

1 Volume 1, Pages 1-73

2 Exhibits None

3 IN THE CIRCUIT COURT OF JACKSON COUNTY MISSOURI

4 AT INDEPENDENCE

5 -----

6 LEONARD RYAN, individually and as

7 Plaintiff ad litem for NANCY RYAN,

8 deceased

9 Plaintiff,

10 vs. Docket No. 04 CV 223271

11 BP CORPORATION NORTH AMERICA INC.,

12 BP PRODUCTS NORTH AMERICA INC.

13 Defendants.

14 -----

15 DEPOSITION OF RICHARD MONSON, M.D.

16 Friday, July 29, 2005

17 9:22 a.m. - 11:19 a.m.

18 The Corporation Service Co.

19 84 State Street, 5th Floor

20 Boston, Massachusetts

21 ATKINSON-BAKER, INC.

COURT REPORTERS

22 500 NORTH BRAND BOULEVARD, THIRD FLOOR

GLENDAL, CALIFORNIA 91203

23 (800) 288-3376

REPORTED BY: SHANNON WALSH, RPR, CSR

24 FILE NUMBER: 9F0632A

1 APPEARANCES:
2 Hartley & O'Brien, P.L.L.C.
3 R. Dean Hartley, Esq.
4 The Wagner Building, Suite 600
5 2001 Main Street
6 Wheeling, WV 26003
7 304.233.0777 Fax 304.233.0774
8 dhartley@hartleyobrien.com
9 For the Plaintiff
10
11 Summers & Johnson, P.C.
12 David G. Summers, Esq.
13 105 E. 5th Street, Suite 401
14 Kansas City, MO 64106
15 816.283.3200 Fax 816.221.5370
16 For the Plaintiff
17
18
19
20
21
22 (Appearances continued.)
23
24

Page 2

1 Maron & Marvel, P.A.
2 Catherine Pyune McEldowney, Esq.
3 Philip L. Rothbart, M.D., J.D., Esq.
4 1300 North Broom Street
5 Wilmington, Delaware 19806
6 302.425.5177 Fax 302.425.0180
7 cpm@maronmarvel.com
8 Plr@maronmarvel.com
9 For the Defendants
10
11 VIDEOGRAPHER:
12 Don DalCielo
13
14
15
16
17
18
19
20
21
22
23
24

Page 3

I N D E X

1
2
3
4 WITNESS: DR. RICHARD MONSON
5
6
7 EXAMINATION BY PAGE
8 Mr. Hartley.....6
9
10
11
12 EXHIBITS: DESCRIPTION PAGE
13
14 (None Offered.)
15
16
17
18
19
20
21
22
23
24

Page 4

P R O C E E D I N G S

1
2
3 VIDEOGRAPHER: We're here at the offices
4 of The Corporate Services Company, located at 84
5 State Street, Boston, Massachusetts to take the
6 video tape deposition of Dr. Richard Monson in the
7 matter of Leonard Ryan, individually, and as
8 Plaintiff ad litem for Nancy Ryan, deceased, versus
9 BP Corporation North America Incorporated et al., in
10 the Circuit Court of Jackson County Missouri, at
11 Independence, case number 04 CV 223271.
12 Will counsel please voice-identify
13 yourselves and state whom you represent.
14 MR. SUMMERS: David Summers and Dean
15 Hartley for the Plaintiffs.
16 MS. McELDOWNEY: Cathy McEldowney and
17 Philip Rothbart for the Defendants.
18 VIDEOGRAPHER: Our court reporter today
19 is Shannon Walsh. I'll ask the court reporter at
20 this time to please swear in the witness.
21
22 Dr. Richard Monson, Deponent, having
23 been satisfactorily identified by the production of
24 his Massachusetts driver's license and having been

Page 5

1 first duly sworn by the Notary Public, deposes and
2 says as follows:

3 EXAMINATION

4 BY MR. Hartley:

5 **Q. Doctor, could you tell us your full name**
6 **for the record?**

7 A. Richard Redding, R-e-d-d-i-n-g, Monson.

8 **Q. Dr. Monson, your speciality is**
9 **epidemiology?**

10 A. Yes.

11 **Q. And you've been retained by BP Corporation**
12 **North America as an expert witness in a case pending**
13 **of Ryan versus BP?**

14 A. I have been retained by the attorneys
15 representing BP, I believe is the way it's set up.

16 **Q. All right. And you are here to express**
17 **your opinions as to associations or causations that**
18 **may or may not exist as a result of Ms. Ryan's**
19 **exposures to whatever that might have been at the**
20 **Sugar Creek town in Missouri, correct?**

21 A. Yes.

22 **Q. Have you reached your final opinions today?**

23 A. I've reached opinions that are current.

24 **Q. Okay. What -- I saw, in the materials that**

Page 6

1 A. No.

2 **Q. Are you prepared to talk about those**
3 **articles as we sit here today?**

4 A. As long as they're in front of me.

5 **Q. Okay. What opinions have you reached in**
6 **this case?**

7 A. Can you be more specific?

8 **Q. Sure. What were you asked to do in this**
9 **case?**

10 A. I believe, when I initially was approached,
11 there was a question of is there association between
12 polycythemia vera and substances that may have
13 escaped from the Sugar Creek location.

14 **Q. Can we just abbreviate polycythemia vera as**
15 **PV?**

16 A. Yes.

17 **Q. Okay. Did you look at any other**
18 **associations?**

19 A. I also looked at myelodysplastic syndrome,
20 myelodysplasia, it's used in different ways.

21 **Q. Would it be reasonable to say that we're**
22 **going to refer to that as MDS?**

23 A. Yes.

24 **Q. Was that the only two diseases that you**

Page 8

1 **you brought with you, a list of items that you've**
2 **reviewed for the case?**

3 A. Yes.

4 **Q. May I see that for a second?**

5 A. (Witness complying.)

6 MS. McELDOWNNEY: And, Dean, while you
7 are looking at that, I'd just like to state on the
8 record to the extent that we still have to take and
9 finish two of Plaintiffs' expert depositions,
10 Dr. Monson's opinions are subject to whatever those
11 experts may opine or say.

12 MR. HARTLEY: Okay. That's fine.

13 BY MR. HARTLEY:

14 **Q. Doctor, who is Dr. Barry Skikne?**

15 A. He's a Plaintiff's expert and, I believe, a
16 treating physician.

17 **Q. Okay. And so it looks like you've reviewed**
18 **what would be the petition for damages, or the**
19 **complaint, the deposition of the treating physician,**
20 **and then you have itemized numerous articles that**
21 **you reviewed for today as well?**

22 A. Yes.

23 **Q. Okay. You did not prepare a summary of**
24 **those articles for this case?**

Page 7

1 **were asked to look about in this particular matter?**

2 A. I was only asked to look about one. I
3 elected to look at the second because it was
4 mentioned. I believe either by Dr. Skik --

5 **Q. Skikne?**

6 A. Skikne and/or in the -- whatever this is
7 called -- this document. (Witness indicates.)

8 **Q. The petition or the complaint?**

9 A. Right.

10 **Q. It depends on where you are.**

11 A. Right. The word was used in one or both of
12 the places.

13 **Q. All right. So originally you were only**
14 **asked by counsel to examine whether there was an**
15 **association between PV whatever the exposures might**
16 **have been at the Sugar Creek --**

17 A. That's my recollection.

18 **Q. Okay. Now, what is your understanding of**
19 **the potential exposures that were in the area where**
20 **Mrs. Ryan would have lived?**

21 A. Effluence, refinery, and, I believe,
22 primarily gasoline.

23 **Q. Did you limit your evaluation to looking**
24 **for articles on gasoline and PV or MDS?**

Page 9

1 A. And also I included benzene.
2 **Q. Did you come to any conclusion as to**
3 **whether benzene is associated with PV?**
4 A. Yes.
5 **Q. And what was that association -- or what is**
6 **that opinion? I'm sorry.**
7 A. It's my opinion that there is no
8 epidemiologic evidence suggesting that there is an
9 association between benzene and PV.
10 **Q. Is there any study that you can point me to**
11 **that actually looks for whether there is an**
12 **association between PV and benzene?**
13 A. I'm just trying to think if I can cite a
14 specific study. When you say look for, that's a bit
15 ambiguous.
16 **Q. It is.**
17 A. If one does a mortality study, one looks
18 for -- looks at all causes of death. And if PV were
19 one of the causes of death that occurred more than
20 frequently, say more than one case, it's possible
21 their authors would have cited that.
22 **Q. Pull out for me your, and I'll butcher the**
23 **name I'm sure in, Najean Epidemiological data**
24 **polycythemia vera: a study of 842 cases.**

Page 10

1 A. When you say "the," are you thinking of
2 something specific?
3 **Q. No. I don't know if they have done that,**
4 **to be honest with you. I don't think they did,**
5 **because it looks like it's a study based upon**
6 **occupation or industrial employment. I think that**
7 **they just assumed there were solvents in some of**
8 **these categories that they've created in Tables 3**
9 **and 4, which is on page 163.**
10 A. Those two tables talk about occupations and
11 they talk about industrial employment.
12 **Q. Correct.**
13 A. But they don't mention any specific
14 chemicals.
15 **Q. Look with me at the top of page 160 in the**
16 **left-hand column, the authors write "Very few data**
17 **have been published on the epidemiology of the**
18 **polycythemia vera in contrast with information,**
19 **often however contradictory, concerning leukemias**
20 **and lymphomas."**
21 **Did you find that to be the case in your**
22 **search of the literature?**
23 A. Yes.
24 **Q. Did you come across the Marsh study of the**

Page 12

1 A. Yes.
2 **Q. Would you be kind enough to read for me the**
3 **last sentence in the abstract?**
4 A. "When analyzing the previous occupation of
5 our patients a possible excess of physicians and of
6 patients previously working in occupations using
7 solvents and glues was found, but this finding needs
8 confirmation."
9 **Q. And this was a study of 842 cases of PV,**
10 **correct?**
11 A. Yes.
12 **Q. Would you agree with me that solvents**
13 **during this 1980 to 1997 time frame would have had**
14 **some contamination with benzene?**
15 A. Not necessarily.
16 **Q. Do we know what kind of solvents the**
17 **individuals were using?**
18 A. I'll look through the paper and see if it's
19 mentioned.
20 **Q. Take your time.**
21 A. I don't see that benzene is mentioned in
22 the paper.
23 **Q. Are any of the solvents even described in**
24 **the paper?**

Page 11

1 **Shell Deer Park Camp -- Deer Park facility? I'm**
2 **sorry. I don't think you have it listed. You do.**
3 **No, you don't.**
4 A. I have a Marsh study. I'm not sure which
5 one.
6 **Q. You do, 1991, that's the same one. That's**
7 **your number 7 on your Mortality Patterns Among**
8 **Petroleum Refinery and Chemical Plant Workers?**
9 A. Right.
10 **Q. Marsh's group concludes on page 39, if you**
11 **would look with me on the concludes?**
12 A. Yes.
13 **Q. The first sentence, would you agree that my**
14 **paraphrase would be correct, this study supports**
15 **other epidemiologic evidence of an association**
16 **between exposure to petroleum and its by-products in**
17 **risk of polycythemia vera?**
18 A. I'll read the sentence.
19 **Q. Okay.**
20 A. "The study supports other epidemiologic
21 evidence of an association between exposure to
22 petroleum and its by-products and risks of cancer of
23 lymphopoietic tissue, particularly
24 lympho-reticulosarcoma and a residual category

