for all things;  
08 but I'm not as familiar with that.  
09 Q. (BY MS. PREHEIM) Some advantages of  
10 dispersants are that they reduce the impact of oil  
11 on shorelines?

Page 37:16 to 37:24

00037:16 A. If I understand your question --  
17 Q. Uh-huh.  
18 A. -- properly, an advantage of a dispersant  
19 is that they would reduce the impact of oil on

20 shorelines. I think it would be fairer to say  
 21 that the use of dispersants shifts environmental  
 22 risk from the shorelines to the water column, so  
 23 it's a shift in impact as opposed to reduction of  
 24 impact.

Page 38:09 to 38:11

00038:09 Q. (BY MS. PREHEIM) If you could put -- turn  
 10 to Tab 3 in your binder, please. I think we can  
 11 mark this as Exhibit 12065.

Page 38:17 to 39:03

00038:17 Q. (BY MS. PREHEIM) This is an RRT-6 fact  
 18 sheet entitled "Dispersants in Oil Spill  
 19 Response."  
 20 Do you see that?  
 21 A. I do.  
 22 Q. And have you ever -- or do you recognize  
 23 this document?  
 24 A. No.  
 25 Q. If you turn to Page 2, you see there's a  
 00039:01 heading about "What Are the Potential Benefits"?  
 02 And they're talking about dispersants, are they  
 03 not?

Page 39:11 to 40:01

00039:11 A. Can you repeat your question?  
 12 Q. Of course.  
 13 If you turn your attention to the  
 14 heading "What Are the Potential Benefits," and  
 15 this talks about dispersants, this sheet. Can you  
 16 read the first bullet point, please?  
 17 A. Yes. Under the heading "What  
 18 Are...Potential Benefits," the first bullet says:  
 19 "Reduces the impact of oil on shorelines,  
 20 sensitive habitats, birds, mammals, and other  
 21 wildlife."  
 22 Q. So the RRT fact sheet that we're looking  
 23 at, Exhibit 12065, articulates that one of the  
 24 potential benefits is to reduce impact to -- of  
 25 oil to the shorelines and other natural resources,  
 00040:01 correct?

Page 40:04 to 40:08

00040:04 A. This RRT document, which is a fact sheet  
 05 document, does state that.  
 06 Q. (BY MS. PREHEIM) Okay. Thank you.  
 07 Dr. Conmy, what dispersants were used  
 08 in the DEEPWATER HORIZON response?

Page 40:10 to 40:13

00040:10 A. Are you asking what manufacturer or which  
11 chemicals?  
12 Q. (BY MS. PREHEIM) The product.  
13 A. The products --

Page 40:15 to 40:20

00040:15 A. -- that were used -- the dispersant  
16 products that were used during DEEPWATER HORIZON,  
17 to my knowledge, were mainly Corexit products.  
18 Q. (BY MS. PREHEIM) And do you know  
19 specifically which Corexit products?  
20 A. There was a 9500 that was used and a 9527.

Page 41:06 to 42:12

00041:06 Q. Can you turn to Tab 8, please, in your  
07 binder? And this exhibit has been premarked  
08 Exhibit 12041. This is an article entitled  
09 "Science-Based Decision Making on the Use of  
10 Dispersants in the DEEPWATER HORIZON Oil Spill."  
11 Do you see that, Dr. Conmy?  
12 A. I do.  
13 Q. And you are listed as an author?  
14 A. Yes. I'm listed as a fourth author.  
15 Q. And are all of the other authors current  
16 EPA employees?  
17 A. No.  
18 Q. Which ones are -- are -- are any of them  
19 current EPA employees?  
20 A. Yes.  
21 Q. And which ones are those?  
22 A. Dr. Mace Barron, Marc Greenberg, and  
23 Dr. Greg Wilson, and myself.  
24 Q. And are Drs. Albert Venosa and Paul  
25 Anastas former EPA employees?  
00042:01 A. Yes.  
02 Q. And this is an article that was published  
03 in 2014; is that correct?  
04 A. Yes.  
05 Q. If I can turn your attention to Page 4 of  
06 this article, Dr. Conmy, at the top of the page,  
07 there's a discussion of Corexit 9527 and Corexit  
08 9500.  
09 Do you see that?  
10 A. I see a paragraph that states those names.  
11 Q. And you agree that Corexit 9527 has been  
12 used since the 1980s?

Page 42:18 to 42:24

00042:18 A. The third sentence -- well, the second  
19 full sentence on the page does say: "One of the  
20 first of the third generation of dispersants that  
21 emerged in the 1980s was Corexit 9527," and  
22 continues on.  
23 Q. And then Corexit 9500 has been used since  
24 the mid 1990s; is that correct?

Page 43:02 to 43:06

00043:02 A. There is a sentence that says: "This was  
03 followed by Corexit 9500 in the mid-1990s."  
04 Q. (BY MS. PREHEIM) And it says that that  
05 was the one most used in the DEEPWATER HORIZON  
06 spill response; is that right?

Page 43:08 to 43:16

00043:08 A. No. What the sentence says, the remaining  
09 part of that sentence was that: "Corexit 9500 in  
10 the mid-1990s and" is dispersed -- "and this  
11 dispersant is still the predominant one in supply  
12 in much of the U.S.," and then it continues on,  
13 being one most used in the DEEPWATER HORIZON  
14 spill.  
15 Q. So, yes --  
16 A. So, yes.

Page 43:22 to 43:24

00043:22 Q. (BY MS. PREHEIM) The Corexit products  
23 that you mention in the article have long been  
24 studied; is that correct?

Page 44:02 to 44:05

00044:02 A. I'd like to clarify that the lead author  
03 was not myself on this. So to say that I said  
04 that isn't necessarily true because this section  
05 of the document wasn't written by me.

Page 44:18 to 44:20

00044:18 Q. Is it fair to say that Corexit 9527 and  
19 9500 are established and commonly used  
20 dispersants, Dr. Conmy?

Page 44:22 to 44:24

00044:22 A. Not knowing what the legal definition of  
23 "common" is, but I will say that since the 1980s,  
24 Corexit products have been used.

Page 45:18 to 45:21

00045:18 Q. (BY MS. PREHEIM) The National Contingency  
19 Plan requires the EPA to maintain a National  
20 Product Schedule of approved products that can be  
21 used in response to an oil spill; is that correct?

Page 45:23 to 46:01

00045:23 A. It is correct.  
24 Q. (BY MS. PREHEIM) And the NCP Product  
25 Schedule reflects those dispersants that EPA has  
00046:01 authorized for use, right?

Page 46:04 to 46:07

00046:04 A. The NCP Product Schedule has a list of the  
05 dispersants that have been supplied by  
06 manufacturers that have undergone testing to be on  
07 that schedule.

Page 46:20 to 47:03

00046:20 Q. To be included on the NCP Product  
21 Schedule, a dispersant -- a dispersant has to meet  
22 certain requirements specified in the NCP, right?  
23 A. Correct.  
24 Q. If a manufacturer wants its dispersant to  
25 be included on the NCP Product Schedule, that  
00047:01 manufacturer has to submit information to EPA  
02 about the composition and the nature of the  
03 dispersant, correct?

Page 47:05 to 47:09

00047:05 A. Correct.  
06 Q. (BY MS. PREHEIM) And the EPA then reviews  
07 that information in considering whether to include  
08 the dispersant on the product schedule; is that  
09 right?

Page 47:11 to 47:19

00047:11 A. Correct.  
12 Q. (BY MS. PREHEIM) And in particular, to be  
13 included on the NCP Product Schedule, a dispersant  
14 must mean that -- must meet certain requirements  
15 about its effectiveness -- strike that.  
16 To be included on the NCP Product  
17 Schedule, a dispersant must meet certain  
18 effectiveness and other requirements established

19 by the EPA; is that right?

Page 47:22 to 48:01

00047:22 A. That is my understanding, yes.  
23 Q. (BY MS. PREHEIM) In deciding whether to  
24 include the dispersant on the NCP Product  
25 Schedule, the EPA evaluates specified data and  
00048:01 tests results for that dispersant?

Page 48:03 to 48:06

00048:03 A. Yes.  
04 Q. (BY MS. PREHEIM) To be included on the  
05 NCP Product Schedule, the dispersant must also  
06 meet certain effectiveness requirements, correct?

Page 48:09 to 48:14

00048:09 A. Yes.  
10 Q. (BY MS. PREHEIM) And in particular, the  
11 dispersant must be "at least 45 percent effective  
12 in dispersing Prudhoe Bay and" southern -- "South  
13 Louisiana crude oils" in laboratory tests; is that  
14 right?

Page 49:03 to 49:14

00049:03 Q. (BY MS. PREHEIM) I am not seeing it. So  
04 I will withdraw the question.  
05 Let's see if we can find it in a bit.  
06 Oh, it is on Page 4, excuse me. I  
07 was just looking at the wrong place. It's under  
08 Section 1.3, if you look at the second full  
09 paragraph.  
10 A. I have read the paragraph.  
11 Q. You agree that the dispersant must be "at  
12 least 45 percent effective in dispersing Prudhoe  
13 Bay and South Louisiana crude oils" in laboratory  
14 tests to be included on the NCP Product Schedule?

Page 49:17 to 49:25

00049:17 A. The paragraph, the last sentence of the  
18 paragraph, does say that it must be at least 45  
19 percent effective for those two oils in the  
20 swirling flask test.  
21 Q. (BY MS. PREHEIM) Now, EPA would not  
22 approve a dispersant for inclusion on the NCP  
23 Product Schedule if the dispersant were not proven  
24 to be effective pursuant to EPA's specified test  
25 protocols, right?

Page 50:03 to 50:04

00050:03 A. To the best of my knowledge, that seems --  
04 that would seem true.

Page 50:06 to 51:01

00050:06 If you could turn to Tab 10,  
07 Dr. Conmy, this has been previously marked as  
08 Exhibit 12042. Do you recognize this document?  
09 A. This document appears to be the National  
10 Contingency Plan.  
11 Q. It's the product schedule?  
12 A. The product schedule.  
13 Q. And it's date -- dated April 2014?  
14 A. Yes.  
15 Q. Are you familiar with this document?  
16 A. I don't know what the definition of  
17 "familiar" would be, but I have seen it.  
18 Q. Okay. If you could turn to Page 4, you  
19 see a heading "Dispersants"?  
20 A. Yes.  
21 Q. Are Corexit 9527A and 9500A both included  
22 on the NCP Product Schedule at Tab 10?  
23 A. I see listed a Corexit 9527A and a 9500A.  
24 Q. Corexit 9527A has been included on the NCP  
25 Product Schedule since March 1978.  
00051:01 Do you see that?

Page 51:03 to 51:07

00051:03 A. I -- I do see that it was listed as  
04 March 10th, 1978.  
05 Q. (BY MS. PREHEIM) And Corexit 9500A has  
06 been included on the NCP Product Schedule since  
07 April 1994?

Page 51:09 to 51:09

00051:09 A. Yes.

Page 52:04 to 52:24

00052:04 Q. And so both Corexit 9527A and 9500A were  
05 on the approved list at the time of the DEEPWATER  
06 HORIZON incident in 2010?  
07 A. As per this document, yes.  
08 Q. And both are still included on the NCP  
09 Product Schedule today?  
10 A. Yes.  
11 Q. Now, if you turn to Page 2 of this  
12 document, Dr. Conmy, you'll see that the NCP  
13 Product Schedule shows a list of products that EPA

14 has removed from the product schedule; is that  
15 right?

16 A. Correct.

17 Q. And if you look at the column of  
18 "Dispersants" on the left-hand side, neither  
19 Corexit 9527A nor 9500A have ever been removed  
20 from the NCP Product Schedule, correct?

21 A. Correct.

22 Q. So for decades now, Corexit 9500A and  
23 9527A have always met the standards set by EPA for  
24 inclusion on the NCP Product Schedule?

Page 53:01 to 53:02

00053:01 Q. (BY MS. PREHEIM) Is that right?

02 A. I can't say always.

Page 53:04 to 53:04

00053:04 A. But it has never been removed.

Page 54:02 to 54:05

00054:02 Q. Under the Unified Command, various  
03 government and nongovernment responders worked  
04 together to create an integrated response effort;  
05 is that right?

Page 54:07 to 54:10

00054:07 A. Yes.

08 Q. (BY MS. PREHEIM) And the Unified Command  
09 works under the direction of the Federal On-Scene  
10 Coordinator, sometimes known as the FOSC, correct?

Page 54:13 to 54:16

00054:13 A. That is correct.

14 Q. (BY MS. PREHEIM) And the FOSC directs and  
15 approves all official response activities; is that  
16 right?

Page 54:18 to 54:23

00054:18 A. The Federal On-Scene Coordinator has to  
19 approve the response activities and options that  
20 are put in front of them.

21 Q. (BY MS. PREHEIM) The responsible party  
22 works together with the Unified Command structure  
23 to conduct response activities, right?



Page 55:01 to 55:06

00055:01 A. It is expected that the responsible party  
02 would work collaboratively with the Unified  
03 Command.  
04 Q. (BY MS. PREHEIM) And the responsible  
05 party here was BP?  
06 A. Correct.

Page 55:19 to 56:05

00055:19 Q. (BY MS. PREHEIM) You understand what I  
20 mean by referencing BP as a responsible party,  
21 Dr. Conmy?  
22 A. If I understand you correctly, that  
23 instead of saying "BPXP" each time you say it, you  
24 will shorten it to "BP" and that will represent  
25 BPXP.  
00056:01 Q. Thank you. Yes.  
02 Is it true that BP, as -- as the  
03 responsible party, assisted the Coast Guard, the  
04 EPA, and other members of the Unified Command in  
05 responding to the DEEPWATER HORIZON spill?

Page 56:08 to 56:13

00056:08 A. My understanding is that the responsible  
09 party here, BP, was to work collaboratively with  
10 the entities that you just listed.  
11 Q. (BY MS. PREHEIM) And that BP did, in  
12 fact, work with those entities during the  
13 response?

Page 56:16 to 56:20

00056:16 A. It is my understanding that they did work  
17 with them.  
18 Q. (BY MS. PREHEIM) And it's your  
19 understanding that BP did work collaboratively --  
20 collaboratively with those entities?

Page 56:23 to 56:25

00056:23 A. I cannot confirm that they worked  
24 collaboratively. I can confirm that they worked  
25 with them.

Page 57:21 to 57:23

00057:21 Q. (BY MS. PREHEIM) And the regional  
22 response team is sometimes known as RRT?  
23 A. Yes.

Page 58:09 to 58:10

00058:09 Q. (BY MS. PREHEIM) Are RRTs comprised of  
10 representatives from several agencies?

Page 58:12 to 58:15

00058:12 A. It is my understanding it's comprised of  
13 numerous entities.  
14 Q. (BY MS. PREHEIM) Including the U.S. Coast  
15 Guard, EPA, NOAA, DOI?

Page 58:18 to 58:25

00058:18 A. Although that list might not be  
19 comprehensive, but that sounds about right.  
20 Q. (BY MS. PREHEIM) Okay. State agencies  
21 are also included?  
22 A. It is my understanding that state agencies  
23 are on RRTs.  
24 Q. The DEEPWATER HORIZON spill response  
25 involved RRT-4 and RRT-6; is that right?

Page 59:02 to 59:04

00059:02 A. I believe that is correct.  
03 Q. (BY MS. PREHEIM) RRT-4 covers the states  
04 of Alabama -- Alabama, Florida, and Mississippi?

Page 59:06 to 59:09

00059:06 A. Yes.  
07 Q. (BY MS. PREHEIM) And RRT-6 covers the  
08 states of Louisiana and Texas?  
09 A. Correct.

Page 60:10 to 60:12

00060:10 Q. (BY MS. PREHEIM) You're not prepared to  
11 testify today about the authorization of  
12 dispersant use in the DEEPWATER HORIZON spill?

Page 60:14 to 60:19

00060:14 A. The authorization of use -- of dispersant  
15 use in the Gulf of Mexico is not my area of  
16 expertise.  
17 Q. (BY MS. PREHEIM) And you're not prepared  
18 to testify about the approval of dispersant use  
19 during the DEEPWATER HORIZON spill today?

Page 60:21 to 60:24

00060:21 A. For the approval, no.  
22 Q. (BY MS. PREHEIM) And you're not prepared  
23 to talk today about the approval of subsea  
24 dispersant use during the DEEPWATER HORIZON spill?

Page 61:01 to 61:08

00061:01 A. The approval of any type of dispersant use  
02 was not my responsibility during the -- the spill.  
03 Q. (BY MS. PREHEIM) Understood that it may  
04 not have been your personal responsibility; but as  
05 a corporate representative of the United States  
06 today, are you prepared to talk about the approval  
07 of the use of subsea dispersants during the  
08 DEEPWATER HORIZON response?

Page 61:10 to 61:18

00061:10 A. Again, because I've never seen this  
11 document, I would feel as though I would not be  
12 prepared to discuss what this says on the approval  
13 of the use of dispersants.  
14 Q. (BY MS. PREHEIM) And putting aside the  
15 document, I just want to understand if you are  
16 prepared to testify on the subject of the approval  
17 of subsea dispersant use during the DEEPWATER  
18 HORIZON spill.

Page 61:20 to 61:22

00061:20 A. I am prepared to talk about the use of  
21 dispersants, not necessarily the approval of the  
22 use of dispersants.

Page 63:23 to 63:25

00063:23 Q. (BY MS. PREHEIM) Do you understand that  
24 the use of dispersants was only possible with  
25 approvals?

Page 64:02 to 64:03

00064:02 A. Approvals would be needed for the use of  
03 dispersants.

Page 64:20 to 65:01

00064:20 Q. (BY MS. PREHEIM) You were -- you  
21 testified earlier you were involved in preparing  
22 one of the addenda to the directives, correct?

23 A. Yes.  
24 Q. So you're familiar with what data was  
25 being collected to further the objectives of the  
00065:01 approvals?

Page 65:03 to 65:09

00065:03 A. The addendum was written for the sampling  
04 strategy once dispersant -- subsea dispersant  
05 injection was occurring, not prior to the approval  
06 of it.  
07 Q. (BY MS. PREHEIM) And once the subsea  
08 dispersant was being applied, the sampling was  
09 designed to ensure continued effectiveness?

Page 65:11 to 65:17

00065:11 A. It was designed so that the location of  
12 the subsea plume, the magnitude of the extent  
13 spatially and temporally could be ascertained.  
14 Q. (BY MS. PREHEIM) That was one of the  
15 objectives of the sampling design, correct?  
16 A. Uh-huh.  
17 Q. There were other objectives as well?

Page 65:19 to 65:22

00065:19 A. If I remember correctly, and I would need  
20 to see the addendum specifically, verbatim, but I  
21 would like to see if it uses the word  
22 "effectiveness" in it.

Page 67:23 to 67:25

00067:23 Q. (BY MS. PREHEIM) BP established during  
24 initial testing that subsea dispersant use was  
25 feasible, correct?

Page 68:03 to 68:11

00068:03 A. It is my understanding, having not seen  
04 any of the feasibility testing documents, but it  
05 is my understanding that with that test, they  
06 demonstrated that the injection could occur but  
07 required a BROOKS MCCALL test to be done  
08 afterwards, that samples be collected. Because my  
09 understanding is many of the samples during the  
10 feasibility testing ended up not being collected  
11 properly or were lost in some way.

Page 68:15 to 68:18

00068:15 Q. Why, after it was established that it was  
 16 technologically possible to inject dispersant at  
 17 the source, was the BROOKS MCCALL cruise  
 18 commissioned or required?

Page 68:20 to 69:24

00068:20 A. Well, just because something is  
 21 technologically possible doesn't necessarily make  
 22 it an environmentally favorable choice to do it.  
 23 So the BROOKS MCCALL cruise was  
 24 assembled so that measurements could be collected  
 25 for detecting the location of the plume,  
 00069:01 monitoring hydrocarbon concentrations, and also  
 02 collecting measurements for what would be called  
 03 the benchmarks or indicators of any environmental  
 04 harm.  
 05 Q. (BY MS. PREHEIM) So -- okay. What does  
 06 the hydrocarbon concentrations reflect?  
 07 MS. FIDLER: Object to form.  
 08 A. Hydrocarbon concentrations are a measure  
 09 of how many hydrocarbons are in the water, how  
 10 much hydrocarbon is present. Otherwise, in this  
 11 case, the BROOKS MCCALL was looking for oil as  
 12 hydrocarbons.  
 13 Q. (BY MS. PREHEIM) And why was it looking  
 14 for oil?  
 15 A. And why was the BROOKS MCCALL looking for  
 16 oil?  
 17 Q. Correct.  
 18 A. The objectives of the very first R/V  
 19 BROOKS MCCALL cruise was to find, to locate the  
 20 subsurface oil plume that was believed to have  
 21 existed if subsea dispersants were being applied.  
 22 Q. And -- and if subsea dispersants were  
 23 being applied, why was it believed that there  
 24 would be a subsurface oil plume to be located?

Page 70:01 to 70:11

00070:01 A. The theory that was held by many parties  
 02 was that if dispersants were added at the source  
 03 as opposed to the water surface, that small  
 04 droplets would be formed, oil droplets would be  
 05 formed. That would allow the oil to be small  
 06 enough to not rise or to rise very slowly to the  
 07 surface waters thereby entraining an oil plume in  
 08 the bottom or deep layers of the water column.  
 09 Q. (BY MS. PREHEIM) And that was what  
 10 dispersants -- subsea dispersants were designed to  
 11 do?

Page 70:14 to 70:20

00070:14 A. I can't say that they were designed as  
 15 subsea dispersants, but dispersants themselves are  
 16 designed to create smaller droplets.  
 17 Q. (BY MS. PREHEIM) Okay. And so looking  
 18 for this subsurface plume was one way of  
 19 determining whether the dispersants being injected  
 20 at subsea were effective?

Page 70:22 to 71:08

00070:22 A. Looking for the subsurface plume was not  
 23 necessarily saying that it was effective.  
 24 Effective would be a percentage.  
 25 At the time of the BROOKS MCCALL  
 00071:01 first cruise, we were not looking for a percentage  
 02 of dispersion effectiveness, if you will, but the  
 03 location of the plume was the objective.  
 04 Q. (BY MS. PREHEIM) And whether there was a  
 05 subsurface plume at all?  
 06 A. If there was a subsurface plume at all.  
 07 Q. Which, as you testified earlier, you would  
 08 expect if the dispersants were doing their job?

Page 71:10 to 71:22

00071:10 A. The subsurface plume, I will say, resulted  
 11 from -- potentially resulted from chemical  
 12 dispersion, but also natural dispersion that would  
 13 be occurring.  
 14 Q. (BY MS. PREHEIM) Now, you said that  
 15 ultimately a monitoring vessel called the BROOKS  
 16 MCCALL was deployed in early May to conduct  
 17 operational tests and monitoring; is that right?  
 18 A. The R/V BROOKS MCCALL was deployed in  
 19 early May to collect measurements to monitor the  
 20 potential subsea plume.  
 21 Q. And it was BP who leased the BROOKS MCCALL  
 22 vessel for this cruise?

Page 71:24 to 72:10

00071:24 A. I don't know about the definition of  
 25 "lease" versus "rent" or "contract"; but the  
 00072:01 BROOKS MCCALL was the science party, the  
 02 equipment, the vessel itself, were assembled  
 03 together for this cruise, paid by BP, and  
 04 organized by BP.  
 05 Q. (BY MS. PREHEIM) And you said you  
 06 personally participated in the BROOKS MCCALL  
 07 cruise from May 7 to 12?  
 08 A. Well, the cruise itself was May 8th,  
 09 but -- but we arrived at the vessel on May 7th,  
 10 yes.

Page 72:16 to 72:17

00072:16 Q. And if you can turn to Tab 54, I believe  
17 it's in your Binder No. 2.

Page 72:20 to 72:21

00072:20 MS. PREHEIM: I'll mark this as  
21 Exhibit 12066.

Page 72:24 to 73:17

00072:24 Q. (BY MS. PREHEIM) If I can direct your  
25 attention -- well, first of all, have you seen  
00073:01 this document before?  
02 A. Take a moment. I have not seen this exact  
03 document.  
04 Q. It says a "Memorandum" from Captain  
05 Hanzalik regarding a "Region VI RRT Incident  
06 Specific Request Notification That Subsea  
07 Dispersant Application Test No. 3 Commenced."  
08 You see that?  
09 A. I do.  
10 Q. And it's dated May 10, 2010?  
11 A. Correct.  
12 Q. And Point 2 talks about the purpose of the  
13 call; and is it correct that the third subsea test  
14 of dispersant plume injection commenced on Monday,  
15 May 10, 2010, "in accordance with the final  
16 agreed-upon monitoring, operations, and shut-down  
17 protocols agreed upon by the unified command"?

Page 73:19 to 74:05

00073:19 A. I'm just reviewing that sentence to  
20 verify.  
21 Q. (BY MS. PREHEIM) Sure.  
22 A. Yes, it does say that.  
23 Q. And that was your understanding having  
24 participated in the cruise?  
25 A. The -- on the cruise, the third test, the  
00074:01 subsea test did occur, and it sounds reasonable  
02 that it would be May 10th.  
03 Q. And it was conducted in accordance with  
04 the final agreed-upon monitoring operations and  
05 shutdown protocols?

Page 74:07 to 74:16

00074:07 A. Since I was on the cruise at that time, I  
08 had -- I hadn't seen the final agreed-upon  
09 monitoring operations and shutdown protocols.  
10 There were many drafts. So I can't say that it

11 was all in accordance with whatever -- at this  
12 time of the document, the final agreed-upon  
13 monitoring was.  
14 Q. (BY MS. PREHEIM) But you have no reason  
15 to disagree with the accuracy of what Captain  
16 Hanzalik is reporting here?

Page 74:19 to 74:23

00074:19 A. I can't refute or confirm it, so we'll go  
20 with what it says here.  
21 Q. (BY MS. PREHEIM) Okay. The FOSC  
22 ultimately approved full scale subsea dispersant  
23 applications operations, right?

Page 74:25 to 75:02

00074:25 A. What would be "full scale"?  
00075:01 Q. (BY MS. PREHEIM) Not being tested but  
02 actually operational.

Page 75:04 to 75:06

00075:04 A. It is my understanding that not testing,  
05 but applying subsea dispersant application was  
06 ultimately approved.

Page 75:18 to 75:20

00075:18 Q. (BY MS. PREHEIM) So you agree the FOSC  
19 ultimately approved full scale subsea dispersant  
20 application operations?

Page 75:22 to 76:01

00075:22 A. It is my understanding that the FOSC did  
23 approve the use of subsea dispersant application,  
24 but that there was also some measures that were in  
25 place that could call for the shutdown of  
00076:01 dispersant application.

Page 76:16 to 76:18

00076:16 Q. Dr. Conmy, the shutdown criteria in the  
17 EPA's directives and the FOCS's directives were  
18 never triggered during the response, correct?

