

IN THE UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF LOUISIANA

JO ANN BISHOP, ET AL,
Plaintiffs,

vs.

Case No.:07-2832

SHELL OIL CO., ET AL,
Defendants.

VIDEOTAPED TELEPHONE DEPOSITION of **JOHN**
SPENCER, C.I.H, C.S.P., held on July 1, 2009, at 6745
Rock Spring Road, Wilmington, North Carolina, commencing
at 9:02 a.m., before Laura L. Van Sandt, a Court Reporter
and Notary Public in and for the State of North Carolina.

APPEARANCES:

On behalf of the Plaintiff:

(Telephonically)

L. ERIC WILLIAMS, JR. ESQUIRE

3021 35th Street, Suite B

Metairie, Louisiana 70001

(504) 832-9898

RICHARD J. FERNANDEZ, ESQUIRE

3000 West Esplanade Avenue, Suite 200

Metairie, Louisiana 7002

(504) 834-8500

On behalf of the Defendants:

STAN PERRY, ESQUIRE

HAYNES AND BOONE, LLP

1221 McKinney Street, Suite 2100

Houston, Texas 77010-2007

(713) 547-2039

Attorneys for Shell Oil

J. SPENCER, C.I.H., C.S.P.

APPEARANCES: (CONT'D.)

GLENN M. FARNET, ESQUIRE

KEAN, MILLER, HAWTHORNE D'ARMOND,

McCOWAN & JARMAN, LLP

22nd Floor, One American Place

Post Office Box 3513

Baton Rouge, Louisiana 70821

(225-387-0999

Attorneys for Shell Oil, Shell Chemical,

Marathon Oil, El Paso

JAMES M. RILEY, ESQUIRE

(Telephonically)

COATES, ROSE, YALE, RYMAN & LEE, LLC

3 E. Greenway Plaza, Suite 2000

Houston, Texas 77046

(713) 653-7375

Attorneys for Radiator Specialty Company

J. SPENCER, C.I.H., C.S.P.

APPEARANCES: (CONT'D.)

CHRISTOPHER T. CHOCHÉLES, ESQUIRE

(Telephonically)

SHER GARNER LAW FIRM

909 Poydras Street, 28th Floor

New Orleans, Louisiana 70112

(504) 299-2100

Attorneys for Murphy Oil

J. SPENCER, C.I.H., C.S.P.

INDEX TO EXHIBITS**DESCRIPTION****MARKED**

Exhibit-1

17

Notice of Video-Telephone Deposition

Exhibit-2

18

Disk Containing Items Responsive to Notice

J. SPENCER, C.I.H., C.S.P.

VIDEOTAPED TELEPHONE DEPOSITION OF

JOHN SPENCER, C.I.H., C.S.P.

JULY 1, 2009

THE VIDEOGRAPHER: The videotape recording has commenced and we are now on record. Today is July 1st, 2009.

**(Whereupon, Interruption by
unidentified phone speaker.)**

We are now on record and today's date is July 1st, 2009. The time is approximately 9:02 A.M.

My name is Marty Landau of Overby Reporting 178. I am the legal video specialist for Accurate Court Reporting whose business address is 24650 Sandhill Boulevard, Suite 401, Punta Gorda, Florida 33983.

The deposition of John Spencer in the matter of Plaintiff Bishop, Jo Ann versus Shell Oil Company, et al, Defendant; case number 07-2832 pending: United States District Court Eastern District of Louisiana. This deposition is being taken at Hilton Garden Inn, 6745 Rock Spring Road, Wilmington, North Carolina 28405 on behalf

1 J. SPENCER, C.I.H., C.S.P.
2 of the Plaintiff/Defendant. The court
3 reporter is Laura Van Sandt.

4 Will counsel please identify yourself
5 for the record stating your name, address and
6 who you represent?

7 MR. WILLIAMS: Yes; Eric Williams
8 and Rick Fernandez for the Plaintiffs.

9 MR. FARNET: Glenn Farnet for the
10 Shell defendants, Marathon Oil and El Paso.

11 MR. PERRY: Stan Perry for the Shell
12 Defendants.

13 THE VIDEOGRAPHER: Then --

14 MR. RILEY: Jim Riley for Radiator
15 Specialists.

16 MR. FARNET: Jim, could you say that
17 again?

18 MR. RILEY: Jim Riley for Radiator
19 Specialty Company.

20 THE VIDEOGRAPHER: The notary public
21 and court reporter will stenographically
22 record the testimony today. At this time
23 the court reporter --

24 MR. CHOCHÉLES: This is Chris --

25 THE VIDEOGRAPHER: -- will please

1 J. SPENCER, C.I.H., C.S.P.
2 swear in the witness.

3 MR. FARNET: Hold on, Chris.
4 Identify yourself.

5 MR. CHOCHES: Yeah, Chris
6 Choches, Sher Garner.

7 MR. PERRY: Representing Murphy Oil.

8 MR. CHOCHES: Representing Murphy
9 Oil; sorry about that.

10 THE COURT REPORTER: And your last
11 name again, sir?

12 MR. CHOCHES: Let me spell it for
13 you. C-H-O-C-H-E-L-E-S.

14 THE COURT REPORTER: Thank you.
15 THEREUPON,

16 **JOHN SPENCER, CIH, CSP,**
17 having been duly sworn, was examined and
18 testified as follows:

19 MR. WILLIAMS: Are we ready?

20 THE COURT REPORTER: Yes.

21 **EXAMINATION**

22 **BY-MR.WILLIAMS:**

23 Q. Good morning, Mr. Spencer; could you
24 please state your full name and address for
25 the record?

J. SPENCER, C.I.H., C.S.P.

A. John Spencer, 8805 Columbia 100
Parkway in Columbia, Maryland.

Q. And what's your date of birth, sir?

A. 12 February 1954.

Q. And your Social Security?

A. I don't want to give that out.

Q. You don't want to give that, okay.

And say your date of birth again?

A. 12 February 1954.

Q. 2/12/54?

A. Yes.

Q. Okay, what degrees have you earned,
Mr. Spencer?

A. I have a degree in biological
sciences from the University of Maryland.

Q. Okay, any other degrees?

A. No.

Q. Okay, did you take any Masters
classes?

A. Yes.

Q. Okay, and did you finish your
Masters degree?

A. I did not. I did not finish my
thesis.

J. SPENCER, C.I.H., C.S.P.

1 Q. And why not?

2 A. Three kids and starting a new
3 business.

4 Q. Okay, were you asked to leave the
5 school?

6 A. No.

7 Q. Okay, and what curriculum were you
8 studying in your Masters program?

9 A. It was environmental biology.

10 Q. And how many hours did you complete?

11 A. Twenty-six.

12 Q. Do you consider to be an ex --
13 yourself to be an expert in biology?

14 A. Certainly as a consultant I work in
15 that area. I've never testified as an
16 expert in biology, however. So if your
17 question is with regards to from a legal
18 standpoint, frankly I've never been put up as
19 a biologist before.

20 Q. Do you consider yourself to be an
21 expert in the field of chemistry?

22 A. Again, it is a significant part of
23 what I do, but I've never been put up as a
24 -- specifically as a chemist.

J. SPENCER, C.I.H., C.S.P.

Q. Do you have any certifications, sir?

A. Yes.

Q. Which ones?

A. I'm a Certified Industrial Hygienist, a Certified Safety Professional and a Certified Indoor Air Quality Consultant.

Q. Okay, what does one have to do to become a Certified Industrial Hygienist?

A. Well, the same is true for all of them. You have to demonstrate minimum experience of five years in the field. You have to have letters of recognition from other certified individuals in that field and then you have to pass an examination.

Q. And what year did you receive your Industrial Hygienist Certification?

A. 1987.

Q. Are you a peer reviewer for any journals?

A. Well, I have done for a variety of journals, yes. I don't do it consistently. I just -- I often receive articles and I'm asked to peer review them.

Q. What areas do you consider yourself

J. SPENCER, C.I.H., C.S.P.

1
2 to be an expert in?

3 A. Well, exposure assessment; employer
4 health and safety and environmental programs;
5 product warnings; those are the primary ones
6 from -- again from a legal standpoint.

7 Q. Do you consider yourself to be an
8 expert in the field of chemical engineering?

9 A. No, I do not.

10 Q. What about the field of chemical
11 composition of substances?

12 A. Well, again, it is a large part of
13 what I do as an industrial hygienist.
14 Certainly I've had --

15 Q. When I say -- let me give you a
16 fairer question; the quantification of
17 chemical compositions of substances?

18 A. I don't know that I'm following what
19 do you mean -- what you mean by
20 quantification.

21 Q. If I gave you a solvent and I said
22 can you tell me what -- what the historical
23 amount of benzene was in that solvent, would
24 you consider yourself to be an expert in
25 that field?

J. SPENCER, C.I.H., C.S.P.

A. I certainly -- I guess I have to think about that. I have reviewed the literature. I'm familiar with the changing benzene content of products through time based on review of various literature sources and other summary documentation.

Q. So is that a yes?

A. I guess I would say yes. I know more than I'd say most people. I mean I've -- you know, I've been for the last 30-plus years I've been working at this I've certainly collected various hydrocarbon samples and had them analyzed for benzene content in health hazard assessments I was conducting.

Q. Have you ever served as an expert in a case where the plaintiff's exposure expert did not have a Masters?

A. Yes.

Q. Can you tell me his name?

A. No.

Q. Have you ever served in a case where the plaintiff's exposure expert did not have a Ph.D?

A. Yes.

J. SPENCER, C.I.H., C.S.P.

Q. And can you tell me his name?

A. I cannot specifically, no.

Q. As a general rule, would a expert in a particular field with a Ph.D have more knowledge than someone with a Bachelor's degree?

MR. PERRY: Object to form.

THE WITNESS: No, I do not think so, no.

Q. What classes have you taken at a university regarding exposure calculations?

A. I've taken exposure assessment industrial hygiene classes at George Washington University. I've taken similar cases on exposure assessment at the University of Cincinnati when I worked for the National Institute for Occupational Safety & Health. While it was not a university --

Q. In the --

A. I'm sorry. I wasn't finished. While it's not a university, I also took two-week classes that involved that in two -- 2 weeks of 40 hour class work from the OSHA Training Institute outside of Chicago where

J. SPENCER, C.I.H., C.S.P.

OSHA inspectors and industrial hygienists are trained.

Q. And the exposure assessment class that you spoke about, was that in your undergraduate program?

A. No; that was a graduate program.

Q. Okay, and you took -- I believe you said you took two classes or --

A. One was at --

Q. -- in the graduate program?

A. One was at George Washington University and another was at the University of Cincinnati.

Q. And were those graduate classes?

A. Yes.

Q. Okay, what methodology did you use in this case?

A. The standard industrial hygiene methods.

Q. Can you explain it to us?

A. Yes; there -- there is a standardized practice that is defined in the industrial hygiene text. One is the Strategies For Assessing & Managing

J. SPENCER, C.I.H., C.S.P.

Occupational Exposures. The other is the Occupational Environment, its management. And in those books are chapters that define an exposure assessment process. And that process includes evaluation of the work place activities, the tasks, frequency and duration; the work place environment; the products that are at issue and what controls, if any, were being utilized to manage those exposures.

Q. And what did you say the name of that textbook was?

A. Well, there's two; Strategies for Assessing & Managing Occupational Exposures.

Q. And did you bring that with you today?

A. I didn't bring the book with me, no. I brought a chapter from that book --

Q. Okay.

A. -- that deals with --

Q. Let me back up, Mr. Spencer. Did you receive a notice in this case?

A. I did.

Q. Okay, let's -- tell me what you

J. SPENCER, C.I.H., C.S.P.

brought in response to the notice, and I'd like to mark the notice as Exhibit-1.

(WHEREUPON EXHIBIT-1 WAS MARKED FOR IDENTIFICATION)

A. I brought my entire file. I brought the references that I have reviewed as part of this case and I brought other materials that I felt were relevant to my evaluation in this case.

BY-MR.WILLIAMS:

Q. Okay, can you break it down by item what you brought in response to the request?

A. Well, we might be here several hours if you want me to read each and every item.

MR. FARNET: Eric, so you'll know, this is Glenn, he put it all on a disk --

MR. WILLIAMS: Okay.

MR. FARNET: -- that we are prepared to, you know, submit -- attach to the deposition or send to you.

BY-MR.WILLIAMS:

Q. Okay, well, Mr. Spencer, I don't want you to take hours. I just want you to briefly tell me did you bring something in

J. SPENCER, C.I.H., C.S.P.

response, you know, to 1, to 2?

A. Yes; I mean I brought all the documents I just described including the references that I relied upon.

Q. Okay, well, we'll attach the disk as Number 2.

MR. PERRY: Just one second, Eric; so the notice -- I had a copy of the notice and I think John's got one electronically, but I have a hard copy of the notice. We'll attach it as Exhibit-1, and it's with the court reporter. And then Exhibit-2 will be the disk that has the items responsive to the deposition notice.

MR. WILLIAMS: Fair enough.

(WHEREUPON, EXHIBIT-2 WAS MARKED FOR IDENTIFICATION)

BY-MR. WILLIAMS:

Q. Mr. Spencer, what year was the textbook that you were referring to, Strategies?

A. Well, gosh, it was originally published several years ago and there's been at least two, maybe three revisions of it,

J. SPENCER, C.I.H., C.S.P.

the most recent one in 2007-2008.

Q. Did you perform a benzene exposure assessment for Mr. Bishop?

A. Not per se; one, I felt there was insufficient information. And what I mean by not per se is that I essentially followed the process that your industrial hygiene expert followed and simply made corrections to some of the assumptions that were applied to his process.

Q. Well, how do you know Dr. Rando's calculations, let's say for instance for Shell, are incorrect if you didn't calculate an exposure assessment yourself?

A. Well, I think we're talking about two different things. I believe that his calculations are incorrect -- actually, we don't know and he -- as he even described he has no knowledge of what specific products, what specific frequency and duration of exposure, or what specific tasks Mr. Bishop did in order to properly calculate an exposure. In the absence of that information you cannot do that type of assessment.

J. SPENCER, C.I.H., C.S.P.

1
2 Q. Did you perform -- so you're saying
3 you couldn't sit here and perform an exposure
4 assessment for the Shell facility for Mr.
5 Bishop today, if I asked you to?

6 A. Well, I can't -- I would agree with
7 that. I can't do it specifically for Mr.
8 Bishop. What I can do is better narrow down
9 a range of exposures that a pipefitter
10 working -- such that Mr. Bishop did working
11 at the Shell facility, what his exposures
12 would likely have been, or a range of values
13 that it would fall into or an upper limit
14 value that he would have been exposed to.
15 And that's based on the data, the air
16 monitoring data from the Shell facility, and
17 correlating that with some data that's
18 produced in the literature.

19 Q. But you didn't do that in this case,
20 is that correct?

21 A. Well, no; I did look at that and in
22 my report I do talk about the specific Shell
23 data from that facility. So, yes, I did do
24 that as a means of comparing the process
25 that your industrial hygienist followed and

J. SPENCER, C.I.H., C.S.P.

what I certainly would have done to do such an assessment.

Q. Maybe I'm misunderstanding you, Mr. Spencer. Did you calculate a part per million exposure assessment for pipefitters at the Shell Norco facility?

A. In our report, yes; in our report I gave an upper-end range -- or an upper-end value and then a range of values as well.

Q. What was the upper-end value?

A. I believe it was 1.59 parts per million.

Q. And that was per day, per year, what?

A. That was an average daily exposure. Now I don't believe that was Mr. Bishop's exposure because that included activities that Mr. Bishop would not have been involved in.

Q. Thank you; have you ever performed a dermal calculation for benzene?

A. I have in the context of litigation cases, yes, but not in my 30-plus years of practice of monitoring benzene. When I worked for NIOSH, when I worked for the U.S.

J. SPENCER, C.I.H., C.S.P.

1
2 Coast Guard, that's just not done, never
3 done. The only time I've done is in the
4 context of litigation.

5 Q. Okay, please tell me what
6 qualifications that you believe you have that
7 would qualify you to perform a dermal
8 calculation.

9 A. Well, I know how to plug numbers
10 into a model. I am familiar with the
11 various variables that are associated with
12 the dermal model. I recently just spoke on
13 this issue at a national conference in Canada
14 on the limitations of doing dermal
15 assessments along with European and NIOSH
16 researchers in the same area.

17 Q. Does this type of exposure assessment
18 utilize different math principles?

19 A. Well, there's certainly mathematical
20 formulas that are used to derive estimates of
21 absorbed dose.

22 Q. Okay, earlier I believe you testified
23 that you could plug numbers into a model.
24 Could you do a dermal calculation without a
25 model?

J. SPENCER, C.I.H., C.S.P.

A. I don't know that would be called a calculation. People certainly have produced best guesses, but I --

Q. Well --

A. -- would -- I would say without a calculation -- actually without -- a calculation gives you -- it's an estimated value and you really don't know the accuracy of that value without further validating that process. That's why in our business that if we are concerned about dermal dose in addition to inhalation dose, we collect biological samples, blood or urine samples and have that evaluated, and that's why we do not use a dermal calculation to determine the significance of exposure.

Q. And that's in the present day, correct?

A. It -- correct; and it's always been that way.

Q. You can't do that for exposures that occurred in the '70s, is that correct?

A. That is correct, yes.

Q. Okay.

J. SPENCER, C.I.H., C.S.P.

1
2 A. I'm sorry, and you're referring to
3 doing the biological exposure indices
4 evaluation?

5 Q. Yes, sir.

6 A. Yes.

7 Q. Did you take any calculus classes in
8 your undergrad degree?

9 A. Yes.

10 Q. I'm sorry. I couldn't hear you.

11 A. Yes, I did.

12 Q. Okay, Mr. Spencer, have you ever
13 been excluded as an expert witness?

14 A. I have not ever been excluded as an
15 expert witness. I was excluded from talking
16 about cumulative dose in a case several years
17 ago, but I was not excluded from the case.

18 Q. Okay, how many times have you been
19 limited as an expert witness by a court?

20 A. Once.

21 Q. Do you recall the name of that case?

22 A. It was Lavender versus Miles, I
23 believe or Mobay.

24 Q. Are you familiar with the case
25 called Adler versus Bear Corporation?

J. SPENCER, C.I.H., C.S.P.

A. The name is somewhat familiar. Bear is -- was -- is the new name for Miles and Mobay.

Q. Did the Supreme Court criticize your methodology for exposure assessments in that case?

MR. PERRY: Can you clarify which Supreme Court?

Q. I'm sorry, Utah Supreme Court.

A. Oh, oh, no; I don't know if they did or not. I think that was the one where that case was removed after we did a study there, you know, and summary judgment issues that the case was removed.

Q. What do you mean? When you say removed, what did you mean by removed?

A. I guess they got summary judgment. The defendants got summary judgment in that case.

Q. That's not what we call remove, but in any event let's talk about Lavender versus Bear Corporation. What did the court say about your methodology in that case?

A. Well, unfortunately I wasn't there to

J. SPENCER, C.I.H., C.S.P.

1 know exactly what the court said. In the
2 document that I read one year after it
3 occurred, I wasn't even made aware that there
4 was a hearing, was that --

5 Q. Well, let me ask you this --

6 A. -- that I used data on electricians.
7 This had to do with pipefitters. I used
8 data on pipefitters, sorry. This was about
9 an electrician. The electrician followed the
10 pipefitters. I used the data on pipefitters
11 because it in my view represented a higher
12 level of exposure. And the judge in that
13 case believed that I did not select an
14 appropriate exposure group because I selected
15 pipefitters, not electricians. And as I
16 understand, that was the basis for the
17 decision.

18 Q. Do you know whether the court found
19 that your methodology was flawed, stating
20 that your estimates were guesstimates that
21 did not simulate the types of exposures
22 experienced by the plaintiff?

23 A. Well, yeah, I think that was -- you
24 know, and it was -- the issue was because I
25

J. SPENCER, C.I.H., C.S.P.

used data on pipefitters that represented a higher level of exposure than the electrician that was at issue in the case.

Q. Did the court also find that you conducted a test under a very poor ventilation and collected data only in the first 15 minutes of exposure?

A. I'm not sure what you're talking about because I didn't collect any samples. I was using data from the facility. There were hundreds of sampling data points from the facility.

Q. And that's what I'm referring to.

A. Yeah, so it sounds like something is being interpreted or read incorrectly.

Q. In that case could you have estimated the plaintiff's exposures at the times much longer than your experiment using partial differential equations?

A. Again, I think you're confused with somebody else. I didn't do any differential equations. I used the data from the facility on -- from their pipefitters which I believe overstated what the electricians'

J. SPENCER, C.I.H., C.S.P.

1 exposure was who followed the pipefitters
2 into that -- those process areas.

3 Q. Have you ever done any modeling of
4 exposures?

5 A. Yes.

6 Q. Did you do any in this case?

7 A. No.

8 Q. Can you tell me why?

9 A. Yes; we had air monitoring data.

10 Q. Okay, now did we have air monitoring
11 data for all four facilities?

12 A. Well, I looked at three facilities.

13 Q. And I apologize. Let's get that
14 clear. You did not look at the merger
15 facility, is that correct?

16 A. That's correct.

17 Q. Okay, so for the three facilities
18 you looked at did we have data for all three
19 facilities?

20 A. Yes.

21 Q. And that's why you didn't do
22 modeling?

23 A. Well, correct; and in addition to
24 that, I wasn't really asked to do -- to do
25

J. SPENCER, C.I.H., C.S.P.

that sort of detailed exposure assessment. I was really asked to evaluate what the plaintiff's industrial hygiene expert had developed and to assess his approach and his outcome.

Q. But if you were asked to come up with a part per million year for each facility, you could have done that in this case, is that correct?