Page 13

1 containing multiple myeloma, myelofibrosis,
2 polycythemia vera, and certain non-Hodgkin's
3 lymphomas."
4 **Q. So when they dumped the myeloma,**
5 **myelofibrosis, PV, and NHL together, as they call**
6 **it, a residual category, there was an association**
7 **demonstrated between exposure to petroleum products**
8 **and its by-products in the risk of PV -- PC,**
9 **correct?**

10 MS. McELDOWNEY: Object to the form.

11 A. Incorrect.

12 BY MR. HARTLEY:

13 **Q. Explain to me, then, what the sentence**
14 **means when they say, "This study supports other**
15 **epidemiologic evidence of an association between**
16 **exposure to petroleum and its by-products and risk**
17 **of cancer of the lymphatic -- lymphopoietic tissue"**
18 **and a residual category containing the various**
19 **lymphopoietic diseases myeloma, myelofibrosis, PV,**
20 **and NHL.**

21 A. Without looking at the data, my
22 interpretation of that is it supports other studies
23 of an association between exposure to petroleum and
24 its by-products and risks of cancer belonging to a

Page 14

1 residual category contains myelomas, myelofibrosis,
2 polycythemia veras and NHLs, as the authors indicate
3 on page 39?

4 A. No.

5 **Q. And why is that?**

6 A. Because, without listing which the cases
7 are, you can't assume any specific diagnosis is
8 present.

9 **Q. Can you explain for me why an author would**
10 **tell you that the residual category contains these**
11 **particular diseases, indicates on a chart that the**
12 **residual categories have an SMR of 120, and the**
13 **diseases that they list in their text would not be**
14 **included in the residual category in the table?**

15 MS. McELDOWNEY: Objection.

16 BY MR. HARTLEY:

17 **Q. That means you can answer.**

18 A. I understand.

19 This is a result of the way the U.S.
20 vital statistics are set up.

21 **Q. Did you look at the actual Deer Park study**
22 **that was done for Shell to determine how many PV**
23 **cases were at the Deer Park facility?**

24 A. No.

Page 16

1 residual category.

2 **Q. Okay.**

3 A. It doesn't cite specifically which cancers
4 are included in that residual category or are
5 observed in that residual category. There could be
6 zero cases of some of the other cites.

7 **Q. In reviewing the study, did you find where**
8 **they listed whether there was any PV cases in this**
9 **cohort?**

10 A. On Table V, at the bottom, it lists other
11 lymphopoietic paren residual close paren and there
12 was -- I'm sorry -- seven cases observed and about a
13 little bit fewer -- a little bit less than six cases
14 expected. I didn't notice that they specified the
15 nature of those seven observed cases.

16 **Q. The SMR for the refinery folks would have**
17 **been 120?**

18 A. That's what it was.

19 **Q. And that's not statistically significant,**
20 **correct? At least it's not indicated that it is.**

21 A. It's not indicated that it's significant.

22 **Q. When we look at the other lymphopoietic**
23 **paren residual closed paren cases in the refinery,**
24 **would it be reasonable to conclude that that**

Page 15

1 **Q. Have you seen that document before?**

2 A. I've seen this document.

3 **Q. So you haven't seen the raw report to**
4 **Shell, then?**

5 A. No.

6 **Q. Okay. So if one would go to the raw report**
7 **for Shell and determine how many PV cases are there,**
8 **one could confirm if, in fact, the residual category**
9 **contains PV cases, correct?**

10 A. If it's listed in the report.

11 **Q. Okay. And no one's given that to you**
12 **before today?**

13 A. No.

14 **Q. Have you seen it in any other case where**
15 **Shell was involved that you've been working with**
16 **other attorneys?**

17 A. I'm not aware that I have.

18 **Q. Now, you cite the Kaplan article?**

19 A. Yes.

20 **Q. Update of a mortality study of workers in**
21 **petroleum refineries from 1986. Would you look with**
22 **me, Dr. Monson, on page 516 of that article on the**
23 **right-hand column?**

24 A. Yes.

Page 17

1 Q. Would you agree with me that the authors
2 have reported for polycythemia vera there were four
3 observed deaths and a 0.88 expected deaths from this
4 cause for an SMR of 455 and a 95 percent confidence
5 interval 120 to 1,164?

6 A. Yes.

7 Q. Although an unstable confidence interval,
8 it still indicates that the SMR 455 is statistically
9 significant, correct?

10 A. Yes.

11 Q. Do any of the other thirteen articles that
12 you have brought with you discuss PV?

13 A. I'd have to look at them.

14 Q. Let's take a quick look at them and see if
15 they do. Some of them, most of them I'm familiar
16 with, but a couple of them I'm not. I think the
17 rest of them are MDS cases?

18 A. Well, there's another Najean one that talks
19 about 1988 and says, "acute leukemia and
20 myelodysplasia in --

21 Q. PV?

22 A. -- PV in a clinical study."

23 Q. Pull that out.

24 A. I have it here.

Page 18

1 Q. Take a look at it. It's one that you've
2 cited for us and brought with you. And I'd like to
3 understand the significance of that article and why
4 you brought it and if, in fact, Najean does, in
5 fact, conclude that PV can transform into MDS.

6 A. I can't answer the question.

7 Q. Okay. Have you made any independent
8 determination based upon your review and training as
9 to whether PV can, in fact, transform into MDS?

10 A. No.

11 Q. Does that have any impact on your analysis
12 of this case?

13 A. No.

14 Q. If PV is a predecessor disease to MDS,
15 which has been found to be a predecessor disease to
16 AML, would it be reasonable to look at the MDS
17 literature to see if, in fact, there is a
18 relationship between MDS and benzene?

19 A. You're making several presumptions which
20 are beyond my area of expertise.

21 Q. Did you try and determine whether that
22 continuum from PV to MDS to AML is, in fact, correct
23 from a clinical standpoint?

24 A. No. I'm not a clinician.

Page 20

1 Q. Can I see that for a second?

2 A. (Witness complying.)

3 Q. Do you know whether the '98 study was an
4 update of the '88 study?

5 A. I don't know. I could look and see, but I
6 don't know.

7 Q. Look -- sorry. Page 92. Is that your
8 handwriting?

9 A. No.

10 Q. What's the handwritten note at the top say?

11 A. It says, "So it can transform to MDS" and
12 then in paren "RAEB."

13 Q. Do you understand that to mean that the
14 myeloproliferative disease, RAEB, can transform into
15 MDS?

16 MS. McELDOWNNEY: Object to the form.

17 A. I can only repeat what it says.

18 BY MR. HARTLEY:

19 Q. All right. In reviewing the Najean article
20 from 1988, would that be a reasonable conclusion of
21 Najean?

22 MS. McELDOWNNEY: Object to the form.

23 A. I'd have to look at the paper.

24 BY MR. HARTLEY:

Page 19

1 Q. I understand that.

2 Would that impact your decision if, in
3 fact, there is a continuum from PV to MDS to AML?

4 A. Only to the extent that it's discussed in
5 the epidemiologic literature.

6 Q. Okay. Now, when you stopped with the '88
7 Najean article, we were looking for articles that
8 may have impact on PV from an epidemiological
9 standpoint. And I asked to see if you had any
10 others that we needed to discuss, could you finish
11 that?

12 A. There's the -- I'll just give you my
13 recollection. I won't go through each paper in
14 detail. And I'm sure you'll point out things that I
15 missed.

16 Q. I guess I'm good at a that, huh?

17 A. Yes. There's an Aksoy paper on
18 Malignancies due to occupational exposure to
19 benzene, A-k-s-o-y, and I don't believe PV is
20 mentioned in that particular paper.

21 Q. Okay. Do you recall whether Aksoy, in his
22 book Benzene Carcinogenicity, determines that PV is,
23 in fact, a disease process associated with benzene?

24 A. I don't recall.

Page 21

1 Q. Okay.

2 A. There's a Budinsky article here dealing
3 with the Chinese National Cancer Institute
4 collaborative epidemiology studies, B-u-d-i-n-s-k-y,
5 and I don't believe that PV is mentioned there.

6 Q. That article talks about modeling benzene
7 exposure in dose estimates, does it not?

8 A. Yes.

9 Q. As I recall that article it was an attempt
10 to demonstrate that the benzene modeling and the
11 dose estimates done by Hayes et al., were
12 inaccurate; is that correct?

13 A. My recollection is that the dose estimates
14 done by whomever -- I'm not sure I would
15 characterize them as inaccurate model, so much as
16 uncertain.

17 Q. So it's a paper written to attempt to
18 question the validity of the dose estimates done by
19 Dosemeci et al. from the National Cancer Institute,
20 correct?

21 A. Yes.

22 Q. All right. Your next article?

23 A. This is the Hayes article. Again, from the
24 Chinese study. This is Hayes 19 -- I'm sorry.

Page 22

1 Dr. Monson, I'm just wondering whether it does.
2 That's all.

3 And the next one you have is Chen
4 Benzene-induced?

5 A. Yes. C-h-e-n. This is a case report of
6 one person who developed myelodysplastic syndrome
7 who worked in a plant where benzene was the
8 principal ingredient for caprolactam,
9 c-a-p-r-o-l-a-c-t-a-m, so it's basically a case
10 report.

11 Q. On MDS?

12 A. Yes.

13 Q. Okay. Rinsky 2002 I know doesn't include
14 anything about PV.

15 A. I'll take your word for it.

16 Q. Glass 2003 I don't think does, but you can
17 correct me if I'm wrong.

18 A. I don't recall having seen it.

19 Q. Okay. And I don't know if Dr. Mehlman
20 includes PV in his editorial of 2004 or not?

21 A. I don't believe it's listed in any of the
22 tables.

23 Q. You would agree with me that Dr. Mehlman's
24 report is not an epidemiological study, correct?

Page 24

1 2000.

2 Q. Right.

3 A. To the best of my knowledge PV is not
4 mentioned.

5 Q. Is that the article where Dr. Hayes looks
6 at the different potentials disease processes and
7 summarizes -- no, that's the 2001 article. Never
8 mind.

9 A. So then I answered the question on Hayes.

10 Q. You did.

11 Would you be kind enough to go back to
12 the Budinsky article for a second?

13 A. Yes.

14 Q. Does the Budinsky article indicate who
15 sponsored that?

16 A. All I see is where Budinsky et al. -- words
17 which is ATRA Occupational and Environmental
18 Services, a Division of B.B.L., Inc., Tallahassee,
19 Florida.

