

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

PATRICK JOSEPH
TURNER, ET AL

v.

Docket No. 05-CV-4206
New Orleans, Louisiana
Friday, January 13, 2006

MURPHY OIL USA, INC.

TRANSCRIPT OF CLASS CERTIFICATION PROCEEDINGS
HEARD BEFORE THE HONORABLE ELDON E. FALLON
UNITED STATES DISTRICT JUDGE
VOLUME II

APPEARANCES :

FOR THE PLAINTIFF:

LAW OFFICES OF SIDNEY J. TORRES
BY: SIDNEY J. TORRES, ESQ.
1290 7TH Street
Slidell, LA 70458

LAMBERT & NELSON
BY: HUGH P. LAMBERT, ESQ.
701 Magazine Street
New Orleans, LA 70130

BRUNO & BRUNO
BY: JOSEPH M. BRUNO, ESQ.
855 Baronne Street
New Orleans, LA 70113

LAW OFFICES OF RONNIE G. PENTON
BY: RONNIE G. PENTON, ESQ.
209 Hoppen Place
Bogalusa, LA 70427

GAINSBURGH, BENJAMIN, DAVID,
MEUNIER & WARSHAUER
BY: GERALD E. MEUNIER, ESQ.
1100 Poydras Street, Suite 2800
New Orleans, LA 70163-2800

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

LAW OFFICES OF DANIEL E. BECNEL
BY: DANIEL E. BECNEL, ESQ.
425 W. Airline Highway, Suite B
LaPlace, LA 70068

FOR THE DEFENDANT:

FRILOT PARTRIDGE KOHNKE &
CLEMENTS
BY: KERRY J. MILLER, ESQ.
ALLEN J. KROUSE, ESQ.
GEORGE A. FRILOT, ESQ.
PATRICK J. McSHANE, ESQ.
3600 Energy Centre
1100 Poydras Street
New Orleans, LA 70163

Official Court Reporter:

Cathy Pepper, CCR, RPR, CRR
500 Poydras Street, Room HB-406
New Orleans, Louisiana 70130
(504) 589-7776

Proceedings recorded by mechanical stenography, transcript
produced by computer.

1 list. I've reviewed this with Mr. Penton and Mr. Nelson briefly
2 before the Court. We're prepared to file this into the record,
3 which includes trial Exhibits 101 through 111 and MURP 001-003,
4 which is an extract from defense trial Exhibit number 67. So we
5 would move for the admission of those exhibits as well.

6 THE COURT: Any objection?

7 MR. PENTON: If we could just look at it for a couple of
8 minutes, we probably --

9 THE COURT: That's fine.

10 MR. LAMBERT: Your Honor, one more housekeeping matter.
11 We marked as 107 this particular diagram. We've also used many
12 times and probably will continue, the simplified version, which
13 is here and we have been calling that 107. So my suggestion is,
14 we make this 107-T, because I don't know where the last letter
15 was. We'll never get to T, and that's just for trial. And that
16 way that -- when the witnesses are referring to it, it will be
17 clear.

18 THE COURT: All right. That's fine. Except that -- let
19 me just mention that just logistically, big exhibits like that,
20 the Fifth Circuit has a problem with them because they don't file
21 them, they keep them here. So sometimes they go astray. If you
22 can think of a way of --

23 MR. LAMBERT: Shrinking it.

24 THE COURT: Shrinking it, that would be better.

25 MR. LAMBERT: We'll do that. Thank you, Your Honor.

1 THE COURT: Call your next witness, please.

2 MR. KROUSE: Yes, Your Honor.

3 THE COURT: Call him, call him.

4 MR. KROUSE: We call Keith Baugher, Your Honor.

5 MR. PENTON: Judge, we're okay with that offering of
6 those exhibits.

7 THE COURT: All right, let it be admitted.

8 THE DEPUTY CLERK: Please raise your right hand.

9 **KEITH BAUGHER**

10 was called as a witness and, after being first duly sworn by the
11 Clerk, was examined and testified on his oath as follows:

12 THE DEPUTY CLERK: Please be seated and using the
13 microphone, would you state your name for the record?

14 THE WITNESS: It's Douglas Keith Baugher and that's
15 spelled B-A-U-G-H-E-R.

16 THE DEPUTY CLERK: Thank you.

17 MR. KROUSE: Your Honor, in connection with
18 Mr. Baugher's testimony this morning, we have had admitted into
19 evidence Exhibit 61, which is his curriculum vitae and expert
20 report. As I understand it -- what is the Court's preference in
21 terms of qualifications? Are we going to --

22 THE COURT: I'll just let cross-examination on that.
23 I'll accept that as his direct testimony and then I'll let the
24 cross-examination and I'll let you redirect if necessary.

25 MR. KROUSE: And so the record is clear, we are offering

1 Mr. Baugher as an expert witness in refinery operations and
2 process engineering.

3 THE COURT: Okay. Any cross on his qualifications?

4 EXAMINATION

5 BY MR. BECNEL:

6 Q. Mr. Baugher, good morning, sir.

7 A. Good morning.

8 Q. You're a chemical engineer?

9 A. Yes, sir.

10 Q. You're not a member of any chemical engineering societies,
11 are you?

12 A. No, sir.

13 Q. You've not attended for 25 years a course in chemical
14 engineering; is that correct?

15 A. That's correct.

16 Q. In addition to that, you've never been qualified as an
17 expert to calculate, as is a petroleum engineer, the quantity of
18 oil in tanks, have you?

19 A. I've never been qualified to calculate the quantity of oil
20 in a tank, no.

21 Q. So this is the first time you've ever been asked to do that?

22 A. Well, I've been asked to calculate the quantity of oil in a
23 tank --

24 THE COURT: Would you get a little closer to the
25 microphone, please, sir.

1 is that correct?

2 A. That's correct.

3 Q. The first time you testified as an expert witness in a case
4 in what year?

5 A. I'm not sure exactly what year that was. Approximately
6 2001, but I'm not really sure of that date.

7 Q. In your deposition at Page 159, you told us you think it was
8 around that time but you're not positive?

9 MR. KROUSE: Objection, Your Honor. He's not showing
10 him the deposition.

11 THE COURT: Let's move on.

12 MR. BECNEL: All right.

13 EXAMINATION

14 BY MR. BECNEL:

15 Q. And that suit involved a super heater?

16 A. Yes.

17 Q. Had nothing to do with what we're talking about here today?

18 A. No.

19 Q. The second time you testified, that was what issue?

20 A. I don't recall exactly what the second one was. I believe
21 it was a Sibley versus Exxon, if I'm correct, which dealt with a
22 coker operation, a delayed coker operation.

23 Q. We're not dealing with that here today, are we?

24 A. No, sir.

25 Q. The third one was an ARCO case involving Murphy?

- 1 A. Correct.
- 2 Q. And what was that about?
- 3 A. It was about the operation, or really an explosion, of the
4 rose heater on the Murphy erosion.
- 5 Q. We're not dealing with that here today, are we?
- 6 A. No, we're not.
- 7 Q. And the last one, sir?
- 8 A. The last one dealt with emissions from the Blue Allen
9 (spelled phonetically) refinery.
- 10 Q. And that was over a long period of time?
- 11 A. Correct.
- 12 Q. And we're not dealing with emissions to your knowledge at
13 least in the past you've been asked to do here today, are we?
- 14 A. That's correct, we're not.
- 15 Q. Now, I asked you about regulations. You're familiar with
16 the API?
- 17 A. Yes, sir.
- 18 Q. And tell the Court what it is.
- 19 A. That's American Petroleum Institute.
- 20 Q. They give courses 20 times a year, don't they?
- 21 A. I don't know how many times a year they give courses. They
22 certainly give courses, yes.
- 23 Q. And you've never attended one?
- 24 A. Never attended one.
- 25 Q. They produce guidelines for the American Petroleum

1 Institute, do they not?

2 A. Well, they produce what they call recommended practices, if
3 that's what you're referring to as guidelines.

4 Q. And the recommended practices -- are their recommended
5 practices that deal with the issues here?

6 A. There are recommended practices that deal with tank
7 construction and maintenance, yes.

8 Q. And that's B31.3 of the ASME code?

9 A. No. B31.3 of the ASME code deals with the piping.

10 Q. Well, sir, are you familiar with the guide book to ASME
11 B31.3 that deals with piping and deals with tanks?

12 A. No, I'm not familiar with the tanking section of that 31.

13 Q. And you've never attended an ASME course, have you?

14 A. No, sir.

15 Q. In your career; is that correct?

16 A. Correct.

17 Q. And what is ASME?

18 MR. KROUSE: Your Honor, just an objection to relevance
19 and where we're going with this.

20 MR. BECNEL: Your Honor, qualifications.

21 THE COURT: I'll overrule the objection. Let's get on
22 with it, though, Counsel.

23 THE WITNESS: American Society of Mechanical Engineers.

24 EXAMINATION

25 BY MR. BECNEL:

1 Q. Sir, did you consult in a textbook to do your job in this
2 case?

3 A. I referred to textbooks at converting API gravity to
4 specific density.

5 Q. And was that in your reliance material, sir?

6 A. No, it was just a standard reference material.

7 Q. This is the bible of chemical engineering, is it not?

8 A. Yes.

9 Q. And you and I agree on that. It's taught in every chemical
10 engineering school in the country.

11 A. Well, it wasn't taught in school. It was a reference manual
12 in school. Usually the specific topics included in there were
13 taught out of more specific textbooks.

14 Q. Did you consult with Perry's in doing your calculations in
15 the case?

16 A. I don't believe I consulted with Perry's, no.

17 Q. Thank you, sir, I have no further questions.

18 THE COURT: Any redirect?

19 MR. KROUSE: Yes, Your Honor, very briefly.

20 EXAMINATION

21 BY MR. KROUSE:

22 Q. Mr. Baugher, could you explain to the Court your past
23 employment experiences with Exxon and particularly as it dealt
24 with tank farm operations both in Baton Rouge and Baytown, Texas?

25 MR. BECNEL: I'm going to enter an objection, Your

1 Honor. I didn't go into tank farm operations.

2 MR. KROUSE: You alluded to the fact --

3 THE COURT: I understand. I'll overrule the objection.
4 I'll allow it. But I've read -- I know his qualifications.

5 MR. KROUSE: Okay. That will.

6 MR. BECNEL: The last question on redirect, Your Honor.

7 THE WITNESS: Yes, I've spent 33 years with Exxon.
8 During the course of that time, I was -- headed an engineering
9 group that was responsible for doing process engineering in the
10 tankage and blending area. And for the last 14 years, I was in
11 charge of operations at the Baton Rouge refinery and was
12 responsible for the operation of 700 tanks.

13 MR. KROUSE: Again, Your Honor, we would --

14 THE COURT: Ask him whether it was necessary for him to
15 attend these courses.

16 EXAMINATION

17 BY MR. KROUSE:

18 Q. Was it necessary for you to attend these courses that
19 Mr. Becnel alluded to or was your training based upon your
20 personal experience at Exxon?

21 A. Well, my training, based on my personal experience at Exxon,
22 plus my education. I saw nothing in this that required attending
23 any courses that were mentioned.

24 Q. In fact, these are basic engineering calculations; is that
25 correct?

1 A. Yes.

2 THE COURT: We'll accept him in the designated field.

3 MR. KROUSE: Thank you, Your Honor.

4 EXAMINATION

5 BY MR. KROUSE:

6 Q. Now, Mr. Baugher, when was the first opportunity that you
7 had to go to the Murphy refinery in St. Bernard Parish at our
8 firm's request to begin your investigation and inspection?

9 A. I first went to the refinery on September 16th of 2005.

10 Q. All right. And during that inspection, what did you
11 accomplish?

12 A. During that inspection, I made a visual inspection of the
13 north crude tank field. I also looked at some of the files that
14 were available on the specific tank in question, which was 250-2
15 tank. I -- during that visit, I believe it was during that
16 visit, I talked to one of the operators, tank field operators as
17 well.

18 Q. All right. Did you have an opportunity to review the logs,
19 specifically from 250-2, during the course of your investigation?

20 A. I don't know whether I did that on the 16th, but over the
21 course of my investigation, I reviewed the logbook that is
22 maintained by the tank field operators. I reviewed the strapping
23 sheets for the specific tank.

24 Q. Tell the Court what a strapping sheet is.

25 A. A strapping sheet is really just a sheet where they've taken

1 the actual as-built dimensions of the tank and calculate exactly
2 what volume is contained in each inch of the tanks. It allows
3 you to convert from gauge readings of feet and inches to barrels.

4 Q. How many times during the course of this investigation of
5 yours did you visit the Murphy refinery?

6 A. I visited the Murphy refinery eight times between September
7 and November of --

8 Q. And during the course of those site inspections, did you
9 also have an opportunity to review aerial photographs that were
10 obtained by Mr. Morris for your review?

11 A. I reviewed those aerial photographs. I probably saw those
12 aerial photographs at Chad Morris's office as opposed to when I
13 visited the site. But, yes, I've reviewed the aerial
14 photographs.

15 Q. Did you have an opportunity to review the survey data that
16 was compiled by Land Source at Mr. Morris's directions,
17 specifically as it related to tank 250-2 and the tank containment
18 area?

19 A. Yes, I did.

20 Q. Now, based upon your review of the documents that we've
21 discussed, as well as the site inspections, have you reached an
22 opinion with respect to the amount of oil that escaped from the
23 tank dike area at the 250 series tank at the Murphy refinery?

24 A. Yes, I have.

25 Q. Now, before we get into that, I want to raise an issue with

1 the Court, and, again, referring to Exhibit 111, and I provided
2 Mr. Penton a copy of this exhibit, I would like to approach the
3 witness and show him these daily reports from Lake Borgne basin
4 levee district, specifically as it deals with pumping station
5 Number 7 and the attached sheets.

6 Now, Mr. Baugher, when did you first see these
7 documents?

8 A. Wednesday evening of this week.

9 Q. Now, based upon -- and can you explain to the Court very
10 briefly what those documents are and how they may have impacted
11 your opinion in this case?

12 A. These documents are recordings from the pump station 7 for
13 the Lake Borgne basin levee district.

14 Q. And what is the date of that document that you're reviewing
15 specifically?

16 A. It's 9/4/05.

17 Q. Now, you have several documents there. What is the bottom
18 line, what is the gist of those readings and how it impacted your
19 opinion?

20 A. Prior reports had indicated that the gauging, water gauging
21 at these stations, was not available because the water was over
22 the gauging stick.

23 On -- at 9:00 a.m. on September 4th, they had developed
24 a temporary gauging system to measure the level of water at the
25 pump station. From that point forward, they were using on an

1 hourly basis recording this gauging.

2 Q. And again, how did that impact your decision-making process
3 in reaching your conclusion?

4 A. In one of the methods I used to calculate how much oil had
5 escaped from the dike, I had used a measurement or an assumption
6 about how fast the water level was dropping from the last point
7 of information I had, which was the over-flight photo that was
8 taken on Saturday shortly before noon, until the dike was bagged,
9 sandbagged.

10 What I had assumed in there was that the water level
11 had continued to drop across that period at the same rate that it
12 had dropped from Friday to Saturday, which was a little bit less
13 than 6 inches a day, which is around a quarter of an inch an
14 hour.

15 When I saw this information, I saw that the rate was
16 dropping at about half an inch an hour on the Sunday after the --
17 this period of time. I knew that the pumps had been started on
18 that Saturday morning, and therefore, I believe that the rate of
19 drop was somewhat higher than what I had used in my original
20 calculations.

21 Q. Thank you, sir. Now, we're going to turn to Page 1 of
22 Exhibit 88, and this contains your opinion, and can you tell the
23 Court what your opinion is in this case?

24 A. My opinion is that between 1602 and 3175 barrels of crude
25 escaped through the single breach in the containment dike around

1 the three 250,000-barrel tanks, during the period from when the
2 initial leak started until the breaching in the dike was
3 sandbagged on the afternoon of September 3rd, which then
4 prevented any additional amount from escaping.

5 Now, my opinion is really based on using two
6 independent methods to determine the quantity of oil that escaped
7 from these tanks.

8 Q. And to be fair with the Court, you have changed your opinion
9 from the time that your deposition was taken and when the time
10 that your expert was -- report was rendered, based upon the
11 information contained in Exhibit 111; is that correct?

12 A. That's correct.

13 Q. And can you tell the Court what was changed in this opinion?

14 A. The 3175 was 2359 in my original report. So, if you will, I
15 added 816 barrels to the quantity that I calculated had escaped.

16 Q. You increased the number?

17 A. I increased the number, yes.

18 Q. Now, let's turn to Page 2 of the report. Now, can you
19 explain what this is, Mr. Baugher, and how it impacted your
20 opinion?

21 A. This is a plot plan of the Murphy facilities in Meraux in
22 the area that goes from St. Bernard Highway to Judge Perez. It
23 is the heart of the refinery where the operating units are
24 located and where the product tanks and the intermediate tanks
25 are located.

1 Q. Now, what -- I'm sorry?

2 A. And then on the other side, on the north side of Judge
3 Perez, from here to here, is the crude tank field or the north
4 tank field. In that tank field, you can see there are two
5 450,000-barrel tanks, and they share a common dike area. There
6 are three 250,000-barrel tanks that also share a common dike
7 area. And the tank in the center of the 250,000-barrel tanks is
8 tank 250-2.

9 Q. Now, on September 16, 2005 during your first site
10 inspection, did you have an opportunity to walk the perimeter of
11 the tank dike area around the 250 tanks?

12 A. Yes, I did.

13 Q. Now, did you observe any breaches within that tank dike
14 area?

15 A. I did observe a breaching in the tank, yeah.

16 Q. Would you describe briefly the location of that breach.

17 A. There is a pipeline coming from tank 250-2 that's about at
18 that location. And at that location, the tank dike was
19 completely breached to grade. There were several other eroded
20 areas around the tank where the top 3 feet, or thereabouts, had
21 been washed off, but this one that I pointed out at the pipe
22 connection is where the dike was breached all the way to grade.

23 Q. Did you see oil either staining or oil itself at any other
24 breaches, as you described, soil erosions, around this tank dike
25 area during your visit?

1 A. I walked the entire top of the dike and there was no place
2 on the top of the containment dike around 250 where I saw any oil
3 staining on the top of the dike.

4 Q. And let's go to the next exhibit, Page 3, and describe this
5 document for the Court, particularly the highlighted portions
6 that we have.

7 A. This is a log sheet from the logbook that the tank field
8 operator maintains at Murphy. This particular sheet is for
9 Sunday the 28th of August, '05. What it shows on this sheet is
10 each tank number is in the left-hand column. The level in the
11 tank, or the gauging in the tank, is shown in the right-hand
12 column in feet and inches, and specifically, a blown up, this
13 section right here, which is tank 250-2, which shows
14 six-foot-three and an eighth of an inch, and this is the last
15 level of recording that I'm aware of that was made on that tank
16 before the hurricane.

17 Q. And that date, again, is August 28, 2005?

18 A. Right.

19 Q. So if we turn to the next exhibit and you previously
20 described this as a strapping sheet for tank 250-2. We have a
21 typo up there. It should be 250-2; is that correct?

22 A. Yes.

23 Q. And, in fact, the document itself says that at the bottom of
24 the page. Can you explain to the Court how you reached your
25 conclusion of how much oil was in the tank before the storm?

1 A. I used the gauging of six-foot-three and an eighth of an
2 inch from the prior sheath and I read down this column of
3 elevations until I got to the six-foot-three, and looked at the
4 volume and then added to that an eighth of an inch. On the
5 right-hand side, lower right, there is a column that allows you
6 to deal with fractions to add to it to account for fractions.

7 Q. And what conclusion did you reach in terms of the level in
8 barrels in the 250-2 tank prior to Hurricane Katrina hitting?

9 A. There was 40,750 barrels in this tank.

10 Q. Now, let's turn to the next page. Can you describe this
11 schematic diagram for the Court as to the conditions existing
12 around 250-2 preKatrina, and let's start from left to right?

13 A. This is a graphic depiction of a cross-section of the 250-2
14 tank, which is shown here, and the west containment dike, which
15 is shown here. Starting over on the left, you can see that the
16 250-2 containment dike is 11.2 feet above the concrete support
17 ring. And the concrete support ring is this ring that sits right
18 here under the edge of the tank. On this drawing and all the
19 future ones like this, I used that as my reference point. Some
20 of the objects in this drawing will move as we move through them
21 and that is a stationary point. But the dike is 11.2 feet above
22 that point.

23 If you come in, you'll notice around the tank is what I
24 described as a moat. And this is an area that's right at three
25 and a half feet deep that's been carved out or excavated around

1 the entire periphery of the tank, and it was done so because the
2 tank has sunk from its original construction, and so this is to
3 make sure that you can see and you don't have any corrosion
4 around the annular ring of the tank.

5 The tank itself is 40 feet high. It is 223 feet in
6 diameter. And, of course, what I've shown in there is a crude
7 level of six-foot-three and an eighth inch, which is 40,750
8 barrels in round numbers. And this includes an extremely small
9 amount, an inch and a half of water that was in the tank at the
10 time.

11 Q. Why don't we go to the next diagram, photograph, please.

12 A. As the water surge that followed Katrina topped the
13 protection levees around St. Bernard Parish, it also topped the
14 levee or the dike around the 250 tanks. And as water flowed into
15 the dike area and rose above the oil in the, in the tank, it
16 floated this tank off of its foundation and displaced it.

17 And you can see in this drawing here is the foundation
18 for the tank, what's called the ring wall or the concrete support
19 ring. And the tank has been displaced. You can see it over here
20 and it's been displaced about 35 feet from the west towards the
21 east.

22 Q. Next photo, please.

23 A. In the course of the tank being displaced, a buckle or a
24 kink occurred in the tank. And you can see this damaged area
25 right in here, where that buckle or kink has occurred in the side

1 wall of the tank.

2 Q. Next photo, please.

3 A. This is a photo that is a detailed photo of that same kink
4 looking down near the bottom of the tank. And you can see there
5 is one hole right here, which is a hole about softball size where
6 the tank is resting on a concrete catch basin. Now, this
7 concrete catch basin was originally outside of the tank and not
8 sitting under it. The tank has moved over this concrete basin.

9 There is also a leak right at the flange, which is
10 called the annular ring. This is where the tank floor is welded
11 to the tank wall. Well, you can only see a relatively small part
12 of that crack. That crack extends from about here to about here,
13 or about three and a half feet underneath of the annular ring.

14 The irregular hole approximated is about seven tenths
15 of a square foot and to kind of put that into perspective, it's
16 about what you would get if you had about a 11-inch circular
17 hole.

18 Q. Let's go to the next slide. Now, this is the -- this is the
19 conditions after Hurricane Katrina on August 29, 2005, and the
20 impact of the storm on tank 250-2 as well as the tank dike area;
21 is that correct?

22 A. Right.

23 Q. Can you explain this schematic to the Court, moving left to
24 right?

25 A. Well, again, as when the water topped the containment dike

1 and rose up to the side wall of the tank above the oil level, and
2 what we had is a hydrostatic pressure on the outside of the tank
3 was greater than the hydrostatic pressure on the inside of the
4 tank. And that was of no significant difference until the tank
5 was dislodged the 35 feet, as I mentioned. The tank was buckled.
6 And these holes, which we saw earlier in detail, are near the
7 bottom of the tank.

8 Once the hole appeared in the bottom of the tank, of
9 course the water then started entering the tank because the
10 hydrostatic pressure at any point along the wall was greater on
11 the outside than on the inside, and therefore, the water ran into
12 the tank that equilibrate that hydraulic pressure. And as a
13 result, the tank began filling with water, sunk back to the
14 ground. What I've shown here is is what the level was at the
15 peak of the storm surge, around 17.2 feet, and the corresponding
16 water level inside the tank of a bit over 12 feet.

17 Q. You have 17.2 feet. Can you place that in context as it
18 relates to that concrete support ring?

19 A. Yeah, that's 17.2 feet above the concrete support ring, yes.
20 Like I said, all my dimensions in here are referenced off of the
21 concrete support ring.

22 Q. All right. And can you describe the water level inside of
23 the tank versus the crude oil level inside of the tank following
24 Hurricane Katrina?

25 A. Yes. Of course, the oil is less dense than the water and it

1 floats on the top of the water. In addition to that fact, the
2 fact that the oil is less dense than the water, it means that the
3 combined height of the oil and the water inside the tank will be
4 slightly higher than the water outside when you reach
5 equilibrium, and you have the same hydrostatic pressure on each
6 side of the hole in question.

7 Q. All right. Let's go to the next slide.

8 A. This is an over-flight that was taken by Murphy on the
9 afternoon of Tuesday, August the 30th, '05. And it shows the
10 tank field in question. You can see the three 250 tanks. The
11 center one is 250-2.

12 You can see in this photograph that the water covers
13 the containment dikes around the 250-2, as well as the 450 tanks.
14 But we can tell, and it's hard to see in this drawing, there is a
15 roadway that goes over the dike, that's right there, it's just
16 sticking out of the water. So we know at this point in time, the
17 water in the dike area is about right at the dike height. It's
18 just slightly above it.

19 The other thing you can see is, in this drawing, is
20 that the floating roof on 250-2 is about the same height as the
21 water around it, which, again, is not something that would
22 surprise you because hydrostatic pressures have to be the same so
23 the liquid level inside and outside will need to be about the
24 same.

25 Q. Let's go to the next slide, please.

1 THE COURT: Before you do that, I've got to take this
2 call, just one second. You can stay. It will just take me
3 two minutes.

4 (Off-the-record discussion).

5 THE DEPUTY CLERK: Everyone rise.

6 THE COURT: Be seated, please. I'm sorry. I'm on this
7 committee that I have to deal with. All right.

8 MR. KROUSE: All right. Your Honor, I believe we're
9 going to be turning to the next slide.

10 EXAMINATION

11 BY MR. KROUSE:

12 Q. This is slide 11 in Exhibit 88. And we're going to be
13 discussing here the conditions after Katrina as it relates to the
14 containment dike area.

15 A. This depicts the conditions as the storm surge begins to
16 recede, and it depicts the conditions that existed in the prior
17 photograph. Here you can see the water level is 11.2 feet, which
18 is right at the level of the containment dike. The tank, of
19 course, does not move. It's in the same position, same degree of
20 damage as before.

21 As the water around the tank recedes, of course, the
22 hydrostatic pressure outside of the tank reduces. And as the
23 hydrostatic pressure outside the tank reduces, of course it has
24 to reduce inside. And what happens inside is is the water then
25 begins to flow out of the tank through the hole in the tank, and

1 the overall level inside the tank drops until we reach a
2 hydrostatic balance. Under those conditions, there is about
3 six-foot-three feet of water in the tank, along with the 5.8 feet
4 of crude oil.

5 Q. And that's the conditions that existed on Tuesday,
6 August 3rd; is that correct?

7 A. Right. And you'll notice that at this point in time, the
8 oil can't get out. It's -- the oil/water interface is still over
9 4 feet above the hole inside of the wall of the tank.

10 Q. Let's go to the next photo, Number 12. Now, is this photo
11 the first available aerial photo that was made available to you
12 between August 30th and this date, September 2?

13 A. Yes. This is the first aerial photo that I've seen. I
14 later saw a satellite photograph or shot that was taken on
15 August the 31st.

16 Q. Okay. Let's review this particular photograph taken on
17 September 2, 2005. And how does this assist you in reaching your
18 conclusions?

19 A. In this photograph, you can see that the water has receded
20 to below the containment dike level. And you can see the
21 containment dike around the entire 250 series tanks. The
22 water -- you can see that there is a breach in the dike at this
23 point. Let me clear that up. Right at that point, where the
24 pipeline goes through. And water is flowing through that breach
25 as the parish water level drops.

1 You can also see on this photograph that there is oil
2 coming, coming from the damaged area on 250-2, which is on the
3 north side of the tank, and that oil appears to be flowing around
4 the tank to the west, out through the breach in the tank
5 containment dike onto the road between the containment dike, the
6 250s and the 450 tanks and then ultimately onto St. Bernard
7 Highway, moving west.

8 Q. Let's turn to the next schematic.

9 A. The next schematic shows the conditions that are required
10 for the oil to first begin leaking from the tank.

11 Q. And where do you project -- what time do you project that
12 initial leak to be on September 2, 2005?

13 A. I can't tell precisely when the time is. I can tell what
14 the level is, but just looking at the rate of water drop, my
15 judgment would be that the leak started sometime in the early
16 hours of September 2nd, Friday, September the 2nd. As indicated,
17 you can see it in the prior photo, which was taken sometime
18 before noon, so it was earlier than that, obviously, but my
19 projection would be in the early hours of Friday, September 2nd.

20 Q. Are we talking 0100, 0200 hours?

21 A. I can't really get it down that precise.

22 Q. All right. The conditions at the initial leak, let's review
23 these for the Court.

24 A. At this point, the water level has receded to 6.8 feet above
25 the concrete support ring. You can see the water level is

1 slightly below what I've referred to here as the erosion area,
2 which is at 7.4 feet, and when I say the erosion area, as I
3 mentioned earlier, there are several places around the
4 containment dike where the top 3 feet or so was washed off of the
5 top of the dike during the, during the storm surge.

6 You can see that the oil/water interface now has
7 dropped because, again, the hydrostatic pressure has come down on
8 the outside of the tank, must follow it on the inside of the tank
9 and the oil/water interface is now moved to where it is right at
10 the top of the leak right here. And then oil will begin leaking
11 out of the tank, and I show that by some little dark bubbles here
12 coming up that will rise up to the surface as it leaks through
13 the hole.

14 Of course, what now will control the oil leakage from
15 this point on is the rate of water fall. How fast the water
16 recedes around the tank.

17 Q. All right. Let's go to the next photo, please.

18 A. We now move to Saturday, the 3rd of September. Again, this
19 is a shot. You can see obviously the containment dikes remain
20 out of the water. The water has dropped very little between
21 Friday and Saturday using the survey data laid over top of the
22 two pictures. It was something less than 6 inches, so the water
23 drop has been very slow during this period of time.

24 Again, you can see the single breach here where the
25 pipelines go through. The dike, again, you can see the oil

1 coming from the north, northern area where the break in the hole
2 in the tank exists. And again, it's moving out around the tank,
3 down the roadway between the two containment dikes, and out onto
4 Judge Perez.

5 Q. Now, this photo indicates, does it not, sir, that there were
6 no sandbags placed around that breach, at least in this
7 photograph?

8 A. In this photo, I'm certain you can't see it on this size,
9 but when you blow it up, no, there are no sandbags in the breach
10 at this point.

11 Q. Let's turn to the next slide. These are the conditions of
12 the oil leak discovered on September 3, 2005, and we heard the
13 testimony from Mr. Zornes that you were in the courtroom and
14 heard yesterday; is that right?

15 A. Yes. This depicts the conditions at the time Carl Zornes
16 walked up this dike from the north and discovered oil on the
17 surface of the water, as shown there, and oil running through the
18 breach in the dike where the pipelines go through and out into
19 the roadway as we described in the photograph.

20 At this point in time, we know that the water level was
21 6.3 feet above the ring wall, and therefore, we know that oil has
22 continued to run out of the tank, again, hydrostatic pressures
23 were equalizing at the hole on the inside and outside. So as the
24 hydrostatic pressure outside the tank falls, then, of course, the
25 oil level has to fall, and as it does so, oil comes out and

1 spreads on the surface of the water and then through the breach.

2 Q. Next slide, please. Now, how did you rely upon this
3 deposition sketch that Mr. Zornes made during the course of his
4 deposition?

5 A. In one of my methodologies that I used to calculate how much
6 oil was spilled out of the dike, I needed to determine how much
7 was on the surface of the inside of the dike at the time Carl
8 Zornes sandbagged the -- discovered and sandbagged the leak at
9 the dike. So I depended upon Carl's observations of how much
10 area was covered inside of the diked area.

11 Q. Now, let's turn to Exhibit 17, and -- I'm sorry, the next
12 slide, Number 17, and does this accurately depict the area that
13 Mr. Zornes had covered in oil through the color depiction there
14 in the tank 250 series tanks?

15 A. Yeah, at my direction, Chad Morris took Carl Zornes' drawing
16 and overlaid it over a photograph of the area. It was a
17 photograph for that Saturday.

18 Q. So that colored area indicates what in the 250 series tanks?

19 A. It's oil, the pink or purple area is to depict oil that was
20 on the surface at the time Carl discovered the leak. It covers
21 greater than 55 percent of the containment area, and it's
22 something over a hundred and seventy thousand square feet are
23 covered with oil.

24 Q. Let's go to slide 18. What does this picture represent?

25 A. This is a picture that was taken on October 12th of the

1 breach in the dike that we've talked about where the pipelines
2 pass through. You can see in this picture where the sandbagging
3 is in place. These are the sandbags that were put in place at
4 the breach on that Saturday, September the 3rd.

5 You can also see the oil mark on the dike, the inside
6 of the dike. You can see it here. Let me mark it, here, and
7 here, which is an indication of the level of the water inside the
8 dike when the oil first started leaking out at 250-2. And this
9 elevation is consistent with the six-foot-eight above the ring
10 wall that I showed on the graphic depictions.

11 You can also see in the background the two -- the 450
12 dikes, and they are about a foot and a half shorter than the,
13 than the 250-foot dikes, but you can also see an oil ring on
14 those dikes which, again, is at the same elevation as the oil
15 ring on the inside of the dike we show here on 250.

16 This is -- this is looking at the breach from the
17 inside of the dike out, and it's looking west.

18 Q. All right, Mr. Baugher, did the two oil stains that you've
19 depicted on either side of the breach, what is that indicative
20 of, in your opinion?

21 A. Well, what it tells me is, is that the oil inside the dike
22 never got any higher than what's shown here by the staining on
23 the grass. It also tells me that the hydrostatic analysis that I
24 had done is correct, and that the oil did not come out of the
25 tank until the water level receded to below six-foot-eight above,

1 above the concrete support wall.

2 Q. Now, based upon your observations and your several visits,
3 was that pattern of oil staining consistent, uniform, within the
4 interior perimeter of the dike?

5 A. Yes. It was uniform inside of the dike. And as I mentioned
6 earlier, I had walked the top of these dikes all the way around,
7 and by October, I had walked them at least twice. And there is
8 no staining higher up or on top of the dike. In fact, as you can
9 see here, it's green grass up there.

10 Q. Let go to the next slide, please. What does this indicate?

11 A. This is a picture that was taken on the same day, and you're
12 looking now from west to east. It shows the sandbagging; it
13 shows the breach in the dike.

14 Q. Let's go to the next slide, please.

15 A. What's shown here is the survey data that Chad Morris
16 prepared and reviewed yesterday. I reviewed -- I relied upon
17 this information for elevations. As he mentioned, there is over
18 3,000 elevation points in there. You certainly can't see them in
19 this drawing, but I used this drawing because it's a
20 documentation of the tank field as it now exists.

21 Q. Next slide, please.

22 A. This is simply the earlier slide with dimensions added
23 showing that even though the breach here is kind of bowl-shaped
24 or U-shaped, at the point where the sandbags are located, it's
25 about 14 feet wide. And the elevation from the top of the dike

1 to the base grade, where the, where the breach went to was about
2 eight and a half feet.

3 Q. Next slide, please.

4 A. This is a slide taken on the 16th of September. And it's a
5 slide taken from the top of 250-2 looking west. And in the
6 foreground, you again see the staining on the dike. You see one
7 of the washed-out areas that I referred to right here, where the
8 dike was lower than in other places, and this is where the top
9 3 feet or so was washed off of it. And you can see that the oil
10 level is below that point.

11 In the background, again, you can see the 450 dikes,
12 you can see the oil staining there. Further back, you can see
13 the west side of the 450 dikes and then, of course, in the very
14 background you can see the community area.

15 Now, you'll notice on this building right -- on this
16 building right here, there is an oil stain that's pretty high.
17 It's right at the roofline. In fact, it's 13 feet above the ring
18 wall. This particular stain, I don't know for sure where it came
19 from. I know for sure it didn't come from 250-2 hole, since the
20 water level at 13 feet would not allow the oil to leak out of the
21 tank.

22 But the potential candidates, I think, are, there is a
23 sump right in this area, there are two sumps up to the left that
24 are off the picture, and there is a sump right here between those
25 two buildings. That sump is between the buildings, in my mind,

1 is a likely candidate, because the staining on that side next to
2 the sump is larger than it is around other parts of the building.
3 And those sumps, you know, contain small amounts of crude oil
4 that came from leaks from the crude pumps that came from opening
5 manifolds in the area, and they are collected in these sumps and
6 then are pumped off. Of course, they contain some amount of oil
7 at the time the area was flooded and likely some oil floated out
8 of those sumps.

9 Q. Now, can you look at the top of the tank dike, 250 series
10 dike, where you say there has been soil erosion. From looking at
11 this photo, is there any indication of staining of oil on the top
12 of that area?

13 A. Not in the photograph, and, again, I mentioned on this
14 particular date, I walked that entire dike and there is no
15 staining on top of --

16 Q. And again, if you look in the background of the tank dike
17 area for the 450 series tank, and that's directly behind the
18 shack or house that you're looking at; am I correct there?

19 A. Yes, right there.

20 Q. Is there any indication from that photo or your personal
21 observations of oil staining on that tank?

22 A. There is no indication from this photograph of oil staining.
23 And while I did not walk all of the 450 dikes, I walked probably
24 two to 300 feet of it in front of the photograph that we see
25 here, and a comparable distance on the west side dike, but I did

1 not walk the complete dike.

2 Q. Okay. But at least in this photograph, there is no staining
3 of oil on the 450 tank; that is correct?

4 A. Yes.

5 Q. And what does that indicate to you?

6 A. That the leak occurred after the water level had receded to
7 6.8 feet, which is very consistent with the hydrostatic
8 pressures.

9 Q. All right. Why don't we go to the next slide. That's your
10 opinion?

11 A. This just reiterates my opinion, which, as I said, was, I
12 believe between 1602 and 3175 barrels escaped the containment
13 dike, around three 250,000-barrel tanks between the time the leak
14 initially started and then between that time and when the breach
15 was sandbagged on Sunday -- Saturday, September 3rd, preventing
16 any additional leaks. And then as I mentioned before, I really
17 used two independent methods to come up with those quantity.

18 Q. Let's turn to those methods. The next slide is method one
19 and why don't you explain to the Court your methodology as to the
20 quantity of oil which escaped 250-2 containment dike based on the
21 hydrostatic pressure.

22 A. Method one is sort of a continuation, if you will, of the
23 graphic depiction we showed before. And that is, we know that
24 the external water level had to be 6.8 feet or below before any
25 oil could leak out of the tank. The over-flight that was done on

1 9/3, around noon or a little bit before noon on that day of
2 September 3rd, indicated that the water level was 6.3 feet.

3 I then took and reduced that water level at the rate of
4 a half an inch an hour between the over-flight and when Carl's
5 team sandbagged the dike preventing any leakage to come out of
6 it. So at that point, when the oil was stopped from leaking from
7 a dike, the water level was 6.1 feet. As I mentioned before,
8 these heights are all above the concrete support ring.

9 So what happened is seven tenths of a foot change in
10 water elevation between the time that the leak could start and
11 when the sandbagging had been complete. This translates to
12 5732 barrels leaked out of the tank into the containment dike.
13 But not all the oil then left the containment dike and went out
14 through the breach. The oil spread out across the containment
15 dike as Carl observed when he walked up the dike area.

16 Carl also observed that the oil running through the
17 breach was 2 to 3 inches deep. I then used 1 inch as the average
18 depth of the oil across the containment dike, and that indicated
19 there was 2557 barrels of oil remaining on the surface of the
20 containment dike during this leak.

21 So, of the 5732 that leaked out of the tank,
22 2557 barrels of it was still on the water when Carl finished
23 sandbagging; therefore, the difference being 3175 barrels escaped
24 the dike from the point that the leak initially started until
25 Carl completed the sandbagging operations.