A. Well, I don't think that would be appropriate to come for each facility. If you mean in terms of Mr. Bishop --

Q. Yes; contribution from each facility?

A. Yes; again, I think if you -- let me back up a minute. I don't believe I had at the time, at least I didn't have data on Marathon's. I didn't have their numbers. I couldn't do an exposure assessment related specifically to Mr. Bishop. I could do an exposure assessment that looked at a range of values or a ceiling value that was representative of the exposure group that Mr. Bishop would have been included in. And in fact I'm going to back up again. I did

J. SPENCER, C.I.H., C.S.P.

1 have data. I had 12 sampling data points
2 from Marathon as well.

3 Q. What years were those samples from,
4 sir?

5 A. I believe they were from '84 to '97.

6 Q. Mr. Spencer, would you consider
7 yourself to be an expert in determining the
8 amount of benzene in a product?

9 A. I think we touched on this earlier
10 and I'd say -- I mean, yes, due to my
11 experience over the last 30 years of doing
12 those types of evaluations, due to my review
13 of published and unpublished literature
14 that has evaluated the historical levels of
15 benzene in a variety of products.

16 Q. And if there was -- there wasn't any
17 literature that identified the level of
18 benzene in a historical product, how would
19 you determine what levels of benzene were in
20 that product?

21 A. I'm sorry, if you were going back in
22 time in doing that assessment?

23 Q. Yeah.

24 A. Well, I mean I -- the only way to
25

J. SPENCER, C.I.H., C.S.P.

do that is to look collectively at the literature as to -- you know, as it was reported for those particular products. And there's a lot of summary information that's out there in that regard. I think one has to be careful to try as best you can choose the appropriate or the representative data, that is, data that is representative of the processes that were used to derive those chemicals that properly represent potential benzene content.

Q. Do you always accept the benzene content data from the manufacturer is true?

A. I can't say always, no. That's too absolute.

Q. Have you taken any courses in environmental chemistry?

A. Yes.

Q. And what -- was that your undergraduate degree?

A. Well, I've had a lot of organic and inorganic chemistry. I also worked at the National Institutes of Health in Bethesda, Maryland at the -- in the laboratory of

J. SPENCER, C.I.H., C.S.P.

chemistry synthesizing various chemical products. I've also taken chemistry in my -- in graduate level course work as well and at the OSHA Training Institute.

Q. Do you know if Shell had a odor threshold procedure that they used to recreate exposure assessments of their workers?

MR. PERRY: Object to form.

THE WITNESS: I'm aware of Shell doing a study that included odor but not odor on its own. There were other sensory perception issues that were -- or variables that were included in that particular assessment that they had done.

Q. And was this odor threshold methodology submitted to OSHA and NIOSH?

MR. FARNET: Object to the form.

THE WITNESS: I -- you know, I haven't looked at that in a while. I do recall that perhaps it was, at least the protocol was submitted to NIOSH from what I remember. I don't know the end product was submitted to NIOSH but it was not -- but

J. SPENCER, C.I.H., C.S.P.

again, this was not just on odor as a determinant.

Q. Were the results of the exposure assessment that was recreated by the odor threshold submitted to NIOSH and OSHA?

MR. FARNET: Object to form.

THE WITNESS: Again, it wasn't simply on odor threshold. There was also air monitoring and visual perception and experience by people who'd been in the refineries for some time. And I do not recall whether or not the end product, the report was actually delivered to NIOSH. I think -- what I recall, the protocol was, but I don't remember whether the report itself was.

Q. Do you know if this exposure method was validated using actual industrial hygiene data?

A. They did include some air sampling data in an attempt to try to validate some of their sensory perception, the visual and -- and odor threshold determinants.

Q. Are you familiar with a Dr.

J. SPENCER, C.I.H., C.S.P.

1
2 Paustenbach?

3 A. Yes.

4 Q. Are you familiar with his paper or
5 article on dermal calculations.

6 A. I'm not sure which paper you're
7 referring to.

8 Q. Well, one of the ones that Dr. Rando
9 relied on?

10 A. Do you happen to know the year of
11 that paper?

12 Q. No, I don't offhand. It's one of
13 his references. Did you read the dermal
14 calculation reference that Dr. Rando used?

15 A. I mean there are several references
16 and I'm not sure. Are you talking about the
17 Pamela Williams's paper or that she's the
18 lead author, that Paustenbach was a coauthor
19 on, or one that Dr. Paustenbach --

20 Q. No; Dr. Williams and Paustenbach I
21 believe --

22 A. Yeah, that's the --

23 Q. -- the one that Paustenbach authored
24 by himself.

25 A. Yes, poor Pamela always gets left

J. SPENCER, C.I.H., C.S.P.

behind on that. She is the primary author on that paper. I think that's the one you're talking about.

Q. Okay.

A. I'm --

Q. Do you disagree with his formula for dermal calculations?

A. Oh, no; it's a standardized formula. There's -- there's certainly no problem with that.

Q. Do you agree that Dr. Paustenbach himself has used that formula to create dermal calculations for benzene exposure?

A. Oh, sure; a lot of people have calculated -- calculated dermal exposures, sure, using that standardized formula.

Q. Do you know the levels that Dr. Paustenbach -- the levels of benzene -- let me rephrase that. Do you know if Dr. Paustenbach has written about benzene odor threshold being at levels of 38 parts per million?

A. Gosh, he's written so many papers, he may have. I don't know. There is wide

J. SPENCER, C.I.H., C.S.P.

variation. The Shell study that you reference talks about odor thresholds, I think even much lower than that. And there's studies that show it from less than one part per million to over a hundred parts per million so there's -- there's quite a bit of variation in reported odor thresholds for benzene and that's why it's not utilized as a means of evaluating exposure.

Q. Mr. Spencer, have you ever testified that you're not an expert in chemistry, but you know more than the average person?

A. I don't recall one way or the other honestly.

Q. Is the science of chemistry relevant to your opinions in this matter?

A. Well, sure; we're dealing with chemical substances, yes.

Q. How about analytical chemistry?

A. I'm sorry. What's -- what's the question?

Q. I said is the science of analytical chemistry relevant to your opinions in this matter?

J. SPENCER, C.I.H., C.S.P.

A. In a sense that I understand the methodologies that were utilized to analyze the samples that -- the air samples that I reviewed, yes.

Q. Is the science of chemical engineering relevant to your opinions in this matter?

A. I'm not sure what portion of that you're referring to. It's kind of a broad field and I need some more specificity.

Q. I'm just asking you if you know one way or the other if chemical engineering is a form of science that you relied on in this case?

A. I mean, again I guess I need more specificity to properly answer that question. I mean I understand there's a multitude of processes in a refinery in a chemical plant and some contain benzene streams and some do not.

Q. Mr. Spencer, have you ever spoken at a Harris Martin benzene conference?

A. Yes; I'm trying to think if that was the one I was invited by the plaintiffs'

J. SPENCER, C.I.H., C.S.P.

1 attorney to speak at, yes.
2

3 Q. And did you list your title as
4 doctor on that -- on that program for that?

5 A. No, I did not.

6 Q. Okay, and has your name ever been
7 put on there as Dr. John Spencer?

8 A. I'm not aware that it has. If they
9 did, I get that a lot because of what I do,
10 but I certainly have never held myself out
11 to be a doctor.

12 Q. When you say you get that a lot,
13 people mistake you as a doctor a lot in this
14 area of expertise?

15 A. They do, or I get on the phone like
16 I am with you today and I'm referred to as
17 doctor quite often so it's an occupational
18 hazard.

19 Q. Mr. Spencer, what are exposure
20 pathways?

21 A. Well, they are the routes of
22 exposure.

23 Q. And what routes of exposure would
24 you expect to see in a benzene case?

25 A. Well, it depends. Typically you're

J. SPENCER, C.I.H., C.S.P.

looking at inhalation and depending on the circumstances there's also a dermal route of exposure that's potentially available.

There's also an ingestion route of exposure but not as probable.

Q. Can benzene enter the body through dermal contact?

A. Yes.

Q. Can benzene cause blood disorders and blood malignancies through dermal contact?

MR. PERRY: Object to form.

THE WITNESS: That is a medical question. I don't frankly know whether that's ever been evaluated either in animal or human studies but that's more of a medical question.

Q. Well, if benzene enters the body, would you agree with me that it can cause blood disorders?

MR. PERRY: Object to form.

THE WITNESS: Certainly through inhalation; I'm familiar with that, yes.

Q. Would you agree with me that there are several studies that are peer reviewed

J. SPENCER, C.I.H., C.S.P.

1 and show how to calculate a dermal exposure
2 for benzene?

3 A. Oh, yes, sure, but unfortunately the
4 problem is that they're all done differently.
5 They're based on different studies; life,
6 individuals or cadaver skin or monkey skin,
7 or some other animal or different layers of
8 skin, or skin from different parts of the
9 body so the problem is there's no
10 standardized. You can do it and there's
11 many ways to do it but there is no
12 standardized and accepted and validated method
13 for doing it.

14 Q. Okay, can you tell me the different
15 forms of recreating exposure assessment to
16 benzene?

17 A. The different forms?

18 Q. Forms of data; I apologize.

19 A. Oh; well, there's actual air
20 measurements number one. Two is to -- and
21 you can have air measurements from the
22 facility on the individual, or just from the
23 facility and of the specific exposure groups
24 to which that individual is related to or
25

J. SPENCER, C.I.H., C.S.P.

1 included within. Two is to take literature
2 or data from the literature or other studies,
3 that again defines the specific exposure
4 group that individual was part of. And a
5 third mechanism is doing modeling. Near
6 field, far field model is a common example
7 or doing box models, that sort of thing.
8 There are a slue of air modeling techniques
9 that one can utilize.
10

11 Q. And what about odor threshold?

12 A. No.

13 Q. No, that's never been used as a way
14 to recreate an exposure assessment?

15 A. No, not a quantitative exposure
16 assessment; I guess if one could do that,
17 all the -- all the equipment people would be
18 out of business if one could walk in and
19 sniff the environment. But no, that's --
20 it's not an accepted NIOSH or OSHA air
21 sampling method. As far as I know it's not
22 used by anybody in the world to quantify
23 occupational exposures.

24 Q. I don't think I asked you air
25 sampling. I said what are acceptable forms

J. SPENCER, C.I.H., C.S.P.

1 of data in recreating a exposure assessment?
2

3 A. Oh; well, I mean I think it's the
4 same sort of thing that I'm looking at from
5 an industrial hygiene standpoint and what I
6 do to assess an exposure, and odor is just
7 too unreliable.

8 Q. Have you ever used an odor threshold
9 in any litigation case?

10 A. Oh, sure; I've talked about odor
11 thresholds quite a bit and benzene is a good
12 example. You know, we touched on it
13 earlier. There's a very broad range of odor
14 thresholds, both what you can detect and
15 recognize for benzene. There's also a study,
16 AS -- ASTM provides a guideline on odor
17 determinants and talks about the very
18 significant intra and inter surveyor
19 variability and utilized to properly assess
20 an odor.

21 Q. Okay, is there a dermal exposure
22 limit for benzene?

23 A. No, there is not.

24 Q. Do you know if OSHA has a skin
25 notation on the regulation for benzene?

J. SPENCER, C.I.H., C.S.P.

A. Oh, sure; many chemicals do. In fact, the talk I just gave was with the -- NIOSH is developing and updating their skin notations for chemicals. And I also spoke with an individual who's also updating the European union version of the same thing and talked to him specifically about, you know, how these notations work. But these are notations that are used to define whether or not a product can present a systemic effect, or a corrosive effect, or a sensitization effect. It is not a means nor an indicator that you quantify the dose that's absorbed through the skin. It's an indicator of the toxological effect of that product being on the skin.

Q. And do the OSHA regulations require the employer or the premise owner to provide safety equipment to avoid dermal contact to benzene?

MR. FARNET: Object to form.

THE WITNESS: Yes; that's certainly recommended the employer to certainly provide that type of equipment where benzene is

J. SPENCER, C.I.H., C.S.P.

present.

Q. Would it be fair to say OSHA expects the protection, personal protective equipment to eliminate any dermal contact with benzene?

A. I would say certainly -- I don't know eliminate's the right word. That certainly is a first choice but certainly to reduce or manage that exposure. When OSHA developed the occupational health standard for benzene, they certainly recognized there was a significant amount of dermal contact to workers who handled various solvents. And certainly their intent was to minimize or to eliminate, as you say, dermal routes of exposure. But they certainly recognized that those routes of exposure did occur.

Q. What percentage of your work involves litigation?

A. That varies pretty significantly on what project I'm working on in a particular week or month. I -- my best guess -- and I just don't keep any records of this but my best guess is it varies from 5 percent to 40 percent of my time in a given week or month.

J. SPENCER, C.I.H., C.S.P.

1
2 Q. And would these be cases that
3 involve chemical exposures?

4 A. Sure, many of them; some are safety
5 related issues or environmental issues.

6 Q. How many cases have you served as an
7 expert, do you believe, in your career?

8 A. Oh, gosh, I honestly -- I mean how
9 many times have I been listed in a case?

10 Q. Either testified, listed, prepared a
11 report?

12 A. I mean probably the best I can tell
13 you is I've testified at trial in probably
14 20 cases over the last 15 years.

15 Q. Do you have a ballpark figure of how
16 many other cases you served as an expert in?

17 A. I really do not know.

18 Q. Was it more than 200?

19 A. I would say over a 15-year period,
20 yes. And I certainly had been listed in
21 cases and been asked to look at -- it's not
22 that I've testified in that many but that
23 I've -- certainly I probably looked at a
24 number of cases or been asked to look at
25 those cases.

J. SPENCER, C.I.H., C.S.P.

1
2 Q. How many have you served for the
3 plaintiff?

4 A. Directly, I don't know, maybe --
5 again I'm not real certain. Five to ten
6 times that I've worked directly for the
7 plaintiff.

8 Q. Mr. Spencer, have you ever testified
9 that you, "Routinely testify solely on behalf
10 of defendants because I mean that's who I am
11 able to get to support scientifically and,
12 yes, I mean that's what I look for"?

13 A. Well, did it say routinely and
14 solely?

15 Q. Uh-huh.

16 A. No; well, no; I mean obviously I
17 don't do it solely for. I think routinely
18 is probably correct based on what you just
19 read but obviously not solely.

20 Q. And what did you mean by, "I am
21 able to support scientifically"?

22 A. That there is sufficient information,
23 scientific information to support my position.

24 Q. "And I mean that's what I look for",
25 what did you mean by that?

J. SPENCER, C.I.H., C.S.P.

A. Well, I review literature. I review studies, published and unpublished studies, other government documents that are available, and draw upon my own experience which has been involved, extensive experience in monitoring exposures in a variety of different work places.

Q. Have you ever opined in litigation that a plaintiff exposed to benzene was exposed to levels that could have caused his disease?

A. Have I opined that? Again, I'm not a medical doctor that opines that. I certainly have presented -- have been presented with and communicated that I believe that the exposures from -- to benzene from a particular product were in excess of occupational health standards. But I'm not a causation person. I don't speak to whether or not that's likely to have caused disease.

Q. And I apologize. Let me rephrase my question. Have you ever opined that a plaintiff was exposed to unsafe levels of benzene?

J. SPENCER, C.I.H., C.S.P.

A. Yes.

Q. And what case was that in?

A. I can't tell you the particular case, but it had to do with a particular paint remover that had -- I don't even remember the percentage of benzene in there but it was being applied to a very wide surface area for extended period of time in -- and the levels were above at least today's occupational health standard.

Q. And do paint removers generally have higher than 5 percent benzene content?

A. I can't say whether generally or not. This particular one had a formulation that did.

Q. Okay, what was the benzene content?

A. Again, I'm not sure. I believe to the best of my recollection it was somewhere between 10 and 20 percent.

Q. Okay, so if someone was exposed to a product with more than 10 to 20 percent benzene content, you could arrive at a conclusion that they were exposed to unsafe levels of benzene?

J. SPENCER, C.I.H., C.S.P.

MR. PERRY: Object to form.

THE WITNESS: Not on -- not on that only of itself; I mean if you're going to do an exposure assessment, you need to evaluate what controls are in place. Was there any ventilation. Were they using respirators. What was the frequency and the duration of that activity. All those contribute to the significance of that exposure so you have to evaluate those components as well.

Q. Okay, have you ever served as an expert in a case where someone was exposed to benzene and they -- they contracted multiple myeloma?

A. I certainly -- yes; I have been in cases. I can't tell you which ones or how many but certainly I've seen at least some cases where multiple myeloma was the disease at issue.

Q. Well, would Ben Brown be one of the cases?

A. Honestly I'm involved in that case but I but I don't know what the disease process is offhand. It's just not -- I

J. SPENCER, C.I.H., C.S.P.

1 don't -- I can't answer that question right
2 now accurately.

3 Q. Okay, would you know if Douglas
4 versus Ashland would be another benzene
5 multiple myeloma case?

6 A. Again, without going back and looking
7 specifically at the diagnosis issue I
8 couldn't tell you.

9 Q. Okay, is benzene classified as a
10 known human carcinogen?

11 A. Yes.

12 Q. Mr. Spencer, how many cases have you
13 worked on as an expert for Shell?

14 A. I do not know the answer to that
15 question. I'd be guessing. I just don't
16 know. I mean it's, you know, less than 15
17 and maybe less than 10, but I just do not
18 know the answer to that question.

19 Q. What about Tenneco?

20 A. I think fewer.

21 Q. Murphy?

22 A. I'm not sure that I've ever worked
23 for Murphy before.

24 Q. Marathon?

J. SPENCER, C.I.H., C.S.P.

A. I know I've worked on a few cases for Marathon in the past, but again I do not know a number.

Q. Radiator Specialty Company?

A. I've worked on -- again, I don't know the answer; less than 15 cases for Radiator Specialty.

Q. The cases that you worked on for Radiator Specialty, were they benzene -- allegations of benzene in blood malignancies?

A. Yes.

Q. And in the approximate 15 cases, did you ever find that the plaintiff was exposed to unsafe levels of benzene?

(Whereupon, Cell phone interruption.)

A. I'm sorry, in the Radiator Specialty cases?

BY-MR. WILLIAMS:

Q. Yes, sir.

A. No.

MR. PERRY: Hey, Eric, just one second; somebody needs to turn their phone off.

THE WITNESS: At least it has a

J. SPENCER, C.I.H., C.S.P.

pleasant ring.

MR. PERRY: Go ahead, Eric. You may need to repeat that question.

BY-MR. WILLIAMS:

Q. Mr. Spencer, what is your hourly rate?

A. \$285.

Q. And how many hours did you put into completing your report?

A. I don't -- do not know offhand. I spent a lot of time on this case. There was a lot of information to review. I do not know offhand.

Q. Mr. Spencer, if someone is exposed to levels of benzene in excess of the health standard, is it possible that they could contract a blood disorder?

MR. PERRY: Object to form.

THE WITNESS: Yes, but it's a function of, again frequency and duration and ultimately dose. One has to understand not only the concentration but the time of exposure.

Q. For instance, let me give you an

J. SPENCER, C.I.H., C.S.P.

example. If somebody's exposed to above 1 part per million on an 8 hour total weighted average for 15 years daily, could one develop a blood disorder?

MR. PERRY: Object to form.

THE WITNESS: Again, I'm not the medical expert here to define that. As I -- my understanding as industrial hygienist the occupational health standard for benzene, which is 1 part per million, is based on 45 years working lifetime so that would be 45 PPM years. So from an industrial hygiene standpoint, I would say no to your question.

Q. Okay, do you know the purpose of the 8 hour total weighted average 1 part per million standard?

A. Yes.

Q. Can you tell us?

A. To prevent benzene-related disease.

Q. How does one get abnormal blood results from benzene exposure?

A. Again, I'm not the medical guy, but my understanding is that benzene is metabolized into another chemical which

J. SPENCER, C.I.H., C.S.P.

1 affects the blood forming system.
2

3 Q. And would you expect that to occur
4 at certain levels of exposure?

5 A. Certainly I would expect it at high
6 levels of exposure for extended periods of
7 time, yes.

8 Q. Do you know if benzene can cause
9 blood abnormalities at levels below one part
10 per million?

11 A. Again, no; I'm not the medical
12 expert, but as an industrial hygienist, I'm
13 not aware of that.

14 Q. Did you review a document that has a
15 -- is authored by Environmental Health, Inc.
16 regarding benzene exposure?

17 A. I don't specifically recall that
18 document. If there's -- so I can't -- I
19 may have seen it at some point in time, but
20 I don't have any specific recollection of it
21 sitting here.

22 Q. Let me ask you this. The document
23 says, "Chronic benzene exposure can cause
24 multiple myeloma". My question to you is,
25 do you know what levels of benzene that they

J. SPENCER, C.I.H., C.S.P.

have on that document?

MR. PERRY: Object to form.

THE WITNESS: I do not. I do not know the basis of that. Again, it's more of a medical related issue. I'm not familiar with that particular aspect.

Q. Did you review the material safety data sheets in this case?

A. I did not.

Q. Do you know what levels the material safety data sheets say health effects can occur?

A. Well, I didn't review them.

Q. Okay.

A. Typically a material safety data sheet lists the OSHA and the ACGH occupational health limits.

Q. Do you know if pipefitters were exposed to high levels of benzene in the '70s in general?

A. It depends.

Q. Okay, on what?

A. What the pipefitter did; did they work -- number 1) work around a benzene

J. SPENCER, C.I.H., C.S.P.

containing product. If so, what percent benzene was in there. 2) What sort of controls were put in place to either eliminate or reduce those levels of exposure, and what was the frequency and duration of that exposure.

Q. Well, would you agree with me that some pipefitters were exposed to high levels of benzene in the '70s?

MR. PERRY: Object to form.

THE WITNESS: I certainly believe that there could -- in the universe of pipefitters as a large group of tradesmen that there were individuals under certain circumstances doing a line break or doing a tank entry that could have had high levels of exposure to benzene if -- again, if a benzene containing product was there and it was in a sufficient concentration and there were no controls in place to manage it.