20 Q. And it doesn't say whether it was a grant
21 from any particular group or governmental agency at
22 the end?

23 A. I don't see that it does.

24 Q. Okay. I'm not saying that it does,

Page 23

1 A. Yes.

2 Q. At best, it's a review article?

3 A. Yes.

4 Q. Kang, it's K-a-n-g, Occupational exposure
5 to benzene in South Korea?

6 A. Again, this is not an epidemiologic
7 article. It's more a report on the Korean
8 Occupational Safety and Health Administration,
9 KOSHA, and decisions that they made as to whether
10 hematopoietic diseases were or were not caused by
11 benzene.

12 Q. And there is no PV cases, as I recall that
13 article, in any of the tables, correct?

14 A. That's my recollection.

15 Q. There are some MDS cases?

16 A. Yes.

17 Q. In the tables which were ruled compensable
18 or were not ruled compensable, correct?

19 A. In Table 1 there was four that were ruled
20 compensable.

21 Q. How many were not ruled compensable?

22 A. One in Table 2.

23 Q. And the assertion was that the MDS was
24 caused by the benzene exposure; is that correct?

Page 25

1 A. The statement is made.
2 **Q. The Table also, I believe, demonstrates the**
3 **level of exposure for each MDS case, does it not?**
4 A. Well...
5 **Q. At least the author's report?**
6 A. In some cases, in Table 1, five of the
7 eight are NA, which I assume means -- well, it says
8 none available, so this is part -- this is sort of
9 point for MDS, only two of the three are, and the
10 range is, in essence, .7-2 parts per million.
11 **Q. Do you know if that was cubital exposure or**
12 **was that --**
13 A. I believe that's point exposure of -- an
14 estimate of a point exposure.
15 **Q. What do you mean by point exposure?**
16 A. One measurement was taken -- or a series of
17 measurements were taken and averaged, I don't know
18 which.
19 **Q. Okay. On Table 2, is it, do they also**
20 **report the benzene levels in Table 2?**
21 A. Yes.
22 **Q. And what do they range from, for the MDS**
23 **cases that were deemed compensable?**
24 A. Well, there was only one and it was .0002

Page 26

1 **Q. All right. Let me rephrase it for you,**
2 **then. Other than Deer Park and its reference to PV,**
3 **the Marsh study and the Najean 1998 study, those are**
4 **the only epidemiological studies that we found**
5 **together that would discuss the potential of PV's**
6 **association with benzene?**
7 MS. McELDOWNEY: Object to the form.
8 A. I believe you misstated the question.
9 Please re-ask it.
10 BY MR. HARTLEY:
11 **Q. Okay. I'll do it the easy way. What other**
12 **studies, other than Marsh, Najean, and Kaplan,**
13 **potentially, have considered PV and benzene**
14 **exposure?**
15 A. I can't answer that because I'm sure other
16 studies have considered it and have not -- nothing
17 is written about it, so I can't make a judgment like
18 that.
19 **Q. Have you found any other articles which**
20 **have related a possible relationship between PV and**
21 **benzene other than the three that we've talked about**
22 **this morning?**
23 A. I'll preface that by saying Najean is not
24 in my mind, and I know we talked about it and I

Page 28

1 ppm.
2 **Q. Okay. The Swaen article, the 2005 article?**
3 A. This is an epidemiologic study of
4 caprolactam plant workers exposed to benzene and
5 they state on average there was 159 parts per
6 million years per person. And I don't believe that
7 they mention PV.
8 **Q. Do they talk about MDS in that case -- or**
9 **that study? I'm sorry.**
10 A. I don't see that they do.
11 **Q. Title says leukemia risk?**
12 A. Yes.
13 **Q. So is it a study on AML alone, do you know?**
14 A. I believe it's leukemia. There's only one
15 case of leukemia and it was non-AML.
16 **Q. So other than Kaplan and the 1998 Najean**
17 **article and potentially the Deer Park Marsh study**
18 **from 1991, at least as far as you and I have been**
19 **able to find, we've exhausted the epidemiological**
20 **literature on PV, is that reasonable?**
21 MS. McELDOWNEY: Object to the form.
22 A. Well, I wouldn't agree with anything on
23 Deer Park unless I've seen it.
24 BY MR. HARTLEY:

Page 27

1 would have to look at it more carefully before I
2 agree with the Najean article. I realize I looked
3 at, I realize we talked about it, but it's not in my
4 head. But, in answer to your question, I am not
5 aware of any other articles.
6 **Q. I couldn't find any either. That doesn't**
7 **mean that I'm infallible, but I mean I can simply**
8 **confirm to you that those are the three articles**
9 **that I was aware of and I'm wondering if you, in any**
10 **other case or in any other research, have found any**
11 **other epidemiological studies or articles which**
12 **mention any potential association between PV and**
13 **benzene?**
14 A. I have not.
15 **Q. Okay. And you've looked, correct, for this**
16 **particular case?**
17 A. Yes.
18 **Q. In fact, it looks like you brought your**
19 **search that you conducted on Pub Med from 1980 to**
20 **2005, correct?**
21 A. Yes.
22 **Q. And it looks like you searched, according**
23 **to your notes, for polycythemia vera and benzene?**
24 A. Yes, among other things. I did four

Page 29

1 searches.

2 **Q.** You did. You did MDS and gasoline, MDS and
3 benzene, PV and gasoline, and PV and benzene?

4 A. Yes.

5 **Q.** You've done searches before, correct?

6 A. Yes.

7 **Q.** Would you agree with me that using the
8 search terms polycythemia vera and benzene you would
9 pull up the articles between 1980 and 2005 which
10 discuss that particular topic assuming that the key
11 words have those topics in them?

12 A. That's the critical assumption.

13 **Q.** It is. But if that is correct, then you've
14 pulled up the articles that are available between
15 '80 and 2005, correct?

16 A. Assuming that the key words are correct.

17 **Q.** Okay. Let's talk about MDS for a second.
18 Do you have an opinion as to whether MDS is related
19 to gasoline or benzene?

20 A. I'm not aware of any epidemiologic evidence
21 to suggest that it is.

22 **Q.** Okay. So in your opinion there would be no
23 concern with whatever amount of exposure Mrs. Ryan
24 may have experienced, simply because you don't agree

Page 30

1 **Q.** I'm asking you did you make such a
2 determination as it relates to MDS for this
3 particular case?

4 A. No.

5 **Q.** Okay. And the reason is because you do not
6 opine that the epidemiological literature supports
7 an association between MDS and benzene, correct?

8 A. Correct.

9 **Q.** Okay. So we don't need to concern
10 ourselves with whatever exposure Mrs. Ryan may or
11 may not have experienced while she lived in the
12 Sugar Creek area, correct?

13 MS. McELDOWNEY: Object to the form.

14 A. I can't make that judgment.

15 BY MR. HARTLEY:

16 **Q.** Well, at least from an epidemiological
17 standpoint, we need not be concerned with it as far
18 as you're concerned, because general causation
19 cannot be established?

20 MS. McELDOWNEY: Objection.

21 A. I would say, in general, yes, subject to
22 new information being reported.

23 BY MR. HARTLEY:

24 **Q.** What if we knew that Mrs. Ryan's cumulative

Page 32

1 that MDS is associated with either gasoline or
2 benzene, correct?

3 MS. McELDOWNEY: Object to the form.

4 BY MR. HARTLEY:

5 **Q.** Let me rephrase that for you. The exposure
6 assessment of any expert in this particular case has
7 no impact on your determination of whether
8 Mrs. Ryan's MDS was or was not related to her
9 exposures in the Sugar Creek area, correct?

10 MS. McELDOWNEY: Object to the form.

11 A. Please restate the question.

12 BY MR. HARTLEY:

13 **Q.** Sure. I'll give you an example. In your
14 Scherer report you've indicated that you believe
15 that there is a 40 part per million cumulative
16 exposure to benzene that's related to AML and --

17 A. I don't believe that's correct.

18 **Q.** I just happened to bring that one with me.
19 Let me read it for you. "The weight of the
20 epidemiological literature fails to establish an
21 association between lifetime exposure to benzene of
22 less than 40 parts per million years and the
23 occurrence of AML"

24 A. Yes.

Page 31

1 exposure was 350 parts per million years to benzene.
2 Would that impact your analysis of the
3 epidemiological literature?

4 A. No.

5 **Q.** Okay. If she had a thousand parts per
6 million cumulative exposure to benzene, would that
7 impact your analysis of the epidemiological
8 literature?

9 A. Not with respect to PV and MDS.

10 **Q.** Okay. So the issue of her exposure is out
11 there, but from an epidemiological standpoint it
12 does not impact your analysis of the literature,
13 does it?

14 A. With respect to PV and MDS.

15 **Q.** I understand that.

16 You've seen -- you've looked at the
17 Chinese cohort and the assertion by Hayes et al.,
18 that MDS and ANLL should be grouped together because
19 of the continuum of the disease process, do you
20 remember that?

21 A. No, I don't.

22 **Q.** Okay. Do you remember that Hayes put
23 together MDS and ANLL or ANNL -- acute non lympho --
24 yeah, ANLL in their analysis of the Chinese data?

Page 33

1 A. I don't remember what he did.
2 Q. Okay. Let's pull it out. I was trying to
3 shortcut it.
4 A. I have the 2000 paper, that thing you have
5 or ...
6 Q. Let's see which one I brought.
7 A. Because there's many different ones.
8 Q. I've got '96, I brought 2001, I have '97.
9 Do you have 2000?
10 A. Yes.
11 Q. Look on page 423.
12 A. Yes.
13 Q. Bottom of the page, last paragraph.
14 A. Yes.
15 Q. It says, "Risk of ANLL/MDS was
16 significantly elevated among workers hired before
17 '72." Do you see that?
18 A. Yes.
19 Q. Would you agree with me, then, that -- and
20 if you go on, the previous paragraph discusses a
21 category ANLL/MDS as does the next page. Would you
22 agree with me, then, that the authors combined ANLL
23 with MDS for this particular data interpretation?
24 A. Data description, yes.

Page 34

1 A. I don't believe so.
2 Q. Okay. It appears to be a case control
3 study out of Italy looking at AML, CML, and MDS.
4 A. Yes.
5 Q. Compared -- and the comparison group, or
6 the controls, would you agree with me that the
7 exposure to petrol had an elevated odds ratio for
8 the three categories combined?
9 A. In Table 2, where you have it highlighted,
10 it says --
11 Q. It makes it easier for you.
12 A. The odds ratio is 1.9 with a 95 confidence
13 interval of 0.5-7.1.
14 Q. And what is that exposure that they're
15 reporting?
16 A. Petrol refining products.
17 Q. And then there's another category as well,
18 correct, that I have highlighted?
19 A. There's a number of other categories.
20 Q. That I have highlighted?
21 A. There's benzene, which you have
22 highlighted.
23 Q. And what is the OR for benzene?
24 A. 1.7 with a 95 percent confidence interval

Page 36

1 Q. Okay. Let me show you the 1997 version of
2 that, which has a table 1 on page 1067. Look with
3 me at the category ANLL/MDS all exposed subjects.
4 A. Yes.
5 Q. What do the authors report the -- is it an
6 SMR?
7 A. They call -- it's a relative risk, exposed
8 and unexposed.
9 Q. What is the relative risk for the category
10 ANLL and MDS for all exposed?
11 A. 4.1.
12 Q. And do the authors report that that is
13 statistically significant?
14 A. Yes.
15 Q. This is the Chinese benzene exposed cohort,
16 correct?
17 A. Yes.
18 Q. And an article you didn't reference, I
19 don't think, Ciccone, C-i-c-c-o-n-e?
20 A. No.
21 Q. No, you didn't?
22 A. I didn't.
23 Q. Okay. Let me show you Ciccone, Table 2,
24 page 137. Have you seen Ciccone before?