1 Q. All right. And the 3175 barrels represent the high end of
2 the bracket estimate that you have on the amount of oil that
3 escaped, is that correct?

4 A. That's correct.

5 Q. Let's turn to method two.

6 A. In method two, I went at it from a different angle. I went
7 at it with, well, I know how much oil was in the tank when we
8 started, how much is in the tank and in the containment dike when
9 we looked at it when the oil recovery group began their work and
10 looked at the tank and the tank dike area.

11 So if you start here at the six-foot-three and an
12 eighth inch, that's the 40,750 barrels that was in the tank
13 before Katrina. The tank was gauged by the O'Brien group on
14 9/13/2005. That gauging showed four-foot-one total height and 2
15 foot 3 inches of oil. 2 foot 3 inches of oil, then, is 15,640
16 barrels.

17 So that meant that by difference, 25,110 barrels had
18 leaked out of the tank 250-2 between the time that it was damaged
19 and September 13th.

20 I then looked at how much oil was contained in the
21 three-diked containment area. And I was fortunate in that the
22 O'Brien group had taken eight depth readings around these tanks,
23 and those depth readings measured both the total liquid level
24 around the tanks and the level of oil around the tanks. So there
25 were four depth readings around 250-2, and two each around 250-1

1 and 250-3.

2 The little table that I've inserted there and it came
3 out in my report, simply shows what area -- what particular
4 location that I measured the oil -- or that I calculated the oil.
5 This area, which I got from using the survey data, the depth,
6 which I got from using the O'Brien data, and then simple
7 arithmetic gets me to quantity of oil. As you can see from that
8 little table, a relatively small amount was around 250-1, around
9 2200 barrels. It was like 11,000 barrels around 250-2 and about
10 6600 barrels around 250-3. The net, of course, is that there was
11 20,150 barrels of oil around the tanks in the dike containment
12 area on September 13th.

13 So by difference, then, we can find out, well, how much
14 oil escaped, went somewhere. And what we know is is that some of
15 that oil evaporated. Using the NOAA, or National Oceanic
16 Atmospheric Agency calculation technique, I calculated 2354
17 barrels evaporated. And so the net, while subtracting from the
18 oil that leaked into the containment dike, the 25,110,
19 subtracting away the amount that was found there on the 13th,
20 subtracting away the amount that evaporated, leaves us with
21 1602 barrels escaped from the dike.

22 Q. And the 1602 barrels represents the low end of the bracket
23 range that you found in your report and in your opinion here
24 today; is that correct?

25 A. That's correct.

1 MR. KROUSE: Your Honor, I have no further questions. I
2 tender the witness. Please answer Mr. Becnel's questions.

3 EXAMINATION

4 BY MR. BECNEL:

5 Q. Sir, let's start off with some elementary things about this
6 oil. Would you tell the judge the five types of oil that was in
7 this tank and just write them on the board with the Court's
8 permission.

9 All right. Bonnie Light is from what country?

10 A. Is from Nigeria.

11 Q. All right. So put that. And did you see the MSDS sheet on
12 it?

13 A. I did not.

14 Q. Did you see the viscosity of the oil?

15 A. Yes, I have.

16 Q. Did you see the shipping papers on that oil from the loop?

17 A. No.

18 Q. So you don't know what was in that oil, do you?

19 A. Well, I know what the Bonnie Light characteristics are, yes.

20 Q. Well, you know what Bonnie Light is, but each -- when those
21 big ships come out the loop and that's where Murphy gets its oil,
22 isn't it?

23 A. I believe so.

24 Q. And so they got all types of things and it's just put in a
25 common pipeline and sent on, depending on how much you order?

1 A. It's put in a common pipeline, yes.

2 Q. And that ship's manifest has to have exactly the MSDS sheet
3 on the oil and an assay on the oil for testing purposes?

4 A. Yes.

5 Q. Did you look at Murphy's has a laboratory to test their own
6 oil when they get it to make sure that they are getting what they
7 are paying for. Did you look at that?

8 A. No.

9 Q. So let's just put down here, no MSDS, no looking at
10 manifest, and no looking at the characteristics of that oil.

11 A. You said no looking at the characteristics of that oil. I
12 did look at the characteristics of that oil.

13 Q. On what document did you look at, sir?

14 A. I looked at the assay of the data that is available for
15 Bonnie Light.

16 Q. We all know what's -- whether that is accurate. We know
17 that that ship and the assays from the Murphy Oil testing lab
18 knows exactly what's in that oil.

19 MR. KROUSE: Objection, Your Honor, argumentative.

20 THE COURT: I'll sustain the objection. Overruled.

21 EXAMINATION

22 BY MR. BECNEL:

23 Q. Let's go to the next one. Now, that's from Iraq?

24 A. Yes.

25 Q. And is that a light or a medium oil?

1 A. It's a light oil.

2 Q. All right. And did you look at any of the same things I
3 just asked you? The MSDS sheet on that -- that Basra Iraqi oil?

4 A. No.

5 Q. Did you look at the manifest on that oil where it was
6 shipped from loop?

7 A. No.

8 Q. Did you have any information from the Murphy Oil refinery
9 testing on that oil when it was placed into the tank?

10 MR. KROUSE: Objection, Your Honor, as to relevance. I
11 don't know where we're going with this, Your Honor. This expert
12 witness was tendered in the field to measure the amount of, the
13 volume of oil from this tank dike area.

14 MR. BECNEL: Your Honor, the viscosity of the oil.

15 THE COURT: I understand it. I've overruled the
16 objection.

17 EXAMINATION

18 BY MR. BECNEL:

19 Q. Go to the next oil. And that's from Russia?

20 A. Yes.

21 Q. You don't know any of the same information I just asked on
22 the other two; is that correct?

23 A. I know the characteristics of the oil, yes.

24 Q. But you didn't look specifically to determine what was in
25 the tank?

1 MR. KROUSE: Objection, Your Honor, argumentative. He
2 says he knows what it is and he's not letting him finish.

3 THE COURT: Sustained.

4 EXAMINATION

5 BY MR. BECNEL:

6 Q. You looked on the Internet?

7 A. Yes, on the assay I did on the Internet.

8 Q. And the other two oils are what?

9 A. Arab light and Arab medium.

10 Q. What's the difference between Arab light and Arab medium?

11 A. The Arab medium is slightly heavier oil than the Arab light.

12 Q. Now, let's talk about storage tanks. The storage tank has
13 to comply with API 650; is that correct?

14 A. Yes, sir.

15 Q. And if you look at Perry's, it gives you exactly how it is
16 to be built; is that correct?

17 MR. KROUSE: Objection, Your Honor, as to relevance on
18 the construction of the storage tank.

19 MR. BECNEL: We're going to show the relevance in
20 two minutes, Your Honor.

21 THE COURT: All right, I'll allow it.

22 MR. BECNEL: Pardon?

23 THE WITNESS: I thought the judge made a comment, I'm
24 sorry.

25 I don't know that Perry's has a description on how the

1 tanks would be built, no.

2 EXAMINATION

3 BY MR. BECNEL:

4 Q. Did you look?

5 A. No.

6 Q. Did you look at section 10-138, the API standard on oil
7 storage tanks, API 650?

8 A. Yes, I'm familiar with 650.

9 Q. And you're familiar with the floating roof on those oil
10 tanks?

11 A. Yes.

12 Q. And you knew that this tank was an old tank, wasn't it?

13 A. It was built in 1982, '83 period.

14 Q. And it was Chicago Bridge and Iron had originally built it
15 along with its sister tank?

16 A. Yes.

17 Q. Did you look at the inspection reports on this tank prior to
18 the storm?

19 A. I looked at the external inspections that were conducted on
20 the tank, the monthly external inspections, yes.

21 Q. This tank had 21 different holes in it, didn't it?

22 MR. KROUSE: Objection, Your Honor. At what point in
23 time?

24 MR. BECNEL: In the last year. Prior to the storm.

25 MR. KROUSE: Objection, Your Honor. In terms of the

1 date in question as to when it had 27 holes --

2 MR. BECNEL: I didn't say 27. I said 21.

3 MR. KROUSE: Twenty-one holes, is critical to the --

4 THE COURT: All right. Let's be more specific.

5 EXAMINATION

6 BY MR. BECNEL:

7 Q. In terms of the API standards, you have to inspect these
8 tanks periodically; is that correct?

9 A. Correct.

10 Q. How often?

11 A. Well, it depends on the service that the tank is in, but in
12 most cases, it's every ten years. It can be as long as 20.

13 Q. But it depends upon the type of oil you're storing in it --

14 A. No, it depends on the experience you've had with the tank.

15 Q. Well, did anybody ever tell you how many repairs they had
16 made on that tank and how many holes they had in it in the
17 preceding year?

18 A. Yes.

19 Q. And how many holes they had in it?

20 A. Well, I can't recall the exact number.

21 Q. Was it 19?

22 A. I don't recall the exact number.

23 Q. Well, a good engineer has an engineering logbook, doesn't
24 he?

25 A. I don't know if a good engineer has an engineering logbook.

1 Q. Do you have an engineering logbook?

2 A. No, sir.

3 Q. Do you have any notes on what you were given?

4 A. I have the documents, inspection records on the tank, yes.

5 Q. Excuse me, sir, I didn't ask you that question. Do you have
6 any notes on what you were given?

7 A. No.

8 Q. Floating roof, you made an inspection of that tank, did you
9 not, on the top?

10 A. Yes.

11 Q. Did it have wind girders?

12 A. Yes.

13 Q. And what are wind girders, tell the Court?

14 A. A wind girders is a, what amounts to a flange around the top
15 portion of the tank to maintain it being round.

16 Q. And also to keep it from being distorted?

17 A. Yeah, to keep it round.

18 Q. This top got distorted, didn't it?

19 A. Excuse me? I'm not --

20 Q. The top was distorted, in fact --

21 A. The floating roof?

22 Q. Yes.

23 A. The floating roof was distorted, yes.

24 THE COURT: Just a minute. There's an objection. We're
25 getting into the substance of the case. Let's stick with the

1 class certification issues.

2 MR. KROUSE: Your Honor, in terms of the relevancy
3 objections, again, it has to do with his opinion or slide 1 that
4 should be the focus of his cross-examination. Again, I don't
5 know where we're going here.

6 EXAMINATION

7 BY MR. BECNEL:

8 Q. Sir, the bottom of the tank has a bunch of impellers or
9 mixers that mixes up all of this oil; is that correct?

10 A. It has three mixers, yes.

11 Q. And it has a heel in the bottom of the tank, because you
12 can't suck it all out of the bottom of the tank; is that right?

13 A. Right.

14 Q. Now, what was the heel?

15 A. What was the heel?

16 Q. Yeah, what kind of oil was in the heel that was there
17 before?

18 A. It was these four right here.

19 Q. How much of a heel did it have?

20 A. I don't recall what the heel was before the Bonnie Light was
21 loaded into the tank.

22 Q. Was there any documents that would be able to show you from
23 the transportation department where they moved product from a
24 ship or from a pipeline at entrance to Murphy to a storage tank?

25 MR. KROUSE: Objection, relevance, Your Honor.

1 THE COURT: Where are we going with this?

2 MR. BECNEL: Your Honor, the emulsification of this oil
3 is where I'm going. Oil, with these vibrators, emulsifies,
4 especially if they are using water to stop the leaks. And I'm
5 going there.

6 THE COURT: All right. I'll allow it up until a certain
7 point.

8 EXAMINATION

9 BY MR. BECNEL:

10 Q. You were aware that because they had all these leaks in the
11 tank prior to the hurricane that they were pumping water into the
12 tank to keep -- so that if that oil wouldn't come out on the
13 ground but rather water would come out on the ground; you were
14 aware of that?

15 MR. KROUSE: Objection, Your Honor. Again, he is taking
16 this out of context. This tank was repaired and placed back into
17 service on June 1, 2005.

18 THE COURT: I understand. I'll let you redirect on that
19 point.

20 THE WITNESS: I don't know that they pumped water in the
21 bottom of this tank to seal off those leaks in the past.

22 EXAMINATION

23 BY MR. BECNEL:

24 Q. So you didn't read any of the depositions of the other
25 witnesses that said that that's what they did to stop the leaks?

1 A. I didn't read those depositions, no.

2 Q. You were to calculate the volume of oil and/or water, if
3 there is water in the tanks, before the hurricane --

4 A. Yes.

5 Q. -- to determine what was there?

6 A. Yes.

7 Q. There is a formula to do that, is there not?

8 A. I'm not sure when you say "there is a formula to do that."
9 It's fairly --

10 Q. It's called calculation of tank volume. Are you familiar
11 with the formula?

12 A. I'm familiar for calculating volumes of cylinders, yes.

13 Q. And what is the formula? Do you want me to show it to you?

14 A. Well, you can use the -- simply the area by height and you
15 come up with a cubic feet.

16 Q. May I show the witness the book? Is that the formula, sir?
17 V equals $L R^2$? Is that the formula, right here? Calculation of
18 tank volume.

19 A. I have no had idea what that is. That is a partially-filled
20 horizontal cylinder and that's a cylinder that's laying this way,
21 not this way.

22 Q. Well, sir, they even have the diagrams of these cylinders
23 right here right above it.

24 A. I just read what it said and it said the horizontal
25 cylinder.

1 Q. Let's go to where you looked to for evidence. You've
2 written no papers on any subject as an engineer, have you?

3 A. No, sir.

4 MR. KROUSE: Objection.

5 EXAMINATION

6 BY MR. BECNEL:

7 Q. Have you looked at any peer-reviewed papers dealing with the
8 calculation of move storage tanks by water?

9 A. No.

10 MR. KROUSE: Objection, Your Honor, we're back to the
11 voir dire questions that we've already done about an hour ago.

12 MR. BECNEL: I'm asking on reliance.

13 THE COURT: He's right. I sustained that objection.

14 Let's move on.

15 EXAMINATION

16 BY MR. BECNEL:

17 Q. Your job was to make some calculations; is that correct?

18 A. Correct.

19 Q. You don't know when this oil started leaking, do you?

20 A. In time?

21 Q. Yes, sir.

22 A. No.

23 Q. You have no idea?

24 A. Well, I won't say I don't have any idea. I know that the
25 oil started leaking sometime before about noon on Friday.

1 Q. On what day?

2 A. On -- that's September the 2nd. And I know from the water
3 level shots that it was some time either early Friday, in the
4 early hours of Friday morning.

5 Q. Now, you have never been an expert that looks -- that has
6 been approved to look at photographs from the air and determine
7 when something leaks, have you?

8 MR. KROUSE: Again, Your Honor, we're in the voir dire
9 area.

10 THE COURT: Well, but that's -- I'll allow that.

11 THE WITNESS: No.

12 EXAMINATION

13 BY MR. BECNEL:

14 Q. That's a guess, isn't it?

15 A. No.

16 Q. Well, how did you use your eyes to determine from a
17 photograph when something started to leak?

18 A. Well, what I did is, is I used the survey data overlaid over
19 the photograph to determine the water level. From the water
20 level, I could determine what the hydrostatic pressure was, and
21 with the hydrostatic pressures, I've shown on method one is how I
22 determined when the water began to leak.

23 Q. Isn't it a fact that all of the information you had
24 concerning what got out of the tanks, somebody else told you?

25 MR. KROUSE: Objection, Your Honor, to the form of the

1 question.

2 THE WITNESS: No.

3 THE COURT: I'll overrule the objection. He said no.

4 EXAMINATION

5 BY MR. BECNEL:

6 Q. Do you want me to show you on Page 13, sir, Line 7? Your
7 deposition. They told me how much came out and my objective was
8 to come up with an accurate assessment of that; is that correct?

9 MR. KROUSE: Objection, Your Honor, that's a different
10 question that was previously posed to the witness.

11 THE COURT: That is a different question; I'll sustain
12 the objection.

13 EXAMINATION

14 BY MR. BECNEL:

15 Q. Did other individuals tell you what got out of the tank?

16 A. I was familiar with the data that was put together on how
17 much leaked from the tank into the containment dike that was
18 prepared by the O'Brien group and Murphy.

19 Q. Now, who from Murphy gave you how much got out of the tank?

20 A. I don't recall. It was, it was recorded on the O'Brien
21 summary sheets, but I don't remember who the individual was that
22 gave me that information.

23 Q. Do you remember your deposition at Page 15, sir, that
24 Mr. Lambert and I took? You said you told us --

25 THE COURT: Let counsel look at it.

1 MR. BECNEL: -- Carl Zornes? Pardon? Carl Zornes?

2 THE WITNESS: I don't know what the nature of the
3 question was, but who did you deal with --

4 MR. BECNEL: At Murphy. Carl Zornes.

5 MR. KROUSE: The question was, who did you deal with at
6 Murphy? Again, it is a different question than was originally
7 posed.

8 MR. BECNEL: I'll introduce the entire part of the
9 deposition, but I was just trying to save time.

10 EXAMINATION

11 BY MR. BECNEL:

12 Q. Did Mr. Whittington give you information?

13 A. Yes.

14 Q. And what did he give you?

15 A. He gave me information or showed me the logbook sheet that
16 we've had up here as one of my power point slides.

17 Q. And Ernie Cable (spelled phonetically) --

18 A. Yes.

19 Q. -- what did he give you?

20 A. He gave me the breakdown on what was in the tank besides the
21 Bonnie Light, what was in the heel.

22 Q. And O'Brien group and Ben Badon gave you the depth in the
23 tank; is that correct?

24 A. Yes.

25 Q. And what was the depth that they gave you?

1 A. At what time are you asking about?

2 Q. The first calculation you had, the first time anybody
3 measured the depth of anything in the tank.

4 A. Do you mean after?

5 Q. After the event.

6 A. Okay. The first level that was measured in the tank was
7 four-foot-six.

8 Q. And four-foot-six, in a 250,000-barrel tank is how much oil?

9 A. I don't know. I would have to go look at the strapping
10 table.

11 Q. Do you have any idea how much oil that was?

12 A. I could read it off of the strapping table. I can't tell
13 you off the top of my head.

14 Q. Tell the judge how many gallons are in a barrel of water?

15 A. Forty-two.

16 Q. And you looked at the O'Brien summary reports; is that
17 correct?

18 A. Correct, yes.

19 Q. You didn't look at any of the vacuum trucks or how much they
20 were sucking up, did you?

21 A. I didn't look at the log on the individual vacuum trucks,
22 no.

23 Q. Are you aware that any time a vacuum truck sucks up any
24 substance of a hazardous nature, you have to fill out a hazardous
25 waste manifest, do you not?

1 A. Yes, I'm familiar with the manifest.

2 Q. And you didn't look at any of the manifests to determine how
3 much each truck moved from place to place?

4 A. No.

5 Q. Or where they took it from?

6 A. No.

7 Q. Or how much oil was emulsified?

8 A. No.

9 Q. Now, you talked to us, did you not, when you have a hundred
10 mile an hour wind and you have water and oil mixing together and
11 sloshing around in a moving tank, it emulsifies, does it not?

12 A. I didn't tell you that, no.

13 Q. Well, do you remember asking them -- asking -- Mr. Lambert
14 asking you questions about emulsification of the oil in the
15 water --

16 THE COURT: Just ask him the question.

17 EXAMINATION

18 BY MR. BECNEL:

19 Q. Did the oil and water emulsify in that tank, sir?

20 A. No, I do not believe so.

21 Q. And on what basis do you make that statement?

22 A. Well, the material involved, the crude involved has a very
23 low tendency to emulsify. It's a light crude. It's a low
24 asphaltene crude. The conditions are such that there would be
25 limited or no emulsification, and that is that it was a

1 relatively warm temperature, and the contact between the water
2 and the oil was very little, so I would have expected little or
3 no emulsification between the water and oil.

4 Q. Did you look at the Murphy Oil press release?

5 A. No, I've not.

6 Q. Of September the 4th of how much was in the tank?

7 A. Yes. Yes, sir.

8 Q. All right. And how much did Murphy, in its press release on
9 September the 4th, say was in the tank?

10 MR. KROUSE: Objection as to relevance, Your Honor.

11 THE COURT: It may be relevant if it's not hearsay.
12 It's 801B2, so I'll allow it.

13 EXAMINATION

14 BY MR. BECNEL:

15 Q. How many barrels?

16 A. That says 85,000 barrels.

17 Q. So Murphy Oil, did they -- no one told you that they had a
18 press release with 85,000 barrels of oil?

19 A. No, sir.

20 Q. Now, from where did you find out, sir, that it might have
21 been a different figure?

22 A. I didn't see the 85,000, but -- so I didn't find out it was
23 different than that. What I found was the logbook reading, which
24 shows six-foot-three and at eighth of an inch and using the
25 strapping table to determine it was 40,750 barrels.

1 Q. There are two logbooks that are relevant in this case, are
2 there not? In the transportation department logbooks?

3 A. I'm not familiar with the transportation department logbook.

4 Q. Well, isn't there a log, when you pump oil from a pipeline
5 or a dock or a tanker truck, and it's called a transportation
6 director, and he pumps it to a certain location and then he also,
7 when you refined it, he pumps it back out? Those little
8 transportation logs, are you familiar with those?

9 A. I'm not familiar with the transportation log, no.

10 Q. You didn't ask? Nobody told you?

11 A. I did not ask.

12 Q. And you were aware that Murphy had set up in Reserve,
13 Louisiana, an emergency response office to deal with a lot of the
14 issues here?

15 MR. KROUSE: Objection.

16 MR. BECNEL: Of spilled oil in that community.

17 THE COURT: Where are we going with that?

18 EXAMINATION

19 BY MR. BECNEL:

20 Q. Did you check any of the records at that location?

21 A. No, I did not.

22 Q. Were you aware of it?

23 A. I was aware of the location, but I didn't check any records
24 at that location.

25 Q. Did you find out what was the purpose of having an oil spill

1 emergency office in Reserve, Louisiana, and the spill is over in
2 Meraux?

3 A. No, I did not.

4 Q. Now, what specific log gave you the figure that there was
5 40,674.86 barrels in that tank? Where did you get that number?

6 A. That's -- the log that I used was the one that I displayed
7 here, which is a copy of the page for August the 28th out of the
8 logbook that's maintained by the tank field operator at
9 Murphy Oil.

10 Q. Now, that little shack that we saw where you said where all
11 of the stains were.

12 A. Right.

13 Q. That's the operator's sort of house that he operates out of?

14 A. I don't know that that's the house that he operates out of,
15 no. I think he has another control building elsewhere in the
16 refinery.

17 Q. And you actually looked at the original logbook?

18 A. Yes.

19 Q. Do you have that logbook here, sir?

20 A. I don't, no.

21 Q. Have you seen that logbook?

22 A. Yes, I've seen the logbook.

23 Q. Where was it when you saw it?

24 A. I saw it down at the Meraux, Murphy.

25 Q. Was it still in the operator's room?

1 A. No. It was in a trailer by the administration building.

2 Q. Now, that -- did you look at -- all refineries have
3 hurricane emergency procedures; do they not?

4 A. Yes. All the ones I'm aware of do.

5 Q. In fact, you have a group where all of the refineries get
6 together and you work on those things together so everybody is on
7 board at the same basic --

8 A. I never heard of such --

9 MR. KROUSE: Objection, Your Honor, as to relevance.

10 THE COURT: I sustain the objection.

11 MR. KROUSE: Beyond the scope of class certification.

12 EXAMINATION

13 BY MR. BECNEL:

14 Q. How much was this tank filled in terms of its capacity? In
15 terms of percentages?

16 A. I don't recall the percentage right off the top of my head,
17 but we could divide 40,750 by 250,000 and what the difference is.

18 Q. Well, you want me to show you where we did that, sir? Just
19 so you don't have to do it again. And your answer was --

20 THE COURT: Wait, wait. Give the page and line.

21 MR. BECNEL: Page 23.

22 MR. KROUSE: Can you read the question and the answer?

23 EXAMINATION

24 BY MR. BECNEL:

25 Q. All right. Just so we do it right, 40, comma, 47.45 divided

1 by, answer, 16.3 percent was your answer.

2 A. Okay.

3 Q. Is that fair?

4 A. That's fair.

5 Q. Now, that was in violation of the --

6 MR. KROUSE: Objection, Your Honor, as to the
7 relevance --

8 MR. BECNEL: As to the procedure --

9 MR. KROUSE: As to the procedure is beyond the scope of
10 the class certification.

11 MR. BECNEL: Your Honor, it's very important as to why
12 the tank floated.

13 THE COURT: Yes, I'll allow that. Overrule the
14 objection.

15 EXAMINATION

16 BY MR. BECNEL:

17 Q. The procedure says what, it has to be filled to what
18 percent?

19 A. 30 percent.

20 Q. And it wasn't. Isn't that correct?

21 A. That's correct.

22 Q. And that's why it floated?

23 MR. KROUSE: Objection, Your Honor, as to relevance, to
24 the form of the question.

25 EXAMINATION

1 BY MR. BECNEL:

2 Q. Now, there were some other tanks that floated in the
3 refinery?

4 A. Yes.

5 Q. Two others?

6 MR. KROUSE: Objection as to relevance, Your Honor.

7 THE COURT: Sustained.

8 EXAMINATION

9 BY MR. BECNEL:

10 Q. Did you ever look at whether any oil came out of those other
11 two tanks?

12 MR. KROUSE: Objection, Your Honor, as to relevance.

13 THE COURT: That may be relevant. Do you know?

14 THE WITNESS: I did not look at the -- whether any oil
15 came out of any other tanks that -- no.

16 EXAMINATION

17 BY MR. BECNEL:

18 Q. Did you check where the oil came out of any of the
19 pipelines?

20 A. I did not personally check other than my observations in the
21 tank field around the three tanks.

22 Q. Did you check whether, in the sumps, they were filled with
23 oil because of its previous leaks?

24 A. I did not check in the sumps before Katrina, obviously.

25 Q. After, though, after Katrina?

1 A. I did not check the sumps afterwards other than to observe
2 that the level -- the total level in the sump was high.

3 Q. And it was filled with oil?

4 A. I don't know what it was filled with because I couldn't see
5 into it, but the levels were high.

6 Q. Did you actually take samples on any of those buildings
7 where you saw the lines?

8 A. I did not take samples, no.

9 Q. And what was the weight of the tank?

10 A. It was approximately 1.6, 1.7 million pounds.

11 Q. And how did you know that the -- what it would take to move
12 that tank with that much weight?

13 A. Well, it's a fairly simple displacement calculation. You
14 have to displace enough water to lift the weight of the tank and
15 weight of the oil inside of the tank.

16 Q. Now, that top floating part of the tank where the wind
17 girders are that were distorted has a big seal around it, doesn't
18 it?

19 A. Just as a correction, the wind girders are not distorted.

20 Q. The tank distorted?

21 A. Are you referring to floating --

22 Q. The tank's floating roof distorted?

23 A. Because the floating roof and the wind girders are two
24 independent --

25 Q. Two independent.

1 A. Right.

2 Q. But they have a big seal?

3 A. The floating roof has a seal around it, yes.

4 Q. Made out of Teflon and neoprene rubber; isn't that correct?

5 A. I don't know exactly what the material is on the seal.

6 Q. And you didn't inspect that Teflon and neoprene rubber seal,
7 did you?

8 MR. KROUSE: Objection as to relevancy, Your Honor.

9 THE COURT: Sustain the objection.

10 EXAMINATION

11 BY MR. BECNEL:

12 Q. Did any oil get out through the top, sir?

13 A. Not from my observation, no.

14 Q. Well, where was the top distorted?

15 A. On the north side, the top was distorted, and the top had --
16 the roof had buckles in it in a number of places across its, so
17 it traveled.

18 Q. If you have 17 feet of water coming up and it's pushing the
19 oil up because oil floats, why do you think no oil came out of
20 the distorted top of the floating roof?

21 A. Because the oil would float below the seals on the roof.

22 Q. Well, if the seals were broken and the roof was distorted.

23 A. I can't tell you exactly what the position of the roof was
24 in, but I know that the seal is above the liquid level on the
25 floating roof tank. So there would not be any oil coming up

1 through -- liquid oil coming up through the seal on that.

2 Q. And can you tell me, sir, in terms of your job, from the
3 time it was gauged on the 28th when you looked at it at 2:00 a.m.
4 in the morning, that was the last gauging you saw?

5 A. The operator told me it was normally taken at 2:00 a.m. in
6 the morning. I assume this one was, but I don't know for sure.

7 Q. What was the name of the operator?

8 A. The operator that took the gauging, I don't recall.

9 Q. Did you ever talk to him?

10 A. I did not talk with him.

11 Q. Did you ever read any of the accident investigation reports
12 dealing with how much oil got out?

13 A. No.

14 Q. You knew that that existed?

15 A. I was not aware of that, no.

16 Q. Nobody told you that?

17 A. No one told me that.

18 Q. Isn't it a requirement under the NRC? What is the NRC?

19 A. National Response Center.

20 Q. Don't you have to initiate an accident investigation within
21 48 hours and make a report?

22 MR. KROUSE: Objection as to relevance with this
23 witness, Your Honor.

24 MR. BECNEL: In terms of value.

25 THE COURT: It goes to credibility; I'll allow it.

1 BY MR. BECNEL:

2 Q. Did you attempt to talk to any of the subcontractors who
3 were doing the cleanup to determine how much oil they were
4 collecting?

5 MR. KROUSE: Objection as to relevance, Your Honor.

6 THE COURT: It goes to volume; I'll allow it.

7 THE WITNESS: No, I did not talk to any of the
8 subcontractors on that subject.

9 EXAMINATION

10 BY MR. BECNEL:

11 Q. Were you aware that they had logs that they had to keep?

12 A. I was not aware of that, no.

13 Q. Were you aware that the federal government requires, under
14 EPA form number 8700-22, which is 40 CFR 262.20, that you have to
15 fill out that manifest and it gives the volume of oil, the amount
16 of oil -- you're familiar with this form; I showed it to you the
17 other day, didn't I?

18 A. I'm familiar with the concept of having a manifest, yes.

19 Q. Did you try to determine whether your theories were right or
20 whether the actual what they were picking up was right from the
21 neighborhoods? Based on these manifests.

22 A. I did not review the manifests, no.

23 Q. You have a theory, don't you?

24 A. I have an analysis as to how much oil got out, yes. If you
25 want to call it theory, that's fine.

1 Q. Isn't it a theory?

2 A. I don't believe it's a theory. I believe --

3 Q. Well, you said scenario one, scenario two, those are both
4 theories or hypotheses?

5 MR. KROUSE: Objection.

6 THE COURT: Sustained.

7 EXAMINATION

8 BY MR. BECNEL:

9 Q. Who assisted you in making these calculations?

10 A. Who assisted? I don't know that anyone assisted me in
11 making the calculations. Chad Morris assisted me in the
12 elevation information and the use of the AutoCAD to get the
13 elevations.

14 Q. Now, you remember when Mr. Lambert asked you some questions
15 on when you went on the top of that roof, if you and Mr. Chad
16 could determine when the roof was floating here or when it was
17 further down, if you could determine the height and length with
18 AutoCAD, and you couldn't; isn't that true?

19 A. If I remember the specific nature of the question, it was
20 looking at one of the over-flights and he was asking me if I
21 could determine what the roof height was. And I had indicated
22 that I had tried, and with Chad, we tried to look and see how
23 many shell courses, if you will, were exposed on the inside of
24 the roof, and we hadn't been able to do that.

25 Q. Now, when you gave us your opinion in our deposition that

1 Mr. Lambert and I took, you told us that between 1600 and
2 2300 barrels of crude escaped?

3 A. Yes.

4 MR. KROUSE: Objection, Your Honor.

5 THE COURT: Form. I agree. Put it in another way. Ask
6 him how many barrels.

7 EXAMINATION

8 BY MR. BECNEL:

9 Q. How many barrels did you tell us in your deposition escaped?

10 A. Between 1602 and 2359.

11 Q. What made you change your opinion from the deposition, which
12 was just taken a week or so ago?

13 A. I got some new information last Wednesday night that led me
14 to believe that the water level recede -- the rate of water level
15 receding that I had used in my calculations may have been lower
16 than it actually was.

17 Q. Did you keep copies of those new calculations you made?

18 A. They are, you know, in the power point slides that you
19 showed here.

20 Q. That's not what I asked you, if they were in the slides. I
21 asked you, did you take a tablet and calculate it out by hand or
22 did you use a computer to calculate? How do you make the
23 calculations?

24 A. I just calculated it on my calculator.

25 Q. And you took no notes, kept no notes?

1 A. Well, other than what's in the power point slides, I didn't
2 take any other notes, no.

3 Q. And when did you give that to your lawyers?

4 A. Wednesday evening.

5 Q. Wednesday evening, what time?

6 A. Golly, I don't remember.

7 Q. What new information did you have that you thought you had
8 to change your opinion?

9 A. It was the reports from the Number 7 pumping station.

10 Q. Now, do you remember when you told us that nobody had really
11 gauged oil? They had gauged liquid that O'Brien gave you.

12 A. I'm not sure of the context of the statement.

13 Q. Well, do you recall this statement, sir? On the 10th,
14 O'Brien Pollution Services entered the Murphy crude oilfield,
15 took eight dipstick readings of the total liquid around and three
16 250,000-barrel crude tanks.

17 THE COURT: Wait, just a minute.

18 MR. KROUSE: What is the page and line number?

19 MR. BECNEL: That is Page 62. Line is --

20 THE COURT: It's an improperly asked question. I
21 sustain the objection. Ask it another way and I'll allow it.

22 EXAMINATION

23 BY MR. BECNEL:

24 Q. There's a difference between gauging total liquids and
25 gauging oil and gauging water, isn't there?

1 A. Correct.

2 Q. Did O'Brien ever gauge anything other than total liquids?

3 A. Yes.

4 Q. When?

5 A. I believe starting on the 12th of September, they gauged
6 both water -- total liquid height and oil level on the 8th,
7 dipstick measurements around tanks.

8 Q. And now, if the tanks started to leak almost immediately,
9 and the water was 17 feet high, and there was two cracks in the
10 tank, indentations in the tank where the weld seams had split,
11 did you make any calculations of how much got out of that weld
12 seam in the two locations?

13 MR. KROUSE: Objection to the form. Improper
14 hypothetical, Your Honor.

15 THE COURT: Sustained. I sustain the objection.

16 EXAMINATION

17 BY MR. BECNEL:

18 Q. Did you make a calculation in the part of the seam that the
19 weld broke as to how much got out of there?

20 A. That's my hydrostatic head calculation. The oil would not
21 have come out. Water would have gone into the tank because the
22 hydrostatic pressure was greater on the outside than the inside.

23 Q. And have you seen anything in the literature that says that
24 that's the way it happened?

25 MR. KROUSE: Objection to the form of the question.

1 THE COURT: Sustained. Are you almost finished,
2 Mr. Becnel?

3 MR. BECNEL: Almost finished.

4 THE COURT: All right.

5 EXAMINATION

6 BY MR. BECNEL:

7 Q. Did you ever go and talk to anyone from the St. Bernard
8 sheriff's office who assisted in the sandbagging of the breach?

9 A. No, sir.

10 Q. Did you ever talk to the civil defense director in
11 St. Bernard Parish as to how much he calculated he thought the
12 oil was?

13 A. No.

14 MR. KROUSE: Objection as to relevance.

15 THE COURT: I'll allow it.

16 THE WITNESS: No, sir.

17 EXAMINATION

18 BY MR. BECNEL:

19 Q. Did you talk to any of the first responders who were in
20 there such as Philip Hebert, Philip Hebert who was there stating
21 where the oil was?

22 MR. KROUSE: Objection to form.

23 MR. BECNEL: When they were making their search of the
24 breach --

25 THE COURT: Restate the question in its proper form.

EXAMINATION

1

2 BY MR. BECNEL:

3 Q. Did you ever have an opportunity to know that first
4 responders were searching the area immediately after the storm
5 trying to find survivors?

6 A. I'm not sure I knew that. I mean, it was obvious that that
7 was likely to be taking place.

8 Q. Did you check with any of the first responders of when they
9 first spotted oil after the storm?

10 MR. KROUSE: Objection as to relevance, Your Honor.

11 THE COURT: It goes to volume. I'll allow that.

12 THE WITNESS: No.

13

EXAMINATION

14 BY MR. BECNEL:

15 Q. If your opinion is correct, it would be possible for oil to
16 have gotten to the -- impossible for oil to have gotten to the
17 inside of the containment dike of 450?

18 MR. KROUSE: Objection to the form of the question.

19 THE WITNESS: I don't know whether oil got --

20 THE COURT: I'll allow that. I'll overrule the
21 objection.

22 THE WITNESS: I don't believe oil got from 250-2 from
23 the hole into the 450-dash containment dike. It is possible that
24 it could have flowed through a washed out or low area around the
25 containment dike on 450-2, because that containment dike is lower

1 than 250-2. But I don't know that it could have gotten in there.

2 EXAMINATION

3 BY MR. BECNEL:

4 Q. It had overtopped because of the height of the water once
5 the oil got out?

6 MR. KROUSE: Objection as to improper hypothetical.

7 THE COURT: I don't know where we are, but --

8 EXAMINATION

9 BY MR. BECNEL:

10 Q. If the water was 17 feet, with wind pushing it at 50 to a
11 hundred miles an hour, and there were breaches on two other
12 locations other than the one breach that you noted, could the oil
13 have gotten in there?

14 MR. KROUSE: Objection, Your Honor, improper
15 hypothetical, assuming facts not in evidence.

16 THE COURT: His premise is that the hydrostatic pressure
17 at that level kept the oil in.

18 THE WITNESS: I don't believe any oil could come out of
19 the tank at that level, no. At 17-foot of water around 250-2,
20 oil could not have come out of the holes that we find in that
21 tank.

22 EXAMINATION

23 BY MR. BECNEL:

24 Q. Did you look at the inspection reports with the 19 and 21
25 holes, sir?

1 A. If you'll --

2 Q. 2.7. 2.7.

3 THE COURT: Let counsel see it, please.

4 MR. KROUSE: Your Honor, these reports are dated 11/17
5 in '04 and are irrelevant to this inquiry here. They have no
6 relevance.

7 MR. BECNEL: And 2 March of '05.

8 THE COURT: Establish on relevance and I'll allow it.
9 If you can't, let's move on.

10 EXAMINATION

11 BY MR. BECNEL:

12 Q. Was this oil capable of having H₂S in it and corroding
13 through?

14 A. Was this oil, you're referring to my Nigerian Bonnie Light?

15 Q. All that was in the tanks.

16 A. There was certainly some small quantity of H₂S in this oil,
17 yes.

18 Q. Tell the Court what is H₂S.

19 A. Hydrogen sulfide.

20 Q. What does it do to steel tanks?

21 A. Hydrogen sulfide in and of itself doesn't particularly do
22 anything to steel. In the presence of water, you get a mild acid
23 and you will get corrosion, yes.

24 THE COURT: All right, folks, anything more?

25 EXAMINATION

1 BY MR. BECNEL:

2 Q. Were you aware that they hydrostatically tested the tank?

3 A. Yes.

4 Q. In March of '05 and they found more holes?

5 A. Yes.

6 Q. And did you calculate whether oil could have gotten out of
7 those additional holes?

8 MR. KROUSE: Objection, Your Honor, asked and answered.
9 This is irrelevant to the inquiry.

10 THE COURT: I understand. Is that your same answer with
11 the hydrostatic head?

12 THE WITNESS: Yes, sir.

13 THE COURT: All right. Anything further?

14 MR. BECNEL: Nothing further.

15 THE COURT: Anything on redirect?

16 MR. KROUSE: Yes, just very briefly, Your Honor.

17 EXAMINATION

18 BY MR. KROUSE:

19 Q. Mr. Baugher, with respect to the logbook that was at issue,
20 on September 16th when you first arrived at the refinery for your
21 site visit, did you request from Murphy Oil a copy of the logbook
22 to determine the amount of oil that was in the tank prior to
23 Hurricane Katrina?