Q. Would pipefitters in the '70s encounter dermal benzene exposures?

MR. FARNET: Object to the form.

THE WITNESS: I would say that again

J. SPENCER, C.I.H., C.S.P.

under some circumstances, sure, I would expect that.

Q. Inhalation benzene exposures?

A. Again under the caveats that I laid out just a moment ago then it is possible, yes. And it's also possible there were none at all. They're working on a boiler, or working on installing a fire suppression system, or bathrooms, then I would say no.

Q. What year did Shell Norco hire a full-time industrial hygienist?

A. Well, to my knowledge they always had full-time industrial hygienists that were available to that facility. Maybe your question is when did they have one dedicated to that facility?

Q. Yes, sir.

A. Okay, I do not know the specific date when that occurred.

Q. Would that have mattered to you if they didn't have one until 1975?

A. No, I don't think that would have mattered to me. I think that Shell certainly had other resources available to

J. SPENCER, C.I.H., C.S.P.

them, other industrial hygienists available to them to help address industrial hygiene issues. They weren't certainly --

Q. Do you know if Shell had a policy in the '70s that prohibited management from dealing with contractors?

MR. PERRY: Object to form.

THE WITNESS: I do not know if they had -- would have had such a policy. I mean I don't quite understand that. I mean obviously they were dealing with contractors every day.

Q. Would you agree with this statement, "That if employers of contract -- contract workers are not responsible for protecting their workers from benzene exposure if a refinery owner fails to tell the employer that they are exposing their employees to benzene?"

MR. FARNET: Object to form.

THE WITNESS: I'm sorry. Can I ask you to read that again?

Q. Yes, sir; I said would you agree with this statement: "If an employer is not

J. SPENCER, C.I.H., C.S.P.

responsible for the employee if the premise owner, such as the refinery, fails to warn the employer that they are exposing their employees to benzene?

MR. FARNET: Object to form.

THE WITNESS: I'm sorry. I don't think I'm following that. I'll try to answer but an employer always has the responsibility. You can't write that off. And if they're unfamiliar with what particular exposures are in environments, it's employer's responsibility to determine what those potential exposures are to ensure that they're properly managing those exposures.

Q. And that's even if the premise owner fails to inform the employer that they're exposing their employees to benzene?

A. Well, if they fail to warn them, again there is -- there is an obligation. But I won't take anything away from a premise owner if there is an unknown hazard and they're not conveying that hazard to a contractor on site, then they need to do better in that regard. But even if that

J. SPENCER, C.I.H., C.S.P.

occurs, an employer, a contractor has a responsibility, always has and still does, a responsibility to determine, to seek out that information to assure that there is no significant health hazard present to their employees.

Q. Okay, did Mr. Bishop have the potential for dermal benzene exposure while working around crude oil?

A. Again, it depends on the circumstances of those activities and whether he was using gloves. And if you're around crude oil, there is a very small percentage of benzene that's present in most crudes. I mean less than one percent. And it's not to say that people didn't get crude oil on their skin working on that related equipment. So if Mr. Bishop did work on that equipment and he worked without gloves and it was a frequent activity, then he could have had some exposure. But again, the percentages are so low I wouldn't consider that being significant.

Q. What about gasoline?

J. SPENCER, C.I.H., C.S.P.

A. I think, you know, the same scenario. Now, you know, gasoline is gasoline. It contains 150 plus different chemicals including benzene and it is not associated with any benzene-related diseases. So gasoline, we're talking about a different type of material here.

Q. And that's not my question. Would Mr. Bishop have the potential for dermal benzene exposures when exposed to gasoline?

A. Again, yes, along with 150 plus other chemicals that are in gasoline.

Q. Okay, what about pyrolysis gas?

A. I mean I think it's the same for any product that potentially contained benzene. It is a function of the variables associated with that exposure; whether controls are being utilized, gloves, what type of gloves; whether they're using respiratory equipment; or whether that product was in that line at all; whether it had been cleared out prior to Mr. Bishop ever getting there.

Q. Can you tell me the benzene content

J. SPENCER, C.I.H., C.S.P.

1 of pyrolysis gas?

3 A. I can't tell you the specific,
4 because it certainly, it varies from one type
5 of operation to the next.

6 Q. Did Mr. Bishop have sufficient
7 inhalation exposure to benzene when working
8 with crude oil?

9 A. I do not believe he would have had
10 any measurable exposure to benzene.

11 Q. What about gasoline?

12 A. Again, if he's -- you say -- now I
13 guess these are hypotheticals and --

14 Q. Yes, sir.

15 A. -- you're saying if he worked just
16 with a bucket of gasoline somewhere?

17 Q. Or worked around a pipe where vapors
18 were coming out from gasoline?

19 A. I mean, well it depends if that line
20 had been purged and cleaned and steamed and
21 benzene is one of the first constituents to,
22 in terms of the aromatics to be volatilized
23 from that line. So he may or may not have
24 had any benzene exposure at all.

25 Q. What about pyrolysis gas?

J. SPENCER, C.I.H., C.S.P.

A. It's really the same sort of scenario. It is a function of the activity. It's a function of how long he got there after the line was purged and cleaned as to whether there would be any measurable exposure to benzene.

Q. And this would be the same answer for the Tenneco, Shell and Marathon facility?

A. Yes.

Q. Did Mr. Bishop have the potential for dermal benzene exposure when working with Liquid Wrench?

A. In the period up to 1978 --

Q. Yes, sir.

A. -- I would say yes. It depends on the version of Liquid Wrench that he was using.

Q. Right; well, he identified the 16-ounce can that has benzol on it. I'm sorry, Mr. Fusand (phonetic) did. Do you know what levels of benzene internal Radiator Specialty documents indicated workers were exposed to when loading cans of Liquid Wrench in 1978?

J. SPENCER, C.I.H., C.S.P.

1
2 A. I don't know that I've seen that
3 data.

4 Q. Okay, well, if I told you 24.5 and
5 29 parts per million, would you know that
6 one way or the other?

7 A. No.

8 Q. Okay, do you have anything to
9 disagree with those results for individuals
10 filling cans of Liquid Wrench as you sit
11 here today?

12 A. I don't. I just don't know what
13 the environmental conditions were or the
14 frequency and duration of exposure. I
15 certainly have, you know, done my own studies
16 on using Liquid Wrench as potentially Mr.
17 Bishop used it, and I'm familiar with the
18 literature of another study produced by
19 Williams et al on the use of Liquid Wrench.

20 Q. Yeah, in that study did they show
21 levels that range up to 3.8 parts per
22 million of benzene exposure from Liquid
23 Wrench?

24 A. I believe they did for the
25 short-term samples. It was under the 15

J. SPENCER, C.I.H., C.S.P.

minute STEL.

Q. Okay, is the Spear Study that Dr. Rando relied on peer-reviewed?

A. To the best of my knowledge, yes.

Q. And what about the Verma (phonetic) Study?

A. Yes.

Q. Did you review the pipefitter industrial hygienist data from the Shell facility?

A. Yes.

Q. Can you tell me the highest sample result for pipefitters?

A. Yes; I --

Q. If I told you 146.7 parts per million, does that sound familiar?

A. For the Shell data?

Q. Yes, sir.

A. No; I'm sorry. Was that an area sample or a personal sample?

Q. I believe it was a personal sample.

A. I'm not familiar with any personal samples that were at that level for -- in particular for pipefitters, contract

J. SPENCER, C.I.H., C.S.P.

pipefitters.

Q. If I --

A. There are no levels of --

Q. -- pipe --

MR. FARNET: He's not finished,
Eric. Let him finish the question you
asked.

A. I mean there are no levels reported
anywhere close to that for contract
pipefitters.

Q. And I said pipefitters. I didn't
say contract pipefitters.

A. Okay, well, there's an important
distinction there though. You don't want to
choose pipefitters that are not contract
pipefitters because that's a whole different
exposure group.

Q. Can you answer the question; were
you aware that there were samples that were
up to 146.7 parts per million for benzene
exposure for pipefitters?

MR. FARNET: Objection; he answered
the question. You may re-ask it, but he
answered the question.

J. SPENCER, C.I.H., C.S.P.

THE WITNESS: I'm not aware of a sample for, again what I would call a contract pipefitters that were up to that level. Most all of them I believe were less than a part per million.

Q. Okay, well, for Shell pipefitters were you aware there was a sample that went up to 146.7 parts per million?

A. I'd have to go back and look at that whole data set again. I don't specifically recall that one or what the circumstances were; whether that was a blinding operation; they had opened a line and there was pure product in there. Again, that was something that Mr. Bishop did not do.

Q. Mr. Spencer, in your report you used the term outliners. Can you define that for us?

A. It's a statistical variable or not variable but a statistical determinant of data reliability.

Q. Okay, and in laymen's terms, is that a way of saying that samples that are high,

J. SPENCER, C.I.H., C.S.P.

1 short-term you throw them out the data pool?

2 A. No; you do not throw them out and
3 it's just not high data. It may be low
4 data as well. What it is, is that the data
5 doesn't fall within a range of values that
6 is consistent with the entire data set. So
7 you do the statistical analysis and you're
8 looking at sigma or standard deviation.
9 You're looking at P values. And these tell
10 you whether or not -- or the data falls on
11 a curb. And if it falls so far away from
12 the mean or the median of the data set, then
13 you need to investigate further. You don't
14 just throw them away but you need to
15 investigate further.

16 Q. How many high exposures from Shell
17 or samples did you remove from your analysis?

18 A. Well, it's not that -- I don't know
19 how many I removed. I looked at the data
20 that I could -- that I felt was relevant,
21 and it was -- and it was the contractor --
22 they had a lot of contractor pipefitter data.
23 It was 30 some samples.

24 Q. So did you say you removed them or
25

J. SPENCER, C.I.H., C.S.P.

did not rely on those samples?

A. No; those are the ones that I did look at more closely and utilized. I also looked at the pipefitter data collectively, and that's reflect in my report and that's where for Shell I come up with the 1.59 parts per million.

Q. Okay, did you personally review all the documents in this case that were sent to you?

A. Well, I can't say I reviewed every page from every document, but I reviewed most of that, yes.

Q. Did any other employees at your company review the document and summarize it for you?

A. Well, yes, I certainly had another industrial hygienist, a certified industrial hygienist in my office help me go through this vast amount of information.

Q. Have you ever testified that employees in another case have -- the employees that you work with have summarized documents for you in a case?

J. SPENCER, C.I.H., C.S.P.

A. Oh, sure; I often have folks in my office, like do summaries of summaries that I've done or to go back through a data set and do a statistical analysis. And I have more than one of them do that, because I don't work in a vacuum and I want to check and double-check my data.

Q. Did you write your entire report in this case?

A. No; I mean I did not write the entire report. I had others. I had another industrial hygienist help me working on this report, again analyzing data and double checking --

Q. What's his name?

A. Dale Johnson.

Q. And what degrees does he have?

A. I don't know his specific degrees. He's a certified industrial hygienist.

Q. Does he have a Masters?

A. I honestly don't know.

Q. Does he have a Ph.D?

A. No, he does not.

Q. Okay, have you ever testified that,

J. SPENCER, C.I.H., C.S.P.

"I've never been held up to a be a chemistry expert"?

A. I think I just said that earlier today.

Q. Well, I didn't ask you that exact quote.

A. I don't recall whether I've been -- I testified to that before, but I did testify to it today.

Q. That you've never been a chemistry expert?

A. That I've never been held out to be a chemistry expert, that's correct. Chemistry is part of what I do as an industrial hygienist, but I've never been asked to be specifically a chemistry expert.

Q. Have you ever testified that you are not a chemist or a chemical engineer and that your background is general?

A. I don't recall if I specifically said that or not.

Q. Have you ever testified, "I know chemicals pretty well having worked at the National Institute of Health in the

1 J. SPENCER, C.I.H., C.S.P.
2 laboratory in chemistry while I was in
3 college"?

4 A. I likely said that and I repeated
5 that today.

6 Q. And, Mr. Spencer, earlier you
7 mentioned that you worked at the National
8 Institute of Health in a laboratory. Are we
9 talking about a job while you're in college?

10 A. Correct.

11 Q. Okay, and you feel that qualifies
12 you to be an expert in that field?

13 MR. PERRY: Object to form.

14 MR. FARNET: I object.

15 THE WITNESS: I'm simply saying that
16 I've had -- I've worked in a chemistry lab.
17 I've taken multiple chemistry courses. I've
18 trained at the OSHA Training Institute in --
19 with chemistry-related issues, and I've worked
20 with labs over 30-plus years in this business
21 so I am -- I believe I'm very qualified in
22 the area of chemistry. But I've never been
23 held out to be a chemistry expert in a
24 litigation case.

25 **BY-MR.WILLIAMS:**

J. SPENCER, C.I.H., C.S.P.

Q. Okay, I don't think -- I have one more question. I believe in your affidavit in this case -- did you produce an affidavit?

MR. PERRY: A declaration you mean?

A. A declaration?

Q. Declaration; I apologize.

A. Yes.

Q. You talk about averages, Benzene?

A. Okay.

Q. I believe there's some time of acronym, OEM; if I'm not mistaken?

A. Or an OEL?

MR. PERRY: OEL.

Q. OEL?

A. Yes.

Q. Can you explain that to us?

A. It's a standardized term that defines -- it's occupational exposure limit and it encompasses both PEL's and TLV's.

Q. Okay, now an average would not indicate that someone was exposed to levels above one part per million, would it?

MR. FARNET: Object to form.

J. SPENCER, C.I.H., C.S.P.

THE WITNESS: Well, it may. It depends on -- and you want to -- I think I understand what you're asking. It may or may not. You need to look at not only the mean but you need to look at the range of values.

MR. WILLIAMS: Okay, fair enough; I don't think I have any other questions; anybody else?

MR. PERRY: No questions here.

MR. CHOCHULES: No questions.

THE VIDEOGRAPHER: All right, give me just a moment. Now going off record at 10:17 A.M. This concluded today's deposition.

(WHEREUPON, SIGNATURE RESERVED)

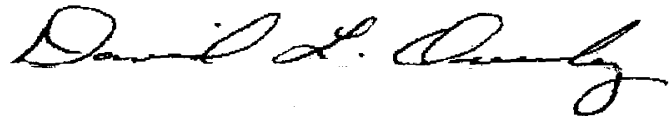
(WHEREUPON, THE DEPOSITION OF JOHN SPENCER, C.I.H., C.S.P. CONCLUDED.)

J. SPENCER, C.I.H., C.S.P.

CERTIFICATE

I, David L. Overby, Notary/Reporter,
do hereby certify that John Spencer, CIH, CSP
was duly sworn by Laura L. Van Sandt,
Notary/Reporter, prior to the taking of the
foregoing deposition; and that this deposition
was taken and transcribed by Laura L. Van
Sandt under my direction and that the
foregoing pages which constitute this
deposition are a true and accurate transcript
of the witness's testimony.

I certify that I am not counsel for,
or employed by either party in this action,
nor am I interested in the outcome of this
action.



David L. Overby

DATED: JULY 2, 2009

J. SPENCER, C.I.H., C.S.P.

CAPTION

The Deposition of **JOHN SPENCER**, taken
in the matter, on the date, and at the time
and place set out on the title page hereof.

It was requested that the deposition
be taken by the reporter and that same be
reduced to typewritten form.

It was agreed by and between counsel
and the parties that the Deponent will read
and sign the transcript of said deposition.

J. SPENCER, C.I.H., C.S.P.

CERTIFICATE

STATE OF _____:

COUNTY/CITY OF _____:

Before me, this day, personally
appeared, **JOHN SPENCER**, who, being duly sworn,
states that the foregoing transcript of
his/her Deposition, taken in the matter, on
the date, and at the time and place set out
on the title page hereof, constitutes a true
and accurate transcript of said deposition.

JOHN SPENCER

SUBSCRIBED and SWORN to before me this
_____ day of _____, 2009 in the
jurisdiction aforesaid.

My Commission Expires _____ Notary Public

A		
able 46:11,21 abnormal 53:21 abnormalities 54:9 absence 19:24 absolute 31:16 absorbed 22:21 43:14 accept 31:13 acceptable 41:25 accepted 40:13 41:20 accuracy 23:9 accurate 6:15 75:12 77:11 78:4 accurately 50:3 ACGH 55:17 acronym 73:13 action 75:15,17 activities 16:7 21:18 60:12 activity 49:9 60:21 63:3 actual 33:19 40:20 addition 23:13 28:24 address 6:16 7:5 8:24 58:3 Adler 24:25 affidavit 73:3,5 aforesaid 77:17 ago 18:24 24:17 57:6 agree 20:6 35:12 39:19,24 56:8 58:14,24 agreed 76:9 ahead 52:3 air 11:7 20:15 28:10 28:11 33:10,21 37:4 40:20,22 41:9 41:20,24 al 1:4,7 6:20 64:19 78:5,6 allegations 51:11 American 3:4 amount 12:23 30:9 44:12 69:21 analysis 68:8,18 70:5	analytical 36:20,23 analyze 37:3 analyzed 13:14 analyzing 70:14 animal 39:15 40:8 Ann 1:4 6:19 answer 37:17 50:2,15 50:19 51:7 59:9 63:8 66:19 answered 66:23,25 anybody 41:22 74:10 apologize 28:14 40:19 47:22 73:8 APPEARANCES 2:2 3:2 4:2 appeared 77:6 applied 19:10 48:8 approach 29:5 appropriate 26:15 29:12 31:8 78:17 approximate 51:13 approximately 6:12 area 10:16 22:16 38:14 48:9 65:20 72:22 areas 11:25 28:3 aromatics 62:22 arrive 48:23 article 34:5 articles 11:23 Ashland 50:5 asked 10:5 11:24 20:5 28:25 29:3,7 41:24 45:21,24 66:8 71:17 asking 37:12 74:4 aspect 55:7 assess 29:5 42:6,19 Assessing 15:25 16:15 assessment 12:3 14:13,16 15:4 16:5 19:4,15,25 20:4 21:3,6 22:17 29:2 29:19,21 30:23 32:16 33:5 40:16	41:14,16 42:2 49:5 assessments 13:15 22:15 25:6 32:8 associated 22:11 61:6,18 assumptions 19:10 assure 60:5 ASTM 42:16 attach 17:20 18:6,12 78:18 attempt 33:22 attorney 38:2 Attorneys 2:12 3:6 3:11 4:10 author 34:18 35:2 authored 34:23 54:15 authorize 78:18 available 39:4 47:4 57:15,25 58:2 Avenue 2:7 average 21:16 36:13 53:4,16 73:22 averages 73:10 avoid 43:20 aware 26:4 32:11 38:8 54:13 66:20 67:2,8 a.m 1:14 6:12 74:15 B B 2:4 Bachelor's 14:6 back 16:22 29:16,25 30:22 50:7 67:10 70:4 background 71:20 ballpark 45:15 based 13:6 20:15 40:6 46:18 53:11 basis 26:17 55:5 bathrooms 57:10 Baton 3:5 Bear 24:25 25:2,23 behalf 2:3,9 6:25 46:9 believe 15:8 19:17