Page 35

1 of 0.6-5.5.
2 Q. Neither of those are statistically
3 significant, correct?
4 A. Correct.
5 Q. But you've testified before that the fact
6 that something is not statistically significant does
7 not mean that you can simply exclude it, you have to
8 take it into the equation for determining
9 associations, correct?
10 A. I wouldn't use the word equation, I would
11 have to say you would have to consider it.
12 Q. Okay. So you can't just pitch it aside,
13 you need to consider it in determining associations,
14 correct?
15 A. In determining the weight of the evidence.
16 Q. Okay. Did you come across a review
17 article, and I always butcher this one, by Nisse?
18 A. How do you spell it?
19 Q. N-i-s-s-e.
20 A. I'll have to look at it and see.
21 Q. Sure.
22 A. I don't recall having seen this.
23 Q. Okay. Look at Table VII on the page that I
24 have the post-it note.

Page 37

1 A. Yes.

2 Q. Table VII summarizes various case-control
3 studies that Nisse found in the literature, correct,
4 for MDS?

5 A. Yes.

6 Q. Dr. Monson, do you mind if I look over your
7 shoulder, because that's the only copy I have?

8 A. That's fine.

9 Q. And they're reporting in Table VII a study
10 by Farrow 1989 discussing petrol and diesel vapors
11 as well as petrol and diesel liquid, correct?

12 A. Yes.

13 Q. And they've listed that and demonstrated
14 that there was an increased risk in the exposed
15 versus the nonexposed, correct, the exposed versus
16 the controls, I guess it would be?

17 A. I'm trying to figure out exactly what they
18 are expressing here.

19 Q. So am I. I'm looking over your shoulder.
20 It's kind of confusing.

21 A. I believe what they're presenting is that
22 the percentage of the cases exposed is greater than
23 the percentage of the controls that are exposed.

24 Q. Okay.

Page 38

1 Q. And they are also reporting that Farrow
2 reports a something that is -- strike that.

3 They're also reporting that Farrow is
4 demonstrating a relationship between MDS and petrol
5 and diesel in liquid, correct?

6 A. They're reporting.

7 Q. Right.

8 A. I don't know what Farrow et al. say about
9 their data.

10 Q. Did you look at the Farrow case?

11 A. No.

12 Q. Or study. I'm sorry.

13 What about Goldberg in 1990? Have you
14 looked at Goldberg?

15 A. No.

16 Q. Would you agree with me that Nisse et al.
17 is reporting that the Goldberg study demonstrates a
18 statistically significant ratio between MDS and
19 exposure to solvents versus those in the control
20 group?

21 A. Yes.

22 Q. And that there is an increased risk in
23 those solvent-exposed workers according to Nisse in
24 the Goldberg study, correct?

Page 40

1 A. They don't give an odds ratio, they say
2 it's statistically significant.

3 Q. So they've got 35 of the exposed cases and
4 23 of the controls. So to figure out our odds
5 ratio, we simply divide, wouldn't we?

6 A. Not exactly.

7 Q. That's a little bit different because one
8 is 63 and one is 61?

9 A. No. They're both 63.

10 Q. Okay.

11 A. You would subtract and then multiply the
12 odds.

13 Q. Okay. And we could calculate that quickly.

14 A. And also I'm sure that there's overlap
15 between these two categories.

16 Q. So at least as far as Nisse's concerned,
17 Farrow would support a relationship, or an
18 association, between MDS and petrol and diesel
19 vapors, correct?

20 A. I am sorry. Please repeat that.

21 Q. Sure. Nisse is reporting that the Farrow
22 study of 1989 supports an association between MDS
23 and petrol and diesel vapors?

24 A. It's consistent with an association.

Page 39

1 A. There's a positive association between
2 solvent exposure and MDS.

3 Q. Did you look at the Goldberg study for this
4 particular case?

5 A. No.

6 Q. Then if you look down under West 1995,
7 Nisse is reporting for petroleum product an excess
8 of MDS cases in the exposed group versus the
9 controlled expose, correct?

10 A. Again, I would call it an association.

11 Q. All right. And I can't read the last one.
12 What is the last one, Rigolin?

13 A. And of course that one is not statistically
14 significant.

15 Q. It is not. But as we've mentioned before
16 and as you testified before, you look at all the
17 data, don't you?

18 A. Yes.

19 Q. To determine whether there is, in fact, a
20 weight of the evidence to support a relationship
21 between benzene and MDS?

22 A. But so far we've got three different
23 categories.

24 Q. I understand. And we look at Rigolin, the

Page 41

1 solvent exposed group, a comparison, what is the OR
2 for that particular relationship between the exposed
3 group and the exposed controls?

4 A. They reported a 7.1.

5 Q. Okay. So those folks exposed to solvents
6 in the exposed group have an odds ratio of 7.1 when
7 compared to the exposed controls and the
8 relationship to MDS, correct?

9 A. I believe you stated that correctly. I'll
10 accept it.

11 Q. And that odds ratio as reported by Nisse is
12 statistically significant, isn't it?

13 A. Yes.

14 Q. Did you happen to look at the Rigolin case,
15 R-i-g-o-l-i-n?

16 A. No.

17 Q. And you haven't seen Nisse before today,
18 correct?

19 A. Not that I recall.

20 Q. Look with me at Table V of the Nisse study
21 on page 931. For petrol, what do the authors report
22 of their own studies to be the odds ratio?

23 A. I'm sorry. You say "their own studies" and
24 I'm trying to see where it's said. Okay. They

Page 42

1 A. Yes.

2 Q. And you haven't seen this study before
3 today, correct?

4 A. No.

5 Q. Did you look at Yin 1996, which is one of
6 the predecessor articles to the Hayes 2000 article?

7 A. I have at some time. I'm not sure whether
8 I looked at it specifically recently.

9 Q. Would you confirm for me that the authors
10 in Yin 1996, on page 232 in the left-hand column
11 indicate, "we found an increased risk for MDS and
12 benzene exposed workers"?

13 A. Yes, they state that.

14 Q. Are you familiar with Martyn Smith?

15 A. Yes.

16 Q. I'll show you an article, review article, a
17 chapter he's written on Causative Agents in the
18 Etiology of MDS and AML. Would you confirm with me
19 that Dr. Smith indicates that significantly elevated
20 risk of MDS were found in a Chinese benzene cohort?

21 MS. McELDOWNNEY: Could you read back
22 that last question?

23 BY MR. HARTLEY:

24 Q. Would you agree that Dr. Smith reports that

Page 44

1 state that for solvents -- I'm trying to -- they
2 talk about two different measures of exposure, which
3 is confusing.

4 One is qualitative exposure and one is
5 lifetime cumulative. For solvents, the odds ratio
6 for qualitative is 2.6, which is statistically
7 significant. For qualitative exposure to petrol,
8 the odds ratio is 2.5, which is not statistically
9 significant.

10 And for the lifetime cumulative they
11 report that again, they report only statistical
12 significance and for solvents it's significant, for
13 petrol it is not.

14 Q. What is the odds ratio for lifetime
15 exposure to petrol?

16 A. They don't give it.

17 Q. Okay. So they're reporting odds ratios for
18 their exposed and nonexposed group for MDS and
19 petrol at 2.5, which is not statistically
20 significant, and for solvents and MDS did you say
21 2.7?

22 A. 2.6.

23 Q. Okay. Which is statistically significant,
24 correct?

Page 43

1 significant excesses of MDS were found in the
2 Chinese cohort?

3 MS. McELDOWNNEY: Thank you.

4 A. Yes, he states that, and he's referring to
5 the Yin study.

6 BY MR. HARTLEY:

7 Q. I brought with me the Farrow from 1989.
8 Look with me at the left-hand column, what I have
9 highlighted about the petrol cases and the exposures
10 to petrol and MDS.

11 A. Is there a question?

12 Q. There is. Does -- what do the authors
13 report for that particular exposure scenario?

14 A. They're combining petrol and diesel
15 liquids.

16 Q. And did they find a relationship?

17 A. It's confusing because they mention petrol
18 diesel liquids twice and give two different sets of
19 numbers. But, looking at the table, they report an
20 association between exposure to petrol/diesel
21 liquids and Bina case and I guess the disease is MDS
22 only.

23 Q. What is the ratio?

24 A. Well, it's more or less 2, that's not the

Page 45

1 exact number, but it's a rough estimate.
2 **Q. And do they report the P value?**
3 A. Yes, it's less than 0.01.
4 **Q. And what does that indicate as a P value to**
5 **you?**
6 A. It's statistically significant.
7 **Q. To the .01 level?**
8 A. That's what it states.
9 **Q. So in layman's terms that means that the**
10 **relationship is 99 out of a 100 times not likely to**
11 **chance, correct?**
12 A. No, that's not correct.
13 **Q. What does it mean?**
14 A. It means that, all other factors being
15 equal, such an association would be due to chance
16 one out of a hundred times, but there's no guarantee
17 that all other things are equal.
18 **Q. Okay. Did you look at the Cowles,**
19 **C-o-w-l-e-s, 1991 study?**
20 A. I don't recall it.
21 **Q. Looking at the remainder of your articles**
22 **from MDS standpoint, do you have a recollection of**
23 **whether any of the other articles discussed MDS that**
24 **we haven't talked about this morning?**

Page 46

1 Forces...
2 A. Let me look at it and see. It doesn't ring
3 a bell.
4 **Q. I've never heard of it, that's why I'm**
5 **asking.**
6 A. Well, it's from Taiwan. I don't know what
7 it is.
8 **Q. Okay. Regardless, the Chen paper is a case**
9 **report, correct?**
10 A. Yes.
11 **Q. And the individual that Chen discusses**
12 **began working at a chemical plant where he was**
13 **exposed to raw benzene and developed MDS, correct?**
14 A. If that's what you're reading, I'll accept
15 it.
16 **Q. Okay. Does Glass talk about MDS? I don't**
17 **believe that she does.**
18 A. No.
19 **Q. What about -- Kang we talked about, and**
20 **Swaen we've talked about. So we've talked about the**
21 **articles that you've brought with you that discuss**
22 **MDS, correct, as far as your recollection?**
23 A. Yes.
24 **Q. Do you know Dr. David Pyatt or know of him?**