24 MR. BECNEL: Your Honor, that's a leading question.

25 He's got to ask him, what did he request.

1 THE COURT: Yes.

2 EXAMINATION

3 BY MR. KROUSE:

4 Q. Did you request any information from Murphy with respect to
5 documents?

6 A. I requested any information they had on what the level was
7 in the tank.

8 Q. Would that include logbooks?

9 A. I was sort of looking initially for the electronic
10 information they might have and they told me that --

11 MR. BECNEL: Your Honor, I'm going to enter an objection
12 as to hearsay.

13 THE COURT: I'll overrule that objection.

14 EXAMINATION

15 BY MR. KROUSE:

16 Q. Continue, please.

17 A. They told me the electronic -- the computer was not
18 functioning and I asked if there was a logbook. In the course of
19 events, the logbook was discovered.

20 Q. What is your understanding of the condition of the logbook
21 and when it was discovered in relation to Hurricane Katrina?

22 A. I believe it was discovered after my visit on the 16th or
23 during my visit on the 16th of September. The condition of the
24 book, it obviously had been under water.

25 Q. So whenever these, this press release was issued by Murphy

1 with the 85,000 barrels, your initial estimate began when you
2 received that logbook; is that correct?

3 MR. BECNEL: Objection. Leading, Your Honor.

4 THE COURT: Yes.

5 EXAMINATION

6 BY MR. KROUSE:

7 Q. When did your initial calculations begin with respect to the
8 amount of oil in that tank?

9 A. I didn't make any calculations on the amount of oil in the
10 tank until I received this logbook.

11 Q. And now, why was that critical to your calculation?

12 A. I needed to know how much oil was in the tank when the
13 hurricane hit and the storm surge occurred, and I just wanted
14 that information to be in my calculations.

15 Q. And we have up on the screen and we've shown before, I think
16 it's Page 2 of Exhibit 88. That is the log sheet from August 28,
17 2005 that you've spoken of?

18 MR. BECNEL: Objection, it's leading.

19 THE COURT: Well, that's leading, but it's of no
20 significance. I'll allow that.

21 EXAMINATION

22 BY MR. KROUSE:

23 Q. Is that the log sheet that you relied upon?

24 A. Yes, sir.

25 Q. Now, let's talk about the O'Brien group. Did the O'Brien

1 group provide you with survey calculations in terms of the amount
2 of oil that they recovered?

3 MR. BECNEL: Your Honor, that's leading again.

4 THE COURT: Yeah, restate the question, please.

5 EXAMINATION

6 BY MR. KROUSE:

7 Q. What documents did the O'Brien group provide to you that you
8 relied upon in your investigation and ultimate opinion?

9 A. They provided me a document that I believe was called the
10 daily recovery log and personnel count, I think was the official
11 title of it.

12 Q. How did you rely upon that data to reach your conclusions?

13 A. That log contained both the levels -- oil and water levels
14 inside of tank 250-2 and the total level and oil level in the
15 containment area outside of 250-2.

16 Q. Now, did you ever have an opportunity to talk to Ben Badon?
17 Do you know who Ben Badon is?

18 A. Yes.

19 Q. And what did you discuss with Mr. Badon as related to those
20 calculations and statistics that you just enumerated?

21 A. I asked him for that data.

22 Q. And did he provide it to you?

23 A. Yes, he did.

24 Q. And did you ever have an opportunity to talk to Carl Zornes?
25 Do you know who Carl Zornes is?

1 A. Yes.

2 Q. And what did Mr. Zornes relate to you specifically about the
3 breach and the sandbagging of the breach on September 3rd?

4 MR. BECNEL: Objection, Your Honor, that's hearsay.
5 That's not documents.

6 THE COURT: No, you see, he's testifying as an expert
7 and so 703 allows him to utilize information that may not be
8 admissible. I'll overrule the objection.

9 THE WITNESS: I had a discussion with Carl where he
10 related to me essentially the same information that he related in
11 the courtroom yesterday about coming into the refinery,
12 discovering the leak on that Saturday, September 3rd, and then
13 proceeding with getting a crew together and sandbagging the leak.
14 There were more details, if you will, in his discussion if you
15 were in the courtroom yesterday than he related to me, but the
16 essence was the same.

17 MR. KROUSE: Thank you, sir, that's all the questions I
18 have.

19 THE COURT: We'll take a break at this time, 15 minutes.
20 The Court will stand in recess.

21 THE DEPUTY CLERK: Everyone rise.

22 (Off-the-record discussion).

23 THE DEPUTY CLERK: Everyone rise.

24 THE COURT: Be seated, please. Call your next witness.

25 MR. MILLER: Your Honor, Murphy calls as its next

1 witness Dr. Glenn Millner.

2 **DR. GLENN MILLNER**

3 was called as a witness and, after being first duly sworn by the
4 Clerk, was examined and testified on his oath as follows:

5 THE DEPUTY CLERK: Have a seat, please. Give us your
6 name and spell it for us.

7 THE WITNESS: My name is Glenn Charles Millner,
8 M-I-L-L-N-E-R.

9 MR. MILLER: Your Honor, Dr. Millner is being tendered
10 as an expert in the areas of toxicology and risk assessment. His
11 CV has been previously admitted into evidence as defendant's
12 Exhibit number 62. At this point, I'll tender the witness to
13 Mr. Lambert for voir dire.

14 THE COURT: Mr. Lambert.

15 MR. LAMBERT: No questions, Your Honor.

16 THE COURT: The Court accepts him in the field of
17 toxicology. Proceed.

18 **EXAMINATION**

19 BY MR. MILLER:

20 Q. Good morning, Dr. Millner.

21 A. Good morning.

22 Q. Dr. Millner, you were in court yesterday, correct?

23 A. Yes, sir.

24 Q. And were you present when Mr. Bruno asked Mr. Carl Zornes
25 whether members of the community ever received an independent

1 assessment of the impact of crude oil in the community?

2 A. Yes, I was.

3 Q. Do you have an opinion on that question as to --

4 Dr. Millner?

5 A. Yes, I believe that my company, the Center for Toxicology
6 and Environmental Health, did an independent assessment, and I
7 believe that the United States Environmental Protection Agency
8 did an independent assessment.

9 Q. Why don't you talk about the work that your company did in
10 the assessment.

11 A. I would be glad to.

12 MR. LAMBERT: Your Honor, I missed it because we were
13 switching places, but I object to the terminology of the
14 independent examination. This gentleman's company, despite its
15 name, was hired by Murphy Oil to conduct testing.

16 THE COURT: All right, I'll let you take him under cross
17 and bring that out.

18 MR. LAMBERT: Thank you.

19 EXAMINATION

20 BY MR. MILLER:

21 Q. I think the question is pending, Dr. Millner.

22 A. Yes. Your Honor, I was called to the site on September 9,
23 2005. My initial task was to determine if there were any
24 short-term health risks from the crude oil vapors. The concern
25 at the time was for the first responders. Also, I was asked to

1 determine if I could come up with a procedure to determine where
2 the oil went. What properties affected -- were affected, which
3 ones were not affected.

4 I arrived on-site. I went with a Dr. Russ Summers. We
5 had with us a portable GC Mass SPECT. Mr. Kaltofen spoke a lot
6 about a laboratory GCMS. We brought one with us in the field.
7 And Dr. Summers ran that. We ran a number of samples inside
8 people's houses, outside people's houses. I brought a number of
9 what I called realtime sampling equipment, which was to determine
10 the levels of chemicals in the air right away.

11 And I went inside some properties. I went outside some
12 properties. And I surveyed the neighborhood as best I could,
13 because the conditions at the time were very difficult. So we
14 arrived on-site September 9th, and we did our assessment. And
15 then we went back to Little Rock.

16 Q. Well, did you go back to the site and the site being
17 St. Bernard Parish in the vicinity of the Murphy Oil refinery?

18 A. Yes.

19 Q. When was that, Dr. Millner?

20 A. We went the week of September 16th. But when we went back,
21 the week of September 11th, our idea there was to develop a work
22 plan. I wanted to put together a written work plan so that I
23 could submit it to the regulatory authorities that were
24 overseeing the cleanup, which at that time was the U.S. Coast
25 Guard, United States Environmental Protection Agency, and the

1 Louisiana Department of Environmental Quality. So I had to write
2 a written plan to submit to the agencies for approval.

3 And the objectives of my work plan are shown on this
4 slide. And again, my objectives were to define the area of
5 exposure from the Meraux refinery crude oil spill and to assess
6 the ongoing risk to residents in the exposure area.

7 Q. Why don't you explain how you went about achieving those
8 directives, Dr. Millner?

9 A. In the written plan, we proposed to the agencies a
10 combination of visual reconnaissance and photo documentation,
11 house and home sediment. At the time, the soil was more like a
12 sludge because it was still pretty wet. So when you see the
13 acronym there, soil slash sludge, we're just talking about the
14 material that was deposited in the community.

15 So the -- it was a combination of the soil sediment
16 home sampling both inside and outside the neighborhoods and also
17 conduct ambient air monitoring throughout the neighborhoods and
18 inside individual homes.

19 Q. What was the result of these activities in/or around the
20 week of September 11, 2005?

21 A. Well, we prepared the plan, we submitted it to LDEQ and EPA
22 and they approved the work plan.

23 Q. And when did you begin implementing the plan, Dr. Millner?

24 A. On September 16, 2005. We started the field delineation to
25 determine which homes were affected by Murphy crude and which

1 ones were not.

2 Q. In terms of the implementation of this plan, did you have
3 oversight? Why don't you go ahead and explain that to the Court,
4 if you did.

5 A. I would be glad to. How it works, Your Honor, is we are --
6 we have anywhere between 12 and 20 people on-site at any given
7 time. We have anywhere between three and seven sampling teams.
8 Each of our sampling teams has an EPA individual that goes with
9 one of our teams to make sure that we follow the approved work
10 plan.

11 What they do is, they show up to a property, and
12 they -- we have these handheld PDAs that -- so that we can GPS
13 the location of the homes. Up to this point, we've sampled over
14 2500 homes. And so to keep track of this massive amount of data,
15 we have gone to what they call the PDA. And what it does is it
16 tracks -- all of our field information is handled electronically.
17 Our chain of custody forms are handled electronically, our field
18 forms are handled electronically, so the idea behind that is so
19 that we don't make any mistakes about which home is sampled or we
20 send the wrong sample to the wrong location or we marry up a
21 sample with the wrong home.

22 Q. If you stop right there, Dr. Millner. I just want to make
23 sure we don't forget this point. You mentioned that you sampled
24 25 separate home locations. Did you also sample public property
25 locations?

1 THE COURT: 2500 homes.

2 MR. MILLER: 2500 homes, I think he said. How about
3 public properties?

4 THE WITNESS: Yes, we have.

5 EXAMINATION

6 BY MR. MILLER:

7 Q. How many public property locations?

8 A. I don't know the exact number. We've taken over 7,000
9 samples.

10 So when we show up to a house, the sampling team does
11 what's called bias sampling. What they are doing is they are
12 looking for oil. They are not doing a random analysis of a
13 property. We're showing up and the field teams, along with the
14 EPA, are looking at the property and seeing if we see an oil
15 stain on the property. So what we do is we go outside the
16 property and what we do is a three-point composite, so we're
17 looking for three locations on the soil of that property and
18 we're sampling those locations. We're putting them in a plastic
19 baggy. We're mixing up the sample and then we're compositing
20 those results.

21 Q. Now, Dr. Millner, has the EPA approved of the bias sampling
22 technique?

23 A. Yes.

24 Q. Has it also approved, the EPA, I mean, of the composite
25 sampling technique?

1 A. Yes. So the advantages of compositing is you're less apt to
2 miss oil, because we're looking for more than just one location.
3 So we do that in undisturbed areas outside the property. Then we
4 go inside the home, and we do the same thing. We do an
5 inside-the-home sample. We look for three areas inside the home
6 that are undisturbed and we take a three-point composite inside
7 the home.

8 Then what we also do is if we see -- when we first
9 started this, we affectionately called it bathtub ring. So when
10 we see what we call a bathtub ring on a property, we take a wipe
11 sample and that's in the EPA- and LDEQ-approved work plan. So we
12 go to a property and if we see an oil line or if we see multiple
13 oil lines, we record the height of the oil line and the width of
14 the oil line and we sample each individual wipe. So if we see
15 three lines on a property, we sample each of those independently
16 and send those to a lab.

17 The lab that we've chosen for this project is called
18 GCAL. And the reason we selected that lab is that's on the LDEQ
19 approved list of laboratories to do this type of sampling under
20 their RECAP program, which is called a risk evaluation corrective
21 action program.

22 Q. What does GCAL stand for, just so the record is clear?

23 A. Gulf Coast Analytical Lab.

24 Q. And where is that organization located?

25 A. It's in Louisiana.

1 Q. And it's been talked about a lot, but Murphy has a
2 settlement program out there and I think we all know that you,
3 your agency, is the group that defined the area for the
4 settlement program; is that correct?

5 MR. LAMBERT: Excuse me, Your Honor. That's a leading
6 question, and I don't think it's --

7 THE COURT: That's enough. I sustain it.

8 MR. MILLER: I'll restate it.

9 EXAMINATION

10 BY MR. MILLER:

11 Q. Dr. Millner, are you familiar with the Murphy settlement
12 affected area?

13 A. Yes.

14 Q. And tell us what your role was in the development of that
15 area.

16 A. I was, like I said earlier, I was tasked to determine which
17 homes were affected by crude oil and which ones were not, and so
18 what I'm about to show you is how I arrived at that affected
19 area, and we call it affectionately, *the baby blue area*.

20 Q. Go ahead and show that to the Court, please.

21 A. Well, I just may adhere it's -- there is quite a bit of what
22 we call quality assurance and quality control during the field
23 sampling. So each day the field teams meet and make sure that
24 they are following the same protocol.

25 Q. Is the LDEQ and EPA involved in the quality assurance and

1 quality control of the field work?

2 MR. LAMBERT: Objection. Leading, Your Honor.

3 EXAMINATION

4 BY MR. MILLER:

5 Q. Who participates in the quality control, Dr. Millner?

6 A. The EPA and LDEQ. They take -- every ten samples, they take
7 a split. And they send it to a laboratory. They do their own
8 validation of their data, and we do our own validation of our
9 data. And I'm about to show you is what we do to validate our
10 data.

11 As you can well imagine, this project has a lot of
12 interest by the public and EPA LDEQ. And next year I'll be
13 having worked in the environmental field for 30 years. And I
14 can't remember a single project that there has been as much
15 oversight on as there is on this one.

16 Q. You mean regulatory oversight?

17 A. Yes. And the reason for that is the EPA and LDEQ want to
18 make sure that, as I do, that this study is being done correctly
19 and that we can assure the public that we have good data.

20 So in terms of our QA/QC, basically here, we're talking
21 about field procedures, our database procedures. I think the
22 most important part of our QA/QC is that 10 percent of our
23 samples are split with the EPA.

24 We also do what we call an internal review of the
25 sample delivery group, SDG, so those may be comprised of 30 or 40

1 samples that come in that are called SDG, and a percentage of
2 those are sent to an independent third-party reviews those SDGs,
3 so we send that to a data validator, and the person that we pick,
4 the company that we pick, is one that's on the LDEQ-approved list
5 of data validators. In fact, they are under contract to LDEQ to
6 do the data validation.

7 Q. Thank you, Dr. Millner. What does this slide depict?

8 A. Basically I think I said it already. Define the area of
9 exposure was my primary objective and assess the ongoing risk to
10 residents in the exposure area.

11 So what we did is we did a combination of field
12 reconnaissance, photo documentation. We had what was called the
13 field screening test. We sampled over 500 properties. And this
14 was a test kit that you could do in the field that determined the
15 presence of oil. And what we were trying to do is -- well, we
16 could obviously see oil, oiled homes, severe-oiled homes near
17 Jacob Drive, and the idea was to start outside of what we know
18 was severely affected and then to find out where we had oil and
19 then where we no longer had oil. The only way I know how to
20 delineate an affected area is to work your way out, and then when
21 you get oil and then you stop getting oil, that is the area
22 that -- that's the demarcation line.

23 Q. I just want to make sure we're clear on this. Are these the
24 methods that you employed to define the affected area?

25 A. Yes. And, you know, one of the most important parts of this

1 was forensic field screening. What we did there is, we
2 contracted with Dr. Scott Stout of Newfields who is, in my
3 opinion, one of the leading experts on fingerprinting in the
4 world. And this is what he does for a living. He does this day
5 in and day out. And so I realized early on an important part of
6 this project would be to have a good, reliable fingerprint expert
7 that could tell us the fingerprint for Murphy Oil.

8 Q. Would you show us the results of those benefits?

9 A. Well, we took over 17,000 digital photos. We sampled over
10 2,264 homes. When I say 2,264 homes, if you take that and you
11 multiply that at least six, because when I take a three-point
12 composite out and three-point composite inside and several wipe
13 samples, it could be as much as eight, you could multiply that
14 number, that's how many separate sample locations we've taken.
15 And then based on that, his fingerprint analysis, we came up with
16 this, what we call the CTH delineated area.

17 Q. Before you go on, Dr. Millner, I just want to make sure the
18 record is clear. What are the different types of samples that
19 your group has been taking with oversight by the EPA?

20 A. We take a soil sample, we take an air sample, we take a wipe
21 sample. The soil and wipe samples and the inside and outside are
22 sent to GCAL and we follow method 8015-B and method 8270. Those
23 results are the required tests under RECAP. Then those
24 chromatograms are sent to Dr. Stout and he independently
25 fingerprints each sample result.

1 Q. Now, the samples that you take, they are taken both inside
2 and outside the home?

3 A. Yes.

4 Q. And is bias sampling employed in each situation?

5 A. Yes, we are trying to find oil.

6 Q. Why don't you go ahead and explain the map that is right now
7 on the screen, Dr. Millner.

8 A. This is the area that we delineated to determine the
9 potentially affected area from Murphy crude oil. And subsequent
10 to this, we did a lot more testing of the homes inside and
11 outside this area to come up with this and, I think, the
12 additional sampling confirms this delineated area with some few
13 exceptions. We did find some areas outside the delineated area,
14 but on all times we found it outside the delineated area, it was
15 very close. And I'll show you those results.

16 Q. Let me ask you a question first while this is up.
17 Does it mean that every single house within the baby blue area
18 has the presence of Murphy Oil on it?

19 MR. LAMBERT: Objection, Your Honor, leading again. And
20 he's asking --

21 THE COURT: Restate it.

22 MR. LAMBERT: He's asking him about the houses versus
23 the particular sample.

24 EXAMINATION

25 BY MR. MILLER:

1 Q. Dr. Millner, this baby blue area covers some houses,
2 correct?

3 A. Yes, this represents about 2900 homes.

4 Q. And what does it indicate with respect to those homes?

5 A. This is the area that, that we believe is the geographic
6 extent of Murphy crude oil. There are many homes, and I'll show
7 some slides of what percentage, even within this baby blue area,
8 that are unaffected by Murphy Oil, based on fingerprint results,
9 et cetera.

10 Q. Thank you, Dr. Millner. Let's go on to the next slide.

11 What does that depict, Dr. Millner? It's called comparison of
12 CTEH and EPA delineated impact areas. It's a little cut off at
13 the top.

14 A. This is an overlay of EPA's impact area and the CTEH impact
15 area. The dotted black line represents the EPA impact area. It
16 almost looks, somewhat like the state of Texas, I guess. The
17 baby blue area is the one that we came up with, and if you count
18 the number of homes in the EPA area, I think you come up with
19 2909 and I think if you count the number of homes in our area,
20 you come up with 2901.

21 Q. Dr. Millner, do you know the relationship between the areas,
22 between the C Tech area and the EPA area?

23 A. Yes, I think what I find compelling about this slide is that
24 two separate organizations independently went out with the
25 purpose of delineating Murphy crude oil, and if you look at the

1 overlay, they match pretty well.

2 Q. Let's go on to the next slide, Dr. Millner. It concerns
3 LDEQ RECAP issues.

4 A. I just want to add one other point to this slide is that all
5 the data that we collect, Your Honor, is shared with EPA. Every
6 week, we do a data dump and all the data that CTEH has, EPA has,
7 and they continually review the data that we collect. As you can
8 imagine, we were like in a fish bowl and we constantly get calls
9 from ATSDR, EPA and others, asking us to explain where this
10 sample was taken, where was this result. They have some
11 questions from the lab and we will let them speak directly to the
12 lab. This is very transparent.

13 Q. How frequent does your organization meet with
14 representatives of EPA?

15 A. Daily. We have a morning meeting and an afternoon meeting.

16 Q. Why don't you go ahead and explain what this slide depicts.

17 A. This simply is the program that we're under. It's the RECAP
18 program and it's LDEQ's method for determining the health risk of
19 petroleum hydrocarbons. And so under the RECAP program is a
20 methodology for determining which homes are affected, which ones
21 are not affected. And also, which -- what is the health standard
22 or the level of oil on a property that would require remediation.
23 And it's a tier framework. There is a screening standard and
24 there is what they call management options. They have management
25 option one, management option two, and a management option three,

1 and it follows an indicator chemical approach.

2 Early on in my career, back in the late '80s, I was one
3 of the first people to come up with a risk-based method for
4 petroleum hydrocarbons. And I've published extensively in the
5 health risk in book chapters and et cetera. And the methodology
6 that I was part of is what LDEQ ended up adopting. It was the
7 TPH fraction and indicator approach.

8 And this methodology was developed by the TPH criteria
9 working group. And it's been adopted by many states throughout
10 the United States.

11 And in here, what we're looking for is TPH GRO, which
12 stands for gasoline range organics, TPH DRO, which stands for
13 diesel range organics, and TPH oil range organics or ORO. And so
14 for crude oil, the standard is ORO and DRO. So when we go to a
15 property, Your Honor, what we're looking to see is if the soil
16 results are above or below those numbers right there. So if
17 we're below ORO and DRO for that property -- and there are some
18 other indicator chemicals that I can talk about, but we won't go
19 into that detail -- as long as we're below those numbers, then
20 the state agencies and EPA believes those properties are safe,
21 that residents can live there for a lifetime and it would be --
22 not anticipated to result in any type of long- or short-term
23 health risks.

24 Q. Before you move on, let me ask you a question in relation to
25 these concentrations. Have you ever found a property where the

1 numbers, the ORO numbers or the DRO concentrations come out to
2 zero?

3 A. No.

4 Q. Why not, Dr. Millner?

5 A. You can go anywhere in the parish and you'll find DRO and
6 ORO. And that was, in the beginning, very confusing to people
7 because people would look at the number and say, Oh, you found
8 oil because you've got some DRO and ORO. And the reason for that
9 is biogenic material like plant material, biological lipids will
10 show up as ORO, DRO, pine needles, things like that. Any
11 biogenic material will show up as DRO and ORO.

12 Q. Go to the your next slide; I think it sums up the RECAP.

13 A. The RECAP standards are put forward to address the human
14 health risks for crude oil and that's what we use to determine
15 properties which require remediation in the case.

16 What we found is, if you're below RECAP, there should
17 not be any long-term exposures to oil above RECAP standards;
18 therefore, the spill would not be expected to present any
19 long-term health and safety issues.

20 What we found up to this point is, within the baby blue
21 area, most homes tested were below RECAP, even before there was
22 any cleaning of the properties. However, homes not below RECAP,
23 in other words, they are above RECAP, they will be remediated.
24 And once they're remediated, they will be in compliance and they
25 will not present any long-term health risks.

1 Q. Do you have a map depicting these RECAP test results,
2 Dr. Millner?

3 A. Yes, I do.

4 Q. Go ahead and explain what that map depicts for the Court,
5 please.

6 A. Okay. It's kind of hard to see here, Your Honor, but --

7 THE COURT: You can see it better on the monitor. In
8 front of you.

9 THE WITNESS: Thank you. The red dots mean that the
10 sample result was above RECAP. The green dots mean that that
11 property that was tested was below RECAP. And if you look at the
12 bottom of the slide, it says that 81 percent of the homes we
13 tested were below RECAP standards. And this is, if you look at
14 the heading at the top, it says these were the summary of RECAP
15 testing for ORO and DRO in outside soil samples. And one of the
16 things that I noticed here is, you know, outside soil sampling is
17 a better indicator of the presence of crude oil than inside, and
18 you'll see that in the next slide.

19 EXAMINATION

20 BY MR. MILLER:

21 Q. Okay. So this slide just deals with the outside soil
22 samples?

23 A. That's right.

24 Q. Do you have another slide dealing with your other samples?

25 A. Yes. On this slide is the result of indoor soil samplings

1 and there are -- 93 percent of the interior homes that we tested
2 were below RECAP standards within the baby blue area.

3 Q. Do you have an opinion as to why the indoor samples show a
4 higher percentage of samples falling below RECAP than the outdoor
5 samples?

6 A. Yes. I think it's the home itself afforded some protective
7 barrier for getting in.

8 Q. Why don't you go ahead and state your conclusions based on
9 the last two slides we saw with the RECAP dots.

10 A. Well, if you look at both of these slides here, I mean, if I
11 were even to look at a home inside or outside, and if you can
12 test that home, I wouldn't know if it's above or below RECAP, so
13 it requires an individual testing of that home, for one, the
14 presence and concentration of crude oil, and then you'll see
15 later that through fingerprinting that it requires the source and
16 cause of any detected crude.

17 And then the third conclusion is whether the crude oil
18 in that property results in exceeding an applicable standard.

19 And the fourth is the presence of other hazards,
20 contaminants, including mold, has to be addressed. This is a
21 real concern. The regulatory agencies are struggling with mold
22 and structural damage of the home. There are physical hazards
23 within the home and then there is the crude oil.

24 Q. Dr. Millner, did you have an opportunity to test houses that
25 are adjacent to or near residences occupied by named plaintiffs

1 and class representatives in this lawsuit?

2 A. Yes.

3 Q. Tell me what this slide depicts, Dr. Millner.

4 A. What we did is, we got a call from the lawyers that
5 plaintiffs were going to sample some homes and so we went and
6 sampled homes as well. And I think, our teams -- this is
7 depicting the geographic locations of the named plaintiffs and
8 class reps, and I've overlaid that on the CTEH's delineated area.
9 And if you can't see on the map, Your Honor, those are the ones
10 that are -- that show up on the scale.

11 If you look in the upper right-hand corner, the named
12 plaintiffs in this case go all the way down seven or eight miles
13 east of the property and seven to eight miles west of the
14 property. And I couldn't fit them on the same map or scale so we
15 had it inlaid. And that shows the locations where we tested the
16 properties.

17 And here is what we found is basically all the levels
18 we found were below RECAP except for 3413 Despaux, which is
19 within the baby blue area. And so for the named plaintiffs, the
20 TPH DRO and ORO for the plaintiffs and class representatives
21 within the CTEH delineated area. And what I tried to do is,
22 since I didn't have test results for all the named plaintiffs, we
23 looked for homes that we did have data that was close by. And
24 this slide shows ten homes that were near or close to named
25 plaintiffs. And this is the result for those named plaintiffs.

1 These are sampling data that was found at homes, not at their
2 property, that were close to their property.

3 Q. Right. And do you have a map that shows that?

4 A. Yeah.

5 Q. Let's go ahead and look at the map.

6 A. Well, no, that's not the same map. This is just, this is
7 not a map of that. This is just those results of the named
8 plaintiffs that are shown anywhere within this -- either of these
9 two maps.

10 Q. I understand. What does this map depict that's on the
11 screen now, Dr. Millner?

12 A. What we did is, we went out to -- on public properties to
13 delineate a wider area outside the CTEH delineated area. And we
14 went out and we sampled them and we determined the ORO/DRO
15 results and we also sent the samples off to Dr. Stout for
16 fingerprinting and he hasn't completed those yet. But the sample
17 results outside our baby blue area here on this map show that the
18 ORO and DRO results are below RECAP.

19 Q. Well, that map is on the screen. Let me refer your
20 attention to Exhibit 107-T offered by the plaintiffs. And if you
21 could, Dr. Millner, relate the sample locations on the screen to
22 the area depicted in the blue outline on Plaintiff's
23 Exhibit 107-T.

24 A. I have to look over here with these glasses.

25 One of the sampling locations depicted on the map is

1 here, another one is here, we've got several up here. We have a
2 couple of them here. And then we have some here, here, here,
3 here, here, all the way up into this corner. And then we have
4 sample results up in this part as well. And those all, all of
5 those sampling results were below RECAP.

6 Q. Thank you, Dr. Millner. Let's go on to the next slide,
7 please.

8 A. What we did here is, we went out into the Bayou. I can show
9 here -- we went out to determine what the -- like I said before,
10 there is biogenic material.

11 Q. Let me stop you right there. By the Bayou, do you mean the
12 Lake Borgne marsh?

13 A. Yes. I'm not from Louisiana.

14 Q. Go ahead. There are plenty of bayous in Louisiana, so I
15 wanted to specify that.

16 A. We took two marsh samples with the idea, we wanted to know
17 what the baseline DRO/ORO level would be for just biogenic
18 material. And what -- those are depicted on my slide here, and
19 the slide, the Bayou sample Number 1, we found a little over
20 750 parts per million ORO and then the second Bayou sample, we
21 found a little over 450 parts per million ORO. And the other
22 sample points --

23 Q. Hold on, Dr. Millner. By sample points, you mean the bars
24 that are not indicated at either Bayou sample one or two?

25 A. Right.

1 Q. What do they represent?

2 A. Those are all these other green dots, okay? So what this
3 slide shows that all those little green dots on this map are
4 below the ORO level we're finding in the Bayou.

5 Q. And what does that indicate to you, Dr. Millner?

6 A. Well, you know, looking at that and looking, you know, being
7 here for Mr. Kaltofen's direct and cross-examination, I believe
8 that what he is finding and saying is, Murphy's crude oil is, you
9 know, the material that came in from the flood.

10 Q. Let's go on to your next letter. I think it pertains to
11 fingerprints and fingerprinting?

12 A. Yes, yes.

13 Q. Go ahead and explain what's on this slide, Dr. Millner.

14 A. Basically we heard, without going over it again, the
15 multiple sources of petroleum products in the parish and
16 throughout the affected area. One of the things we learned early
17 on is the presence of a ring stain on a home does not necessarily
18 correspond with the presence of oil or with the presence of
19 Murphy Oil.

20 Early on we were very concerned, and I went all the way
21 down to the Sam's, because you could see what looked like an oil
22 ring leak going all the way down that way. So we tested that
23 ring. And we looked and determined that it was not Murphy's oil.
24 And so the reason for that is that early on, people would look at
25 this bathtub ring and go, Oh, that's oil, and we learned that

1 it's not the case. Because when we test it, we can determine
2 whether it's oil and whether or not it's Murphy Oil or it's just
3 dirt. So what we did is, all of those were sent to Dr. Stout for
4 fingerprinting and he did the source determinations.

5 Q. Thank you, Dr. Millner. Now, we have a picture of a
6 residence and tell me what this picture indicates, Dr. Millner.

7 A. This would be an example of an oil-affected home that was
8 tested and fingerprinted and determined to be Murphy's crude oil.
9 You can see in this case there were -- it looked like to be two
10 oil level lines and those would have been sampled independently.
11 And that's just a depiction of what it looks like.

12 Q. What is this map depicting? It's titled, fingerprint
13 analysis of outdoor wipe samples.

14 A. Well, this is a very busy slide that I'll take my time and
15 try to explain what this is showing.

16 First of all, on the slide is the EPA-depicted area
17 overlaying the CTEH impact area.

18 Q. Let's just make sure we all have our bearings straight. The
19 EPA-affected area is outlined in what color?

20 A. Black. And ours is in blue. And if you look in the top
21 right-hand corner, you'll see the fingerprint results, if it's --
22 what color is that? It's more like an orange or an orange color
23 would be positive, a yellow would be equivocal, and a green would
24 be negative.

25 And if you look at this overlaying map, you can see

1 that our sampling, both inside and outside the delineated area,
2 shows that most of the homes that we have tested inside the baby
3 blue area is, you know -- you can see that some tested positive,
4 some tested equivocal, and some tested negative.

5 And if you look at the bottom of the slide, it shows
6 that within the baby blue area, 58 percent of the homes tested
7 positive, which means 42 percent tested negative even within the
8 baby blue area.

9 Q. Now, this map just depicts the outdoor wipe samples,
10 correct?

11 A. Yes.

12 Q. It doesn't include the soils?

13 A. No.

14 Q. Let me ask you for a moment more of a general question about
15 sampling. In particular, sampling that attempts to define a
16 perimeter. And were you in court yesterday when I created this
17 pretty demonstrative here in connection with Mr. Kaltofen's
18 cross-examination?

19 A. Did you say "pretty"?

20 Q. Being facetious.

21 A. Yes, I saw what you did.

22 Q. Tell me how you go about taking samples in order to derive a
23 perimeter of an affected area.

24 A. The only way I know how to do it is to start within an area
25 that you know is affected and work your way out, and that's what

1 we did here is, we kept sampling further and further away from
2 the source until we came to an area that we could no longer
3 determine that it was oil, no less Murphy Oil.

4 And if you look also on here, you can see the sample
5 results that we have that are negative for Murphy's Oil all
6 throughout the area in green that Mr. Kaltofen has said -- says
7 that is an area that's affected by Murphy's crude oil.

8 Q. In order to create a perimeter, do you need a certain number
9 of samples or something to that effect, a sampling rate, if you
10 will?

11 A. Yes.

12 Q. What kind of rate or number do you need?

13 A. Well, in this case, we decided to sample individual
14 properties. I don't necessarily say you have to sample every
15 property, but it has to be some type of statistical design to
16 come up with a, what we would say, a representative sample. And
17 you can only make conclusions based on a sample number that you
18 would consider representative.

19 Q. Okay, getting back to my map yesterday. What I was talking
20 about, Mr. Kaltofen is -- assume this is a 6.66 square mile area.
21 Can you draw any conclusions based upon 18 positive sample
22 findings within a 6.66 square mile area?

23 A. I would not, as a scientist. I would -- I would not -- if I
24 had 18 positive or 18 negative, I would not take those 18 and
25 extrapolate it over a 6.6-mile area to say anything.

1 Q. Why not, Dr. Millner? As a matter of science.

2 A. It's just too few samples for me to feel comfortable with
3 rendering an opinion.

4 Q. Let's go to your next slide, Dr. Millner.

5 A. This is the fingerprint analysis of outdoor soil samples.
6 So this one, Your Honor, was the wipe that was taken on the
7 exterior of the home. This one here is from the soil. This is,
8 again, the fingerprint results, and it essentially shows where
9 the positives were, where the equivocal, and where the negative.
10 All these equivocal, Your Honor, are still being tested.
11 Dr. Stout talked about it, but you could see that the baby blue
12 area essentially encompasses the area that we have fingerprinting
13 for Murphy crude oil. There are some outside, but they're very
14 close to the area.

15 Q. What about the next one? Do you have one indoor?

16 A. Yes, this is indoor. Same thing. Here, I said 22 percent
17 of the samples were positive for the outdoor soil; here, only
18 6 percent of the samples in the baby blue area were positive for
19 Murphy Oil.

20 Q. What about the next slide? It's titled, structural damage.
21 What does that represent in your presentation, Dr. Millner?

22 A. This -- you know, since putting this together, I understand
23 Your Honor has been out there and seen it for himself so probably
24 -- you know, when we got there, there were some difficult
25 conditions, and you can see that these people in the

1 neighborhood, you know, their homes were just essentially
2 destroyed from the hurricane. And you can see the salt grass and
3 all the biogenic material that has been deposited in the
4 property.

5 There is just another picture of the structural damage
6 from the properties and then here is interior mold. I mean,
7 every home that I've been in, you can see some serious mold
8 issues that need to be addressed. And this is just one of many
9 pictures that depict interior mold.

10 Q. This slide deals with conclusions you have reached in regard
11 to Mr. Kaltofen's opinions.

12 A. Yes.

13 Q. Why don't you go ahead and explain what your testimony is on
14 Mr. Kaltofen's opinions.

15 A. Well, I think I already said that I believe the sample
16 number was too small to draw any conclusions. I believe his
17 methodology for fingerprinting is flawed. I don't consider
18 myself a fingerprint expert, Your Honor, but I have a lab that we
19 have for eight years that does fingerprint analysis and I've been
20 involved in fingerprinting for many, many years, and I've seen
21 how it's misused. I've seen how people take data, and what I saw
22 during his direct examination and his cross is what he did is he
23 shows a fingerprint that is clearly Murphy's Oil. I don't think
24 Dr. Stout would argue with that. Then what you see is a
25 fingerprint or a chromatogram that doesn't look like the

1 Murphy oils, and then what he says --

2 MR. LAMBERT: Excuse me, Your Honor. He said he's not a
3 fingerprint expert, and now he's testifying with regard to
4 fingerprinting, which I think is objectionable. It's outside of
5 his area. He's a toxicologist.

6 THE COURT: I understand. You can bring that on your
7 cross.

8 THE WITNESS: What I'm just trying to explain is what I
9 picked up in his flawed -- in his methodology. And what I saw as
10 a flaw is, there was a chromatogram he put up there that was
11 obviously Murphy's Oil, that even I could tell was Murphy Oil.
12 Then when you saw another fingerprint that doesn't look like the
13 same chromatogram, he says, Well, that's weather.

14 And then -- and then he's only got five sample results
15 and I believe the reasoning he only got five out of that quadrant
16 is because you'll see that same chromatogram if you keep going
17 miles and miles away because that -- what he says is now weather
18 and doesn't depict Murphy's crude oil anymore is what Dr. Stout
19 will show is just, you know, biogenic material.

20 And then if it is weathering, you would see continuum
21 from weather to unweather. You wouldn't just see this
22 chromatogram of what looks like Murphy's and then something that
23 doesn't look like Murphy's, so I believe his methodology for
24 fingerprinting was flawed.

25 He didn't follow LDEQ guidance for characterizing

1 contaminated properties. Perhaps he would argue that that wasn't
2 his task. I believe his map of the affected area is based on
3 less-than-adequate sampling and is inconsistent with the findings
4 of the EPA, LDEQ and ATSDR.

5 EXAMINATION

6 BY MR. MILLER:

7 Q. I want you to specify what you mean by that last bullet
8 point, inconsistent with the findings of the EPA, LDEQ, and
9 ATSDR.

10 A. Well, let me see if I can show you better. This map here is
11 an area of affected homes that is in the health consultations by
12 ATSDR, LDEQ's map and EPA's map of the affected area, is
13 designated by the black area. And so what I mean is that it's
14 inconsistent. I mean, his area goes for 6.6 miles. The area
15 that we found is about a mile. The area that the EPA, LDEQ, and
16 ATSDR found is about a mile.

17 Q. It's a pretty big difference as a matter of science.

18 A. I don't know if it's science or not. It's a pretty big
19 difference.

20 THE COURT: Could you explain why your area is different
21 than the EPA's?

22 THE WITNESS: Yes. When I dropped this slide, what I
23 was trying to determine was a settlement area that Murphy could
24 get permission to sample their property. And what EPA did is
25 take our database, extended the area, and so by extending the

1 area, if you know, Dr. Millner?

2 A. The CTEH area.

3 Q. I just want to make sure the record is clear. Are there
4 areas that are outlined in baby blue which indicate CTEH area
5 that are beyond areas outlined by the EPA and its delineated
6 affected area?

7 A. Yes. If you look at the baby blue area to the south, you
8 know --

9 Q. Could you use your pointer? It's hard for me to see that
10 what you're talking about.

11 A. We're talking down here. You have to look at the map and
12 this at the same time. We're over here. We extend a little bit
13 outside of their area here. They go higher here and they go
14 further west here. They include the refinery. We didn't include
15 the refinery because that's not what we were tasked to do. We
16 were tasked to do homes.