21:12,17 22:6,22 24:23 27:25 29:16 30:6 34:21 45:7 47:17 48:18 56:12 62:9 64:24 65:22 67:5 72:21 73:3,12 believed 26:14 Ben 49:21 benzene 12:23 13:5 13:14 19:3 21:21 21:24 30:9,16,19 30:20 31:12,13 35:14,19,21 36:9 37:20,23 38:24 39:7,10,18 40:3,17 42:11,15,22,25 43:21,25 44:5,11 47:10,17,25 48:7 48:13,17,23,25 49:14 50:5,10 51:10,11,15 52:16 53:10,22,24 54:8 54:16,23,25 55:20 55:25 56:3,10,18 56:19,23 57:4 58:17,20 59:5,18 60:9,15 61:5,11,17 61:25 62:7,10,21 62:24 63:7,12,22 64:22 66:21 73:10 benzene-related 53:20 61:6 benzol 63:20 best 23:4 31:7 44:22 44:24 45:12 48:19 65:5 Bethesda 31:24 better 20:8 59:25 biological 9:15 23:14 24:3 biologist 10:20 biology 10:10,14,17 birth 9:4,9 Bishop 1:4 6:19 19:4 19:22 20:5,8,10 21:19 29:13,20,24	60:8,19 61:10,23 62:6 63:11 64:17 67:16 78:5 Bishop's 21:17 bit 36:8 42:11 blinding 67:14 blood 23:14 39:10,11 39:20 51:11 52:18 53:5,21 54:2,9 body 39:7,18 40:10 boiler 57:8 book 16:18,19 books 16:4 BOONE 2:10 Boulevard 6:16 box 3:5 41:8 break 17:12 56:16 briefly 17:25 bring 16:16,18 17:25 broad 37:10 42:13 brought 16:19 17:2,6 17:6,8,13 18:3 Brown 49:21 bucket 62:16 business 6:16 10:4 23:11 41:18 72:20 BY-MR. WILLIAMS 8:22 17:11,22 18:19 51:19 52:5 72:25	Caption 76:2 78:5 captioned 78:13 carcinogen 50:11 career 45:7 careful 31:7 Carolina 1:13,15 6:25 case 1:6 6:20 13:17 13:22 15:18 16:23 17:8,10 20:19 24:16,17,21,24 25:7,13,15,20,24 26:14 27:4,17 28:7 29:10 37:15 38:24 42:9 45:9 48:3,5 49:13,23 50:6 52:12 55:9 69:10 69:23,25 70:10 72:24 73:4 78:5 cases 14:16 21:23 45:2,6,14,16,21,24 45:25 49:17,19,22 50:13 51:2,7,9,13 51:18 causation 47:20 cause 39:10,19 54:8 54:23 caused 47:11,21 caveats 57:5 ceiling 29:22 Cell 51:16 certain 46:5 54:4 56:15 certainly 10:15 12:14 13:2,13 21:2 22:19 23:3 35:10 38:10 39:22 43:23 43:24 44:6,8,8,11 44:14,16 45:20,23 47:15 49:16,18 54:5 56:12 57:25 58:4 62:4 64:15 69:18 Certificate 75:2 77:2 78:18 Certification 11:17
C		
benzene-related 53:20 61:6 benzol 63:20 best 23:4 31:7 44:22 44:24 45:12 48:19 65:5 Bethesda 31:24 better 20:8 59:25 biological 9:15 23:14 24:3 biologist 10:20 biology 10:10,14,17 birth 9:4,9 Bishop 1:4 6:19 19:4 19:22 20:5,8,10 21:19 29:13,20,24	cadaver 40:7 calculate 19:14,23 21:5 40:2 calculated 35:16,16 calculation 21:21 22:8,24 23:3,7,8 23:16 34:14 calculations 14:12 19:13,18 34:5 35:8 35:14 calculus 24:7 call 25:21 67:3 called 23:2 24:25 Canada 22:13 cans 63:24 64:10	

certifications 11:2 certified 11:5,6,7,9 11:14 69:19 70:20 certify 75:5,14 changes 78:15 changing 13:4 chapter 16:19 chapters 16:4 check 70:7 checking 70:15 chemical 3:6 12:8,10 12:17 32:2 36:19 37:6,13,19 45:3 53:25 71:19 chemicals 31:11 43:2 43:5 61:5,13 71:24 chemist 10:25 71:19 chemistry 10:22 31:18,23 32:2,3 36:12,16,20,24 71:2,11,14,15,17 72:2,16,17,22,23 chemistry-related 72:19 Chicago 14:25 Chocheles 4:4 7:24 8:5,6,8,12 74:12 choice 44:8 choose 31:7 66:16 Chris 7:24 8:3,5 CHRISTOPHER 4:4 Chronic 54:23 CIH 8:16 75:5 Cincinnati 14:17 15:14 circumstances 39:3 56:16 57:2 60:12 67:13 clarify 25:8 class 14:24 15:4 classes 9:20 14:11 14:14,23 15:9,15 24:7 classified 50:10 cleaned 62:20 63:5 clear 28:15	cleared 61:23 close 66:10 closely 69:4 Coast 22:2 COATES 3:9 coauthor 34:18 collect 23:13 27:10 collected 13:13 27:7 collectively 31:2 69:5 college 72:3,9 Columbia 9:2,3 come 29:7,12 69:7 coming 62:18 commenced 6:6 commencing 1:13 Commission 77:19 common 41:7 communicated 47:16 company 3:11 6:20 7:19 51:5 69:16 78:6 comparing 20:24 complete 10:11 completing 52:10 components 49:11 composition 12:11 compositions 12:17 concentration 52:23 56:20 concerned 23:12 concluded 74:15,19 conclusion 48:24 conditions 64:13 conducted 27:6 conducting 13:15 conference 22:13 37:23 confused 27:21 consider 10:13,21 11:25 12:7,24 30:7 60:23 consistent 68:7 consistently 11:22 constituents 62:21 constitute 75:11	constitutes 77:10 consultant 10:15 11:7 contact 39:8,11 43:20 44:5,12 contain 37:20 contained 61:16 containing 5:10 56:2 56:19 contains 61:4 content 13:5,14 31:12,14 48:13,17 48:23 61:25 context 21:22 22:4 contract 52:18 58:15 58:15 65:25 66:10 66:13,16 67:4 contracted 49:14 contractor 59:24 60:2 68:22,23 contractors 58:7,12 contribute 49:9 contribution 29:14 controls 16:9 49:6 56:4,21 61:19 CONT'D 3:2 4:2 conveying 59:23 copy 18:9,11 Corporation 24:25 25:23 correct 20:20 23:19 23:20,23,24 28:16 28:17,24 29:10 46:18 71:14 72:10 corrections 19:9 correlating 20:17 corrosive 43:12 counsel 7:4 75:14 76:9 COUNTY/CITY 77:4 course 32:4 courses 31:17 72:17 court 1:2,14 6:15,22 7:2,21,23 8:10,14 8:20 18:13 24:19 25:5,9,10,23 26:2
--	---	---

26:19 27:5 78:4 create 35:13 criticize 25:5 crude 60:10,14,17 62:8 crudes 60:15 CSP 8:16 75:5 cumulative 24:16 curb 68:12 curriculum 10:8 C-H-O-C-H-E-L-E-S 8:13 C.I.H 1:12 6:3 74:19 C.S.P 1:12 6:3 74:19	46:10 define 16:4 43:10 53:8 67:19 defined 15:23 defines 41:4 73:19 degree 9:15,23 14:7 24:8 31:21 degrees 9:13,17 70:18,19 delivered 33:14 demonstrate 11:11 depending 39:2 depends 38:25 55:22 60:11 62:19 63:16 74:3 Deponent 76:10 78:8 deposition 1:11 5:7 6:2,18,23 17:21 18:15 74:16,18 75:8,8,12 76:3,6 76:11 77:8,11 78:2 78:9,13 derive 22:20 31:10 dermal 21:21 22:7,12 22:14,24 23:12,16 34:5,13 35:8,14,16 39:3,8,11 40:2 42:21 43:20 44:5 44:12,15 56:23 60:9 61:10 63:12 described 18:4 19:19 DESCRIPTION 5:4 detailed 29:2 detect 42:14 determinant 33:3 67:22 determinants 33:24 42:17 determine 23:16 30:20 59:13 60:4 determining 30:8 develop 53:4 developed 29:5 44:10 developing 43:4 deviation 68:9 diagnosis 50:8	different 19:17 22:18 40:6,8,9,15 40:18 47:8 61:4,7 66:17 differential 27:20 27:22 differently 40:5 direction 75:10 directly 46:4,6 disagree 35:7 64:9 disease 47:12,21 49:19,24 53:20 diseases 61:6 disk 5:10 17:17 18:6 18:14 disorder 52:18 53:5 disorders 39:10,20 distinction 66:15 District 1:2,3 6:22 6:22 doctor 38:4,11,13,17 47:14 document 26:3 54:14 54:18,22 55:2 69:13,16 documentation 13:7 documents 18:4 47:4 63:23 69:10,25 doing 22:14 24:3 30:12,23 32:12 40:14 41:6,8 56:16 56:16 dose 22:21 23:12,13 24:16 43:14 52:22 double 70:14 double-check 70:8 Douglas 50:4 Dr 19:12 33:25 34:8 34:14,19,20 35:12 35:18,20 38:7 65:3 draw 47:5 due 30:11,13 duly 8:17 75:6 77:6 duration 16:8 19:21 49:8 52:21 56:6 64:14
D		
daily 21:16 53:4 Dale 70:17 data 20:15,16,17,23 26:7,9,11 27:2,7 27:11,12,23 28:10 28:12,19 29:17 30:2,2 31:8,9,14 33:20,22 40:19 41:3 42:2 55:9,12 55:16 64:3 65:10 65:18 67:11,23 68:2,4,5,5,7,11,13 68:20,23 69:5 70:4 70:8,14 date 6:11 9:4,9 57:20 76:4 77:9 78:9 79:23 DATED 75:23 David 75:4,21 day 21:14 23:18 58:13 77:5,16 dealing 36:18 58:7 58:12 deals 16:21 decision 26:18 declaration 73:6,7,8 dedicated 57:16 Defendant 6:20 defendants 1:8 2:9 7:10,12 25:19		

D'ARMOND 3:3	environmental 10:10 12:4 31:18 45:5 54:15 64:13	18:17 expect 38:24 54:3,5 57:3
E	environments 59:12	expects 44:3
E 3:9	equations 27:20,23	experience 11:12 30:12 33:11 47:5,6
earlier 22:22 30:10 42:13 71:4 72:6	equipment 41:17 43:20,25 44:4 60:18,19 61:21	experienced 26:23
earned 9:13	Eric 2:4 7:7 17:16 18:8 51:22 52:3 66:7	experiment 27:19
Eastern 1:3 6:22	Errata 78:2,17	expert 10:14,17,22 12:2,8,24 13:16,17 13:23 14:4 19:9 24:13,15,19 29:4 30:8 36:12 45:7,16 49:13 50:14 53:8 54:12 71:3,12,14 71:17 72:12,23
effect 43:11,12,13 43:16	Esplanade 2:7	expertise 38:14
effects 55:12	ESQUIRE 2:4,6,9 3:3 3:8 4:4	Expires 77:19
either 39:15 45:10 56:4 75:15	essentially 19:7	explain 15:21 73:18
El 3:7 7:10	estimated 23:8 27:18	exposed 20:14 47:10 47:11,24 48:21,24 49:13 51:14 52:15 53:2 55:20 56:9 61:11 63:24 73:23
electrician 26:10,10 27:3	estimates 22:20 26:21	exposing 58:19 59:4 59:18
electricians 26:7,16 27:25	et 1:4,7 6:20 64:19 78:5,6	exposure 12:3 13:17 13:23 14:12,13,16 15:4 16:5 19:3,15 19:22,24 20:3 21:6 21:16,18 22:17 23:17 24:3 25:6 26:13,15 27:3,8 28:2 29:2,19,21,23 32:8 33:4,18 35:14 36:10 38:19,22,23 39:4,5 40:2,16,24 41:4,14,15 42:2,6 42:21 44:9,16,17 49:5,10 52:24 53:22 54:4,6,16,23 56:5,7,18 58:17 60:9,22 61:18 62:7 62:10,24 63:7,12 64:14,22 66:18,22 73:20
electronically 18:10	European 22:15 43:7	
eliminate 44:5,15 56:5	evaluate 29:3 49:5 49:11	
eliminate's 44:7	evaluated 23:15 30:15 39:15	
employed 75:15	evaluating 36:10	
employee 59:2	evaluation 16:6 17:9 24:4	
employees 58:19 59:5 59:18 60:7 69:15 69:23,24	evaluations 30:13	
employer 12:3 43:19 43:24 58:18,25 59:4,9,17 60:2	event 25:22	
employers 58:15	ex 10:13	
employer's 59:13	exact 71:6	
encompasses 73:21	exactly 26:2	
encounter 56:23	examination 8:21 11:15	
engineer 71:19	examined 8:17	
engineering 12:8 37:7,13	example 41:7 42:12 53:2	
ensure 59:14	excess 47:18 52:16	
enter 39:7	excluded 24:13,14,15 24:17	
entered 78:15	EXHIBITS 5:2	
enters 39:18	Exhibit-1 5:6 17:3,4 18:12	
entire 17:6 68:7 70:9,12 78:12	Exhibit-2 5:9 18:13	
entry 56:17		
environment 16:3,8 41:19		

exposures 16:2,11,15 20:9,11 23:22 26:22 27:18 28:5 35:16 41:23 45:3 47:7,17 56:23 57:4 59:12,14,15 61:11 68:17 extended 48:9 54:6 extensive 47:6 F facilities 28:12,13 28:18,20 facility 20:4,11,16 20:23 21:7 27:11 27:13,24 28:16 29:9,12,14 40:23 40:24 57:15,17 63:9 65:11 fact 29:25 43:3 fail 59:19 fails 58:18 59:3,17 fair 18:16 44:3 74:8 fairer 12:16 fall 20:13 68:6 falls 68:11,12 familiar 13:4 22:10 24:24 25:2 33:25 34:4 39:23 55:6 64:17 65:17,23 far 41:7,21 68:12 Farnet 3:3 7:9,9,16 8:3 17:16,19 32:19 33:7 43:22 56:24 58:21 59:6 66:6,23 72:14 73:25 February 9:5,10 feel 72:11 felt 17:9 19:5 68:21 Fernandez 2:6 7:8 fewer 50:21 field 10:22 11:12,14 12:8,10,25 14:5 37:11 41:7,7 72:12 figure 45:15 file 17:6	filling 64:10 find 27:5 51:14 finish 9:22,24 66:7 finished 14:21 66:6 fire 57:9 FIRM 4:6 first 27:8 44:8 62:21 five 11:12 46:5 flawed 26:20 Floor 3:4 4:7 Florida 6:17 folks 70:2 followed 19:7,9 20:25 26:10 28:2 following 12:18 59:8 78:15 follows 8:18 foregoing 75:8,11 77:7 form 14:8 32:10,19 33:7 37:14 39:12 39:21 43:22 49:2 52:19 53:6 55:3 56:11,24 58:8,21 59:6 72:13 73:25 76:8 forming 54:2 forms 40:16,18,19 41:25 formula 35:7,9,13,17 formulas 22:20 formulation 48:15 found 26:19 four 28:12 frankly 10:19 39:14 frequency 16:7 19:21 49:8 52:21 56:6 64:14 frequent 60:21 full 8:24 full-time 57:12,14 function 52:21 61:17 63:3,4 further 23:10 68:14 68:16	Fusand 63:21 G Garden 6:24 Garner 4:6 8:6 gas 61:14 62:2,25 gasoline 60:25 61:3 61:4,7,11,13 62:11 62:16,18 general 14:4 55:21 71:20 generally 48:12,14 George 14:14 15:12 getting 61:23 give 9:7,8 12:15 52:25 74:13 given 44:25 gives 23:8 Glenn 3:3 7:9 17:17 gloves 60:13,20 61:19,20 go 52:3 67:10 69:20 70:4 going 29:25 30:22 49:4 50:7 74:14 good 8:23 42:11 Gorda 6:17 gosh 18:23 35:24 45:8 government 47:4 graduate 15:7,11,15 32:4 Greenway 3:9 group 26:15 29:23 41:5 56:14 66:18 groups 40:24 Guard 22:2 guess 13:2,9 25:18 37:16 41:16 44:22 44:24 62:13 guesses 23:4 guessing 50:16 guesstimates 26:21 guideline 42:16 guy 53:23
--	--	---

H handled 44:13 happen 34:10 hard 18:11 Harris 37:23 HAWTHORNE 3:3 HAYNES 2:10 hazard 13:15 38:18 59:22,23 60:6 health 12:4 13:15 14:19 31:24 44:10 47:19 48:11 52:16 53:10 54:15 55:12 55:18 60:6 71:25 72:8 hear 24:10 hearing 26:5 held 1:12 38:10 71:2 71:13 72:23 help 58:3 69:20 70:13 hereof 76:5 77:10 Hey 51:22 high 54:5 55:20 56:9 56:17 67:25 68:4 68:17 higher 26:12 27:3 48:13 highest 65:13 Hilton 6:23 hire 57:11 historical 12:22 30:15,19 his/her 77:8 Hold 8:3 honestly 36:15 45:8 49:23 70:22 hour 14:24 53:3,16 hourly 52:6 hours 10:11 17:14,24 52:9 Houston 2:11 3:10 human 39:16 50:11 hundred 36:6 hundreds 27:12 hydrocarbon 13:13	hygiene 14:14 15:19 15:24 19:8 29:4 33:19 42:5 53:13 58:3 hygienist 11:5,9,17 12:13 20:25 53:9 54:12 57:12 65:10 69:19,20 70:13,20 71:16 hygienists 15:2 57:14 58:2 hypotheticals 62:13 I IDENTIFICATION 17:5 18:18 identified 30:18 63:19 identify 7:4 8:4 important 66:14 include 33:21 included 21:18 29:24 32:12,15 41:2 includes 16:6 including 18:4 61:5 incorrect 19:14,18 incorrectly 27:16 INDEX 5:2 indicate 73:23 indicated 63:23 78:16 indicator 43:13,15 indices 24:3 individual 40:23,25 41:5 43:6 individuals 11:14 40:7 56:15 64:9 Indoor 11:7 industrial 11:5,9,17 12:13 14:14 15:2 15:19,24 19:8 20:25 29:4 33:19 42:5 53:9,13 54:12 57:12,14 58:2,3 65:10 69:19,19 70:13,20 71:16	inform 59:17 information 19:6,24 31:5 46:22,23 52:13 60:5 69:21 ingestion 39:5 inhalation 23:13 39:2,23 57:4 62:7 Inn 6:24 inorganic 31:23 inspectors 15:2 installing 57:9 instance 19:13 52:25 Institute 14:18,25 32:5 71:25 72:8,18 Institutes 31:24 insufficient 19:6 intent 44:14 inter 42:18 interested 75:16 internal 63:22 interpreted 27:16 interruption 6:8 51:16 intra 42:18 investigate 68:14,16 invited 37:25 involve 45:3 involved 14:23 21:19 47:6 49:23 involves 44:18 issue 16:9 22:13 26:25 27:4 49:20 50:8 55:6 issues 25:14 32:14 45:5,5 58:4 72:19 item 17:12,15 items 5:10 18:14 J J 2:6 JAMES 3:8 JARMAN 3:4 Jim 7:14,16,18 Jo 1:4 6:19 JOANN 78:5 job 72:9
--	--	---

John 1:11 6:3,18 8:16 9:2 38:7 74:18 75:5 76:3 77:6,13 78:8 79:24 Johnson 70:17 John's 18:10 journals 11:20,22 JR 2:4 judge 26:13 judgment 25:14,18,19 July 1:12 6:4,7,11 75:23 78:9 jurisdiction 77:17 K KEAN 3:3 keep 44:23 kids 10:3 kind 37:10 know 12:18 13:9,11 17:16,20 18:2 19:12,19 22:9 23:2 23:9 25:11,14 26:2 26:19,25 31:3 32:6 32:20,24 33:18 34:10 35:18,20,25 36:13 37:12 39:14 41:21 42:12,24 43:8 44:7 45:17 46:4 49:24 50:4,15 50:17,17,19 51:2,4 51:7 52:11,14 53:15 54:8,25 55:5 55:11,19 57:19 58:5,9 61:2,3 63:22 64:2,5,12,15 68:19 70:19,22 71:23 knowledge 14:6 19:20 57:13 65:5 known 50:11 L L 1:14 2:4 75:4,6,9 75:21 lab 72:16	laboratory 31:25 72:2,8 labs 72:20 laid 57:5 Landau 6:13 large 12:12 56:14 Laura 1:14 7:3 75:6 75:9 Lavender 24:22 25:22 LAW 4:6 layers 40:8 laymen's 67:24 lead 34:18 leave 10:5 LEE 3:9 left 34:25 legal 6:14 10:18 12:6 letters 11:13 let's 16:25 19:13 25:22 28:14 level 26:13 27:3 30:18 32:4 65:24 67:5 levels 30:15,20 35:18,19,22 47:11 47:24 48:10,25 51:15 52:16 54:4,6 54:9,25 55:11,20 56:5,9,17 63:22 64:21 66:4,9 73:23 life 40:6 lifetime 53:12 limit 20:13 42:22 73:20 limitations 22:14 limited 24:19 limits 55:18 line 56:16 61:22 62:19,23 63:5 67:14 Liquid 63:13,17,24 64:10,16,19,22 list 38:3 listed 45:9,10,20 lists 55:17	literature 13:4,6 20:18 30:14,18 31:3 41:2,3 47:2 64:18 litigation 21:22 22:4 42:9 44:19 47:9 72:24 LLC 3:9 LLP 2:10 3:4 loading 63:24 long 63:4 longer 27:19 look 20:21 28:15 31:2 45:21,24 46:12,24 67:10 69:4 74:5,6 looked 28:13,19 29:21 32:21 45:23 68:20 69:5 looking 39:2 42:4 50:7 68:9,10 lot 31:5,22 35:15 38:9,12,13 52:12 52:13 68:23 Louisiana 1:3 2:5,7 3:5 4:8 6:22 low 60:23 68:4 lower 36:4 M M 3:3,8 malignancies 39:11 51:11 manage 16:10 44:9 56:21 management 16:3 58:6 managing 15:25 16:15 59:15 manufacturer 31:14 Marathon 3:7 7:10 30:3 50:25 51:3 63:9 Marathon's 29:18 mark 17:3 MARKED 5:4 17:4 18:17
--	--	---

Martin 37:23 Marty 6:13 Maryland 9:3,16 31:25 Masters 9:19,23 10:9 13:18 70:21 material 55:8,11,16 61:8 materials 17:8 math 22:18 mathematical 22:19 matter 6:19 36:17,25 37:8 76:4 77:8 78:13 mattered 57:21,24 McCOWAN 3:4 McKinney 2:10 mean 12:19,19 13:10 18:3 19:6 25:16,17 29:13 30:11,25 34:15 37:16,18 42:3 45:8,12 46:10 46:12,16,20,24,25 49:4 50:17 58:11 58:11 60:16 61:15 62:19 66:9 68:13 70:11 73:6 74:6 means 20:24 36:10 43:13 measurable 62:10 63:6 measurements 40:21 40:22 mechanism 41:6 median 68:13 medical 39:13,17 47:14 53:8,23 54:11 55:6 mentioned 72:7 merger 28:15 metabolized 53:25 Metairie 2:5,7 method 33:18 40:13 41:21 methodologies 37:3 methodology 15:17	25:6,24 26:20 32:18 methods 15:20 Miles 24:22 25:3 MILLER 3:3 million 21:6,13 29:8 35:23 36:6,7 53:3 53:11,17 54:10 64:5,22 65:17 66:21 67:6,9 69:8 73:24 minimize 44:14 minimum 11:11 minute 29:16 65:2 minutes 27:8 mistake 38:13 mistaken 73:13 misunderstanding 21:4 Mobay 24:23 25:4 model 22:10,12,23,25 41:7 modeling 28:4,23 41:6,9 models 41:8 moment 57:6 74:14 monitoring 20:16 21:24 28:10,11 33:10 47:7 monkey 40:7 month 44:22,25 morning 8:23 multiple 49:15,19 50:6 54:24 72:17 multitude 37:18 Murphy 4:10 8:7,8 50:22,24 myeloma 49:15,19 50:6 54:24	national 14:18 22:13 31:24 71:25 72:7 Near 41:6 need 37:11,16 49:5 52:4 59:24 68:14 68:15 74:5,6 needs 51:23 never 10:16,19,24 22:2 38:10 41:13 71:2,11,13,16 72:22 new 4:8 10:3 25:3 NIOSH 21:25 22:15 32:18,23,25 33:6 33:14 41:20 43:4 Norco 21:7 57:11 North 1:13,15 6:25 notary 1:15 7:20 77:19 Notary/Reporter 75:4 75:7 notation 42:25 notations 43:5,9,10 notice 5:7,10 16:23 17:2,3 18:9,9,11 18:15 number 6:21 18:7 40:21 45:24 51:4 55:25 numbers 22:9,23 29:18
	N name 6:13 7:5 8:11 8:24 13:20 14:2 16:12 24:21 25:2,3 38:6 70:16 78:16 narrow 20:8	O object 14:8 32:10,19 33:7 39:12,21 43:22 49:2 52:19 53:6 55:3 56:11,24 58:8,21 59:6 72:13 72:14 73:25 Objection 66:23 obligation 59:20 obviously 46:16,19 58:12 occupational 14:18 16:2,3,15 38:17 41:23 44:10 47:19