Page 48

1 A. I don't have a recollection, but that I
2 wouldn't -- I'm not sure what you mean by the
3 remainder.
4 **Q. Well, if we look at -- is it Mele, I guess,**
5 **M-e-l-e, Mele, maybe, Epidemiology of APL, it's**
6 **number 8 on your list. They might be out of order**
7 **by now.**
8 A. Yeah. That's the one thing I found on Pub
9 Med, which I could only get the abstract. Here it
10 is.
11 **Q. What's the importance of that article for**
12 **this particular case?**
13 A. Well, I printed out the abstract because it
14 came up on the Pub Med search. That's the
15 importance.
16 **Q. At least as far as the abstract's**
17 **concerned, it doesn't appear that that article**
18 **discusses MDS?**
19 A. I agree.
20 **Q. Can I see your Chen article for a second,**
21 **C-h-e-n, 2001?**
22 A. (Witness complying.)
23 **Q. What is the JABFP, any idea what that**
24 **journal is, Journal of the Armed -- it's not Armed**

Page 47

1 A. No.
2 **Q. Okay. If I advised you that Dr. Pyatt is a**
3 **colleague of Dr. Irons and they work in the same**
4 **laboratory, would that have any meaning to you?**
5 A. I've heard the name Irons and that's as far
6 as it goes.
7 **Q. Okay. Would you look with me at**
8 **Dr. Pyatt's review article from 2004 and read for me**
9 **what he reports on page 535 in the sentence that I**
10 **have marked with the blue arrow.**
11 A. He states, "Probably the best studied and
12 most feared consequence of long-term benzene
13 exposure is the development of myelodysplasia and
14 acute myelogenous leukemia."
15 **Q. Thank you.**
16 A. AML in paren.
17 **Q. Did you come across the Honda study, Honda,**
18 **Delzell, and Cole An Updated Study of Mortality**
19 **Among Workers at a Petroleum Manufacturing Plant**
20 **1995?**
21 A. It sounds familiar. I didn't review it --
22 **Q. For this case?**
23 A. I don't recall reviewing it for this case.
24 **Q. Do you recall that Honda reported, Honda et**

Page 49

1 al., reported that the workers at the petroleum
2 manufacturing plant had an excess of MDS over the
3 expected frequency?
4 A. I don't recall that.
5 VIDEOGRAPHER: The time is 10:39 going
6 off the record.
7 (A recess was taken.)
8 VIDEOGRAPHER: The time is 10:44 we're
9 back on the record.
10 BY MR. HARTLEY:
11 Q. Doctor, I want to wrap up here and I'm
12 almost done. As I understand your testimony this
13 morning, you have two opinions that you will be
14 expressing at trial. One is there's no association
15 between benzene and gasoline and PV from an
16 epidemiological standpoint, correct?
17 A. Yes.
18 Q. And that there's no association between
19 benzene and gasoline and MDS from an epidemiological
20 standpoint, correct?
21 A. Yes, based on the review that I did.
22 Q. Do you think that if you went back and
23 looked at the articles that you and I talked about
24 that you hadn't seen that that would impact your

Page 50

1 opinion?
2 A. I can't say whether it would or not.
3 Q. Do you intend to go back and look at those
4 articles?
5 A. Yes.
6 Q. If you do have a change of heart or it does
7 impact your opinion, would you tell counsel so that
8 we can follow up with you and see how it does or
9 does not impact your opinion by telephone?
10 A. I'll discuss with counsel what the next
11 step should be.
12 Q. Okay. Do you have any other opinions?
13 MS. McELDOWNNEY: That --
14 BY MR. HARTLEY:
15 Q. Since I don't have a report and all I have
16 is you're an expert witness and you've got some
17 opinions in the case, I'd just like to travel down
18 the road of whatever other opinions you might have
19 in this particular case as it applies to this
20 particular set of circumstances.
21 A. I'd have to respond to a specific question.
22 Q. Okay. So as I sit here, then, the two
23 areas of inquiry on PV and MDS and benzene and
24 gasoline are what you have worked on for this

Page 51

1 particular case?
2 A. Yes.
3 Q. Okay.
4 MS. McELDOWNNEY: If I can add, so the
5 record's clear, we have asked recently Dr. Monson to
6 consider whether there's an association between
7 benzene and gasoline and acute leukemia and
8 specifically AML.
9 MR. HARTLEY: Okay.
10 BY MR. HARTLEY:
11 Q. You've concluded that there is a
12 relationship between benzene and AML, correct?
13 MS. McELDOWNNEY: Object to the form.
14 BY MR. HARTLEY:
15 Q. Over 40 parts per million years of
16 exposure?
17 A. That is not the term I have used.
18 Q. All right.
19 A. You read what I --
20 Q. I did. I don't want to beat the dead
21 horse. Your report in Scherer concluded that "the
22 weight of the epidemiological literature fails to
23 establish an association between lifetime exposure
24 to benzene of less than 40 parts per million years

Page 52

1 and the occurrence of acute myelogenous leukemia."
2 A. That's correct.
3 Q. So if an individual has an exposure
4 scenario of 45 parts per million years of benzene
5 exposure, would you agree with me that the
6 epidemiological literature establishes an
7 association between that exposure and AML?
8 A. No.
9 Q. Okay. What level do you opine that that
10 would be an association? If it's less than 40 parts
11 per million years and there's no association at less
12 than 40 parts per million years of benzene exposure
13 and AML, why wouldn't 45 parts per million years
14 demonstrate an association, from an epidemiological
15 standpoint?
16 A. It depends on the literature and what the
17 values of the literature are. And I doubt there's
18 any information on 45 per se.
19 Q. Okay. Are you -- just a second.
20 What if Mrs. Ryan had exposures of in
21 excess of 300 parts per million years, would you
22 agree with me that there would be an association
23 between that exposure to benzene and the development
24 of AML?

Page 53

1 A. Can we separate the epidemiologic
2 literature from a hypothetical on the Plaintiff?
3 **Q. Well, let's do it this way, then. Do you**
4 **believe -- do you have an opinion as to whether the**
5 **epidemiologic literature supports an association for**
6 **exposure in excess of 200 parts per million benzene**
7 **cumulative years -- let me strike that.**

8 **Do you have an opinion as to whether the**
9 **epidemiological literature supports an association**
10 **between AML and exposure to 200 parts per million**
11 **years of benzene?**

12 A. I have an opinion that at certain levels,
13 which I cannot specify, there's any increased risk
14 of AML from an exposure to benzene. I don't have a
15 number in my mind.

16 **Q. Okay. But you know -- at least you have**
17 **written in Scherer that at less than 40 parts per**
18 **million there is not an association in the**
19 **literature?**

20 A. Yes.

21 **Q. But you can't tell me what amount above 40**
22 **is needed before there is an association as we sit**
23 **here today?**

24 A. That's correct.

Page 54

1 threshold or an absence of information, I think is
2 an important distinction.

3 **Q. Can you tell me any agency which agrees**
4 **with that -- strike that.**

5 **Is there any agency that you're aware of**
6 **in the United States, or in Europe for that matter,**
7 **which agrees that if a substance has been judged as**
8 **a human carcinogen that there is a threshold below**
9 **which it will not cause cancer?**

10 A. I can't -- I can't say that there is, but I
11 wouldn't say that it isn't, if you understand what
12 I'm saying.

13 **Q. I do. You don't know of any, but there**
14 **might be one out there, basically?**

15 A. Yes.

16 **Q. Would you agree with me that the National**
17 **Cancer Institute does not agree with that position**
18 **that there is a threshold below which exposure to a**
19 **substance judged to be a human carcinogen will not**
20 **cause cancer?**

21 A. I'm sorry. I didn't follow the question.

22 **Q. Sure. Would you agree with me that N.C.I.**
23 **does not agree with that proposition?**

24 A. With what proposition?

Page 56

1 **Q. Okay. Are you -- is that something you're**
2 **going to try to determine in this particular case,**
3 **or have you just simply looked at that and you can't**
4 **make that determination?**

5 A. I'd have to discuss it with counsel with
6 regard to this case.

7 **Q. Okay. Have you looked at the literature**
8 **and been unable to determine at what level one needs**
9 **to be for an association between benzene exposure**
10 **and AML to be an association?**

11 A. I don't recall that I have.

12 **Q. Okay. Would you agree with me that benzene**
13 **is a known human carcinogen?**

14 A. Benzene has been judged to be a human
15 carcinogen.

16 **Q. All right. Can you tell me in your opinion**
17 **is there a threshold, when a substance that has been**
18 **determined to be a human carcinogen, below which**
19 **exposure to that substance will not cause cancer?**

20 A. I'd say it depends upon the substance and
21 the nature of exposure and that very low levels --
22 the term threshold is an absolute term and there are
23 certainly levels beneath which one has not seen an
24 excess. Now, whether one would call that a

Page 55

1 **Q. That there is a threshold for substances**
2 **deemed to be human carcinogens?**

3 A. I don't know their position.

4 **Q. Okay. Can you think of any study that**
5 **would support the fact that there is a threshold for**
6 **benzene?**

7 MS. McELDOWNNEY: Object to the form.
8 BY MR. HARTLEY:

9 **Q. And the cause of leukemia?**

10 A. Are you talking about epidemiologic studies
11 or animal studies or...

12 **Q. Well, I know you haven't looked at the**
13 **animal studies, so let's limit it to the**
14 **epidemiological studies.**

15 A. Fine. I don't recall -- I can't give you
16 -- I can't cite any study that has reported a
17 threshold and that that report has been accepted
18 universally.