17 THE COURT: Do you have any further questions on this
18 topic for Dr. Millner?

19 Just that it includes a little -- if you're going east,
20 a little bit more than the refinery, does it?

21 THE WITNESS: Your Honor, I'm not sure if that goes off
22 their property. I don't think it does.

23 EXAMINATION

24 BY MR. MILLER:

25 Q. I think there are a couple of trailers, if you were to look

1 at it over an aerial photograph, there is a trailer park right
2 due east of the refinery. And we probably have an area overlay
3 in the exhibits somewhere. Just pick it up with your power
4 pointer, Dr. Millner.

5 A. The other thing is that, you know, what we found is there
6 was no contiguous area affected by crude oil indicated by our
7 soil sampling. This is what I believe Mr. Kaltofen has not
8 shown, a contiguous area affected by crude oil because he has
9 such a limited sample area. Twelve of his 16 samples that he
10 collected were substantially below RECAP. Four of his 16 samples
11 were above RECAP. And, I guess, as a scientist, a positive and
12 negative result sample is representative of a sample of
13 plaintiff's property.

14 Q. Your Honor, just back to your point. I think this
15 particular map as the overlay of the EPA area and it shows where
16 the dotted line goes to toward the east and that's Exhibit --

17 THE COURT: 107.

18 MR. MILLER: 107.

19 EXAMINATION

20 BY MR. MILLER:

21 Q. Okay, Dr. Millner, this slide is entitled, summary of
22 efforts. Why don't you go ahead and explain what that means.

23 A. Well, I just, you know, it's showing the Court basically
24 we've had 12 to 20 people on-site, 12 hours a day, seven days a
25 week since September 16th; so has EPA. They've been with us

1 every step of the way. We're there to try to find oil. That's
2 our job.

3 My job is also to protect the community. That's EPA's
4 job is to protect the community. We've spent sample -- taken
5 over 200,000 samples at greater than 5,000 locations. We've
6 sampled about 83 percent of the properties. More than 16,000
7 man-hours.

8 Mr. Kaltofen took about 50 or so samples from 18
9 locations. Sampled less than .3 percent. It's probably lower
10 than that. He was only there for three to five days. And he
11 spent 23 hours doing his study. And he had about two people
12 doing the work.

13 Q. What about yourself personally, Dr. Millner, have you spent
14 time in St. Bernard following Hurricane Katrina?

15 A. Yes. I spent weeks and weeks down at the job site.

16 Q. Would that include field work in the affected areas?

17 A. Yes, I've done some of the sampling, not a lot of sampling.
18 I've done a lot of the communications with EPA. I'm the project
19 director. We have a project manager. Basically, I talk to
20 somebody about this project three to five times a day. That's
21 all I've basically worked on since September.

22 Q. I want to just go ahead and wrap up. Why don't you go ahead
23 and wrap up your presentation, Dr. Millner. I think we've
24 probably already talked about this. Anything left to add on this
25 issue?

1 A. Well, I don't think. My views are supported by EPA and
2 ATSDR here, Your Honor. I'm just showing you their December 9th
3 health consultation.

4 Q. Hold on a minute. Whose health consultation, Dr. Millner?

5 A. The Agency For Toxic Substances Disease Registry. They are
6 the health arm of the United States Environmental Protection
7 Agency.

8 Q. Is that a department of Centers for Disease Control?

9 A. They are part of the U.S. Department of Health and Human
10 Services and I'm not sure of the exact connection with CDC.

11 Q. What conclusions has the ATSDR reached?

12 A. Well, Your Honor can read it for himself, but it's
13 essentially the concentrations of the oil in the sediment soils
14 are below ATSDR comparison values and LDEQ RECAP standards for
15 petroleum products. They concluded that short- or long-term
16 exposure to such sediment do not pose a health hazard. However,
17 other potential hazards such as indoor mold, structural damage,
18 should be evaluated prior to reoccupying these properties, which
19 I agree with.

20 And then the second conclusion is that the
21 concentrations of petroleum products and sediment for some
22 properties do exceed RECAP. That they will be remediated and
23 once they are remediated, they will be below RECAP and they'll be
24 protective of public health for reoccupancy.

25 Q. Beyond the reference, the whole ATSDR report is attached to

1 Murphy's opposition brief is in our exhibits that have been
2 admitted into evidence.

3 That's all I have for you, Dr. Millner. Thank you. I
4 tender the witness.

5 THE COURT: Cross?

6 **CROSS-EXAMINATION**

7 BY MR. LAMBERT:

8 Q. Dr. Millner, your original task was to do what? And who
9 were you hired by?

10 A. Murphy Oil.

11 Q. You were hired directly by Murphy?

12 A. I think I was hired by their outside counsel.

13 Q. That would be the Frilot firm?

14 A. Yes.

15 Q. And I think you've told the Court this, but let me make sure
16 the record is clear, that your task was to define an area that
17 had, that was able to be settled? In other words, that had
18 enough houses in it that were affected so that the company would
19 be comfortable with settlement proposal?

20 A. I think you mischaracterized my testimony. What I'm trying
21 to say, I mean, it's right here in this slide here was my
22 objectives.

23 Q. I'm really not. I don't want to look at the slide right
24 now.

25 A. It was to define the area of exposure from the Meraux

1 refinery crude oil and to assess the ongoing risks, if any, to
2 residents in the exposure area.

3 Q. I understand, but I think you said that when you drew your
4 baby blue line or your area, your intent was to encompass not all
5 the houses, but the ones that you thought were in an area that
6 Murphy would be willing to settle with; is that what you said?

7 A. I don't think I said -- if I did, I didn't mean to.
8 Basically, what I was saying is that what I try to do is find the
9 highest percentage of homes that were affected by Murphy crude
10 oil so that we could delineate that area. And that Murphy could
11 then call them, we could get permission to test their property
12 and then they could also settle with them.

13 Q. The conversations that you had on a daily basis also
14 included conversations with Murphy, true?

15 A. Yes.

16 Q. And let's go into your testing protocol.

17 A. Okay.

18 Q. You would have two people that would have an EPA person with
19 him?

20 A. Yes.

21 Q. And you would go in and one of your persons would take a
22 sample from an undisturbed area, as you described it?

23 A. Are you talking about inside the home?

24 Q. In or out.

25 A. Yes.

1 Q. But it's one of your two people that would do the scooping?

2 A. Yes.

3 Q. And they put the sample in a bag?

4 A. Correct.

5 Q. Of each of the three samples that they collected?

6 A. It would composite the samples.

7 Q. They would shake them up, squeeze them, whatever, composite?

8 A. Correct.

9 Q. All right. And then every ten or so times this combination
10 of three samples taken by one of your people would be split with
11 the EPA, if they so desired?

12 A. Yes.

13 Q. Did they do that every tenth time?

14 A. I couldn't tell you if they did or did not.

15 Q. And then the data that came from your people scooping up
16 these three sediments from places that they chose and putting
17 them in the plastic bag and shaking it up and splitting every ten
18 sample or so, is part of the data that the EPA relied upon
19 because that's where it came from, right?

20 A. Well, the --

21 Q. Well, let me not ask you about the EPA reliance.

22 The data that the EPA relied on for developing their
23 area came from the samples that were collected by your team,
24 correct?

25 A. Are you talking about the EPA-designated area?

1 Q. Yes.

2 A. That area was based mainly on a visual and, and some of the
3 samples that they had at the time they came up with that area.
4 And since then, we've shared all our data with them, and they
5 haven't changed that boundary.

6 Q. I understand. But the data that they are obtaining now
7 comes from this joint effort between your company and them?

8 A. That's correct. We're trying to find where the oil is.

9 Q. Were you present during the testimony of Mr. Ben Badon?

10 A. Yes.

11 Q. And did you see that his area of visual inspection, I guess,
12 before you got there?

13 A. Yes. He was there, I think he did his on the 5th. I was
14 there on the 9th.

15 Q. Right. That it looks strangely familiar to the one that
16 you've developed?

17 A. His what?

18 Q. His area of designating public areas that were contaminated.

19 A. I haven't overlaid his, you know, I have not overlaid his
20 area to determine that.

21 Q. Furthest to the west is Delambert?

22 A. I heard that yesterday, yes.

23 Q. And what line did you pick?

24 A. Looks like Delambert.

25 Q. And your area doesn't go all the way to the 40 Arpent Canal,

1 does it?

2 A. No, sir.

3 Q. And do you have a copy of his, by any chance?

4 A. No. I had not seen, I had not seen his until yesterday.

5 Q. I didn't ask you that. You were here in the courtroom when
6 he gave his testimony?

7 A. Yes.

8 Q. And you saw the outline that he created by his visual
9 inspection of the properties, didn't you?

10 A. Yes.

11 Q. And those are very similar, aren't they?

12 A. Like I said, I --

13 Q. You don't know?

14 A. I don't know.

15 Q. That's fine. Let me ask you to go to one of your slides
16 that shows equivocal findings in the area where Mr. Kaltofen did
17 his sampling and what we'll call the west finger. That seems
18 like a good terminology.

19 A. Which one do you want? Indoor, outdoor, or wipe?

20 Q. Whatever you've got. It doesn't matter.

21 A. Okay.

22 Q. Out here. These, these. Are those equivocal?

23 A. Yes.

24 Q. So that means -- equivocal means you don't know whether they
25 are Murphy Oil or not?

- 1 A. Yes. But Dr. Stout will do a more detailed fingerprinting
2 to --
- 3 Q. I plan on talking to him, too, in a little while.
- 4 A. Okay.
- 5 Q. Now, down in here, you have some more equivocals?
- 6 A. Yes. One with some negatives.
- 7 Q. And down here, you've got some equivocals?
- 8 A. What I'm having trouble is your pointing. I can't see and I
9 have to look at the map here.
- 10 Q. Let me keep it steady.
- 11 A. Yes.
- 12 Q. There you go. All right. Now, you got some equivocals
13 right in here, too, don't you?
- 14 A. Yes.
- 15 Q. And let me ask you to flip over, this is, I think, outdoor,
16 right?
- 17 A. Yes.
- 18 Q. Let's go to the fingerprinting of the indoors. You got a
19 whole bunch of equivocal right in here, right next to the
20 250-series tanks, don't you?
- 21 A. I'm sorry, are you saying right next to them?
- 22 Q. Pretty close.
- 23 A. Yes, we did, we found equivocal at some of those locations,
24 yes.
- 25 Q. And it's your testimony that those equivocal indoor samples

1 resulted because these structures that are battered by hurricane
2 and flooded with oil somehow provide some protection to the
3 inside?

4 A. I think what I said was -- the question was, why do I think
5 these indoor were below RECAP, why there was a lower percentage
6 below RECAP.

7 Q. However you want to recall it. And what did you say?

8 A. I said I think that the building afforded some protection,
9 which makes sense, because there is not as much oil inside as
10 there is outside, which is a different situation than
11 fingerprinting.

12 Q. Let me ask you to assume that your, you didn't go with all
13 of your people while they were testing, did you?

14 A. Not every day, no.

15 Q. And you had a whole lot of people out there, so you couldn't
16 possibly be present when each one of these 20 or so people
17 working seven days a week were doing their jobs, could you?

18 A. No. That's why EPA was there, and sometimes LDEQ.

19 Q. Well, do you know where they were when your guys were taking
20 their scoops?

21 A. Yes, you could determine it based on the chain of custody
22 and the map.

23 Q. But, I mean, they didn't actually stand there each time when
24 the fellow was taking his three scoops; you're not testifying
25 that they did that?

1 A. They would -- EPA and CTH people would determine where
2 outside a property we should sample.

3 Q. Mr. Millner, you've been on many sampling junkets, probably
4 many, many, many, many more than I have. I'm sure. And isn't it
5 the truth that a lot of times, a guy will be standing out by the
6 truck or the car or wherever the sample equipment is and another
7 guy goes inside with the testing equipment, and the EPA guy may
8 be standing down the street drinking a cup of coffee or shooting
9 the bull with somebody? In other words, it's not always that an
10 EPA man is present when three samples are being taken from three
11 locations and put in the bag?

12 THE COURT: Wait, just a minute.

13 MR. MILLER: Objection. Vague and argumentative.

14 THE COURT: That's also several questions in one. I'll
15 sustain the objection.

16 EXAMINATION

17 BY MR. LAMBERT:

18 Q. Let me make it real simple. You weren't present when each
19 of these samples were scooped, were you?

20 A. No.

21 Q. Now, these equivocal findings that are, when I say right
22 next to the plant, the 250 tanks there and you can see the oil
23 streaming into this area on various aerial photographs, can't
24 you?

25 A. I don't know if you can or not.

1 Q. Okay. You don't know. That's fine. Would you agree with
2 me that if one of these houses, and let's say it was negative, do
3 you have any green ones in there? I can't tell.

4 A. Oh, yes.

5 Q. Oh, you do?

6 A. Oh, yeah. The thing is, you can't take this in a vacuum.
7 We've taken three samples. So if you took -- if you combined
8 this map with the outdoor wipe samples, with this map of the
9 outdoor soil samples, with this map of the indoor soil samples,
10 we would get a very good picture of which homes were affected and
11 which ones were not.

12 Q. I see. Now, Mr. Millner, you're taking samples from a
13 particular area. And you've described the process.

14 A. Yes.

15 Q. Is it fair to say that you can take a sample from someplace
16 inside of a home that's actually contaminated and get a sample
17 that doesn't show that contamination?

18 A. It's possible that that could happen, yes. Unlikely, but
19 it's possible.

20 Q. It's also true, isn't it, that if you do get a positive
21 result that matches to Murphy Oil, that that sample actually
22 exists? In other words, you can't create a positive sample, fair
23 enough?

24 MR. MILLER: Objection, I don't think I understand the
25 question.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

EXAMINATION

BY MR. LAMBERT:

Q. Let me do it again. If you've got something here on the floor in the room and it's Murphy Oil and you take a sample of it, then it's an indication that the Murphy Oil is definitely present here in the room, correct?

MR. MILLER: Same objection. Same question.

THE COURT: The positive reading is accurate. A negative reading is not a hundred percent accurate.

THE WITNESS: That would be, that would be -- well, a positive, is yeah, a hundred percent. You know it's Murphy crude oil and the fact that the probability of a false positive, that could happen. But it's unlikely.

MR. LAMBERT: I understand.

EXAMINATION

BY MR. LAMBERT:

Q. If you would go back to the indoor samples, if you would, please. Would you point out to me, because you can see your screen and I can't, where your testimony is that there were negative findings inside of the home closest to the border between the 250-series tanks and Murphy Oil? And just for the sake of demonstration, north of Judge Perez Drive, which is right here.

A. You're asking me to point out the location where we found negative?

1 Q. Yes. In this area.

2 A. Okay. I'll try to. There is, there is, there's one here,
3 there are several up here, there are some over here, and there
4 are some over here, here, and there is a few in here.

5 Q. Okay. Let me ask you about cross contamination. Do you
6 agree with me that if one of those, and those are sampling
7 locations. You're not -- you can't tell me that you sampled
8 every bit of the inside of the home at each of those locations,
9 can you?

10 A. No. That's why we did the three-point composite to get a
11 wider geographic area and decrease the likelihood of not finding
12 the oil.

13 Q. Let me try -- If you do a three-part composite and you get
14 two scoops of something that doesn't have any contamination in it
15 and one scoop of something that does, then that's going to reduce
16 the concentration that ultimately you come up with, correct?

17 A. It's possible, but it won't change the fingerprint. And
18 again, that's not what we were doing. We were looking for three
19 areas that we saw oil staining and not -- we weren't trying to
20 combine unoil-stained areas with oil-sustained to reduce the
21 concentration. That's why we were doing what's called bias
22 sampling.

23 Q. I see. Now, with regard to cross contamination, would you
24 agree with me that if there was, hypothetically, a home that was
25 on a street or two from this border from this ruptured oil tank,

1 that didn't have any contamination in its yard or inside, if
2 you -- if it rains or if the wind blows or if a dump truck filled
3 with contaminated debris drives down the street during
4 remediation, isn't it the truth that that will cross contaminate
5 and likely -- let me not say likely -- let me just say it could
6 cross contaminate that property that you found nothing on?

7 A. I don't -- you know, it's possible that you could get some
8 cross contamination but it's not going to be anything meaningful,
9 and the issue is that no matter what, even if that does occur,
10 it's kind of a moot point, because the agency will make sure that
11 each property is below RECAP.

12 Q. That's the agencies that's using your samples to make this
13 determination?

14 A. Yes.

15 Q. Can you tell me why you kept the Chalmette High School out
16 of your baby blue zone?

17 A. Why we what?

18 Q. Why you kept the Chalmette High School outside of your baby
19 blue zone?

20 A. When we drew the baby blue area, we didn't see -- have
21 sample results or visual of Murphy Oil on the school property.
22 And since the issue came up of reoccupying, we went back and took
23 77 soil samples and wipe samples at the Chalmette High School,
24 and they were all below RECAP, 60 percent tested negative,
25 40 percent were equivocal. So even though it's not in there,

1 our -- at the time I drew the baby blue area, the subsequent
2 sampling confirms that it shouldn't have been in there.

3 Q. It was also out of Mr. Badon's area, wasn't it?

4 A. I don't recall if it was or was not.

5 Q. Can you tell me whether or not -- I lost my question. Just
6 one second.

7 Can you tell me whether or not the dust mask, the
8 little kind of mask that you would wear for respiratory
9 protection from mold particles, will protect you from a vapor
10 that comes from an oil spill?

11 A. A vapor?

12 MR. MILLER: Objection. Vague question.

13 THE COURT: Can you answer that?

14 THE WITNESS: Maybe. What's your question again?

15 EXAMINATION

16 BY MR. LAMBERT:

17 Q. There is a difference between PPE, a personal protection
18 equipment that a person would use to protect themselves if they
19 were going to enter a home that contained oil contamination
20 versus if they were going to enter a home that contains mold.

21 A. Well, I think the --

22 Q. Can you just answer the question first. Is there a
23 difference?

24 A. Well, I mean, it's not a simple answer. It depends on if
25 it's a fresh spill or a weathered spill. In this case, you know,

1 I looked at the respirator issue and agreed with the regulators
2 that a dust mask would be sufficient to go into a property
3 unaffected by Murphy and that the dust mask -- by adding the dust
4 mask, it would afford the protection necessary for oil. Just to
5 go in for a short period of time and get what the residents
6 wanted out of the house, not in a situation where they would be
7 doing any kind of long-term remediation.

8 Q. Well, if a homeowner is to go into a property and tear out
9 sheetrock and remove their personal belongings, things like
10 furniture and refrigerators and all of the things that need to be
11 cleared from the home, and assuming that it's one of the ones
12 that are right there and, just so we don't have to discuss
13 boundaries right now, inside of your blue area, do you agree with
14 me that that person should wear a respirator that has some carbon
15 filters as opposed to just a dust mask?

16 A. If you're below RECAP, they can go in there all day long
17 without a respirator that would -- let me back up. If a property
18 is below RECAP, and I'm not talking about anything but the oil,
19 okay, they can go in all day long and as long as they are below
20 RECAP, they don't need to wear any respiratory protection, but
21 they are wearing respiratory protection because of the mold and
22 other issues.

23 Now, above RECAP, if you were in there for any length
24 of time, you would not necessarily want to just say across the
25 board that you would have to wear a respirator without knowing

1 ahead of time. Now, the testing of the homes that we did, which
2 were 2200, 2500, we didn't detect vapors. We got 0.0 inside.
3 We've taken SUMMA canisters inside the home, but if it were me, I
4 would want to wear a respirator when you're in a Murphy-affected
5 home above RECAP, I would want to wear one as a precautionary
6 measure.

7 Q. Okay. I think I got my answer, but I'm not sure. So I have
8 to back up and track a little bit more.

9 I think what you said is is that if the level of
10 contamination of petroleum, and just say crude oil, and let's say
11 from Murphy, although I don't know if that matters with regard to
12 the respirator, that you would have to -- you would be
13 comfortable in wearing a canister respirator, meaning one that
14 has charcoal filters that filters out vapors, if you were going
15 to be in there for a long period of time?

16 A. Well, what I'm trying to tell you is --

17 Q. Can you tell me yes or no and then and then we can go into
18 the long explanation?

19 MR. MILLER: Objection, Your Honor.

20 THE COURT: If you can answer.

21 THE WITNESS: What I was trying to tell you is -- I
22 mean, I was in there yesterday. I was in all of those homes
23 yesterday.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. I'm not asking you about yesterday.

2 A. I didn't wear a respirator. I would not to make -- as a
3 toxicologist, I would not recommend not wearing a respirator
4 until you knew what the level are inside a property. You just --
5 I would not recommend that.

6 THE COURT: All right. He's answered, Counsel. Let's
7 move on.

8 MR. LAMBERT: All right. Thank you.

9 EXAMINATION

10 BY MR. LAMBERT:

11 Q. The workers that went in to do cleanup wear respirators and
12 wear suits and wear gloves and boots, don't they?

13 A. They did initially. Now they don't. They don't wear
14 respirators anymore.

15 Q. Did you change that?

16 A. Yeah, it was changed because the vapors inside the home are
17 nonexistent.

18 Q. Did you change it for that reason or did you change it
19 because of this court proceeding?

20 A. We, we did -- what we changed had nothing to do with this
21 court proceeding.

22 Q. Let me ask you to take a look at a document, and I don't
23 know the number. I wish I did, which is a Center For Toxicology
24 and Environmental Health memo, signed by you, dated September 21,
25 2005.

1 A. I have a copy of it right here.

2 MR. MILLER: Your Honor, if that's not an exhibit, I
3 object to it. There is no reference that that's been made a
4 plaintiff's exhibit and admitted into evidence in the case.

5 THE COURT: It's under cross. I will overrule it.

6 MR. LAMBERT: I'm going to mark this so it's got a
7 number. We're going to make it defendant's -- not defendant's,
8 Plaintiff's Exhibit 108.

9 THE COURT: It's signed by the party?

10 MR. LAMBERT: Yes, it is, Your Honor.

11 THE COURT: Do you recognize it, sir?

12 THE WITNESS: Yes, sir.

13 THE COURT: Then I'll admit it.

14 EXAMINATION

15 BY MR. LAMBERT:

16 Q. You had asked the Center for Toxicology --

17 MR. MILLER: Skip, can you put it on the screen or
18 provide a copy?

19 THE COURT: Put it on the screen.

20 MR. LAMBERT: Sure.

21 EXAMINATION

22 BY MR. LAMBERT:

23 Q. Why don't I get you to read it.

24 A. You have asked the Center For Toxicology and Environmental
25 Health for an assessment of health risks associated with the

1 presence of crude oil in the residential area affected by your
2 Hurricane Katrina-induced oil spill.

3 Q. This is addressed to Murphy Oil. Go ahead.

4 A. We have not addressed and express no opinions with regard to
5 other potential hazards in the area, including mold, structural
6 damage, rotting biological materials, or releases from boats and
7 automobiles. It is our understanding that the parish government
8 is contemplating allowing the residents to return to their homes
9 for short periods of time to salvage personal belongings. Based
10 on the other hazards mentioned above, the governmental
11 authorities are recommending rubber boots, rubber gloves, and
12 dust masks as personal protective equipment. The presence of
13 petroleum from the oil spill in some of the homes poses no
14 additional hazard to homeowners during the scheduled visits and
15 no additional personal protective equipment is required.

16 Q. Now, you then discussed with Murphy their settlement program
17 when you were involved with your baby blue area, correct?

18 A. Well, I was not involved in the settlement process. All I
19 did was --

20 THE COURT: Do you have an objection?

21 MR. MILLER: Yeah, I don't understand the question.

22 MR. LAMBERT: Okay, let me make the question clearer,
23 Your Honor.

24 THE COURT: He's on a different area.

25 MR. MILLER: If he's on a different point, that's fine.

1 THE COURT: Are you on a different point?

2 MR. LAMBERT: I'm done with that. No, I'm on a
3 different tack on the same point, Your Honor.

4 EXAMINATION

5 BY MR. LAMBERT:

6 Q. You're Murphy's toxicologist in connection with this oil
7 spill and the danger to people in the community, correct?

8 A. Yes.

9 Q. Now, in their settlement program, which I'm getting --

10 THE COURT: Let's try to pick up the pace, Counsel, so
11 we can finish before lunch.

12 MR. LAMBERT: Yeah, I will. I'm sorry.

13 EXAMINATION

14 BY MR. LAMBERT:

15 Q. In the settlement proposal, it's recommended -- or it's as
16 part of the procedure, you asked that people go in and clean out
17 their houses and put their materials on the roadside to be picked
18 up by Murphy.

19 MR. MILLER: Objection, Your Honor, he's laid no
20 foundation. If the witness has any knowledge or involvement to
21 this particular --

22 THE COURT: Let's ask him that.

23 EXAMINATION

24 BY MR. LAMBERT:

25 Q. Well, are you the toxicologist that's helping Murphy assess

1 the danger to the community?

2 A. Yeah, that's why we wrote this letter was to warn the public
3 right after Rita -- right after Rita to warn them that if you're
4 going to go into your property, these are the PPE you should
5 wear. So that was the purpose of this letter.

6 Q. Right. But the PPE, as you said, no additional is required.
7 All they were talking about was a face mask, one of those little
8 K&B masks that you can -- not K&B anymore -- a mask that protects
9 from particles.

10 A. Yeah. That's correct.

11 Q. And vapors come from petroleum products?

12 A. Right. But there were no vapors of -- in any of the homes
13 that we tested.

14 Q. There is no vapors in any of the homes that you tested?

15 A. Well, let me just clarify that answer. There is always some
16 amount of vapors. It was just, they were so low that it was not
17 an issue.

18 Q. But you agree that up until apparently a little while ago,
19 you had all of the workers that were doing cleanup in the area
20 wearing protective gear, face --

21 A. Our people were wearing what we call an APR. Now they are
22 not wearing an APR.

23 Q. I understand. But my question was, back before, what, a
24 week ago?

25 A. I don't know when we stopped using the APR.

1 Q. The settlement -- the addendum to the release says, and it's
2 -- what document is that?

3 MR. MILLER: Your Honor, proper foundation hasn't been
4 laid.

5 MR. LAMBERT: Ninety-seven --

6 THE COURT: Wait just a minute. His objection is that
7 this individual -- no proper foundation has been laid that he
8 even knows about a release document. So let's get him to do
9 that.

10 EXAMINATION

11 BY MR. LAMBERT:

12 Q. All right. Do you know anything about a release document?

13 A. You showed me a release document in my deposition.

14 Q. Yes, I did. And is it fair to say that you were advising
15 Murphy with regard to health risks in connection with people who
16 were dealing with contaminated areas?

17 A. Yes, that was my role.

18 Q. It says here that Murphy will collect and dispose of
19 household contents such as furniture, clothing, draperies,
20 kitchen wear, and bedding, the debris materials impacted by the
21 release that homeowners want Murphy to collect and dispose of,
22 must be placed on the curbside by the homeowner. Murphy will
23 employ a disposal collector that will operate on a daily basis to
24 collect the debris placed outside. In order to get his or her
25 debris collected, the homeowner only needs to place the debris

1 outside. Now --

2 MR. MILLER: Objection, I still don't think a proper
3 foundation has been made. The only reference is that he showed
4 it to him at a deposition.

5 THE COURT: I know, but not only that -- this has to do
6 more with the substance of the case and damages and I don't see
7 any relevance from the standpoint of the class certification
8 hearing. You've got to move on.

9 MR. LAMBERT: I understand, Your Honor, but my point is,
10 and it may be I'm not making it very well, it has to do with this
11 witness's credibility in connection with his opinion of this
12 class certification area because of many reasons. And that's
13 what I'm exploring.

14 MR. MILLER: I don't understand that connection, Your
15 Honor. I think it is substantive.

16 THE COURT: We're going to move on. Let's move on.
17 I'll sustain the objection.

18 EXAMINATION

19 BY MR. LAMBERT:

20 Q. I'm going to offer Exhibit 108, Your Honor, which is the
21 letter signed by the witness.

22 THE COURT: I'll allow that.

23 MR. MILLER: No objection, Your Honor.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. Do you know whether or not the materials that are being
2 collected from the roadside of these houses in the contaminated
3 area are being piled up in a contractor's yard next to
4 Murphy Oil?

5 A. I don't know where they are taking the material.

6 Q. Are you aware of the fact that they are being treated as a
7 hazardous waste?

8 A. I don't know how they are being treated.

9 Q. Not allowed to be put in the landfill?

10 MR. MILLER: Objection, Your Honor, there is no facts in
11 evidence classifying what type of waste. That's an EPA
12 determination.

13 THE COURT: I'll overrule the objection.

14 EXAMINATION

15 BY MR. LAMBERT:

16 Q. Do you know that?

17 A. I have no knowledge of that.

18 Q. Now, you testified that you believe that the contamination
19 and fingerprinting done by Mr. Kaltofen was as a result of the
20 grasses that are coming over the levee from the wetlands?

21 A. I think what I was trying to tell you is that I don't know
22 of the source of the fingerprint that he says is Murphy Oil, but
23 it would be consistent with that material because their samples
24 that were taken throughout there that I've seen from Dr. Stout
25 that will show that what he collected is consistent with the

1 material that was brought in by the hurricane.

2 Q. Is that your area of expertise?

3 A. Well, like I tried to tell you, I --

4 Q. Can you answer a question yes or no and then tell me
5 whatever you want to? Is that your area of expertise?

6 MR. MILLER: Objection. Again, he's arguing with the
7 witness.

8 THE COURT: Please don't argue with the witness.

9 THE WITNESS: What I'm trying to tell you is that I have
10 enough familiarity with fingerprinting because I have a lab that
11 we've had for eight years. And I've seen the test results and
12 fingerprints and the chromatograms and I've seen how they have
13 been misused. And I think they were misused in this case. And
14 so I am not a fingerprint expert. I can take it to a certain
15 level, and I want to rely on the people that do it day in and day
16 out for a living, like Dr. Stout.

17 EXAMINATION

18 BY MR. LAMBERT:

19 Q. You hired Dr. Stout?

20 A. Yes.

21 Q. And do you think that he's probably more able to testify
22 about GROs and DROs and OROs and all of that kind of stuff that
23 you were talking about earlier?

24 A. Than who?

25 MR. MILLER: Objection, Your Honor, all that other kind

1 of stuff.

2

EXAMINATION

3 BY MR. LAMBERT:

4 Q. That Dr. Stout is the person who ought to be fingerprinting
5 Murphy Oil and not you?

6 A. Yes, I believe that's why we retained Dr. Stout, because I
7 knew that fingerprinting was going to be an important part of
8 doing a good job for this community and that's why we went out to
9 try to find the best.

10 Q. Let me just make sure I understand a couple of things that
11 you've said, and I'm almost finished, Your Honor. You think that
12 the oil contamination that Mr. Kaltofen fingerprints back to the
13 Murphy oil field came from swamp grass from the Lake Borgne
14 marsh?

15 A. The material brought in by Hurricane Katrina.

16 Q. Right. And you think that the -- that it's reasonable for
17 you to have equivocal and negative findings of Murphy-related oil
18 in a block or two area from the 250 oilfield -- excuse me,
19 storage tank area?

20 A. Do I think it's what?

21 Q. That that's -- that that's legitimate, appropriate; in other
22 words, you think it's perfectly reasonable that there are homes
23 and properties within a couple of blocks of the 250 tank field
24 that have equivocal and negative findings because you think those
25 properties are not contaminated?

1 A. Well, equivocal means you don't know. Okay? It could be
2 going positive when he does the two/two or it could go negative.

3 Q. Let's stick with the clean ones. You think there are some
4 that are absolutely not affected?

5 A. Yes.

6 Q. I understand. Now, you think that the representative
7 samples that Mr. Kaltofen took were not enough?

8 A. Well, that's kind of a non --

9 MR. MILLER: Objection, representative, he's --

10 MR. LAMBERT: He's already said that.

11 THE COURT: I overrule the objection.

12 THE WITNESS: Well, I think that was my --

13 EXAMINATION

14 BY MR. LAMBERT:

15 Q. And you took thousands, you showed us a chart.

16 A. No, I guess what I'm trying to tell you is I did not think
17 they were representative; they were not represented.

18 Q. I understand. And you took thousands of samples, didn't
19 you?

20 A. Yes.

21 Q. To date, can you tell the Court how much your company has
22 charged Murphy Oil?

23 A. We've billed about \$4 million, which includes all of the
24 analytical and the testing.

25 MR. LAMBERT: Thank you.

1 THE COURT: Any redirect?

2 MR. MILLER: Just briefly, Your Honor.

3 EXAMINATION

4 BY MR. MILLER:

5 Q. Dr. Millner, is your company still doing testing in the
6 affected area in the environment around that?

7 A. Yes.

8 Q. Would that continued testing detect cross contamination, in
9 fact, had occurred?

10 A. Yes.

11 MR. LAMBERT: Objection. Leading, Your Honor.

12 THE COURT: Please don't lead.

13 EXAMINATION

14 BY MR. MILLER:

15 Q. What would your ongoing sampling detect?

16 A. The presence or absence of Murphy Oil and the concentration
17 or ORO and DRO.

18 Q. And that presence of Murphy Oil, would that include cross
19 contamination?

20 A. Yes.

21 Q. Just briefly, on the issue of split samples with the EPA, if
22 you could explain how that process works.

23 A. We, as Mr. Lambert, right?

24 Q. Yes.

25 A. As Mr. Lambert said, it's correct, is that we take a

1 three-point composite, we put it in a baggy, we squeeze it when
2 it's wet because you can't shake it. When they are dry, we shake
3 it. And then we take the sample and then EPA takes a sample out
4 of the same bag.

5 Q. And where does the EPA sample go after that?

6 A. It goes to GCAL, the same laboratory that we use.

7 Q. And what happens after that with respect to the EPA and
8 CTEH?

9 A. EPA takes their data. It goes to a data validation group.
10 They validate their data and we validate our data and we share
11 our validation results with them and they share their validation
12 results with us.

13 MR. LAMBERT: Your Honor, I didn't go into any of this.

14 THE COURT: Well --

15 MR. MILLER: You did talk about split samples. But
16 anyway, that's my last question. Thank you, Dr. Millner.

17 THE COURT: All right. We'll stop here and return at
18 1:45. How many more witnesses do you have?

19 MR. MILLER: Two, Your Honor.

20 THE COURT: We'll stand in recess until 1:45.

21 THE DEPUTY CLERK: Everyone rise.

22 (Lunch recess)

23 **AFTERNOON SESSION**

24 THE DEPUTY CLERK: Everyone rise.

25 THE COURT: Be seated, please. Call your next witness.

1 MR. MILLER: Your Honor, Murphy calls Dr. Scott Stout to
2 the stand. His CV has been admitted into evidence already.

3 THE COURT: Swear him in.

4 THE DEPUTY CLERK: Doctor, please stand and raise your
5 right hand.

6 DR. SCOTT STOUT

7 was called as a witness and, after being first duly sworn by the
8 Clerk, was examined and testified on his oath as follows:

9 THE DEPUTY CLERK: Please be seated and use the
10 microphone.

11 Would you please state your full name for the record?

12 THE WITNESS: Scott Alan Stout, A-L-A-N.

13 THE DEPUTY CLERK: Would you spell the last name?

14 THE WITNESS: S-T-O-U-T.

15 DIRECT EXAMINATION

16 BY MR. MILLER:

17 Q. Yes, Your Honor, as I was saying, Murphy is tendering
18 Dr. Stout as an expert in the area of organic geochemistry. His
19 CV has already been admitted into evidence and it bears the
20 defendant's Exhibit number 60. At this point, I will tender Dr.
21 Stout to opposing counsel for voir dire?

22 MR. LAMBERT: No cross.

23 THE COURT: He is accepted as an expert in the field of
24 organic engineering.

25 EXAMINATION

1 BY MR. MILLER:

2 Q. Good afternoon, Dr. Stout.

3 A. Good afternoon.

4 Q. Dr. Stout, did you prepare a power point presentation to
5 help us with your examination this afternoon?

6 A. That is correct.

7 Q. Dr. Stout, why don't you tell the Court what organic
8 geochemistry is.

9 A. Organic geochemistry is the study of organic matter in the
10 environment.

11 Q. And how does organic geochemistry relate to oil spill
12 investigations such as the one that you performed in this case?

13 A. Well, oil is certainly an organic material, and when it's
14 released into the environment or when it forms in the
15 environment, in the geologic subsurface, it can be characterized
16 chemically, and this has been done for many decades with respect
17 to using chemistry to help find oil, explore for oil, and as well
18 as track it and clean it up in the environment.

19 Q. Okay, Dr. Stout. There has been a lot of discussion over
20 the last day and a half about fingerprinting. If you wouldn't
21 mind moving to the next page of your power point and give the
22 Court an explanation on the fingerprinting process.

23 A. Yeah, we heard yesterday, Your Honor, about some of the
24 instrumentation that's used in fingerprinting, and I want us to
25 revisit that with a little bit of visual aids for your benefit to

1 similar ones to yesterday. And I wanted to explain that some of
2 the pieces of this, because they are going to become relevant in
3 understanding the similarities and differences between samples.
4 Across the bottom of these images is the retention time. How
5 long did that analysis run and when did different compounds come
6 out of the other end of that instrument and be detected?

7 What you're seeing on the vertical scale is the
8 response, how much of that compound or groups of compound, came
9 out at the end of that instrument at a certain time. And when
10 you look left to right on this image, what you're basically
11 seeing is the boiling point increase in the compound. So that
12 those compounds toward the right are more higher boiling than
13 those compounds to the left.

14 Q. I'm sorry, go ahead.

15 A. And that's demonstrated here in this hydrocarbon range and
16 we might talk about carbon ranges today, and that's what is
17 reflected in a left-to-right look on these types of graphs.

18 These individual peaks on the graph are individual
19 chemicals or maybe a couple of chemicals that might come out at
20 the same time together, but nonetheless, these are resolved peaks
21 and their identities can be determined by a number of different
22 ways. And an experienced geochemist can look at these and know
23 what those compounds are.

24 I want to point out that there are internal standards
25 that are present in the samples and they provide some peaks that

1 will be in all the chromatograms and they have nothing to do with
2 the nature of the sample itself. These are artificial compounds
3 introduced to the sample in the laboratory to help measure the
4 quality control feature.

5 Q. I've got a question for you, Dr. Stout. Does each
6 chromatogram contain internal standards?

7 A. They should and they will -- those that I'm showing you
8 today. Of course, they don't have to be added if you don't want
9 to do a sophisticated analysis, but they certainly are in most
10 environmental work.

11 Q. Let's move to Page 4 of your presentation.

12 A. This just shows some examples of those fingerprints. And we
13 saw some hand-drawn equivalents of these yesterday, but these are
14 fingerprints of different types of petroleum. They have nothing
15 to do with the Murphy case here, but I wanted to show to you how
16 fingerprinting can help distinguish between different types of
17 either crude oil or refined oils that could be generated from
18 crude oil.

19 Q. Dr. Stout, what does this image depict? It's called
20 *Mr. Kaltofen conducted fingerprinting on a limited number of*
21 *samples.*

22 A. Yes, the first part of my testimony, I wanted to focus on
23 the work that had been conducted by Mr. Kaltofen and particularly
24 the fingerprinting aspects of that. And the first point I wanted
25 to make with respect to that is that the number of samples that

1 were analyzed were very small. I think we had approximately 50
2 or 60 samples representing about 18 property or addresses that
3 were used in defining the area of impact according to the
4 plaintiffs. And I, like Dr. Millner before me, find that far too
5 few to be representative of such a large area.

6 Nonetheless, as it's quoted in the lower left-hand
7 corner of this slide, Mr. Kaltofen thought that these data
8 unequivocally depict an area where Murphy Oil-related crude oil
9 contamination exists. And what I would like to do is show you
10 some examples of why that is exactly not true.