Page 76:21 to 77:15

00076:21 A. In the directives for shutdown for  
22 environmental harm, it is to my knowledge that it



23 wasn't shutdown for those activities.  
 24 Q. (BY MS. PREHEIM) Thank you.  
 25 Let's turn back to Tab 8, please.  
 00077:01 This is, again, the paper you published entitled  
 02 "Science-Based Decision Making"?  
 03 A. That's correct.  
 04 Q. Turning to the bottom of Page 2 and the  
 05 top of Page 3, do you see that it describes  
 06 monitoring efforts associated with the use of  
 07 dispersants during the response?  
 08 A. The last -- looks like the last sentence  
 09 at the bottom of Page 2: "As a result, monitoring  
 10 efforts" --  
 11 Q. Uh-huh.  
 12 A. -- that sentence? I see it.  
 13 Q. Well, it's -- so your article here and  
 14 elsewhere describes the dispersant monitoring that  
 15 took place during the response; is that right?

Page 77:17 to 77:25

00077:17 A. This section, which is the intro section  
 18 of this chapter, does describe prior to the  
 19 incident and then during the incident a  
 20 monitoring -- that a monitoring program was  
 21 established.  
 22 Q. (BY MS. PREHEIM) And if you look at the  
 23 bottom of Page 2, you agree that dispersant  
 24 monitoring effects during the DEEPWATER HORIZON  
 25 response were extensive and multifaceted, correct?

Page 78:02 to 79:04

00078:02 A. I'm going to take a moment to read this  
 03 sentence here.  
 04 Q. (BY MS. PREHEIM) Take your time.  
 05 A. Well, the exact phrasing of that  
 06 particular sentence was that there was monitoring  
 07 efforts were extensive and multifaceted, not  
 08 necessarily that it was dispersant monitoring  
 09 effects.  
 10 Q. Are you discussing anything other than  
 11 dispersant monitoring in this paper?  
 12 A. This section talks about the monitoring  
 13 efforts had coordinated efforts that included  
 14 dissolved oxygen monitoring, fluorometric  
 15 measurements, LISST, which is otherwise laser in  
 16 situ scattering and transmissometry, measurements  
 17 and oil chemistry, and then hydrographic  
 18 information which are your currents and  
 19 temperature, salinity.  
 20 Q. Uh-huh. What else?  
 21 A. There also has Rototox analyses.  
 22 Q. And that's to estimate acute toxicity from  
 23 the dispersed plume?

24 A. Yes.  
 25 Q. And these are some of the types of  
 00079:01 subsurface dispersant monitoring that were  
 02 conducted during the response?  
 03 A. Again, it was subsurface monitoring, not  
 04 necessarily dispersant monitoring.

Page 82:05 to 82:10

00082:05 Q. Under the direction of the Unified  
 06 Command, EPA, NOAA, the United States Coast Guard,  
 07 and BP monitored dispersant toxicity and  
 08 effectiveness to ensure that the use of  
 09 dispersants in the response was appropriate,  
 10 correct?

Page 82:13 to 83:06

00082:13 A. We -- we, as the federal government and --  
 14 and BP on those contracted cruises, monitored for  
 15 toxicity, not necessarily just dispersant  
 16 toxicity, but dispersed oil toxicity.  
 17 Q. (BY MS. PREHEIM) And monitored dispersant  
 18 effectiveness as well?  
 19 A. We monitored for hydrocarbon  
 20 concentration, which is something you would need  
 21 to estimate your effectiveness.  
 22 Q. Thank you.  
 23 Was sediment sampling also conducted  
 24 as part of this monitoring program?  
 25 A. My understanding -- again, from the JAG  
 00083:01 perspective, we didn't -- we didn't analyze any  
 02 sediment samples, but I do know that there were  
 03 sediment samples collected as part of the  
 04 response.  
 05 Q. But the JAG did not analyze them?  
 06 A. No.

Page 84:02 to 84:03

00084:02 Q. If you turn to the OSAT, Tab 18. We can  
 03 mark this as Exhibit 12067.

Page 84:06 to 84:24

00084:06 Q. (BY MS. PREHEIM) Are you familiar with  
 07 this report, Dr. Conmy?  
 08 A. This looks like an OSAT report that I have  
 09 seen.  
 10 Q. If you turn to tab -- I'm sorry, Page 24.  
 11 A. Yes.  
 12 Q. And you see there's a column on the  
 13 right-hand side labeled "Dispersant"?

14 A. Yes.  
 15 Q. And "Total Samples" under that column are  
 16 5,262?  
 17 A. Uh-huh.  
 18 Q. And the number of "Total Exceedances" for  
 19 dispersant benchmarks is zero.  
 20 Do you see that?  
 21 A. I see that.  
 22 Q. And if you turn to Page 31, again you see  
 23 a column for "Dispersants," and the "Total  
 24 Samples" are 682?

Page 85:01 to 85:06

00085:01 A. I see that.  
 02 Q. (BY MS. PREHEIM) And "Total Exceedances"  
 03 are zero?  
 04 A. I see that.  
 05 Q. And that's exceedances for the  
 06 "Dispersant" benchmark?

Page 85:08 to 85:14

00085:08 A. Yes.  
 09 Q. (BY MS. PREHEIM) And finally, turn to  
 10 Page 39. And, again, there's a table that has a  
 11 column for "Dispersant" with "Total Samples"  
 12 4,234, correct?  
 13 A. It does.  
 14 Q. And the "Total Exceedances" are zero?

Page 85:16 to 85:20

00085:16 A. It does say that.  
 17 Q. (BY MS. PREHEIM) So we've now seen three  
 18 tables of samples of 4,234, 682, and 5,262. Doing  
 19 rough math, you agree there were more than 10,000  
 20 samples tested for dispersant?

Page 85:22 to 85:23

00085:22 A. There -- according to these three tables,  
 23 there was slightly more than 10,000 samples.

Page 85:25 to 86:06

00085:25 So the monitoring efforts that were  
 00086:01 undertaken to monitor the use of subsea  
 02 dispersants, you -- I think you testified earlier  
 03 that you cannot confirm that -- that the BP worked  
 04 collaboratively, but the -- you agree that the  
 05 monitoring efforts were collaboratively undertaken  
 06 by EPA, BP, and other agencies; is that correct?

Page 86:09 to 86:20

00086:09 A. The monitoring efforts for the subsea --  
10 Q. (BY MS. PREHEIM) Uh-huh.  
11 A. -- monitoring were paid for by BP,  
12 organizing the boats, the vessels, the operational  
13 side of things, the equipment that was needed.  
14 Q. Anything else?  
15 A. The actual analysis of samples that were  
16 conducted by the BP contract labs, those were done  
17 as well.  
18 Q. Okay. And so you agree that those  
19 monitoring efforts were collaboratively undertaken  
20 by BP with EPA and other entities?

Page 86:22 to 87:21

00086:22 A. BP worked with the other entities.  
23 "Collaboratively" is subjective.  
24 Q. (BY MS. PREHEIM) Can you turn back to  
25 your article at Tab 8, please?  
00087:01 A. Uh-huh. 8.  
02 Q. And Page 3, if you could turn your  
03 attention to Page 3.  
04 A. Uh-huh.  
05 Q. The paragraph right before Section 1.2  
06 beginning "Several government agencies" --  
07 A. Yes.  
08 Q. -- and you agree that it lists among those  
09 government agencies and stakeholders involved in  
10 the monitoring effort, BP response contractors?  
11 A. The sentence lists the agencies and  
12 stakeholders involved --  
13 Q. Uh-huh.  
14 A. -- and BP is included in that sentence.  
15 Q. And you agree that: "As a result of this  
16 collaborative effort, the response community has  
17 learned a great deal about subsea dispersion, the  
18 behavior of dispersed oil plumes as they advect,  
19 how best to monitor oil plumes, and the acute  
20 toxicity of certain dispersants."  
21 Is that right?

Page 87:23 to 88:04

00087:23 A. Is -- for context, can I take the time to  
24 read the whole paragraph?  
25 Q. (BY MS. PREHEIM) Uh-huh.  
00088:01 A. Thank you.  
02 This paragraph does, in fact, say  
03 that.  
04 Q. And you agree?

Page 88:06 to 88:09

00088:06       A. Prior to this incident, there had never  
07    been such a large scale deepwater response. So it  
08    would lend itself to say that the community, the  
09    response community learned a great deal.

Page 88:15 to 88:21

00088:15       Q. (BY MS. PREHEIM) And as a result of the  
16    collaborative effort?  
17       A. This statement says "collaborative  
18    effort."  
19       Q. And you -- you were a coauthor of this?  
20       A. I was a coauthor of.  
21       Q. You have no reason to disagree with that?

Page 88:23 to 88:23

00088:23       A. No.

Page 91:22 to 92:01

00091:22       Q. I'm asking you in your work with subsea  
23    dispersants --  
24       A. Uh-huh.  
25       Q. -- what you under -- the role of  
00092:01   dispersants in an oil spill response is.

Page 92:03 to 92:11

00092:03       A. In my work now with subsea dispersants,  
04    the role of dispersants in an oil spill, as I  
05    stated earlier, is to change the surface tension  
06    of the oil so that you can create smaller droplets  
07    in the water column. That is the role.  
08       Q. (BY MS. PREHEIM) And that is, I think as  
09    we discussed, to give microbes greater access to  
10    the oil to break it down and accelerate  
11    biodegradation?

Page 92:13 to 92:17

00092:13       A. That is one of the expectations that  
14    dispersant -- the use of dispersants would have.  
15       Q. (BY MS. PREHEIM) And subsea dispersants  
16    help keep oil from forming surface slicks; is that  
17    right?

Page 92:19 to 92:20

00092:19 A. The use of dispersants in -- in general,  
20 is to reduce the occurrence of a surface slick.

Page 93:08 to 93:11

00093:08 Q. (BY MS. PREHEIM) So in other words,  
09 subsea dispersants can prevent surface slicks, but  
10 they don't help disperse slicks that have already  
11 formed at the surface?

Page 93:13 to 93:15

00093:13 A. To -- for a slick that already formed at  
14 the surface, you would need to apply surface -- a  
15 surface application of dispersants to do that.

Page 93:25 to 94:03

00093:25 Q. (BY MS. PREHEIM) And in the DEEPWATER  
00094:01 HORIZON response, subsea dispersants did, in fact,  
02 help keep oil from reaching wetlands and  
03 shoreline, correct?

Page 94:06 to 94:11

00094:06 A. The -- the goal of using the subsea  
07 dispersants was to have less oil that would make  
08 it to the surface as a slick that would be  
09 advected to nearshore environments, but rather  
10 have it stay within the water column in the Gulf  
11 of Mexico.

Page 95:04 to 95:06

00095:04 Q. (BY MS. PREHEIM) If you can turn to Tab 5  
05 of the binder, please. We can mark this as an  
06 exhibit.

Page 95:08 to 95:24

00095:08 Q. (BY MS. PREHEIM) It's Exhibit No. 12068.  
09 A. Correct.  
10 Q. Are you familiar with this document,  
11 Dr. Conmy?  
12 A. I haven't seen this document, but it looks  
13 like a website.  
14 Q. And I will represent to you that it's  
15 downloaded from the EPA's website entitled  
16 "Questions and Answers on Dispersants"?  
17 A. Okay.  
18 Q. And if you look at the bottom of the page,  
19 do you see that it says: "Dispersants are

20 generally less harmful than the highly toxic oil  
21 leaking from the source and biodegrade in a much  
22 shorter time span. This is an important step to  
23 reduce the potential for damage from oil reaching  
24 fragile wetlands and coastal areas"?

Page 96:02 to 96:14

00096:02 A. I do see the sentence.  
03 Q. (BY MS. PREHEIM) And if you turn the  
04 page, it says: "EPA advised continuing to allow  
05 BP to apply dispersant undersea because it  
06 appeared to be having a positive effect on the oil  
07 at the" surface "of the leak" -- "at the source of  
08 the leak and thus far has had no significant  
09 ecological impact."  
10 Did I read that correctly?  
11 A. You did read it correctly.  
12 Q. Isn't it true that dispersants were  
13 effective in -- in keeping oil from reaching  
14 wetlands and the shoreline during the response?

Page 96:16 to 96:18

00096:16 A. The use of dispersants reduced the amount  
17 of oil reach -- reaching the shorelines and  
18 wetlands.

Page 97:09 to 97:14

00097:09 Q. (BY MS. PREHEIM) As a corporate  
10 representative of the United States testifying  
11 today, you would agree that it was in part due to  
12 the ecological benefits that the Unified Command  
13 continued to approve the application of the subsea  
14 dispersants during the DEEPWATER HORIZON response?

Page 97:17 to 97:25

00097:17 A. Well, as a -- a representative, the  
18 continued approval to use subsea dispersants was  
19 to effectively reduce the amount of oil making it  
20 to the surface that could be advected somewhere  
21 else inshore.  
22 Q. (BY MS. PREHEIM) Thank you.  
23 Now, subsea dispersants have  
24 additional benefits in the response; is that  
25 correct?

Page 98:03 to 98:07

00098:03 A. Can you expand on what additional  
04 benefits?

05 Q. (BY MS. PREHEIM) Sure. For instance,  
 06 subsea dispersant use helped protect workers by  
 07 reducing VOC levels at the surface?

Page 98:14 to 98:16

00098:14 Q. (BY MS. PREHEIM) You understand what I  
 15 mean by "VOC"?  
 16 A. I do.

Page 98:19 to 99:02

00098:19 A. It was posited that the use of subsea  
 20 dispersants could reduce your volatile organic  
 21 carbons, your VOCs, at the surface which would aid  
 22 in worker safety. But I will say that there were  
 23 not tests to confirm or refute that hypothesis.  
 24 Q. (BY MS. PREHEIM) To your knowledge?  
 25 A. To my knowledge.  
 00099:01 Q. Okay. If you turn to Tab 31 in your  
 02 binder. I think it's Volume 2.

Page 99:04 to 100:16

00099:04 MS. PREHEIM: 31, and this is  
 05 premarked as Exhibit 12038.  
 06 Q. (BY MS. PREHEIM) Are you familiar with  
 07 this document, Dr. Conmy?  
 08 A. It appears to be a -- an article from the  
 09 Tampa Bay Times, but I -- I'd have to read it to  
 10 know if I've read it before.  
 11 Q. It's entitled "EPA kept close watch on use  
 12 of dispersants," and it was written by Lisa P.  
 13 Jackson, correct?  
 14 A. It says that, yes.  
 15 Q. Who's -- who's Lisa Jackson?  
 16 A. At the time she was the administrator of  
 17 the EPA.  
 18 Q. And if I can turn your attention to the  
 19 fourth paragraph.  
 20 A. Yes.  
 21 Q. She says, with respect to use of  
 22 dispersants, that dispersants "proved to be an  
 23 effective tool in preventing the oil from  
 24 devastating the gulf's delicate coastline."  
 25 Do you see where I am?  
 00100:01 A. In the fourth paragraph, which sentence  
 02 number is it?  
 03 Q. I'm reading from the second sentence.  
 04 A. Yes.  
 05 Q. And then you would agree, as she writes  
 06 here, the: "EPA science tells us dispersant was  
 07 effective in breaking up the oil"?  
 08 A. I see that.



09 Q. You agree?

10 A. That is the premises of using dispersant,  
11 to break it to smaller droplets.

12 Q. Okay. And based on the -- the monitoring  
13 that was conducted during the response, the  
14 science, EPA science tells us that dispersant was,  
15 in fact, effective in breaking up the oil,  
16 correct?

Page 100:18 to 101:01

00100:18 A. What was confirmed from the deepwater  
19 sampling, the subsea sampling, was that the oil  
20 was in small droplets to remain in the plume  
21 subsea.

22 Q. (BY MS. PREHEIM) Which is another way of  
23 saying that the dispersant was effective in  
24 breaking up the oil as --

25 A. Well --

00101:01 Q. -- Ms. Jackson says?

Page 101:03 to 101:15

00101:03 A. The subsurface plume would have arisen  
04 from both chemical dispersion as well as natural  
05 dispersion. So the combination -- one could  
06 logically surmise that the combination of those  
07 two resulted in the smaller droplets being formed.

08 Q. (BY MS. PREHEIM) Okay. Was -- we talked  
09 a little bit earlier about the Joint Analysis  
10 Group or the JAG, correct?

11 A. Yes.

12 Q. What role -- well, you said that the JAG  
13 played a -- the role of analyzing the extensive  
14 monitoring data that was collected during the  
15 response?

Page 101:17 to 102:02

00101:17 A. The JAG being stood up in -- in June had  
18 the primary objective of taking the hydrocarbon  
19 chemistry data, the analysis that were done at the  
20 contract labs, and reviewing that and pro --  
21 processing the data, synthesizing and making  
22 figures on hydro -- hydrocarbon concentration,  
23 dissolved oxygen measurements, fluorometric  
24 measurements, CTD casts, and the like.

25 Q. (BY MS. PREHEIM) And that's field data  
00102:01 that was collected during the response?

02 A. That was field data, yes.

Page 102:14 to 104:07

00102:14 Q. (BY MS. PREHEIM) This is Exhibit 12069.  
 15 It's a en -- it's a power -- it looks like a  
 16 PowerPoint presentation. Are you familiar with  
 17 this?  
 18 A. Yes.  
 19 Q. It's entitled "MC252/DEEPWATER HORIZON  
 20 Joint Analysis Group Subsurface Monitoring Data  
 21 and Analysis"?  
 22 A. Correct.  
 23 Q. And it's dated December 14, 2010?  
 24 A. Yes.  
 25 Q. Were you involved in the preparation of  
 00103:01 this PowerPoint?  
 02 A. I was.  
 03 Q. And what was the purpose of the PowerPoint  
 04 presentation?  
 05 A. This presentation was assembled to present  
 06 a paper at the fall AGU meeting, which is the  
 07 American Geophysical Union conference, on the work  
 08 of the JAG in the DEEPWATER HORIZON spill.  
 09 Q. Now, you talked earlier about the  
 10 extensive subsurface dispersant monitoring efforts  
 11 and all of the types of data that were collected.  
 12 Do you recall that?  
 13 A. I talked about the subsurface monitoring  
 14 efforts during the spill.  
 15 Q. And if you turn -- unfortunately, these  
 16 aren't numbered, so bear with me.  
 17 A. Yeah, that's fine.  
 18 Q. But if you turn to the slide entitled "DWH  
 19 Response Water Profiling"?  
 20 A. Yes.  
 21 Q. You see at the bottom, after it lists the  
 22 various methods of data collection, it says: "23  
 23 vessels, 85 cruises, approximately 1600 CTD  
 24 casts," and "several thousand water samples."  
 25 Did I read that correctly?  
 00104:01 A. You did.  
 02 Q. That was extensive monitoring, correct?  
 03 A. A reasonable person could say that was a  
 04 fair number of samples.  
 05 Q. And, in fact, in your own article, you  
 06 talk about extensive monitoring?  
 07 A. Correct.

Page 105:13 to 106:13

00105:13 Q. And you testified earlier something about  
 14 that there was no data management plan established  
 15 by BP?  
 16 A. Correct.  
 17 Q. That was with respect to subsea dispersant  
 18 application?  
 19 A. Correct.  
 20 Q. Explain to me what you mean by that.

21 A. Yes. Whenever field data is going to be  
22 collected, there needs to be a plan in place for  
23 the management of that data such as metadata  
24 information, the way in which it will be reported,  
25 where it will be stored, how it will be publicly  
00106:01 accessed if it is to be publicly accessed.  
02 And the expectation of the science  
03 party, when we boarded the R/V BROOKS MCCALL, was  
04 that the responsible party, because it was in  
05 charge of securing resources, equipment, for the  
06 operations plan, that they would also have a data  
07 management plan in place once the samples are  
08 analyzed and collected.  
09 Ben Shorr, who is a data management  
10 expert for NOAA, realized during the R/V BROOKS  
11 MCCALL 1 that no data management plan had been  
12 established by the responsible party previous to  
13 that cruise.

Page 107:17 to 107:20

00107:17 Q. The DEEPWATER HORIZON response was the  
18 first time that application of dispersant by  
19 injection at the source of the discharge was deep  
20 underneath the sea?

Page 107:23 to 108:04

00107:23 A. The DEEPWATER HORIZON was the first  
24 accidental release and, therefore, subsequent  
25 subsea dispersant application applied.  
00108:01 Q. (BY MS. PREHEIM) Okay. And so the  
02 monitoring of this novel subsea dispersant  
03 application was the first of its kind also,  
04 correct?

Page 108:07 to 108:15

00108:07 A. The monitoring that was conducted or  
08 proposed to be conducted --  
09 Q. (BY MS. PREHEIM) Uh-huh.  
10 A. -- for the subsea release, the monitoring  
11 itself was not novel. This is monitoring that has  
12 been done routinely for a variety of oceanographic  
13 field expeditions. So each analysis or deployment  
14 of equipment were things that were deployed or  
15 collected routinely as oceanographic measurements.

Page 109:02 to 109:15

00109:02 Q. (BY MS. PREHEIM) And you said it was the  
03 expectation of the science team that there would  
04 be a data management plan. Had this ever been

05 discussed previously?

06 A. As it was relayed to me, since BP, being  
07 the responsible party, was in charge of the  
08 operations and the monitoring, that we -- that  
09 they would have, in fact, had a -- a data  
10 management plan, what -- what do you do with all  
11 the data once you have collected it.

12 Q. My question was: Was the topic of the  
13 data management plan ever discussed with BP and  
14 the science team and the agencies coordinating the  
15 data collection?

Page 109:18 to 109:21

00109:18 A. To my knowledge, what I witnessed was on  
19 the vessel, there was a discussion about the data  
20 management plan from the NOAA representative and  
21 with the BP chief scientist.

Page 110:03 to 110:10

00110:03 Q. (BY MS. PREHEIM) Did EPA have a  
04 preexisting data management plan for this cruise?

05 A. The EPA, as far as I know, did not have a  
06 management plan because it wasn't our  
07 responsibility to have one.

08 Q. But did EPA have a preexisting data  
09 management plan for the type of subsea dispersant  
10 application monitoring that was being conducted?

Page 110:12 to 110:25

00110:12 A. To be clear, a data management plan arises  
13 from the specific monitoring that you would be  
14 conducting which would be specific for each  
15 incident and would be established as a result of  
16 what would be deployed or collected during an  
17 incident.

18 Q. (BY MS. PREHEIM) So the answer to my  
19 question is no, EPA did not have a preexisting  
20 data management plan for this cruise?

21 A. No. They wouldn't be expected to, either.

22 Q. It -- it had not developed one?

23 A. No.

24 Q. Did other federal agencies have a data  
25 management plan for this cruise?

Page 111:02 to 111:08

00111:02 A. It is my understanding through  
03 conversations, particularly with Ben Shorr, and  
04 this is his expertise, is that the data management  
05 plan, the responsibility to establish it, fell on

06 BP's shoulders, the responsible party's shoulders.  
07 And in lieu of them not having one, NOAA  
08 established one.

Page 112:13 to 112:18

00112:13 Q. (BY MS. PREHEIM) You said that NOAA  
14 ultimately developed a data management plan?  
15 A. Particularly Ben Shorr and -- and his  
16 group.  
17 Q. And the data collected from the BROOKS  
18 MCCALL cruise was managed under this plan?

Page 112:21 to 112:25

00112:21 A. -- first BROOKS MCCALL cruise, the man --  
22 my understanding is that the data management plan  
23 was established after the first BROOKS MCCALL  
24 cruise because something needed to be set up to  
25 place the data into for obvious reasons.

Page 115:04 to 117:19

00115:04 Q. You also talked a bit earlier about issues  
05 with respect to access to data.  
06 Do you recall that testimony?  
07 A. I do.  
08 Q. And what -- and can you explain what that  
09 testimony related to?  
10 A. So the data management plan had the cruise  
11 data that was collected. So in situ measurements,  
12 hydrographic measurements, things that would be  
13 more electronic files that are collected onboard  
14 the vessel --  
15 Q. Uh-huh.  
16 A. -- then gets moved into the databases.  
17 That's one facet.  
18 There also is another component of  
19 chemical analyses that had to be conducted at the  
20 contract lab. So you don't have a result or  
21 finding onboard the vessel, but you have to wait  
22 for the data.  
23 When it was requested to have the  
24 chemistry data put into the database after it was  
25 QA/QCed, Ben Shorr, in particular, has expressed  
00116:01 to me and to others that he had difficulty in  
02 getting the contract labs to supply the chemistry  
03 results for posting inside of this database.  
04 Q. And did he say what the source of that  
05 difficulty was?  
06 A. It was his impression that the BP contract  
07 labs did not want to supply the data to him.  
08 Q. And why is that?  
09 A. He didn't say specifically as to why it

10 was, but what did he say was, that when he would  
 11 ask for the data, the contractors would comment,  
 12 and I quote, things like, "Maybe we're playing  
 13 Whac-A-Mole."  
 14 Q. Do you understand what that meant -- may  
 15 have meant?  
 16 A. My interpretation of that is -- and as  
 17 well as Ben's -- was that the contract labs did  
 18 not want to supply the results; and, therefore,  
 19 were impeding any analysis that could be done by  
 20 the JAG in a timely fashion.  
 21 Q. Did the BP contract labs ultimately supply  
 22 the results?  
 23 A. Ultimately they were supplied.  
 24 Q. And when?  
 25 A. Oh, I -- we would have to check with Ben  
 00117:01 on the exact dates of when the entries were into  
 02 the databases.  
 03 Q. And which contract labs did this apply?  
 04 A. I do not have a name of which contract  
 05 lab. It was stated in a more general sense.  
 06 Q. Not all of the contract labs?  
 07 A. The word "all" was not used.  
 08 Q. Any other issues with the access to data  
 09 from BP contractor labs?  
 10 A. As far as I know, that was the only one  
 11 that was expressed to me that there was an issue  
 12 of getting the -- the chemistry results from the  
 13 contract labs.  
 14 Q. So it's just the chemistry results?  
 15 A. In terms of it slowed down results or  
 16 analysis, yes, as far as I know.  
 17 Q. And these chemistry results were  
 18 ultimately provided?  
 19 A. They were ultimately provided.

Page 117:23 to 118:03

00117:23 They were ultimately provided, but  
 24 you don't know how much delay the provision may  
 25 have resulted in?  
 00118:01 A. Ben, in discussing this with him, my  
 02 understanding is that the delay was on the order  
 03 of months.

Page 120:24 to 122:23

00120:24 Q. (BY MS. PREHEIM) You mentioned earlier  
 25 that samples that may have -- not have -- may not  
 00121:01 have been collected properly or some may have been  
 02 lost in some way.  
 03 Do you recall that testimony?  
 04 A. Can you refresh what the context was and  
 05 which type of samples?  
 06 Q. That was going to be my question to you.

07 A. Oh, I apologize.  
08 MR. CHAKERES: Just in the interest  
09 of -- I think it was in the context of the first  
10 subsea dispersant test.  
11 MS. PREHEIM: I think that's right,  
12 yes.  
13 THE WITNESS: Oh, at the ROV tests.  
14 A. Yeah, yes. I do.  
15 Q. (BY MS. PREHEIM) So can you please  
16 explain what -- what you're referring to there?  
17 A. This was before my involvement in the  
18 response--  
19 Q. Uh-huh.  
20 A. -- but it is my understanding that this  
21 injection test done when the BROOKS MCCALL was  
22 deployed was really Test No. 3 --  
23 Q. Uh-huh.  
24 A. -- and there were two previous ones where  
25 ROVs were used to collect samples. I assume these  
00122:01 were discrete samples.  
02 And that they could not conclude, the  
03 responsible party as well as Unified Command,  
04 could not conclude that water quality measurements  
05 were meeting whatever criteria they established  
06 because there was a loss of samples. I don't know  
07 if they were contaminated, but it turned out that  
08 they couldn't use the -- the data.  
09 And so there was a recommendation to  
10 have a different type of sampling that not doing  
11 it from an ROV, but doing it from a vessel would  
12 be more appropriate.  
13 Q. Okay. And that's not uncommon in testing.  
14 When you try one thing and it doesn't work, so you  
15 try something different?  
16 A. I'm not as familiar with ROVs, but I would  
17 imagine it is difficult to take samples with an  
18 ROV --  
19 Q. Ultimately --  
20 A. -- compared to a vessel.  
21 Q. Sorry to interrupt.  
22 And ultimately, the samples were  
23 obtained?