19 **Q. Would you agree with me that exposure**
20 **assessments in the various benzene epidemiological**
21 **studies have been deficient in that assessment so**
22 **that it would be difficult to make such a**
23 **calculation?**

24 MS. McELDOWNNEY: Object to the form.

Page 57

1 A. I'm not an expert in exposure assessment.
2 BY MR. HARTLEY:
3 Q. Are you aware of Dr. Paustenbach?
4 A. Yes.
5 Q. Dr. Paustenbach works for some company
6 called ChemRisk, I believe, and has written on many
7 things.
8 Would you agree with this statement that
9 Dr. Paustenbach wrote, "A number of occupational
10 cohort studies of refinery and other workers have
11 also relied on limited air sampling data or
12 mathematical formulations in air monitoring to
13 estimate past exposures to benzene"?
14 A. It sounds reasonable. I have no direct
15 knowledge that that's correct.
16 Q. He goes on to say, "Few of these
17 publications, however, have described the entirety
18 of benzene concentrations associated with different
19 manufacturing processes over time or illustrate how
20 to assemble and evaluate the diversity of industrial
21 hygiene air sampling measurements for the purpose of
22 conducting an exposure assessment." Do you have any
23 way to agree or disagree with that?
24 A. As I say, I'm not an expert exposure

Page 58

1 Q. I'm not, but I'll rephrase it for you to
2 make it simpler.
3 There's an old saying, garbage in,
4 garbage out. I'm sure you're familiar with that.
5 A. Yes.
6 Q. If the studies are lacking in a true
7 exposure assessment, any analysis of those studies
8 as to a relationship between the exposure and the
9 disease and an attempt to quantify a level below
10 which disease does or does not occur, will also be
11 lacking, correct?
12 A. Well, again, lacking implies absence of any
13 information and I'm not aware that any of these
14 studies is totally deficient in its exposure
15 assessment.
16 Q. Okay. If the studies -- if the studies
17 have problems with their exposure assessments and
18 they are nothing more than the opinions of folks who
19 are looking back over time and trying to conclude
20 what those exposures may be, the ability to make a
21 finite determination as to a level below which
22 disease does not occur is impacted, would you agree?
23 MS. McELDOWNEY: Object to the form.
24 A. I'm sorry. Again, you're using words that

Page 60

1 assessment.
2 Q. Would you agree with this, "This lack of
3 proper analysis -- as to the exposure assessments --
4 has limited the usefulness of epidemiology studies
5 because the exposure component is often not robust
6 and has discouraged exposure assessors from
7 concluding exposure reconstruction studies"?
8 A. I can't speak with regard to the
9 specificity of benzene studies. But, in general, if
10 exposure assessment is only approximate, then
11 assessing the relationship between exposure and
12 outcome is limited.
13 Q. Okay. So if the benzene studies do not
14 have robust exposure calculations and mathematic
15 formulas to determine what these folks were exposed
16 to, it makes it difficult to come up with a line in
17 the sand, if you will, as to a number below which
18 the literature does or does not support an
19 association, correct?
20 MS. McELDOWNEY: Object to the form.
21 A. You used a couple words there that I prefer
22 not to respond -- robust, as a statistical term,
23 that you may or may not be using.
24 BY MR. HARTLEY:

Page 59

1 to me are ambiguous -- finite, impacted, I'm not
2 sure what is meant by those words.
3 BY MR. HARTLEY:
4 Q. Let me see if I can give you an open-ended
5 question, maybe we can do it that way.
6 If you don't know whether the exposure
7 assessments are correct, any determination as to a
8 level below which disease does or does not occur may
9 or may not be right, would you agree with that?
10 A. Yes.
11 Q. Thanks.
12 Did you consider the Amico refinery
13 studies in reviewing for this particular case?
14 MS. McELDOWNEY: The cohort studies?
15 MR. HARTLEY: Yes.
16 BY MR. HARTLEY:
17 Q. Have you seen those?
18 A. I've seen them and I don't believe I
19 considered them.
20 Q. Okay. And is there a reason why you
21 didn't, if you've seen them?
22 A. Well, I'm trying to recall because what I
23 saw was the type-written manuscripts, which -- and
24 I'm not sure which were published and which were

Page 61

1 not.
2 **Q. I don't know if any of them were published,**
3 **to be honest with you.**
4 A. Well, I don't know, I wouldn't -- I believe
5 some were, but again, I can't give you the citation.
6 **Q. What do you remember if anything about**
7 **those cohort studies for the various Amico**
8 **refineries, if anything?**
9 A. Well, I was a consultant to Amico on those
10 studies.
11 **Q. There's an extreme healthy worker effect on**
12 **those studies, is there not?**
13 A. I don't recall the data.
14 **Q. Okay.**
15 A. My role as a consultant was basically to
16 use my computer program.
17 **Q. I noticed that.**
18 Let me show you a material safety data
19 sheet from a company called T.W. Brown Oil Company
20 in Ventura, California. And in that material safety
21 data sheet, the Company reports that "studies have
22 shown that benzene can induce leukemia at
23 concentrations as low as 1 part per million." Do
24 you have any agreement or disagreement with that?

Page 62

1 how then can you come up with an assertion that
2 there's no association between benzene and AML below
3 40 parts per million if you don't understand the
4 Glass data?
5 A. Can we go off the record?
6 MR. HARTLEY: Sure.
7 (Off-the-record discussion.)
8 MR. HARTLEY: Back on the record.
9 BY MR. HARTLEY:
10 **Q. You've indicated for me that you agree with**
11 **the assertion, and counsel has indicated you will be**
12 **testifying on AML and the level of exposure needed**
13 **for AML. If you're not prepared to talk about that**
14 **today, that's fine. I can do it by telephone later.**
15 But I'm trying to understand how you can
16 come up with a statement in May of 2005 "The weight
17 of the epidemiological literature fails to establish
18 an association between lifetime exposure to benzene
19 of less than 40 parts per million years and the
20 occurrence of acute myelogenous leukemia" without an
21 understanding of the Glass study as it relates to
22 exposure.
23 A. Well, the Glass study is one of a series of
24 studies upon which I have reviewed.

Page 64

1 A. I'm not sure where that number comes from.
2 **Q. Well, the Glass study would demonstrate**
3 **that, wouldn't it?**
4 MS. McELDOWNEY: Object to the form.
5 A. The Glass study is difficult to interpret
6 and I wouldn't rely upon it without better
7 understanding of its exposure assessment.
8 BY MR. HARTLEY:
9 **Q. Have you looked at the exposure assessment**
10 **for Glass?**
11 A. I've looked at the papers and they're
12 beyond my level of expertise.
13 **Q. Other than to say that -- what was your**
14 **language? "They are difficult to interpret" and**
15 **"without a better understanding of its exposure**
16 **assessment" you wouldn't rely on them. Other than**
17 **that that's all you can tell me?**
18 A. Well, as I recall there are three papers
19 describing the exposure assessment and they're very
20 technical.
21 **Q. Okay.**
22 A. And I haven't looked at them in any detail
23 and I'm not an expert in the methodology.
24 **Q. Okay. I want you to think for September,**

Page 63

1 **Q. Okay. But you don't -- but, as you've**
2 **testified, it's difficult to interpret and you**
3 **haven't relied on that in coming to your conclusion**
4 **as to 40 parts per million cumulative exposure**
5 **years, correct?**
6 MS. McELDOWNEY: Object to the form. We
7 talked about the exposure assessment specifically.
8 A. Please restate your question.
9 BY MR. HARTLEY:
10 **Q. Sure. In coming to the conclusion that the**
11 **weight of the evidence fails to establish an**
12 **association between lifetime exposures to benzene of**
13 **less than 40 parts per million years and the**
14 **occurrence of AML, you haven't taken into account**
15 **the exposure assessments reported in the Glass**
16 **papers?**
17 MS. McELDOWNEY: Object to the form.
18 A. All I can say is I reviewed the Glass study
19 and it's included in my overall assessment of the
20 epidemiologic literature.
21 BY MR. HARTLEY:
22 **Q. Would you agree with me that Glass**
23 **demonstrates the development of AML from levels less**
24 **than 40 parts per million cumulative years?**

Page 65

1 A. I don't believe Glass demonstrates
2 anything. Glass reports certain numbers, which I
3 don't have on my mind.
4 **Q. Okay. Have you given any depositions since**
5 **February of this year other than to me?**
6 A. No.
7 **Q. Okay. You have a billing in front of you,**
8 **correct?**
9 A. Yes.
10 **Q. How many hours do you have in the case?**
11 A. Five. That was up through June 30th.
12 **Q. Okay. So would it be fair to say that**
13 **after five hours of work, you've come to the**
14 **conclusion that PV is not related to benzene and**
15 **gasoline and MDS is not related to benzene and**
16 **gasoline?**
17 A. I came to the conclusion that the
18 epidemiologic literature does not support an
19 association.
20 MR. HARTLEY: Take a break and see if...
21 VIDEOGRAPHER: The time is 11:07 going
22 off the record.
23 (A recess was taken.)
24 VIDEOGRAPHER: The time is 11:13. We're

Page 66

1 **Q. Is there any particular studies that you**
2 **rely on which would support the 40 part per million**
3 **year number which you have concluded in your**
4 **sentence?**
5 A. Yes.
6 **Q. What would that be?**
7 A. I don't have them in my head.
8 **Q. Okay. Take a look at table 3 from Hayes.**
9 **I don't know if you have -- you didn't bring the**
10 **1997 report?**
11 A. No.
12 **Q. Let me show you table 3. If you'll notice**
13 **in table 3, Hayes utilizes that 40 part per million**
14 **cut off. Is that where you obtained your 40 part**
15 **per million year number in your sentence that we've**
16 **discussed?**
17 A. I obtained my number from a review of all
18 of the epidemiologic literature.
19 **Q. What impact does the Chinese cohort have on**
20 **that determination of 40 part per million years?**
21 MS. McELDOWNEY: Object to the form.
22 A. Without looking at all of the literature, I
23 can't cite now a specific study. I can't relate a
24 specific study to all other studies.

Page 68

1 back on the record.
2 BY MR. HARTLEY:
3 **Q. Dr. Monson, we've talked about this**
4 **40-part-in-a-million-year number that you utilized**
5 **in determining an association between benzene and**
6 **AML. Can you describe for me how you arrived at**
7 **that number today?**
8 A. Could you restate the question, because I
9 believe you misstated my position?
10 **Q. Okay. Your position is the weight of the**
11 **epidemiological literature fails to establish an**
12 **association between lifetime exposure to benzene of**
13 **less than 40 parts per million years and the**
14 **occurrence of acute myelogenous leukemia.**
15 My question is simply: How did you
16 arrive at 40 parts per million years as the
17 threshold?
18 A. Again, you use the word "threshold" and I
19 don't use that word. If you'd just ask a question
20 based specifically on what I state.
21 **Q. How did you arrive at 40 parts per million**
22 **years?**
23 A. By a review of the epidemiological
24 literature.