11 Q. Okay, Dr. Stout.

12 A. There is -- I prefaced my comments here by saying that there
13 is nothing the matter with the data quality that Mr. Kaltofen
14 relied upon. It was, in fact, of suitable quality for
15 fingerprinting to be done. The problem I have with the
16 interpretations offered by Mr. Kaltofen are that they are just
17 represented to me to be demonstrating a certain amount of
18 inexperience with respect to chemical fingerprinting of oils.

19 There are certainly fingerprints among the Kaltofen
20 data that are, what I consider, positive for Murphy crude oil,
21 and an example of one of those is shown on this chromatogram
22 here, and it's exhibiting features that we heard a bit about
23 yesterday from Mr. Kaltofen in that the series of peaks that are
24 on top of the chromatogram and the shape of this hump that spans
25 the range of chromatogram, and these are indeed features

1 consistent with not only -- well, if we get crude oil in general,
2 but they are certainly consistent with the Murphy crude oil as
3 well, which, as you may hear later in my testimony, was
4 fingerprinted itself right out of the tank.

5 In addition, some of Mr. Kaltofen's data, or what I
6 would consider equivocal and I wanted to show you an example of
7 that, and I think in his testimony yesterday, he used that same
8 term and I think that's a fair term to talk about data in which
9 the available data are not sufficient to conclude one way or the
10 other whether crude oil is present.

11 And here is an example from Mr. Kaltofen's data, where
12 there are some certain similar features between those two
13 fingerprints, but you can look at them and see that they are, in
14 fact, different. But some of those differences are easily
15 attributed to weathering, which is a process that will affect
16 oils in the environment, but there are other features like, why
17 is it that a sample from 3817 Despoux contains still a
18 significant amount of these volatile compounds? Maybe there is
19 something else there as well. And it's this type of data that
20 can be -- or these types of questions that can be answered with
21 more sophisticated data than is available at this point. But
22 nonetheless, I probably would call this likely to contain Murphy
23 crude oil mixed with other organic matter.

24 There are many, many examples, unfortunately,
25 from Mr. Kaltofen's data set that he's claimed are Murphy Oil and

1 they are not. This, though, is a comparison of a sample, again,
2 I'm keeping the same fingerprint on the left, that being that of
3 a positive Murphy Oil crude oil.

4 MR. LAMBERT: Excuse me, Your Honor. I need to object
5 because I'm looking right square at this slide and there is no
6 match and there is an indication that this is somehow a Kaltofen
7 match, and I think that that is misleading and inappropriate.

8 MR. MILLER: Your Honor, I disagree. It says right
9 underneath Mr. Kaltofen agrees this type of material is not
10 Murphy crude.

11 THE COURT: I'll let you bring that out on cross, but
12 the evidence will be what Mr. Kaltofen said, not what he says he
13 said.

14 MR. LAMBERT: No, no, he said it's not a match. And
15 that's what that says, but the witness just said, there is many
16 examples and then --

17 THE COURT: I can't hear you if you don't stand up.

18 MR. LAMBERT: I'm sorry, Your Honor. The implication
19 from the witness, Your Honor, was that somehow this is not a
20 match and it says clearly here that Mr. Kaltofen indicates it's
21 not a match and it's just the same thing he drew on an example of
22 a nonmatch.

23 EXAMINATION

24 BY MR. MILLER:

25 Q. All right, Dr. Stout, let's see if you can explain. This is

1 Page 7 of your power point presentation. What we have here on
2 the right side that's bordered in red, what that sample
3 represents?

4 A. That's correct. This sample on the right side represents a
5 fingerprint that is entirely consistent with lubricating oil or
6 lube oil as you might find in vehicles. It's true that I believe
7 that this individual sample was characterized as a nonmatch by
8 Mr. Kaltofen. The title of this slide, which is repeated in a
9 number of slides as we go forward, is simply my reevaluation of
10 Mr. Kaltofen's tier one data, and it's my opinion that most
11 samples are negative based upon the FID and pH. That's my
12 opinion.

13 Q. Let's go into the next slide, Dr. Stout.

14 A. Well, I had two examples. There's this first lube oil and
15 I'll take that one away and show you another, because I wanted to
16 emphasize that lube oil is, in fact, a family of materials.
17 There is no single type of lube oil out there and you can get
18 slightly varying fingerprints. If we go back and forth between
19 those, you can see -- excuse me -- that there are some
20 differences, but they in no way bear semblance to the crude oil
21 on the left.

22 Q. Dr. Stout, I have a question for you. Lube oil, that's not
23 a term you hear every day. Does that equate to motor oil or the
24 kind of oil that you would find in both a motor or a transformer?
25 What does that mean in common terms?

1 A. Lubricating oil is the term that I use to describe motor oil
2 as might be found in an internal combustion engine or another
3 type of engine that requires lubrication.

4 Q. Thank you for the information. Let's go ahead and move on.

5 A. Here now is an example of another fingerprint that I'm
6 comparing to the Murphy crude oil. This one is one that, as you
7 can see at the bottom, that Mr. Kaltofen contends this material
8 is Murphy crude oil. And I'm here to tell you that in my
9 experience, there is no crude oil that would exhibit a
10 fingerprint like this.

11 During Mr. Kaltofen's deposition, he tried to convince
12 Mr. Millner that this fingerprint is the result of weathering of
13 this crude oil on the left to produce a product like you see on
14 the right, and I'm here to say that that is -- would be
15 impossible to produce the fingerprint on the right via weathering
16 of the crude oil on the left. And some things to look at in
17 response to that, or in evidence of that, are the shape of this
18 hump, this bi-modal hump that we see on the right here is very
19 different from the shape we see here. Yes, there are two
20 apparent humps on the crude oil, but there is no significant dip
21 in between the two as we see on the sample on the right.

22 And what that's telling you is that during the
23 distillation process of petroleum products, this type of hump is
24 produced and what we're seeing here -- I'm sorry it's getting a
25 little messy -- what you see here are two products that are mixed

1 to give you that type of a bi-modal UCM hump to the chromatogram.
2 That's one feature.

3 Another feature that's telling me this is a mixture of
4 two different petroleum products is this series of peaks that we
5 found across the -- in the Murphy crude oil. These are compounds
6 that are subject biodegradation. Admittedly, they will be
7 removed from oil over long periods of time, in terms of months,
8 years or tens of thousands of years in some instances. And the
9 microorganisms who degrade these compounds don't care whether
10 it's a C 10 compound over here or a C 30 compound over here.
11 They degrade them equally. And what you find when you look at
12 the fingerprint on the right is that these compounds are still
13 present here, and there is none left here. Excuse me. There is
14 none of those left on the right side here. That, too, is telling
15 me that this is a separate product from that, this being lube
16 oil, and this being a partially-weathered diesel fuel. And that
17 is an explanation of what this material is. It's not weathered
18 crude oil as Mr. Kaltofen contends.

19 Q. Scott, hold on for a second. I know you have it later on,
20 but I just want to make sure that we can connect what we have
21 here with what's been labeled Exhibit 107, because there is a
22 relationship. The Court could use if it wanted. And I think, I
23 think on the slide here, there is an address, 2309 Benjamin.

24 A. Well, it's sample 1-I from 2309 Benjamin and sample 1-I can
25 be seen with this location on this exhibit here.

1 Q. Is it identified as 1-I on the exhibit?

2 A. Well, there is a bunch of letters in front of it, but the
3 last two are 1-I.

4 Q. And that's how you compare the two to know what you're
5 talking about, correct?

6 A. Yes. We had to do that in many cases of translating a
7 sample ID to an actual property or a resident's address, but
8 clearly, this sample is from over here and it's, as I said
9 earlier, a mixture of two separate petroleum products and not
10 crude oil.

11 Q. Let's move on in your presentation, Dr. Stout.

12 A. Here is another example of the fingerprint in which I do not
13 believe is crude oil. Not only do I not believe it, but there is
14 clear evidence that this type of fingerprint is consistent with
15 natural organic matter or background material for the area. And
16 I want to elaborate on that in a few subsequent slides, but
17 anyone can look and see the significant disparity between the
18 fingerprint of the crude oil on the left and the fingerprint of
19 the crude oil on the right.

20 Yesterday Mr. Kaltofen made implications that this was
21 crude oil and the basis for that was the presence of this hump in
22 the chromatogram. Well, as you might note in looking at my CV,
23 I've worked with, in peaty soils since my dissertation more than
24 20 years ago, and I've looked at the extractable organic matter
25 in peats in many studies since that time and this is a common

1 feature for organic-rich sediment such as peat and in by no way
2 is indicative of crude oil or necessarily indicative of crude
3 oil.

4 The same can be said for these many other groups of
5 compounds that you see sticking up off of these materials. These
6 bear no semblance to the compounds on the left. These are
7 compounds that are part of that biological material that's
8 accumulating in peak, in that type of soil. And this is a very
9 common feature of fingerprints of natural organic matter.

10 Q. Dr. Stout, before you move on, I want to do that, but I
11 think you may have misspoke during your testimony. You're not
12 saying that the box in the red is a fingerprint of crude, are
13 you?

14 A. No, I'm certainly not. If I said that, that was completely
15 a misstatement; you're correct.

16 Q. Let's move on.

17 A. I had another example of a sample that is consistent with
18 natural organic matter. This fingerprint here, again, I'm
19 highlighting this one. This is a 61 S, and this, too, is another
20 sample from that same property at 2309 Benjamin. And again, it's
21 showing features that are inconsistent with even a weathered
22 crude oil.

23 And if I could take a moment to just say that
24 Mr. Kaltofen had considered both this type of a fingerprint that
25 we're looking at on this slide, excuse me, and that type of a

1 fingerprint as weathered crude oil, and even if he was correct in
2 one case, he couldn't be correct in both cases, because
3 weathering couldn't have produced both of these very different
4 fingerprints and still be weathered crude oil. But, in fact, he
5 was wrong in both cases, as I said earlier, this being a mixture
6 of two petroleum products and this being natural organic matter
7 that's present in the region.

8 There is another reason, I believe, that's natural
9 organic matter. And this is a different type of fingerprint that
10 we've looked at to date. These are Mr. Kaltofen's data for PAHs,
11 that were measured in his samples. And on the left, what we're
12 seeing here is a group of these --

13 MR. LAMBERT: Hold on, Dr. Stout. The left represents a
14 sample Mr. Kaltofen took at 2804 Volpe.

15 THE WITNESS: That's correct. And this is the same
16 sample that I've been showing previously that both he and I would
17 agree is Murphy crude oil.

18 MR. LAMBERT: Okay.

19 THE WITNESS: And this type of a fingerprint, Your
20 Honor, we're looking at individual compounds now that have been
21 measured in this crude oil. You couldn't necessarily see these
22 compounds on the previous fingerprints, but they were measured by
23 mass spectrometry, and you're seeing, you know, again, the height
24 is proportional to how much of something is there and left to
25 right is basically boiling point.

EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY MR. MILLER:

Q. Dr. Stout, hold on. Are the names of the individual compounds listed along the horizontal axis; is that what you're referring to?

A. That's correct. And these data, again, as I said, were provided in the materials that Mr. Kaltofen had obtained and provided to us.

So here is a fingerprint on the left that is consistent with this mildly-weathered Murphy crude oil that we saw and we agree upon. And the fingerprint on the right is, again, this Number 61 S from 2309 Benjamin that Mr. Kaltofen believes is crude oil, a weathered crude oil, and I'm telling you it is a natural organic matter.

And while he might claim, as he did during his deposition, that, well, weathering is going to convert this to that, I'm here to tell you that that is not going to happen, and there is plenty of peer-reviewed literature that can point to that. The kind of things I can point out to you easily at this point in time is, just focus your eye on the yellow highlighted areas that I have where the most prominent peaks that appear in this sample from 2309 Benjamin are virtually absent in the crude oil. The same can be said for these high-boiling compounds, these PAHs over here. They're very prominent in this sample from 2309 Benjamin, but they are virtually absent in the crude oil.

1 Weathering doesn't create new compounds by this process. So that
2 is one important difference.

3 Q. Dr. Stout, let me ask you quickly a question about
4 weathering effect and it shows my ignorance in chemistry, but
5 it's my understanding that some of these compounds in crude oil
6 last for hundreds, if not thousands of years; is that correct?

7 A. That's true. Particularly these towards the right side of
8 this diagram are very resistant to weathering processes, whether
9 they are environmental time scales or geologic time scales.

10 Q. What do you mean by environmental time scales and geologic
11 time scales?

12 A. Environmental time scales are the kinds of time scales of
13 weeks, months, years, even decades, as opposed to geologic time
14 scales which can be millions of years of weathering that can
15 occur in the reservoir, the well reservoir below the ground.

16 Q. Go ahead. Sorry.

17 A. These other differences that I've highlighted in purple are
18 also very important and are well documented in the literature
19 because they are telling us that even these other compounds that
20 are present in both of these samples are derived from different
21 source materials.

22 It's well established in the literature that these
23 series of compounds will exhibit what's called a bell-shaped
24 pattern when they are derived from oil or petrogenic PAH sources.
25 Oppositely, those same groups of compounds in this sample from

1 2309 exhibit what is called a skewed pattern, where the samples
2 -- or the compound towards the left of each of these groups is
3 more abundant than the others. That skewed compound is entirely
4 consistent with what's called pyrogenic PAHs, and these
5 differences are clearly telling me that someone with knowledge of
6 what this signature actually means, is that this PAH pattern is
7 consistent with pyrogenic PAHs.

8 Now, the source of this in a sample at 2309 Benjamin
9 might be a question. Where could something like this come from?
10 Well, pyrogenic PAHs are ubiquitous in our environment. They
11 come from the exhaust particles that exit our automobiles and
12 trucks. They come from natural fires that may occur in swamps
13 and bayous. These are PAHs formed during the heating of
14 something. They are very different from the PAHs formed in the
15 formation of petroleum.

16 So those are multiple lines of evidence to tell me that
17 this fingerprint, and these are the same samples that we're just
18 comparing on the previous slide, this is not crude oil. This is
19 natural organic matter. It contains PAHs completely unrelated to
20 crude oil. They are part of this pyrogenic family that include
21 exhaust particles or charcoal particles of the like.

22 So to make that point, a little bit further, to talk
23 about where did this organic-rich material that contains
24 pyrogenic PAHs come from, and as I said earlier, I've worked on
25 many projects, including my dissertation 20 years ago in which

1 the characterization of peat sediments has been conducted and
2 plant and microbial debris accumulates in marshes and bayous.
3 That muck that you have to occasionally tromp through is decaying
4 plant material, and as was pretty well documented, this -- the
5 floodwaters that reached the 40 Arpent Canal levee to the north
6 were coming from the south and east up the St. Bernard, to
7 St. Bernard from the Mississippi River Gulf Outlet. That passed
8 over quite a bit of marshy environment here in those floodwaters,
9 and carried with those floodwaters were these peaty organic
10 debris that was widespread in the impacted areas.

11 We went to the marsh north of the 40 Arpent Canal and
12 collected two samples of this peat and fingerprinted it. And
13 what's shown on this slide is the fingerprint of those two peat
14 samples. There is very little chance that there is oil even in
15 this location. But as you can see, those fingerprints are pretty
16 consistent and they are showing you the kind of features I
17 pointed out earlier. Yes, there is a small hump out here, which
18 is characteristic of some of that material that's extracted from
19 Pete's. There is clusters of peaks here. There is clusters of
20 peaks there, in both cases, and this is examples of samples that
21 are clearly peat.

22 What I want to do very quickly on a few slides is show
23 you many examples from Mr. Kaltofen's data where I'm showing my
24 peat samples on the right versus his samples on the left. All of
25 these samples on the left are claimed to be Murphy crude oil by

1 Mr. Kaltofen. And even perhaps after the little bit of training
2 you've had in the past half an hour, you can see the similarity
3 between all of these fingerprints and the peat themselves. These
4 are not weathered Murphy crude oil. The same can be said for
5 another six properties as are exemplified here. Features are the
6 same that, yes, there is a hump. There's these clusters of
7 peats. The same thing we saw in the Bayou peat samples. These
8 are not Murphy crude oil.

9 Here is another example, the last one I want to show
10 you, but, again, all of these six samples were labeled as Murphy
11 crude oil by Mr. Kaltofen, and I'm telling you that these are
12 entirely consistent with organic matter such as we collected from
13 the Bayou sediments.

14 Q. Let's go to Page 16 where you have some maps on 16, 17, and
15 18. Let's go through those quickly and indicate to the Court
16 what you have on those maps.

17 A. I take it in this map to my left here, and after translating
18 the sample locations to a property address, figured out where
19 these samples belonged. And on this slide, I'm showing you the
20 examples of those fingerprints like I've shown on the previous
21 three slides and more, that show you where this natural organic
22 matter was found amongst the samples that Mr. Kaltofen has
23 studied. It's widespread. That's not surprising. The
24 floodwaters carried this peaty material and distributed it widely
25 wherever the water went.

1 On the next slide, I want to show you a place where we
2 did agree and Mr. Kaltofen's recognition of refined oils. You
3 might remember from when I did exhibits that was an Excel table
4 that showed, yes, there were a number of compounds that he
5 considered refined oil. And I would agree, most of these are
6 lubricating oils and I showed you an example of those earlier and
7 here is where those were found. Those also were widespread.
8 That's telling you there were probably multiple sources of this
9 lubricating oil and that perhaps no one should be surprised in
10 the number of vehicles that were lost in these floodwaters.

11 So to summarize my thoughts is that here is his map.
12 He had looked at, again, there is about 50 or so samples here.
13 They are representing 18 or so properties, I think was the number
14 we came up with yesterday, and that was used to draw a boundary
15 around the Murphy crude oil impacted area that was more than
16 6 square miles.

17 When these data are interpreted by a civil engineer
18 with no peer-reviewed publications in the geochemical literature
19 for at least 20 years, that might be the conclusion you would
20 reach. But when these data are interpreted by someone who is a
21 practicing geochemist with more than a hundred publications,
22 almost entirely on chemical fingerprinting who is active in
23 multiple societies involved with chemical fingerprinting, who has
24 written chapters in textbooks on chemical fingerprinting and has,
25 in the process of editing a book by international authors on oil

1 with samples that you looked at, correct, Dr. Stout?

2 A. That's correct. We're now talking about the data that was
3 generated by Murphy Oil in this matter. And you can see it
4 represented nearly 2200 unique property addresses, most of them
5 in the area immediately west of the refinery.

6 I want to focus in on that area in this slide to show
7 you that the number of samples that were collected in the area
8 west of the refinery. Superimposed on this slide in yellow is
9 the boundary we have been talking about as the CTEH boundary or
10 in this slide, I have labeled it as the acknowledged impact area.
11 And it shows the sampling relative that occurred both inside and
12 outside of that area.

13 Like we said, we fingerprinted the characteristics of
14 all of those samples. And I'm showing you now, again, at the
15 larger scale the results of that fingerprinting assessment that I
16 conducted. There is more than 2,000 of those samples that are
17 positive for Murphy Oil.

18 Q. Those would be the blue, correct?

19 A. Those would be the blue and you can see those are highly
20 concentrated in the areas immediately west of the refinery.

21 The more remote samples are easy to see at this scale
22 and I needed to show you this map at this scale so that you could
23 see that there are, in fact, negatives well beyond the area that
24 was impacted by Murphy Oil and that was clear.

25 There are fewer negatives than positives, you might

1 wonder, and in our assessment, we were very conservative in
2 assigning something a negative classification. These would
3 include samples that were clearly lubricating oil or samples that
4 were clearly swamp muck that were present in these locations.

5 To zoom in on that impacted area further shows you
6 where we saw the positives and where we saw the negatives. And
7 as was evidenced in some of Mr. Millner's slides, there are both
8 positives and negatives present within the acknowledged impact
9 area. There are some positives that are found outside of the
10 acknowledged impact area. So our fingerprinting was very
11 consistent with the originally-drawn acknowledged impact area,
12 the baby blue area as it was called earlier today, as was -- we
13 found here.

14 And I would like to make it clear, Your Honor, that we
15 at Newfields who were doing this assessment of these fingerprints
16 were working blind. In other words, those samples were being
17 collected by CTEH in the field, they were sent to the Louisiana
18 lab GCAL that we talked about earlier today, who was doing their
19 -- they were doing their EPA method 8015 B in order to generate a
20 DRO and an ORO concentration for regulatory purposes. That
21 laboratory daily posted on an FTP site or a file transfer
22 protocol site on the Web, their raw data for those samples. All
23 we knew at that point was that it had a sample ID. That day or
24 evening or the next day, it was tough to keep up when you're
25 doing hundreds of samples a day, but those samples were gradually

1 looked at with only our knowledge of a sample identification. We
2 said it was positive, negative, or equivocal based upon that.

3 THE COURT: And what's your definition of positive?

4 THE WITNESS: Positive is -- actually all of those
5 definitions are clearly and concisely written within my expert
6 report, but if I can remember, positive is that the chromatogram
7 exhibits features consistent with Murphy crude oil or the
8 weathered equivalent of Murphy crude oil.

9 THE COURT: Any amount or certain amounts?

10 THE WITNESS: Any amount. Again, that's another piece
11 of the working blind. We had no knowledge of concentration when
12 we were dealing with these samples. All we knew is that we had a
13 sample ID, a laboratory sample ID and a fingerprint, and we made
14 our classification based upon that irrespective of its location,
15 which we didn't know and irrespective of its concentration, which
16 we didn't know.

17 Our classification, positive, negative, equivocal, was
18 sent back to CTEH, who incorporated our results into their
19 database, which provided for the first time to us the latitude
20 and longitude of those samples so that we could put them on a map
21 and figure out where they were. And it was often, as the name of
22 my company implies, environmental forensics, it's often a
23 mystery. You don't know what you're going to get. It was
24 satisfying over the weeks that this was done to see that we were
25 being pretty darned consistent with our recognition of where oil

1 was and where it wasn't. And again, we had no idea where these
2 samples were when we were making that assessment.

3 THE COURT: Can you explain how the EPA, how you
4 disagree with the EPA or the EPA disagrees with you and use the
5 same samples?

6 THE WITNESS: Again, I'm really unfamiliar with what the
7 EPA did. I think you're asking with reference to the shape of
8 their area.

9 THE COURT: Right.

10 THE WITNESS: And how their area was defined is unclear
11 to me. It's my impression it was made mostly on a visual
12 assessment. And perhaps modified upon receipt of some of their
13 10 percent data that they were cogenerating with CTEH.

14 And there might be areas where their zone has captured
15 some of the samples that we're finding outside the zone. For
16 example, they spread -- they had oil a little bit further west
17 than CTEH had recognized in their area, and indeed, the
18 fingerprinting is showing there is oil, in a few locations at
19 least, further to the west. So, in some senses, this might
20 actually be a blending of the two, the EPA area and the CTEH
21 area, and, again, these are based upon chemical data generated in
22 the laboratory. Nobody is making a judgment in the field as to
23 whether that's oil or that's some other dark material on the side
24 of a building or in a soil sample. So in some ways, this
25 laboratory data could be considered more accurate in where the

1 oil is and where it isn't than those assessments that were made
2 largely in the field.

3 EXAMINATION

4 BY MR. MILLER:

5 Q. Dr. Stout, further to Your Honor's point, would you say that
6 your fingerprinting data is consistent with the EPA impact zone?

7 A. Yes, I would.

8 Q. Let's move on with your presentation.

9 A. Yes. I think the next slide -- this will, for your benefit,
10 remove those negatives so you can, for the first time, see only
11 the positives and where those exist. And, again, I'll point out
12 samples outside the area. Some of these include areas within the
13 EPA, so that there is a real assessment here of where the oil
14 went.

15 Q. I don't mean to state the obvious, but where is your highest
16 concentration of positives?

17 A. Well, highest concentrations of positives is in the
18 easternmost part of the residential area that we studied. The
19 Jacob Drive and Despaux area.

20 Q. Is that the area closest to the source of the leak?

21 A. Yes, it is. Just to remind everyone, this is the area of
22 the north tankfarm area, so tank 250-2 was somewhere in this
23 vicinity.

24 THE COURT: How did you draw the line when you see some
25 outside of the -- why not include those?

1 stockpile area that Murphy was disposing of contaminated
2 materials and occasionally ran tests on samples there. That's
3 why we have a positive there. It's not a residence. So the
4 farthest west residential property is right here, which you can
5 see better on this slide, right here.

6 I might also note that we did find positives in this
7 area, which is the area that the EPA originally excluded but
8 subsequently included in their area. So again, the chemistry and
9 the fingerprinting that I'm doing is, in fact, helping
10 corroborate what the EPA had done in modifying their original
11 zone.

12 EXAMINATION

13 BY MR. MILLER:

14 Q. Okay. Dr. Stout, why don't you just pick up with your last
15 couple of maps that both combine your fingerprinting results with
16 TPH concentrations and explain to the Court what that means,
17 because those are some nice slides.

18 A. Okay. Again, this is that same slide we just saw. I'm
19 taking off the negatives so you can clearly see where the oil
20 was. Now, the next question is, how much oil is really there?
21 And, again, for the first time, we can use those recapped
22 screening standards and show, okay, on the next slide, these are
23 positive Murphy crude oils in soils and sediments by their total
24 petroleum hydrocarbon concentrations. I'm really breaking it
25 down over here by DRO and ORO.

1 And what you can see in the blue triangles here are
2 these are locations, these are soils and sediments that contain
3 Murphy crude oil. They are positive for Murphy crude oil, and
4 they contain more, or a higher concentration, of that crude oil
5 than the RECAP residential standards. And you can see that the
6 exceedances are even a much smaller area than the area that had
7 been impacted. Again, the area that was impacted versus the area
8 that's been impacted but exceeds the RECAP residential standards.

9 And the distribution of points on this map makes a lot
10 of sense to me in that the highest concentrations are in those
11 locations where most of the oil impact -- resided. Lower
12 concentrations occur in the more distal areas where less oil got.
13 So that makes sense.

14 Q. Go ahead, I'm sorry, this may be an unfair question, but do
15 you know how this map, where you have the colored-in squares,
16 which indicates above residential RECAP, overlays over the EPA's
17 classification of red, orange, and green? Are you able to do
18 that or not?

19 A. No, I'm afraid not. That's one map we haven't yet created.

20 Q. Are you familiar with the EPA's red, orange, and green map?

21 A. Yes, I am.

22 Q. And blue. Okay. Why don't you finish up, Dr. Stout, by
23 looking at your findings of lube oil.

24 A. This slide shows in many of those negatives that I talked
25 about earlier that could be clearly recognized as lube oil, and

1 you might remember that fingerprint I showed you earlier is very
2 diagnostic.

3 And the lube oil was a very widespread occurrence,
4 which tells us there is no single source of it. It wasn't
5 released from a tank somewhere. It was more likely than not
6 released from many sources, mostly automobiles, I would suppose.
7 And as a result, you've got oil in the impacted area as well as
8 beyond the impacted area that is not crude oil. It's this
9 lubricating oil.

10 We recognized other sources of oil that were far less
11 common. There was some diesel fuel. There was some unusual oil
12 that, after hearing some testimony yesterday about transformers
13 and so on, that would be consistent with some of those
14 fingerprints I saw, not many. But lube oil, far and away, was
15 the most abundant noncrude oil petroleum encountered out there.

16 Q. What did you find in the lube oil? For example, would those
17 findings indicate, for example, a Jiffy Lube type of oil change
18 station lost the contents of a tank?

19 A. Yes. What's notable on this map, in fact, is that while
20 it's true there are many instances of lube oil that are fairly
21 widespread, there is a fairly high concentration of lube oil
22 detected at this western area out here. And it was brought to my
23 attention that that might make sense given the location of a
24 Jiffy Lube or some equivalent type of auto repair facility that
25 is at the corner of this location here, which might make sense or

1 have -- if it lost lube oil, to have spread northward in that
2 area, giving you a much higher concentration of lube oil in that
3 area that you see in other areas.

4 I've highlighted on this map just a few of -- five of
5 these locations do exceed the RECAP standard for ORO, which means
6 that there are other sources of petroleum here that might be,
7 that will warrant cleanup other than crude oil.

8 Q. Dr. Stout, that's all I have. Thank you.

9 THE COURT: Cross.

10 MR. LAMBERT: Excuse me, Your Honor, I've got to find
11 the beginning of my notes.

12 **CROSS-EXAMINATION**

13 BY MR. LAMBERT:

14 Q. Dr. Stout, tell me how you became involved in this case, if
15 you would, please.

16 A. Sometime in September, I had my first contact with
17 Dr. Millner from CTEH about the type of fingerprinting that might
18 be appropriate in this investigation he was conducting. And in
19 early October, my firm, Newfields, was retained by CTEH to assist
20 them in this fingerprinting effort.

21 Q. Were you also retained by the Frilot firm or not?

22 A. Not until early December, 2005.

23 Q. So the law firm for Murphy hired Millner and then he hired
24 you?

25 A. That's correct.

1 Q. Do you remember a situation where you discussed with, I
2 think it was Alpha Laboratories, not using or not -- the
3 plaintiffs, Mr. Kaltofen, not being allowed to use Alpha labs to
4 do their laboratory analysis?

5 MR. MILLER: I think the recap is hearsay, Your Honor.
6 I object. It's irrelevant.

7 MR. LAMBERT: It's not hearsay. He was involved in the
8 conversations, Your Honor.

9 THE COURT: Let me hear it. I'll overrule it.

10 THE WITNESS: Would you repeat the question, please?

11 MR. LAMBERT: Sure.

12 EXAMINATION

13 BY MR. LAMBERT:

14 Q. Tell the Court, if you would, please, about your involvement
15 with Alpha labs, instructing them not to conduct our sampling,
16 not our sampling, our laboratory analysis.

17 MR. MILLER: Objection, Your Honor, assumes facts not in
18 evidence.

19 THE COURT: I'll overrule the objection. Let me hear
20 you, sir.

21 THE WITNESS: Well, certainly, we went over this in my
22 deposition. And I didn't instruct Alpha Woods Hole to do
23 anything.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. Well, we were using them to sample, do you recall that?

2 MR. MILLER: Objection, Your Honor, he's now testifying.

3 MR. LAMBERT: Your Honor, this is important. And what
4 we were doing was, we were using the same laboratory --

5 THE COURT: Wait. He's --

6 MR. MILLER: He's testifying, Your Honor.

7 MR. LAMBERT: Let me ask the question.

8 THE COURT: Let's ask the question. All right.

9 EXAMINATION

10 BY MR. LAMBERT:

11 Q. Would you please tell the Court what transpired that
12 prevented Alpha Laboratories from continuing to do the laboratory
13 analysis for Mr. Kaltofen?

14 A. What transpired occurred the week of Thanksgiving during
15 which, I believe, it was a hearing in this matter, at which
16 point -- I was not present, Dr. Millner was present. And during
17 that hearing, it was revealed that Mr. Kaltofen was using Alpha
18 Woods Hole laboratory to generate data. Dr. Millner, of course,
19 knew that Newfields was -- had an alliance with Alpha Woods Hole
20 and was also using Alpha Woods Hole laboratory to conduct
21 fingerprinting in this matter.

22 He called me after that hearing and alerted me for the
23 first time that plaintiffs in this matter were using Alpha Woods
24 Hole laboratory. That day, which was the Wednesday before
25 Thanksgiving, I think, I called our relationship manager at Alpha

1 Woods Hole and said that it's come to my attention that there may
2 be a conflict of interest that you should look into. That phone
3 call wasn't returned until the Tuesday after Thanksgiving, at
4 which point we had a conversation about this, and I said, You
5 know that we're working on this Murphy Oil spill that is also the
6 project that you're calling, he's told me that they are calling
7 Chalmette in the laboratory, and it became clear to them for the
8 first time that this was the same oil spill.

9 They had been working under the assumption that there
10 was 40-some oil spills in Louisiana following Katrina and that
11 these were separate incidents, but that, of course, was not the
12 case. And when I alerted him to that we had a business
13 arrangement or alliance with Alpha Woods Hole for almost
14 two years. And this type of situation was what we strive to
15 avoid.

16 We don't view Alpha Woods Hole laboratories as a
17 service provider to us. They are part of our business. We are
18 separate businesses, but our agreement that -- like I said has
19 been in place for nearly two years is that we provide analytical
20 chemistry consulting to them in the development of methods that
21 are appropriate for fingerprinting, which is our business. We
22 have people in their laboratory at least two days a week. They
23 have a staff that is virtually dedicated to Newfields who happens
24 to be their biggest client. So there is an arrangement where we
25 work together and when it became clear, they were also working

1 fingerprints after they were no longer analyzing those samples
2 for both Mr. Kaltofen and for Newfields or for you?

3 A. I'm sorry, Mr. Lambert, but the question doesn't make sense
4 to me. I don't understand it.

5 Q. Well, you answered it before in your deposition and you told
6 me that you did.

7 MR. MILLER: Your Honor, that's not the proper way to
8 use a deposition.

9 THE COURT: Let's use the deposition properly, please.

10 EXAMINATION

11 BY MR. LAMBERT:

12 Q. While we are looking for your answer, let's go on. Could
13 you pull up Number 10, please.

14 MR. MILLER: You mean his slide number 10?

15 MR. LAMBERT: His slide number 10.

16 EXAMINATION

17 BY MR. LAMBERT:

18 Q. I don't know how to do this exactly, but could you read this
19 scale for me, because I can't, I can't read it. Let's just try
20 the first one. Between here and here.

21 A. It's zero --

22 Q. Let me get my pointer.

23 A. The first value is zero, at the bottom of the scale. The
24 next value looks like it's about 86.

25 Q. And what's the first line over here in your Murphy examples?

1 A. Zero also.

2 Q. And what's the next?

3 A. It's probably 19,140, a very large number.

4 Q. Now, if those scales were the same, and you expanded this
5 distance to 19,000 whatever, wouldn't these things kind of
6 shrink? For example, what's that value right there? What's that
7 value right there?

8 A. 176.

9 Q. Over here on this scale, where would 176 be, if you'll put
10 it on that line down there for me?

11 A. It would be very close to zero.

12 Q. Which is where these are?

13 A. That's correct.

14 Q. So what you've done here is jimmy these scales so this looks
15 like something big when, in fact, it look like that?

16 MR. MILLER: Objection to the tone of his question, Your
17 Honor.

18 THE COURT: Restate the question, please.

19 EXAMINATION

20 BY MR. LAMBERT:

21 Q. What you've done is changed the scale so that these small
22 values down here look like this?

23 A. I would be happy to replot them for you, if you would care.

24 The --

25 Q. Well, I do care.

1 A. Well, it's irrelevant when it comes to the fingerprinting.
2 Fingerprinting is looking at relative distributions. If you want
3 to argue about where did these compounds come from?

4 Q. I don't want to argue with you at all. What I want you to
5 do is answer the questions.

6 A. At the same time answer, where did these compounds go,
7 because if I drop this scale down to this level, these compounds
8 should be through the roof. But they are not there. That's
9 telling me --

10 Q. Well, we're not talking about --

11 A. -- there is a different fingerprint. You can't take these
12 out of context.

13 MR. MILLER: Your Honor, he's interrupting the witness.

14 THE COURT: Wait, wait, wait, wait. Just a minute.

15 Let's ask questions and you can answer questions.

16 EXAMINATION

17 BY MR. LAMBERT:

18 Q. Doctor, I'm not a Ph.D. in organic -- what are you a Ph.D.
19 in?

20 A. Geology.

21 Q. In organic geology, so I'm going to have to put Mr. Kaltofen
22 back on the stand and do some specifics with regard to this
23 redirect, but what I'm trying to get you to do is to answer some
24 questions about the areas that you highlighted. You highlighted
25 this. You highlighted this. And then you pretended like this

1 was something very different than this. That's what you did in
2 your direct testimony.

3 Now, I'm asking you, isn't it true that if the vertical
4 scales of these two were the same, and I don't want to get off
5 into a discussion about some other portion of this draft, if
6 these two areas were the same in scale, isn't it the truth that
7 this box would look just about like that box? That's the only
8 question. Without a whole lot of gibberish, can you --

9 THE COURT: Come on, now.

10 MR. MILLER: Objection, again, Your Honor.

11 THE COURT: We're inside of a court now. We're not on
12 the street talking.

13 MR. LAMBERT: I understand, Your Honor, I'm sorry.

14 THE WITNESS: Well, your question can't be answered
15 without considering all of the chemicals that are there. You
16 can't change the scale on one chemical and choose not to change
17 it on the other. So my response earlier is that if I dropped
18 this scale down to this level, and we compared them side by side,
19 you've got a tremendous amount of sample here that's not here --
20 going to be here, and you can't produce that by any weathering
21 process. You have to explain all the data. You can't pick and
22 choose and try to explain the presence/absence of individual
23 compounds.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. Just so the record is clear, can you describe for me the
2 yellow box that you've drawn on Figure 10 and which exhibit is
3 this? Is it --

4 MR. MILLER: It's not an exhibit. It's just a power
5 point.

6 MR. LAMBERT: It's a power point and let's make it an
7 exhibit, since that's something that's going to be referred to in
8 the testimony.

9 THE COURT: You have to print it out.

10 MR. LAMBERT: I don't know how to do that. We can print
11 this out.

12 EXAMINATION

13 BY MR. LAMBERT:

14 Q. Just describe for me, if you would, please, this area that
15 you've yellowed. Can you describe what those particular
16 components are?

17 A. Those are five and six range PAHs.

18 Q. So the record is clear, the five and six range PAHs, which
19 appear on the left side of this exhibit, vary in scale from those
20 that appear on the right side of the exhibit, so that it appears
21 on this exhibit as if that range of carbons are higher in the
22 right-hand side, where it says natural organics, than they are on
23 the left-hand side, where it says positive Murphy crude oil,
24 correct?

25 A. I guess I need to hear that very long question again.

1 THE COURT: The scales are different, is what he's
2 saying.

3 THE WITNESS: Yes, we've talked about that.

4 MR. MILLER: Excuse me, Your Honor. We have this in our
5 exhibits as Number 77. I did not move it in earlier but if you
6 want to move it in now, I'll have to do it jointly.

7 MR. LAMBERT: No, I just want to put this one in, if you
8 don't mind. I'm going to mark as Exhibit 110 another document,
9 which was used in your deposition and it was Stout Number 4.
10 And --

11 MR. MILLER: I'm going to object to that, Your Honor.
12 That's one of the exhibits that were withdrawn by the plaintiffs
13 in connection with their meeting on yesterday. I think it was
14 listed as Exhibit 54(a) or 54(b) and me and Mr. Penton agreed the
15 plaintiffs would withdraw it. It has not been admitted into
16 evidence because it has not been authenticated. No one knows
17 where it came from. They had an affidavit. The affidavit did
18 not match the facts on the picture. That's why they withdrew it.

19 MR. LAMBERT: Your Honor, it's cross. It was used in
20 his deposition. It has upon it a location which is what is
21 relevant and particularly a location that was left out of his
22 graphics, and also demonstrates a very significant point, which
23 is the movement of oil from tank 250 to a location where it
24 couldn't have gotten except for being released well before the
25 dikes, the water went below the dikes.

1 THE COURT: Don't we have some other photographs and
2 things that you could use to show that?

3 MR. LAMBERT: Not really, because this one is marked by
4 the witness.

5 MR. MILLER: Well, Your Honor, the problem is, it was
6 attached to an affidavit that said it was taken in October and
7 it's inconsistent with --

8 MR. LAMBERT: It's not October. September the 2nd.

9 MR. MILLER: No, the picture appears to be in early
10 September, but the affidavit says, I took in October, and therein
11 lies the discrepancy. But the plaintiffs didn't respond to that,
12 but withdraw it. That's why it was -- it was withdrawn and not
13 admitted into evidence.

14 THE COURT: It's a 901 problem, so I need it to be
15 authenticated before I can admit it. I have to deny the
16 opportunity to admit it at this time.