Page 123:01 to 123:18

00123:01 A. Ultimately, the samples from Test 1 and 2  
02 were not obtained properly, which is why they went  
03 to Test 3.  
04 Q. (BY MS. PREHEIM) And Test 3 samples were  
05 successfully collected?  
06 MS. FIDLER: Object to form.  
07 A. It is difficult to answer that question  
08 because the depth of the samples that were taken  
09 during the R/V BROOKS MCCALL 1 cruise were not in  
10 the same depth layer as the subsea plume.

11 Q. (BY MS. PREHEIM) Why was that?  
12 A. The boat was equipped with a CTD rosette  
13 package --  
14 Q. Uh-huh.  
15 A. -- which is the sampling package, that  
16 only went to 600 meters, and the depth of the  
17 wellhead was much deeper than that, and the depth  
18 of the plume was found much deeper than that.

Page 124:17 to 124:24

00124:17 Q. Okay. I think we can turn back to -- is  
18 it Tab 14? Remember, this was the JAG PowerPoint  
19 presentation that we were looking at earlier?  
20 A. Yes.  
21 Q. Yeah. So you had talked about subsurface  
22 monitoring being conducted in part to determine  
23 the presence of oil in waters around the DEEPWATER  
24 HORIZON wellhead; is that correct?

Page 125:01 to 125:10

00125:01 A. The subsea monitoring were in waters  
02 around the DEEPWATER HORIZON wellhead.  
03 Q. (BY MS. PREHEIM) And -- and one of the  
04 purposes of conducting the monitoring was to  
05 determine the presence of oil in that area?  
06 A. It was to detect the hydrogen -- a  
07 hydrocarbon concentration in the area.  
08 Q. (BY MS. PREHEIM) And that was done, in  
09 turn, to guide additional cruises during the  
10 monitoring program; is that correct?

Page 125:12 to 125:24

00125:12 A. The stations were selected for sampling on  
13 the cruises. We had an adaptive strategy, which  
14 meant stations were selected. We collected the  
15 measurements. The results of those measurements  
16 would inform where we would take future  
17 measurements with the idea of tracking, locating,  
18 evaluating the extent of where the plume was.  
19 Q. (BY MS. PREHEIM) So if I'm understanding  
20 correctly, based on the data that was being  
21 collected from the subsea mon -- dispersant  
22 monitoring, the Unified Command would then direct  
23 the vessels to the location where the data showed  
24 these hydrocarbon concentrations were?

Page 126:01 to 126:13

00126:01 A. It is my understanding that the selection  
02 of sample locations was at the discretion of the



03 chief scientist since they would have more of the  
04 data readily available on a daily basis. They  
05 would be there, they would sample. "Oh, we didn't  
06 see anything here. Let's try this spot." And go  
07 with that.

08 Q. (BY MS. PREHEIM) And who were the chief  
09 scientists?

10 A. I don't know them all by name, but they  
11 were BP contract chief scientists.

12 Q. Acting under the direction of the Unified  
13 Command?

Page 126:16 to 126:20

00126:16 A. They were discussing daily and had  
17 interactions daily with the Unified Command.

18 Q. (BY MS. PREHEIM) And the Unified Command  
19 ultimately had, as you've testified earlier, to  
20 make the decisions?

Page 126:23 to 127:03

00126:23 A. Again, for the subsea monitoring, it is up  
24 to the discretion of the chief scientist as to  
25 where the sample locations were -- were taken.

00127:01 Q. (BY MS. PREHEIM) And the B -- the -- the  
02 chief scientist would ask the science party or the  
03 agencies for input on that, of course, right?

Page 127:05 to 127:10

00127:05 A. My understanding is that the chief  
06 scientist, in their communications with the Area  
07 Command -- that there was a give and take, that  
08 there were -- the decisions on where to sample  
09 would have to be informed by where previous  
10 samples were taken. So, yeah.

Page 129:06 to 129:07

00129:06 Q. (BY MS. PREHEIM) Yeah, if we -- let's  
07 turn to Tab 33. That may help us.

Page 129:09 to 130:02

00129:09 Q. (BY MS. PREHEIM) And this will be  
10 Exhibit 12070.

11 Do you recognize this document,  
12 Dr. Conmy?

13 A. The text of this document looks familiar.

14 Q. It's the "Summary of EPA's Dispersant  
15 Monitoring Assessment Directive for Subsurface  
16 Dispersant Application"?

17 A. Yes.

18 Q. The "Note" at the very top, can you read  
19 that please?

20 A. Sure. "Note: This monitoring and  
21 assessment plan for full-scale subsea application  
22 of dispersants will not be implemented unless  
23 initial testing demonstrates the effectiveness of  
24 subsurface dispersant application."

25 Q. And was the monitoring and assessment plan  
00130:01 for full-scale subsea application of dispersants  
02 implemented?

Page 130:04 to 130:12

00130:04 A. A plan was implemented for monitoring the  
05 subsurface plume that would have arisen or  
06 potentially arisen from subsea application of  
07 dispersants.

08 Q. (BY MS. PREHEIM) And it was this plan  
09 that we're --

10 A. Uh-huh.

11 Q. -- that -- that the EPA is summarizing  
12 here that was implemented, correct?

Page 130:15 to 130:21

00130:15 A. It does say: "Note: This monitoring and  
16 assessment plan."

17 Q. (BY MS. PREHEIM) And so because this  
18 monitoring and assessment plan was implemented,  
19 that confirms that the initial testing  
20 demonstrated the effectiveness of subsurface  
21 dispersant application, correct?

Page 130:23 to 131:12

00130:23 A. Your question is whether or not the  
24 implemented plan confirms that the initial testing  
25 demonstrated the effectiveness; is that -- is that  
00131:01 right?

02 Q. (BY MS. PREHEIM) Yes.

03 A. Based on what it says here, you could --  
04 you could say that.

05 Q. In fact, the -- the EPA's monitoring and  
06 assessment plan or -- excuse me. Withdrawn.

07 The monitoring and assessment plan  
08 that EPA is summarizing here would not have been  
09 implemented, by EPA's own words, unless the  
10 initial testing had demonstrated the effectiveness  
11 of subsea -- subsurface dispersant application,  
12 correct?

Page 131:18 to 132:04

00131:18 A. That seems true.  
 19 Q. If we turn to Tab 17, please. This is  
 20 Exhibit 12044.  
 21 Do you recognize this document,  
 22 Dr. Conmy?  
 23 A. I do.  
 24 Q. And this is the "Dispersant Monitoring and  
 25 Assessment Directive For Subsurface Dispersant  
 00132:01 Application" dated May 10, 2010?  
 02 A. Correct.  
 03 Q. And this was a directive issued by EPA; is  
 04 that correct?

Page 132:06 to 132:22

00132:06 A. "By EPA." This just says it was the  
 07 dispersant monitoring and assessment directive.  
 08 Q. (BY MS. PREHEIM) You're not aware whether  
 09 EPA issued this?  
 10 A. I believe this was issued by the EPA.  
 11 Q. Okay. Now, the monitoring and assessment  
 12 plan for subsurface and surface applications of  
 13 dispersants was broken down into three parts; is  
 14 that correct?  
 15 A. It was broken down into three parts. I  
 16 see a Part 1 and a Part 2 and a Part 3.  
 17 Q. Okay. And if you turn your attention just  
 18 to the first paragraph of the -- the directive,  
 19 Part 1 of the plan was data collection "to  
 20 determine if subsurface dispersant operation is  
 21 chemically dispersing the oil plume."  
 22 Correct?

Page 132:24 to 133:18

00132:24 A. The document says: "Part 1 of the plan is  
 25 a 'Proof of Concept' to determine if subsurface  
 00133:01 dispersant operation is chemically dispersing the  
 02 oil plume."  
 03 Q. (BY MS. PREHEIM) Okay. If we turn the  
 04 page on Page 2, "Part 1 - Proof of Concept - Data  
 05 Collection Requirements" lists a variety of data  
 06 collected under Part 1; is that true?  
 07 A. It is true.  
 08 Q. And that included -- that data collection  
 09 included fluorometry data?  
 10 A. Yes.  
 11 Q. And LISST particle analysis?  
 12 A. Yes.  
 13 Q. And dissolved oxygen?  
 14 A. Yep.  
 15 Q. And the RRT, EPA, and Unified Command, and  
 16 others analyzed these data to determine whether  
 17 the subsea injection of dispersant was effective

18 and should proceed; is that right?

Page 133:21 to 134:07

00133:21 A. I would have to read up above this to  
22 ensure that those were the entities that were to  
23 review it.  
24 Q. (BY MS. PREHEIM) Go ahead.  
25 A. It says here for Part 1 data will be  
00134:01 provided to the Coast Guard, the FOSC, the EPA  
02 regional response team within 24 hours.  
03 Q. Thank you.  
04 And so it was those entities and  
05 others who analyzed the data to determine whether  
06 subsea injection of dispersant was effective and  
07 should proceed, correct?

Page 134:10 to 135:05

00134:10 A. It -- it doesn't specifically say that  
11 those entities would be analyzing the data. Do  
12 you -- could you point me to the specific part of  
13 this document that says that?  
14 Q. (BY MS. PREHEIM) I'm looking at the  
15 purpose of Part 1 of the plan, "to determine if  
16 subsurface dispersant operation is chemically  
17 dispersing the oil plume."  
18 The data was provided to these  
19 entities, and the entities determined whether,  
20 based on that data, subsurface dispersant  
21 operation is chemically dispersing the plume; is  
22 that right?  
23 A. I do see that.  
24 Q. Thank you.  
25 Part 2 was the "Characterization  
00135:01 Plan"; is that right?  
02 A. That's what it says here, yes.  
03 Q. And it requires BP to collect -- BP to  
04 collect and report data on a daily basis to  
05 address the fate of the dispersed plume?

Page 135:07 to 135:09

00135:07 A. That paragraph, I do not see the word  
08 "fate" in Part 2.  
09 Q. (BY MS. PREHEIM) What does "fate" mean?

Page 135:11 to 135:22

00135:11 A. In a general sense, "fate" means the  
12 ultimate -- how can I phrase this? In a more  
13 general sense is to determine where something ends  
14 up.

15 Q. (BY MS. PREHEIM) Okay. And if you turn  
16 to the first paragraph on Page 1, it indeed says:  
17 "Part 2 of the plan involves robust sampling to  
18 detect and delineate the dispersed plume."

19 Is that right?

20 A. It does say that.

21 Q. And that's, in fact, what Part 2 was  
22 designed to do, correct?

Page 135:24 to 136:05

00135:24 A. Part 2 was designed to have "robust  
25 sampling to detect and delineate the dispersed  
00136:01 plume."

02 Q. (BY MS. PREHEIM) And Part 2 also was  
03 to -- was data collected to enable EPA to  
04 determine whether the dispersed plume was toxic to  
05 aquatic life; is that right?

Page 136:07 to 136:15

00136:07 A. Again, can you direct me to where you're  
08 reading.

09 Q. (BY MS. PREHEIM) Happy to. On Page 2,  
10 under Part 2, second paragraph?

11 A. Okay.

12 Q. Do you agree that Part 2 required the  
13 collection of data "to enable EPA to determine  
14 whether the dispersed plume is toxic to aquatic  
15 life"?

Page 136:17 to 137:06

00136:17 A. I'm going to reread your question to make  
18 sure I understand it. And now I will reread the  
19 document for your answer. The document says:  
20 "BP's monitoring plan should include a more  
21 thorough oil analysis, to enable the EPA to  
22 determine whether the dispersed plume is toxic to  
23 aquatic life."

24 Q. (BY MS. PREHEIM) And then there's a  
25 Part 3?

00137:01 A. Yes.

02 Q. You see this?

03 A. Uh-huh.

04 Q. Okay. The FOSC and EPA approved the  
05 monitoring plan described in the EPA's directive,  
06 correct?

Page 137:09 to 138:01

00137:09 A. The FOSC did approve the monitoring plan.

10 Q. (BY MS. PREHEIM) With EPA's concurrence?

11 A. To the best of my knowledge, yes.

12 Q. Okay. I want to talk through a few of  
13 these monitoring data and see -- see if you can  
14 help me understand them.

15 If you turn to Page 8 -- I'm sorry,  
16 Tab 8. Again, this is the "Science-Based Decision  
17 Making" paper that you coauthored. If you could  
18 turn to Page 9 of that paper, I'm looking in  
19 Section 1.5.2 midway down. It's -- you -- you  
20 write that: "Sampling was conducted in a radial  
21 pattern to initially confirm the existence and  
22 location of the subsurface plume resulting from  
23 dispersant application at depth."

24 So sampling was conducted in a radial  
25 pattern extending outward from the wellhead,  
00138:01 correct?

Page 138:04 to 138:17

00138:04 Q. (BY MS. PREHEIM) I'm asking whether  
05 that's, in fact, what was done.

06 Do you agree with that -- with that  
07 sentence?

08 A. There were a variety of patterns that were  
09 actually used. Some were radial. Some would --  
10 are considered a radiator grid pattern, and others  
11 were fixed stations that were determined ahead of  
12 time.

13 Q. The radial pattern that is being described  
14 here of sampling was conducted to initially  
15 confirm the existence and location of the  
16 subsurface plume resulting from the dispersant  
17 use?

Page 138:19 to 138:21

00138:19 A. The radial pattern that is referenced here  
20 was used on some vessels to locate the subsea  
21 plume of oil.

Page 139:03 to 139:22

00139:03 Q. (BY MS. PREHEIM) The monitoring of subsea  
04 dispersant application included fluorometric  
05 measurements to track the oil plume; is that  
06 right?

07 A. Correct.

08 Q. What is "fluorometry"?

09 A. Fluorometry is a measure of fluorescence.  
10 And would you like me to describe fluorescence  
11 or...

12 Q. Please.

13 A. Okay. Fluorescence is a -- a simplistic  
14 measurement. Light is shined onto an organic

15 compound. Organic compounds will absorb that  
 16 light, and depending on their chemistry, will emit  
 17 or give off light at a different wavelength, and  
 18 that is fluorescence.

19 Q. So it measures the emission of specific  
 20 wavelengths?

21 A. It measures the emission of light of  
 22 specific wavelengths.

Page 140:01 to 140:15

00140:01 Q. (BY MS. PREHEIM) From objects in the  
 02 water?

03 A. From chemical compounds in the water.

04 Q. Okay. If you -- what is a "CDOM  
 05 fluorometer," C-D-O-M?

06 A. A CDOM fluorometer stands for a colored  
 07 dissolved organic matter fluorometer.

08 Q. And the fluorometer is the instrument?

09 A. A fluorometer measures fluorescence.

10 Q. Okay. So was the fluo -- fluorometer on  
 11 these research cruises -- strike that.

12 Was the fluorometer on the monitoring  
 13 cruises lowered into the water from the surface  
 14 all the way to the seafloor, taking measurements  
 15 at various depth?

Page 140:17 to 140:20

00140:17 A. Not all cruises.

18 Q. (BY MS. PREHEIM) Some cruises?

19 A. Some cruises.

20 Q. According to the monitoring plan?

Page 140:22 to 148:21

00140:22 A. According to the monitoring plan that was  
 23 the directive we just looked at?

24 Q. (BY MS. PREHEIM) Uh-huh.

25 A. The monitoring plan asks for fluorescence  
 00141:01 to be measured.

02 Q. And my question is just how that happens.  
 03 So they lower the fluorometer from the surface all  
 04 the way down to the seafloor?

05 A. So there's more than one way to obtain  
 06 fluorescence measurements from a fluorometer. One  
 07 is on a vertical profiling package that takes an  
 08 instrument from the surface and deploys it through  
 09 the water column to some other depth, bottom or  
 10 otherwise.

11 The second way would be to tow a  
 12 fluorometer at a fixed depth. Both of those give  
 13 you in situ measurements.

14 The third way is to collect water

15 samples to be used in a fluorometer that's not in  
16 situ but an analytical fluorometer on a benchtop  
17 and obtain your measurement that way.

18 Q. Now, if you could turn to Tab 14. Again,  
19 these aren't numbered. So if you can -- let's  
20 see. Go to the slide that's titled "CDOM  
21 Fluorometer."

22 A. Yes.

23 Q. I want to understand the graph on this  
24 slide. I see the "Depth" in meters is reflected  
25 on the Y axis; is that correct?

00142:01 A. Correct.

02 Q. And "CDOM fluorescence" measurements are  
03 depicted along the X axis?

04 A. Correct.

05 Q. And the text to the left says that  
06 fluorescence -- "Vertical profile showing  
07 fluorescence peaks between 1100 and 1300  
08 meters" -- the "M" is meters?

09 A. Meters.

10 Q. -- "coincident with DO depression."  
11 Did I read that correctly?

12 A. You did.

13 Q. What does this signify?

14 A. So the figure here is showing what we call  
15 a vertical profile of a number of parameters, one  
16 being fluorescence. And it is showing that at  
17 approximately -- between 900 and 1300 meters,  
18 there is a large peak in the fluorescence  
19 intensity, and that is coincident at the same  
20 depth where there is a depression in the dissolved  
21 oxygen measurements.

22 Q. Okay. And the slide then says that  
23 observations "did not extend to the seafloor,  
24 indicating a plume of oil."

25 Did I read that correctly?

00143:01 Or "fluorescence" -- I'm sorry.  
02 "Fluorescence peaks did not extend to the  
03 seafloor, indicating a plume of oil"?

04 A. That's what it says.

05 Q. And so does this mean that the fluorometer  
06 did not detect oil in the water column extending  
07 all the way to the seafloor?

08 A. What that means, and that particular  
09 bullet was in reference to whether or not the  
10 fluorescence peaks, the high values that were  
11 observed in the deep ocean, went all the way to  
12 the seafloor or if it was in a -- a specific depth  
13 range, in this case, 900 to 1300 meters.

14 Q. So the data indicated a plume of oil  
15 suspended above the seafloor, if I understand you  
16 correctly?

17 A. Yes.

18 Q. If you could turn to -- well, flip the  
19 page. We'll see the -- the page that says:  
20 "Preliminary Conclusions from Spill Response CDOM



21 Fluorometry"?

22 A. Yes.

23 Q. Could you please read the first bullet

24 point?

25 A. The first bullet on that slide reads:

00144:01 "Fluorometry shows recurring anomaly at 1000 to

02 1300 meters."

03 Q. What does "recurring anomaly" refer to?

04 A. "Recurring anomaly" here refers to

05 vertical profiles repeatedly showed this

06 fluorescence peak anomaly at -- at that depth

07 range at various locations.

08 Q. And so this means that the fluorometry

09 data indicated a plume of dispersed oil at between

10 a thousand to 1300 meters depth?

11 A. Yes.

12 Q. The next bullet says: "Strongest near"

13 the "wellhead, decreases with distance."

14 Did I read that correctly?

15 A. It does.

16 Q. And this means that fluorescence emitted

17 by the subsurface plume of dispersed oil was

18 strongest near the wellhead?

19 A. When looking at the data, the monitoring

20 data, the highest anomalies, the highest

21 intensity, were found closer to the wellhead than

22 further away.

23 Q. And the amount of fluorescence decreased

24 further away from the wellhead?

25 A. The fluorescence intensity typically, on

00145:01 average, was lower away from the wellhead.

02 Q. Meaning that the concentration of

03 hydrocarbons was lower further away from the

04 wellhead?

05 A. Fluorescence is often used as a proxy of

06 concentration of organic material, in this case

07 hydrocarbons.

08 Q. And the -- the next bullet, can you read

09 that for me, please?

10 A. Yes. The second bullet says: "Trending

11 west-southwest to northeast direction consistent

12 with water movement along isobath."

13 Q. So your analysis was from the CDOM

14 fluorometer data that the subsurface plume trended

15 in the west-southwest to northeast of the wellhead

16 direction?

17 A. I will say that this bullet is not written

18 all that clearly. I will say that what this is

19 trying to say is that the direction the

20 fluorometry anomaly trended in the west-southwest

21 direction and also there was some in the northeast

22 direction.

23 Q. And the next bullet -- well, was it

24 primarily southwest, west-southwest?

25 A. More of the stations showed the anomaly in

00146:01 the west-southwest portion.

02 Q. And the next bullet, could you read that  
03 for me, please?

04 A. Yes. "Active natural seeps mapped  
05 approximately 12 kilometers southwest and 17"  
06 miles "northeast of the wellhead, which could  
07 contribute to the signal."

08 Q. So does this mean that the fluorometer  
09 could be detecting oil released by natural seeps  
10 rather than MC252 oil?

11 A. That was one of the concerns, but our  
12 analysis on the JAG led us to believe that this  
13 contribution would be small --

14 Q. And --

15 A. -- in a qualitative sense.

16 Q. Sorry.

17 Where is this analysis?

18 A. A lot of the analysis was -- if you turn  
19 back to the previous page.

20 Q. Uh-huh.

21 A. The second bullet that you had me read --  
22 or agree to, rather: "Fluorescence peaks did not  
23 extend to the seafloor, indicating a plume of  
24 oil."

25 Q. Uh-huh.

00147:01 A. If the vertical profiles didn't have a  
02 distinct peak between 900 and 1300 meters but  
03 rather had a peak that extended all the way to the  
04 seafloor with increasing concentration, that would  
05 be indicative of a release from the bottom of the  
06 seafloor with the seeps that would slowly decrease  
07 in concentration as you went up.

08 Since we didn't see that and it was a  
09 distinct layer and didn't continue all the way to  
10 the floor, the seafloor sediments or seeps were  
11 not believed to be a source of the oil or the  
12 fluorescence.

13 Q. But the Exhibit 12069, as we were just  
14 looking at, does acknowledge that seeps could  
15 contribute to the signal?

16 A. What that third bullet down is saying,  
17 that there were, in fact, seeps, and they could  
18 contribute to the signal, but what it's not saying  
19 is that we found that it did contribute to the  
20 signal.

21 Again, as per that analysis of where,  
22 if you will, what the shape and the -- call it  
23 shape -- but where the -- the peak fluorescence  
24 occurred in these vertical profiles.

25 Q. The -- and when did the -- the JAG reach  
00148:01 that analysis or make that analysis?

02 A. I would have to go back through my notes  
03 and E-mails for the JAG for that. But I will say  
04 by the time of this presentation, which was  
05 December of 2010, we had already ruled out that  
06 this plume shape would have been from seeps.

07 But on this bullet here, we want --

08 we wanted to be comprehensive in pointing out  
09 other sources, you know, that could, in fact,  
10 contribute to the signal.

11 Q. And, in fact, the next bullet says that:  
12 "Natural organic matter contributes to" fluor --  
13 the "fluorescence signal," correct?

14 A. Natural organic matter does fluorescence,  
15 correct.

16 Q. And so the fluorescence observed is not  
17 solely due to oil?

18 A. Yes.

19 Q. Fluorometry data doesn't discern the  
20 source that is contributing to the signal,  
21 correct?

Page 148:23 to 150:09

00148:23 A. Fluorometry data can be used to look at  
24 sources of the material. That's why they are  
25 tracking tools.

00149:01 Q. (BY MS. PREHEIM) But here, it is  
02 acknowledged that natural organic matter is -- is  
03 contributing to the fluorescence signal?

04 A. The JAG also did an exhaustive analysis on  
05 normalizing or removing the background natural  
06 fluorescence signal from that of oil. The  
07 profiles that are shown here are actually  
08 normalized.

09 Q. If you could turn -- well, I guess just  
10 look back up the page to the one --

11 A. Uh-huh. Yeah.

12 Q. -- the slide entitled "Chelsea" -- is it  
13 "Aquatrack-a"?

14 A. "Aquatrack-a."

15 Q. "Aquatrack-a"?

16 A. Yeah.

17 Q. Okay.

18 A. "Aquatrack-a."

19 Q. Does the Chelsea Aquatrack-a detect a  
20 fluorescence signal?

21 A. It does.

22 Q. So it's another method of detecting the  
23 presence of hydrocarbon concentrations?

24 A. It's the same method as the CDOM  
25 fluorometer with a different configuration.

00150:01 Q. And the bullet to the right at the top  
02 says that: "By the end of August more sensitive  
03 instruments were needed."

04 Did I read that correctly?

05 A. You did.

06 Q. More sensitive instruments were needed  
07 because, by the end of August 2010, the amount of  
08 hydrocarbon concentrations had decreased below  
09 levels that other instruments could detect?

Page 150:11 to 150:19

00150:11       A. After the capping of -- of the well and  
12 when the release was no longer occurring, we  
13 needed -- "we" being the monitoring groups --  
14 needed to have tools that were -- that exhibited  
15 lower detection limits for looking for the  
16 hydrocarbons in the water.  
17       Q. (BY MS. PREHEIM) And that is because the  
18 concentration -- hydrocarbon concentration levels  
19 were lower by that time?

Page 150:21 to 151:08

00150:21       A. I can't say in all samples without  
22 looking, you know, date, time, and location from  
23 the wellhead. But further in distance from the  
24 wellhead as the response continued, we had lower  
25 concentrations further away.  
00151:01       Q. (BY MS. PREHEIM) And enough samples that  
02 required more sensitive instruments as your slide  
03 indicates?  
04       A. There was more than one sample with a low  
05 concentration, so, yeah.  
06       Q. And, again, the number of samples with  
07 lower concentrations required deploying more  
08 sensor -- sensitive instruments, correct?

Page 151:10 to 151:14

00151:10       A. The JAG, as well as the monitoring  
11 vessels, wanted to ensure that detection limits  
12 weren't going to be an issue, so they deployed  
13 these sensitive or allegedly more sensitive  
14 instruments.

Page 151:19 to 152:02

00151:19       Q. (BY MS. PREHEIM) Dr. Conmy, what are  
20 "natural seeps"?  
21       A. Natural seeps in the Gulf of Mexico are  
22 structures like salt domes and things that  
23 release -- naturally release oil and gases into  
24 the water.  
25       Q. And microbial degradation of oil has been  
00152:01 observed in natural seep communities in the -- the  
02 deep Gulf of Mexico, correct?

Page 152:04 to 152:15

00152:04       A. The degradation of oil by microbes has  
05 been documented from cultures, from deep waters,  
06 and shallow waters.

07 Q. (BY MS. PREHEIM) In the Gulf of Mexico?  
08 A. In the Gulf of Mexico.  
09 Q. If -- let's see. The Joint Analysis Group  
10 reported in 2010 that active natural seeps were  
11 recently mapped in the area around the wellhead;  
12 is that correct?  
13 A. Not having the specific document in front  
14 of me, can I --  
15 Q. If you can turn to Tab 34.