48:11 53:10 55:18 73:20 occur 44:17 54:3 55:13 occurred 23:23 26:4 57:20 occurs 60:2 odor 32:6,12,13,17 33:2,5,9,24 35:21 36:3,8 41:11 42:6 42:8,10,13,16,20 OEL 73:14,15,16 OEM 73:13 offhand 34:12 49:25 52:11,14 office 3:5 69:20 70:3 oh 25:11,11 35:9,15 40:4,20 42:3,10 43:2 45:8 70:2 oil 1:7 2:12 3:6,7 4:10 6:20 7:10 8:7 8:9 60:10,14,17 62:8 78:6 okay 9:8,13,17,19,22 10:5,8 11:8 15:8 15:17 16:20,25 17:12,18,23 18:6 22:5,22 23:25 24:12,18 28:11,18 35:5 38:6 40:15 42:21 48:17,21 49:12 50:4,10 53:15 55:15,23 57:19 60:8 61:14 64:4,8 65:3 66:14 67:7,24 69:9 70:25 72:11 73:2,11,22 74:8 Once 24:20 ones 11:4 12:5 34:8 49:17 69:3 opened 67:14 operation 62:5 67:14 opined 47:9,13,23 opines 47:14	opinions 36:17,24 37:7 order 19:23 organic 31:22 original 78:19 originally 18:23 Orleans 4:8 OSHA 14:24 15:2 32:5 32:18 33:6 41:20 42:24 43:18 44:3,9 55:17 72:18 outcome 29:6 75:16 outliners 67:19 outside 14:25 Overby 6:13 75:4,21 overstated 27:25 owner 43:19 58:18 59:3,16,22 P P 68:10 page 69:13 76:5 77:10 pages 75:11 paint 48:6,12 Pamela 34:17,25 paper 34:4,6,11,17 35:3 papers 35:24 Parkway 9:3 part 10:23 12:12 17:7 21:5 29:8 36:6 41:5 53:3,11 53:16 54:9 67:6 71:15 73:24 partial 27:20 particular 14:5 31:4 32:15 44:21 47:18 48:4,5,15 55:7 59:12 65:25 parties 76:10 parts 21:12 35:22 36:6 40:9 64:5,21 65:16 66:21 67:9 69:8 party 75:15	Paso 3:7 7:10 pass 11:15 pathways 38:20 Paustenbach 34:2,18 34:19,20,23 35:12 35:19,21 peer 11:19,24 39:25 peer-reviewed 65:4 PEL's 73:21 pending 6:21 people 13:10 23:3 33:11 35:15 38:13 41:17 60:17 percent 44:24,25 48:13,20,22 56:2 60:16 percentage 44:18 48:7 60:14 percentages 60:22 perception 32:14 33:10,23 perform 19:3 20:2,3 22:7 performed 21:20 period 45:19 48:9 63:14 periods 54:6 Perry 2:9 7:11,11 8:7 14:8 18:8 25:8 32:10 39:12,21 49:2 51:22 52:3,19 53:6 55:3 56:11 58:8 72:13 73:6,15 74:11 person 36:13 47:20 personal 44:4 65:21 65:22,23 personally 69:9 77:5 phone 6:9 38:15 51:16,23 phonetic 63:21 65:6 Ph.D 13:24 14:5 70:23 pipe 62:17 66:5 pipefitter 20:9 55:24 65:9 68:23
---	--	--

69:5 pipefitters 21:6 26:8,9,11,11,16 27:2,24 28:2 55:19 56:9,14,22 65:14 65:25 66:2,11,12 66:13,16,17,22 67:4,7 place 3:4 16:6,8 49:6 56:4,21 76:5 77:9 places 47:8 plaintiff 2:3 6:19 26:23 46:3,7 47:10 47:24 51:14 plaintiffs 1:5 7:8 37:25 plaintiff's 13:17,23 27:18 29:4 Plaintiff/Defendant 7:2 plant 37:19 Plaza 3:9 pleasant 52:2 please 7:4,25 8:24 22:5 plug 22:9,23 plus 61:4,12 point 54:19 points 27:12 30:2 policy 58:5,10 pool 68:2 poor 27:6 34:25 portion 37:9 position 46:23 possible 52:17 57:6 57:7 Post 3:5 potential 31:11 59:14 60:9 61:10 63:11 potentially 39:4 61:16 64:16 Poydras 4:7 PPM 53:13 practice 15:23 21:24	premise 43:19 59:2 59:16,22 prepared 17:19 45:10 present 23:18 43:11 44:2 60:6,15 presented 47:15,16 pretty 44:20 71:24 prevent 53:20 primary 12:5 35:2 principles 22:18 prior 61:23 75:7 probable 39:6 probably 45:12,13,23 46:18 problem 35:10 40:5 40:10 procedure 32:7 process 16:5,6 19:8 19:11 20:24 23:11 28:3 49:25 processes 31:10 37:19 produce 73:4 produced 20:18 23:3 64:18 product 12:5 30:9,19 30:21 32:24 33:13 43:11,16 47:18 48:22 56:2,19 61:16,21 67:15 products 13:5 16:9 19:20 30:16 31:4 32:3 Professional 11:6 program 10:9 15:6,7 15:11 38:4 programs 12:4 prohibited 58:6 project 44:21 properly 19:23 31:11 37:17 42:19 59:15 protecting 58:16 protection 44:4 protective 44:4 protocol 32:23 33:15 provide 43:19,24	provides 42:16 public 1:15 7:20 77:19 published 18:24 30:14 47:3 Punta 6:17 pure 67:15 purged 62:20 63:5 purpose 53:15 put 10:19,24 17:17 38:7 52:9 56:4 pyrolysis 61:14 62:2 62:25 Q qualifications 22:6 qualified 72:21 qualifies 72:11 qualify 22:7 Quality 11:7 quantification 12:16 12:20 quantify 41:22 quantitative 41:15 quantity 43:14 question 10:18 12:16 36:22 37:17 39:14 39:17 47:23 50:2 50:16,19 52:4 53:14 54:24 57:16 61:9 66:7,19,24,25 73:3 questions 74:9,11,12 quite 36:7 38:17 42:11 58:11 quote 71:7 R Radiator 3:11 7:14 7:18 51:5,8,10,17 63:22 Rando 34:8,14 65:4 Rando's 19:12 range 20:9,12 21:9 21:10 29:21 42:13 64:21 68:6 74:6
--	---	---

rate 52:7 read 17:15 26:3 27:16 34:13 46:19 58:23 76:10 78:12 78:14 ready 8:19 real 46:5 really 23:9 28:25 29:3 45:17 63:2 reasons 78:16 recall 24:21 32:22 33:13,15 36:14 54:17 67:12 71:8 71:21 receive 11:16,23 16:23 recognition 11:13 recognize 42:15 recognized 44:11,16 recollection 48:19 54:20 recommended 43:24 record 6:7,10 7:5,22 8:25 74:14 78:15 recording 6:6 records 44:23 recreate 32:8 41:14 recreated 33:5 recreating 40:16 42:2 reduce 44:9 56:5 reduced 76:8 reference 34:14 36:3 references 17:7 18:5 34:13,15 referred 38:16 referring 18:21 24:2 27:14 34:7 37:10 refineries 33:12 refinery 37:19 58:18 59:3 reflect 69:6 regard 31:6 59:25 regarding 14:12 54:16 regards 10:18	regulation 42:25 regulations 43:18 related 29:19 40:25 45:5 55:6 60:18 relevant 17:9 36:16 36:24 37:7 68:21 reliability 67:23 relied 18:5 34:9 37:14 65:4 rely 69:2 remember 32:24 33:16 48:7 remove 25:21 68:18 removed 25:13,15,17 25:17 68:20,25 remover 48:6 removers 48:12 repeat 52:4 repeated 72:4 rephrase 35:20 47:22 report 20:22 21:8,8 33:14,16 45:11 52:10 67:18 69:6 70:9,12,14 reported 31:4 36:8 66:9 reporter 1:14 7:3,21 7:23 8:10,14,20 18:13 76:7 78:11 Reporting 6:14,15 78:4 represent 7:6 31:11 representative 29:23 31:8,9 represented 26:12 27:2 Representing 8:7,8 request 17:13 78:14 requested 76:6 require 43:18 researchers 22:16 RESERVED 74:17 resources 57:25 respirators 49:7 respiratory 61:21 response 17:2,13	18:2 responsibility 59:10 59:13 60:3,4 responsible 58:16 59:2 responsive 5:10 18:14 result 65:14 results 33:4 53:22 64:9 review 11:24 13:6 30:13 47:2,2 52:13 54:14 55:8,14 65:9 69:9,16 reviewed 13:3 17:7 37:5 39:25 69:12 69:13 reviewer 11:19 revisions 18:25 re-ask 66:24 RICHARD 2:6 Rick 7:8 right 44:7 50:2 63:19 74:13 Riley 3:8 7:14,14,18 7:18 ring 52:2 Road 1:13 6:24 Rock 1:13 6:24 ROSE 3:9 Rouge 3:5 route 39:3,5 routes 38:21,23 44:15,17 routinely 46:9,13,17 rule 14:4 RYMAN 3:9
S		
		safety 11:6 12:4 14:18 43:20 45:4 55:8,12,16 sample 65:13,21,21 65:22 67:3,8 samples 13:13 23:14 23:14 27:10 30:4

37:4,4 64:25 65:24 66:20 67:25 68:18 68:24 69:2 sampling 27:12 30:2 33:21 41:21,25 Sandhill 6:16 Sandt 1:14 7:3 75:6 75:10 saying 20:2 62:15 67:25 72:15 says 54:23 scenario 61:3 63:3 school 10:6 science 36:16,23 37:6,14 sciences 9:16 scientific 46:23 scientifically 46:11 46:21 se 19:5,7 second 18:8 51:23 Security 9:6 see 38:24 seek 60:4 seen 49:18 54:19 64:2 select 26:14 selected 26:15 send 17:21 sense 37:2 sensitization 43:12 sensory 32:13 33:23 sent 69:10 served 13:16,22 45:6 45:16 46:2 49:12 set 67:11 68:7,13 70:4 76:5 77:9 sheet 55:17 78:2,17 sheets 55:9,12 Shell 1:7 2:12 3:6,6 6:20 7:10,11 19:14 20:4,11,16,22 21:7 32:6,11 36:2 50:14 57:11,24 58:5 63:9 65:10,18 67:7 68:17 69:7 78:6	Sher 4:6 8:6 short-term 64:25 68:2 show 36:5 40:2 64:20 sigma 68:9 sign 76:11 SIGNATURE 74:17 79:23 signed 78:16 significance 23:17 49:10 significant 10:23 42:18 44:12 60:6 60:24 significantly 44:20 similar 14:15 simply 19:9 33:9 72:15 simulate 26:22 sir 8:11 9:4 11:2 24:5 30:5 51:20 57:18 58:24 62:14 63:15 65:19 sit 20:3 64:10 site 59:24 sitting 54:21 skin 40:7,7,9,9 42:24 43:4,15,17 60:18 slue 41:9 small 60:14 sniff 41:19 Social 9:6 solely 46:9,14,17,19 solvent 12:21,23 solvents 44:13 somebody 27:22 51:23 somebody's 53:2 somewhat 25:2 sorry 8:9 14:21 24:2 24:10 25:10 26:9 30:22 36:21 51:17 58:22 59:7 63:21 65:20 sort 29:2 41:8 42:4 56:3 63:2	sound 65:17 sounds 27:15 sources 13:6 speak 38:2 47:20 speaker 6:9 Spear 65:3 specialist 6:15 Specialists 7:15 Specialty 3:11 7:19 51:5,8,10,17 63:23 specific 19:20,21,22 20:22 40:24 41:4 54:20 57:19 62:3 70:19 specifically 10:25 14:3 20:7 29:20 43:8 50:8 54:17 67:12 71:17,21 specificity 37:11,17 spell 8:12 Spencer 1:12 6:3,18 8:16,23 9:2,14 16:22 17:23 18:20 21:5 24:12 30:7 36:11 37:22 38:7 38:19 46:8 50:13 52:6,15 67:18 72:6 74:19 75:5 76:3 77:6,13 78:8 79:24 spent 52:12 spoke 15:5 22:12 43:5 spoken 37:22 Spring 1:13 6:24 Stan 2:9 7:11 standard 15:19 44:10 48:11 52:17 53:10 53:17 68:9 standardized 15:23 35:9,17 40:11,13 73:19 standards 47:19 standpoint 10:19 12:6 42:5 53:14 starting 10:3 state 1:15 8:24 77:3
---	---	--

statement 58:14,25 states 1:2 6:21 77:7 stating 7:5 26:20 statistical 67:21,22 68:8 70:5 steamed 62:20 STEL 65:2 stenographically 7:21 Strategies 15:25 16:14 18:22 streams 37:20 Street 2:4,10 4:7 studies 36:5 39:16 39:25 40:6 41:3 47:3,3 64:15 study 25:13 32:12 36:2 42:15 64:18 64:20 65:3,7 studying 10:9 submit 17:20 submitted 32:18,23 32:25 33:6 SUBSCRIBED 77:15 substances 12:11,17 36:19 sufficient 46:22 56:20 62:6 Suite 2:4,7,10 3:9 6:17 summaries 70:3,3 summarize 69:16 summarized 69:24 summary 13:7 25:14 25:18,19 31:5 support 46:11,21,23 suppression 57:9 Supreme 25:5,9,10 sure 27:9 34:6,16 35:15,17 36:18 37:9 40:4 42:10 43:2 45:4 48:18 50:23 57:2 70:2 surface 48:9 surveyor 42:18 swear 8:2	sworn 8:17 75:6 77:6 77:15 synthesizing 32:2 system 54:2 57:10 systemic 43:11 T T 4:4 take 9:19 17:24 24:7 41:2 59:21 taken 6:23 14:11,13 14:15 31:17 32:3 72:17 75:9 76:3,7 77:8 78:13 talk 20:22 25:22 43:3 73:10 talked 42:10 43:8 talking 19:16 24:15 27:9 34:16 35:4 61:7 72:9 talks 36:3 42:17 tank 56:17 tasks 16:7 19:22 techniques 41:9 TELEPHONE 1:11 6:2 Telephonically 2:3 3:8 4:5 tell 12:22 13:20 14:2 16:25 17:25 22:5 28:9 40:15 45:12 48:4 49:17 50:9 53:19 58:18 61:25 62:3 65:13 68:10 ten 46:5 Tenneco 50:20 63:9 term 67:19 73:19 terms 29:13 62:22 67:24 test 27:6 testified 8:18 10:16 22:22 36:11 45:10 45:13,22 46:8 69:22 70:25 71:9 71:18,23 testify 46:9 71:10	testimony 7:22 75:13 Texas 2:11 3:10 text 15:24 textbook 16:13 18:21 Thank 8:14 21:20 thesis 9:25 thing 41:8 42:4 43:7 things 19:17 think 13:3 14:9 18:10 19:16 25:12 26:24 27:21 29:11 29:15 30:10 31:6 33:15 35:3 36:4 37:24 41:24 42:3 46:17 50:21 57:23 57:24 59:8 61:2,15 71:4 73:2 74:3,9 third 41:6 three 10:3 18:25 28:13,18,19 threshold 32:7,17 33:6,9,24 35:22 41:11 42:8 thresholds 36:3,8 42:11,14 throw 68:2,3,15 time 6:11 7:22 13:5 22:3 29:17 30:23 33:12 44:25 48:9 52:12,23 54:7,19 73:12 76:4 77:9 times 24:18 27:19 45:9 46:6 title 38:3 76:5 77:10 TLV's 73:21 today 6:7 7:22 16:17 20:5 38:16 64:11 71:5,10 72:5 today's 6:10 48:11 74:15 told 64:4 65:16 total 53:3,16 touched 30:10 42:12 toxological 43:16 tradesmen 56:14
---	---	--

trained 15:3 72:18 Training 14:25 32:5 72:18 transcribed 75:9 transcript 75:12 76:11 77:7,11 78:12,19 trial 45:13 true 11:10 31:14 75:12 77:10 try 31:7 33:22 59:8 trying 37:24 turn 51:23 Twenty-six 10:12 two 14:23 15:9 16:14 18:25 19:17 40:21 41:2 two-week 14:23 type 19:25 22:17 43:25 61:8,20 62:4 types 26:22 30:13 typewritten 76:8 Typically 38:25 55:16	unknown 59:22 unpublished 30:14 47:3 unreliable 42:7 unsafe 47:24 48:24 51:15 updating 43:4,6 upper 20:13 upper-end 21:9,9,11 urine 23:14 use 15:17 23:16 64:19 Utah 25:10 utilize 22:18 41:10 utilized 16:10 36:9 37:3 42:19 61:19 69:4 U.S 21:25	version 43:7 63:17 versus 6:19 24:22,25 25:22 50:5 video 6:14 VIDEOGRAPHER 6:5 7:13,20,25 74:13 videotape 6:5 VIDEOTAPED 1:11 6:2 Video-Telephone 5:7 view 26:12 visual 33:10,23 volatilized 62:22 vs 1:6 78:6
U	V	W
Uh-huh 46:15 ultimately 52:22 undergrad 24:8 undergraduate 15:6 31:21 understand 26:17 37:2,18 52:22 58:11 74:4 understanding 53:9 53:24 unfamiliar 59:11 unfortunately 25:25 40:4 unidentified 6:9 union 43:7 United 1:2 6:21 universe 56:13 university 9:16 14:12,15,17,19,22 15:13,13	vacuum 70:7 validate 33:22 validated 33:19 40:13 validating 23:10 value 20:14 21:10,11 23:9 29:22 values 20:12 21:10 29:22 68:6,10 74:7 valve 23:10 Van 1:14 7:3 75:6,9 vapors 62:17 variability 42:19 variable 67:21,22 variables 22:11 32:14 61:17 variation 36:2,8 varies 44:20,24 62:4 variety 11:21 30:16 47:7 various 13:6,13 22:11 32:2 44:13 vast 69:21 ventilation 27:7 49:7 Verma 65:6	walk 41:18 want 9:7,8 17:15,24 17:24 66:15 70:7 74:3 warn 59:3,19 warnings 12:5 Washington 14:15 15:12 wasn't 14:21 25:25 26:4 28:25 30:17 33:8 way 23:21 30:25 36:14 37:13 41:13 64:6 67:25 ways 40:12 week 44:22,25 weeks 14:24 weighted 53:3,16 went 67:8 weren't 58:4 West 2:7 we'll 18:6,12 we're 19:16 36:18 61:7 wide 35:25 48:8 Williams 2:4 7:7,7 8:19 17:18 18:16 34:20 64:19 74:8 Williams's 34:17 Wilmington 1:13 6:25 witness 8:2 14:9

24:13,15,19 32:11 32:20 33:8 39:13 39:22 43:23 49:3 51:25 52:20 53:7 55:4 56:12,25 58:9 58:22 59:7 67:2 72:15 74:2 witness's 75:13 word 44:7 work 10:15 14:24 16:6,8 32:4 43:9 44:18 47:8 55:25 55:25 60:19 69:24 70:7 worked 14:17 21:25 21:25 31:23 46:6 50:14,23 51:2,6,9 60:20 62:15,17 71:24 72:7,16,19 workers 32:9 44:13 58:16,17 63:23 working 13:12 20:10 20:10 44:21 53:12 57:8,9 60:10,18 62:7 63:12 70:13 world 41:22 wouldn't 60:23 Wrench 63:13,17,24 64:10,16,19,23 write 59:10 70:9,11 written 35:21,24	0 07-2832 1:6 6:21 1 1 1:12 6:4 18:2 53:2 53:11,16 55:25 78:9 1st 6:7,11 1.59 21:12 69:7 10 48:20,22 50:18 10:17 74:15 100 9:2 12 9:5,10 30:2 1221 2:10 146.7 65:16 66:21 67:9 15 27:8 45:14 50:17 51:7,13 53:4 64:25 15-year 45:19 150 61:4,12 16-ounce 63:20 17 5:6 178 6:14 18 5:9 1954 9:5,10 1975 57:22 1978 63:14,25 1987 11:18 2 2 14:24 18:2,7 56:3 75:23 2/12/54 9:11 20 45:14 48:20,22 200 2:7 45:18 2000 3:9 2007-2008 19:2 2009 1:12 6:4,7,11 75:23 77:16 78:9 2100 2:10 22nd 3:4 225-387-0999 3:6 24.5 64:4 24650 6:16 28th 4:7 28405 6:25	29 64:5 299-2100 4:9 3 3 3:9 3.8 64:21 30 30:12 68:24 30-plus 13:11 21:23 72:20 3000 2:7 3021 2:4 33983 6:17 35th 2:4 3513 3:5 38 35:22 4 40 14:24 44:24 401 6:17 45 53:11,12 5 5 44:24 48:13 504 2:5,8 4:9 547-2039 2:11 6 653-7375 3:10 6745 1:12 6:24 7 70s 23:23 55:21 56:10,22 58:6 70001 2:5 7002 2:7 70112 4:8 70821 3:5 713 2:11 3:10 77010-2007 2:11 77046 3:10 8 8 53:3,16 832-9898 2:5 834-8500 2:8 84 30:6 8805 9:2
Y YALE 3:9 yeah 8:5 26:24 27:15 30:24 34:22 64:20 year 11:16 18:20 21:14 26:3 29:8 34:10 57:11 years 11:12 13:12 18:24 21:23 24:16 30:4,12 45:14 53:4 53:12,13 72:20 \$ \$285 52:8		