17 MR. LAMBERT: You can't bring it in, Your Honor?

18 THE COURT: No. It doesn't pass 901. It's not what it
19 purports to be. That's what he says. And he's got some
20 affidavit that says at one time and another time, and the date is
21 critical. Not necessarily the image, but the date. Let's move
22 on, Counsel.

23 THE DEPUTY CLERK: Judge, you'll let this in?

24 THE COURT: Yes, it's 109.

25 EXAMINATION

1 BY MR. LAMBERT:

2 Q. Could you call up the graphic that you have --

3 MR. LAMBERT: By the way, we didn't see any of these
4 power point graphics, either, Your Honor, so we're operating,
5 once again, on the fly.

6 THE COURT: I'm sensitive to the fact that it's under
7 cross-examination. My problem with that last exhibit is that
8 it's not authenticated. You say one thing, and he says another
9 thing. And so I don't have anybody here saying when they took it
10 and that was it when they took it. He says it was taken in
11 September. You say it was taken in October or something.

12 MR. MILLER: It appears to be taken in September, but
13 the problem was it was attached to an affidavit by Mr. Glenn
14 Shuerr who said, I took it in October.

15 MR. LAMBERT: Unfortunately, Your Honor, the man made a
16 mistake by a month and the problem is, unless Murphy Oil was
17 running out of these tanks and the tank was off location in
18 October, then it's clearly a mistake in terms of the guy getting
19 the month wrong, but --

20 THE COURT: I understand.

21 MR. MILLER: It's just not off of any document.

22 THE COURT: Let's move on. We have to move on, folks.
23 I made my ruling. Let's go on.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. Could we go to the location of the positive findings of
2 Murphy crude with your little triangles? You see that triangle
3 right there?

4 A. Yes.

5 Q. Can you tell me, does that indicate a positive finding for
6 Murphy crude oil?

7 A. Yes.

8 THE COURT: Would you orient me a little bit where that
9 is?

10 MR. LAMBERT: That's right next to tank number 450.

11 THE WITNESS: If I may say, Your Honor, I believe that
12 sample is from a shed that's located in that area.

13 MR. LAMBERT: Wrong. It's not, Your Honor.

14 MR. MILLER: Your Honor --

15 MR. LAMBERT: It's a soil sample --

16 MR. MILLER: I think we should say it's on the Murphy
17 property.

18 THE COURT: I understand. Where it is, that's all I
19 need to know. I understand.

20 MR. LAMBERT: There is a big difference, because the
21 shed --

22 MR. MILLER: He can't testify, Your Honor. He's
23 testifying about sheds and locations. I'll stipulate it's on the
24 Murphy property, but I don't think anyone knows any more than
25 that, at least in terms of witnesses.

1 MR. LAMBERT: This witness knows, Your Honor. He
2 testified in his deposition where it was.

3 THE COURT: Let's impeach him, then.

4 EXAMINATION

5 BY MR. LAMBERT:

6 Q. Do you have any sort of record of where sample 0510073-10
7 was taken?

8 A. I can't remember sample numbers like that, I'm afraid.

9 Q. Well, do you have a record of it here someplace?

10 A. It's best if you can describe the sample for me, I might
11 recall.

12 Q. It's a soil sample taken inside of the 450 tank --

13 MR. MILLER: Again, he's testifying, Your Honor.

14 THE COURT: Wait, wait.

15 MR. LAMBERT: He asked me to describe it.

16 THE COURT: I overrule the objection. Let's move on.

17 EXAMINATION

18 BY MR. LAMBERT:

19 Q. It's a sample taken inside of the containment dike next to
20 the 450 tank.

21 A. The only sample that was analyzed from that area was an oil
22 sample, not a soil sample.

23 Q. Okay. The oil sample was positive for Murphy crude.

24 A. It's not this sample.

25 Q. There was another sample down here also inside the 450 or on

1 the row that was negative and it doesn't appear under negatives.

2 A. Mr. Lambert, these positives are all of the tier one
3 screening conducted by GCAL that we analyzed their samples and
4 put them into those three categories.

5 Q. Can you go to your negatives on the slide, please?

6 A. I can perhaps save you some time.

7 Q. No, I would like to see the negatives, if you would, please.

8 A. The data you're looking at were generated at GCAL and
9 evaluated by Newfields as being positive, negative, equivocal.
10 These have nothing to do with source area samples.

11 Q. There is a negative right there that doesn't appear on this
12 chart. The positive appears right there, which is, as we know,
13 in the 450 field. And this is important, Your Honor, and may we
14 approach?

15 MR. MILLER: Your Honor, I have no idea what he's
16 talking about.

17 MR. LAMBERT: Yeah, I know. May we approach?

18 THE COURT: Yeah, okay.

19 (Bench conference without court reporter present).

20 MR. LAMBERT: Your Honor, let me show the witness.

21 THE COURT: All right.

22 MR. MILLER: If he's going to show him a deposition,
23 Your Honor, he has to ask him a question first.

24 THE COURT: Tell counsel where you're going.

25 MR. LAMBERT: Page 100 of Mr. Stout's deposition.

1 made me assume that there is no breaches in the dike and that
2 these pipelines don't provide any conduits and so on.

3 MR. MILLER: Your Honor, I'm going to object at this
4 point. This is not impeachment or refreshing his recollection.

5 THE COURT: I sustain the objection. Let's move to
6 another area.

7 EXAMINATION

8 BY MR. LAMBERT:

9 Q. Okay, here we go. Right here, this is the area that we're
10 talking about that has the sample that's positive for Murphy
11 crude. And let's see, what does this say?

12 A. If I could correct you, and if we were to read back my
13 earlier answers, they were all correct. The blue triangle, we
14 were, quote, arguing about earlier had nothing to do with these
15 source area samples. That was a sample from a shed taken,
16 perhaps even visible on this aerial photograph, outside of the
17 450 diked area somewhere over here, which was indeed positive for
18 Murphy.

19 These were what we talked about during my deposition as
20 being the source area samples. This was an oil sample. It was
21 not a soil sample and it was not fingerprinted at GCAL. It was
22 fingerprinted at Alpha Woods Hole. There's where all of your
23 earlier questions were inaccurate.

24 Q. Okay. But Alpha Woods Hole, then, found it to be positive
25 to Murphy crude?

1 A. Just to clarify, Alpha Woods Hole doesn't make
2 interpretations, they provide data to me.

3 I found it to be a probable match according to
4 the nordic (spelled phonetically) test protocol. And if you want
5 me to explain that a little bit further, I have additional
6 slides.

7 Q. No, I -- what about this one down here?

8 A. That's a nonmatch. That's not Murphy crude oil there.

9 Q. So we've got this tank leaking thousands of gallons of crude
10 oil running down this road, you've got a positive match here and
11 it's running out here --

12 A. Excuse me, a probable match.

13 Q. Let me finish. A probable match here and running out here
14 on this road and you find a spot or at least -- no, you don't.
15 According to your fingerprinting, this does not match, correct?

16 A. That's correct. That entire exercise is clearly
17 described --

18 Q. Excuse me, I don't have a question pending and this is not,
19 I hope --

20 THE COURT: Let's say just ask questions, please.

21 MR. LAMBERT: Let's see. When we were talking about
22 this little triangle, which is in the same place, whether it's
23 that triangle, we were talking about this triangle, Your Honor,
24 because I didn't have this map or this triangle at that point in
25 time. All I had was this one and we're talking about the same

1 exact locations as the yellow dot.

2 THE COURT: Counsel, you have to move on.

3 EXAMINATION

4 BY MR. LAMBERT:

5 Q. Okay. Well, in his deposition --

6 THE COURT: If you don't move on, you're going to have
7 to sit down.

8 MR. LAMBERT: Okay.

9 EXAMINATION

10 BY MR. LAMBERT:

11 Q. In his deposition, in your deposition, I asked you this
12 question.

13 THE COURT: I sustained the objection.

14 MR. LAMBERT: Well, Your Honor, he said it was a
15 positive match.

16 THE COURT: I sustained the objection. Move on or sit
17 down.

18 EXAMINATION

19 BY MR. LAMBERT:

20 Q. How many negative matches do you have in the entire eastern
21 side of Mr. Kaltofen's zone over here?

22 MR. MILLER: I'm sorry, by eastern, you mean east of the
23 refinery?

24 MR. LAMBERT: East.

25 EXAMINATION

1 BY MR. LAMBERT:

2 Q. How many negatives do you have?

3 A. Two.

4 Q. How many equivocals do you have out in here?

5 A. I don't know. I don't know from these maps.

6 Q. There were equivocals that you discussed in your deposition,
7 do you remember?

8 A. Yes. Yes. But I don't know the number that you're asking
9 me.

10 Q. But you didn't put them on these maps?

11 A. No.

12 Q. All you put on these maps were positives and negatives?
13 Correct?

14 A. Yes.

15 Q. Isn't it true that you had -- now, when you gave your, when
16 you did your report, you had 1,574 positives and 432 negatives?
17 On this slide, you have 430 negatives, so two of those must have
18 gone away. And you have 2,008 positives, so you added another
19 three or four hundred. You have, in your report, 2,918
20 equivocals. Do you recall that?

21 A. I believe that's -- I don't remember the exact number, but
22 that sounds about right.

23 Q. You had more, actually 60 percent of your samples were
24 equivocal?

25 A. That number I do remember. It was 59 percent.

1 Q. Fifty-nine. Okay. 59 percent. And in your report --

2 THE COURT: While he's looking at the report, how far
3 west do the equivocal go?

4 THE WITNESS: I can't recall precisely, Your Honor, but
5 there are certainly equivocal in this area.

6 EXAMINATION

7 BY MR. LAMBERT:

8 Q. In what area?

9 A. This area.

10 Q. Yeah, there is equivocal out in this area also, weren't
11 there?

12 A. There may well be, but I think Dr. Millner showed the
13 equivocal on maps earlier.

14 Q. Yeah, he did. Maybe we could call one of those up.

15 THE COURT: Where is Paris Road there?

16 THE WITNESS: It's right there, Your Honor.

17 THE COURT: I see.

18 EXAMINATION

19 BY MR. LAMBERT:

20 Q. Would you agree with me, Dr. Stout, that the equivocal run
21 west of Paris Road?

22 A. There are certainly equivocal west of Paris Road.

23 Q. Now, the way I'm looking at this map in terms of, let's see,
24 we started with the east. You've got a solid line here of
25 testing that shows positive findings. No, go back to the other

1 one, please.

2 A. Fine.

3 Q. And then over here, you've got two dots, right?

4 A. That's correct.

5 Q. Now, using counsel's little drawing here, up here, on the
6 outside of this zone of contamination, you have two dots. Right?

7 A. Yes.

8 Q. So the theory of, you test away until you get to a point
9 where your tests start getting negative, we really don't have
10 that situation over here on this side, do we?

11 A. Not with the samples that I've looked at.

12 Q. Right. And over here, when you get, let's, let me ask you
13 to assume that the edge of this is a street called Delambert, and
14 everything with the exception of these few triangles here to the
15 west is defined by the number of dots that we can count here as
16 far as negatives are concerned. My question is, do you know how
17 many equivocal you have compared to these negative findings?

18 A. No, I don't know.

19 Q. Which ones of these negative findings represent wipe samples
20 and which ones represent soil samples?

21 A. I do have some slides to show that, if you want me to try to
22 pull them up, but I don't know the numbers offhand.

23 Q. Would you agree with me that the wipe samples are less
24 likely to retain concentrations of oil than soil samples?

25 A. Your question doesn't quite make sense, because wipes

1 weren't even discussed in terms of concentration.

2 Q. Then let's leave the concentration out. Would you agree
3 with me that surfaces that are normally the subject of a wipe
4 sample, where you take a tissue-like device and wipe it on it,
5 are less likely to retain petrochemicals than soil samples?

6 A. No.

7 Q. You don't agree? Okay.

8 Let me ask you, if you would, please, to look at Page 8
9 of your report.

10 A. I don't have my report.

11 Q. Okay, well, you can look at mine. It's Page 5 of your
12 report.

13 THE COURT: Give him a copy, Counsel.

14 MR. LAMBERT: He's got it. He can use mine, Your Honor.

15 THE COURT: Okay.

16 EXAMINATION

17 BY MR. LAMBERT:

18 Q. Now, you ran all the way through your tier analyses, six
19 samples; is that right?

20 A. Six residential samples. We also analyzed eight source-area
21 samples. And that was at the time of the report.

22 Q. You've done more?

23 A. Yes.

24 Q. How many more?

25 A. Approximately 150.

1 Q. But at the time of the report, you had run six?

2 A. Six, as a means of demonstrating the methodology.

3 Q. Okay. And when you ran the six, only two of them were
4 positive, correct?

5 A. We selected -- of the six samples, our intention was to
6 demonstrate how more sophisticated fingerprinting could work, so
7 we collected two positives, one wipe, one soil; two equivocals,
8 one wipe, one soil; and two negatives, one wipe, one soil.
9 Again, just as a means to demonstrate how fingerprinting could
10 work.

11 Q. I understand. But you didn't decide whether they were going
12 to be equivocals or negatives before you took the samples?

13 A. They were already classified as one of those three
14 categories when they were selected for this demonstration.

15 Q. All right. Let's look at the addresses. All of those six
16 samples on Page 5 of your report, actually, yeah, there is six,
17 right?

18 A. Yes.

19 Q. Okay. The first -- all of them are inside of Murphy's
20 settlement zone, correct?

21 A. I believe they were. I think there is five separate
22 properties. I only see four points on your map.

23 Q. Well, the four points that are on my map are actually the
24 two equivocals and the two negatives. I didn't put the two
25 positives on there, because I'm not interested in those right

1 now.

2 A. Okay, I understand.

3 Q. Okay. So inside of the Murphy settlement zone in the six
4 samples that you ran all the way through their testing, at the
5 time you did your report, four of them were either equivocal or
6 negative.

7 A. That's correct.

8 Q. And if you give me the addresses, please, of the equivocal.

9 A. 213 Blanchard.

10 Q. 213 Blanchard. Okay. Is it 213 or 2813?

11 THE COURT: 2813.

12 THE WITNESS: Excuse me, I'm sorry.

13 EXAMINATION

14 BY MR. LAMBERT:

15 Q. 2813. So that's this one right here. Correct?

16 A. I'll take your word for it.

17 Q. And what is that? An equivocal?

18 A. It was an equivocal soil sample.

19 Q. So right here, which is three blocks from the -- one, two,
20 three -- no, it's four.

21 MR. MILLER: One, two, three, four, five. You skipped
22 Lena.

23 EXAMINATION

24 BY MR. LAMBERT:

25 Q. Okay. Five blocks, which is right in here, from the Murphy

1 site on the north side of Judge Perez in virtually ground zero of
2 this oil spill, you've got an equivocal?

3 A. That's correct.

4 Q. And where is the other equivocal?

5 A. 2612 Chalona.

6 Q. 2612 Chalona. Okay. That's right here. So we're looking,
7 again --

8 MR. LAMBERT: Do you see Chalona, Counsel? Am I in the
9 right spot?

10 MR. MILLER: No, it's back this way. Chalona. There
11 you are, right there.

12 MR. LAMBERT: Right there, okay.

13 EXAMINATION

14 BY MR. LAMBERT:

15 Q. That's an equivocal.

16 A. It was an equivocal.

17 Q. Did you change it?

18 A. After conducting additional analyses, yes.

19 Q. After your deposition?

20 A. No. No. It was equivocal when we were selecting it for the
21 tier two and tier three analyses, which ultimately showed it to,
22 in fact, be a negative.

23 Q. Oh, it's a negative. So, again, so you got an equivocal
24 over here and you've got a negative right here inside your
25 settlement zone. All right?

1 laboratory, you got two positives inside the Murphy settlement
2 zone, you got two equivocal, one of which you told me turned out
3 to be a negative, and you got two negatives inside the settlement
4 zone. Right? Right or wrong?

5 A. Mr. Lambert, your question didn't convey exactly what
6 happened. I'll summarize what happened if you would like me to.

7 THE COURT: His question is about these six.

8 THE WITNESS: These six samples were classified
9 originally based upon the GCAL fingerprints that were provided to
10 us. In the time frame available for producing a report, these
11 six were selected to demonstrate how more detailed
12 fingerprinting, tier two and tier three, could improve upon the
13 classification of these samples. And it was only intended to
14 show different types of samples, the wipes and the soils from
15 different categories that how additional data could be used and,
16 in fact, like you acknowledged, the additional data in tier two
17 and tier three, which was not what you classified as, my
18 technique, it's a published protocol for the correlation of oil
19 spills, demonstrated that indeed, the two positive samples were
20 shown to be positive; the two negative samples were shown to be
21 negative; and the two equivocal samples were shown to be
22 negative.

23 EXAMINATION

24 BY MR. LAMBERT:

25 Q. So you had four negatives inside there and two positives

1 when you got through testing with your protocol?

2 A. That's correct.

3 Q. Now, if I could ask you to look at Page 8. And while you're
4 looking at that, let me ask you this question. Do you think
5 crude oil is used for anything from a practical standpoint in a
6 neighborhood for anything?

7 MR. MILLER: Objection. Vague, Your Honor.

8 THE COURT: Can you understand it?

9 MR. MILLER: He doesn't know what people use --

10 THE COURT: Well, you know, vague to you may not be
11 vague to him.

12 THE WITNESS: No, I can't imagine having crude oil
13 around my house, my house.

14 EXAMINATION

15 BY MR. LAMBERT:

16 Q. In other words, crude oil is not used in the crank case of a
17 car, is it?

18 A. No.

19 Q. And crude oil is not used as any sort of lubricant. That's
20 a refined oil, right? Let me not give you a hard one like that.
21 Let me ask you something easy.

22 Let me just ask you, did you assume that every crude
23 oil that you found in this neighborhood came from Murphy or did
24 you try to distinguish a crude from a crude?

25 A. We made no attempt -- I made no attempt to distinguish

1 between crude oils.

2 Q. So everything you found out there in the neighborhood that
3 was a crude, you attributed to Murphy Oil?

4 A. I called it a positive.

5 Q. So you really wouldn't get into any of the sophisticated
6 biomarker analysis that you would get into if you were trying to
7 distinguish between, for example, an Arabian light or a Nigerian
8 moderate or whatever?

9 A. Not at this scale of fingerprinting. That wasn't necessary.

10 Q. Did you get to the level three?

11 A. Yes, we've conducted -- I conducted level three analysis on
12 the source-area oils that were studied and the six residences
13 that we have been talking about.

14 Q. One of the things that you said about Mr. Kaltofen had to do
15 with -- and I'm going to be very brief, Your Honor, and be
16 finished with this, because I need to put Mr. Kaltofen on to talk
17 science, I don't know how -- but you referred to something
18 perylene. Do you remember that term?

19 A. Yes.

20 Q. Perylene?

21 A. Yes.

22 Q. Perylene. Now, you said that a high concentration of parts
23 per million of perylene equated to some organic material?

24 A. There is multiple publications that referred to perylene as
25 a particular PAH, one of those compounds on the histograms we had

1 talked about earlier as being derived -- or a common component
2 and a prominent component in modern sediments such as peats.

3 Q. Are you aware of the fact that the source sample analyzed,
4 analyzed by Alpha Laboratories, found the highest concentrations
5 of perylene in Mr. Kaltofen's sample right over here next to the
6 250 tank?

7 A. You mean the highest absolute concentrations or the highest
8 relative concentrations? Because that's a distinguishing
9 feature.

10 Q. Absolute.

11 A. That doesn't surprise me.

12 Q. Good. So you would say that having a high value of absolute
13 perylenes out in the neighborhood wouldn't necessarily mean that
14 it came from peat?

15 A. Perylene is only one compound in the PAH fingerprint that we
16 talked about earlier. And as I said earlier, you don't
17 fingerprint based upon the presence or absence of any single
18 compound. What you're looking at is the distribution of those
19 compounds.

20 Q. I understand. Now, you had nothing to do with the drawing
21 of this line, did you?

22 A. No.

23 Q. Do you know how that line was created, the settlement line?

24 MR. MILLER: Objection, I think we covered that earlier,
25 Your Honor.

1 MR. LAMBERT: I'm just asking this witness, Your Honor.

2 THE COURT: I'll allow it. Overrule the objection.

3 THE WITNESS: Only to the degree that it was generated
4 by CTH.

5 EXAMINATION

6 BY MR. LAMBERT:

7 Q. That would be Mr. Millner?

8 A. Dr. Millner.

9 Q. Dr. Millner, excuse me. Dr. Millner.

10 Did you think it was appropriate to exclude this whole
11 area to the east of tank 250 based on those two negative samples
12 that you took?

13 MR. MILLER: Objection, Your Honor. He's not the person
14 who drew the line. He phrased it --

15 THE COURT: I understand it. You have to rephrase the
16 question. That's -- it's apples and oranges.

17 MR. LAMBERT: I understand, Your Honor. Let me try.
18 And I probably won't do it right, but I'll try.

19 EXAMINATION

20 BY MR. LAMBERT:

21 Q. Two samples were taken to the east, correct?

22 A. There were more than two samples taken.

23 Q. Well, the two negatives that you saw.

24 A. That's correct.

25 Q. You had some positives over there?

1 A. No.

2 Q. What's the more than two?

3 A. There was some equivocal.

4 Q. Ah. So there were equivocal to the east as well?

5 A. That's correct.

6 Q. Do you remember how many?

7 A. No.

8 Q. So you have findings that could have been Murphy Oil to the
9 east. Could you back this map up a little? I keep pointing to
10 the margins. Thank you.

11 Do you know if the equivocal were closer in or further
12 out than these two negatives that you have posted here?

13 A. I can say with pretty good confidence there was certainly
14 some between the two. I don't recall if there was any east,
15 west.

16 Q. So you had equivocal in here to the east of the plant, but
17 you don't think quite as far as the two negatives that you had?

18 A. That's my recollection.

19 Q. And you had equivocal west of Paris Road, you're not sure
20 how far, but you don't think they went all the way to the
21 railroad track?

22 A. That's my recollection also.

23 Q. Now, you took a couple of samples of swamp grass you told us
24 about from this area right in here, didn't you?

25 A. They weren't grass. They were peat.

1 Q. Peat. Swamp peat. That's what you told me.

2 A. That's correct. To be clear, I didn't take them.

3 Q. You asked for them to be taken?

4 A. That's correct.

5 Q. Do you know if the swamp peat that was taken from out here
6 was anywhere near the intentional break that was put in the levee
7 that drained the parish after the storm?

8 A. Well, anywhere near, yes, they were. One of them was near
9 the corner of Paris Road and this area here and the other one was
10 about a mile to the east. So.

11 Q. Do you know whether or not that swamp peat taken near the
12 place where the Corps of Engineers blew a hole in that levee to
13 drain all of this oil flood out into the --

14 MR. MILLER: Objection, Your Honor. I don't think that
15 was the objective of the Corp. That's certainly not the facts
16 that's in evidence in the case.

17 THE COURT: It's under cross. I'll allow it.
18 Overruled.

19 EXAMINATION

20 BY MR. LAMBERT:

21 Q. Do you know if any of that peat got any of that oil on it?

22 A. I know it didn't.

23 Q. How do you know that?

24 A. Because I fingerprinted the peat and there is no Murphy
25 crude oil in it.

1 Q. I got it. Just like you fingerprinted the materials right
2 down here two blocks from the plant, correct?

3 A. That's correct.

4 THE COURT: Anything further?

5 MR. LAMBERT: No, thank you, Your Honor.

6 MR. MILLER: No redirect.

7 THE COURT: You're excused, sir. I'm going to take a
8 10-minute break here. I have another matter I have to get into.
9 The Court will take a 10-minute recess.

10 THE DEPUTY CLERK: Everyone rise.

11 (Off-the-record discussion).

12 THE DEPUTY CLERK: Everyone rise.

13 THE COURT: Be seated, please. I understand we have
14 some housekeeping. Some numbers are blank and we need to
15 withdraw them; is that correct.

16 MR. TERK: Yes, sir. This morning defendant entered
17 into evidence Exhibits 1 through 100 with the exception of 23
18 through 54, 77 through 79, and 89 through 93. We inadvertently
19 failed to identify those trial exhibits, which were intentionally
20 left blank and would like to enter those into the record now.
21 Those are Exhibits 19 through 22, 56, 64, 66, 80, 82 through 83,
22 85 through 86, and then defendants also entered Exhibits 101
23 through 111, of which number 103 was intentionally left blank. I
24 don't think there is any objection.

25 MR. PENTON: No objection.

1 MR. KROUSE: Your Honor, just one other housekeeping
2 matter. Defendants objected to the introduction of Keith
3 Baugher's deposition at trial. Mr. Baugher has testified live.
4 I don't know whether it's the intention of plaintiff's to produce
5 that portion of it or not.

6 MR. PENTON: We're withdrawing it.

7 THE COURT: Is that the 30(b)(6) or not?

8 MR. KROUSE: No, it's not the 30(b)(6) deposition. It
9 was an expert deposition.

10 THE COURT: You can't have them both. If he testifies
11 live, you can't have his deposition. The only time you can do
12 that is with the 30(b)(6) deposition and that's because a
13 30(b)(6) --

14 MR. KROUSE: So we ask that that deposition be stricken.

15 THE COURT: Let it be done.

16 MR. KROUSE: Thank you, Your Honor.

17 THE COURT: Let's remove the deposition of, who?

18 MR. KROUSE: Keith Baugher.

19 THE COURT: Let's call your next witness, please.

20 MR. McSHANE: Thank you, Judge. Murphy calls
21 Dr. Paul Kuhlmeier.

22 THE COURT: Come forward, Doctor.

23 THE COURT REPORTER: What is your name?

24 MR. McSHANE: Patrick McShane for Murphy, thank you.

25 THE DEPUTY CLERK: Please raise your right hand.

1 Q. Dr. Kuhlmeier, we've heard a good bit of very technical
2 science, and what we want to do is take a step back and talk
3 generally about the storm and how the water got into the
4 community and how it got out as a pathway of moving Murphy Oil
5 around.

6 I would like to start by asking you some general
7 questions about the geography and see if you could explain for
8 Judge Fallon in very broad-brushed terms how this storm got into
9 the community, the storm surge from the hurricane.

10 And with that, if I could just show you, if I could
11 have the Elmo, the Google map of the New Orleans area heading
12 east into Lake Borgne, Judge. You can use your, try to use your
13 drawing.

14 A. Okay.

15 MR. LAMBERT: Excuse me, Your Honor. I know we're
16 trying to hurry. I don't want to be obstreperous. Relevance. I
17 mean how the storm got in. We're talking about class
18 certification.

19 MR. McSHANE: Your Honor, what we want to do is
20 establish just very shortly how the water is moving in the
21 community because ultimately that spells out how the oil moves.

22 THE COURT: I'll allow it.

23 THE WITNESS: On the morning of August 29th,
24 Hurricane Katrina made landfall. And it came up the MRGO and
25 across the northern marshland that I have marked here with this

1 very shaky red dot, across the marshland and over the top of the
2 40 Arpent levee system, by an elevation of mean sea level of
3 approximately six. It came over at a, on the order of eight,
4 eight and a half feet over the top of that levee on the north
5 side of St. Bernard Parish.

6 It then traveled southward toward the Mississippi
7 River, across the parish until it slammed up against the
8 Mississippi River levees that were higher on the south end. It
9 wasn't high enough, the storm surge, which, with a total
10 elevation of about 17 feet, wasn't high enough to top the
11 Mississippi levee, so as a consequence, as the flood wave hit the
12 Mississippi levee, it then bounced back towards the north and
13 reached an equilibrium at around sea level 14, 14 and a half.

14 Now, for a point of reference, as I just mentioned, the
15 elevation of these dikes, levees I should say, along the
16 40 Arpent are at an elevation of mean sea level of about six.
17 The toe of that dike has an elevation of about mean sea level of
18 about minus 2.5. The slope of the land back towards the
19 Mississippi River has a total increase in height of about
20 10 feet. So In other words, the land is sloping from the
21 Mississippi River back toward the 40 Arpent about 10 feet across
22 the distance of St. Bernard Parish.

23 We're dealing with a relevant area with respect to the
24 Murphy oil spill, the top of the impoundments are at an elevation
25 of about eight or about 2 feet higher than the 40 Arpent levees,

1 leaving the level of oil or, I should say, the water on the tank
2 that's at issue that got displayed at about 17 feet.

3 Now, what happened --

4 EXAMINATION

5 BY MR. McSHANE:

6 Q. Doctor, let me ask you some preliminary questions about when
7 the water came over first. To get some sense of, you said that
8 it came over the berm about how high above the berm height?

9 A. On the order of eight to eight and a half feet the storm
10 surge was over the top of the northern levee.

11 Q. Let me ask, Your Honor, we're asking Chad Morris, who's got
12 the AutoCAD and the land survey, to go to the levee and zoom in
13 and show us evidence of the storm going over the berm, and with
14 that I would ask Mr. Morris to show us the levee berm from the
15 Friday photo that has already been used in these proceedings.
16 And if we could start, Mr. Morris, on the far east by the
17 Number 7 pump.

18 For orientation purposes, Your Honor, I would like
19 to -- I'm not going to switch on the electronic exhibits just
20 yet. I'll show the witness Exhibit 98 on a board copy, but it's
21 the same map that is in, it's in the record as Exhibit 98,
22 Defendant's Exhibit 98, and we're going to be talking about two
23 pumps along the 40 Arpent canal, right, Doctor?

24 A. That's correct.

25 Q. Can you show --

1 A. Excuse me. Actually two pumping stations.

2 Q. Correct. Thank you, Doctor. Two pumping stations.

3 Can you show on this map that's clearer than the one
4 you had up there, show Judge Fallon where are the Number 6 and
5 Number 7 pumps that we're going to be talking about?

6 A. The Number 7 pump, sir, is found right here, which would be
7 just a little bit to the east, and, of course, north of the
8 Murphy tank farm.

9 THE COURT: Where is Paris Road?

10 THE WITNESS: Paris Road, sir, is -- right here. So the
11 Number 6 is on the west side of Paris Road. Number 7 is the one
12 closest to the Murphy tank farm.

13 EXAMINATION

14 BY MR. McSHANE:

15 Q. And you were giving us a narrative description of what
16 happened, when you said that the storm came over the flood levee.
17 Can you show Judge Fallon on this map where the 40 Arpent canal
18 berm is that protects Chalmette from water coming in from the
19 north, the marshland, the MRGO and Lake Borgne.

20 A. I believe your question is just to show the land farm?

21 Q. No, on this exhibit that you had, just show him where the
22 40 Arpent is that separates the marsh from the community.

23 A. The 40 Arpent is this blue line on the very top of the map
24 that bisects the pump stations Number 7 and Number 6.

25 THE COURT: And the MRGO is right here.

1 wave.

2 Q. When you factor in the depth of the moat at the Murphy tank,
3 is that number consistent with Keith Baugher's number of how high
4 the water went up outside the top of the Murphy tank?

5 A. Yes.

6 Q. So you got about 14 feet of water coming into the community.
7 Connie, could you show Exhibit 75. It's a series of photographs.
8 The one that ends in number 147.

9 All right. Now, you see the bottom picture?

10 A. Yes.

11 Q. What is that?

12 A. That's a boat.

13 Q. Now, that shrimp boat, that shrimp boat was found on
14 Florida Avenue, and bearing in mind that it draws considerable
15 water as she floats, she was able to come up over the levee
16 during this storm surge and land in the community?

17 A. I'm imagine that boat, when it was taking on water, probably
18 had a draw of 4 or 5 feet at least and, but again, there was
19 probably 8 feet of water came over the that dike, so I could see
20 that thing floating over the top. Obviously it floated over the
21 top.

22 Q. Connie, may we see Photo 141 in that same exhibit there.

23 There is a considerable amount of marshland from the
24 40 Arpent Canal north to the MRGO and Lake Borgne, correct?

25 A. Absolutely.

1 Q. And does Exhibit 75, Photo 141, depict the kind of organic
2 material that's brought in from all of that acreage of marshland
3 over the 40 Arpent Canal?

4 A. Yes, I mean, there was a tremendous energy surge in a tidal
5 wave like that, so it brought in thousands of tons. I couldn't
6 imagine how much it brought in over the boat, into the parish.

7 Q. Now, I want to stay with when the water is coming in for a
8 minute. I'll ask Chad to show us beginning, Mr. Morris, if you
9 could pick up the 40 Arpent levee down toward the Number 7 pump,
10 and we can look at what happened to the levee as the storm surge
11 came over it.

12 And if we -- first of all, can you tell the Court what
13 that structure is on the right?

14 A. Yes, sir. The structure C on the right, that's the Number 7
15 pumping station, so that's the one that's just to the northeast
16 of Murphy.

17 THE COURT: Right here?

18 THE WITNESS: Yes, sir.

19 EXAMINATION

20 BY MR. McSHANE:

21 Q. And where do you first see, as you move to the rest there,
22 damage from the storm, that is, damage to the 40 Arpent levee
23 from the storm surge?

24 A. There is a number of what I would call partial breaches of
25 the levees. In other words, it didn't dig it all out to its base

1 A. I'm sorry?

2 Q. When did the oil come out?

3 A. I would guess, similar to Mr. Baugher, early in the day,
4 very early in the day on Friday, that would be the 2nd of
5 September.

6 Q. So if the, if the oil leak began on Friday, September 2nd,
7 and this photo is Friday, September 2nd, what does this breach
8 tell you about the introduced forces on the movement of the oil?

9 A. These breaches, of course, were caused by the overtopping of
10 the levee. The energy in the wave coming over the top of these
11 earthen dikes scoured out the back side or the interior of the
12 dikes to different degrees. Obviously these breaches being of
13 different sizes. And as a consequence, it allowed for flow to
14 come in from the now higher elevation water in the marshland into
15 the St. Bernard Parish.

16 Now, specifically with respect to the 2nd of September,
17 I had the opportunity to chat with the director of the local
18 levee district, Mr. Bob Turner, about how he was operating the
19 pumping stasis over this period of time. And what he told me is
20 on Thursday night, he inspects the levee systems. And he makes
21 the determination that he's not gaining anything by pumping the
22 Number 6.

23 MR. LAMBERT: Your Honor, hearsay.

24 THE COURT: It's hearsay.

25 MR. McSHANE: Your Honor, he's an expert and he's

1 reasonably relied on this information to obtain his opinions.

2 THE COURT: I overrule the objection. You're right.

3 703. You may continue.

4 THE WITNESS: I can go on?

5 So they weren't making any gains with the Number 6,
6 which is down to the west. It was operating. So he decides to
7 shut it off, and the reason is because the -- he was pumping the
8 water out in the marsh, and it was coming back in through the
9 breaches so he wasn't gaining. He was using his fuel but
10 actually we weren't actually gaining any hydraulic change in the
11 level.

12 EXAMINATION

13 BY MR. McSHANE:

14 Q. Let me stop you right there so we don't lose a thought.

15 You're saying that Mr. Turner told you that on -- that the --

16 because water was coming in in this breach that we see near the

17 Number 7 pump, that they saw no reason to continue pumping out?

18 A. Well, at least this one. He wasn't specific as to how many

19 of the breaches were actually, you know, creating a problem at

20 the time. So he shut down the Number 6 pumping station until

21 such time that he made a decision that the water levels had

22 receded to a point where the pumping station could become

23 effective.

24 Q. I'm getting ahead of myself a little bit. Let's go back

25 now. You got 14 feet of water that comes over the levee. What's

1 the first scientific hydrologic process that begins removing
2 water from the area of Chalmette? What happens first?

3 A. Well, in this particular case, with the pumping stations not
4 running --

5 Q. On what day, so the Judge knows what we're talking about?

6 A. Basically from the 1st, that would be Thursday, the 1st, and
7 the 2nd, until he's kicked on pumps, it would be by gravity
8 drainage. And it would be controlled by the hydraulic influence
9 of these breaches. There wasn't anything else pumping.

10 Q. You're getting ahead of me. I want to go back to storm.
11 Once the storm stops on Monday 28th and we're getting into the
12 29th and you have a column of 14 feet of water, what's the first
13 hydrologic process that begins to reduce that column?

14 A. Well, that would be back out in the marsh, so once you've
15 reached the maximum storm surge, of course, eventually the
16 marshland is going to start to recede, and at some point they
17 also opened the floodgates on the MRGO.

18 As I understand, it actually some of that was eroded
19 out, so that was creating a natural drainage itself, but it was
20 augmented when they would open up the canal gates and increase
21 that dewatering of the northern marsh.

22 Q. But, Doctor, from a more localized standpoint, is the first
23 thing is the water goes from 14 feet down to the height of the
24 40 Arpent berm by cascading over the back?

25 MR. LAMBERT: Objection.

1 THE COURT: Wait. He's objecting.

2 MR. LAMBERT: Objection. What's happened is counsel
3 can't get the answer he wants, so now he's giving it to the
4 witness, Your Honor. It's objectionable.

5 THE COURT: I understand. He's leading the witness.
6 I'll sustain the objection. Let's do it another way.

7 EXAMINATION

8 BY MR. McSHANE:

9 Q. From a more localized standpoint, not so much what's
10 happening out in the MRGO, but what's happening at the 40 Arpent
11 Canal levee, how does the water go from 14 feet down to the
12 height of the levee?

13 A. It's goes back over the 40 Arpent levee because that's the
14 low point where the water is going to drain back over the top of
15 the levee into the levee from the marsh.

16 Q. All the way from the western edge of the levee to the
17 eastern edge of the levee?

18 A. Correct. It would be water flowing like if you overfilled
19 your bathtub, it's going to flow over the back of the tub, in
20 fact, in this case, back into the marsh.

21 Q. Once the water in the community gets down to the 40 Arpent
22 canal level, what forces are continuing to remove water out of
23 Chalmette? And let's talk now as we get Tuesday, Wednesday,
24 Thursday before there is any oil issue, what's happening?

25 A. It's gravy flow.

1 MR. LAMBERT: Excuse me, Your Honor. We don't concede
2 that there is no oil issue Tuesday, Wednesday, and Thursday.

3 THE COURT: You can take him under cross.

4 MR. McSHANE: Your Honor, this morning we introduced an
5 exhibit, Defendant's Exhibit 111, which is pumping station logs
6 from Number 6 pump, which you see to the west of Paris Road, and
7 the Number 7 pump, which you see to the northeast of the Murphy
8 refinery.

9 And what we've done, Judge, is we presented a summary
10 pursuant to the Federal Rules of Evidence 1006 of the pumping
11 station records, which are admittedly difficult and time
12 consuming to digest. And in accordance with the rule, we
13 provided that summary to liaison counsel to the plaintiff this
14 morning to give them ample opportunity to determine its accuracy
15 and whether it's consistent with the underlying documents.

16 THE COURT: Any objection to that?

17 MR. LAMBERT: Your Honor, ample opportunity --

18 THE COURT: I know you have been in trial the whole
19 time. We are going to have to do it with 1006. I allowed you to
20 use the 1006. I will allow them. It seems fair.

21 MR. McSHANE: I'm going to call this, Judge, Defense
22 Exhibit 113.

23 MR. LAMBERT: Just as long as the record is clear,
24 Your Honor, that we've had no opportunity to check the numbers,
25 but I understand your ruling.

1 MR. McSHANE: We've provided these exhibits.

2 THE COURT: That's right. It's in.

3 MR. McSHANE: Elmo please.

4 EXAMINATION

5 BY MR. McSHANE:

6 Q. We really did get ahead of ourselves a little. Let's go
7 back. I want to find out, as we're around the storm, what you
8 know is, are you aware that as of the day before the storm, the
9 pumping stopped because folks evacuated for the hurricane from
10 the two pumping stations?

11 A. Back in roughly the 28th, yes.

12 Q. And did you learn that pumping station Number 7, the one in
13 the northeast of the Murphy refinery, did not start pumping again
14 until Friday, the 3rd of September?