Page 152:19 to 155:10

00152:19 MS. PREHEIM: Yes. Thank you. Let's  
20 mark this as Exhibit 12071.  
21 Q. (BY MS. PREHEIM) And if you turn to  
22 Page 3, you -- first of all, you recognize this  
23 document?  
24 A. I do.  
25 Q. What is this document?  
00153:01 A. This is one of a series of NOAA technical  
02 reports that were the -- the JAG review of  
03 preliminary data.  
04 Q. Okay. And so on Page 3, the fifth bullet  
05 down, can you read that bullet for me, please?  
06 A. Yes. Page 3, fifth bullet reads: "Active  
07 natural seeps have recently been mapped about 12  
08 kilometers southwest of the wellhead and about 17  
09 kilometers to the northeast of the wellhead," and  
10 it refers to Figure 46.  
11 Q. Okay. So if you could turn to Figure 46,  
12 and I think you can find that at Page 52 of this  
13 exhibit, this Figure 46 depicts several natural  
14 seeps in pink; is that correct?  
15 A. Yes.  
16 Q. And how many seeps does it depict  
17 approximately?  
18 A. It's approximately nine, given the  
19 graininess of the image.  
20 Q. Okay. Could be more?  
21 A. Yeah. But it's roughly nine.  
22 Q. And these are located southwest of the  
23 wellhead?  
24 A. From this figure, the bulk of them are to  
25 the southwest; but there are approximately two  
00154:01 located to the northeast.  
02 Q. Okay. If you -- and these -- these were  
03 active natural seeps near the wellhead at the time  
04 of the spill, correct?  
05 A. According to the bullet, its active  
06 natural seeps have been mapped; but it doesn't say  
07 exactly the time of the wellhead. But you might  
08 infer that.  
09 Q. If you could turn to Page 1 of this report  
10 at the very top under "Background."  
11 A. Yep.

12 Q. You see that the report presents data from  
13 stations collected by and then it lists a number  
14 of vessels, if I'm reading this correctly?

15 A. Yes. It lists -- five.

16 Q. And I want to draw your attention to the  
17 vessels the THOMAS JEFFERSON and the GORDON  
18 GUNTER?

19 A. Yes.

20 Q. Okay. If you can then turn to Page 2.  
21 And at the very bottom of this page, it says:  
22 "Finally, Figure 46 is a perspective view of data  
23 shown in Figure 45 with the locations of natural  
24 seeps that were acoustically mapped by the R/V  
25 GORDON GUNTER and R/V THOMAS JEFFERSON."

00155:01 Do you see that?

02 A. I do.

03 Q. So you would agree that the active natural  
04 seeps depicted in Figure 46 were active near the  
05 wellhead at the time of the spill?

06 A. Yes.

07 Q. And these seeps were, in fact, mapped  
08 during the response, correct?

09 A. If they were mapped on the R/V GORDON  
10 GUNTER and the THOMAS JEFFERSON, then, yes.

Page 156:15 to 156:18

00156:15 Q. Okay. And so from the perspective of  
16 mitigating impacts of oil, what, again, are the  
17 benefits of smaller droplets?

18 A. So --

Page 156:20 to 156:25

00156:20 A. -- speaking only about the benefits, maybe  
21 of smaller droplets -- well -- or let's say the  
22 occurrence of smaller droplets is -- allows  
23 microbes to degrade the oil more readily.

24 Q. (BY MS. PREHEIM) Okay. And the droplets  
25 are less likely to coalesce?

Page 157:02 to 157:07

00157:02 A. The surfactants present in dispersants are  
03 to aid or actually are there to deter  
04 recoalescence of oil droplets.

05 Q. (BY MS. PREHEIM) Okay. If we turn back  
06 to your paper at Tab 8, this is, again,  
07 Exhibit 12041. If you -- I could draw your

Page 158:13 to 158:21

00158:13 Q. And if you turn to Page 6 of your paper,

14 at the top of the page, with respect to the  
 15 subsurface dispersant monitoring during the  
 16 response, the LISST measurements of the dispersed  
 17 oil plume at 1100 to 1300 meters "below the  
 18 surface showed that most of the plume consisted of  
 19 particle sizes ranging from 2.5 to 70 micrometers  
 20 in diameter."  
 21 Is that right?

Page 158:23 to 159:10

00158:23 A. As per what's stated here, which was based  
 24 on JAG analysis of the monitoring data, the  
 25 particle sizes predominantly range between 2.5 and  
 00159:01 70 microns --  
 02 Q. (BY MS. PREHEIM) Microns.  
 03 A. -- or micrometer -- you can say  
 04 either/or --  
 05 Q. Okay.  
 06 A. -- in diameter.  
 07 Q. So the data from the subsurface monitoring  
 08 indicates that subsea dispersant application  
 09 during the response was effective in chemically  
 10 dispersing oil at the source; is that correct?

Page 159:12 to 160:05

00159:12 A. The size of the droplets that were  
 13 measured inferred that they resulted from both  
 14 natural dispersion and chemical dispersion.  
 15 Q. (BY MS. PREHEIM) Well, actually, can you  
 16 please read the last sentence immediately above  
 17 Section 1.4 begin -- beginning with "Although it  
 18 is plausible"?  
 19 A. Yes. It reads: "Although it is plausible  
 20 that the extreme turbulence of the oil as it  
 21 exited the well may have caused extensive physical  
 22 dispersion without the need for chemical  
 23 dispersant use, review of the reported data and  
 24 information in the literature leads us to  
 25 determine that it is less likely and that the  
 00160:01 application of dispersants in the deep sea was  
 02 successful in dispersing the oil at the source."  
 03 Q. So the data indicates that the subsea  
 04 application of dispersants during the response was  
 05 successful?

Page 160:07 to 160:08

00160:07 A. The data do indicate that chemical  
 08 dispersion occurred.

Page 161:02 to 161:07

00161:02 Q. Okay. Thank you for that clarification.  
03 Now, the extensive monitoring of  
04 subsea dispersant application during the response  
05 included monitoring dissolved oxygen levels; is  
06 that right?  
07 A. The --

Page 161:09 to 161:25

00161:09 A. -- monitoring program did involve  
10 monitoring for dissolved oxygen.  
11 Q. (BY MS. PREHEIM) And is dissolved oxygen  
12 sometimes referred to as DO or DO2 in reports?  
13 A. It is.  
14 Q. Okay. Throughout the full scale  
15 dispersant operation, dissolved oxygen was  
16 measured on a daily basis?  
17 A. Beginning with May 8th, dissolved oxygen  
18 measurements were taken.  
19 Q. On a daily basis?  
20 A. On a near daily base -- there were some  
21 days no boats were out due to weather conditions.  
22 Q. Okay. But otherwise on a daily basis?  
23 A. Yeah.  
24 Q. Dissolved oxygen was monitored to ensure  
25 that hypoxia was not taking place; is that right?

Page 162:02 to 162:16

00162:02 A. Dissolved oxygen -- oxygen measurements  
03 were taken to determine if there were any regions,  
04 given the samples collected, that hypoxia would  
05 occur.  
06 Q. (BY MS. PREHEIM) What is "hypoxia"?  
07 A. Hypoxia is a -- a level of dissolved  
08 oxygen concentration that is set at 2 milligrams  
09 per liter, below which can cause death to aquatic  
10 life.  
11 Q. Because oxygen is required for most marine  
12 life or aquatic life to survive via respiration?  
13 A. Yes.  
14 Q. So monitoring of dissolved oxygen during  
15 the response was conducted to protect against  
16 adverse impacts to organisms in the water column?

Page 162:18 to 162:22

00162:18 A. Dissolved oxygen was measured to ensure  
19 that there was enough oxygen in the water column  
20 to sustain aquatic life that requires oxygen.  
21 Q. (BY MS. PREHEIM) Which is a -- a means of  
22 protecting aquatic life?



Page 162:24 to 163:01

00162:24 A. One might say that.  
25 Q. (BY MS. PREHEIM) Would you say that?  
00163:01 A. Yeah.

Page 163:03 to 163:04

00163:03 Dissolved oxygen concentrations never  
04 approached hypoxic levels; is that right?

Page 163:06 to 164:18

00163:06 A. There were a variety of hypoxia  
07 measurements or dissolved oxygen measurements that  
08 were taken; but there were, in fact, some of the  
09 samples showed that they were below the 2  
10 milligrams per liter.  
11 It also can be shown as the level in  
12 milliliters per liter; and that's a 1.4. And so  
13 there were, in fact, some stations and samples  
14 that showed that it was below hypoxia.  
15 Q. (BY MS. PREHEIM) Can I turn -- have you  
16 turn to Tab 14, please. This, again, is the JAG  
17 PowerPoint at Exhibit 12069. And if you can turn  
18 to roughly the ninth page, it says "Deep Dissolved  
19 Oxygen Minimum: Time Evolution"?  
20 A. Yes.  
21 Q. At the very bottom, it says: "...at no  
22 time or location did measured deep dissolved  
23 oxygen approach hypoxic levels."  
24 Did I read that correctly?  
25 A. It does say that here.  
00164:01 Q. And is this accurate?  
02 A. So to clarify, there is two categories.  
03 When the JAG was looking at the values for oxygen,  
04 there were ones that were called "small scale" and  
05 ones that were called "large scale."  
06 So if you had a -- a large number of  
07 samples that are taken and a small fraction of  
08 those showed that there were near hypoxic or  
09 hypoxic levels, but that was a small fraction of  
10 all the samples taken, that you could say on a  
11 larger scale, hypoxia wasn't reached, even if you  
12 had a small number of samples that showed hypoxic  
13 levels.  
14 Q. And so the JAG concluded that, on a large  
15 scale, no hypoxia had taken place?  
16 A. Correct, on a large scale.  
17 Q. Has any work been done to measure the  
18 extent on a small scale --

Page 164:20 to 165:03

00164:20 Q. (BY MS. PREHEIM) -- of hypoxia?  
21 A. I can't answer that. It wasn't as part of  
22 that -- the monitoring plan. Given the station  
23 that we sampled and the data that was at hand --  
24 which there are gaps in that data, you can't  
25 sample every square inch of the ocean -- from the  
00165:01 samples that were there, large scale, hypoxia was  
02 not reached. It doesn't mean that there weren't  
03 hypoxic portions of the water column.

Page 165:06 to 165:08

00165:06 Q. -- as we discussed earlier, the sampling  
07 that was conducted during the response was  
08 extensive, correct?

Page 165:10 to 166:10

00165:10 A. So in reference to that definition,  
11 although there were a large number of samples, we  
12 did not sample every part of where the plume may  
13 have been.  
14 Q. (BY MS. PREHEIM) Okay. And if you can  
15 turn back to Tab 17, please. If you can turn --  
16 this is, again, the EPA directive on dispersant  
17 monitoring and assessment. And if you can turn to  
18 Page 3 and let me point you to the heading:  
19 "Evaluation Criteria to Determine Operational  
20 Shut-Down of Subsurface Sea Dispersant  
21 Application."  
22 Do you see where I am?  
23 A. I do.  
24 Q. And it identifies two criteria, does it  
25 not?  
00166:01 A. It identifies two conditions.  
02 Q. The first is: "If there is a significant  
03 reduction in DO from background to below 2  
04 milligrams per liter"?  
05 A. Yes.  
06 Q. So in the EPA's May 10, 2010, directive,  
07 one of the criteria to determine whether  
08 subsurface dispersant operations should be  
09 shutdown was whether dissolved oxygen levels fell  
10 below 2 milligrams per liter, correct?

Page 166:12 to 166:20

00166:12 A. The condition reported here is that --  
13 yeah, that there would be -- if there was a  
14 significant reduction in DO from the background to  
15 below 2 milligrams per liter, then, yes.  
16 Q. (BY MS. PREHEIM) And did the FOSC ever  
17 order that subsurface dispersant operations be  
18 shutdown due to a significant reduction in

19 dissolved oxygen?  
20 A. No.

Page 167:06 to 167:09

00167:06 Q. (BY MS. PREHEIM) Thanks for coming back,  
07 Dr. Conmy.  
08 If I could have you turn in your  
09 binder to Tab 35, please.

Page 167:11 to 168:11

00167:11 Q. (BY MS. PREHEIM) And we'll mark this as  
12 Exhibit 12072, please.  
13 Are you familiar with this document,  
14 Dr. Conmy?  
15 A. I am.  
16 Q. And what is it?  
17 A. This is the NOAA Technical Report No. 24,  
18 which is the JAG's "Review of the R/V BROOKS  
19 MCCALL Data."  
20 Q. "To Examine Subsurface Oil"?  
21 A. "To Examine Subsurface Oil."  
22 Q. Okay. If you turn to -- well, the first  
23 page of the report after the table of contents,  
24 there's a date in the lower right-hand corner?  
25 A. Yes.  
00168:01 Q. What is that date?  
02 A. June 11th, 2010.  
03 Q. And that's the -- the date that this  
04 report was prepared?  
05 A. I believe so.  
06 Q. And if you look up at the "Background"  
07 section, it says: "This report considers data  
08 collected by the R/V BROOKS MCCALL near the site  
09 of the DEEPWATER HORIZON MC252 between May 8 and  
10 May 25, 2010"?  
11 A. It does.

Page 168:13 to 168:15

00168:13 This report was then reissued,  
14 correct?  
15 A. Yes.

Page 168:17 to 169:15

00168:17 A. Oh, so if you look at the very first  
18 page --  
19 Q. (BY MS. PREHEIM) Uh-huh.  
20 A. -- it says June 11, 2011.  
21 Q. And if you look at the "Foreword" --  
22 A. Yes.

23 Q. -- above the signature, am I understanding  
 24 correctly that: "This report is presented in its  
 25 original form" as of June 11, 2010, "with the  
 00169:01 exception of minor editorial changes and  
 02 formatting"?  
 03 A. Where does it --  
 04 Q. Above the signature, it says: "This  
 05 Technical Report contains the first periodic  
 06 report released by the JAG."  
 07 A. Uh-huh.  
 08 Q. And I just want to confirm my  
 09 understanding that: "The report is presented in  
 10 its original form" as of the June 11, 2010, date,  
 11 "with the exception of minor editorial changes and  
 12 formatting"?  
 13 A. That's what the "Foreword" suggests, yes.  
 14 Q. And that's your understanding, too?  
 15 A. Yes.

Page 169:17 to 170:12

00169:17 Can you turn to Tab 34, please. And  
 18 this I think we looked at earlier, Exhibit 12071?  
 19 A. Correct.  
 20 Q. And this is the JAG Technical Report  
 21 No. 25, the "Review of Preliminary Data to Examine  
 22 Subsurface Oil in the Vicinity of" MC251 "No. 1"?  
 23 A. "MC252 No. 1."  
 24 Q. Thank you.  
 25 If you, again, turn to the first page  
 00170:01 of the report, Page 1, and, again, there's a date  
 02 at the bottom right-hand corner?  
 03 A. Uh-huh.  
 04 Q. What is the date that's reflected?  
 05 A. July 20, 2010.  
 06 Q. And that's the date this report was  
 07 prepared?  
 08 A. Yes.  
 09 Q. And under the "Background," the report  
 10 presents preliminary -- preliminary data collected  
 11 from May 9 to June 19, 2010; is that correct?  
 12 A. From May 19th to June 19, 2010, yes.

Page 170:14 to 170:16

00170:14 And I think we have to move to your  
 15 previous binder for Tab 16, please. And we'll  
 16 mark this as Exhibit 12073.

Page 170:18 to 171:09

00170:18 Q. (BY MS. PREHEIM) Dr. Conmy, do you  
 19 recognize this document?  
 20 A. I do.

21 Q. And what is this document?

22 A. This is the NOAA Technical Report No. 26,  
23 which is the review of the preliminary data to  
24 examine oxygen levels in the vicinity of the MC252  
25 No. 1.

00171:01 Q. And, again, if you turn to the first page  
02 of the report --

03 A. Sorry.

04 Q. -- what is the date in the lower  
05 right-hand corner?

06 A. August 16, 2010.

07 Q. And this reflects data that were collected  
08 from a -- May 8 to August 9, 2010?

09 A. That is correct.

Page 171:12 to 171:14

00171:12 Before the break, Dr. Conmy, you  
13 mentioned "small scale hypoxia." Is small scale  
14 hypoxia limited in time?

Page 171:16 to 171:23

00171:16 A. In the context that it was referred to  
17 with the JAG analysis, "small scale" meant small  
18 number of samples.

19 Q. (BY MS. PREHEIM) And other than in -- as  
20 reflected in the JAG reports that we just looked  
21 at, are there -- is there any other evidence of  
22 small scale hypoxia from the subsurface monitoring  
23 that was done during the response?

Page 171:25 to 172:08

00171:25 A. The only dissolved oxygen results that I  
00172:01 reviewed or was privy to were those collected  
02 through the JAG, through the monitoring efforts,  
03 and then were reviewed in the JAG. So to my  
04 knowledge, those are the ones I know about.

05 Q. (BY MS. PREHEIM) So to your knowledge,  
06 there is no evidence of small scale hypoxia other  
07 than what is reflected in the JAG reports?

08 A. Of the samples collected, yeah.

Page 172:10 to 172:21

00172:10 Can you please turn to Tab 25 in your  
11 binder, Dr. Conmy? Do you recognize this  
12 document? It's Exhibit 12058.

13 A. This document is a research article by  
14 Alice Ortmann, et al.

15 Q. And when was it published?

16 A. This was published July 2012.

17 Q. You're familiar with this article?  
 18 A. I have heard of this article, but I would  
 19 need to read the contents to know if I'm familiar  
 20 with their findings.  
 21 Q. Why don't we turn to Tab 21 in your

Page 172:24 to 174:02

00172:24 Q. (BY MS. PREHEIM) And we'll mark this as  
 25 Exhibit 12074.  
 00173:01 Are you familiar with this document,  
 02 Dr. Conmy?  
 03 A. It appears to be an E-mail sent from  
 04 myself to Al Venosa.  
 05 Q. Dated August 6, 2012?  
 06 A. Correct.  
 07 Q. And it forwards an E-mail chain among you  
 08 and some of your EPA colleagues regarding the  
 09 Ortman article that we just saw at Tab 25; is  
 10 that right?  
 11 A. I'm reviewing for context. It appears to  
 12 be true.  
 13 Q. Okay. What were the circumstances in  
 14 which the article was brought to your attention?  
 15 A. I have not looked at this E-mail thread  
 16 nor the article since this time. Can I take a  
 17 moment to read the thread?  
 18 Q. Of course.  
 19 A. Thank you.  
 20 So in reviewing this thread, it seems  
 21 as though the exchanges with myself and EPA  
 22 colleagues were to discuss the findings of the  
 23 Ortman paper and the relevance to the DEEPWATER  
 24 HORIZON spill.  
 25 Q. It was brought to your attention because  
 00174:01 this article garnered some media attention in the  
 02 New Orleans press?

Page 174:05 to 174:13

00174:05 A. The initial thread to Rick Bennett and  
 06 Mace Barron says that the article was in the New  
 07 Orleans press or was featured.  
 08 Q. (BY MS. PREHEIM) Okay. And the Ortman  
 09 paper was a mesocosm experiment carried out to  
 10 determine how the microbial community off the  
 11 coast of Alabama may have responded to the influx  
 12 of surface oil and dispersants.  
 13 Do you recall that?

Page 174:16 to 174:22

00174:16 A. It sounds familiar, but I'd like to just  
 17 look at the abstract again.

18 Q. (BY MS. PREHEIM) Of course.  
 19 A. That's correct.  
 20 Q. Okay. Now, you provided your assessment  
 21 of this paper to your colleague Dr. Venosa in  
 22 Tab 21; is that right?

Page 174:25 to 175:12

00174:25 A. Yes. To A1 through this thread, there  
 00175:01 were the comments from other GED staff, which had  
 02 a lot more experience with mesocosms.  
 03 Q. Uh-huh.  
 04 A. But, yes, collectively we sent on our  
 05 opinions of the paper.  
 06 Q. Including your opinions?  
 07 A. Including my opinion.  
 08 Q. And you mentioned your "GED" colleagues,  
 09 Dr. Conmy?  
 10 A. I'm sorry.  
 11 Q. What is "GED"?  
 12 A. Sorry. Gulf Ecology Division.

Page 175:14 to 175:17

00175:14 You identified for Dr. Venosa a  
 15 number of issues that you had with this  
 16 experimental design of the published study; is  
 17 that right?

Page 175:19 to 175:23

00175:19 A. In my E-mail to Dr. Venosa, there are  
 20 three -- no, excuse me, five concerns that are  
 21 listed here.  
 22 Q. (BY MS. PREHEIM) What is the first  
 23 concern that you identified?

Page 175:25 to 176:16

00175:25 A. The first concern is that: "The  
 00176:01 concentration of oil used" -- it -- it should  
 02 have -- "in the replicates is ridiculously high  
 03 (500 to 1,000 ppm). This is hard to compare with  
 04 a real world scenario of the DEEPWATER HORIZON  
 05 spill. The authors do mention that this is a  
 06 static dose and is not akin to what organisms may  
 07 encounter in the real world, but they neglect to  
 08 mention the high concentrations being  
 09 unrealistic."  
 10 Q. So based on your knowledge of the data  
 11 from the DEEPWATER HORIZON spill, the oil  
 12 concentrations used in the Ortmann laboratory  
 13 study concentrations were ridiculously higher than

14 the concentrations that organisms might have  
 15 encountered in the field. Is -- am I reading  
 16 your --

Page 176:18 to 176:18

00176:18 Q. (BY MS. PREHEIM) -- comment correctly?

Page 176:20 to 177:11

00176:20 A. At the time of this E-mail, which was  
 21 August 2012, the chemistry analysis was not con --  
 22 considered complete, so this was based on only the  
 23 initial data that had come through the JAG.  
 24 Q. (BY MS. PREHEIM) I'm not sure I  
 25 understand your comment.  
 00177:01 A. So all of the samples and, therefore, the  
 02 concentration range of samples from the spill,  
 03 speaking about hydrocarbon concentration, the  
 04 analyses weren't all complete.  
 05 So I was just pointing out that at  
 06 the time of August 12th, we had not had all the  
 07 results from the DEEPWATER HORIZON spill in. But  
 08 of the samples that we had looked at, this  
 09 concentration in the Ortmann paper was much higher  
 10 than those observed in the subsea plume.  
 11 Q. And ridiculously higher?

Page 177:13 to 177:24

00177:13 A. That's what I stated in the E-mail.  
 14 Q. (BY MS. PREHEIM) Yes.  
 15 Is the chemistry analysis complete  
 16 now?  
 17 A. For the samples collected during the  
 18 response from all the vessels, to my knowledge,  
 19 they -- it's complete, and QA has been done, and I  
 20 don't know of any ongoing QA updates that are  
 21 happening.  
 22 Q. Okay. And does -- do the results of that  
 23 completed analysis change the -- your view of --  
 24 of the concentration of oil used in the study?

Page 178:01 to 178:11

00178:01 A. I wouldn't necessarily change that  
 02 statement.  
 03 Q. (BY MS. PREHEIM) Can you please read your  
 04 second concern as reflected in your E-mail in  
 05 Tab 21?  
 06 A. Yes. No. 2 states that: "The oil used  
 07 was not weathered. If the concern is about  
 08 surface organisms, then weathered oil should have



09 been used."  
 10 Q. Why did you think that weathered oil  
 11 should have been used?

Page 178:13 to 178:22

00178:13 A. During the DEEPWATER HORIZON spill, oil  
 14 making it to the surface where surface organisms  
 15 would reside would have been weathered in some way  
 16 physically, not biologically weathered, from just  
 17 the movement of the droplets to the surface. Once  
 18 it's at the surface, sunlight can interact with  
 19 the oil droplets, thereby increasing the  
 20 weathering and changing the chemistry.  
 21 Q. (BY MS. PREHEIM) And what's the  
 22 significance of that change in chemistry?

Page 178:24 to 179:04

00178:24 A. Fresh oil, when it is unweathered, is  
 25 believed to be more toxic to certain species than  
 00179:01 if it's been weathered.  
 02 Q. (BY MS. PREHEIM) Okay. Can you please  
 03 read your third concern from Exhibit 12074?  
 04 A. Yes.

Page 179:06 to 179:13

00179:06 A. "Three: Along those lines, they used  
 07 coastal biota for this experiment, not offshore  
 08 organisms, so to be representative of dispersed  
 09 oil that would have made it" to "Alabama's  
 10 coast" -- well, "that would have made it" to  
 11 "Alabama's coast, it needed to be very weathered."  
 12 Q. (BY MS. PREHEIM) And can you explain what  
 13 you meant by that concern?

Page 179:16 to 180:05

00179:16 A. If you follow the logic that oil would  
 17 have weathered as it went from the deep sea to the  
 18 surface ocean and was then advected horizontally  
 19 from approximately 80 kilometers offshore to an  
 20 inland environment or to a nearshore water or near  
 21 coastal environment, there would have been extra  
 22 days of weathering at the surface that it would  
 23 have had to traverse.  
 24 Q. (BY MS. PREHEIM) Thank you.  
 25 One point of clarification. Can you  
 00180:01 explain the meaning of the word "advection"?  
 02 A. Advection, to move.  
 03 Q. Thank you.  
 04 Can you please read your fourth

05 concern in Exhibit 12074?

Page 180:07 to 181:06

00180:07 A. The fourth concern: "There is no mention  
08 in how they made the chemically dispersed oil.  
09 Was it swirled in a flask for 30 seconds or was it  
10 properly dispersed?"  
11 Q. (BY MS. PREHEIM) And what do you mean by  
12 "properly dispersed" here?  
13 A. According to the NCP plan for a product to  
14 be listed on the schedule, there needs to be  
15 guidance on the preparation of your dispersant oil  
16 mixture. And there is a swirling flask test that  
17 is used, but there are time constraints and mixing  
18 speeds that need to be used for the swirling  
19 flask.  
20 Q. And, I guess, what is the import of the  
21 chemically dispersed oil having been properly  
22 dispersed?  
23 A. Dispersion effectiveness is directly  
24 related to your mixing speed or energy and the  
25 time that the oil and water mixture were exposed  
00181:01 to that energy. I was simply stating that this  
02 Ortmann paper did not clearly say what their  
03 methods were.  
04 Q. Understood. Thank you.  
05 Can you please read your fifth  
06 concern?

Page 181:08 to 181:15

00181:08 A. The fifth concern is that: "The mesocosms  
09 had no filtered sunlight." With DOSS and dis --  
10 "both DOSS and dispersed oil photodegrade,  
11 particularly in summer months in Alabama in  
12 surface waters."  
13 Would you like me to continue?  
14 Q. (BY MS. PREHEIM) The la -- yeah, one more  
15 sentence, please.

Page 181:17 to 182:13

00181:17 A. "This pathway" would "grossly impact the  
18 uptake rates and make these results less plausible  
19 in the environment."  
20 Q. (BY MS. PREHEIM) Let me stop you there  
21 and see if we can break this down.  
22 What is "DOSS," D-O-S-S?  
23 A. "DOSS" represents the chemical marker that  
24 was used to find or determine if there were any  
25 residual components of the surfactants left in the  
00182:01 water from Corexit.  
02 Q. And what do you mean by "photodegrade"?