9 9:02 1:14 6:12 909 4:7 97 30:6		
--	--	--

Page 1 1 2 IN THE UNITED STATES DISTRICT COURT FOR THE 3 EASTERN DISTRICT OF LOUISIANA 4 JO ANN BISHOP, ET AL, 5 6 Plaintiffs, 7 vs. Case No.:07-2832 8 SHELL OIL CO., ET AL, 9 Defendants. 10 11 VIDEOTAPED TELEPHONE DEPOSITION of JOHN 12 SPENCER, C.I.H, C.S.P., held on July 1, 2009, at 6745 13 Rock Spring Road, Wilmington, North Carolina, commencing 14 at 9:02 a.m., before Laura L. Van Sandt, a Court Reporter 15 and Notary Public in and for the State of North Carolina. 16 17 18 19 20 21 22 23 24 25	Page 3 1 2 APPEARANCES: (CONT'D.) 3 GLENN M. FARNET, ESQUIRE 4 KEAN, MILLER, HAWTHORNE D'ARMOND, 5 McCOWAN & JARMAN, LLP 6 22nd Floor, One American Place 7 Post Office Box 3513 8 Baton Rouge, Louisiana 70821 9 (225-387-0999 10 Attorneys for Shell Oil, Shell Chemical, 11 Marathon Oil, El Paso 12 JAMES M. RILEY, ESQUIRE 13 (Telephonically) 14 COATES, ROSE, YALE, RYMAN & LEE, LLC 15 3 E. Greenway Plaza, Suite 2000 16 Houston, Texas 77046 17 (713) 653-7375 18 Attorneys for Radiator Specialty Company 19 20 21 22 23 24 25
Page 2 1 2 APPEARANCES: 3 On behalf of the Plaintiff: 4 (Telephonically) 5 L. ERIC WILLIAMS, JR. ESQUIRE 6 3021 35th Street, Suite B 7 Metairie, Louisiana 70001 8 (504) 832-9898 9 RICHARD J. FERNANDEZ, ESQUIRE 10 3000 West Esplanade Avenue, Suite 200 11 Metairie, Louisiana 7002 12 (504) 834-8500 13 On behalf of the Defendants: 14 STAN PERRY, ESQUIRE 15 HAYNES AND BOONE, LLP 16 1221 McKinney Street, Suite 2100 17 Houston, Texas 77010-2007 18 (713) 547-2039 19 Attorneys for Shell Oil 20 21 22 23 24 25	Page 4 1 2 APPEARANCES: (CONT'D.) 3 4 CHRISTOPHER T. CHOCHESLES, ESQUIRE 5 (Telephonically) 6 SHER GARNER LAW FIRM 7 909 Poydras Street, 28th Floor 8 New Orleans, Louisiana 70112 9 (504) 299-2100 10 Attorneys for Murphy Oil 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Page 5 1 2 INDEX TO EXHIBITS 3 4 DESCRIPTION MARKED 5 6 Exhibit-1 17 7 Notice of Video-Telephone Deposition 8 9 Exhibit-2 18 10 Disk Containing Items Responsive to Notice 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 7 1 2 of the Plaintiff/Defendant. The court 3 reporter is Laura Van Sandt. 4 Will counsel please identify yourself 5 for the record stating your name, address and 6 who you represent? 7 MR. WILLIAMS: Yes; Eric Williams 8 and Rick Fernandez for the Plaintiffs. 9 MR. FARNET: Glenn Farnet for the 10 Shell defendants, Marathon Oil and El Paso. 11 MR. PERRY: Stan Perry for the Shell 12 Defendants. 13 THE VIDEOGRAPHER: Then -- 14 MR. RILEY: Jim Riley for Radiator 15 Specialists. 16 MR. FARNET: Jim, could you say that 17 again? 18 MR. RILEY: Jim Riley for Radiator 19 Specialty Company. 20 THE VIDEOGRAPHER: The notary public 21 and court reporter will stenographically 22 record the testimony today. At this time 23 the court reporter -- 24 MR. CHOCHESLES: This is Chris -- 25 THE VIDEOGRAPHER: -- will please
Page 6 1 2 VIDEOTAPED TELEPHONE DEPOSITION OF 3 JOHN SPENCER, C.I.H., C.S.P. 4 JULY 1, 2009 5 THE VIDEOGRAPHER: The videotape 6 recording has commenced and we are now on 7 record. Today is July 1st, 2009. 8 (Whereupon, Interruption by 9 unidentified phone speaker.) 10 We are now on record and today's 11 date is July 1st, 2009. The time is 12 approximately 9:02 A.M. 13 My name is Marty Landau of Overby 14 Reporting 178. I am the legal video 15 specialist for Accurate Court Reporting whose 16 business address is 24650 Sandhill Boulevard, 17 Suite 401, Punta Gorda, Florida 33983. 18 The deposition of John Spencer in 19 the matter of Plaintiff Bishop, Jo Ann versus 20 Shell Oil Company, et al, Defendant; case 21 number 07-2832 pending: United States 22 District Court Eastern District of Louisiana. 23 This deposition is being taken at Hilton 24 Garden Inn, 6745 Rock Spring Road, 25 Wilmington, North Carolina 28405 on behalf	Page 8 1 2 swear in the witness. 3 MR. FARNET: Hold on, Chris. 4 Identify yourself. 5 MR. CHOCHESLES: Yeah, Chris 6 Chocheles, Sher Garner. 7 MR. PERRY: Representing Murphy Oil. 8 MR. CHOCHESLES: Representing Murphy 9 Oil; sorry about that. 10 THE COURT REPORTER: And your last 11 name again, sir? 12 MR. CHOCHESLES: Let me spell it for 13 you. C-H-O-C-H-E-L-E-S. 14 THE COURT REPORTER: Thank you. 15 THEREUPON, 16 JOHN SPENCER, CIH, CSP, 17 having been duly sworn, was examined and 18 testified as follows: 19 MR. WILLIAMS: Are we ready? 20 THE COURT REPORTER: Yes. 21 EXAMINATION 22 BY-MR.WILLIAMS: 23 Q. Good morning, Mr. Spencer; could you 24 please state your full name and address for 25 the record?

Page 9	Page 11
1 2 A. John Spencer, 8805 Columbia 100 3 Parkway in Columbia, Maryland. 4 Q. And what's your date of birth, sir? 5 A. 12 February 1954. 6 Q. And your Social Security? 7 A. I don't want to give that out. 8 Q. You don't want to give that, okay. 9 And say your date of birth again? 10 A. 12 February 1954. 11 Q. 2/12/54? 12 A. Yes. 13 Q. Okay, what degrees have you earned, 14 Mr. Spencer? 15 A. I have a degree in biological 16 sciences from the University of Maryland. 17 Q. Okay, any other degrees? 18 A. No. 19 Q. Okay, did you take any Masters 20 classes? 21 A. Yes. 22 Q. Okay, and did you finish your 23 Masters degree? 24 A. I did not. I did not finish my 25 thesis.	1 2 Q. Do you have any certifications, sir? 3 A. Yes. 4 Q. Which ones? 5 A. I'm a Certified Industrial Hygienist, 6 a Certified Safety Professional and a 7 Certified Indoor Air Quality Consultant. 8 Q. Okay, what does one have to do to 9 become a Certified Industrial Hygienist? 10 A. Well, the same is true for all of 11 them. You have to demonstrate minimum 12 experience of five years in the field. You 13 have to have letters of recognition from 14 other certified individuals in that field and 15 then you have to pass an examination. 16 Q. And what year did you receive your 17 Industrial Hygienist Certification? 18 A. 1987. 19 Q. Are you a peer reviewer for any 20 journals? 21 A. Well, I have done for a variety of 22 journals, yes. I don't do it consistently. 23 I just -- I often receive articles and I'm 24 asked to peer review them. 25 Q. What areas do you consider yourself
Page 10	Page 12
1 2 Q. And why not? 3 A. Three kids and starting a new 4 business. 5 Q. Okay, were you asked to leave the 6 school? 7 A. No. 8 Q. Okay, and what curriculum were you 9 studying in your Masters program? 10 A. It was environmental biology. 11 Q. And how many hours did you complete? 12 A. Twenty-six. 13 Q. Do you consider to be an ex -- 14 yourself to be an expert in biology? 15 A. Certainly as a consultant I work in 16 that area. I've never testified as an 17 expert in biology, however. So if your 18 question is with regards to from a legal 19 standpoint, frankly I've never been put up as 20 a biologist before. 21 Q. Do you consider yourself to be an 22 expert in the field of chemistry? 23 A. Again, it is a significant part of 24 what I do, but I've never been put up as a 25 -- specifically as a chemist.	1 2 to be an expert in? 3 A. Well, exposure assessment; employer 4 health and safety and environmental programs; 5 product warnings; those are the primary ones 6 from -- again from a legal standpoint. 7 Q. Do you consider yourself to be an 8 expert in the field of chemical engineering? 9 A. No, I do not. 10 Q. What about the field of chemical 11 composition of substances? 12 A. Well, again, it is a large part of 13 what I do as an industrial hygienist. 14 Certainly I've had -- 15 Q. When I say -- let me give you a 16 fairer question; the quantification of 17 chemical compositions of substances? 18 A. I don't know that I'm following what 19 do you mean -- what you mean by 20 quantification. 21 Q. If I gave you a solvent and I said 22 can you tell me what -- what the historical 23 amount of benzene was in that solvent, would 24 you consider yourself to be an expert in 25 that field?

Page 13

1

2 A. I certainly -- I guess I have to

3 think about that. I have reviewed the

4 literature. I'm familiar with the changing

5 benzene content of products through time

6 based on review of various literature sources

7 and other summary documentation.

8 Q. So is that a yes?

9 A. I guess I would say yes. I know

10 more than I'd say most people. I mean I've

11 -- you know, I've been for the last 30-plus

12 years I've been working at this I've

13 certainly collected various hydrocarbon samples

14 and had them analyzed for benzene content in

15 health hazard assessments I was conducting.

16 Q. Have you ever served as an expert in

17 a case where the plaintiff's exposure expert

18 did not have a Masters?

19 A. Yes.

20 Q. Can you tell me his name?

21 A. No.

22 Q. Have you ever served in a case where

23 the plaintiff's exposure expert did not have

24 a Ph.D?

25 A. Yes.

Page 14

1

2 Q. And can you tell me his name?

3 A. I cannot specifically, no.

4 Q. As a general rule, would a expert in

5 a particular field with a Ph.D have more

6 knowledge than someone with a Bachelor's

7 degree?

8 MR. PERRY: Object to form.

9 THE WITNESS: No, I do not think

10 so, no.

11 Q. What classes have you taken at a

12 university regarding exposure calculations?

13 A. I've taken exposure assessment

14 industrial hygiene classes at George

15 Washington University. I've taken similar

16 cases on exposure assessment at the

17 University of Cincinnati when I worked for

18 the National Institute for Occupational Safety

19 & Health. While it was not a university --

20 Q. In the --

21 A. I'm sorry. I wasn't finished.

22 While it's not a university, I also took

23 two-week classes that involved that in two --

24 2 weeks of 40 hour class work from the OSHA

25 Training Institute outside of Chicago where

Page 15

1

2 OSHA inspectors and industrial hygienists are

3 trained.

4 Q. And the exposure assessment class

5 that you spoke about, was that in your

6 undergraduate program?

7 A. No; that was a graduate program.

8 Q. Okay, and you took -- I believe you

9 said you took two classes or --

10 A. One was at --

11 Q. -- in the graduate program?

12 A. One was at George Washington

13 University and another was at the University

14 of Cincinnati.

15 Q. And were those graduate classes?

16 A. Yes.

17 Q. Okay, what methodology did you use

18 in this case?

19 A. The standard industrial hygiene

20 methods.

21 Q. Can you explain it to us?

22 A. Yes; there -- there is a

23 standardized practice that is defined in the

24 industrial hygiene text. One is the

25 Strategies For Assessing & Managing

Page 16

1

2 Occupational Exposures. The other is the

3 Occupational Environment, its management. And

4 in those books are chapters that define an

5 exposure assessment process. And that

6 process includes evaluation of the work place

7 activities, the tasks, frequency and

8 duration; the work place environment; the

9 products that are at issue and what controls,

10 if any, were being utilized to manage those

11 exposures.

12 Q. And what did you say the name of

13 that textbook was?

14 A. Well, there's two; Strategies for

15 Assessing & Managing Occupational Exposures.

16 Q. And did you bring that with you

17 today?

18 A. I didn't bring the book with me, no.

19 I brought a chapter from that book --

20 Q. Okay.

21 A. -- that deals with --

22 Q. Let me back up, Mr. Spencer. Did

23 you receive a notice in this case?

24 A. I did.

25 Q. Okay, let's -- tell me what you

Page 17 1 brought in response to the notice, and I'd 2 like to mark the notice as Exhibit-1. 3 (WHEREUPON EXHIBIT-1 WAS MARKED FOR 4 IDENTIFICATION) 5 A. I brought my entire file. I brought 6 the references that I have reviewed as part 7 of this case and I brought other materials 8 that I felt were relevant to my evaluation 9 in this case. 10 BY-MR.WILLIAMS: 11 Q. Okay, can you break it down by item 12 what you brought in response to the request? 13 A. Well, we might be here several hours 14 if you want me to read each and every item. 15 MR. FARNET: Eric, so you'll know, 16 this is Glenn, he put it all on a disk -- 17 MR. WILLIAMS: Okay. 18 MR. FARNET: -- that we are prepared 19 to, you know, submit -- attach to the 20 deposition or send to you. 21 BY-MR.WILLIAMS: 22 Q. Okay, well, Mr. Spencer, I don't 23 want you to take hours. I just want you to 24 briefly tell me did you bring something in 25	Page 19 1 the most recent one in 2007-2008. 2 Q. Did you perform a benzene exposure 3 assessment for Mr. Bishop? 4 A. Not per se; one, I felt there was 5 insufficient information. And what I mean by 6 not per se is that I essentially followed 7 the process that your industrial hygiene 8 expert followed and simply made corrections 9 to some of the assumptions that were applied 10 to his process. 11 Q. Well, how do you know Dr. Rando's 12 calculations, let's say for instance for 13 Shell, are incorrect if you didn't calculate 14 an exposure assessment yourself? 15 A. Well, I think we're talking about 16 two different things. I believe that his 17 calculations are incorrect -- actually, we 18 don't know and he -- as he even described he 19 has no knowledge of what specific products, 20 what specific frequency and duration of 21 exposure, or what specific tasks Mr. Bishop 22 did in order to properly calculate an 23 exposure. In the absence of that information 24 you cannot do that type of assessment. 25
Page 18 1 response, you know, to 1, to 2? 2 A. Yes; I mean I brought all the 3 documents I just described including the 4 references that I relied upon. 5 Q. Okay, well, we'll attach the disk as 6 Number 2. 7 MR. PERRY: Just one second, Eric; 8 so the notice -- I had a copy of the notice 9 and I think John's got one electronically, 10 but I have a hard copy of the notice. 11 We'll attach it as Exhibit-1, and it's with 12 the court reporter. And then Exhibit-2 will 13 be the disk that has the items responsive to 14 the deposition notice. 15 MR. WILLIAMS: Fair enough. 16 (WHEREUPON, EXHIBIT-2 WAS MARKED FOR 17 IDENTIFICATION) 18 BY-MR.WILLIAMS: 19 Q. Mr. Spencer, what year was the 20 textbook that you were referring to, 21 Strategies? 22 A. Well, gosh, it was originally 23 published several years ago and there's been 24 at least two, maybe three revisions of it, 25	Page 20 1 Q. Did you perform -- so you're saying 2 you couldn't sit here and perform an exposure 3 assessment for the Shell facility for Mr. 4 Bishop today, if I asked you to? 5 A. Well, I can't -- I would agree with 6 that. I can't do it specifically for Mr. 7 Bishop. What I can do is better narrow down 8 a range of exposures that a pipefitter 9 working -- such that Mr. Bishop did working 10 at the Shell facility, what his exposures 11 would likely have been, or a range of values 12 that it would fall into or an upper limit 13 value that he would have been exposed to. 14 And that's based on the data, the air 15 monitoring data from the Shell facility, and 16 correlating that with some data that's 17 produced in the literature. 18 Q. But you didn't do that in this case, 19 is that correct? 20 A. Well, no; I did look at that and in 21 my report I do talk about the specific Shell 22 data from that facility. So, yes, I did do 23 that as a means of comparing the process 24 that your industrial hygienist followed and 25

Page 21	Page 23
1 2 what I certainly would have done to do such 3 an assessment. 4 Q. Maybe I'm misunderstanding you, Mr. 5 Spencer. Did you calculate a part per 6 million exposure assessment for pipefitters at 7 the Shell Norco facility? 8 A. In our report, yes; in our report I 9 gave an upper-end range -- or an upper-end 10 value and then a range of values as well. 11 Q. What was the upper-end value? 12 A. I believe it was 1.59 parts per 13 million. 14 Q. And that was per day, per year, 15 what? 16 A. That was an average daily exposure. 17 Now I don't believe that was Mr. Bishop's 18 exposure because that included activities that 19 Mr. Bishop would not have been involved in. 20 Q. Thank you; have you ever performed a 21 dermal calculation for benzene? 22 A. I have in the context of litigation 23 cases, yes, but not in my 30-plus years of 24 practice of monitoring benzene. When I 25 worked for NIOSH, when I worked for the U.S.	1 2 A. I don't know that would be called a 3 calculation. People certainly have produced 4 best guesses, but I -- 5 Q. Well -- 6 A. -- would -- I would say without a 7 calculation -- actually without -- a 8 calculation gives you -- it's an estimated 9 value and you really don't know the accuracy 10 of that value without further validating that 11 process. That's why in our business that 12 if we are concerned about dermal dose in 13 addition to inhalation dose, we collect 14 biological samples, blood or urine samples 15 and have that evaluated, and that's why we 16 do not use a dermal calculation to determine 17 the significance of exposure. 18 Q. And that's in the present day, 19 correct? 20 A. It -- correct; and it's always been 21 that way. 22 Q. You can't do that for exposures that 23 occurred in the '70s, is that correct? 24 A. That is correct, yes. 25 Q. Okay.
Page 22	Page 24
1 2 Coast Guard, that's just not done, never 3 done. The only time I've done is in the 4 context of litigation. 5 Q. Okay, please tell me what 6 qualifications that you believe you have that 7 would qualify you to perform a dermal 8 calculation. 9 A. Well, I know how to plug numbers 10 into a model. I am familiar with the 11 various variables that are associated with 12 the dermal model. I recently just spoke on 13 this issue at a national conference in Canada 14 on the limitations of doing dermal 15 assessments along with European and NIOSH 16 researchers in the same area. 17 Q. Does this type of exposure assessment 18 utilize different math principles? 19 A. Well, there's certainly mathematical 20 formulas that are used to derive estimates of 21 absorbed dose. 22 Q. Okay, earlier I believe you testified 23 that you could plug numbers into a model. 24 Could you do a dermal calculation without a 25 model?	1 2 A. I'm sorry, and you're referring to 3 doing the biological exposure indices 4 evaluation? 5 Q. Yes, sir. 6 A. Yes. 7 Q. Did you take any calculus classes in 8 your undergrad degree? 9 A. Yes. 10 Q. I'm sorry. I couldn't hear you. 11 A. Yes, I did. 12 Q. Okay, Mr. Spencer, have you ever 13 been excluded as an expert witness? 14 A. I have not ever been excluded as an 15 expert witness. I was excluded from talking 16 about cumulative dose in a case several years 17 ago, but I was not excluded from the case. 18 Q. Okay, how many times have you been 19 limited as an expert witness by a court? 20 A. Once. 21 Q. Do you recall the name of that case? 22 A. It was Lavender versus Miles, I 23 believe or Mobay. 24 Q. Are you familiar with the case 25 called Adler versus Bear Corporation?