15 A. That would be Saturday, the 3rd of September.

16 Q. I'm sorry, Saturday the 3rd of September?

17 A. That correct. About 8 o'clock in the morning.

18 Q. And did you learn that on Friday, from midnight to 6:00 a.m.
19 pumping station Number 6 was working but at 6:00 a.m., on Friday,
20 was cut off?

21 A. Right. As I mentioned, the -- after the conversation with
22 Mr. Turner and reviewing the documents, the operating logs, they
23 shut it down during the, I guess, you call it the graveyard
24 shift, shut the pumps off at 6:00 a.m. on the 3rd of September,
25 which is a Saturday.

1 Q. I think we have a context now, Dr. Kuhlmeier, for what you
2 were saying before. The Number 6 pump, if it's pumping water in
3 the marsh and it's pouring right back in that breach that we saw
4 spilling right back into the community on Friday, that's not
5 helpful in terms of getting water out of the community; is that
6 right?

7 A. No. Basically what they did is they were pumping out from
8 this site, it was coming back in from the west, so they were kind
9 of setting themselves up a circular pattern. They were trying to
10 pump it out, but it was coming back in and then sweeping around
11 and pump it out again basically.

12 Q. Let me ask you about that circular pattern. On Friday, if
13 the oil is coming out as of Friday morning, and you said you
14 learned from your communications with the pumping supervisor that
15 what he told you ruled out, in your judgment, any oil coming out
16 on Thursday, right?

17 A. The water levels were too high at that point.

18 Q. Could you explain that to the, Judge, in case in pinpointing
19 the spill time is important.

20 A. Yes, sir.

21 Well, we know that the maximum elevation that the oil
22 could have come out working off of mean sea level --

23 MR. LAMBERT: Your Honor, this is repetitive. And there
24 was another expert that testified about the hydraulics of the
25 tank. This expert is not an expert in that regard. He's a, he's

1 here to testify about the general nature of water movement in the
2 community.

3 THE COURT: Are you qualified to testify about
4 hydraulics?

5 THE WITNESS: Yes, sir.

6 MR. LAMBERT: Also, Your Honor, it's not in his report
7 with regard to the tank issue.

8 THE COURT: This is really not a critical issue, but
9 he's already in, so I'll overrule the objection.

10 THE WITNESS: The maximum elevation of the oil --
11 hydraulics. I would be happy to show why that tank floated, if
12 you would like.

13 THE COURT: That's all right. We've had that already.

14 THE WITNESS: It was around elevation 4.3. The dikes
15 are at 6.0. The breach was right around elevation, about .8 mean
16 sea level. So until that water elevation inside the dikes
17 dropped to 4.3, it couldn't have happened. We know that.

18 So we know from, at least from my conversations with
19 Mr. Turner and looking at some of the aerial photography that
20 goes back to the 31st, that the dikes were -- the water levels
21 were too high and Mr. Turner couldn't make any headway so he shut
22 the be pumps down.

23 We know at least as of late Thursday when he made these
24 observations, we were well above elevation 4.3 and still pumping
25 coming in. We also know as of about 10:15, the following

1 morning, which is on the 2nd, during the overflight is where we
2 have visual evidence of the oil coming out of the tank farm. So
3 the oil release had to have occurred some time after the evening
4 of Thursday and 10:15 on Friday morning.

5 We also know that to support that also, when you look
6 at the visual evidence, you could see the oil going down
7 Judge Perez highway and how far had it got by that time, around
8 10:15.

9 In my view, it also supports Mr. Baugher's assessment
10 that somewhere around very early in the morning on Friday is
11 probably about the time it hit, hit that elevation that would
12 allow the water to start to come out.

13 THE COURT: And it's going east or west on the highway?

14 THE WITNESS: It's going west, which, I think, at this
15 point, because they set up at least early on this circular flow,
16 pull from the west, push from the south, because if you look at
17 the survey elevations on the road, you know, between the two tank
18 farms, it's darn near flat. It could have basically gone either
19 way, so what's going to pull it one way or the other other than
20 the current? So the current clearly had been setup in a fashion
21 that would allow it was pulling it to the south and then pulling
22 it to the west.

23 EXAMINATION

24 BY MR. McSHANE:

25 Q. Let me see if I can elaborate on that point. Are you saying

1 that because the elevation on Judge Perez is relative flat --

2 MR. LAMBERT: He didn't say Judge Perez.

3 THE WITNESS: No, I didn't.

4 MR. LAMBERT: He said the access road.

5 THE WITNESS: That's right. The access road was flat.

6 EXAMINATION

7 BY MR. McSHANE:

8 Q. You were originally perplexed about why this oil went down
9 Judge Perez, weren't you?

10 MR. LAMBERT: Objection. Leading, Your Honor.

11 EXAMINATION

12 BY MR. McSHANE:

13 Q. Were you perplexed when you first looked at this to learn
14 that the stuff went down Judge Perez?

15 MR. LAMBERT: Same objection.

16 THE WITNESS: I was.

17 EXAMINATION

18 BY MR. McSHANE:

19 Q. Explain why. We're still on the same point.

20 A. Because, like I said, coming out of the dike, the elevations
21 really dropped both directions, right? So why wouldn't it, you
22 know, why did it prefer, I mean, very vehemently go down to the
23 south?

24 I mean, when we see the photos, it's going south. I
25 mean, you could just see it very definitively. It's well defined

1 and it's going west and it's following topography, so once it
2 gets out on to Judge Perez, topography and current drive that
3 oil.

4 Q. But did you become less perplexed when you learned that
5 there was a breach that was actually flowing in instead of out on
6 Friday morning, as we've just shown the judge?

7 MR. LAMBERT: Objection.

8 THE COURT: Objection to leading.

9 EXAMINATION

10 BY MR. McSHANE:

11 Q. How did the breach that you showed us earlier that shows
12 water coming into the community affect your original view of what
13 was prompting the oil to move down Judge Perez?

14 A. Basically what that did is that rationalized, in my view, at
15 this point in time this push-me, pull-you type of effect. It
16 would have higher head forces water from north to south, and with
17 a pump perhaps going at least for a period of time and then shut
18 off, was pulling it to the west. When they shut it off, that
19 pulling power went away, whatever amount was it was. And so then
20 basically the water difference or the velocity that could have
21 been associated with the movement had to slow down because you
22 don't have as much pulling power, and it continue to move along
23 Judge Perez.

24 Q. This is critical now. Something on Saturday morning
25 profoundly changed the induced forces on the movement of this

1 oil, didn't it, on Saturday morning?

2 A. Absolutely.

3 Q. At 8 o'clock and tell the Judge what that was.

4 A. They cranked on Number 7. That pump station runs a thousand
5 CSF? That's about 450,000 gallons a minute, so when they cranked
6 that thing on, it's proximity to the tank farm, it turned around
7 and it started pulling the gradient to the north by northeast.

8 Q. Just visually, if this is Pump 4 at the Dockville (spelled
9 phonetically) canal, and this is Murphy facility, it's just to
10 the northeast of the facility?

11 A. Sir, it's the Number 7 that we're working with.

12 Q. Here and here. Just to the northeast of the facility.

13 A. Yeah.

14 Q. Yesterday you heard Mr. Bruno asking the O'Brien's fellow a
15 number of questions: My, what's this oil doing just to the east
16 of the containment dike and just to the north of the containment
17 dike? Does the fact that the Number 7 pump had been turned on
18 explain that?

19 MR. LAMBERT: Excuse me, Your Honor. Counsel is
20 leading.

21 THE COURT: You are leading. Let's be conscious of
22 that.

23 EXAMINATION

24 BY MR. McSHANE:

25 Q. Would the fact that there is a now an induced force pulling

1 to the northeast as of Saturday morning impact the movement of
2 the oil from its initial movement down Judge Perez, and if so
3 how?

4 THE COURT: That's another leading question. What if
5 anything causes.

6 THE WITNESS: Well, the pumping, when they cranked on
7 the pumping station, of course, that became the prominent pathway
8 that was pulling water in this community in that particular
9 location.

10 So instead of the mild gradient from the breach coming
11 to the south and down the west, they cranked on that large pump
12 station and so that now drags the water to where it typically
13 went under normal conditions up and out to the northeast, and the
14 natural topography drains to the north along the streets into the
15 canals.

16 MR. McSHANE: Judge Fallon, we had a satellite
17 photograph that we gave to the plaintiffs earlier. We asked
18 Mr. Lambert earlier to agree to its admission. We gave it to
19 them in the document production. And as I understand it, we have
20 an agreement.

21 THE COURT: Okay. I'll admit it. What's the number?

22 MR. McSHANE: This is going to be Exhibit 114.

23 MR. LAMBERT: Do you have a date for that?

24 MR. McSHANE: Yes, it's dated on that.

25 MR. LAMBERT: And the date, please?

1 MR. McSHANE: 9/3/05.

2 EXAMINATION

3 BY MR. McSHANE:

4 Q. Do you see the pump working on here, that is, the Number 7
5 pump that you've just described?

6 A. Yes, sir. It's right here on the center north part,
7 northern part of this photograph.

8 Q. And can you tell from the -- can you see the plume from the
9 pump?

10 A. Absolutely. You can obviously, a very clear, large tail
11 water effect here.

12 Q. I'm going to show it to the Judge in a minute because up on
13 the screen it's not clear. Judge, you have it on your TV.

14 THE COURT: Where is the plant?

15 THE WITNESS: The plant -- there is the tank at issue
16 right here, sir.

17 EXAMINATION

18 BY MR. McSHANE:

19 Q. So you can see that this pump is working on the 3rd. And
20 you described its capacity, right?

21 A. Yes, sir. A thousand CFS.

22 Q. What's the relative capacity of that pump versus the
23 Number 6 pump, which is more than two miles to the west of the
24 facility?

25 A. They are the same size.

1 Q. I'm going to show you now Exhibit 115 and represent to the
2 Court that this is a satellite photograph taken on the 8th of
3 September, which is five days later, but let me ask you first
4 whether you see, Dr. Kuhlmeier, that in the September 3rd
5 photograph there is still considerable inundation in the
6 residential community and near the pump?

7 MR. LAMBERT: Objection. Leading.

8 THE COURT: Sustained.

9 EXAMINATION

10 BY MR. McSHANE:

11 Q. Would you describe the inundation in the residential at
12 issue to the west in the photograph of September 3rd?

13 MR. LAMBERT: Objection. Leading.

14 THE COURT: What does it look like to you, sir?

15 THE WITNESS: It's pretty well flooded north of
16 Judge Perez.

17 EXAMINATION

18 BY MR. McSHANE:

19 Q. Now, let me show you Exhibit 115, which is five days later,
20 and can you describe what's happened in relative terms to the
21 floodwaters that you were just looking at on September 3rd?

22 A. They have been able to drain the parish.

23 Q. All right. Look at the pump again, that is, Pump 7, and
24 describe to the Court what you see there on the berm side of the
25 pump.

1 A. On the berm side here is what you're asking?

2 Q. Yes.

3 A. Right there? You have some remaining ponding behind the
4 pump.

5 Q. Do those two photographs juxtaposed indicate any directional
6 influence that this pump has brought to bear on the water column
7 and oil in the vicinity?

8 A. The pump station pulls the water from the community to the
9 north by northeast along the roads and into the canals, to the
10 pump station.

11 Q. I want you -- I'm sorry, Doctor. I want you to look at the
12 EPA map that, because we're using two exhibits at a time,
13 Your Honor, we've just clipped it over here on your board. But
14 for the record we are showing Exhibit 9 -- I'm sorry, Exhibit 58,
15 and what you've described, Dr. Kuhlmeier, is before the Number 7
16 went on a direction down Judge Perez and when Number 7 went on,
17 general movement of the oil back toward the Number 7 pump; is
18 that right?

19 A. Correct.

20 Q. On the EPA map what we see is a red area that depicts the
21 heaviest impact or the most oil on homes and residences. Is the
22 shape of the red down Judge Perez and back up to the northeast
23 consistent with the change in induced forces that you have
24 described between Friday when Pump Number 7 was not on and Friday
25 when Pump Number 7 was on?

1 A. That in conjunction with the various differences in the
2 street levels so the topography by street. The very streets in
3 this community changed. Some were higher than others; some were
4 lower than others. That's why oil goes down some streets, and it
5 wasn't found in other streets.

6 Q. There other induced forces on Friday and Saturday besides
7 just Pump 6 and 7. Have you heard described any other induced
8 forces besides those pumps?

9 A. Yes. The Corps actually engineered a breach further to the
10 west that they finished in at about 10:00 a.m. on Saturday, the
11 3rd as well, in an effort to help speed up the drainage of the
12 parish.

13 Q. When was that cut made?

14 A. They finished it around 10 o'clock in the morning on the
15 10th, Saturday. I'm sorry, on the 3rd -- Saturday, the 3rd.

16 Q. Right. Your Honor, I'm going to save time by asking the
17 question this way: You've reviewed the Friday and Saturday
18 photographs in Mr. Morris' AutoCAD to confirm that on Friday, the
19 man-made engineered cut in the berm was not there, but on
20 Saturday it was?

21 A. That's right. And I also confirmed it with Mr. Turner.

22 Q. Now, can you explain in relative terms how much water is
23 moved through Pump Number 7 compared to an engineered cut like
24 that which was done just to the east of Paris Road on the
25 40 Arpent Canal levee?

1 A. And, of course, the engineered cut is going to be based on
2 the amount of head that you have got to go through it, and there
3 is a passive gravity drainage, so as a consequence, those pumping
4 stations would have a much higher influence of drawing power than
5 with the natural drainage like that.

6 Q. Well, with the main induced forces for removing out of water
7 out of Chalmette, as of the time there was any oil coming out the
8 Murphy facility, are what? I'm just asking you to sum up what
9 you've talked about.

10 A. It's a sum of gravity drainage and the induced head --
11 induced drainage brought on by the pumping stations when they
12 were brought on.

13 Q. Doctor, in terms of efficacy of the ability to drain, like
14 either one of these pumps or this engineered cut to pull water
15 towards it, is there a concept in hydrology, is there a
16 recognition that there are cones of influence for these kinds of
17 drains?

18 A. Sure. Absolutely.

19 Q. If I were to ask you to assume that this red line at the top
20 here is a rough sketch of the 40 Arpent levee, with Number 7, and
21 I'll do Paris Road -- this is not to scale, Your Honor -- the
22 man-made breach and then Number 6 out here somewhere, with the
23 Murphy facility to the north, slight northwest of Number 7 --
24 I'll just put three tanks -- can you help the Judge understand
25 conceptually the cone-of-influence, the sphere-of-influence

1 notion when it comes to induced forces for removing water from a
2 community like Chalmette.

3 A. Okay. Well, the /PAUFRPSpumps are like a pump in your well;
4 they have a pulling power. So as a consequence, this
5 particular -- say we have a pumping station here and we've got a
6 pumping station here and we've got this engineered breach, the
7 influence, using lines as what we call *flow lines* in engineering,
8 it's going to influence out some distance radially away from
9 where the cut is or the pump. But since this is a whole lot
10 larger and more influential than this pump, it's going to have
11 broader flow lines, more intensive pulling power from the pump
12 station.

13 The farther you get away from the pump station, the
14 less influence it's going to have. So as a consequence, the pump
15 station from Number 6 is going to be far less influential on a
16 Murphy tank farm than would be Number 7 that's immediately to the
17 northeast.

18 THE COURT: Did anything that you saw indicate any
19 debris in either the cut or the pumps?

20 THE WITNESS: No, not in there. Where I've seen
21 evidence of the debris is that the 40 Arpent gets clogged up here
22 down Paris Road for reasons I'm not sure. They put it
23 underground and there was a large debris pile there, so that no
24 doubt probably cut off the westerly influence of some extent or
25 plugged it up to some extent from the Number 6, but I haven't

1 seen any evidence of plugging problems from the Number 7.

2 EXAMINATION

3 BY MR. McSHANE:

4 Q. So if I understand what you just said, geographic proximity
5 to, let's say, something like the Murphy release, is one relevant
6 issue in assessing which pump plays a more important part?

7 A. Absolutely.

8 Q. Right. And then the second thing can be construction or
9 engineering impediments which you just touched on. Is there --
10 let me ask you to look at Exhibit 98 again, and can you show the
11 Judge what you mean. The 40 Arpent Canal, when it hits Paris
12 Road, something happens to it, doesn't it?

13 A. At Parish road?

14 Q. Yeah.

15 A. As I just mentioned to him, they put it underground. And so
16 you can see right here. And I had a chance to see photographs
17 that show where -- in fact, there is still a fair amount of
18 debris out there at the western edge of it before it goes
19 subgrade.

20 Q. So in addition to engineering impediments by culverts and
21 geographic proximity, what about obstructions between, let's --
22 these are -- I'm calling them *induced forces*, but is the ability
23 of an induced force such as, let's say, Pump 6 to move something
24 like the Murphy spill toward it?

25 THE COURT: Just a minute.

1 THE COURT: Sustained.

2 EXAMINATION

3 BY MR. McSHANE:

4 Q. Have you changed your view over time, Doctor, about the
5 relative strength of Number 6 versus Number 7?

6 MR. LAMBERT: Same thing, Your Honor.

7 THE COURT: I'll allow that. Go ahead and answer.

8 THE WITNESS: When I made a sight visit here earlier in
9 the week, I noticed that the Number 6 looked to be about twice
10 the size of the Number 7. Well, actually it's a dual station.
11 They have two stations at that same location. They call them the
12 *Number 1* and the *Number 6*. The only pumping station that was
13 operating during this period of time was the Number 6.

14 EXAMINATION

15 BY MR. McSHANE:

16 Q. How do you know that?

17 A. I talked to Bob Turner, and I reviewed the aerial
18 photographs.

19 MR. LAMBERT: Objection. Hearsay with regard to that.
20 You've got two pumps with equal capacity, and if you look at a
21 photograph, how can you tell whether one or the other is
22 contributing to the foam?

23 THE WITNESS: I got logs.

24 THE COURT: Wait just a minute. That's argument. I'll
25 allow it because he's testifying as an expert witness.

EXAMINATION

1
2 BY MR. McSHANE :

3 Q. Your Honor, I'm showing you again Defense Exhibit 113, which
4 is the 106 summary of the pumping station records.

5 Dr. Kuhlmeier, we left off here sort of on Friday, that
6 is, the 2nd when Number 7 wasn't pumping, and you gave some
7 testimony about pumps going back on on Saturday. What does this
8 show you about Number 7 continuing to work right on through the
9 night?

10 We've already shown that picture, Your Honor, of the
11 satellite photo of what it looked like on the 8th.

12 What do the records indicate about the use of that
13 pump?

14 A. The Number 7 kept working until the parish was drained.

15 THE COURT: Anything further?

EXAMINATION

16
17 BY MR. McSHANE :

18 Q. Based upon all of the evidence that you've seen and the
19 testimony that you've heard, what is your expert opinion as a
20 hydrologist and an environmental engineer about which induced
21 force, once this water was hemmed in by the levees, the
22 Mississippi River levee and the 40 Arpent levee, what induced
23 force played the most significance force in moving oil over the
24 water?

25 A. It depends on the period of time.

1 Q. On Saturday.

2 A. On Saturday. Before 8:00 a.m. on Saturday it was gravity
3 forces. After 8:00 a.m. on Saturday, when the Number 7 pump
4 station kicks on, it was that Number 7 pump station.

5 Q. We've -- I'm not going to go over the Baugher stuff. You
6 said at the beginning of your examination, you explained to
7 Judge Fallon why the 4.3 feet number above that, the the
8 hydrostatic --

9 THE COURT: Don't testify, Counsel.

10 MR. McSHANE: I'm sorry.

11 THE COURT: Anything further?

12 MR. McSHANE: Yes, Judge.

13 EXAMINATION

14 BY MR. McSHANE:

15 Q. The 4.3 figure that you gave us earlier, is it physically
16 possible within the sciences of hydrology, physics, or civil
17 engineering for the oil to float over the water to an elevation
18 higher than 4.3?

19 A. No. No, it's not.

20 MR. LAMBERT: Objection, Your Honor. Again he's
21 leading.

22 THE COURT: That's not leading. I'll allow it.

23 EXAMINATION

24 BY MR. McSHANE:

25 Q. Did you review all of the photographic evidence provided in

1 connection with the -- strike that.

2 Did you review the drive-around done by O'Brien's group
3 that showed the staining of the oil all up and down Judge Perez?

4 A. I did. And I also reviewed the photographs that Mr. Baugher
5 had and others that all compare and support the elevation I just
6 mentioned.

7 That's why the 4.3, sir, is so critical. When you look
8 at the calculation, is one thing, but it's backed up by visual
9 evidence from multiple arenas, that is to say, the aerial
10 photographs, the stain line that you see all along Judge Perez,
11 the stain line elevation that you see inside the compoundment,
12 the stain line that you see on the tank. They all match within,
13 you know, a reasonable degree of variation.

14 Q. Did you review the photographs in Mr. Baugher's report that
15 showed stain lines on the inside of the berms along the
16 containment dike?

17 A. Yes, sir.

18 Q. I'm sorry, did you say that, Doctor?

19 A. Yes. Yes, sir, I did.

20 Q. Did you -- let me see if we can't get to the heart of the
21 matter here. Connie, may I have Exhibit 16. Let me -- can you
22 see that on your screen, Judge? It's a little faded on you.

23 Let me ask you, based on your review of the entire body
24 of evidence in this case, listening to the testimony, is it,
25 within the field of hydrology and environmental engineering,

1 physically possible for the Murphy oil to have extended out to
2 the green dotted line boundary that's the outermost boundary
3 depicted on this drawing?

4 MR. LAMBERT: Excuse me, Your Honor. I need to object
5 because that's an all-encompassing sort of question, and I
6 thought that his -- he was offered as hydrologist. Now we've
7 clipped in environmental engineering.

8 THE COURT: Well, let's limit it to hydrology. As
9 hydrologist, can you explain that.

10 THE WITNESS: I can explain it. But that area, there is
11 no physical way that that oil could have got there, and I think,
12 again, as I mentioned, the elevation of 4.3 is critical because
13 the oil isn't going to go anywhere where the elevation is any
14 higher than the mean sea level of 4.3, which is also why it
15 stopped at Delambert because the elevation rises to a point where
16 it can't go any farther west.

17 EXAMINATION

18 BY MR. McSHANE:

19 Q. All right. Did you review the elevations on, I'm not going
20 to pull it up because I know we want to get done. Did you review
21 the elevations on Chad Morris' shot elevations on his AutoCAD?

22 A. Yes.

23 Q. And that confirmed an elevation issue was a reason for the
24 oil to stop at Delambert?

25 A. And it also explains why we have a figure of oil that goes

1 to the south, because those few streets, the slope goes, you
2 know, from back towards the south, and that's where those first
3 few streets, you've got some oil in it.

4 And it also explains the -- to the good degree some of
5 the diagrams that the fellow Mr. O'Brien had and where they found
6 oil and where they didn't, because when you lay that on top of
7 topography of the streets, it's flowing down the streets that are
8 the lowest.

9 To me, you know, that's why I assumed you were
10 collecting all these chemistry samples because the disparate
11 nature of the oil is going to seek it lowest level. So literally
12 on a street-by-street, block-by-block basis, the oil is going to
13 move to follow the hydraulic influences that's moving it.

14 Q. For instance, Dr. Kuhlmeier, near this St. Marks School just
15 to the south and west of the school do you see on the EPA map,
16 Exhibit 58, that there is sort of an anomalous heavy area there?

17 MR. LAMBERT: Objection. Leading. Your Honor, it
18 doesn't help when he goes back and asks another question after
19 he's asked a leading question. Obviously the doctor knows what
20 he wants.

21 THE COURT: You know how to ask questions, Counsel.
22 Let's ask the questions.

23 EXAMINATION

24 BY MR. McSHANE:

25 Q. Right. Is there -- the concept that you've just explained

1 about elevation controlling where the oil goes, did you review
2 elevation data around the Saint Marks School that bears on that?

3 A. I did. And as I mentioned, it turns out that that area was
4 a lower area. And as is this finger that you see in the red, if
5 you look at the topography of that street happens to be lower, so
6 when it came out, some of it, rather than going down Judge Perez,
7 caught the slope and went down to the south along those two or
8 three streets there that, where you see marked in red.

9 Q. Probably got away from asking you about --

10 A. We have a really good aerial photo that just illustrates
11 exactly how the oil went, because it moved in a very defined
12 fashion down Judge Perez, and you can see from the aerials that
13 wherever there would be, like, a low area you can just see, you
14 can see the pools, and it follows the topography accurately.

15 MR. LAMBERT: Now, Your Honor, I have an objection
16 because no question is pending, and I have an advocate on the
17 stand.

18 THE COURT: It's getting late, folks.

19 MR. LAMBERT: Plus it's getting late.

20 MR. McSHANE: I'm going to finish up.

21 EXAMINATION

22 BY MR. McSHANE:

23 Q. Did you review photographic evidence along Judge Perez that
24 provided any support for your view that elevations matter?

25 MR. LAMBERT: Objection. Leading.

1 THE COURT: I'll allow that one.

2 THE WITNESS: The oil followed the topography.

3 EXAMINATION

4 BY MR. McSHANE:

5 Q. Let's see if we can sum up. I'm going to ask you to look at
6 the blue line on Exhibit 16, which was the -- which is the
7 current Marco Kaltofen line, and ask you whether within the field
8 of hydrology there is any scientific basis for concluding that
9 Murphy oil extended out to those boundaries?

10 A. Absolutely none.

11 Q. And then if you can come in one from there, I'll ask you to
12 look at the next line, which looks like a hot pink line, which
13 was an earlier Kaltofen boundary. And I'll ask you: Based on
14 all of the evidence that you reviewed and the testimony you
15 heard, is there any basis in the field of hydrology to conclude
16 that the Murphy oil went out that far, that is, to the pink line?

17 A. No, sir.

18 Q. And I will ask you the same question about the EPA line
19 which is the red line?

20 A. We're starting to get close. The western side of this
21 physically is Delambert.

22 Q. And you understand the Murphy line -- what about the Murphy
23 line, the pink line, I'm sorry. The powder blue shaded area, the
24 same question about that.

25 A. Powder blue?

1 Q. I'm sorry.

2 MR. LAMBERT: I don't even know what that question is,
3 Your Honor.

4 EXAMINATION

5 BY MR. McSHANE:

6 Q. I'll clarify it. Let me ask you what your view is of the
7 Seatech (spelled phonetically) gold line on Exhibit 16 with
8 respect to whether, based on the evidence you reviewed, within
9 the field of hydrology, there is a basis for concluding that
10 Murphy oil went to that boundary?

11 MR. LAMBERT: Excuse me, Your Honor, I'm objecting to
12 the Seatech gold line because I've never seen that configuration
13 before.

14 THE COURT: What is that?

15 MR. McSHANE: That's the Seatech positive crude oil test
16 boundary that has been on this exhibit that the plaintiffs have
17 had since the exhibit conference.

18 THE COURT: This is the first witness I've heard ask a
19 question about Seatech. Where is your line?

20 MR. McSHANE: May I have a minute, Judge.

21 EXAMINATION

22 BY MR. McSHANE:

23 Q. Did you formulate an opinion about where a line is, if one
24 could be done?

25 A. Along Judge Perez as far west topographically any oil could

1 have got is Delambert Street, right. To the south, it's
2 predominantly, I'm sorry, Judge Perez except for particularly
3 along the eastern side there was a couple of streets that dipped
4 to the south, and in fact, the chemistry is showing, in fact, it
5 as well as the aerial photos show the oil there as well for a
6 period of several blocks.

7 THE COURT: What effect, if anything, would wind have on
8 it?

9 THE WITNESS: Well, not much. In fact, very little in
10 the particular case because by the time that the oil came out of
11 that tank, the winds were back down to, you know, normal, two or
12 three meters per second, normal light winds.

13 Plus, recognize that when -- where they take the
14 wind elevation was at 10 meters, 30 feet above the ground, and
15 the winds near the ground, of course, are lower than what they
16 would be at higher elevations, so the influence of wind was
17 minimal in the case.

18 In fact, that's well illustrated when you zoom in on
19 the photographs. It literally is just following the street.
20 When it turned north, even if you look at these areas, those
21 areas are not covered uniformly. They are, you know, some
22 streets are going to have it and some didn't. Like this, you
23 know, like Mr. Zornes didn't have some in the middle of that
24 area.

25 THE COURT: Thank you. Anything else?

EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY MR. McSHANE:

Q. Just about Ben Badon's preferential pathway map that Mr. Badon showed yesterday. You heard Mr. Kaltofen talk about preferential pathways being important in his thought process about where the oil went yesterday?

A. Yes, sir I did.

Q. Did you -- were you in the courtroom yesterday as an expert taking in the testimony when Ben Badon said that he tested only public areas?

A. Yes, I was here.

Q. Why is that an important piece of the puzzle in figuring out where the oil went? In other words, if we only want to know what properties are affected, what's the significance of Mr. Badon seeing certain preferential pathways that he testified about?

A. The streets are lower than the yards. The streets are the natural drainage. You're going to put your house above the street so your rainwater runs off your yard into the street. So similarly, the oil is going to prefer to move down. I would also mention there is less resistance to flow down open channels than it is across areas where it is bumping into impediments.

MR. McSHANE: Thank you, Dr. Kuhlmeier.

THE COURT: Any cross?

MR. LAMBERT: Thank you.

CROSS-EXAMINATION

1 BY MR. LAMBERT:

2 Q. Dr. Kuhlmeier, do you recall my asking you if you agreed
3 that this tank ruptured on the 29th, which was the day of
4 Katrina?

5 A. No.

6 Q. You don't remember?

7 A. Unh-unh (negative response).

8 Q. Do you know when the tank ruptured?

9 A. When the tank ruptured?

10 Q. Ruptured, not leaked, ruptured.

11 A. Oh. It would have been sometime during the storm surge, the
12 rising arm of the hurricane forces.

13 Q. So that happened on the 29th, right?

14 A. I would imagine it happened sometime on the 29th, yes, sir.

15 Q. So you would agree with me that when you described this
16 water coming across the 40 Arpent Canal levee and washing across
17 St. Bernard, banging up into the levee along the Mississippi
18 River, and then washing back in the other direction, that that
19 event is likely what caused tank 250-2 to float and rupture?

20 A. What caused tank 250 to rupture is that the hydrostatic
21 pressure on the outside of the tank was higher than the inside.
22 The hydrostatic pressure at the bottom of the tank was probably
23 on the order of about 7.3 psi and the inside was on the order of
24 about 3.3 psi, so the pressure on the outside was more than twice
25 the inside, it floated and displaced the tank.

1 Q. And that's because it was only filled with 40,000 gallons,
2 40,000 barrels of crude?

3 A. That's right.

4 Q. And the tanks next to it didn't float, did they?

5 A. No. It didn't appear to me that they floated.

6 Q. And do you know whether or not the other two tanks that
7 floated in the field were also loaded with less than 30 percent
8 of their capacity?

9 A. No, sir, I don't.

10 Q. You do know that, or maybe you don't, that the storm
11 preparation requires a 30 percent loading?

12 A. That's something I wouldn't have any knowledge of.

13 Q. Okay. Now, just from a timing standpoint you would agree
14 with me that the floating of the tank occurred during this storm
15 surge event, rising water, when the hydrostatic pressures were
16 different as you described them, like on the 29th?

17 A. Yes, sir.

18 Q. Now, let me ask you to take a look at an aerial photograph
19 which was taken on the 30th, and I think it's one of a series of
20 three that were taken on that day, which is the day after
21 Hurricane Katrina.

22 UNIDENTIFIED SPEAKER: If you could wait just a minute.
23 The video went down when we plugged it in.

24 MR. LAMBERT: I'll go to something else. That's why I
25 use the posters, Your Honor.

1 EXAMINATION

2 BY MR. LAMBERT:

3 Q. Let me ask you to assume that west of all of this is the
4 Industrial canal. Are you familiar with the Industrial canal?

5 A. I was made familiar with it earlier today.

6 Q. We're going to have conflicting issues here. Can I get the
7 ELMO while waiting?

8 THE COURT: You've got it.

9 EXAMINATION

10 BY MR. LAMBERT:

11 Q. For reference, this is Paris Road, correct? Correct?

12 A. I'll take your word for it.

13 Q. Well, don't do that because I'm not going to take your word
14 for it, so.

15 All right. So this is Paris Road.

16 A. All right.

17 Q. Do you agree with that?

18 A. Well, I mean, yeah, I think you're right.

19 Q. And this is the 40 Arpent Canal, right?

20 A. Yes.

21 Q. Now, you've testified about the MRGO, and this is the
22 Industrial Canal. Are you familiar with that?

23 A. I said no.

24 Q. No. Let me ask you to assume for a minute that there was a
25 rupture in the Industrial Canal which created a hydraulic head in

1 a westerly direction for this whole area. Much larger than --

2 THE COURT: An easterly direction.

3 MR. LAMBERT: Westerly. West. A westerly. Did I say
4 east? I'm sorry.

5 EXAMINATION

6 BY MR. LAMBERT:

7 Q. In a westerly direction, much larger than either of these
8 pumps that you discussed or the breach in the levee. Just make
9 that assumption. Would that create a westerly movement of water
10 in this area?

11 MR. McSHANE: Objection, Your Honor. It's an improper
12 hypothetical because it lacks foundation. The witness -- the
13 plaintiffs are done presenting evidence. They don't have any
14 evidence of that, so it's utterly without foundation.

15 THE COURT: I will overrule the objection. I'll allow
16 it.

17 THE WITNESS: To the extent that what you're describing,
18 Mr. Lambert, would have created a gradient that would have been
19 preferred or additionally pulled to the west, and that would be
20 true.

21 Q. Now, let me ask you to take a look, if you would, please,
22 for a minute at the beginning stages of this document that was
23 provided to us today. The 28th is the day before, the day before
24 the hurricane, or the day of the hurricane, correct?

25 A. I think it was the day before.

1 Q. Day before. No pumping on the 1st, on the 2nd, correct?

2 A. That's right.

3 Q. And this is for Pumping Station 7, which is the one that is
4 closest to the plant?

5 A. That's right.

6 Q. Okay. And during that period of time, which is unknown on
7 the 28th, obviously unknown on the 29th, because it's not on
8 here, then we've got the 30th, which is not on here, and then
9 we've got the 31st which not on here, and then we finally have
10 the 1st, and we know that on that day Pumping Station Number 6 is
11 operating from 2:00 in the afternoon to 10:00 at night and then
12 we know it's operating on the 2nd from midnight to 6:00 in the
13 morning, for 6 hours, and then they are both operational on the
14 3rd approximately the same number of hours, give or take an hour.

15 Now, is it fair to say -- well, first of all, do you
16 have any information about Pumping Station Number 6 on the day of
17 the hurricane or the two days following the hurricane?

18 A. Well, I believe we have the operating records for those
19 dates.

20 Q. Did you review them?

21 A. Yes.

22 Q. And was Pump Number 6, Station Number 6 operating?

23 A. It was operating some of that time between the 29th and the
24 first, yes.

25 Q. And what about Number 7?

1 A. No.

2 Q. Not operating?

3 A. And I verified that with Mr. Turner as well.

4 Q. So for four days after the storm, the only pump that was
5 operating, in addition to my hypothetical break in the Industrial
6 Canal, creating a westerly gradient for the water was the
7 Number 6 pump which is located west of Paris Road?

8 A. I'm sorry, what dates now?

9 Q. During the time frame the two days that are missing from
10 this chart, as well as the two days that are on it before the
11 3rd?

12 A. Are you saying that's the only thing pulling water?

13 Q. No. I asked you: Wasn't that Pump Number 6, which is the
14 one west of Paris Road, operating, and Number 7, which is the one
15 just east of the plant, was not operating? That's the question.

16 A. Pump Number 6 was on some period of time, because I think
17 you've heard me testify, Mr. Turner told me, he said that Pump 6
18 wasn't helping. It was just recycling water, so they shut it
19 down.

20 Q. Now, they turned it on again for two days before the Pump
21 Number 7 was turned on, correct?

22 A. It ran eight hours on the first and six hours on the 2nd.

23 Q. Right. When was the breach which was -- and let's take a
24 look at the --

25 MR. LAMBERT: Your Honor, we're back to the hard copy.

EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY MR. LAMBERT:

Q. So six is operational. I understand your information is it wasn't doing any good, but it was operational for four days before Number 7, correct?

A. Yeah, it was operating before Number 7 for some period of time, yes.

Q. And the tank that's ruptured is right in here, correct?

A. I believe you're right. Correct.

Q. At what point did the Corps of Engineers create this BL Number 4 which is this break in the level?

A. They finished that one around 10:00 a.m. on Saturday, the 3rd of September.

Q. And so at that point in time, on the 3rd of September, you would have this pump operate -- let's put it this way: Pumping Station Number 6 operating about the same length of time as Pumping Station Number 7 and you say at equal capacities. And in addition, here west of the plant, you've got a break in the levee created by the Corps of Engineers also creating a gradient in a westerly direction from the ruptured tank, correct?

A. You also had additional natural breaches that we discussed that were closer to Number 7 as well.

Q. Thank you for that, but I didn't ask you that.

A. But you didn't include all the things that were causing water to flow.

1 Q. I understand but at that point in time, these presumably
2 were causing any water to flow because the water had reduced to a
3 level, according to your testimony earlier, to the point where
4 now the pumps were functioning?

5 A. At the point in time when they turned on the pumps, the
6 major breach was west of, about 600 feet west to Number 7
7 appeared to still be flowing.

8 Q. Okay. But Number 6 and BL4 were created in order to create
9 a hydraulic gradient in that direction, clearly the Corps of
10 Engineers wouldn't have busted a hole in that levee unless the
11 water was lower on the outside of the levee than it was in the
12 community, don't you agree?

13 A. Yeah, that's the reason they broke it is to try to help
14 hasten the drainage from the parish.

15 Q. So at that point in time, assuming the Corps of Engineers
16 broke the levee so that the water would flow out of the community
17 instead of in, would you agree with me that there were two
18 hydraulic gradients that were west of the plant pulling whatever
19 contaminants had gotten out along Judge Perez Drive into the
20 northerly direction?

21 A. In addition to the Number 7, yes.

22 Q. Now, north on this map is actually like this, because the
23 north arrow is skewed, correct?

24 A. That's right.

25 Q. 107-T, Exhibit 107-T shows a pattern based on Mr. Kaltofen's

1 testing, which includes the area where the pumping station is,
2 Number 6 would be, I guess it's marked in here, in this area.

3 Correct?

4 A. Okay.

5 Q. And the break in the levee would have been in this area,
6 correct?

7 A. Correct.

8 Q. And you had the oil coming out of the access road between
9 the two tank farms, 250 and 450, running down this road all the
10 way to Delambert Street, which is right here, correct?

11 A. That's correct.

12 Q. All right. So at that -- let's assume, and that, you know,
13 occurred at what time? When was it down here?

14 A. Between the aerial photographs taken at around 10:15 on the
15 2nd, and are around is 11:30 on the 3rd.

16 Q. Let's say there is a molecule, so you and I don't get into
17 an argument about how much there is, okay, there is a molecule of
18 hydrocarbon right here at the corner of Delambert and
19 Judge Perez. If it was to move towards an intersection between
20 the break in the levee and the operational pump, and the
21 gradient, which you have described as moving to the north, then
22 it would go from here in this direction, wouldn't it?

23 A. No. Not necessarily.

24 Q. Okay. Let's look at an attachment to your deposition where
25 you drew an arrow showing what you believe to be the topography

1 moving in that direction, as well the hydraulics -- let's not do
2 that.

3 Let me just ask you this: The hydraulics are moving it
4 to the west as well as you're saying there is an influence to the
5 east, correct, over here?