Page 67

1 BY MR. HARTLEY:
2 **Q. Okay. Are you aware of the actual number**
3 **that falls below 40 parts per million that Hayes**
4 **references in this table?**
5 A. I'm sorry. The actual number of what?
6 **Q. Parts per million years. In other words,**
7 **it says here less than 40 parts per million years,**
8 **are you aware as we sit here today of what that**
9 **actual number really is?**
10 A. I don't understand the question.
11 MS. McELDOWNEY: Object to the form.
12 A. It's less than 40 ppm.
13 BY MR. HARTLEY:
14 **Q. I understand that.**
15 But do you know whether it is 1.7, 6.9,
16 or what the actual number is? Have you seen any
17 literature that would demonstrate what the actual
18 number is that is less than 40 parts per million
19 years that he's referencing?
20 MS. McELDOWNEY: Object to the form.
21 A. Well, I assume it's a range of numbers. I
22 don't believe that it would be one number.
23 BY MR. HARTLEY:
24 **Q. I understand you assume that.**

Page 69

1 Have you seen any literature which would
2 report what the number is for that category in the
3 table?
4 A. I'm not aware that I have.
5 Q. Okay.
6 A. I've looked at all of the Chinese studies
7 over the years and did not have a recollection of
8 what they report.
9 Q. Okay. Have you looked at the California
10 E.P.A. document on benzene?
11 A. I don't recall.
12 Q. If Dr. Hayes reported to Cal E.P.A. that,
13 for the category of less than 40 parts per million,
14 the cumulative exposure was really 6.7 parts per
15 million years, would that impact your determination
16 that of the used -- strike that.
17 If Dr. Hayes advised Cal E.P.A. that the
18 level of cumulative exposure for the less than 40
19 parts per million years was really 6.7 parts per
20 million years of benzene exposure, would that alter
21 your number of 40 parts per million years and the
22 sentence that we've been talking about?
23 MS. McELDOWNEY: Object to the form.
24 A. I'd have to look at the context of what he

Page 70

1 CERTIFICATE OF COURT REPORTER
2
3 I, Shannon Walsh, Registered
4 Professional Reporter and Certified Shorthand
5 Reporter, do certify that the deposition of Richard
6 Monson, M.D., on July 29, 2005, was stenographically
7 recorded by me; that the witness provided
8 satisfactory evidence of identification as
9 prescribed by Executive Order 455 (03-13) issued by
10 the Governor of the Commonwealth of Massachusetts,
11 before being sworn by me, a Notary Public in and for
12 the Commonwealth of Massachusetts; that the
13 transcript produced by me is a true and accurate
14 record of the proceedings to the best of my ability;
15 that I am neither counsel for, related to, nor
16 employed by any of the parties to the above action;
17 and further that I am not a relative or employee of
18 any attorney or counsel employed by the parties
19 thereto, nor financially or otherwise interested in
20 the outcome of the action.
21
22
23
24

Shannon Walsh Date

Page 72

1 reported.
2 MR. HARTLEY: Okay. That's all I have.
3 MS. McELDOWNEY: I have no questions.
4 VIDEOGRAPHER: The time is 11:19 going
5 off the record.
6
7 (Deposition ended at 11:19 a.m.)
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Page 71

1
2 STATE OF _____)
3) SS.
4 COUNTY OF _____)
5
6

7 I, the undersigned, declare under penalty of
8 perjury that I have read the foregoing transcript,
9 and I have made any corrections, additions or
10 deletions that I was desirous of making; that the
11 foregoing is a true and correct transcript of my
12 testimony contained therein.
13

14 EXECUTED this ____ day of _____, 2005,
15
16 at _____,
17 (City) (State)
18
19
20
21
22
23
24

Name

Page 73

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

A abbreviate 8:14 ability 60:20 72:14 able 27:19 about 8:2 9:1,2 12:10 12:11 15:12 18:19 22:6 24:14 27:8 28:17,21,24 29:3 30:17 40:8,13 43:2 45:9 46:24 48:16,19 48:19,20,20 50:23 57:10 62:6 64:13 65:7 67:3 70:22 above 54:21 72:16 absence 56:1 60:12 absolute 55:22 abstract 11:3 47:9,13 abstract's 47:16 accept 42:10 48:14 accepted 57:17 according 29:22 40:23 account 65:14 accurate 72:13 across 12:24 37:16 49:17 action 72:16,20 actual 16:21 69:2,5,9 69:16,17 actually 10:11 acute 18:19 33:23 49:14 52:7 53:1 54:20 67:14 ad 1:7 5:8 add 52:4 additions 73:9 Administration 25:8 advised 49:2 70:17 after 66:13 again 22:23 25:6 41:10 43:11 60:12,24 62:5 67:18 agency 23:21 56:3,5 Agents 44:17 agree 11:12 13:13 18:1 24:23 27:22 29:2 30:7,24 34:19,22 36:6 40:16 44:24 47:19 53:5,22 55:12 56:16,17,22,23 57:19 58:8,23 59:2 60:22 61:9 64:10 65:22 agreement 62:24 agrees 56:3,7 air 58:11,12,21 Aksoy 21:17,21 al 5:9 22:11,19 23:16 33:17 40:8,16 50:1 almost 50:12 alone 27:13 alter 70:20 Although 18:7 always 37:17 ambiguous 10:15 61:1 america 1:11,12 5:9 6:12 Amico 61:12 62:7,9 AML 20:16,22 21:3 27:13 31:16,23 36:3 44:18 49:16 52:8,12	53:7,13,24 54:10,14 55:10 64:2,12,13 65:14,23 67:6 among 13:7 29:24 34:16 49:19 amount 30:23 54:21 analysis 20:11 33:2,7 33:12,24 59:3 60:7 analyzing 11:4 and/or 9:6 animal 57:11,13 ANLL 33:18,23,24 34:22 35:10 ANLL/MDS 34:15,21 35:3 ANLL 33:23 another 18:18 36:17 answer 16:17 20:6 28:15 29:4 answered 23:9 anything 24:14 27:22 62:6,8 66:2 APL 47:5 appear 47:17 appearances 2:1,22 appears 36:2 applies 51:19 approached 8:10 approximate 59:10 area 9:19 20:20 31:9 32:12 areas 51:23 Armed 47:24,24 arrive 67:16,21 arrived 67:6 arrow 49:10 article 17:18,22 19:19 20:3 21:7 22:2,6,9 22:22,23 23:5,7,12 23:14 25:2,7,13 27:2 27:2,17 29:2 35:18 37:17 44:6,16,16 47:11,17,20 49:8 articles 7:20,24 8:3 9:24 18:11 21:7 28:19 29:5,8,11 30:9 30:14 44:6 46:21,23 48:21 50:23 51:4 aside 37:12 asked 8:8 9:1,2,14 21:9 52:5 asking 32:1 48:5 assemble 58:20 assertion 25:23 33:17 64:1,11 assessing 59:11 assessment 31:6 57:21 58:1,22 59:1 59:10 60:7,15 63:7,9 63:16,19 65:7,19 assessments 57:20 59:3 60:17 61:7 65:15 assessors 59:6 associated 10:3 21:23 31:1 58:18 association 8:11 9:15 10:5,9,12 13:15,21 14:6,15,23 28:6 29:12 31:21 32:7	39:18,22,24 41:1,10 45:20 46:15 50:14 50:18 52:6,23 53:7 53:10,11,14,22 54:5 54:9,18,22 55:9,10 59:19 64:2,18 65:12 66:19 67:5,12 associations 6:17 8:18 37:9,13 assume 16:7 26:7 69:21,24 assumed 12:7 assuming 30:10,16 assumption 30:12 ATKINSON-BAKER 1:21 ATRA 23:17 attempt 22:9,17 60:9 attorney 72:18 attorneys 6:14 17:16 author 16:9 authors 10:21 12:16 16:2 18:1 34:22 35:5 35:12 42:21 44:9 45:12 author's 26:5 available 26:8 30:14 average 27:5 averaged 26:17 aware 17:17 29:5,9 30:20 56:5 58:3 60:13 69:2,8 70:4 A-k-s-o-y 21:19 a.m 1:17,17 71:7 B back 23:11 44:21 50:9 50:22 51:3 60:19 64:8 67:1 Barry 7:14 based 12:5 20:8 50:21 67:20 basically 24:9 56:14 62:15 beat 52:20 before 17:1,12 29:1 30:5 34:16 35:24 37:5 41:15,16 42:17 44:2 54:22 72:11 began 48:12 being 32:22 46:14 72:11 believe 6:15 7:15 8:10 9:4,21 21:19 22:5 24:21 26:2,13 27:6 27:14 28:8 31:14,17 36:1 38:21 42:9 48:17 54:4 58:6 61:18 62:4 66:1 67:9 69:22 bell 48:3 belonging 14:24 below 55:18 56:8,18 59:17 60:9,21 61:8 64:2 69:3 beneath 55:23 benzene 10:1,3,9,12 11:14,21 20:18 21:19,22,23 22:6,10 24:7 25:5,11,24	26:20 27:4 28:6,13 28:21 29:13,23 30:3 30:3,8,19 31:2,16,21 32:7 33:1,6 35:15 36:21,23 41:21 44:12,20 48:13 49:12 50:15,19 51:23 52:7,12,24 53:4,12,23 54:6,11 54:14 55:9,12,14 57:6,20 58:13,18 59:9,13 62:22 64:2 64:18 65:12 66:14 66:15 67:5,12 70:10 70:20 Benzene-induced 24:4 best 23:3 25:2 49:11 72:14 better 63:6,15 between 8:11 9:15 10:9,12 13:16,21 14:7,15,23 20:18 28:20 29:12 30:9,14 31:21 32:7 39:15,18 39:22 40:4,18 41:1 41:21 42:2 45:20 50:15,18 52:6,12,23 53:7,23 54:10 55:9 59:11 60:8 64:2,18 65:12 67:5,12 beyond 20:20 63:12 billing 66:7 Bina 45:21 bit 10:14 15:13,13 39:7 blue 49:10 book 21:22 Boston 1:20 5:5 both 9:11 39:9 bottom 15:10 34:13 BOULEVARD 1:22 BP 1:11,12 5:9 6:11,13 6:15 BRAND 1:22 break 66:20 bring 31:18 68:9 Broom 3:4 brought 7:1 18:12 20:2 20:4 29:18 34:6,8 45:7 48:21 Brown 62:19 Budinsky 22:2 23:12 23:14,16 Building 2:4 butcher 10:22 37:17 by-products 13:16,22 14:8,16,24 B-u-d-i-n-s-k-y 22:4 B.B.L 23:18 C C 5:1 Cal 70:12,17 calculate 39:13 calculation 57:23 calculations 59:14 california 1:22 62:20 70:9 call 14:5 35:7 41:10 55:24 called 9:7 58:6 62:19	came 47:14 66:17 Camp 13:1 cancer 13:22 14:17,24 22:3,19 55:19 56:9 56:17,20 cancers 15:3 caprolactam 24:8 27:4 carcinogen 55:13,15 55:18 56:8,19 Carcinogenicity 21:22 carcinogens 57:2 carefully 29:1 case 5:11 6:12 7:2,24 8:6,9 10:20 12:21 17:14 20:12 24:5,9 26:3 27:8,15 29:10 29:16 31:6 32:3 36:2 40:10 41:4 42:14 45:21 47:12 48:8 49:22,23 51:17,19 52:1 55:2,6 61:13 66:10 cases 10:24 11:9 15:6 15:8,12,13,15,23 16:6,23 17:7,9 18:17 25:12,15 26:6,23 38:22 39:3 41:8 45:9 case-control 38:2 categories 12:8 16:12 36:8,19 39:15 41:23 category 13:24 14:6,18 15:1,4,5 16:1,10,14 17:8 34:21 35:3,9 36:17 70:2,13 Catherine 3:2 Cathy 5:16 causation 32:18 causations 6:17 Causative 44:17 cause 18:4 55:19 56:9 56:20 57:9 caused 25:10,24 causes 10:18,19 certain 14:2 54:12 66:2 certainly 55:23 CERTIFICATE 72:1 Certified 72:4 certify 72:5 chance 46:11,15 change 51:6 chapter 44:17 characterize 22:15 chart 16:11 chemical 13:8 48:12 chemicals 12:14 ChemRisk 58:6 Chen 24:3 47:20 48:8 48:11 Chinese 22:3,24 33:17 33:24 35:15 44:20 45:2 68:19 70:6 Ciccone 35:19,23,24 circuit 1:3 5:10 circumstances 51:20 citation 62:5 cite 10:13 15:3 17:18 57:16 68:23 cited 10:21 20:2 cites 15:6 City 2:14 73:17
---	--	--	---	--