03 A. All organic compounds interact with  
04 sunlight, whether it's absorbed or whether it's  
05 then fluoresced. Sunlight degrades organic  
06 materials. It breaks bounds. It breaks apart  
07 rings and causes a photo weathering of that  
08 material. So when I say "photodegrade," you can  
09 think of it as photo weathering.  
10 Q. (BY MS. PREHEIM) Okay. That's helpful.  
11 Thank you.  
12 And so sunlight will degrade or photo  
13 weather the dispersant compound of DOSS?

Page 182:15 to 183:01

00182:15 A. Sunlight will degrade dispersed oil or  
16 nondispersed oil, too. And DOSS -- and I -- I  
17 don't have the chemical structure of DOSS in front  
18 of me; but at the time that I wrote this, I may  
19 have known that there were double bonds and rings  
20 inside of it that would, of course, have a  
21 reaction with sunlight.  
22 Q. (BY MS. PREHEIM) And it would be  
23 photodegraded?  
24 A. And could degrade.  
25 Q. Okay. And the Ortmann study didn't take  
00183:01 this photodegradation into account; is that right?

Page 183:03 to 183:06

00183:03 A. They did not.  
04 Q. (BY MS. PREHEIM) What do you mean when  
05 you wrote that: "The pathway could grossly impact  
06 to the uptake rates"?

Page 183:09 to 183:22

00183:09 determines its biogeochemical process or cycling.  
10 So if you have a fresh oil, it might be -- respire  
11 differently than a more weathered oil, which is  
12 not as palpable for food source for microbes.  
13 So I was merely just stating that by  
14 not -- not conducting their experiments, taking  
15 this into consideration, perhaps some of their  
16 conclusions wouldn't be as appropriate to a real  
17 world environment such as summer months in the  
18 northern Gulf of Mexico.  
19 Q. (BY MS. PREHEIM) So if I'm understanding  
20 you correctly, the failure to take into account  
21 the photodegradation made the results of the  
22 Ortmann study less realistic?

Page 183:24 to 184:11

00183:24 A. Their findings were realistic for mesocosm  
 25 experiment. How you can apply that to a real  
 00184:01 world setting, it -- it might not have -- it might  
 02 not have been as realistic for that physical  
 03 environment.  
 04 Q. (BY MS. PREHEIM) Now, you raise in your  
 05 E-mail additional concerns about the zooplankton  
 06 sampling and the row -- role of inhibiting -- is  
 07 it ciliates?  
 08 A. Ciliates.  
 09 Q. Can you please explain -- if I -- if I  
 10 read that correctly, let me get your confirmation  
 11 that I'm summarizing your next concern correctly.

Page 184:13 to 184:21

00184:13 A. I would like to read that next section.  
 14 Q. (BY MS. PREHEIM) Please.  
 15 A. Okay. Okay. So based on this section of  
 16 the E-mail, I was pointing out some concerns about  
 17 the way they did their -- their numbers, their --  
 18 their biological community numbers in their  
 19 experiment.  
 20 Q. And you note the study's failure to  
 21 parameterize grazers; is that right?

Page 184:23 to 185:05

00184:23 A. I have to go back through specifically how  
 24 they phrase it; but that sounds familiar, that  
 25 they were talking about the grazing.  
 00185:01 Q. (BY MS. PREHEIM) And you note that  
 02 that -- the study's failure -- failure to  
 03 parameterize the grazers or the zooplankton  
 04 undermines the significance of the results,  
 05 correct?

Page 185:07 to 185:14

00185:07 A. I wouldn't phrase it as a -- a failure.  
 08 Again, with every sampling, there's limitations;  
 09 and so this was just -- I never used the word  
 10 "failure" in here.  
 11 Q. (BY MS. PREHEIM) So the -- their lack of  
 12 effort to parameterize the grazers undermines the  
 13 significance of the results; is that correct?  
 14 A. Yes.

Page 185:24 to 186:08

00185:24 Q. Thank you.  
 25 In addition to the six criticisms you  
 00186:01 identify, Dr. Conmy, you write that you "also

02 agree with John and Mike that even if these  
03 effects could represent the real world spill, the  
04 volume of the Gulf impacted with high  
05 concentrations of dispersant is small relative to  
06 the unimpacted volume and the ciliate carbon  
07 transfer would remain intact."

08 Did I read that correctly?

Page 186:10 to 186:12

00186:10 A. You read that sentence correctly.  
11 Q. (BY MS. PREHEIM) And what did you mean by  
12 this?

Page 186:14 to 187:03

00186:14 A. There had been discussions with my GED,  
15 Gulf Ecology Division, collaborators on the volume  
16 of the Gulf as a whole that would be impacted by  
17 the spill --  
18 Q. (BY MS. PREHEIM) Uh-huh.  
19 A. -- in terms of volume of water, not  
20 measuring what impacts in any one patch of water,  
21 but just volume as a whole and considering how  
22 many ciliates and how many grazers and zooplankton  
23 there would be over the whole Gulf of Mexico. If  
24 you were to take that on average, that that impact  
25 might be small.  
00187:01 Q. And, in fact, you said that "the high  
02 concentrations of dispersant is small relative to  
03 the unimpacted volume," correct?

Page 187:05 to 187:15

00187:05 A. Where was --  
06 Q. (BY MS. PREHEIM) Just rereading the last  
07 sentence in your E-mail.  
08 A. Yes.  
09 Q. Okay. Now, you -- you write in your  
10 E-mail that you agree with John. Is the "John"  
11 that your E-mail references John Lehrter?  
12 A. "Lehrter."  
13 Q. "Lehrter," thank you.  
14 And what is his position? Is he a  
15 GED water quality expert?

Page 187:17 to 187:21

00187:17 A. John Lehrter is a GED research ecologist,  
18 and he conducts hypoxia and water quality  
19 research.  
20 Q. (BY MS. PREHEIM) And his comments are  
21 reflected in this E-mail chain in Exhibit 12074?

Page 187:23 to 188:03

00187:23 A. In this exhibit --  
24 Q. (BY MS. PREHEIM) Uh-huh.  
25 A. -- there is a paragraph that are comments  
00188:01 summarized from John Lehrter.  
02 Q. And these are the comments with which you  
03 agreed?

Page 188:05 to 188:12

00188:05 A. That's what I was referring to, yes.  
06 Q. (BY MS. PREHEIM) And Mr. Lehrter -- or is  
07 it Dr. Lehrter?  
08 A. Doctor.  
09 Q. Dr. Lehrter said that long-term population  
10 shifts and food chain impacts were not likely from  
11 dispersant application in the open Gulf as was the  
12 case in the DEEPWATER HORIZON response, correct?

Page 188:14 to 188:16

00188:14 A. He does express that opinion.  
15 Q. (BY MS. PREHEIM) And that was an opinion  
16 you agreed with, correct?

Page 188:21 to 189:04

00188:21 A. In rereading Dr. Lehrter's statements and  
22 my reference to them in agreement was on his  
23 statement: "There is likely an impact while the  
24 dispersant is around at sufficient concentration,"  
25 and "once it's gone, these organisms are so  
00189:01 plentiful and grow so quickly that I really can't  
02 imagine there are long-term shifts in their  
03 population structures or in the trophic food  
04 chain."

Page 189:06 to 189:08

00189:06 By the way, Dr. Lehrter mentioned in  
07 his comments that he had gone fishing the week  
08 before; is that right?

Page 189:10 to 189:15

00189:10 A. He makes the anecdotal statement.  
11 Q. (BY MS. PREHEIM) And that -- this would  
12 have been early August 2012?  
13 A. Yeah.  
14 Q. And can you read the last sentence of his  
15 comments?

Page 189:17 to 189:25

00189:17 A. Dr. Lehrter makes a statement that he had  
18 gone fishing with a -- a friend from the Dolphin  
19 Island Sea Lab, and they were doing -- we -- it  
20 says: "We fished a wide area near the DEEPWATER  
21 HORIZON and we slayed them."  
22 Q. (BY MS. PREHEIM) And you understand  
23 Dr. Lehrter to mean that he and his fishing buddy  
24 caught a lot of fish near the area of the  
25 DEEPWATER HORIZON?

Page 190:02 to 190:10

00190:02 A. Apparently they caught something is what I  
03 would be implying there.  
04 Q. (BY MS. PREHEIM) Below Dr. Lehrter's  
05 comments are comments from Mike Murrell.  
06 Do you see that?  
07 A. Yes.  
08 Q. And are these the comments from Mike that  
09 you state in your August 6 E-mail that you agree  
10 with?

Page 190:12 to 190:12

00190:12 A. Yes.

Page 191:10 to 191:18

00191:10 What is his employment position?  
11 A. Oh, yeah. So Mike Murrell, he is at the  
12 Gulf Ecology Division as well; and he's a research  
13 ecologist; and he specializes also in water  
14 quality and hypoxia.  
15 Q. Thank you.  
16 Could you please read the last  
17 sentence of his comments beginning with: "In the  
18 final analysis"?

Page 191:20 to 192:22

00191:20 A. Dr. Murrell reads -- or states: "In the  
21 final analysis, notwithstanding these intriguing  
22 results, it stretches credulity that marine  
23 microbial food webs could be profoundly  
24 persistently altered in such a large open system."  
25 Q. (BY MS. PREHEIM) Thank you.  
00192:01 Can you please turn to Tab 26 of your  
02 binder, and this is a document that's previously  
03 been marked Exhibit 12057.  
04 Do you recognize this document,

05 Dr. Conmy?  
 06 A. I -- I do.  
 07 Q. What is this?  
 08 A. This was a review that was conducted by  
 09 ORD staff of that Ortmann paper.  
 10 Q. And you're listed at the top of the page  
 11 as -- as one of the reviewers, correct?  
 12 A. Correct.  
 13 Q. And do you remember writing this critical  
 14 review?  
 15 A. This critical review, which was led by  
 16 Mace Barron who took the charge of writing --  
 17 Q. Uh-huh.  
 18 A. -- the bulk of this, but we all  
 19 contributed.  
 20 Q. Okay. And you collectively state that the  
 21 environmental relevance of the results of the  
 22 Ortmann study were highly uncertain, correct?

Page 192:24 to 193:09

00192:24 A. Given what we just discussed in the E-mail  
 25 chain, there were some concerns about the  
 00193:01 experimental design such that could it be relevant  
 02 to a real world scenario.  
 03 Q. (BY MS. PREHEIM) And -- thank you.  
 04 So that's what you mean by  
 05 "environmental relevance"?  
 06 A. Uh-huh.  
 07 Q. Okay. And did you ever publish this  
 08 review or the -- the critical review of the  
 09 Ortmann study found at Tab 25?

Page 193:12 to 193:14

00193:12 A. Can you define "publish"?  
 13 Q. (BY MS. PREHEIM) Did you publish it in a  
 14 journal --

Page 193:16 to 193:20

00193:16 Q. (BY MS. PREHEIM) -- or otherwise make it  
 17 public?  
 18 A. Oh, no. This was not published in any  
 19 journal as a review or a commentary.  
 20 Q. This was just for internal purposes?

Page 193:22 to 194:03

00193:22 A. I don't know if it made it outside of ORD,  
 23 but we used it as an internal ORD review that  
 24 perhaps someone else in the agency or Unified  
 25 Command or someone else may have read, but it was



00194:01 an internal review.  
02 Q. (BY MS. PREHEIM) So you did not try to  
03 publish it outside of the agency?

Page 194:06 to 194:07

00194:06 A. I did not, but I could not -- I don't know  
07 if Mace or John or Mike or Al did.

Page 197:02 to 197:08

00197:02 Q. And let -- let -- let me reask the  
03 question.  
04 Is there any subsurface dispersant  
05 monitoring data from the DEEPWATER HORIZON spill,  
06 whether or not collected during the response, that  
07 has not been produced or made otherwise available  
08 to BP?

Page 197:11 to 198:10

00197:11 A. If I understand your question correctly,  
12 it's whether or not there was any monitoring data  
13 that wasn't part of the response that BP didn't --  
14 it wasn't disclosed to BP in some way. So I don't  
15 know because the only data I have reviewed and  
16 have known about is the monitoring data in the  
17 response.  
18 Q. (BY MS. PREHEIM) And that's helpful.  
19 So the -- the only subsurface  
20 dispersant monitoring data that you're aware of  
21 was collected during the response?  
22 MS. FIDLER: Object to scope and to  
23 form.  
24 A. I'm rereading that.  
25 Q. (BY MS. PREHEIM) Sure.  
00198:01 A. So to clarify --  
02 Q. Uh-huh.  
03 A. -- there was data that was collected in  
04 the subsea that was not part of the response but  
05 part of things like damage assessment. But that's  
06 not what the JAG reviewed, so I do not know the  
07 status of any of that data.  
08 The only thing I can comment on is  
09 that the monitoring data collected during the  
10 response was disclosed to BP in its entirety.

Page 198:13 to 198:15

00198:13 Q. Does that include laboratory results?  
14 A. That includes laboratory results.  
15 Q. And it includes all raw data?

Page 198:17 to 199:09

00198:17       A. Raw data in its essence -- in a laboratory  
18 environment, there could be raw data that isn't  
19 processed in any way; but the process data is  
20 supplied to the JAG, to BP, to whoever.  
21       I can't say that every single  
22 measurement that was raw coming out of an  
23 instrument that might not have any meaning or  
24 context, if it wasn't calibrated, if it wasn't  
25 corrected for instrument artifacts, I don't know  
00199:01 if every single thread was handed over for a given  
02 sample.  
03       Q. Was all of the data on which the JAG --  
04 well, rephrase that.  
05       Was all of the data that the JAG  
06 reviewed, analyzed, and reported on produced to BP  
07 or otherwise made available?  
08       A. To the best of my knowledge, yes. And  
09 there were BP representatives on the JAG.

Page 201:01 to 205:13

00201:01       Q. (BY MS. PREHEIM) And we talked a little  
02 bit today about issues with respect to the BROOKS  
03 MCCALL cruise. Were there any other factual basis  
04 for the contention that any action by BP limited  
05 or impeded the effectiveness of the response?  
06       A. That contention, beyond just what my  
07 expertise is, but that contention stems from a  
08 variety of things.  
09       But as far as what I can speak about  
10 in my expertise and my experience with the  
11 response, I would have to say, based on events  
12 surrounding the BROOKS MCCALL 1 cruise, that BP --  
13 that there may be some evidence that BP impeded  
14 the response.  
15       Q. And what is that evidence?  
16       A. For one thing, when the BROOKS MCCALL 1  
17 cruise was being assembled in terms of science  
18 party, as well as equipment to be used in the  
19 spill, BP contractors knew that in order to meet  
20 the objectives of the cruise, which were to locate  
21 the plume, we needed to have equipment that could  
22 get us samples from the plume or allow sensors to  
23 be brought to the water, deepwater environment;  
24 and we did not have that on the BROOKS MCCALL 1.  
25       Q. What equipment specifically did you not  
00202:01 have?  
02       A. Our CTD profiler and rosette package --  
03 that's what has the bottles to collect water --  
04 did not go below 600 meters, which meant that we  
05 could not have water samples or in situ data below  
06 600 meters.  
07       And we've already stated through the

08 JAG reports that the plume was found much deeper  
09 than that.

10 Q. Anything else, any other equipment that  
11 was not on the BROOKS MCCALL?

12 A. The profiler that we had also did not have  
13 realtime capabilities, and we talked earlier about  
14 the definition of "realtime." Oceanographers like  
15 myself view realtime as being able to see data as  
16 it's being collected, and we did not have that  
17 capability on the boat.

18 We could not view on a computer  
19 screen the hydrographic profiles, temperature,  
20 salinity, density, or anything else, dissolved  
21 oxygen or fluorescence, in a realtime environment.

22 Q. And by "profiler," you mean the CTD  
23 profiler?

24 A. I mean the CTD profiler.

25 Q. Thank you.

00203:01 A. And what that does is that, if your  
02 mission is to find anything in the ocean, it  
03 doesn't matter what it is, if you can't actively  
04 be seeing that profile, it makes your job harder  
05 because then you have to wait to have the profiler  
06 back on the boat, unhook everything, download the  
07 data, bring it to a separate computer. All of  
08 that takes a lot of time.

09 So it impedes the ability for you to  
10 respond quickly or to collect and gather quickly.

11 Q. How much time does it take?

12 A. For a CTD cast, in -- the winches, those  
13 are the things that control the -- the dropping  
14 and the retrieving of the packages in the water,  
15 they -- they do move at different speeds.

16 But I would say a good estimate of  
17 time for a profiler to go from surface to 1500  
18 meters deep and back, we're talking about a three-  
19 to four-hour venture every time you drop that  
20 package to go all the way to the bottom and come  
21 back. And if you're doing repeated casts in a  
22 day, it -- it slows you down.

23 Q. Okay.

24 A. There also was not onboard a -- a  
25 fluorometer that was capable of measuring  
00204:01 hydrocarbons when we left port.

02 Q. Any other equipment?

03 A. The -- the dissolved oxygen sensing  
04 equipment, we had LaMotte test kits which were not  
05 highly accurate or precise. So getting valid DO  
06 measurements was then challenging for the first  
07 BROOKS MCCALL cruise.

08 Q. Were different kits used in subsequent  
09 cruises?

10 A. In subsequent cruises, there may have been  
11 some other kits. But ultimately what was used in  
12 the end were in situ dissolved oxygen sensors  
13 that -- like a Sea-Bird Electronics equipment, as

14 well as doing Winkler titrations, a -- more of an  
15 analytical method.

16 Q. And who raised the need for Winkler  
17 titrations?

18 A. The need for more precise and accurate  
19 dissolved oxygen measurements arose out of the JAG  
20 analysis of the DO data. So it was a -- a  
21 collective opinion.

22 Q. Okay. Any other equipment that was not on  
23 the BROOKS MCCALL?

24 A. There also in the earlier directives, not  
25 the ones from May 10th, but in the -- there  
00205:01 were draft -- there were various drafts and phases  
02 of sampling plans that were distributed and -- and  
03 passed amongst people prior to the BROOKS MCCALL  
04 leaving.

05 In those, there was a need for a UV  
06 fluorometer to be onboard, not besides an in situ  
07 one, but to have one that was a lab instrument so  
08 that discrete samples could be collected and then  
09 UV fluorescence could be measured in those  
10 samples; and those instruments were not onboard  
11 the vessel.

12 Q. And those instruments were not required by  
13 subsequent directives?

Page 205:15 to 207:12

00205:15 A. I -- I didn't say that. What I said was  
16 before the boat left, there at least was a plan to  
17 collect data for UV fluorescence to be run  
18 onboard, and the instruments weren't there.

19 Q. (BY MS. PREHEIM) Okay.

20 A. This was an answer to your question on  
21 what other equipment was not on the BROOKS MCCALL.

22 Q. Unders -- I'm just trying to understand  
23 the facts here.

24 Any other equipment that was not on  
25 the BROOKS MCCALL?

00206:01 A. The -- those plans also had called for a  
02 towable UV fluorometer, and it also is in this  
03 directive as well, and that was not onboard the  
04 vessel when we left port.

05 It was later -- we made a request --  
06 the science party made a request that we needed a  
07 hydrocarbon-sensing fluorometer that could make  
08 it, you know, the full vertical profile type of  
09 fluorometer. And we made the request to the chief  
10 scientist; and, to our knowledge, he relayed that  
11 back to shore. That's what we usually  
12 ship-to-shore communications.

13 Q. Okay.

14 A. And we were told that a fluorometer was  
15 being sent via helicopter to a nearby rig that we  
16 would pick up, and we assumed that it was the

17 fluorometer we had requested. When it arrived, it  
18 was not. It was the towable kind of fluorometer  
19 that I just alluded to that was not onboard when  
20 we left.  
21 Q. So the towable fluorometer was, in fact,  
22 provided?  
23 A. The towable fluorometer was provided. I'm  
24 not sure of the exact date. I'd need my field  
25 notes. But somewhere a couple of days into the  
00207:01 cruise it arrived.  
02 Q. Okay.  
03 A. But that only measures surface. That  
04 doesn't measure the plume.  
05 Q. Any other equipment that was not onboard  
06 the BROOKS MCCALL?  
07 A. I think that covers it.  
08 Q. And just to clarify, what -- we're on the  
09 same page, that we're talking about the BROOKS  
10 MCCALL cruise that you were personally on, May 7  
11 to 12?  
12 A. The BROOKS MCCALL 1 cruise.

Page 208:12 to 208:24

00208:12 Q. Were you involved in any of the  
13 discussions on the -- the efforts to acquire  
14 equipment necessary for the cruise?  
15 A. At the time, no. Not before leaving dock,  
16 no.  
17 Q. Okay. The cruise was -- the planning for  
18 the cruise and the -- the outfitting of the ship  
19 happened quickly, didn't it?  
20 A. If you mean "quickly," it happened within  
21 a week's time that they prepared for it, yes. But  
22 cruise planning can happen in a week's time.  
23 Q. Most of the time, cruise planning takes  
24 longer than a week?

Page 209:01 to 209:16

00209:01 A. I don't want to say "most of the time."  
02 It depends on your mission. I -- I have a lot of  
03 cruise experience and days at sea. Sometimes you  
04 have two days to respond and to pull something  
05 together, especially if you are in a response  
06 sampling plan, and I've done that.  
07 Other times, yes, you might have a  
08 week. Other times you might have two weeks.  
09 It -- it just depends on the nature of the work.  
10 But you can pull together the equipment that you  
11 need for a response plan and for a monitoring  
12 cruise in a week's time.  
13 Q. (BY MS. PREHEIM) Have you ever pulled  
14 together the equipment needed for a plan in a  
15 week's time for a cruise that has never -- of the

16 kind that has never been undertaken before?

Page 209:19 to 210:14

00209:19 A. The type of analyses and the type of  
20 equipment and even the type of monitoring,  
21 although what we were looking for may have been  
22 unique, this is -- this is routine. We do this  
23 all the time for -- if you're monitoring for  
24 something, it doesn't matter if it's a harmful  
25 algal bloom, if it's for a regular phytoplankton  
00210:01 bloom, if you're looking for a river water mass in  
02 a coastal environment, you have something you're  
03 searching for. And that might change; but the  
04 analyses and way and the approach that you take to  
05 find that, that doesn't change that much for  
06 oceanographers.  
07 So this is not -- one might say the  
08 spill was novel in terms of maybe the depth of the  
09 release or the volume of oil, but the monitoring  
10 approaches that were used were not novel in any  
11 way.  
12 Q. (BY MS. PREHEIM) The -- but the novel --  
13 the -- the monitoring approaches as applied to the  
14 depth and the situation had not been done before?

Page 210:16 to 210:20

00210:16 A. We monitor things all the time in the deep  
17 ocean.  
18 Q. (BY MS. PREHEIM) Have you ever monitored  
19 a subsurface injection of dispersants into the  
20 source of a release?

Page 210:22 to 211:01

00210:22 A. I have never monitored for that; but the  
23 approaches used fluorescence -- CTD, scattering,  
24 anything like that -- we use all the time to look  
25 at natural organic matter fluorescence in -- in  
00211:01 deepwater in 1500 meters in the Gulf of Mexico.

Page 211:12 to 211:13

00211:12 Q. And as sampling changes, sometimes the  
13 necessary equipment can change as well?

Page 211:15 to 212:12

00211:15 A. Although in theory that could be true, but  
16 the type of analyses that were requested even  
17 before the BROOKS MCCALL left dock, that didn't  
18 change. You know, we needed DO. We needed

19 hydrocarbon concentration. We needed fluorescence  
20 measurements, particle size analysis, hydrographic  
21 data. That remained throughout the drafts.

22 Q. (BY MS. PREHEIM) And were you involved or  
23 do you have knowledge of subsequent cruises for  
24 the subsurface dispersant monitoring?

25 A. Can you expand on knowledge about cruises?

00212:01 Q. Let me ask it this way: Was the equipment  
02 that you have identified as not being on the  
03 BROOKS MCCALL, was that subsequently obtained to  
04 the extent it was still necessary for subsequent  
05 cruises?

06 A. After the BROOKS MCCALL 1 and  
07 recommendations were made by the science party,  
08 that recommendations on sampling equipment and  
09 approaches were made by the science party to  
10 Unified Command, the changes were implemented  
11 because subsequent cruises did have the necessary  
12 equipment.

Page 212:15 to 212:18

00212:15 Q. Are there any other facts -- factual bases  
16 for the United States' contention that any action  
17 by BP may have impeded the effectiveness of the  
18 response --

Page 212:21 to 213:19

00212:21 A. To my --

22 Q. (BY MS. PREHEIM) -- with respect to  
23 subsea dispersant?

24 Thank you.

25 A. To my knowledge, again, there were the  
00213:01 issues with the data management plan, which, you  
02 know, it -- it was a hindrance of not having that  
03 established, you know, the time to take one of  
04 those, to set one up and to over -- not just set  
05 it up, but oversee it and implement it. That's a  
06 lot of resources, a lot of man-hours.

07 And so the fact that the U.S.  
08 government had to do that instead of the  
09 responsible party, you know, they -- if BP would  
10 have taken the initiative to do it, that certainly  
11 would have been viewed as not an impediment but a  
12 help. But they didn't. So I would consider that  
13 an impediment.

14 Q. And how long did it take to set up the  
15 data management plan?

16 A. I believe Ben had the data, the -- the  
17 first version which went to EPA Scribe. I think  
18 that was set up within the first month of the  
19 BROOKS MCCALL 1 cruise.

Page 213:23 to 213:25

00213:23 Any other factual bases for  
24 contentions that BP's actions impeded the  
25 effectiveness of the response?

Page 214:02 to 216:03

00214:02 A. Again, in my opinion, from my perspective  
03 of -- of my involvement in the response, not being  
04 able to have access to the hydrocarbon data, the  
05 chemistry results in a more timely fashion,  
06 that -- that was an impediment.

07 There's a reason why the final JAG  
08 report came out as late as it did, long after the  
09 JAG had officially disbanded, and we had to come  
10 back and put together the last report.

11 Q. (BY MS. PREHEIM) And you didn't -- you  
12 weren't able to identify any of the -- the labs  
13 that were apparently in -- in -- involved?

14 A. I -- I don't have any names specifically.

15 Q. How long before -- ultimately the lab  
16 results were provided, correct?

17 A. Ultimately the lab results were provided,  
18 and the time frame that the last report was  
19 written went into 2012.

20 Q. When was the -- what was the length of the  
21 time before the lab results were provided?

22 A. Well, the lab reports -- I mean, the  
23 data --

24 Q. I'm sorry.

25 A. -- from the labs?

00215:01 Q. I'm -- I'm sorry. The chemistry results.

02 A. The chemistry results didn't come in all  
03 one big chunk. You know, they came out in -- you  
04 know, as you have a cruise, analysis were done,  
05 and then they would submit them to the databases  
06 for the JAG to be able to review.

07 So it happened -- it was staggered.  
08 It wasn't all in one time. So I don't think I  
09 understand the question that much.

10 Q. Well, you were saying the -- the chemistry  
11 results were not immediately provided to the -- to  
12 NOAA?

13 A. Well, to the JAG.

14 Q. To the JAG.

15 And my question is: What was the  
16 length of time of delay that you're claiming?

17 A. It's hard for me to give an exact number.  
18 Again, the data management people would be better  
19 to ask that. Unfortunately, I don't have an  
20 exact -- I can't say a month or a week or five  
21 months.