Page 25 1 2 A. The name is somewhat familiar. Bear 3 is -- was -- is the new name for Miles and 4 Mobay. 5 Q. Did the Supreme Court criticize your 6 methodology for exposure assessments in that 7 case? 8 MR. PERRY: Can you clarify which 9 Supreme Court? 10 Q. I'm sorry, Utah Supreme Court. 11 A. Oh, oh, no; I don't know if they 12 did or not. I think that was the one where 13 that case was removed after we did a study 14 there, you know, and summary judgment issues 15 that the case was removed. 16 Q. What do you mean? When you say 17 removed, what did you mean by removed? 18 A. I guess they got summary judgment. 19 The defendants got summary judgment in that 20 case. 21 Q. That's not what we call remove, but 22 in any event let's talk about Lavender versus 23 Bear Corporation. What did the court say 24 about your methodology in that case? 25 A. Well, unfortunately I wasn't there to	Page 27 1 2 used data on pipefitters that represented a 3 higher level of exposure than the electrician 4 that was at issue in the case. 5 Q. Did the court also find that you 6 conducted a test under a very poor 7 ventilation and collected data only in the 8 first 15 minutes of exposure? 9 A. I'm not sure what you're talking 10 about because I didn't collect any samples. 11 I was using data from the facility. There 12 were hundreds of sampling data points from 13 the facility. 14 Q. And that's what I'm referring to. 15 A. Yeah, so it sounds like something is 16 being interpreted or read incorrectly. 17 Q. In that case could you have 18 estimated the plaintiff's exposures at the 19 times much longer than your experiment using 20 partial differential equations? 21 A. Again, I think you're confused with 22 somebody else. I didn't do any differential 23 equations. I used the data from the 24 facility on -- from their pipefitters which I 25 believe overstated what the electricians'
Page 26 1 2 know exactly what the court said. In the 3 document that I read one year after it 4 occurred, I wasn't even made aware that there 5 was a hearing, was that -- 6 Q. Well, let me ask you this -- 7 A. -- that I used data on electricians. 8 This had to do with pipefitters. I used 9 data on pipefitters, sorry. This was about 10 an electrician. The electrician followed the 11 pipefitters. I used the data on pipefitters 12 because it in my view represented a higher 13 level of exposure. And the judge in that 14 case believed that I did not select an 15 appropriate exposure group because I selected 16 pipefitters, not electricians. And as I 17 understand, that was the basis for the 18 decision. 19 Q. Do you know whether the court found 20 that your methodology was flawed, stating 21 that your estimates were guesstimates that 22 did not simulate the types of exposures 23 experienced by the plaintiff? 24 A. Well, yeah, I think that was -- you 25 know, and it was -- the issue was because I	Page 28 1 2 exposure was who followed the pipefitters 3 into that -- those process areas. 4 Q. Have you ever done any modeling of 5 exposures? 6 A. Yes. 7 Q. Did you do any in this case? 8 A. No. 9 Q. Can you tell me why? 10 A. Yes; we had air monitoring data. 11 Q. Okay, now did we have air monitoring 12 data for all four facilities? 13 A. Well, I looked at three facilities. 14 Q. And I apologize. Let's get that 15 clear. You did not look at the merger 16 facility, is that correct? 17 A. That's correct. 18 Q. Okay, so for the three facilities 19 you looked at did we have data for all three 20 facilities? 21 A. Yes. 22 Q. And that's why you didn't do 23 modeling? 24 A. Well, correct; and in addition to 25 that, I wasn't really asked to do -- to do

Page 29 1 2 that sort of detailed exposure assessment. I 3 was really asked to evaluate what the 4 plaintiff's industrial hygiene expert had 5 developed and to assess his approach and his 6 outcome. 7 Q. But if you were asked to come up 8 with a part per million year for each 9 facility, you could have done that in this 10 case, is that correct? 11 A. Well, I don't think that would be 12 appropriate to come for each facility. If 13 you mean in terms of Mr. Bishop -- 14 Q. Yes; contribution from each facility? 15 A. Yes; again, I think if you -- let 16 me back up a minute. I don't believe I had 17 at the time, at least I didn't have data on 18 Marathon's. I didn't have their numbers. I 19 couldn't do an exposure assessment related 20 specifically to Mr. Bishop. I could do an 21 exposure assessment that looked at a range of 22 values or a ceiling value that was 23 representative of the exposure group that Mr. 24 Bishop would have been included in. And in 25 fact I'm going to back up again. I did	Page 31 1 2 do that is to look collectively at the 3 literature as to -- you know, as it was 4 reported for those particular products. And 5 there's a lot of summary information that's 6 out there in that regard. I think one has 7 to be careful to try as best you can choose 8 the appropriate or the representative data, 9 that is, data that is representative of the 10 processes that were used to derive those 11 chemicals that properly represent potential 12 benzene content. 13 Q. Do you always accept the benzene 14 content data from the manufacturer is true? 15 A. I can't say always, no. That's too 16 absolute. 17 Q. Have you taken any courses in 18 environmental chemistry? 19 A. Yes. 20 Q. And what -- was that your 21 undergraduate degree? 22 A. Well, I've had a lot of organic and 23 inorganic chemistry. I also worked at the 24 National Institutes of Health in Bethesda, 25 Maryland at the -- in the laboratory of
Page 30 1 2 have data. I had 12 sampling data points 3 from Marathon as well. 4 Q. What years were those samples from, 5 sir? 6 A. I believe they were from '84 to '97. 7 Q. Mr. Spencer, would you consider 8 yourself to be an expert in determining the 9 amount of benzene in a product? 10 A. I think we touched on this earlier 11 and I'd say -- I mean, yes, due to my 12 experience over the last 30 years of doing 13 those types of evaluations, due to my review 14 of published and unpublished literature 15 that has evaluated the historical levels of 16 benzene in a variety of products. 17 Q. And if there was -- there wasn't any 18 literature that identified the level of 19 benzene in a historical product, how would 20 you determine what levels of benzene were in 21 that product? 22 A. I'm sorry, if you were going back in 23 time in doing that assessment? 24 Q. Yeah. 25 A. Well, I mean I -- the only way to	Page 32 1 2 chemistry synthesizing various chemical 3 products. I've also taken chemistry in my 4 -- in graduate level course work as well and 5 at the OSHA Training Institute. 6 Q. Do you know if Shell had a odor 7 threshold procedure that they used to 8 recreate exposure assessments of their 9 workers? 10 MR. PERRY: Object to form. 11 THE WITNESS: I'm aware of Shell 12 doing a study that included odor but not 13 odor on its own. There were other sensory 14 perception issues that were -- or variables 15 that were included in that particular 16 assessment that they had done. 17 Q. And was this odor threshold 18 methodology submitted to OSHA and NIOSH? 19 MR. FARNET: Object to the form. 20 THE WITNESS: I -- you know, I 21 haven't looked at that in a while. I do 22 recall that perhaps it was, at least the 23 protocol was submitted to NIOSH from what I 24 remember. I don't know the end product was 25 submitted to NIOSH but it was not -- but

Page 33

1
2 again, this was not just on odor as a
3 determinant.
4 Q. Were the results of the exposure
5 assessment that was recreated by the odor
6 threshold submitted to NIOSH and OSHA?
7 MR. FARNET: Object to form.
8 THE WITNESS: Again, it wasn't
9 simply on odor threshold. There was also
10 air monitoring and visual perception and
11 experience by people who'd been in the
12 refineries for some time. And I do not
13 recall whether or not the end product, the
14 report was actually delivered to NIOSH. I
15 think -- what I recall, the protocol was,
16 but I don't remember whether the report
17 itself was.
18 Q. Do you know if this exposure method
19 was validated using actual industrial hygiene
20 data?
21 A. They did include some air sampling
22 data in an attempt to try to validate some
23 of their sensory perception, the visual and
24 -- and odor threshold determinants.
25 Q. Are you familiar with a Dr.

Page 34

1
2 Paustenbach?
3 A. Yes.
4 Q. Are you familiar with his paper or
5 article on dermal calculations.
6 A. I'm not sure which paper you're
7 referring to.
8 Q. Well, one of the ones that Dr. Rando
9 relied on?
10 A. Do you happen to know the year of
11 that paper?
12 Q. No, I don't offhand. It's one of
13 his references. Did you read the dermal
14 calculation reference that Dr. Rando used?
15 A. I mean there are several references
16 and I'm not sure. Are you talking about the
17 Pamela Williams's paper or that she's the
18 lead author, that Paustenbach was a coauthor
19 on, or one that Dr. Paustenbach --
20 Q. No; Dr. Williams and Paustenbach I
21 believe --
22 A. Yeah, that's the --
23 Q. -- the one that Paustenbach authored
24 by himself.
25 A. Yes, poor Pamela always gets left

Page 35

1
2 behind on that. She is the primary author
3 on that paper. I think that's the one
4 you're talking about.
5 Q. Okay.
6 A. I'm --
7 Q. Do you disagree with his formula for
8 dermal calculations?
9 A. Oh, no; it's a standardized formula.
10 There's -- there's certainly no problem with
11 that.
12 Q. Do you agree that Dr. Paustenbach
13 himself has used that formula to create
14 dermal calculations for benzene exposure?
15 A. Oh, sure; a lot of people have
16 calculated -- calculated dermal exposures,
17 sure, using that standardized formula.
18 Q. Do you know the levels that Dr.
19 Paustenbach -- the levels of benzene -- let
20 me rephrase that. Do you know if Dr.
21 Paustenbach has written about benzene odor
22 threshold being at levels of 38 parts per
23 million?
24 A. Gosh, he's written so many papers,
25 he may have. I don't know. There is wide

Page 36

1
2 variation. The Shell study that you
3 reference talks about odor thresholds, I
4 think even much lower than that. And
5 there's studies that show it from less than
6 one part per million to over a hundred parts
7 per million so there's -- there's quite a
8 bit of variation in reported odor thresholds
9 for benzene and that's why it's not utilized
10 as a means of evaluating exposure.
11 Q. Mr. Spencer, have you ever testified
12 that you're not an expert in chemistry, but
13 you know more than the average person?
14 A. I don't recall one way or the other
15 honestly.
16 Q. Is the science of chemistry relevant
17 to your opinions in this matter?
18 A. Well, sure; we're dealing with
19 chemical substances, yes.
20 Q. How about analytical chemistry?
21 A. I'm sorry. What's -- what's the
22 question?
23 Q. I said is the science of analytical
24 chemistry relevant to your opinions in this
25 matter?

Page 37

1
2 A. In a sense that I understand the
3 methodologies that were utilized to analyze
4 the samples that -- the air samples that I
5 reviewed, yes.
6 Q. Is the science of chemical
7 engineering relevant to your opinions in this
8 matter?
9 A. I'm not sure what portion of that
10 you're referring to. It's kind of a broad
11 field and I need some more specificity.
12 Q. I'm just asking you if you know one
13 way or the other if chemical engineering is
14 a form of science that you relied on in this
15 case?
16 A. I mean, again I guess I need more
17 specificity to properly answer that question.
18 I mean I understand there's a multitude of
19 processes in a refinery in a chemical plant
20 and some contain benzene streams and some do
21 not.
22 Q. Mr. Spencer, have you ever spoken at
23 a Harris Martin benzene conference?
24 A. Yes; I'm trying to think if that was
25 the one I was invited by the plaintiffs'

Page 38

1
2 attorney to speak at, yes.
3 Q. And did you list your title as
4 doctor on that -- on that program for that?
5 A. No, I did not.
6 Q. Okay, and has your name ever been
7 put on there as Dr. John Spencer?
8 A. I'm not aware that it has. If they
9 did, I get that a lot because of what I do,
10 but I certainly have never held myself out
11 to be a doctor.
12 Q. When you say you get that a lot,
13 people mistake you as a doctor a lot in this
14 area of expertise?
15 A. They do, or I get on the phone like
16 I am with you today and I'm referred to as
17 doctor quite often so it's an occupational
18 hazard.
19 Q. Mr. Spencer, what are exposure
20 pathways?
21 A. Well, they are the routes of
22 exposure.
23 Q. And what routes of exposure would
24 you expect to see in a benzene case?
25 A. Well, it depends. Typically you're

Page 39

1
2 looking at inhalation and depending on the
3 circumstances there's also a dermal route of
4 exposure that's potentially available.
5 There's also an ingestion route of exposure
6 but not as probable.
7 Q. Can benzene enter the body through
8 dermal contact?
9 A. Yes.
10 Q. Can benzene cause blood disorders and
11 blood malignancies through dermal contact?
12 MR. PERRY: Object to form.
13 THE WITNESS: That is a medical
14 question. I don't frankly know whether
15 that's ever been evaluated either in animal
16 or human studies but that's more of a
17 medical question.
18 Q. Well, if benzene enters the body,
19 would you agree with me that it can cause
20 blood disorders?
21 MR. PERRY: Object to form.
22 THE WITNESS: Certainly through
23 inhalation; I'm familiar with that, yes.
24 Q. Would you agree with me that there
25 are several studies that are peer reviewed

Page 40

1
2 and show how to calculate a dermal exposure
3 for benzene?
4 A. Oh, yes, sure, but unfortunately the
5 problem is that they're all done differently.
6 They're based on different studies; life,
7 individuals or cadaver skin or monkey skin,
8 or some other animal or different layers of
9 skin, or skin from different parts of the
10 body so the problem is there's no
11 standardized. You can do it and there's
12 many ways to do it but there is no
13 standardized and accepted and validated method
14 for doing it.
15 Q. Okay, can you tell me the different
16 forms of recreating exposure assessment to
17 benzene?
18 A. The different forms?
19 Q. Forms of data; I apologize.
20 A. Oh; well, there's actual air
21 measurements number one. Two is to -- and
22 you can have air measurements from the
23 facility on the individual, or just from the
24 facility and of the specific exposure groups
25 to which that individual is related to or

Page 41

1
2 included within. Two is to take literature
3 or data from the literature or other studies,
4 that again defines the specific exposure
5 group that individual was part of. And a
6 third mechanism is doing modeling. Near
7 field, far field model is a common example
8 or doing box models, that sort of thing.
9 There are a slue of air modeling techniques
10 that one can utilize.
11 Q. And what about odor threshold?
12 A. No.
13 Q. No, that's never been used as a way
14 to recreate an exposure assessment?
15 A. No, not a quantitative exposure
16 assessment; I guess if one could do that,
17 all the -- all the equipment people would be
18 out of business if one could walk in and
19 sniff the environment. But no, that's --
20 it's not an accepted NIOSH or OSHA air
21 sampling method. As far as I know it's not
22 used by anybody in the world to quantify
23 occupational exposures.
24 Q. I don't think I asked you air
25 sampling. I said what are acceptable forms

Page 42

1
2 of data in recreating a exposure assessment?
3 A. Oh; well, I mean I think it's the
4 same sort of thing that I'm looking at from
5 an industrial hygiene standpoint and what I
6 do to assess an exposure, and odor is just
7 too unreliable.
8 Q. Have you ever used an odor threshold
9 in any litigation case?
10 A. Oh, sure; I've talked about odor
11 thresholds quite a bit and benzene is a good
12 example. You know, we touched on it
13 earlier. There's a very broad range of odor
14 thresholds, both what you can detect and
15 recognize for benzene. There's also a study,
16 AS -- ASTM provides a guideline on odor
17 determinants and talks about the very
18 significant intra and inter surveyor
19 variability and utilized to properly assess
20 an odor.
21 Q. Okay, is there a dermal exposure
22 limit for benzene?
23 A. No, there is not.
24 Q. Do you know if OSHA has a skin
25 notation on the regulation for benzene?

Page 43

1
2 A. Oh, sure; many chemicals do. In
3 fact, the talk I just gave was with the --
4 NIOSH is developing and updating their skin
5 notations for chemicals. And I also spoke
6 with an individual who's also updating the
7 European union version of the same thing and
8 talked to him specifically about, you know,
9 how these notations work. But these are
10 notations that are used to define whether or
11 not a product can present a systemic effect,
12 or a corrosive effect, or a sensitization
13 effect. It is not a means nor an indicator
14 that you quantity the dose that's absorbed
15 through the skin. It's an indicator of the
16 toxological effect of that product being on
17 the skin.
18 Q. And do the OSHA regulations require
19 the employer or the premise owner to provide
20 safety equipment to avoid dermal contact to
21 benzene?
22 MR. FARNET: Object to form.
23 THE WITNESS: Yes; that's certainly
24 recommended the employer to certainly provide
25 that type of equipment where benzene is

Page 44

1
2 present.
3 Q. Would it be fair to say OSHA expects
4 the protection, personal protective equipment
5 to eliminate any dermal contact with benzene?
6 A. I would say certainly -- I don't
7 know eliminate's the right word. That
8 certainly is a first choice but certainly to
9 reduce or manage that exposure. When OSHA
10 developed the occupational health standard for
11 benzene, they certainly recognized there
12 was a significant amount of dermal contact to
13 workers who handled various solvents. And
14 certainly their intent was to minimize or to
15 eliminate, as you say, dermal routes of
16 exposure. But they certainly recognized that
17 those routes of exposure did occur.
18 Q. What percentage of your work involves
19 litigation?
20 A. That varies pretty significantly on
21 what project I'm working on in a particular
22 week or month. I -- my best guess -- and
23 I just don't keep any records of this but my
24 best guess is it varies from 5 percent to 40
25 percent of my time in a given week or month.

Page 45 1 2 Q. And would these be cases that 3 involve chemical exposures? 4 A. Sure, many of them; some are safety 5 related issues or environmental issues. 6 Q. How many cases have you served as an 7 expert, do you believe, in your career? 8 A. Oh, gosh, I honestly -- I mean how 9 many times have I been listed in a case? 10 Q. Either testified, listed, prepared a 11 report? 12 A. I mean probably the best I can tell 13 you is I've testified at trial in probably 14 20 cases over the last 15 years. 15 Q. Do you have a ballpark figure of how 16 many other cases you served as an expert in? 17 A. I really do not know. 18 Q. Was it more than 200? 19 A. I would say over a 15-year period, 20 yes. And I certainly had been listed in 21 cases and been asked to look at -- it's not 22 that I've testified in that many but that 23 I've -- certainly I probably looked at a 24 number of cases or been asked to look at 25 those cases.	Page 47 1 2 A. Well, I review literature. I review 3 studies, published and unpublished studies, 4 other government documents that are available, 5 and draw upon my own experience which has 6 been involved, extensive experience in 7 monitoring exposures in a variety of 8 different work places. 9 Q. Have you ever opined in litigation 10 that a plaintiff exposed to benzene was 11 exposed to levels that could have caused his 12 disease? 13 A. Have I opined that? Again, I'm not 14 a medical doctor that opines that. I 15 certainly have presented -- have been 16 presented with and communicated that I 17 believe that the exposures from -- to benzene 18 from a particular product were in excess of 19 occupational health standards. But I'm not a 20 causation person. I don't speak to whether 21 or not that's likely to have caused disease. 22 Q. And I apologize. Let me rephrase my 23 question. Have you ever opined that a 24 plaintiff was exposed to unsafe levels of 25 benzene?
Page 46 1 2 Q. How many have you served for the 3 plaintiff? 4 A. Directly, I don't know, maybe -- 5 again I'm not real certain. Five to ten 6 times that I've worked directly for the 7 plaintiff. 8 Q. Mr. Spencer, have you ever testified 9 that you, "Routinely testify solely on behalf 10 of defendants because I mean that's who I am 11 able to get to support scientifically and, 12 yes, I mean that's what I look for"? 13 A. Well, did it say routinely and 14 solely? 15 Q. Uh-huh. 16 A. No; well, no; I mean obviously I 17 don't do it solely for. I think routinely 18 is probably correct based on what you just 19 read but obviously not solely. 20 Q. And what did you mean by, "I am 21 able to support scientifically"? 22 A. That there is sufficient information, 23 scientific information to support my position. 24 Q. "And I mean that's what I look for", 25 what did you mean by that?	Page 48 1 2 A. Yes. 3 Q. And what case was that in? 4 A. I can't tell you the particular 5 case, but it had to do with a particular 6 paint remover that had -- I don't even 7 remember the percentage of benzene in there 8 but it was being applied to a very wide 9 surface area for extended period of time in 10 -- and the levels were above at least 11 today's occupational health standard. 12 Q. And do paint removers generally have 13 higher than 5 percent benzene content? 14 A. I can't say whether generally or 15 not. This particular one had a formulation 16 that did. 17 Q. Okay, what was the benzene content? 18 A. Again, I'm not sure. I believe to 19 the best of my recollection it was somewhere 20 between 10 and 20 percent. 21 Q. Okay, so if someone was exposed to a 22 product with more than 10 to 20 percent 23 benzene content, you could arrive at a 24 conclusion that they were exposed to unsafe 25 levels of benzene?