6 A. Well, you need to tell me exactly what time you're speaking
7 of.

8 Q. All right. Let's start off before the 3rd. Before the 3rd
9 is there westerly movement based on this pump operational and
10 this one not?

11 A. And the water coming back in from the breach to the north
12 northeast.

13 Q. All right. So the flow is in this direction?

14 A. The oil went straight down Judge Perez highway.

15 Q. It got over here in this neighborhood, didn't it?

16 A. Not at that time, it wasn't.

17 Q. It was just running down the road?

18 A. Running down the road, following the topography, and the
19 aerial photographs clearly show when you zoom in on the
20 topography, overlay the topography on the aerial photo, you can
21 see which streets were carrying the oil and which ones weren't.

22 Q. You got more information on the operation of these pumps
23 than we do, so do you know if this Pump Number 6 was running on
24 the 4th and the 5th and the 6th?

25 A. I believe there were. They were.

1 Q. Can you get Number 10?

2 MR. LAMBERT: Your Honor, can you see this photograph?

3 THE COURT: Yes.

4 EXAMINATION

5 BY MR. MILLER:

6 Q. Now, this is the tank that's ruptured, correct?

7 A. Yes, sir.

8 Q. And I want to know if on your, you can't see it on this
9 screen because the room is too bright, but in your -- on your
10 monitor, can you see the signs of oil on the surface of the water
11 all around here and in this community?

12 MR. McSHANE: Judge, could we have an identification of
13 the photograph. I don't know whether it's an exhibit or not.

14 THE COURT: Let's identify the photograph.

15 MR. LAMBERT. All right. It's TU -- what is it? I'll
16 tell you exactly where it is, Your Honor, I just saw it. Here is
17 a hard copy. It's Defendants Exhibit -- it's got a TU number.
18 It comes off the disc. If it's same, it's on the same disc as
19 the one I just showed Your Honor. It's the only five that are
20 taken on the 30th of August.

21 MR. McSHANE: Judge, I've been giving latitude on
22 photographs by Mr. Lambert and I'm cool with it. I don't know
23 the date so I object to it because I don't know the date of the
24 photograph.

25 MR. LAMBERT: The date is 8/30 and I can give you the

1 disc that it came from, and I'll give you the number as soon as
2 we find it.

3 MR. McSHANE: Mr. Lambert, AJ said that was the correct
4 date.

5 MR. LAMBERT: It is. I'll give you the number of it.

6 THE COURT: Come on, let's go.

7 EXAMINATION

8 BY MR. LAMBERT:

9 Q. Do you see the sheen on the water?

10 A. Yes, sir.

11 Q. And do you see that the tank top appears to be in the --

12 A. Are you talking about the 250-2 tank?

13 Q. -- position? Yes.

14 A. Yeah, it's seemed to be about the, you know, same elevation
15 as the water height.

16 Q. Do you see that the oil, I'm sorry, that the containment
17 dikes are completely overrun with water?

18 A. They are.

19 Q. And I believe your description of what occurred here was
20 that the water came rushing across, encountered this levee near
21 the river, and then came back in this direction; is that right?

22 A. That's correct.

23 Q. Okay. And in that motion, this tank floated?

24 A. Yes, sir.

25 Q. Now, I know it weighs a lot, but, of course, water has a lot

1 of force. Do you agree that it was lifted off at some point and
2 that it moved around and likely oscillated several times?

3 A. Oh, I wouldn't.

4 Q. No one knows?

5 A. I haven't run -- I haven't made a calculation as to
6 determine whether it would have, quote, "oscillated." It floated
7 and probably it moved and then sat right back -- and then sat
8 down.

9 Q. Do you know that the tank top was damaged?

10 A. No, sir.

11 Q. You don't?

12 A. No, sir.

13 Q. And do you know the outside of the tank was damaged?

14 A. Yes, sir I do.

15 Q. Go to the next photograph, please. This one is another one
16 in the same series, and it shows, likewise, oil moving. This is
17 a 450-1. Do you recognize that?

18 MR. McSHANE: Judge, for the record we have to have some
19 way of identifying the photograph.

20 THE COURT: Let's identify it. What's the number of the
21 photograph or map or chart?

22 MR. LAMBERT: That particular one, Your Honor, is 64.
23 The top one is 61. The one that we saw just before, Your Honor,
24 is 61, and then 64 is the one bottom right.

25 EXAMINATION

1 BY MR. LAMBERT:

2 Q. And likewise, do you see oil on the surface of the water in
3 those photographs?

4 A. Yes.

5 Q. Now, is it fair to say that the dikes or the containment
6 dikes around the 250 tank would not have prevented oil from 250
7 from going over into the area inside of the 450 containment dikes
8 since the water overtopped both sets of dikes at that point in
9 time?

10 MR. McSHANE: Objection. Vague because the question
11 didn't make clear that Mr. Lambert was referring to an
12 August 30th photograph. He needs a temporal component.

13 EXAMINATION

14 BY MR. LAMBERT:

15 Q. Regarding this August 30th photograph where the water is
16 overtopping the containment dikes of 250 as well as 450 in the
17 north tank farm at Murphy, do you agree with me that the dikes
18 would not prevent the movement of crude oil from that ruptured
19 tank over into the area where it was found next to the 450 tank?

20 A. Under the conditions of that photograph, you were above it,
21 yeah, that's right. I agree.

22 Q. Okay. And likewise, it would not prevent the contents of
23 450 from going into the neighborhood as they appear to be doing
24 in that photograph?

25 MR. McSHANE: Same objection. Lack of any kind of

1 temporal context. He's not referring to the photograph in the
2 question.

3 MR. LAMBERT: This isn't temporal -- excuse me,
4 Your Honor.

5 THE COURT: I thought it was the same photograph.

6 MR. LAMBERT: It is. Same one.

7 THE COURT: So the same time frame?

8 MR. LAMBERT: Same time frame. Yes, Your Honor. This
9 is August 30th, the day after this storm.

10 EXAMINATION

11 BY MR. LAMBERT:

12 Q. Do you have any photographs of what occurred along
13 Judge Perez Drive before September the 2nd?

14 A. We have aerial photographs that -- on these dates. I don't
15 know what the extent of those photographs are, if they included
16 the Judge Perez area or not. I haven't seen them. I have not
17 reviewed them.

18 Q. Let me just ask you: With regard to your opinion, have you
19 reviewed any evidence of what occurred with regard to oil, crude
20 oil coming from this tank between August 30th, when this
21 photograph was taken, which depicts the containment dikes being
22 overrun or overtopped, and the September 2nd evidence that you
23 told us about which had to do with your review of photographs of
24 the oil running down the Judge Perez Drive?

25 MR. McSHANE: Objection. Lack of foundation. The

1 plaintiffs have called all their witnesses and they have not put
2 on any evidence of that so they have no foundation.

3 MR. LAMBERT: There is no evidence to be put on,
4 Your Honor. There are no photographs. There are none.

5 THE COURT: The question is whether or not he has any
6 photographs. I'll allow it.

7 EXAMINATION

8 BY MR. LAMBERT:

9 Q. Do you?

10 A. Do I have photographs? I have not --

11 Q. Have you reviewed any photographs?

12 A. I have not reviewed any photographs down Judge Perez Drive
13 on August 30th.

14 Q. Okay. That really wasn't my question.

15 A. I'm sorry.

16 Q. Let me try it again. This is August 30th. There is --
17 after August 30th comes August 31st, and then comes September the
18 1st, and then comes September 2nd, so we're talking about a
19 period of several days.

20 And my question to you is: Do you know what was
21 occurring before the first eyewitness got finally to the north
22 tank farm and saw the oil running down the road?

23 A. I can tell you, based on review of these two photographs,
24 that oil was not coming out of 250-2 at that time because the
25 water level outside the tank on both of those, on this photo from

1 the 30th, the one in the lower right show the 250-2, was too
2 high.

3 Q. All right. I understand your calculations.

4 A. They are not a calculation. That's a direct observation.

5 Q. Well, that's your observation that the tank top level in
6 this tank is similar to the one over here?

7 A. In my view, the elevation of the top of tank 250-2 is
8 equivalent to the water level outside the tank.

9 Q. All right. I didn't ask you that. I asked you relevant to
10 the tank next to it, what's your opinion with regard to the tank
11 top level?

12 A. It's lower.

13 Q. All right. How much lower?

14 A. That would be a guess.

15 Q. Now, based on your, and Mr. Baugher's theory, sometime in
16 here there would have been enough water coming into the tank so
17 that the tank could reach equilibrium from a pressure standpoint,
18 internal, inside pressure and outside, right?

19 A. Yes, that's correct.

20 Q. And so if there were 4 feet, 6 inches of oil in the tank in
21 the first place --

22 A. I don't think there was 4 feet, 6 inches of oil in the tank
23 in the first place, sir.

24 Q. Oh, I thought that's what the testimony was. How much was
25 in it?

1 A. I believe there was 6 feet, three and a half inches, three
2 and an eighth inches in the tank.

3 Q. Okay. All right. Let's take that. 6 feet, three and an
4 eighth inch, okay.

5 A. Okay.

6 Q. That would be 40,000 barrels?

7 A. I believe the number is, like, 40,500, on that order.

8 Q. And then how much water would have to come into the tank for
9 the tank to reach equilibrium if there was 40,000 barrels in it?

10 A. The amount of water that would come in would be equivalent
11 to equalize the head on the outside of the tank.

12 Q. And there is 17 feet of water out there, plus or minus,
13 right?

14 A. Well, there is 17 feet from the bottom of the annular ring.

15 Q. And if the tank top was at an elevation which allowed for
16 40,000 barrels to be in it at 6 feet, how much water would have
17 to enter the tank to reach that equilibrium?

18 A. The amount of water necessary to equilibrate the outside and
19 the inside.

20 Q. That's what I'm asking you, how many barrels?

21 A. So the elevation outside the tank, it would have been, for
22 me, the bottom of the tank is minus 2.5 mean sea level, so plus
23 14 and a half feet, so it would be a mean sea level of 14 and a
24 half feet. Outside and the inside, plus or minus, you know. You
25 got a little bit of difference because of the density of the oil

1 versus the water.

2 Q. But I'm asking you is how many barrels of water have to go
3 into this tank for it to reach equilibrium?

4 A. I don't know. I would have to look at the strapping table
5 for the tank.

6 Q. Why don't we look at it.

7 MR. LAMBERT: Do you have the 250-2 strapping table?

8 MR. McSHANE: Your Honor, I object to the line of
9 questioning because the relevant issue is the water column, the
10 height of the water from the ground to the top, not the total
11 number of barrels or gallons.

12 THE COURT: I'm not sure it is or it isn't.

13 EXAMINATION

14 BY MR. LAMBERT:

15 Q. How many feet did you say the roof would have to rise above
16 its original height or do you know what its original height was?

17 A. 6 feet, three and an eighth inches. That was gauged before
18 the storm of oil in the tank. And the total height of surge, the
19 understanding was on the order of 17 feet, so that would be a --
20 in the bottom of the drain was an elevation -- the mean elevation
21 of minus 2.5 so that would put the mean elevation plus or -- plus
22 the difference in the density of the oil because the oil would
23 have to rise a little higher because it's lighter than water,
24 17 feet from the bottom of the tank or a mean sea level of
25 approximately 14 and a half feet.

1 Q. So what would you have from an elevation inside of the tank
2 for fluid, which would be a combination of oil and water?

3 A. Total fluid in the tank would be slightly more than 17 feet
4 high.

5 Q. So that be somewhere around 115,500 barrels?

6 A. Gives me a headache just to try to read that.

7 THE COURT: I hope you're about finished, counsel.

8 MR. LAMBERT: I am. I really am.

9 THE WITNESS: Yeah, I would it's something a little
10 north of 116,000 barrels.

11 EXAMINATION

12 BY MR. LAMBERT:

13 Q. Now, that oil and water would be in the tank, and in your
14 report you mentioned emulsification. Do you remember that?

15 A. I do, yes, sir.

16 Q. And emulsification you described, yeah. That's 4,872,000,
17 if you do the math -- I hope you can -- gallons of oil and water
18 in the tank. 42 times 115,000 barrels.

19 A. I'll take your word for it.

20 Q. So we're talking about 5 million gallons of oil and water.
21 Now, the question is: With regard to emulsification, you
22 mentioned that concept which is with turbulence there can be a
23 mixing of oil and water; do you recall that?

24 A. Yes, sir.

25 Q. And an emulsification of oil and water will increase the

1 volume of that combination substance by the combination of the
2 two volumes, correct?

3 A. Yes, sir.

4 Q. Okay. Now, I'm not suggesting to you that all 4,872,000
5 gallons of fluid inside of this tank is completely emulsified,
6 because that wouldn't be realistic, would it?

7 A. Not even close.

8 Q. However, you mentioned the concept that emulsification would
9 take place?

10 A. Potentially could.

11 Q. Right. And the oil that's recovered, when it's reported as
12 recovered, is reported as recovered in volume, and I understand
13 the concept of separation, but do you know that all of this stuff
14 was pumped into tank 450-1?

15 A. No, sir.

16 Q. You don't. Let me ask you to assume that the material
17 recovered from the area around the dike around the 250 series
18 tank were pumped into the 450 series tanks and ended up in there
19 in an emulsified state likely because of the turbulence caused by
20 the pumps, at least to an extent.

21 A. Those are huge differences, sir, as we discussed. While
22 shearing an oil through a turbine or any type of a pump is
23 substantially different than the hydraulics associated with the
24 floating of the tank, sir.

25 Q. I understand that. But you wouldn't be likely to be able to

1 separate the oil from water in an emulsified state in any short
2 period of time, would you?

3 A. Just by gravity you mean?

4 Q. Right.

5 A. Without putting in some de-emulsifiers and mixing it?

6 Q. Right.

7 A. It would be a slow process typically.

8 Q. And when vacuum pumps pick up a combination of oil and
9 water, they -- it goes through the same sort of pumping
10 turbulence, doesn't it?

11 A. Through the vacuum pumps?

12 Q. Yes.

13 A. Yes, there is turbulence associated with the vacuum pumps.

14 Q. So what you get in the vacuum pump cart, if you were
15 measuring it, would be this combination of oil and water?

16 MR. McSHANE: Objection. Relevance.

17 THE COURT: Yes, what is the relevance of that?

18 MR. LAMBERT: If you recover 18,000 barrels, Your Honor,
19 of emulsified material, that's not 18,000 barrels of oil.

20 THE COURT: Do you agree with that?

21 THE WITNESS: Yes, sir.

22 THE COURT: Okay. Let's move on.

23 MR. LAMBERT: All right. Thank you, Your Honor.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. Now, you described a partial coverage of the neighborhood;
2 in other words, you don't believe that there was one contiguous
3 oil slick all over this whole neighbor, do you?

4 A. Absolutely not. This was hydraulics.

5 Q. In your report you mentioned that you felt like the
6 neighborhood cars and the grass and the houses and poles and
7 every other thing acted like a filter; do you recall that?

8 A. They would act as filters do. As the oil would reach it,
9 they can smear onto it and absorb or physically attach for some
10 period of time.

11 Q. It would catch on these various things in the neighborhood;
12 is that right?

13 A. That's right.

14 Q. And as the water disappears, what's left is the material
15 that used to be on top of the water is left wherever it was when
16 the water is gone, right?

17 A. As far as if the water would -- the carrier is the water.
18 When the carrier is gone, the oil is -- it settles on whatever
19 surface.

20 Q. You've been sitting in this courtroom as long as I have
21 during this hearing, haven't you?

22 A. Well, I don't think as long as you have, but I've been in
23 the courtroom.

24 Q. I'm sure you saw the photographs of the drive-through video
25 that you've described as having used as part of what you

1 considered?

2 A. Oh, absolutely. You could tell that, you know, it shows
3 clearly the path of the oil.

4 Q. I didn't ask you about that. I just asked you if you saw
5 the video. Just try to stick with me with short answers so maybe
6 we could get out of here.

7 MR. McSHANE: Objection, Your Honor.

8 THE COURT: Let's proceed.

9 EXAMINATION

10 BY MR. LAMBERT:

11 Q. Would you agree with me that when you looked at that video
12 you saw a situation where, for example, on the water around one
13 of those storage bins, it was like a green storage bin, you could
14 see a pooled area of oil, and you could see a relatively clear
15 area of water behind it?

16 A. Exactly why that -- you know, you can't look at the transfer
17 of this oil in this holistic fashion.

18 Q. Just say yes.

19 MR. McSHANE: Excuse me, Judge. Can the witness finish
20 his answer.

21 THE COURT: Let him finish.

22 THE WITNESS: Because that's exactly right, it moves in
23 very preferential ways. It seeks its own elevation. So
24 one block to the next block, depending on, you know, where the
25 elevations in the various blocks, you're going to see

1 differential oil accumulation, if any, at all.

2 EXAMINATION

3 BY MR. LAMBERT:

4 Q. Okay. So in other words, yes?

5 MR. McSHANE: Objection, Your Honor.

6 EXAMINATION

7 BY MR. LAMBERT:

8 Q. A difference in coverage. You could have a small coverage
9 area of oil, and then an area around it that, unless you disturb
10 the water or walk through it or run through it or send a dog
11 through it or whatever, it's going to sort of stay in the pocket?

12 A. You know, it's going to tend to pool in low areas. Is that
13 what you're asking?

14 Q. Yes, I guess so.

15 A. Okay.

16 Q. So when we talk about coverage, if you took -- if you made a
17 calculation of a certain thickness of oil all over an acre, that
18 wouldn't necessarily be an accurate way to describe the
19 dispersion of oil in that situation, because as we saw in the
20 video, and as you've testified, it's not a full coverage. It's a
21 percentage of coverage, like maybe 10 percent or 20 percent or
22 30 percent or 50 percent but less than a hundred percent for
23 certain?

24 A. There is no doubt, in my view, that the distribution of oil
25 was very disparate, followed preferential channels, which, of

1 course, the streets provided those preferential channels.

2 Q. But when you drove through it and it was on your tires, it
3 moves around, doesn't it?

4 A. You have to be a little more specific. What do you mean it
5 moves around?

6 Q. Never mind. If you, if you had enough oil from a volume
7 standpoint to contaminate an area evenly with a certain amount,
8 if you considered the fact that it's unlikely that there will be
9 an uneven distribution in a community, then you can multiply the
10 area of that contamination by the percentage coverage?

11 MR. McSHANE: Objection. Vague. Lack of foundation.

12 THE COURT: I sustain it. Let's get to the end,
13 Counsel.

14 MR. LAMBERT: Your Honor, that's an important point.

15 THE COURT: I sustained the objection. Anything
16 further?

17 MR. LAMBERT: Just a little bit.

18 THE COURT: I would like you to finish by 5:30, one way
19 or the other.

20 MR. LAMBERT: All right.

21 EXAMINATION

22 BY MR. LAMBERT:

23 Q. Do you see that photograph that's on the board right now.
24 Do you see the one to the right that shows the huge indentation
25 in the side of the tank?

1 MR. McSHANE: May we have an exhibit number, Your Honor.

2 THE COURT: What's the number of that one?

3 MR. LAMBERT: Let me see. Your Honor, while he's
4 getting it?

5 THE COURT: Yes, let's continue.

6 EXAMINATION

7 BY MR. LAMBERT:

8 Q. Did you see the schematic, the cartoon drawing of the levee
9 heights with the tank inside that bulged out? Does it look to
10 you like this tank is bulging out or in?

11 MR. McSHANE: Objection, Your Honor. The question is
12 vague. I don't know what he's referring to.

13 THE COURT: Can you tell?

14 THE WITNESS: At that point it's dented in. It's a dent
15 in.

16 EXAMINATION

17 BY MR. LAMBERT:

18 Q. Dented in. Now, where is the drawing?

19 MR. LAMBERT: Your Honor, we may be quiet until 5:30 but
20 we'll be through at 5:30, I know.

21 EXAMINATION

22 BY MR. LAMBERT:

23 Q. Let me ask you to make a couple of assumptions until I get
24 the drawing. Let me ask you --

25 A. Sure.

1 Q. Let me ask you to assume that the tank roof level is in the
2 area of this caved-in tank. Is it fair to say that that sort of
3 distortion could affect the ability of the tank top to move up
4 and down?

5 MR. McSHANE: Objection. Lack of foundation.

6 THE COURT: I'll allow it. I'll allow it. Overruled.

7 THE WITNESS: That would be a question for a structural
8 engineer.

9 EXAMINATION

10 BY MR. LAMBERT:

11 Q. So you don't know?

12 A. Not without calculations.

13 Q. Let me ask you to take a look at this exhibit. What is
14 Exhibit P-35. Exhibit 35, Your Honor?

15 THE COURT: I see it, okay.

16 EXAMINATION

17 BY MR. LAMBERT:

18 Q. And I would like you to pay particular attention to the
19 height of the roof off of the floor when it says it's positioned
20 here in a low level.

21 MR. McSHANE: Objection, Your Honor. These questions
22 about the structural condition of the tank are beyond the
23 witness' area of expertise.

24 MR. LAMBERT: It has to do, Your Honor, with the
25 amount --

1 THE COURT: Let's ask him the question first.

2 EXAMINATION

3 BY MR. LAMBERT:

4 Q. Can you tell me if the diagram shows that the tank roof can
5 be at a -- it says low position and high position of the -- of
6 the feet on the bottom of the tank is between 4 feet, 6 inches
7 and 6 feet?

8 MR. McSHANE: Objection, Your Honor. He's asking him to
9 read engineering schematics.

10 THE COURT: If he can do it, he can do it. If he can't,
11 just say you can't.

12 MR. LAMBERT: Can you do it?

13 THE WITNESS: Your Honor, I'm not familiar with this
14 drawing, and I would hesitate to give you an answer and be wrong.

15 THE COURT: I sustain the objection.

16 MR. McSHANE: Thank you.

17 EXAMINATION

18 BY MR. LAMBERT:

19 Q. Well, would you agree with me that if the tank is capable of
20 holding 6 feet of oil with its roof in its lowest position, that
21 you couldn't tell if it had 40,000 gallons in it or, I'm sorry,
22 40,000 barrels or less if it's all the way down?

23 MR. McSHANE: Objection. Vague, Your Honor.

24 THE COURT: Do you understand that?

25 THE WITNESS: I understand what he's saying. My

1 understanding was that Murphy Oil personnel gauged the tank
2 before they left for the hurricane, came up with a number of
3 6 feet, three and one eighth inch, and that is what my work is
4 based upon.

5 EXAMINATION

6 BY MR. LAMBERT:

7 Q. In your report, didn't you refer to 65,000 barrels as being
8 an initial starting point?

9 A. And it was erroneous. I used a value at the time I read, it
10 was like ASTER or one of these EPA Internet documents, which
11 proved to be incorrect.

12 Q. And so the 65,000 barrels that you used in the beginning in
13 your report was erroneous?

14 A. That's correct.

15 Q. And then there was an 85,000-barrel report from Murphy which
16 coincidentally happens to be 34 percent of full, you saw that as
17 well?

18 MR. McSHANE: Objection. Argumentative.

19 THE WITNESS: No, the first time I saw that --

20 MR. LAMBERT: Wait. You have to wait.

21 THE COURT: I'll overrule the objection.

22 THE WITNESS: No, not until I saw you throw that number
23 out here in court.

24 EXAMINATION

25 BY MR. LAMBERT:

1 Q. You mean me throwing out Murphy's number?

2 MR. McSHANE: Objection. Argumentative.

3 THE COURT: Sustained.

4 EXAMINATION

5 BY MR. LAMBERT:

6 Q. Would the roof, in order to allow this, let's see, we go
7 from 40,000 barrels to a 115,000 barrels so 75,000 barrels?

8 MR. McSHANE: Objection. Beyond his expertise, Judge.

9 MR. LAMBERT: Let me finish my question, if you could,
10 please.

11 THE COURT: Let him ask the question.

12 EXAMINATION

13 BY MR. LAMBERT:

14 Q. Would it be fair to say that the roof, the floating roof
15 would have to move to allow 75,000 barrels to go into the tank?

16 MR. McSHANE: Objection. Outside his expertise, Judge.

17 THE COURT: I'll overrule the objection. Can you answer
18 that?

19 EXAMINATION

20 BY MR. LAMBERT:

21 Q. Would it have to move? In other words, the tank -- the tank
22 is sitting there and it's got a rupture in it, and your theory
23 and Mr. Baugher's, is a bunch water has to come in, it doesn't
24 have to move to let the water go in?

25 A. The roof would move to let the water in. However, the log

1 that I saw clearly said there was 6 feet, three and one eighth
2 inches in the tank to begin with.

3 Q. I understand, but for this process to take place, and we've
4 seen the diagram, the roof would have to move --

5 A. The roof is going to have to come up with the water.

6 Q. And then before you get to the point where pure crude is
7 coming out, even under your theory --

8 A. It's not a theory. It's a engineering calculation.

9 Q. Even though your engineering calculations --

10 A. That and of Mr. New ton and Mr. Bernoulli.

11 Q. And all of those other fellows. And all those other
12 fellows.

13 A. Okay.

14 Q. Before you got to the point where this 40,000 barrels of
15 original crude starts coming out, you got 75,000 barrels of oily
16 water that's been in the tank sloshing around in a hurricane
17 that's got to come out first, right?

18 A. No, sir.

19 MR. McSHANE: Objection. Argumentative.

20 THE COURT: I sustain the objection. You're out of
21 time. Thank you very much.

22 MR. McSHANE: In connection with the testimony of
23 Dr. Kuhlmeier, Murphy would like to offer Exhibit Numbers 113,
24 which is the summary of the information from the pumping
25 stations; 114 and 115, which are two satellite photographs that

1 have been covered on the direct exam, and we have no further
2 questions of this witness.

3 THE COURT: I'll admit those. We'll take a 10-minute
4 break here and talk about rebuttal.

5 Any further witnesses from the defendants? The
6 defendants rest?

7 MR. MILLER: Defendants rests, Your Honor.

8 THE COURT: We'll go to rebuttal after this. The Court
9 will stand in recess.

10 THE DEPUTY CLERK: Everyone rise.

11 (Recess)

12 THE DEPUTY: Everyone rise.

13 THE COURT: Be seated, please.

14 The plaintiff has rested, the defendants have
15 rested, and now we'll hear from the plaintiffs any rebuttal.

16 MR. MEUNIER: Yes, Your Honor. Jerry Meunier for the
17 plaintiffs. Before moving to rebuttal, there was reference in
18 the last witness' testimony to a breach of the Industrial Street
19 canal levee, and that is a matter of which we take judicial
20 notice pursuant to Rule 201(b) of the Federal Rules of Evidence.

21 THE COURT: That's why I allowed it in. You need no
22 evidence for something of that sort. I served judicial notice.

23 MR. MEUNIER: Thank you, Your Honor. And the plaintiffs
24 appreciate it, and with the lateness of the hour nonetheless do
25 request that there be brief rebuttal testimony at this time from

1 one witness, Mr. Kaltofen, and it will be addressed, Your Honor,
2 to one point of criticism that emerged in the testimony of
3 defendant's expert, Dr. Stout, and it is a point that was neither
4 identified nor discussed in either his report or his deposition.
5 And under the Fifth Circuit authority of *Rodriguez* 780 F2d 491
6 and your authority under Rule 611(a), we ask for this very brief
7 rebuttal testimony.

8 MR. MILLER: Your Honor, we would object to that.
9 Everything that Dr. Stout showed and testified about wasn't
10 included in his report and/or at his deposition.

11 And the very *Rodriguez* case opposing counsel mentioned
12 780 F2d 491 says specifically, I quote, "Rebuttal evidence is
13 designed to meet facts not raised before defendant's case in
14 chief, not facts which could have been raised."

15 Your Honor, we could debate the finer points of organic
16 geochemistry all night, but I'm not sure we're going to move the
17 ball forward. Based upon that we object to any rebuttal
18 testimony from the same witnesses who has already testified.

19 THE COURT: I'll allow at least the beginning of it.
20 I'll take it a question at a time. It has to be true rebuttal.
21 It cannot be a reurging of the position that the plaintiffs have.

22 MR. LAMBERT: Thank you, Your Honor.

23 Mr. Kaltofen.

24 THE COURT: You're still under oath, sir.

25 THE WITNESS: Thank you, Your Honor.

1 THE COURT: You may approach. Mr. Kaltofen.

2 DIRECT EXAMINATION

3 BY MR. LAMBERT:

4 Q. Mr. Kaltofen, in the testimony of Dr. Stout, he compared
5 chromatographs to one another in connection with fingerprinting;
6 do you recall that?

7 A. Yes, sir.

8 Q. He used a single example of Murphy crude oil for that
9 comparison; do you recall that?

10 A. Yes, I do.

11 Q. Would you explain to the Court the examples of source
12 samples that you took from right around the 250-2 tank which have
13 different chromatographs despite the fact that they were Murphy
14 crude oil?

15 MR. MILLER: Objection, Your Honor. This is not new
16 evidence. The chromatographs that he would have taken would have
17 been taken before discovery in this case, before he issued his
18 affidavit, before Dr. Stout issued his report, before these two
19 experts were deposed in the case. They failed to make the point
20 in direct; they are not allowed to make it now.

21 THE COURT: I understand. I'll overrule the objection.
22 Let's just get into that quickly, please.

23 EXAMINATION

24 BY MR. LAMBERT:

25 Q. Would you just show the Court those very few exhibits, and

1 we'll be done, Your Honor.

2 A. Yes. The point at issue is that during the presentation by
3 Dr. Stout, Dr. Stout showed a single chromatogram and said that
4 this chromatogram is the fingerprint for the product from the
5 Murphy oil tank. And this is a statement that's not in his
6 report. And also --

7 MR. LAMBERT: Just show him, if you will, please.

8 THE WITNESS: There are three. I'm just going to place
9 them here, three separate chromatographs.

10 THE COURT: Would you put those up.

11 MR. MILLER: Your Honor, I would object. Dr. Stout
12 never said this is the single source of Murphy Oil. He said this
13 is a representative sample of what a fingerprint looks like.

14 THE COURT: You can make that point on cross.

15 THE WITNESS: Rather than go into a long discussion, I
16 will point out what each of these chromatograph represent.

17 A. If first chromatograph is taken from directly adjacent to
18 the failed tank. The next one.

19 THE COURT: You're going to have to mark it; otherwise,
20 the record is not going to make any sense.

21 MR. LAMBERT: Okay.

22 THE WITNESS: And this is Sample Number 70-S.

23 MR. LAMBERT: It's going to be Exhibit 110 --

24 THE COURT: What's the last exhibit?

25 MR. LAMBERT: I think it was 110. So this is

1 Exhibit 111?

2 THE COURT: Exhibit 111.

3 THE DEPUTY CLERK: No, I don't have a 110.

4 MR. PENTON: Exhibit 110.

5 MR. LAMBERT: Exhibit 110.

6 EXAMINATION

7 BY MR. LAMBERT:

8 Q. And the sample, would you explain to the Court where this
9 sample came from?

10 A. This is from a sample site directly adjacent to the tank
11 within the dike.

12 The next chromatograph is taken from the residual oil
13 ring that was on the small shed-like structure that is adjacent
14 to the tank but outside the dike.

15 And the last chromatograph --

16 Q. That would be number 111, which you just referred to, and
17 now this one will be Exhibit 112.

18 MR. MILLER: Your Honor, I would renew my objection.
19 You will note that these graphs are dated back in November, which
20 proves my point.

21 THE COURT: But they weren't mentioned in his report or
22 in your expert's report. He brought it out at that time. That's
23 why they didn't cover it.

24 MR. MILLER: They were attachments to his affidavit
25 produced back in early December. We had discovery on it.

1 THE COURT: Thank you.

2 THE WITNESS: The last chromatograph is taken from the
3 lip of the failed tank. And these three chromatographs are
4 demonstratively different, but they each represent material from
5 the tank. And that's the end of my testimony.

6 MR. LAMBERT: And that's the end of my questioning.

7 THE COURT: Okay. Any cross?

8 **CROSS-EXAMINATION**

9 BY MR. MILLER:

10 Q. Mr. Kaltofen, I noticed that this afternoon after Dr. Stout
11 testified that you had conversations with some of the lawyers
12 representing the plaintiffs; is that correct?

13 A. That's correct, sir.

14 Q. And did the plaintiffs lawyers tell you what to testify
15 about on rebuttal, Mr. Kaltofen?

16 A. No, sir.

17 Q. They did not. What was discussed during those conversations
18 that I observed?

19 A. I told them that I saw several things in the presentation by
20 Dr. Stout that I did not see in his report.

21 Q. Okay. Did you tell them that -- excuse me. Strike that.
22 Exhibit 110, is that a sample that was taken on your behalf,
23 Mr. Kaltofen?

24 A. That's a sample that I personally collected.

25 Q. Personally collected. What's the date of that sample?

- 1 A. That sample is dated November 9th.
- 2 Q. Did you produce that in connection with your deposition in
3 this case, Mr. Kaltofen?
- 4 A. I did.
- 5 Q. Exhibit 111, is that another chromatogram from the sample
6 that you took, Mr. Kaltofen?
- 7 A. Yes, it is.
- 8 Q. What is the date of that chromatogram?
- 9 A. The date is -- the sample date is the same, November 9th.
- 10 Q. And is that a chromatogram that you produced with your
11 affidavit in this case in early December?
- 12 A. Yes.
- 13 Q. Exhibit 112, give me the date of that chromatogram.
- 14 A. This is a November 9th sample.
- 15 Q. Was that also produced in connection with the affidavit
16 filed in early December in the case?
- 17 A. Yes, it was.
- 18 Q. Mr. Kaltofen, the sample that Dr. Stout used during his
19 direct examination that you have issue with, is that the one that
20 I'm pointing to here on Page 6?
- 21 A. That is the one presentation of the same chromatogram, that
22 is correct.
- 23 Q. Who took that sample, Mr. Kaltofen?
- 24 A. This was an AJ Valenti sample.
- 25 Q. And who was Mr. AJ Valenti working for?

1 A. AJ Valenti, I understand, is working for Mr. Lambert.

2 Q. Is that a sample that you used, Mr. Kaltofen, in creating
3 your affected area in the case?

4 A. It is a sample that I considered, yes, sir.

5 MR. MILLER: No further questions.

6 THE COURT: Any redirect? You're excused. Thank you,
7 sir. The plaintiffs rest?

8 MR. BECNEL: Your Honor, at this time the plaintiffs
9 rest.

10 THE COURT: The case is submitted then. Those documents
11 you've offered, Mr. Lambert?

12 MR. LAMBERT: Yes, Your Honor. We're offering Exhibit
13 Numbers 110, 11 and 12.

14 MR. MILLER: No objection, Your Honor, subject to my
15 rebuttal objection in general.

16 MR. BRUNO: Judge, we wanted to let you know that there
17 is a lot of deposition testimony that's going in as record
18 evidence, and if Your Honor please, we've left the exhibits
19 attached on the thinking that it would be easier for the Court to
20 reference what the deponent's referencing through an attachment,
21 rather than have you go through a mountain of pieces of paper
22 that have been put into evidence, I just want to alert you to the
23 fact that that *Wall Street Journal* article is in there somewhere,
24 but I'm comfortable that you, having ruled on it, will ignore it
25 but if the defendants want me to pull it out --

1 THE COURT: You ought to pull it out.

2 MR. MILLER: If that's the case, Your Honor --

3 THE COURT: We've got to get together on the exhibits.
4 Again, you've got something for me to sign.

5 THE DEPUTY CLERK: Judge, look --

6 THE COURT: Look, we need to meet 3 o'clock on Tuesday
7 and make sure that somebody is here to look at the exhibits and
8 make sure that the exhibits are in the proper order.

9 As I mentioned to you all, I'll be setting a status
10 conference next week in this case to talk about the future aspect
11 of it because, as I see it, it doesn't matter which way I go,
12 whether I certify the question or not certify the question, or
13 whether the appellate court reverses me or doesn't reverse me,
14 you're going to still have this case in the Eastern District. If
15 it either not certified or I certify it and it's reversed, it's
16 going to be consolidated actions, and if it's a consolidated
17 action, what I will do is consolidate the actions, and then I
18 will sever liability for quantum, and we'll try liability and
19 then do part of it as is necessary.

20 MR. BRUNO: We understand.

21 THE COURT: But I want to talk with you all. I've
22 discussed this with you before, but I'll talk with you and I'll
23 invite you, because I'm interested --

24 MR. MILLER: Your Honor, is that conference going to be
25 before -- I think we have one scheduled on the 31st of this

1 month. Our ordinary conference --

2 THE COURT: Let's do it then at that time.

3 MR. FRILOT: Your Honor, one other point. Today we
4 removed a case, which was a class action case filed in the 34th
5 Judicial District Court to this court with the proper notations
6 for matters pending before Your Honor. We call what to your
7 attention.

8 THE COURT: Let's make sure that I've got that. Meet
9 Gaylyn Lambert here in courtroom on Tuesday.

10 MR. MILLER: We'll bring the depositions.

11 THE COURT: Make sure we've got all of the exhibits.
12 You need to pay attention to the records record in a case like
13 this because we have immediate appeal, and so once I close the
14 record, I'm not going to be supplementing the record.

15 I need you-all to look it over, and I need you to make
16 sure that what is in the record is in the form and fashion that
17 you want it to be, and then I'm going to ask you all to sign to
18 verify that.

19 MR. MEUNIER: Your Honor, just for the completeness of
20 the record, we would respectfully ask for the opportunity to
21 submit a proposed judgment certifying the class and, associated
22 with that, the trial plan bifurcated as the Court as indicated
23 consistent with the Seventh Amendment, and I'm not sure whether
24 Your Honor would wish us to submit that in advance of the next
25 conference with you for preparation purposes and bring to it to

1 the conference, but we would like to put it in the record.

2 MR. FRILOT: I would just say, Your Honor, it would seem
3 to me to make better sense until we know which way we're going
4 before we do a trial plan.

5 THE COURT: I think so. I think that's accurate. You
6 can bring something with you at the conference, but I think we
7 need to put our heads together and decide on a plan which way
8 we're going. Hopefully by then you'll know whether you're
9 certified or not certified, while it's fresh.

10 MR. MEUNIER: As long as our proposed trial plan could
11 be part of the record for appeal purposes, we're satisfied.

12 THE COURT: What counsel is mentioning is that in any
13 class certification hearing, one of the feasibility aspects of
14 the class certification is a plan, and that's a part of their
15 burden to show some plan. So that ought to be included in the
16 record.

17 MR. MILLER: Judge, I would note this we actually asked
18 that question in discovery and plaintiffs objected to it and so
19 we think that any attempt to provide a trial plan after the fact,
20 after their motion was filed and after the hearing, should not be
21 allowed to be part of the record given the fact that he objected
22 to that question in discovery.

23 MR. MEUNIER: Your Honor, in response to that --

24 THE COURT: I don't need any response. Anything further
25 from anyone anybody?

1 MR. MILLER: No, Your Honor.

2 THE COURT: Well, from my standpoint, I appreciate the
3 work that all of you all have done. You've favored me with good
4 briefs on all of the material. It made the trial hopefully run a
5 little more smoothly than otherwise.

6 I'm confident that whichever way this matter comes out,
7 that your respective litigants have been well represented. The
8 lawyers, you're exceptional on both sides, and I feel confident
9 that the system works. The Court will stand in recess.

10 THE DEPUTY CLERK: Everyone rise.

11 (END OF COURT)

12 * * *

13 REPORTER'S CERTIFICATE

14
15 I, Cathy Pepper, Certified Realtime Reporter, Registered
16 Professional Reporter, Certified Court Reporter, Official Court
17 Reporter, United States District Court, Eastern District of
18 Louisiana, do hereby certify that the foregoing is a true and
19 correct transcript, to the best of my ability and understanding,
20 from the record of the proceedings in the above-entitled and
21 numbered matter.

22

23

24

25

Cathy Pepper, CCR, RPR, CRR

Official Court Reporter