22 But all I can say is that in 2012, we  
23 were still writing response JAG reports.



24 Q. And what is the report that you're  
25 referring to in 2012?  
00216:01 A. I think that's the NOAA NOS No. 27 is the  
02 final number which has all of the chemistry  
03 results in it. It was the final report.

Page 216:10 to 216:13

00216:10 Q. (BY MS. PREHEIM) Is it the United States'  
11 contention in the Clean Water Act case that any  
12 inaction by BP limited the effectiveness of the  
13 response --

Page 216:15 to 217:02

00216:15 Q. (BY MS. PREHEIM) -- with respect to the  
16 subsea dispersant monitoring?  
17 A. One could also say that not having the  
18 boat properly outfitted with equipment that would  
19 allow the detection of the subsea plume was an  
20 inaction, too.  
21 Q. And this, again, goes back to what we were  
22 discussing before about the -- the BROOKS MCCALL 1  
23 cruise?  
24 A. Yes. Sorry. To clarify, about the R/V  
25 BROOKS MCCALL 1.  
00217:01 Q. Okay. Anything else in terms of factual  
02 bases for contentions about inaction?

Page 217:04 to 217:09

00217:04 A. I suppose you could also -- if there was  
05 a -- a lack of interest in the contract labs with  
06 supplying the chemistry results, that that could  
07 be an inaction, too. The line between inaction  
08 and impediment is, for me, not as clear as maybe  
09 it is for you-all but...

Page 217:14 to 217:17

00217:14 Q. (BY MS. PREHEIM) Are you prepared to  
15 testify about any concerns that EPA may have  
16 expressed during the response about alternative  
17 dispersants?

Page 217:24 to 218:03

00217:24 A. I am not -- I wasn't part of any of those  
25 discussions or decision-making so...  
00218:01 Q. (BY MS. PREHEIM) So you're not prepared  
02 to testify about that today?  
03 A. No.

Page 222:04 to 222:13

00222:04 Q. (BY MS. PREHEIM) Dr. Conmy, you're not a  
 05 biologist, are you?  
 06 A. I'm not a biologist.  
 07 Q. And you're not a benthic ecologist?  
 08 A. I'm not a benthic ecologist.  
 09 Q. You're not a toxicologist?  
 10 A. I am not a toxicologist.  
 11 Q. Or an ecotoxicologist?  
 12 A. Or an ecotoxicologist.  
 13 Q. Are you a GIS specialist?

Page 222:15 to 223:03

00222:15 A. No.  
 16 Q. (BY MS. PREHEIM) Are you a -- a  
 17 veterinarian scientist?  
 18 A. No.  
 19 Q. Or a geologist?  
 20 A. Nope.  
 21 Q. You're not a physicist?  
 22 A. No.  
 23 Q. Or an environmental engineer?  
 24 A. No.  
 25 Q. If you turn to **Tab 13** in your binder.  
 00223:01 Again, we looked at this earlier, and you said you  
 02 were not familiar with the "RRT-6 FOSC Dispersant  
 03 Pre-Approval Guidelines"?

Page 223:05 to 223:11

00223:05 A. I know of their existence, but I cannot  
 06 say I have read through this entire document  
 07 previously.  
 08 Q. (BY MS. PREHEIM) Okay. The RRT  
 09 dispersant pre-approval guidelines, Tab 13, did  
 10 not contemplate subsea application of dispersants,  
 11 correct?

Page 223:20 to 224:08

00223:20 Q. But if -- if you go to the Bates number at  
 21 the very lower right-hand corner --  
 22 A. Yeah.  
 23 Q. -- ending in 44.  
 24 A. Okay.  
 25 Q. And, actually, let's go to the next page.  
 00224:01 You'll see that there is "Aerial Application  
 02 Operational Conditions" referenced?  
 03 A. I see that under No. 5.  
 04 Q. And under No. 6, you see "Boat  
 05 Application"?

06 A. I do.  
 07 Q. Do you see anything about subsea  
 08 application?

Page 224:10 to 224:24

00224:10 A. On this page and this -- these sections, I  
 11 do not see anything listed about subsea  
 12 application of dispersant.  
 13 Q. (BY MS. PREHEIM) And if you look at No. 7  
 14 on the page ending 46. See where I am?  
 15 A. Yes.  
 16 Q. It says: "Immediately consult with the  
 17 Scientific Support Coordinator (SSC) to evaluate  
 18 potential alternatives to the Aircraft and Boat  
 19 Platforms."  
 20 Correct?  
 21 A. It does say that.  
 22 Q. So RRT -- the pre-approval guidelines do  
 23 not contain any guidance for subsea dispersant  
 24 application, correct?

Page 225:02 to 225:14

00225:02 A. As for what I see here, not reading  
 03 through all of the sections but the ones covered  
 04 on the last two pages, I do not see any guidance  
 05 for subsea application.  
 06 Q. (BY MS. PREHEIM) And on the next page  
 07 in -- in the -- and it's almost a diamond bullet  
 08 point.  
 09 Do you follow me?  
 10 A. Yes.  
 11 Q. It says: "If an alternative dispersant  
 12 platform is used, the Operation Plan should  
 13 include dispersant application guidelines,"  
 14 correct?

Page 225:16 to 225:20

00225:16 A. It does say that under the diamond bullet.  
 17 Q. (BY MS. PREHEIM) So the existing RRT  
 18 dispersant use plans did not set forth preexisting  
 19 monitoring guidelines or protocols with respect to  
 20 subsea application of dispersants, correct?

Page 225:23 to 226:05

00225:23 A. Again, reviewing these limited sections,  
 24 to my knowledge, no --  
 25 Q. (BY MS. PREHEIM) Uh-huh. And --  
 00226:01 A. -- they do not.  
 02 Q. Sorry to interrupt.

03                   And subsea dispersant application  
04 wasn't addressed in the existing SMART monitoring  
05 program either, was it?

Page 226:08 to 226:11

00226:08           A. I have read the SMART protocols; and, no,  
09 it has not.  
10           Q. (BY MS. PREHEIM) Can you turn in your  
11 binder to Tab 52.

Page 226:13 to 226:24

00226:13           Q. (BY MS. PREHEIM) We'll mark this as  
14 Exhibit 12075. Are you familiar with this  
15 document, Dr. Conmy?  
16           A. I am.  
17           Q. What is this?  
18           A. This is the "NRT Environmental Monitoring  
19 For Atypical Dispersant Operations."  
20           Q. And it includes guidance for subsea  
21 application?  
22           A. It does.  
23           Q. And it's dated May 30th, 2013?  
24           A. It is.

Page 227:04 to 227:16

00227:04           Q. Okay. Were you involved in its  
05 preparation?  
06           A. I was involved in -- I was consulted by  
07 NRT members on the formulation of this, but I  
08 didn't write any of the sections.  
09           Q. Okay. If you could turn to Page 4 for me,  
10 please.  
11           A. Okay.  
12           Q. And under the "Preface," the second  
13 sentence, you agree that: "For the first time,  
14 dispersant was injected at the source of the  
15 release at depths of nearly a mile" during the  
16 DEEPWATER HORIZON event?

Page 227:19 to 227:25

00227:19           Q. (BY MS. PREHEIM) I'm just directing your  
20 attention.  
21           A. It does say that.  
22           Q. You would agree that during the DEEPWATER  
23 HORIZON event: "For the first time, dispersant  
24 was injected at the source of the release at  
25 depths of nearly a mile"?

Page 228:02 to 228:07

00228:02 A. I would agree with that statement.  
03 Q. (BY MS. PREHEIM) And would you agree also  
04 that such an atypical use of dispersant during a  
05 response was neither envisioned nor incorporated  
06 into existing RRT dispersant use plans, nor  
07 addressed in existing SMART monitoring programs?

Page 228:10 to 228:20

00228:10 A. The SMART protocols did not have a section  
11 dedicated to subsurface injection or monitoring.  
12 And what we just read on those few pages of the  
13 RRT document, I didn't see it either, although I  
14 didn't read any other portions.  
15 Q. (BY MS. PREHEIM) But you would agree with  
16 the statement in Tab 52 that: "Such atypical uses  
17 of dispersant during a response were neither  
18 envisioned nor incorporated into existing RRT  
19 dispersant use plans, nor were they addressed in  
20 the existing SMART monitoring program"?

Page 228:23 to 229:01

00228:23 Q. (BY MS. PREHEIM) You agree?  
24 A. I agree that it says this in the document.  
25 Q. And do you agree that that is an accurate  
00229:01 statement?

Page 229:04 to 229:09

00229:04 A. I would agree.  
05 Q. (BY MS. PREHEIM) And the NRT, along with  
06 EPA as chair and the United States Coast Guard as  
07 vice chair, characterizes subsea application of  
08 dispersants as an atypical dispersant operation,  
09 correct?

Page 229:11 to 229:17

00229:11 A. I would agree.  
12 Q. (BY MS. PREHEIM) So the EPA -- at the  
13 time the DEEPWATER HORIZON spill, the EPA, the  
14 United States Coast Guard, and other federal  
15 agencies did not have set protocol for this  
16 atypical, first-of-its-kind subsea dispersant  
17 application, did they?

Page 229:20 to 229:25

00229:20 A. I would -- I would agree with that.  
21 Q. (BY MS. PREHEIM) There was no manual that  
22 BP and the agencies could look to for how to go

23 about testing, conducting, and monitoring the  
24 application of subsea dispersants at depths of  
25 this range?

Page 230:03 to 230:13

00230:03 A. Well, at the time of the spill, there was  
04 a guidance document that could be used to help  
05 inform or develop protocols, and that was from the  
06 deep spill experiment from 2000 that had a  
07 subsurface injection of dispersant into a  
08 controlled release at I think it was 800 meters  
09 deep.  
10 Q. (BY MS. PREHEIM) 800 meters, but not the  
11 depths that existed at the DEEPWATER HORIZON  
12 spill?  
13 A. Correct.

Page 230:15 to 230:17

00230:15 Q. (BY MS. PREHEIM) So there was no existing  
16 manual available for this atypical dispersant  
17 application?

Page 230:20 to 231:07

00230:20 A. One could imagine that the recommendations  
21 in the deep spill experiment, though, were very  
22 much applicable, more applicable than, let's say,  
23 a SMART protocol because it wasn't at the surface.  
24 It was at 800 meters.  
25 Although not as deep as the DEEPWATER  
00231:01 HORIZON, there still would be some value to the  
02 recommendations made in that document that could  
03 be used to help formulate protocols.  
04 Q. (BY MS. PREHEIM) The United States did  
05 not adopt what happened in that controlled  
06 environment for use wholesale in the DEEPWATER  
07 HORIZON experi -- experience, correct?

Page 231:09 to 231:16

00231:09 A. Prior to DEEPWATER HORIZON, there -- on  
10 record there were no protocols that were in  
11 existence that were based on the deep spill.  
12 Q. (BY MS. PREHEIM) In fact, it was three  
13 years after the DEEPWATER HORIZON spill in May  
14 2013 that the U.S. issued the guidance for subsea  
15 application of dispersants that we see here at  
16 Exhibit 12075; is that correct?

Page 231:18 to 231:18

00231:18           A. That is correct.

Page 232:12 to 243:23

00232:12           Q. Dr. Conmy, you've testified about your  
13 background as an oceanographer and a marine  
14 chemist.

15                   How long have you been an  
16 oceanographer?

17           A. Well, I received my undergraduate degree  
18 in 1996, so that would be about 18 years ago.

19           Q. Do you have a sense of how many  
20 professional oceanographers there are in the U.S.?

21           A. A ballpark estimate for -- for PIs, you  
22 know, excluding post doc's and students, given the  
23 last Ocean Sciences conference in February, there  
24 was 6,000 participants. So somewhere between 6  
25 and 10,000 I would think in the U.S.

00233:01           Q. What is a "PI"?

02           A. Oh, sorry, a principal investigator.

03           Q. And what does a principal investigator do?

04           A. That's the one that leads science  
05 projects, someone that is in charge of a grant.  
06 So, typically, a PI is somebody that is an  
07 academic professor or someone like myself in the  
08 government in a research organization.

09           Q. Is there a lot of collaboration in the  
10 profession of oceanography?

11           A. There is. The nature of our work is that  
12 we collect our data in remote locations where you  
13 have to leverage your resources and your time  
14 against each other. So because of that, if you're  
15 out, let's say, at 20 miles from shore and you are  
16 collecting data and something breaks, we only have  
17 each other to help fix things typically.

18                   So there's a general sense in the  
19 community of wanting to help one another conduct  
20 our research.

21           Q. Do you have a particular specialization in  
22 the field of oceanography?

23           A. My disciplines have been aligned with  
24 chemical oceanography; and in particular, I do  
25 spectroscopy and fluorescence work in particular.

00234:01           Q. Could you explain more -- you mentioned a  
02 bit about fluorometry. Could you explain your  
03 specialization a bit more in terms of what it's  
04 used for in the -- in the field.

05           A. Yeah. So I do a lot of water quality  
06 work, and that entails biogeochemical cycling of  
07 organic material in aquatic environments.  
08 Fluorescence is really just a tool to be able to  
09 conduct that type of research.

10                   So prior to the DEEPWATER HORIZON  
11 spill, my expertise with fluorescence was  
12 targeting things like water trace -- tracking,

13 let's say, water mass tracking in the ocean;  
14 looking at carbon cycling, dissolved carbon in  
15 particular in aquatic environments; looking at  
16 light attenuation for water quality standards in  
17 shallower waters.

18 So there's a number of things that  
19 fluorescence can be used for that would help as a  
20 tool for my research.

21 Q. Have you -- have you conducted any of this  
22 research at sea?

23 A. Yes. A bulk of it has been done at sea.  
24 Some of it in shallower water that you can get to  
25 by just, you know, off of docks and so forth. But  
00235:01 most of -- the bulk of my work has been at sea.

02 Q. How many cruises have you -- how many  
03 research cruises have you been on?

04 A. Over those 18 years, it would be a big  
05 number. For harmful algal bloom cruises, I did at  
06 least 30 cruises at sea. I've done expeditions  
07 for optics experiments, four big ones each lasting  
08 a month long in duration. I've done Lagrangian  
09 studies where you're tracking a water mass through  
10 the Gulf of Mexico. I think altogether I'm --  
11 at -- at least I've done 50 cruises.

12 Q. Have you ever published articles regarding  
13 your research?

14 A. Yes.

15 Q. How many?

16 A. First author articles for data collected  
17 at sea would be five, collected at sea first  
18 author. And then I don't know how many coauthor  
19 publications I have, but probably more like total  
20 14, 15, something like that.

21 Q. And aside from your at-sea research, does  
22 that include how many articles you've published in  
23 the entirety of your career?

24 A. Oh, I think with the exception of only  
25 one, everything else was with sea data.

00236:01 Q. Have you conducted other kinds of  
02 oceanographic research besides fluorometry?

03 A. Well, that's just one tool.

04 Q. Right.

05 A. But we use lots of tools for aiding our  
06 research. So there's fluorometry and other types  
07 of spectroscopy, like absorption or scattering,  
08 like the particle size analyzers. I've conducted  
09 trace metal analysis, dissolved gases analysis,  
10 pigments for chlorophyll for harmful algal blooms.  
11 There's -- there's been a number of things that  
12 I've conducted research on.

13 Q. And have you conducted sampling --

14 A. Yes.

15 Q. -- as part of that?

16 Okay. Have you ever designed a  
17 monitoring and sampling plan before?

18 A. Yes.



19 Q. You mentioned that you look for water  
20 masses. Is that similar to looking for a plume?  
21 A. It's very similar. If your objective is  
22 to be able to locate something that is dissolved  
23 in the water and it's not at the surface and you  
24 can't see it with your eyes, you're essentially  
25 looking -- you're -- you're tracking that  
00237:01 material, whether it's an organic material or an  
02 inorganic material, whether it's water mass. Same  
03 principles apply.  
04 Q. Dr. Conmy, have you ever been on a cruise  
05 that was responding to emergency?  
06 A. I have been on cruises responding to --  
07 that were response cruises. I don't know if you  
08 want to deem them as an "emergency" before the  
09 BROOKS MCCALL. They were -- but they were  
10 response monitoring that I've conducted  
11 previously.  
12 Q. How many of those cruises have you been  
13 on?  
14 A. The harmful algal bloom cruises, we had a  
15 total of 30 in the monitoring; and of that, there  
16 was probably about five that were direct response  
17 cruises.  
18 Q. How much notice did you have prior to  
19 embarking on those cruises?  
20 A. Sometimes we had as little as two days.  
21 Q. Oil is an organic matter, correct?  
22 A. Yes.  
23 Q. Okay. And so is this similar to sort of  
24 tracking an algal bloom?  
25 A. The tracking of oil in a -- a water mass  
00238:01 would be similar to both tracking a bloom, just at  
02 much deeper waters, and/or natural organic matter,  
03 which is actually dissolved in the water.  
04 Q. And was the sampling and monitoring you  
05 were doing for those cruises similar to what you  
06 were doing on the BROOKS MCCALL?  
07 A. If you mean similar as in collecting  
08 hydrographic measurements along with fluorescence  
09 measurements to locate something, yes.  
10 Q. That is what I meant. Thank you.  
11 On a research cruise, is there always  
12 a chief scientist?  
13 A. Yes.  
14 Q. What is the role of the chief scientist?  
15 A. The chief scientist is there to organize  
16 the science party, to relay information either to  
17 shore or the ship's captain. They are responsible  
18 for safety issues on the boat. They have a record  
19 of all the analyses to be conducted, where the  
20 samples will be taken, and the manner in which  
21 they'll be taken. They're the -- the go-to person  
22 for the science party.  
23 Q. Have you ever been a chief scientist on a  
24 research cruise before?

25 A. I have.  
00239:01 Q. How many times?  
02 A. I've been a chief scientist twice before.  
03 And then with -- so there's a  
04 hierarchy, just like everything else. There's a  
05 chief scientist, and then on large cruises where  
06 you have maybe 50 people on a science party aboard  
07 a vessel, you then also have a next tier down.  
08 So you may have a group of people  
09 that are all collecting pigment data. So you'd  
10 have one person in charge of that subgroup, if you  
11 will. So I have served as a chief in subgroups  
12 dozens of times.  
13 Q. And what were you researching when you  
14 were serving as a chief scientist?  
15 A. I was researching the tracking of river  
16 plumes into the Gulf of Mexico.  
17 Q. It -- we dis -- and earlier in your  
18 testimony you were discussing sort of the -- the  
19 planning before research cruise and the range of  
20 them. How are cruise plans established, in your  
21 experience?  
22 A. There -- there's a number of options on  
23 how to establish a cruise plan. And a lot of that  
24 is predicated on if it's a rapid turnaround time  
25 or if you have something that's been scheduled on  
00240:01 the books for months in advance.  
02 But for the purposes of where I think  
03 your question is going for a short-term -- a short  
04 term -- time -- short-term turnaround I think  
05 that's how I want to say that -- typically you  
06 would gather the science personnel that you need  
07 to conduct the analyses, map out what the  
08 objectives are and what will be sampled on a  
09 vessel, possibly have local hydrographic data that  
10 you already know, currents, directions, any  
11 weather conditions that might be relevant, where  
12 samples actually will be taken and for what  
13 purpose, things like that.  
14 Q. Whose responsibility is it to oversee  
15 implementation of a cruise plan?  
16 A. It's the chief scientist.  
17 Q. And have you ever been on a cruise where  
18 things have not gone according to plan, such as  
19 missing equipment or having broken equipment?  
20 A. Yes.  
21 Q. How did you handle those kinds of  
22 problems?  
23 A. When I was on -- a chief scientist or when  
24 I wasn't a chief scientist?  
25 Q. Let's start with when you were a chief  
00241:01 scientist.  
02 A. When I was a chief scientist, fortunately  
03 we had all of the working equipment that we  
04 needed, and we had access to the equipment we --  
05 we set out to have. So we didn't have that

06 problem when I was a chief scientist.

07 Q. How about for cruises where you were not a  
08 chief scientist and you ran into problems?

09 A. There's always something that happens  
10 aboard a -- a boat, you know. Things -- things  
11 break. Sometimes you have backup equipment;  
12 sometimes you don't.

13 Prior to leaving a dock, though, it  
14 is the responsibility of the chief scientist and  
15 the members onboard to make sure that your  
16 equipment is working properly, that you have the  
17 right equipment.

18 Q. And do you normally do that before you  
19 leave port?

20 A. Yeah. So usually you do test your  
21 equipment. You have just a mock rundown of the  
22 just -- there's communications, the electronics  
23 were working, there wasn't any damage to your  
24 instruments. And then typically you have a  
25 shakedown cruise -- a sample station, excuse me.

00242:01 So your first station out may not go  
02 as well as other stations because you're just  
03 flushing out any problems.

04 Q. Is it fair to say that you're an expert in  
05 oceanography, Dr. Conmy?

06 A. Yes.

07 Q. Is it fair to say that part of your  
08 expertise involves how to conduct an oceanographic  
09 research cruise?

10 A. Yes.

11 Q. Is it part of your expertise also -- is  
12 part of your expertise also the monitoring and  
13 sampling for dissolved organic material such as  
14 oil?

15 A. Yes.

16 Q. Dr. Conmy, you mentioned that you were  
17 supposed to be the, quote, eyes and ears for EPA  
18 on the cruise. Was that ultimately what you did  
19 on the cruise?

20 A. When I left the Gulf Ecology Division, it  
21 was my impression, as well as Blake Schaeffer's,  
22 that we were not going to be collecting samples  
23 ourselves or really conducting analyses, but more  
24 overseeing how they were being done to make sure  
25 that, you know, someone isn't spitting into a  
00243:01 vial, for example. You know, there's certain  
02 protocols. You want to make sure that samples are  
03 handled properly.

04 When we arrived in Port Fourchon,  
05 however, it -- and I don't know where that  
06 decision was made or changed -- but it was clear  
07 that the role of the EPA was also going to be to  
08 conduct some analyses onboard, which was -- was  
09 fine with us, you know.

10 In a science party, you want to be  
11 helpful and make sure that you can accomplish your

12 mission with whatever tools, you know, you have  
13 and people.

14           And so my role did shift somewhat in  
15 that I was to conduct the dissolved oxygen  
16 analysis and keep track of the data reporting, and  
17 then also to man, which means to operate, the  
18 fluorometer that we had.

19       Q. At the time you arrived in Port Fourchon,  
20 what was your understanding regarding the purpose  
21 of the BROOKS MCCALL cruise? You -- you testified  
22 earlier about the -- the directive describing the  
23 goal of the cruise.

Page 243:25 to 244:02

00243:25       Q. (BY MS. FIDLER) Did you understand --  
00244:01 what was your understanding of the purpose of that  
02 cruise when you arrived in Port Fourchon?

Page 244:04 to 249:06

00244:04       A. My understanding was that we had some very  
05 clear goals, which the first was to locate the  
06 hydrocarbon plume that was believed to have  
07 existed, a subsea oil plume. That was the first  
08 thing.

09           And that was to locate it and be able  
10 to characterize the extent of the plume, where is  
11 it, can we -- maybe with taking different sample  
12 stations, can we say it was X number of kilometers  
13 from the wellhead in which direction.

14           The other thing that we were to do  
15 was to take measurements to establish if there  
16 were evidence of chemical and/or physical  
17 dispersion within that plume.

18       Q. (BY MS. FIDLER) When you arrived on the  
19 boat, were you given a copy of the cruise plan?

20       A. I was shown on May 7th a -- a cruise  
21 plan -- a draft of a cruise plan that was not  
22 completed. So the science party wasn't all filled  
23 in, which, in part, that could have been because  
24 things were changing and appointments of actual  
25 names of people hadn't been filled in yet, but

00245:01 that was okay.

02           And then a very generic plan. It  
03 didn't have all the analyses that would be  
04 conducted or which equipment specifically was  
05 onboard. I didn't see a record of MSDS sheets --  
06 safety sheets, but I assume those were, you know,  
07 somewhere else. They weren't in that plan but...

08       Q. Was that an unusual experience for you?

09       A. Typically as a science party -- for  
10 cruises that are planned well in advance, you will  
11 have received it via E-mail so you could go over  
12 it, make any edits.

13 For quick turnaround time, you may  
14 not receive it in advance via E-mail. But  
15 certainly when you board the vessel, there's a  
16 cruise plan that's already been in place,  
17 established by the PI, and maybe members of the  
18 science party, maybe with the Captain. You know,  
19 there's a number of different people that  
20 contribute to the formulation of it.

21 But essentially, when you board the  
22 boat and you're unloading your equipment from the  
23 dock to the vessel and getting set up, you -- you  
24 have a plan and -- and you know what you're doing  
25 and how many days you're going to be out there  
00246:01 and -- and what the purpose is.

02 Q. And on the emergency cruises you had been  
03 on, were you provided that kind of plan?

04 A. Yeah.

05 Q. So had you ever been on a cruise where you  
06 hadn't been given this kind of final cruise plan?

07 A. No.

08 Q. You mentioned that the goal was to find  
09 the plume?

10 A. Uh-huh.

11 Q. Could you do that with the tools that were  
12 on the BROOKS MCCALL?

13 A. On the BROOKS MCCALL 1 cruise, we could  
14 not do that with the tools that were supplied to  
15 us.

16 Q. Who is Don Aurand; do you know?

17 A. Don Aurand was the chief scientist on the  
18 BROOKS MCCALL 1.

19 Q. Do you know Dr. Aurand?

20 A. I didn't know him until May 7th.

21 Q. Okay. Do you consider him to be an  
22 experienced oceanographer?

23 A. It is my understanding that he is quite  
24 experienced.

25 Q. Were you there -- were you surprised by  
00247:01 the problems you encountered that you've testified  
02 to?

03 A. I was surprised by the lack of information  
04 when we arrived there. And to be fair, at that  
05 time it is hard to know in a -- it was a -- it was  
06 not a static environment, and there was a lot of  
07 people trying to get this boat ready.

08 So I would say that because I wasn't  
09 provided a cruise plan, although I was unsettled  
10 by it because I wanted to know what exactly we  
11 were doing, I did not -- I did not, you know,  
12 argue with Don over it. You know, I -- I didn't  
13 say at that moment, "I'm not going unless I have a  
14 cruise plan."

15 You know, but I -- myself and Blake  
16 Schaeffer were both a bit put off that we didn't  
17 have one.

18 Q. Were you surprised by the lack of

19 equipment necessary to track the plume?

20 A. When we arrived in Port Fourchon and were  
21 onboard the vessel but it hadn't left dock, it was  
22 not apparent to me that we didn't have the  
23 equipment. There was a ship tech, as often there  
24 are on science cruises, that is responsible for  
25 setting up communications and the winches and  
00248:01 getting the equipment all ready for the CTD.

02 It wasn't until we were steaming or  
03 left port and we were underway to the wellhead  
04 area that it became known to me that we did not  
05 have equipment that was going to be needed to  
06 track the subsea plume.

07 Q. When you -- when you discovered -- and I  
08 sort of mean -- to -- to go back over the  
09 testimony you mentioned earlier about not having  
10 the right fluorometers, about not having DO  
11 equipment that was realtime, about not being --  
12 having any equipment that could go below 550  
13 meters, you know, once that became apparent,  
14 were -- were you surprised that the -- those kinds  
15 of tools were not on the boat?