Page 49 1 2 MR. PERRY: Object to form. 3 THE WITNESS: Not on -- not on that 4 only of itself; I mean if you're going to do 5 an exposure assessment, you need to evaluate 6 what controls are in place. Was there any 7 ventilation. Were they using respirators. 8 What was the frequency and the duration of 9 that activity. All those contribute to the 10 significance of that exposure so you have to 11 evaluate those components as well. 12 Q. Okay, have you ever served as an 13 expert in a case where someone was exposed 14 to benzene and they -- they contracted 15 multiple myeloma? 16 A. I certainly -- yes; I have been in 17 cases. I can't tell you which ones or how 18 many but certainly I've seen at least some 19 cases where multiple myeloma was the disease 20 at issue. 21 Q. Well, would Ben Brown be one of the 22 cases? 23 A. Honestly I'm involved in that case 24 but I but I don't know what the disease 25 process is offhand. It's just not -- I	Page 51 1 2 A. I know I've worked on a few cases 3 for Marathon in the past, but again I do not 4 know a number. 5 Q. Radiator Specialty Company? 6 A. I've worked on -- again, I don't 7 know the answer; less than 15 cases for 8 Radiator Specialty. 9 Q. The cases that you worked on for 10 Radiator Specialty, were they benzene -- 11 allegations of benzene in blood malignancies? 12 A. Yes. 13 Q. And in the approximate 15 cases, did 14 you ever find that the plaintiff was exposed 15 to unsafe levels of benzene? 16 (Whereupon, Cell phone interruption.) 17 A. I'm sorry, in the Radiator Specialty 18 cases? 19 BY-MR.WILLIAMS: 20 Q. Yes, sir. 21 A. No. 22 MR. PERRY: Hey, Eric, just one 23 second; somebody needs to turn their phone 24 off. 25 THE WITNESS: At least it has a
Page 50 1 2 don't -- I can't answer that question right 3 now accurately. 4 Q. Okay, would you know if Douglas 5 versus Ashland would be another benzene 6 multiple myeloma case? 7 A. Again, without going back and looking 8 specifically at the diagnosis issue I 9 couldn't tell you. 10 Q. Okay, is benzene classified as a 11 known human carcinogen? 12 A. Yes. 13 Q. Mr. Spencer, how many cases have you 14 worked on as an expert for Shell? 15 A. I do not know the answer to that 16 question. I'd be guessing. I just don't 17 know. I mean it's, you know, less than 15 18 and maybe less than 10, but I just do not 19 know the answer to that question. 20 Q. What about Tenneco? 21 A. I think fewer. 22 Q. Murphy? 23 A. I'm not sure that I've ever worked 24 for Murphy before. 25 Q. Marathon?	Page 52 1 2 pleasant ring. 3 MR. PERRY: Go ahead, Eric. You 4 may need to repeat that question. 5 BY-MR.WILLIAMS: 6 Q. Mr. Spencer, what is your hourly 7 rate? 8 A. \$285. 9 Q. And how many hours did you put into 10 completing your report? 11 A. I don't -- do not know offhand. I 12 spent a lot of time on this case. There 13 was a lot of information to review. I do 14 not know offhand. 15 Q. Mr. Spencer, if someone is exposed 16 to levels of benzene in excess of the health 17 standard, is it possible that they could 18 contract a blood disorder? 19 MR. PERRY: Object to form. 20 THE WITNESS: Yes, but it's a 21 function of, again frequency and duration and 22 ultimately dose. One has to understand not 23 only the concentration but the time of 24 exposure. 25 Q. For instance, let me give you an

Page 53

1
2 example. If somebody's exposed to above 1
3 part per million on an 8 hour total weighted
4 average for 15 years daily, could one develop
5 a blood disorder?
6 MR. PERRY: Object to form.
7 THE WITNESS: Again, I'm not the
8 medical expert here to define that. As I --
9 my understanding as industrial hygienist the
10 occupational health standard for benzene,
11 which is 1 part per million, is based on 45
12 years working lifetime so that would be 45
13 PPM years. So from an industrial hygiene
14 standpoint, I would say no to your question.
15 Q. Okay, do you know the purpose of the
16 8 hour total weighted average 1 part per
17 million standard?
18 A. Yes.
19 Q. Can you tell us?
20 A. To prevent benzene-related disease.
21 Q. How does one get abnormal blood
22 results from benzene exposure?
23 A. Again, I'm not the medical guy, but
24 my understanding is that benzene is
25 metabolized into another chemical which

Page 54

1
2 affects the blood forming system.
3 Q. And would you expect that to occur
4 at certain levels of exposure?
5 A. Certainly I would expect it at high
6 levels of exposure for extended periods of
7 time, yes.
8 Q. Do you know if benzene can cause
9 blood abnormalities at levels below one part
10 per million?
11 A. Again, no; I'm not the medical
12 expert, but as an industrial hygienist, I'm
13 not aware of that.
14 Q. Did you review a document that has a
15 -- is authored by Environmental Health, Inc.
16 regarding benzene exposure?
17 A. I don't specifically recall that
18 document. If there's -- so I can't -- I
19 may have seen it at some point in time, but
20 I don't have any specific recollection of it
21 sitting here.
22 Q. Let me ask you this. The document
23 says, "Chronic benzene exposure can cause
24 multiple myeloma". My question to you is,
25 do you know what levels of benzene that they

Page 55

1
2 have on that document?
3 MR. PERRY: Object to form.
4 THE WITNESS: I do not. I do not
5 know the basis of that. Again, it's more of
6 a medical related issue. I'm not familiar
7 with that particular aspect.
8 Q. Did you review the material safety
9 data sheets in this case?
10 A. I did not.
11 Q. Do you know what levels the material
12 safety data sheets say health effects can
13 occur?
14 A. Well, I didn't review them.
15 Q. Okay.
16 A. Typically a material safety data
17 sheet lists the OSHA and the ACGH
18 occupational health limits.
19 Q. Do you know if pipefitters were
20 exposed to high levels of benzene in the
21 '70s in general?
22 A. It depends.
23 Q. Okay, on what?
24 A. What the pipefitter did; did they
25 work -- number 1) work around a benzene

Page 56

1
2 containing product. If so, what percent
3 benzene was in there. 2) What sort of
4 controls were put in place to either
5 eliminate or reduce those levels of exposure,
6 and what was the frequency and duration of
7 that exposure.
8 Q. Well, would you agree with me that
9 some pipefitters were exposed to high levels
10 of benzene in the '70s?
11 MR. PERRY: Object to form.
12 THE WITNESS: I certainly believe
13 that there could -- in the universe of
14 pipefitters as a large group of tradesmen
15 that there were individuals under certain
16 circumstances doing a line break or doing a
17 tank entry that could have had high levels
18 of exposure to benzene if -- again, if a
19 benzene containing product was there and it
20 was in a sufficient concentration and there
21 were no controls in place to manage it.
22 Q. Would pipefitters in the '70s
23 encounter dermal benzene exposures?
24 MR. FARNET: Object to the form.
25 THE WITNESS: I would say that again

Page 57

1
2 under some circumstances, sure, I would
3 expect that.
4 Q. Inhalation benzene exposures?
5 A. Again under the caveats that I laid
6 out just a moment ago then it is possible,
7 yes. And it's also possible there were none
8 at all. They're working on a boiler, or
9 working on installing a fire suppression
10 system, or bathrooms, then I would say no.
11 Q. What year did Shell Norco hire a
12 full-time industrial hygienist?
13 A. Well, to my knowledge they always
14 had full-time industrial hygienists that were
15 available to that facility. Maybe your
16 question is when did they have one dedicated
17 to that facility?
18 Q. Yes, sir.
19 A. Okay, I do not know the specific
20 date when that occurred.
21 Q. Would that have mattered to you if
22 they didn't have one until 1975?
23 A. No, I don't think that would have
24 mattered to me. I think that Shell
25 certainly had other resources available to

Page 58

1
2 them, other industrial hygienists available to
3 them to help address industrial hygiene
4 issues. They weren't certainly --
5 Q. Do you know if Shell had a policy
6 in the '70s that prohibited management from
7 dealing with contractors?
8 MR. PERRY: Object to form.
9 THE WITNESS: I do not know if they
10 had -- would have had such a policy. I
11 mean I don't quite understand that. I mean
12 obviously they were dealing with contractors
13 every day.
14 Q. Would you agree with this statement,
15 "That if employers of contract -- contract
16 workers are not responsible for protecting
17 their workers from benzene exposure if a
18 refinery owner fails to tell the employer
19 that they are exposing their employees to
20 benzene?
21 MR. FARNET: Object to form.
22 THE WITNESS: I'm sorry. Can I ask
23 you to read that again?
24 Q. Yes, sir; I said would you agree
25 with this statement: "If an employer is not

Page 59

1
2 responsible for the employee if the premise
3 owner, such as the refinery, fails to warn
4 the employer that they are exposing their
5 employees to benzene?
6 MR. FARNET: Object to form.
7 THE WITNESS: I'm sorry. I don't
8 think I'm following that. I'll try to
9 answer but an employer always has the
10 responsibility. You can't write that off.
11 And if they're unfamiliar with what
12 particular exposures are in environments, it's
13 employer's responsibility to determine what
14 those potential exposures are to ensure that
15 they're properly managing those exposures.
16 Q. And that's even if the premise owner
17 fails to inform the employer that they're
18 exposing their employees to benzene?
19 A. Well, if they fail to warn them,
20 again there is -- there is an obligation.
21 But I won't take anything away from a
22 premise owner if there is an unknown hazard
23 and they're not conveying that hazard to a
24 contractor on site, then they need to do
25 better in that regard. But even if that

Page 60

1
2 occurs, an employer, a contractor has a
3 responsibility, always has and still does, a
4 responsibility to determine, to seek out that
5 information to assure that there is no
6 significant health hazard present to their
7 employees.
8 Q. Okay, did Mr. Bishop have the
9 potential for dermal benzene exposure while
10 working around crude oil?
11 A. Again, it depends on the
12 circumstances of those activities and whether
13 he was using gloves. And if you're around
14 crude oil, there is a very small percentage
15 of benzene that's present in most crudes. I
16 mean less than one percent. And it's not to
17 say that people didn't get crude oil on
18 their skin working on that related equipment.
19 So if Mr. Bishop did work on that equipment
20 and he worked without gloves and it was a
21 frequent activity, then he could have had
22 some exposure. But again, the percentages
23 are so low I wouldn't consider that being
24 significant.
25 Q. What about gasoline?

Page 61

1

2 A. I think, you know, the same

3 scenario. Now, you know, gasoline is

4 gasoline. It contains 150 plus different

5 chemicals including benzene and it is not

6 associated with any benzene-related diseases.

7 So gasoline, we're talking about a different

8 type of material here.

9 Q. And that's not my question. Would

10 Mr. Bishop have the potential for dermal

11 benzene exposures when exposed to gasoline?

12 A. Again, yes, along with 150 plus

13 other chemicals that are in gasoline.

14 Q. Okay, what about pyrolysis gas?

15 A. I mean I think it's the same for

16 any product that potentially contained

17 benzene. It is a function of the variables

18 associated with that exposure; whether

19 controls are being utilized, gloves, what

20 type of gloves; whether they're using

21 respiratory equipment; or whether that product

22 was in that line at all; whether it had been

23 cleared out prior to Mr. Bishop ever getting

24 there.

25 Q. Can you tell me the benzene content

Page 62

1

2 of pyrolysis gas?

3 A. I can't tell you the specific,

4 because it certainly, it varies from one type

5 of operation to the next.

6 Q. Did Mr. Bishop have sufficient

7 inhalation exposure to benzene when working

8 with crude oil?

9 A. I do not believe he would have had

10 any measurable exposure to benzene.

11 Q. What about gasoline?

12 A. Again, if he's -- you say -- now I

13 guess these are hypotheticals and --

14 Q. Yes, sir.

15 A. -- you're saying if he worked just

16 with a bucket of gasoline somewhere?

17 Q. Or worked around a pipe where vapors

18 were coming out from gasoline?

19 A. I mean, well it depends if that line

20 had been purged and cleaned and steamed and

21 benzene is one of the first constituents to,

22 in terms of the aromatics to be volatilized

23 from that line. So he may or may not have

24 had any benzene exposure at all.

25 Q. What about pyrolysis gas?

Page 63

1

2 A. It's really the same sort of

3 scenario. It is a function of the activity.

4 It's a function of how long he got there

5 after the line was purged and cleaned as to

6 whether there would be any measurable

7 exposure to benzene.

8 Q. And this would be the same answer

9 for the Tenneco, Shell and Marathon facility?

10 A. Yes.

11 Q. Did Mr. Bishop have the potential

12 for dermal benzene exposure when working with

13 Liquid Wrench?

14 A. In the period up to 1978 --

15 Q. Yes, sir.

16 A. -- I would say yes. It depends on

17 the version of Liquid Wrench that he was

18 using.

19 Q. Right; well, he identified the

20 16-ounce can that has benzol on it. I'm

21 sorry, Mr. Fusand (phonetic) did. Do you

22 know what levels of benzene internal Radiator

23 Specialty documents indicated workers were

24 exposed to when loading cans of Liquid Wrench

25 in 1978?

Page 64

1

2 A. I don't know that I've seen that

3 data.

4 Q. Okay, well, if I told you 24.5 and

5 29 parts per million, would you know that

6 one way or the other?

7 A. No.

8 Q. Okay, do you have anything to

9 disagree with those results for individuals

10 filling cans of Liquid Wrench as you sit

11 here today?

12 A. I don't. I just don't know what

13 the environmental conditions were or the

14 frequency and duration of exposure. I

15 certainly have, you know, done my own studies

16 on using Liquid Wrench as potentially Mr.

17 Bishop used it, and I'm familiar with the

18 literature of another study produced by

19 Williams et al on the use of Liquid Wrench.

20 Q. Yeah, in that study did they show

21 levels that range up to 3.8 parts per

22 million of benzene exposure from Liquid

23 Wrench?

24 A. I believe they did for the

25 short-term samples. It was under the 15

Page 65 1 2 minute STEL. 3 Q. Okay, is the Spear Study that Dr. 4 Rando relied on peer-reviewed? 5 A. To the best of my knowledge, yes. 6 Q. And what about the Verma (phonetic) 7 Study? 8 A. Yes. 9 Q. Did you review the pipefitter 10 industrial hygienist data from the Shell 11 facility? 12 A. Yes. 13 Q. Can you tell me the highest sample 14 result for pipefitters? 15 A. Yes; I -- 16 Q. If I told you 146.7 parts per 17 million, does that sound familiar? 18 A. For the Shell data? 19 Q. Yes, sir. 20 A. No; I'm sorry. Was that an area 21 sample or a personal sample? 22 Q. I believe it was a personal sample. 23 A. I'm not familiar with any personal 24 samples that were at that level for -- in 25 particular for pipefitters, contract	Page 67 1 2 THE WITNESS: I'm not aware of a 3 sample for, again what I would call a 4 contract pipefitters that were up to that 5 level. Most all of them I believe were less 6 than a part per million. 7 Q. Okay, well, for Shell pipefitters 8 were you aware there was a sample that went 9 up to 146.7 parts per million? 10 A. I'd have to go back and look at 11 that whole data set again. I don't 12 specifically recall that one or what the 13 circumstances were; whether that was a 14 blinding operation; they had opened a line 15 and there was pure product in there. Again, 16 that was something that Mr. Bishop did not 17 do. 18 Q. Mr. Spencer, in your report you used 19 the term outliers. Can you define that for 20 us? 21 A. It's a statistical variable or not 22 variable but a statistical determinant of 23 data reliability. 24 Q. Okay, and in laymen's terms, is that 25 a way of saying that samples that are high,
Page 66 1 2 pipefitters. 3 Q. If I -- 4 A. There are no levels of -- 5 -- pipe -- 6 MR. FARNET: He's not finished, 7 Eric. Let him finish the question you 8 asked. 9 A. I mean there are no levels reported 10 anywhere close to that for contract 11 pipefitters. 12 Q. And I said pipefitters. I didn't 13 say contract pipefitters. 14 A. Okay, well, there's an important 15 distinction there though. You don't want to 16 choose pipefitters that are not contract 17 pipefitters because that's a whole different 18 exposure group. 19 Q. Can you answer the question; were 20 you aware that there were samples that were 21 up to 146.7 parts per million for benzene 22 exposure for pipefitters? 23 MR. FARNET: Objection; he answered 24 the question. You may re-ask it, but he 25 answered the question.	Page 68 1 2 short-term you throw them out the data pool? 3 A. No; you do not throw them out and 4 it's just not high data. It may be low 5 data as well. What it is, is that the data 6 doesn't fall within a range of values that 7 is consistent with the entire data set. So 8 you do the statistical analysis and you're 9 looking at sigma or standard deviation. 10 You're looking at P values. And these tell 11 you whether or not -- or the data falls on 12 a curb. And if it falls so far away from 13 the mean or the median of the data set, then 14 you need to investigate further. You don't 15 just throw them away but you need to 16 investigate further. 17 Q. How many high exposures from Shell 18 or samples did you remove from your analysis? 19 A. Well, it's not that -- I don't know 20 how many I removed. I looked at the data 21 that I could -- that I felt was relevant, 22 and it was -- and it was the contractor -- 23 they had a lot of contractor pipefitter data. 24 It was 30 some samples. 25 Q. So did you say you removed them or

Page 69 1 2 did not rely on those samples? 3 A. No; those are the ones that I did 4 look at more closely and utilized. I also 5 looked at the pipefitter data collectively, 6 and that's reflect in my report and that's 7 where for Shell I come up with the 1.59 8 parts per million. 9 Q. Okay, did you personally review all 10 the documents in this case that were sent to 11 you? 12 A. Well, I can't say I reviewed every 13 page from every document, but I reviewed most 14 of that, yes. 15 Q. Did any other employees at your 16 company review the document and summarize it 17 for you? 18 A. Well, yes, I certainly had another 19 industrial hygienist, a certified industrial 20 hygienist in my office help me go through 21 this vast amount of information. 22 Q. Have you ever testified that 23 employees in another case have -- the 24 employees that you work with have summarized 25 documents for you in a case?	Page 71 1 2 "I've never been held up to a be a chemistry 3 expert"? 4 A. I think I just said that earlier 5 today. 6 Q. Well, I didn't ask you that exact 7 quote. 8 A. I don't recall whether I've been -- 9 I testified to that before, but I did 10 testify to it today. 11 Q. That you've never been a chemistry 12 expert? 13 A. That I've never been held out to be 14 a chemistry expert, that's correct. 15 Chemistry is part of what I do as an 16 industrial hygienist, but I've never been 17 asked to be specifically a chemistry expert. 18 Q. Have you ever testified that you are 19 not a chemist or a chemical engineer and 20 that your background is general? 21 A. I don't recall if I specifically 22 said that or not. 23 Q. Have you ever testified, "I know 24 chemicals pretty well having worked at the 25 National Institute of Health in the
Page 70 1 2 A. Oh, sure; I often have folks in my 3 office, like do summaries of summaries that 4 I've done or to go back through a data set 5 and do a statistical analysis. And I have 6 more than one of them do that, because I 7 don't work in a vacuum and I want to check 8 and double-check my data. 9 Q. Did you write your entire report in 10 this case? 11 A. No; I mean I did not write the 12 entire report. I had others. I had another 13 industrial hygienist help me working on this 14 report, again analyzing data and double 15 checking -- 16 Q. What's his name? 17 A. Dale Johnson. 18 Q. And what degrees does he have? 19 A. I don't know his specific degrees. 20 He's a certified industrial hygienist. 21 Q. Does he have a Masters? 22 A. I honestly don't know. 23 Q. Does he have a Ph.D? 24 A. No, he does not. 25 Q. Okay, have you ever testified that,	Page 72 1 2 laboratory in chemistry while I was in 3 college"? 4 A. I likely said that and I repeated 5 that today. 6 Q. And, Mr. Spencer, earlier you 7 mentioned that you worked at the National 8 Institute of Health in a laboratory. Are we 9 talking about a job while you're in college? 10 A. Correct. 11 Q. Okay, and you feel that qualifies 12 you to be an expert in that field? 13 MR. PERRY: Object to form. 14 MR. FARNET: I object. 15 THE WITNESS: I'm simply saying that 16 I've had -- I've worked in a chemistry lab. 17 I've taken multiple chemistry courses. I've 18 trained at the OSHA Training Institute in -- 19 with chemistry-related issues, and I've worked 20 with labs over 30-plus years in this business 21 so I am -- I believe I'm very qualified in 22 the area of chemistry. But I've never been 23 held out to be a chemistry expert in a 24 litigation case. 25 BY-MR.WILLIAMS:

Page 73

1

2 Q. Okay, I don't think -- I have one

3 more question. I believe in your affidavit

4 in this case -- did you produce an

5 affidavit?

6 MR. PERRY: A declaration you mean?

7 A. A declaration?

8 Q. Declaration; I apologize.

9 A. Yes.

10 Q. You talk about averages, Benzene?

11 A. Okay.

12 Q. I believe there's some time of

13 acronym, OEM; if I'm not mistaken?

14 A. Or an OEL?

15 MR. PERRY: OEL.

16 Q. OEL?

17 A. Yes.

18 Q. Can you explain that to us?

19 A. It's a standardized term that defines

20 -- it's occupational exposure limit and it

21 encompasses both PEL's and TLV's.

22 Q. Okay, now an average would not

23 indicate that someone was exposed to levels

24 above one part per million, would it?

25 MR. FARNET: Object to form.

Page 74

1

2 THE WITNESS: Well, it may. It

3 depends on -- and you want to -- I think I

4 understand what you're asking. It may or

5 may not. You need to look at not only the

6 mean but you need to look at the range of

7 values.

8 MR. WILLIAMS: Okay, fair enough; I

9 don't think I have any other questions;

10 anybody else?

11 MR. PERRY: No questions here.

12 MR. CHOCHULES: No questions.

13 THE VIDEOGRAPHER: All right, give

14 me just a moment. Now going off record at

15 10:17 A.M. This concluded today's

16 deposition.

17 (WHEREUPON, SIGNATURE RESERVED)

18 (WHEREUPON, THE DEPOSITION OF JOHN

19 SPENCER, C.I.H., C.S.P. CONCLUDED.)

20

21

22

23

24

25

Page 75

1

2 CERTIFICATE

3

4 I, David L. Overby, Notary/Reporter,

5 do hereby certify that John Spencer, CIH, CSP

6 was duly sworn by Laura L. Van Sandt,

7 Notary/Reporter, prior to the taking of the

8 foregoing deposition; and that this deposition

9 was taken and transcribed by Laura L. Van

10 Sandt under my direction and that the

11 foregoing pages which constitute this

12 deposition are a true and accurate transcript

13 of the witness's testimony.

14 I certify that I am not counsel for,

15 or employed by either party in this action,

16 nor am I interested in the outcome of this

17 action.

18

19

20

21 David L. Overby

22

23 DATED: JULY 2, 2009

24

25

Page 76

1

2 CAPTION

3 The Deposition of JOHN SPENCER, taken

4 in the matter, on the date, and at the time

5 and place set out on the title page hereof.

6 It was requested that the deposition

7 be taken by the reporter and that same be

8 reduced to typewritten form.

9 It was agreed by and between counsel

10 and the parties that the Deponent will read

11 and sign the transcript of said deposition.

12 .

13 .

14 .

15 .

16 .

17 .

18 .

19 .

20 .

21 .

22 .

23 .

24

25

Page 77	Page 79
CERTIFICATE STATE OF _____ : COUNTY/CITY OF _____ : Before me, this day, personally appeared, JOHN SPENCER, who, being duly sworn, states that the foregoing transcript of his/her Deposition, taken in the matter, on the date, and at the time and place set out on the title page hereof, constitutes a true and accurate transcript of said deposition. JOHN SPENCER SUBSCRIBED and SWORN to before me this _____ day of _____, 2009 in the jurisdiction aforesaid. My Commission Expires _____ Notary Public _____ _____ _____ _____ _____	DEPOSITION ERRATA SHEET RE: Accurate Court Reporting, Inc. Case Caption: JOANN BISHOP, ET AL. VS. SHELL OIL COMPANY, ET AL. DEPONENT: JOHN SPENCER DEPOSITION DATE: July 1, 2009 To the Reporter: I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me. I request that the following changes be entered upon the record for the reasons indicated. I have signed my name to the Errata Sheet and the appropriate Certificate and authorize you to attach both to the original transcript. _____ _____ _____ _____ _____