16 A. I was very surprised. Given the objective  
17 of the cruise, which was to find the presence of a  
18 subsea hydrocarbon plume, which it was postulated  
19 from the Unified Command that the plume could be  
20 somewhere around 800 meters depth because nobody  
21 knew yet, so that was one -- the models had shown  
22 it could be at that depth range, we did not have  
23 any tools to get any samples from below 550  
24 meters. Well, it was actually 600 meters was the  
25 max for the CTD to be accurate.

00249:01 So -- and it surprised me that we did  
02 not have any tools to allow us to accomplish that  
03 goal.

04 Q. Given your experience, could you have  
05 served as the chief scientist for the BROOKS  
06 MCCALL 1?

Page 249:08 to 249:12

00249:08 A. I think that any seasoned oceanographer  
09 could have served as chief scientist on that boat.

10 Q. (BY MS. FIDLER) Even given that there was  
11 only a five-day turnaround time?

12 A. Yes.

Page 249:14 to 263:13

00249:14 Q. (BY MS. FIDLER) If you had, would you  
15 have had difficulty procuring the kind of  
16 equipment you've mentioned needing prior to  
17 leaving?

18 A. One nice thing about the oceanographic  
19 community, because we all use different boats and

20 we use different types of equipment and we often  
21 share, is that in the Gulf region, within anywhere  
22 from a minimum of a two-hour drive from Port  
23 Fourchon to a max of maybe a 12-hour drive, there  
24 were all of the equipment that was needed was  
25 housed at various academic research institutions  
00250:01 and federal research institutions and state  
02 research institutions.

03 If whatever was ordered from -- by  
04 the chief scientist or by the contract groups to  
05 outfit the vessel did not arrive at Port Fourchon  
06 as they may have expected, if they had said, "We  
07 ordered a CTD and it was supposed to go down to  
08 2,000 meters," and what we had did not, changes  
09 could have been made at the dock to get that  
10 working.

11 Q. Within what kind of time frame, in your  
12 experience?

13 A. Well, LUMCON was within two hours from  
14 Port Fourchon.

15 Q. What's "LUMCON"?

16 A. LUMCON is the Louisiana University Marine  
17 Oceanographic -- and I don't know what the "N"  
18 stands for -- but essentially, it is the State of  
19 Louisiana's oceanographic university and  
20 institution community.

21 And LUMCON is a facility that's  
22 located in Louisiana that has a research vessel  
23 the Pelican. They have lots of scien --  
24 oceanographic equipment.

25 So my point being, is that in the  
00251:01 time of emergency when a piece of equipment were  
02 needed, there were places to look for it locally  
03 that were in drive -- well, very quick driving  
04 distance.

05 The Naval research lab at Stennis  
06 Space Center in Mississippi, for one example,  
07 their gliders were used during the response in the  
08 end. But they -- they also have CTDs that go full  
09 ocean depth. They have fluorometers.

10 And including at -- at Gulf Ecology  
11 Division we had a CDOM fluorometer that could go  
12 full ocean depth that could have been used to  
13 track hydrocarbons.

14 Q. So if you -- if you'd been asked when you  
15 were told to leave for the boat to bring a  
16 fluorometer, you could have brought the  
17 fluorometer that you needed?

18 A. Absolutely.

19 Q. Is that what you're saying?

20 A. Absolutely.

21 Q. Have you ever had to do that -- have you  
22 ever had to procure equipment while at sea?

23 A. There have been instances where -- prior  
24 to the BROOKS MCCALL --

25 Q. Right. I'm sorry.

00252:01 A. -- in my experience, there have been  
 02 instances where equipment would break on a vessel.  
 03 There's an example is -- is one where our vessel  
 04 wasn't the one procuring; but there was a  
 05 neighboring vessel out in the same vicinity where  
 06 we were in the northern Gulf, a piece of their  
 07 oceanographic equipment had broken. They needed  
 08 to borrow one, and we had a spare on our vessel.  
 09 So the boats rendezvoused and zodiac  
 10 vessels went back and forth, and we gave to them  
 11 the equipment that they needed so they could  
 12 continue their research cruise. It's not unheard  
 13 of.

14 Q. And how long did that take?

15 A. The request, all the way to when the piece  
 16 of equipment went to their boat, maybe five hours.

17 Q. Did you notify Dr. Aurand about the -- the  
 18 problems you had once you discovered the -- the  
 19 fluorometer --

20 A. Yeah. So --

21 Q. Well, I'm sorry. Let -- let -- let me  
 22 strike that.

23 When you found that the first  
 24 fluorometer you had mentioned, the -- the shallow  
 25 fluorometer wasn't capable of measuring oil at  
 00253:01 all, did you notify Dr. Aurand of that?

02 A. I actually notified Dr. Aurand of -- of  
 03 something slightly different with the fluorometer.  
 04 The ship tech and myself, upon unpacking the  
 05 equipment, and he was setting up the fluorometer  
 06 for the CTD -- and I will say that, by  
 07 coincidence, the ship tech and I had sailed  
 08 together previously on research vessel -- the R/V  
 09 GYRE for work in the northern Gulf probably eight  
 10 years before this cruise, so he's a very  
 11 experienced ship tech.

12 In any case, what came to light was  
 13 that the fluorometer that was provided, it was a  
 14 vertical profiling fluorometer, but it did not  
 15 measure CDOM or oil. It was a fluorometer that  
 16 was designed to measure chlorophyll, which is a  
 17 pigment.

18 So that particular unit, it wasn't  
 19 even just that there was a depth rating problem,  
 20 it actually didn't have the proper optics to  
 21 detect hydrocarbon concentration.

22 Q. And so did you notify Dr. Aurand of this  
 23 problem?

24 A. I did. I -- I told him immediately. I  
 25 saw -- as soon as I saw the -- what type of  
 00254:01 instrument it was and they always come with a --  
 02 call it a manual, but a little fact sheet guide,  
 03 you know, what -- what are the optics that it's  
 04 equipment -- equipped with, I immediately alerted  
 05 Don to the problem.

06 At that time, his response to me was,



07 and I near quote, I mean this is pretty much what  
08 he said, "You are the science expert. Make it  
09 work."

10 Q. Could you have made it work?

11 A. Not without nitrogen gas, a new filter  
12 set, and a cold room. Basically, I would have had  
13 to open the contents of -- open the container,  
14 swap out the optic components that were there, and  
15 reseal it up in an extremely dry environment,  
16 which doesn't exist in the middle of Gulf of the  
17 Mexico in summer, and then use it from there.

18 Q. Were you -- were your concerns about the  
19 fluorometer ever addressed after raising them to  
20 Dr. Aurand?

21 A. I, at that time -- and not just myself,  
22 Blake Schaeffer also expressed this concern, as  
23 well as the participants from DFO Canada. So we  
24 explained what the issue was at hand and that this  
25 equipment wasn't going to be useful for meeting  
00255:01 the objective of the cruise and requested that a  
02 different fluorometer be sent to the boat or that  
03 the boat could come back to port or a different  
04 port so that we can get what was needed.

05 And to the best of my knowledge, with  
06 the daily correspondence that Don had with Shorr,  
07 we thought that that request had been made. And  
08 the following day, we were -- the science party  
09 was told that a fluorometer was being sent to the  
10 boat via helicopter to a rig that we would then  
11 pick up via crane.

12 Q. And did that occur?

13 A. There was a box that was shipped out, and  
14 then we picked it up. And upon unpacking it, it  
15 was not a vertical profiling CDOM fluorometer or a  
16 hydrocarbon-sensing fluorometer like we had  
17 expected, but instead it was a towed fluorometer  
18 that was going to be mounted a meter to 3 meters  
19 off of the side of the boat, so not looking for  
20 the subsea plume but just monitoring surface oil.

21 Q. And had you explicitly told Dr. Aurand  
22 what kind of fluorometer you were -- you needed?

23 A. I did. In my field notes, there's the  
24 documentation -- fortunately for me -- because  
25 I -- I have fluorescence experience and I -- at my  
00256:01 institutions known numerous different fluorometers  
02 from different manufacturers, I have -- there are  
03 E-mails and there are phone numbers of the contact  
04 people -- the people I go to for tech support.

05 So I constructed a list of different  
06 units that could be used for this particular  
07 purpose and with phone numbers of the different  
08 manufacturers and offered to call them to see --  
09 you know, they have a record of which labs have  
10 which instruments, too, to find out geographically  
11 what would be -- if Louisiana State University had  
12 one, maybe, you know, we can work something out to

13 get it from them. And so I -- I told Don all of  
14 this.

15 So the fact that the fluorometer  
16 arrived that was not the type of fluorometer that  
17 was going to be needed surprised me.

18 Q. Were there -- we've mentioned equipment  
19 issues on the boat. Were there other concerns you  
20 had in terms of how the sampling was being done?

21 A. Yeah. So there were some other concerns.  
22 Mainly there's -- in addition to the in situ  
23 fluorescence, there was also a sample plan that  
24 called for monitoring fluorescence using a lab  
25 instrument.

00257:01 So you collect a water sample from  
02 the deep ocean, you bring it up onboard, and then  
03 you run it in a benchtop fluorometer. And that  
04 was supposed to be done by the -- the Canadian  
05 scientists aboard, and there were no fluorometers  
06 that came aboard the boat for them to do analysis  
07 while we were out there. So that was a concern.

08 So they were preserving the samples  
09 to analyze them back in the lab, but there were  
10 concerns if that preservation technique was going  
11 to interfere with the results because they hadn't  
12 tested that out previously. It was an  
13 acidification of the sample.

14 Q. What -- what were the impacts of this --  
15 the lack of equipment that you were mentioning?  
16 Were there impacts in terms of while you were on  
17 the boat, did it affect your ability to conduct  
18 research?

19 A. For the optical measurements, we had no  
20 way on that boat with the CTD only rated for 600  
21 meters, the LISST analyzer didn't go below I think  
22 it was 300 meters anyway, but they could take  
23 discrete samples and then run them in the  
24 instrument after the fact.

25 We had no way onboard that boat to  
00258:01 collect any samples in the subsea plume. Even if  
02 we were sitting right on top of it, if we picked a  
03 station that was fortuitous and it was right over  
04 the plume, we had no way to document it in the  
05 subsea.

06 Q. Is -- when you're trying to locate  
07 something on a research cruise like this, is it --  
08 do you -- is -- is the data -- strike that.

09 Why is realtime sampling important in  
10 a response cruise when you're trying to locate  
11 something?

12 A. Realtime gives you speediness. Realtime  
13 measurements allow you to collect your data faster  
14 so that it can inform your sampling strategy, your  
15 approach.

16 Q. When you say "inform your sampling  
17 strategy," what does that mean?

18 A. So if one imagines that if the BROOKS

19 MCCALL went out and we had a full ocean depth  
 20 rated package and we were able to collect samples  
 21 and data all the way down to, say, 1500 meters, we  
 22 could have figured out where the plume was and be  
 23 able to see it right on the screen so that we  
 24 could collect -- say, "Oh, look, the signals are  
 25 going up. We're in something. We need to verify  
 00259:01 if it's a plume or not. Fluorescence is saying  
 02 this, dissolved oxygen is saying this. We want to  
 03 take some discrete samples."

04 And in order for you -- in a realtime  
 05 situation, you actually have control of where we  
 06 call popping your Niskin bottles. Those are your  
 07 sample bottles on the CTD rosette. So you could  
 08 essentially very quickly trigger a bottle to close  
 09 right where the highest measurements are so that  
 10 you can see if there's a hydrogen carbon -- a  
 11 hydrocarbon concentration max in that sample.

12 Without that, what you do is you have  
 13 to --

14 Q. Uh-huh.

15 A. -- drop your package all the way to the  
 16 bottom. You can't look at it. You don't know if  
 17 it's high or low, bring it all the way back up,  
 18 download the data, look at it, assess it, and say,  
 19 "Oh, that plume or this area of interest was  
 20 located at 1100 meters. Let's send it all the way  
 21 back down 1100 meters. Let's pop a bottle there,"  
 22 and now hope that the boat hasn't drifted, that  
 23 the plume -- which is heterogeneous, you know,  
 24 it's patchy. It's not like a -- you know, it's  
 25 ups and downs. You've seen those profiles in the  
 00260:01 JAG reports -- that you haven't somehow shifted  
 02 and now, all of a sudden, you're at a minimum.  
 03 That slows things down tremendously.

04 But that's if we were able to sample  
 05 down there, which we couldn't anyway.

06 Q. In having -- you -- you mentioned earlier  
 07 in discussing the presentation provided about the  
 08 work of the JAG, that the flow -- the predominant  
 09 flow in the Gulf of Mexico was to the  
 10 west-southwest; is that -- is that correct?

11 A. In that particular region of the northern  
 12 Gulf, the -- the deepwater currents at about 1500  
 13 meters, the net flow was west-southwest.

14 Q. And is that where the BROOKS -- was -- was  
 15 that known or should -- could that have been known  
 16 prior to the -- the cruise departing Port  
 17 Fourchon?

18 A. So that -- the current data -- and there's  
 19 current data that is collected with ADCPs and  
 20 other methods in the Gulf in surface waters and  
 21 deep waters. NOAA conducts some of it. The Naval  
 22 Research Lab does a lot of current studies in the  
 23 northern Gulf. It surprised me with the planning  
 24 of the cruise that the local -- there was some

25 documents that alluded to having knowledge of the  
00261:01 local currents, but it didn't specify what they  
02 were.

03           Currents are variable. The magnitude  
04 is variable, and you do get the flow reverses on  
05 itself, you know. You get sometimes it will go  
06 one direction and the other times another. But  
07 the net flow, the overall average, is really what  
08 people are interested in.

09           And there's -- there's historic  
10 measurements on that, that even if you didn't have  
11 it specifically at that location of the wellhead,  
12 that maybe if you had one, I don't know, 50  
13 kilometers away, at least it was a place to start.  
14 And it surprised me that that information wouldn't  
15 have been something used by the chief scientist,  
16 in particular, at selecting where to do our  
17 sampling initially.

18           If you look at the BROOKS MCCALL 1  
19 sample station map, I believe there was about  
20 maybe 18 stations thereabout, and you were -- and  
21 there's circles -- concentric circles that go  
22 around the wellhead showing distances. If you  
23 look at that map, you will notice that those 18  
24 samples were all taken, with the exception of two,  
25 to the east of the wellhead.

00262:01           If a chief scientist did not have  
02 good hydrographic data, they had no idea what the  
03 currents may or may not be, right, because some  
04 parts of the ocean they don't know, it seems to me  
05 if you're searching for something, you wouldn't  
06 put all your eggs in one basket. You wouldn't  
07 stay all in one section. You would say, "Okay, if  
08 we're going to take, let's say, 20 samples, let's  
09 do four here, four there," and spread it out.  
10 You're looking for something. It's like a  
11 search-and-rescue pattern.

12           And so at the time of the cruise,  
13 because, you know, I'm not -- I wasn't the chief  
14 scientist and I wasn't laying out a sampling plan  
15 and didn't have GPS coordinates, you know, that I  
16 was readily looking at all the time, it's hard to  
17 know when you are on a boat where you are in the  
18 world if you're not the person keeping track of  
19 that.

20           So when we were taking all of our  
21 stations, it wasn't until after the fact when you  
22 look at that map that you say, "Well, that seems  
23 strange that you wouldn't have" -- if -- if you  
24 didn't know the flow, if you didn't know the  
25 currents, which there was ways to get at least a  
00263:01 historic measurement of the net flow in the  
02 deepwater environment.

03           And it seems to me that those  
04 stations and the way they were chosen were not  
05 optimized for finding a plume. You were

06 decreasing your chances. If a circle is  
07 separated -- you know, if you broke it up into 360  
08 degrees and you're only sampling maybe 45 to 60  
09 degrees of that, then you've lost all the -- the  
10 rest.  
11 Q. Do you consider that to be basic  
12 oceanography, or is that particularly advanced  
13 sampling strategy?

Page 263:15 to 264:08

00263:15 A. I consider any person who has an  
16 oceanography degree, even a bachelor's degree,  
17 should understand that.  
18 And, in fact, in reviewing -- when we  
19 went through JAG reports -- because those reports  
20 were reviewed by a lot of people, academic  
21 scientists, federal scientists, BP scientists, and  
22 I remember talking with other colleagues of mine,  
23 not on the JAG, but about sort of if you -- if you  
24 were to drop something in the ocean and  
25 somebody -- you wanted to find it but you had no  
00264:01 idea which way it went, what kind of search would  
02 you do? Most of the time people answer, "Oh, we  
03 start off in circles." It -- it's just -- it's  
04 logical. I mean, it -- it makes sense.  
05 Q. (BY MS. FIDLER) Dr. Conmy, you've  
06 testified about the delays in getting data from  
07 the BP contractors for the JAG report. What were  
08 the impacts of these delays, in your opinion?

Page 264:10 to 265:10

00264:10 A. The -- the data for the JAG analysis, all  
11 of the data came at different times, you know.  
12 Certain things, it's -- for example, it's easier  
13 to process standard temperature and salinity data  
14 and get a final result than it is to get  
15 fluorescence, than it is for DO, than it is for  
16 hydrocarbon discrete samples. So there -- there's  
17 an inherent wait time that one could expect with  
18 chemistry analysis.  
19 But according to members of the JAG,  
20 who were -- through NOAA and Ben Shorr who were  
21 trying to get the data for analysis, they would --  
22 they knew the samples were analyzed, but the data  
23 wouldn't get released to the JAG, and that was  
24 the -- the inherent delay.  
25 So the last samples for the response  
00265:01 were taken in the latter half of 2010, and we were  
02 writing the last report, it was 2012, early 2012.  
03 Q. (BY MS. FIDLER) So -- and these were BP  
04 contractors had the data, correct?  
05 A. Yeah.  
06 Q. Okay.

07 A. Yeah.  
08 Q. So presumably BP had access to that data,  
09 correct?  
10 A. I can't say that the contract labs --

Page 265:12 to 268:17

00265:12 A. -- gave to BP corporation the data. But  
13 their contract labs had the data.  
14 Q. (BY MS. FIDLER) So it was the government  
15 that didn't have access to the data, correct?  
16 A. Yes. Yeah.  
17 Q. And what were your -- so the BROOKS  
18 MCCALL, when it went out, was the first cruise to  
19 be looking for the plume, correct?  
20 A. Yeah. The BROOKS MCCALL 1 cruise, the  
21 objective was to find the subsea plume.  
22 Q. Do you recall whether there was public  
23 concern about the use of subsea dispersants at the  
24 time the BROOKS MCCALL 1 went out?  
25 A. Yes.  
00266:01 Q. Could you describe those concerns?  
02 A. Well -- and this is not as an  
03 oceanographer or a responder or an EPA person, but  
04 just as a public citizen of the -- I mean, I lived  
05 in the Gulf. I lived in Pensacola at the time.  
06 There were a lot of concerns by the public  
07 citizens. There were -- it was in the paper, it  
08 was on the news, it was -- it was everywhere, if  
09 we used dispersants, what's going to happen to the  
10 Gulf, that people were concerned about seafood  
11 safety, the health of their kids at the beach.  
12 I mean, there was a lot of -- you  
13 know, when information isn't released, the public  
14 can get scared, you know. It -- it doesn't help  
15 when there is not a solid body of evidence or  
16 information that can help put people's minds at  
17 ease that their natural resources are not going to  
18 be ruined in some way or that their health isn't  
19 going to be affected.  
20 Q. Was there concern within the scientific  
21 com -- community about the use of subsea  
22 dispersants?  
23 A. There were.  
24 Q. Could you describe concerns that -- with  
25 which you're familiar?  
00267:01 A. Well, for one thing -- and it was in all  
02 these draft plans and -- and directives, was that  
03 along with the monitoring for the plume, that  
04 dissolved oxygen measurements were also going to  
05 be made.  
06 And that was there because there was  
07 the thought that if there were -- was -- if you  
08 introduce organic matter, doesn't matter what the  
09 source is. If you have a lot of organic matter

10 released into a volume of water with microbes,  
 11 they are going to eat that stuff. It's the right  
 12 size. If they -- if it's palpable to them, they  
 13 will respire it.

14 That process reduces your oxygen  
 15 levels in that volume of water. If that is  
 16 reduced to such a large degree such that it's  
 17 below the 2 milligrams per liter, that water can  
 18 become hypoxic. And if there's not enough oxygen,  
 19 aquatic life can die.

20 So there were -- in the scientific  
 21 community, there were concerns that if the plume  
 22 stay -- if -- if there is, in fact, a plume and  
 23 there's a lot of dissolved oil and small dispersed  
 24 droplets of oil, that the respiration of that  
 25 could result in a hypoxic event. As such, there  
 00268:01 were directives and sampling plans all state that  
 02 dissolved oxygen had to be monitored.

03 Q. Were there concerns that the plume might  
 04 migrate?

05 A. Just like any plume of anything in the  
 06 ocean, you -- you have a water mass, and you've  
 07 got -- it has certain properties. There are  
 08 physics that are putting pressure on that to move  
 09 it side to side, up/down, downstream. There's  
 10 going to be a flow that occurs.

11 So the oil being released at the  
 12 wellhead, given that there's currents there, there  
 13 is the expectation that it's going to move or be  
 14 advected away from the wellhead.

15 Q. And was there concern that oil would ri --  
 16 would -- would actually become buoyant and come  
 17 back to the surface?

Page 268:19 to 270:03

00268:19 A. The -- there was a concern about would oil  
 20 not rise with the buoy -- would -- so droplets in  
 21 the ocean would be neutrally buoyant if they are  
 22 very small and then be consumed.

23 But for things that aren't all the  
 24 way down in, let's say, the 2 micron range, but  
 25 things that might be more in the 50 micron range,  
 00269:01 they'd rise, but it would be a very slow rise.  
 02 Maybe it takes -- I don't know -- three months for  
 03 it to rise because you have a lot of currents and  
 04 you've got things -- you have mixing and  
 05 overturning and things that are happening to that  
 06 droplet.

07 So depending on the dispersion  
 08 efficiency and depending on if the chemical  
 09 dispersant comes in contact with all the oil  
 10 droplets, which there's evidence that says it  
 11 wasn't, that it was a combination, but there was  
 12 thought that you could get re-coalescence, and

13 droplets could rise to the surface and still make  
14 it into the upper water column.

15 Q. (BY MS. FIDLER) So is it fair to say that  
16 there was a lot of public concern regarding  
17 whether or not the subsea application of  
18 dispersants was keeping oil down at the bottom of  
19 the ocean and that it was not hypo -- at hypoxic  
20 levels?

21 A. Yes. That's one of the reasons why the  
22 JAG was established, to be able to review that  
23 data.

24 Q. And do you feel -- or strike that.  
25 Was it your impression that the --  
00270:01 the data being collected on the first BROOKS  
02 MCCALL cruise was of critical time importance?  
03 A. Yes.

Page 270:05 to 270:13

00270:05 Q. (BY MS. FIDLER) Dr. Conmy, I'd like to  
06 show you a document that has been marked  
07 Exhibit 11844. At the top it says: "May 26,  
08 2010, Dispersant Monitoring and Assessment  
09 Directive - Addendum 3."  
10 Do you -- did I cite that correctly?  
11 A. Yes.  
12 Q. Have you seen this document before?  
13 A. I have seen this text before.

Page 270:22 to 272:02

00270:22 Q. And restating, can you describe what the  
23 directive is about?  
24 A. The directive is describing, in the first  
25 part, the "Reduction in the Use of Dispersants,"  
00271:01 and it is a directive to -- for the responsible  
02 party to eliminate the surface application of  
03 dispersants and to limit the volume of or the  
04 amount of dispersants used in the subsea  
05 application.  
06 Q. Do you have knowledge of any of the people  
07 involved in determining the volume of subsurface  
08 dispersants?  
09 A. I was not directly involved, but -- but I  
10 do know some of the -- the groups -- the working  
11 group that was put together to review this.  
12 Q. And who were some of those people?  
13 A. Al Venosa was one of them and people from  
14 the Office of Emergency Management at  
15 headquarters, EPA headquarters, and I -- also  
16 Unified Command, I'm sure, was -- representatives  
17 were involved.  
18 Q. Do you have any knowledge as to how that  
19 limits the -- the -- referring specifically to the  
20 "Subsurface Application," it states: "BP shall be



21 limited to a maximum subsurface application of  
 22 dispersant of not more than 15,000 gallons in a  
 23 single calendar day."

24 Did I read that correctly?

25 A. Yes.

00272:01 Q. Do you have any knowledge of how that  
 02 limit was set in terms of the 15,000 gallons?

Page 272:04 to 273:07

00272:04 A. Yes. At -- at the time of the spill,  
 05 administrator Lisa Jackson had set the limit as  
 06 15,000 gallons per day. And that number was  
 07 derived from estimates on the flow rate, which  
 08 early in the response, as we all know now, those  
 09 estimates were not as reliable. So that I think  
 10 in May, there was -- initially there was 5,000  
 11 barrels per day were being released; and then  
 12 shortly after, it changed to 15,000. And then by  
 13 the end, it was 35 to 65,000.  
 14 And so in order to come up with the  
 15 volume of dispersant that would be needed, there's  
 16 a target dissolve -- excuse me, dispersant-to-oil  
 17 ratio. We call it a DOR. If you look through a  
 18 lot of the lab studies, you'll see that number.  
 19 So if you want to effectively disperse oil into a  
 20 water column, you need a certain ratio of the  
 21 dispersant you apply to your oil; and those can  
 22 range between 1 to 5, all the way to 1 to 100.  
 23 The target is usually, for like NCP  
 24 testing, about 1 to 20, 1 to 25. And so in order  
 25 to establish what a conservative number would be  
 00273:01 so that we weren't -- so that the agency and the  
 02 U.S. government as a whole were not adding more  
 03 dispersant than was needed to disperse the volume  
 04 of oil that was present on any given day, what  
 05 they needed was a range of a flow rate estimate  
 06 and then knowing that DOR of, let's say, 120 to  
 07 125.

Page 273:14 to 274:06

00273:14 Q. (BY MS. FIDLER) Please continue.  
 15 A. Okay. So -- so if, let's say, you have  
 16 two numbers and one is more conservative and you  
 17 say, "Oh, we -- we only think there's 30,000  
 18 barrels released in a day," and then we have  
 19 another one that says 65,000 barrels per day,  
 20 knowing what the target DOR is -- and that's  
 21 critical, you know. Knowing that you just want to  
 22 keep in that range, but you don't want to put too  
 23 much in, then you're going to go with whatever the  
 24 smaller number is that you come up with, and  
 25 that's how the group had derived the 15,000.  
 00274:01 I don't know what the higher number

02 was that they might have had. I wasn't privy to  
03 that. But that's how this number basically arose.  
04 But at the crux of it, I guess  
05 valuable and more accurate flow rate data was  
06 critical in that.

Page 274:21 to 275:10

00274:21 Q. Dr. Conmy, you weren't a member of the  
22 RRT, were you?  
23 A. I was not.  
24 Q. And you were not a member of the Unified  
25 Command?  
00275:01 A. I was not a member of the Unified Command.  
02 Q. And you were not a member of the NIC?  
03 A. No.  
04 Q. You were not involved in conversations  
05 with the RRT regarding its approval of subsea  
06 dispersants?  
07 A. I was not.  
08 Q. And you were not involved in conversations  
09 that RRT had with EPA and other agencies regarding  
10 the approval of subsea dispersants?

Page 275:12 to 275:16

00275:12 A. No, I was not.  
13 Q. (BY MS. PREHEIM) In fact, you testified  
14 earlier that you were not involved in any such  
15 conversations about subsea dispersants until  
16 shortly before you boarded BROOKS MCCALL, correct?

Page 275:18 to 275:25

00275:18 A. Shortly before the BROOKS MCCALL left port  
19 was the first time I had any involvement in  
20 discussion of the purpose of the cruise or subsea  
21 dispersants and the like.  
22 Q. (BY MS. PREHEIM) So you had not been  
23 involved in any conversations regarding the  
24 process of seeking approval of subsea  
25 dispersants --

Page 276:02 to 276:24

00276:02 Q. (BY MS. PREHEIM) -- prior to that time?  
03 A. Prior to that time, no.  
04 Q. When you were chief scientist on the  
05 cruises that you testified about, do you remember  
06 that testimony?  
07 A. Yes, I do.  
08 Q. You did not, when you were chief  
09 scientist, have to coordinate with multiple

10 agencies regarding the -- the cruise that you  
11 conducted, correct?

12 A. Can you define "agencies"?

13 Q. You did not have to coordinate with the  
14 United States Coast Guard, EPA, NOAA, and state  
15 agencies, and the Unified Command in conducting  
16 those research cruises, correct?

17 A. When I served as chief scientist, I had to  
18 coordinate with state agencies.

19 Q. How many at once?

20 A. One state agency.

21 Q. And when you were chief scientist, you did  
22 not conduct or -- or lead the cruise under the  
23 circumstances of -- of -- to the degree and scope  
24 of the DEEPWATER HORIZON response, did you?

Page 277:01 to 277:12

00277:01 A. When I served as chief scientist, it was  
02 not for a cruise under the circumstances such as  
03 the DEEPWATER HORIZON.

04 Q. (BY MS. PREHEIM) Yeah. You never -- you  
05 never served as chief scientist on a cruise in  
06 connection with an oil spill of national  
07 significance?

08 A. No.

09 Q. Dr. Conmy, with respect to subsea  
10 dispersant -- dispersants, everything with respect  
11 to subsea dispersants was approved by the FOSC,  
12 correct?

Page 277:15 to 277:21

00277:15 A. The use of subsea dispersants, the  
16 approval to use subsea dispersants would have  
17 ultimately had to have been decided upon by the  
18 FOSC.

19 Q. (BY MS. PREHEIM) And not only the  
20 approval, but the testing of subsea dispersants,  
21 correct?

Page 277:23 to 277:23

00277:23 A. To the best of my knowledge, that's true.

Page 278:07 to 278:13

00278:07 Q. (BY MS. PREHEIM) Is it your testimony  
08 that the FOSC was not -- was not the  
09 decision-maker of -- with respect to operations --  
10 with -- withdrawn.

11 The FOSC and Unified Command had to  
12 approve the implementation of subsea dispersant

13 operations, correct?

Page 278:16 to 278:19

00278:16 A. To the best of my knowledge.  
17 Q. (BY MS. PREHEIM) And, in fact, the FOSC  
18 and Unified Command did approve the implementation  
19 of subsea dispersant operations, correct?

Page 278:21 to 278:24

00278:21 A. True.  
22 Q. (BY MS. PREHEIM) And the FOSC approved  
23 subsea dispersant operations in consultation with  
24 NOAA, correct?

Page 279:01 to 279:05

00279:01 A. The FOSC would have had to coordinate with  
02 the Unified Command of which NOAA was a part of.  
03 Q. (BY MS. PREHEIM) So the answer to my  
04 question is yes, the FOSC approved the use of  
05 subsea dispersants in consultation with NOAA?

Page 279:07 to 279:10

00279:07 A. I would imagine so, yes.  
08 Q. (BY MS. PREHEIM) And the FOSC approved  
09 the use of subsea dispersant operations in  
10 consultation with EPA, correct?

Page 279:13 to 279:20

00279:13 A. Sorry.  
14 Just as previously stated, EPA is --  
15 is part of the Unified Command as well, so I would  
16 assume yes.  
17 Q. (BY MS. PREHEIM) And FO -- the FOSC  
18 approved the use of subsea dispersants in  
19 consultation with members of the United States  
20 Coast Guard, correct?

Page 279:22 to 279:25

00279:22 A. Yes.  
23 Q. (BY MS. PREHEIM) The FOSC approved  
24 initial testing of subsea dispersants in  
25 consultation with EPA, did it not?

Page 280:02 to 280:02

00280:02       A.   Yes.

Page 280:04 to 280:06

00280:04       Q.   (BY MS. PREHEIM)   And the FOSC approved  
05   initial testing of subsea dispersants in  
06   consultation with NOAA, correct?

Page 280:09 to 280:16

00280:09       A.   Yes.  
10       Q.   (BY MS. PREHEIM)   And the FOSC --  
11   withdrawn.  
12               There were numerous meetings between  
13   the RRO -- RRT, FOSC, NOAA, EPA, United States  
14   Coast Guard, and other agencies over a compressed  
15   period of time with respect to the testing of  
16   subsea dispersants, correct?

Page 280:19 to 281:03

00280:19       A.   I can't comment on the number of meetings.  
20   I -- it was before my involvement.  
21       Q.   (BY MS. PREHEIM)   Right.  You can't  
22   comment on them because you were not involved in  
23   those meetings?  
24       A.   Correct.  
25       Q.   After approval of the use of subsea  
00281:01   dispersants by the FOSC in consultation with the  
02   agencies we've discussed, EPA never stopped the  
03   use of subsea dispersants, did it?

Page 281:08 to 281:12

00281:08       Q.   (BY MS. PREHEIM)   The full-scale use.  
09       A.   The EPA did not stop the full-scale use of  
10   subsea dispersants.  
11       Q.   And the FOSC never stopped the use of  
12   full -- of full-scale subsea dispersants, correct?

Page 281:14 to 281:17

00281:14       A.   Yes.  
15       Q.   (BY MS. PREHEIM)   And no other agencies  
16   stopped the use of subsea dispersants?  
17       A.   During the response --

Page 281:19 to 281:19

00281:19       A.   -- no.

Page 282:12 to 282:15

00282:12 Q. It is true that the EPA has made public  
13 statements supporting the use of subsea  
14 dispersants during the DEEPWATER HORIZON response,  
15 correct?

Page 282:17 to 282:18

00282:17 A. It is true. I have seen EPA statements on  
18 that matter.

Page 283:17 to 283:21

00283:17 Q. (BY MS. PREHEIM) I -- I'll -- that -- my  
18 question is this: Is it correct that the EPA has  
19 made public statements that the use of subsea  
20 dispersants in the DEEPWATER HORIZON response were  
21 effective -- was -- was effective?

Page 283:23 to 284:04

00283:23 A. To the best of my knowledge, I've seen  
24 statements that say that the use of subsea  
25 dispersants was successful.  
00284:01 Q. (BY MS. PREHEIM) And the EPA has made  
02 public statements that dispersants were an  
03 important -- subsea dispersants were an important  
04 tool in their response, correct?

Page 284:06 to 284:06

00284:06 A. Yes.

Page 284:16 to 284:20

00284:16 Q. It's true that Lisa Jackson, as the EPA's  
17 administrator, has made public statements that the  
18 use of subsea dispersants have been an effective  
19 tool in preventing oil from devastating the  
20 coastline of the Gulf, correct?

Page 284:22 to 285:04

00284:22 A. If I remember correctly, from the tab  
23 somewhere in these documents, that Lisa Jackson's  
24 statements about the use of subsea dispersants was  
25 that it was successful in the Gulf.  
00285:01 Q. (BY MS. PREHEIM) And Lisa Jackson has  
02 testified before Congress stating that the use of  
03 subsea dispersants were effective in the response,  
04 correct?

Page 285:06 to 285:13

00285:06 A. I have not watched her testimony. But I  
07 know she has testified to Congress; but I haven't  
08 seen all the, you know, transcripts. I didn't  
09 follow that. I'm sorry.  
10 Q. (BY MS. PREHEIM) Do you have any reason,  
11 sitting here today, to believe that Lisa Jackson  
12 did not testify truthfully before Congress about  
13 the effective use of subsea dispersants?

Page 285:16 to 286:01

00285:16 A. I have no reason to believe that Lisa  
17 Jackson would not be truthful in her testimony.  
18 Q. (BY MS. PREHEIM) Dr. Conmy, you -- and --  
19 and, again, we looked at the criteria for shutting  
20 down subsea dispersant operations in the EPA's  
21 directive earlier.  
22 Do you recall that?  
23 A. Yes.  
24 Q. And, again, at no time did the FOSC or the  
25 EPA shutdown subsea dispersant operations in the  
00286:01 DEEPWATER HORIZON response, correct?

Page 286:04 to 286:04

00286:04 A. Correct.

Page 291:09 to 292:21

00291:09 Q. (BY MS. PREHEIM) Where are those concerns  
10 documented, the concerns that you raised today,  
11 about the equipment on the BROOKS MCCALL 1 cruise?  
12 A. Some of those concerns would be in my  
13 field notebook. Those concerns would be in  
14 correspondence that existed between Unified  
15 Command and the people they were coordinating  
16 with. We -- when I say, "we" I mean Blake  
17 Schaeffer and myself, were verbally communicating  
18 these concerns to Sam Coleman at Unified Command.  
19 Q. Where else were these equipment concerns  
20 documented?  
21 A. One way that they -- the concerns were  
22 certainly captured, I would say, is in the  
23 addendum that was created to the sampling plan  
24 that came out after May 10th, which had specific  
25 recommendations that were drafted by Blake  
00292:01 Schaeffer and myself on what type of sampling  
02 should be occurring, given the limitations that we  
03 had in the equipment on the R/V BROOKS MCCALL 1.  
04 Q. And this was an addendum that was issued

05 after the BROOKS MCCALL cruise?

06 A. Yes.

07 Q. Where else were the concerns with  
08 equipment documented that you raised today in your  
09 testimony?

10 A. With the verbal communications that I  
11 myself had with -- you know, various entities  
12 involved in the response with trying to convey  
13 that we needed different commit -- equipment. I  
14 wasn't necessarily writing all of them via E-mail.  
15 Some -- a lot of that was phone call.

16 But I -- I do know that Al Venosa had  
17 E-mail communications with people expressing the  
18 need for different fluorometers to be onboard the  
19 ships, that there were problems with the DO  
20 meters, the Hach kits and LaMotte kits that were  
21 used.

Page 294:19 to 295:06

00294:19 Q. And the JAG reports talk specifically  
20 about the equipment issues you raised today on the  
21 BROOKS MCCALL 1 cruise?

22 A. My testimony, of course, was a bit  
23 broader. So the JAG report that I was just  
24 referring to deals only on the dissolved oxygen  
25 side, not on any of the other issues, the depth  
00295:01 issue, or the wrong fluorescence instruments,  
02 and -- and things like that.

03 Q. So if I understand your testimony, the JAG  
04 reports do not discuss the equipment issues you've  
05 raised today?

06 A. Not --

Page 295:08 to 295:08

00295:08 A. Not for the CTDs and for the fluorometers.

Page 296:14 to 296:16

00296:14 Q. Any other reports, government reports  
15 where -- that document the equipment problems that  
16 you identified today?

Page 296:18 to 296:23

00296:18 A. No, not to my knowledge.

19 Q. (BY MS. PREHEIM) The equipment issues  
20 that you identified, you don't know that the  
21 equipment that you specified was available for  
22 certain at the time of the BROOKS MCCALL 1 cruise,  
23 do you?



Page 296:25 to 297:02

00296:25           A. No, I don't.  
00297:01           Q. (BY MS. PREHEIM) You don't know what  
02   equipment had been requested?

Page 297:04 to 297:23

00297:04           A. The E-mail exchanges that I saw, not at  
05   the time of the response, after, prior to the  
06   BROOKS MCCALL, showed that BP contract employees  
07   were attempting to secure equipment and thought  
08   initially they had the -- the CTD that would be  
09   needed.  
10                   But it was addressed in the E-mail I  
11   think it was four days before the BROOKS MCCALL  
12   left that they did not have one that was the  
13   proper depth.  
14           Q. They tried to get one?  
15           A. They secured one and then was pointed out  
16   that they didn't have the proper one, and I saw no  
17   correspondence after that. You know, it wasn't  
18   shown to me if they tried to continue to get one  
19   that was -- or tried to get one that was the  
20   proper depth.  
21           Q. So as far as you know, they did try to  
22   continue getting the proper depth CTD but were  
23   unable to?

Page 297:25 to 298:01

00297:25           A. I -- I have no knowledge of them trying or  
00298:01   not trying.

Page 298:21 to 300:12

00298:21           Q. And you don't know that -- whether --  
22   excuse me.  
23                   Sitting here today, you don't know  
24   whether the chief scientist, in fact, requested  
25   the correct fluorometer and the wrong fluorometer  
00299:01   was delivered, correct?  
02           A. Correct.  
03           Q. You don't -- you talked about equipment  
04   in -- held by agencies and academic institutions  
05   around the Gulf, if I recall your testimony  
06   correctly?  
07           A. Academic and federal institutions,  
08   agencies, in the Gulf of Mexico region, there are  
09   numerous ones that own that equipment.  
10           Q. You don't know whether that equipment was  
11   available at the time of the BROOKS MCCALL 1  
12   cruise, do you?  
13           A. I do not know for certain that the

14 equipment was available at those institutions,  
 15 except to say that even if half the institutions  
 16 didn't have them, maybe half did. And it would be  
 17 good to know if there was an attempt to contact  
 18 any of those institutions.

19 Q. And you don't know whether, in fact, an  
 20 attempt was made?

21 A. I know that no attempt was made for the  
 22 Gulf Ecology Division because we have a lot of  
 23 this equipment sitting at the Gulf Ecology  
 24 Division, and we -- and when I say "we," I mean  
 25 the chief scientists and the -- the PIs at the  
 00300:01 Gulf Ecology Division that maintain those  
 02 instruments of, which I was one of them -- were  
 03 never contacted or told that the response was in  
 04 need of certain equipment, that they couldn't  
 05 secure it and they needed it.

06 Q. You don't know whether BP was aware that  
 07 the Gulf Ecology Division had such equipment?

08 A. No, I was not.

09 Q. And you don't know what conversations BP  
 10 may have had with other representatives of EPA  
 11 regarding equipment for the BROOKS MCCALL vessel,  
 12 correct?

Page 300:14 to 300:25

00300:14 A. Not to my knowledge. But I will say also  
 15 that there in the E-mail correspondence leading up  
 16 to the cruise when BP was securing the equipment,  
 17 there was a suggestion made by a BP person that  
 18 the contract staff could reach out to agents, that  
 19 they specifically call out an institution, which  
 20 was LSU, for equipment if they can't get it  
 21 anywhere else. I don't know if LSU was ever  
 22 contacted for that equipment.

23 Q. And you don't know the demands during the  
 24 time of the response on the equipment held by  
 25 various institutions around the Gulf?

Page 301:02 to 302:09

00301:02 A. No, I do not.

03 Q. (BY MS. PREHEIM) Dr. Conmy, the problems  
 04 with -- that you identified with realtime data --

05 A. Yes.

06 Q. -- where are those issues documented?

07 A. Again, in the addendum that you have in  
 08 front of you, it captures the -- a need for  
 09 realtime sampling would need to be implemented,  
 10 collected.

11 MS. PREHEIM: Let -- let's mark this  
 12 as an exhibit since we're talking about.

13 THE WITNESS: Okay.

14 MS. PREHEIM: Do we have an extra

15 copy?  
16 MS. GHILAIN: Yes.  
17 (Marked Exhibit No. 12076.)  
18 THE WITNESS: Thank you. 12076.  
19 Q. (BY MS. PREHEIM) It is 12076. Thank you.  
20 And this is Addendum 1 to the  
21 "Dispersant Monitoring and Assessment Directive  
22 For Subsurface Dispersant Application," dated  
23 May 14, 2010?  
24 A. Yes.  
25 Q. And is this the adaptive sampling that you  
00302:01 had testified about earlier?  
02 A. This was an example with -- of the  
03 adaptive strategy.  
04 Q. Anywhere else that the problems you  
05 identified with realtime data were documented?  
06 A. Not to my knowledge.  
07 Q. So they were not documented in any  
08 government reports?  
09 A. Not to my knowledge.

Page 303:03 to 303:06

00303:03 Q. I'm -- I'm trying to understand why you  
04 believe that the equipment problems you've  
05 identified today on the BROOKS MCCALL vessel, what  
06 the consequence of those were.

Page 303:08 to 304:16

00303:08 A. On the R/V BROOKS MCCALL 1, the main  
09 objective, as we've discussed here today, was to  
10 locate any subsea oil, if there was a plume and  
11 where that was. Because there was only estimates  
12 based on models of where Unified Command believed  
13 the plume would be in a -- at a certain depth, not  
14 horizontal extent.  
15 So we had five days of sampling on  
16 the BROOKS MCCALL, and none of the equipment could  
17 go to the depth that was needed to find the plume.  
18 If you can't sample the plume, you can't get a  
19 particle size distribution.  
20 If you don't have particle size  
21 distribution, you can't say that there was  
22 chemical dispersion, natural dispersion.  
23 And if you can't measure  
24 fluorescence, you have no idea of -- if there's --  
25 if those particle are oil or not. The particle  
00304:01 size analyzer doesn't tell you if you have oil.  
02 It just tells you the size of the droplets that  
03 are there or particles. The fluorometers can tell  
04 you if you have oil.  
05 So without having those measurements,  
06 there was no way for us to document if a plume  
07 occurred or existed. And without knowing that,

08 you couldn't really say if the injection was  
09 successful. If it was work -- was it, in fact,  
10 touching oil, coming in contact with oil, and  
11 helping to form a plume of smaller droplets.  
12 Q. (BY MS. PREHEIM) And so if the BROOKS  
13 MCCALL Cruise 1 had the fluorometer and the CTD  
14 profiling and the other equipment that you  
15 identified earlier today, what would have  
16 happened?

Page 304:18 to 305:18

00304:18 A. The location of the plume could have been  
19 found -- I -- I don't know the date of the second  
20 cruise that went out exactly, but certainly it  
21 wasn't out in a week. So a whole week earlier of  
22 sampling for hydrocarbon concentration and where  
23 the plume -- what direction it was heading.  
24 Remember, at the end of the BROOKS  
25 MCCALL 1, since we couldn't sample the plume, we  
00305:01 didn't know if the plume was going to the  
02 west-southwest. We didn't know if it was going to  
03 the east. We hadn't even accomplished the one  
04 goal which was set out -- which was the purpose of  
05 the cruise, find if there is a plume.  
06 Q. (BY MS. PREHEIM) So if I'm understanding  
07 you, it is your testimony today that if the  
08 equipment you've identified had been on the BROOKS  
09 MCCALL Vessel No. 1, the approval of the subsea  
10 dispersant application would have been given  
11 earlier?  
12 A. I can't say if it would be given earlier,  
13 but it could have allowed that to happen.  
14 Q. But you don't know one way or the other?  
15 A. But I don't know one way or another. All  
16 I can say is not having that equipment did not  
17 allow the science party onboard to achieve the  
18 goal which was set out for the BROOKS MCCALL 1.

Page 306:07 to 306:24

00306:07 Q. So is it your testimony today on behalf of  
08 the United States that if the equipment you've  
09 identified had been on the BROOKS MCCALL, approval  
10 of subsea dispersants might have been given  
11 earlier?  
12 A. The data would have been collected so that  
13 a decision could have -- on whether or not it --  
14 the subsea dispersants were, in fact, forming a  
15 subsea plume, that data would have allowed Unified  
16 Command to know that for certain and which  
17 direction the plume was headed.  
18 Q. I'm not sure I understood your answer.  
19 So your testimony today on behalf of  
20 the United States is that the equipment you've

21 identified, if it had been on the BROOKS MCCALL,  
22 it would have allowed approval of subsea  
23 dispersants earlier than when the approval was  
24 actually granted?

Page 307:01 to 308:01

00307:01 A. By having good data in a timely fashion,  
02 it speeds up decision-making.  
03 Q. (BY MS. PREHEIM) Okay.  
04 A. It potentially could have done that.  
05 I wasn't a decision-maker; but I will  
06 say as a scientist collecting that data, it was my  
07 job -- it was everybody's job on that boat to get  
08 the highest quality data in the most rapid time  
09 frame possible. And if you don't have the  
10 equipment to do it, we did not get that data to  
11 Unified Command quickly.  
12 Q. The cruise lasted from May 7 to 12?  
13 A. The -- well, we left port on I think it  
14 was the morning of the 8th. We were on the boat  
15 but preparing at dock -- at dock --  
16 Q. And you --  
17 A. -- on the 7th.  
18 Q. I'm sorry to interrupt.  
19 And you returned to shore when?  
20 A. I believe it was the 12th.  
21 Q. And approval of full-scale subsea  
22 dispersant operations was authorized on May 15?  
23 A. I -- I believe that's right.  
24 Q. An approval was granted by the FOSC, in  
25 consultation with EPA, NOAA, and the United States  
00308:01 Coast Guard, correct?

Page 308:03 to 308:08

00308:03 A. Approval was granted on that date by the  
04 FOSC.  
05 Q. (BY MS. PREHEIM) An approval was granted  
06 even without the data that you have testified  
07 today might have been obtained with different  
08 equipment?

Page 308:10 to 308:23

00308:10 A. The approval was granted without the data  
11 in the subsea environment -- without -- without  
12 data from the subsea environment. So you said,  
13 "An approval was granted even without the data  
14 that you have testified today might have been  
15 obtained with different equipment."  
16 Q. (BY MS. PREHEIM) The data obtained  
17 during -- with the different fluorometer that you  
18 identified, with the different CTD profiler that

19 you identified.  
20 A. Uh-huh.  
21 Q. And nevertheless, the FOSC, in  
22 consultation with EPA, granted approval of subsea  
23 dispersant operations on May 15, correct?

Page 308:25 to 309:11

00308:25 A. Even without that data -- and granted,  
00309:01 Unified Command and the FOSC had lots of different  
02 input that I was not privy to, I'm not a  
03 decision-maker, I wasn't there when I was on the  
04 BROOKS MCCALL -- this was one -- one facet of  
05 information that they were using to make that  
06 decision, and we did not have the data below 600  
07 meters.  
08 Q. (BY MS. PREHEIM) Are you aware of any  
09 study undertaken to determine any impact of the  
10 delay that you're claiming a -- the lack of  
11 equipment on the BROOKS MCCALL 1 had?

Page 309:13 to 309:16

00309:13 A. Are you asking if there's ever been an  
14 analysis done to quantify the number of days or  
15 time delay that could have resulted? Not to my  
16 knowledge.

Page 310:17 to 310:22

00310:17 Q. (BY MS. PREHEIM) And, again, you were not  
18 involved in any of the -- the conversations and  
19 the -- with respect to the decision on May 15 to  
20 grant approval of full sca -- scale dispersant  
21 operations?  
22 A. No, I was not.

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL	)	MDL NO. 2179
BY THE OIL RIG	)	
"DEEPWATER HORIZON" IN	)	SECTION "J"
THE GULF OF MEXICO, ON	)	
APRIL 20, 2010	)	JUDGE BARBIER
	)	MAG. JUDGE SHUSHAN

\*\*\*\*\*

VOLUME 1

\*\*\*\*\*

Deposition of ROBYN CONMY, Ph.D., taken at  
Pan-American Building, 601 Poydras Street,  
11th Floor, New Orleans, Louisiana, 70130, on the  
26th day of June, 2014.

1 THE STATE OF TEXAS     )  
2 COUNTY OF HARRIS     )  
3

4 I, Donna L. Garza, Certified Shorthand  
5 Reporter in and for the State of Texas, do hereby  
6 certify that the above and foregoing contains a  
7 true and correct transcription of all portions of  
8 evidence and other proceedings in the above-styled  
9 and numbered cause, all of which occurred and were  
10 reported by me.

11 I further certify that I am neither  
12 counsel for, related to, nor employed by any of  
13 the parties or attorneys in the action in which  
14 this proceeding was taken, and further that I am  
15 not financially or otherwise interested in the  
16 outcome of the action.

17 GIVEN UNDER MY HAND AND SEAL OF OFFICE,  
18 on this, the 3rd day of July, 2014.

19 *Donna Garza*

20 DONNA L. GARZA  
21 TEXAS CSR NO. 4785  
22 Expiration Date:  
23 12-31-15



24 WORLDWIDE COURT REPORTERS, INC.  
25 Firm Registration No. 223  
3000 Weslayan, Suite 235  
Houston, Texas 77027  
(800) 745-1101



## WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
9/18	Schubauer	misspelled
10/6	'alike', NOT 'a lot'	misTyped
11/23	'remediation techniques'	misTyped
12/9	'cruise', NOT 'crews'	misTyped
78/21	'was', NOT 'has'	misTyped
90/13	The use of 'in field' doesn't make sense here. NOT CERTAIN IF I STATED THIS INCORRECTLY (b/c I collected in field oxygen) or if recorded improperly	clarification
107/24	should read "... release where subsequent..."	misTyped
110/1	"To the best of my knowledge, that may have occurred."	misTyped
213/17 113/17 both	"SCRIBE" in caps	misTyped
114/13	"various", NOT "variance"	misTyped
115/10	"management plan and cruise..."	misTyped
148/14	"Fluoresce", NOT "Fluorescence"	misspelled
149/13	'AQUATRACKA'	misTyped
174/5	I do NOT know a Rick Bennett. This may be Rick Greene from Gulf Ecology Division	clarification
182/6	'bonds', NOT 'bounds'	misTyped

  
ROBYN CONNOLLY, Ph.D.

Worldwide Court Reporters, Inc.  
PURSUANT TO CONFIDENTIALITY ORDER

## WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
215/4	'analyses'	misTyped
250/16	'Louisiana Universities marine Consortium'	clarification
253/16	'chlorophyll'	misspelled
273/6	'1:20 to 1:25'	misTyped
	NOT '120 to 125'	



ROBYN CONMY, Ph.D.

Worldwide Court Reporters, Inc.  
PURSUANT TO CONFIDENTIALITY ORDER

1 I, ROBYN CONMY, Ph.D., have read the  
 2 foregoing deposition and hereby affix my signature  
 3 that same is true and correct, except as noted  
 4 above.

5 R.N. Cy  
 6 ROBYN CONMY, Ph.D.

7  
 8 STATE OF Massachusetts  
 9 COUNTY OF Barnstable \*

10 Before me, Sheila Shurtleff, on  
 11 this day personally appeared ROBYN CONMY, Ph.D.,  
 12 known to me, or proved to me under oath or through  
 13 D/D OH (description of identity card or  
 14 other document), to be the person whose name is  
 15 subscribed to the foregoing instrument and  
 16 acknowledged to me that they executed the same for  
 17 the purposes and consideration therein expressed.

18 Given under my hand and seal of office on  
 19 this, the 17 day of July, 2014.

20 Sheila Shurtleff  
 21 Notary Public, State of Massachusetts

22 My Commission Expires: \_\_\_\_\_



Worldwide Court Reporters, Inc.  
 PURSUANT TO CONFIDENTIALITY ORDER