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

clear 52:5 clinical 18:22 20:23 clinician 20:24 close 15:11 closed 15:23 CML 36:3 Co 1:18 cohort 15:9 33:17 35:15 44:20 45:2 58:10 61:14 62:7 68:19 Cole 49:18 collaborative 22:4 colleague 49:3 column 12:16 17:23 44:10 45:8 combined 34:22 36:8 combining 45:14 come 10:2 12:24 37:16 49:17 59:16 64:1,16 66:13 comes 63:1 coming 65:3,10 Commonwealth 72:10 72:12 company 5:4 58:5 62:19,19,21 compared 36:5 42:7 comparison 36:5 42:1 compensable 25:17,18 25:20,21 26:23 complaint 7:19 9:8 complying 7:5 19:2 47:22 component 59:5 computer 62:16 concentrations 58:18 62:23 concern 30:23 32:9 concerned 32:17,18 39:16 47:17 concerning 12:19 conclude 15:24 20:5 60:19 concluded 52:11,21 68:3 concludes 13:10,11 concluding 59:7 conclusion 10:2 19:20 65:3,10 66:14,17 conducted 29:19 conducting 58:22 confidence 18:4,7 36:12,24 confirm 17:8 29:8 44:9 44:18 confirmation 11:8 confusing 38:20 43:3 45:17 consequence 49:12 consider 37:11,13 52:6 61:12 considered 28:13,16 61:19 consistent 39:24 consultant 62:9,15 contained 73:12 containing 14:1,18 contains 16:1,10 17:9 contamination 11:14	context 70:24 continued 2:22 continuum 20:22 21:3 33:19 contradictory 12:19 contrast 12:18 control 36:2 40:19 controlled 41:9 controls 36:6 38:16,23 39:4 42:3,7 copy 38:7 Corporate 5:4 corporation 1:11,18 5:9 6:11 correct 6:20 11:10 12:12 13:14 14:9 15:20 17:9 18:9 20:22 22:12,20 24:17,24 25:13,18 25:24 29:15,20 30:5 30:13,15,16 31:2,9 31:17 32:7,8,12 35:16 36:18 37:3,4,9 37:14 38:3,11,15 39:19 40:5,24 41:9 42:8,18 43:24 44:3 46:11,12 48:9,13,22 50:16,20 52:12 53:2 54:24 58:15 59:19 60:11 61:7 65:5 66:8 73:11 corrections 73:9 correctly 42:9 counsel 5:12 9:14 51:7 51:10 55:5 64:11 72:15,18 county 1:3 5:10 73:4 couple 18:16 59:21 course 41:13 court 1:3,21 5:10,18,19 72:1 Cowles 46:18 cpm@maronmarvel.... 3:7 created 12:8 Greek 6:20 8:13 9:16 31:9 32:12 critical 30:12 CSR 1:23 cubital 26:11 cumulative 31:15 32:24 33:6 43:5,10 54:7 65:4,24 70:14 70:18 current 6:23 cut 68:14 CV 1:10 5:11 c-a-p-r-o-l-a-c-t-a-m 24:9 C-h-e-n 24:5 47:21 C-l-c-c-o-n-e 35:19 C-o-w-l-e-s 46:19	62:18,21 64:4 Date 72:24 David 2:12 5:14 48:24 day 73:14 dead 52:20 dealing 22:2 Dean 2:3 5:14 7:6 death 10:18,19 deaths 18:3,3 deceased 1:8 5:8 decision 21:2 decisions 25:9 declare 73:7 deemed 26:23 57:2 Deer 13:1,1 16:21,23 27:17,23 28:2 Defendants 1:13 3:9 5:17 deficient 57:21 60:14 Delaware 3:5 deletions 73:10 Delzell 49:18 demonstrate 22:10 53:14 63:2 69:17 demonstrated 14:7 38:13 demonstrates 26:2 40:17 65:23 66:1 demonstrating 40:4 depends 9:10 53:16 55:20 Deponent 5:22 deposes 6:1 deposition 1:15 5:6 7:19 71:7 72:5 depositions 7:9 66:4 describe 67:6 described 11:23 58:17 describing 63:19 description 4:12 34:24 desirous 73:10 detail 21:14 63:22 determination 20:8 31:7 32:2 55:4 60:21 61:7 68:20 70:15 determine 16:22 17:7 20:21 41:19 55:2,8 59:15 determined 55:18 determines 21:22 determining 37:8,13 37:15 67:5 developed 24:6 48:13 development 49:13 53:23 65:23 dhartley@hartleyobr... 2:8 diagnosis 16:7 diesel 38:10,11 39:18 39:23 40:5 45:14,18 different 8:20 23:6 34:7 39:7 41:22 43:2 45:18 58:18 difficult 57:22 59:16 63:5,14 65:2 direct 58:14 disagree 58:23 disagreement 62:24 discouraged 59:6 discuss 18:12 21:10	28:5 30:10 48:21 51:10 55:5 discussed 21:4 46:23 68:16 discusses 34:20 47:18 48:11 discussing 38:10 discussion 64:7 disease 19:14 20:14 20:15 21:23 23:6 33:19 45:21 60:9,10 60:22 61:8 diseases 8:24 14:19 16:11,13 25:10 distinction 56:2 diversity 58:20 divide 39:5 Division 23:18 Docket 1:10 Doctor 6:5 7:14 50:11 document 9:7 17:1,2 70:10 Don 3:12 done 12:3 16:22 22:11 22:14,18 30:5 50:12 dose 22:7,11,13,18 Dosemeci 22:19 doubt 53:17 down 41:6 51:17 dr 4:4 5:6,22 6:8 7:10 7:14 9:4 17:22 23:5 24:1,19,23 38:6 44:19,24 48:24 49:2 49:3,8 52:5 58:3,5,9 67:3 70:12,17 driver's 5:24 due 21:18 46:15 duly 6:1 dumped 14:4 during 11:13	32:6,16 33:3,7,11 50:16,19 52:22 53:6 53:14 54:9 57:14,20 64:17 67:11,23 epidemiology 6:9 12:17 22:4 47:5 59:4 equal 46:15,17 equation 37:8,10 escaped 8:13 Esq 2:3,12 3:2,3 essence 26:10 establish 31:20 52:23 64:17 65:11 67:11 established 32:19 establishes 53:6 estimate 26:14 46:1 58:13 estimates 22:7,11,13 22:18 et 5:9 22:11,19 23:16 33:17 40:8,16 49:24 Etiology 44:18 Europe 56:6 evaluate 58:20 evaluation 9:23 even 11:23 evidence 10:8 13:15 13:21 14:15 30:20 37:15 41:20 65:11 72:8 exact 46:1 exactly 38:17 39:6 EXAMINATION 4:7 6:3 examine 9:14 example 31:13 excess 11:5 41:7 50:2 53:21 54:6 55:24 excesses 45:1 exclude 37:7 EXECUTED 73:14 Executive 72:9 exhausted 27:19 exhibits 1:2 4:12 exist 6:18 expected 15:14 18:3 50:3 experienced 30:24 32:11 expert 6:12 7:9,15 31:6 51:16 58:1,24 63:23 expertise 20:20 63:12 experts 7:11 explain 14:13 16:9 expose 41:9 exposed 27:4 35:3,7 35:10,15 38:14,15 38:22,23 39:3 41:8 42:1,2,3,5,6,7 43:18 44:12 48:13 59:15 exposure 13:16,21 14:7,16,23 21:18 22:7 25:4,24 26:3,11 26:13,14,15 28:14 30:23 31:5,16,21 32:10 33:1,6,10 36:7 36:14 40:19 41:2 43:2,4,7,15 45:13,20 49:13 52:16,23 53:3 53:5,7,12,23 54:6,10 54:14 55:9,19,21
---	---	---	--	--

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

56:18 57:19 58:1,22 58:24 59:3,5,6,7,10 59:11,14 60:7,8,14 60:17 61:6 63:7,9,15 63:19 64:12,18,22 65:4,7,15 67:12 70:14,18,20 exposures 6:19 9:15 9:19 31:9 45:9 53:20 58:13 60:20 65:12 express 6:16 expressing 38:18 50:14 extent 7:8 21:4 extreme 62:11 E.P.A 70:10,12,17 F facility 13:1 16:23 fact 17:8 20:4,5,9,17 20:22 21:3,23 29:18 37:5 41:19 57:5 factors 46:14 fails 31:20 52:22 64:17 65:11 67:11 fair 66:12 falls 69:3 familiar 18:15 44:14 49:21 60:4 far 27:18 32:17 39:16 41:22 47:16 48:22 49:5 Farrow 38:10 39:17,21 40:1,3,8,10 45:7 Fax 2:7,15 3:6 feared 49:12 February 66:5 few 12:16 58:16 fewer 15:13 figure 38:17 39:4 FILE 1:24 final 6:22 financially 72:19 find 12:21 15:7 27:19 29:6 45:16 finding 11:7 fine 7:12 38:8 57:15 64:14 finish 7:9 21:10 finite 60:21 61:1 first 6:1 13:13 five 26:6 66:11,13 floor 1:19,22 Florida 23:19 folks 15:16 42:5 59:15 60:18 follow 51:8 56:21 follows 6:2 Forces 48:1 foregoing 73:8,11 form 14:10 19:16,22 27:21 28:7 31:3,10 32:13 52:13 57:7,24 59:20 60:23 63:4 65:6,17 68:21 69:11 69:20 70:23 formulas 59:15 formulations 58:12 found 11:7 20:15 28:4 28:19 29:10 38:3	44:11,20 45:1 47:8 four 18:2 25:19 29:24 frame 11:13 frequency 50:3 frequently 10:20 Friday 1:16 from 8:13 17:21 18:3 19:20 20:22,23 21:3 21:8 22:19,23 23:21 26:22 27:18 29:19 32:16 33:11 45:7 46:22 48:6 49:8 50:15,19 53:14 54:2 54:14 59:6 62:19 63:1 65:23 68:8,17 front 8:4 66:7 full 6:5 further 72:17 G G 2:12 5:1 garbage 60:3,4 gasoline 9:22,24 30:2 30:3,19 31:1 50:15 50:19 51:24 52:7 66:15,16 general 32:18,21 59:9 give 21:12 31:13 39:1 43:16 45:18 57:15 61:4 62:5 given 17:11 66:4 Glass 24:16 48:16 63:2 63:5,10 64:4,21,23 65:15,18,22 66:1,2 GLENDAL 1:22 glues 11:7 go 17:6 21:13 23:11 34:20 51:3 64:5 goes 49:6 58:16 going 8:22 50:5 55:2 66:21 71:4 Goldberg 40:13,14,17 40:24 41:3 good 21:16 governmental 23:21 Governor 72:10 grant 23:20 greater 38:22 group 13:10 23:21 36:5 40:20 41:8 42:1 42:3,6 43:18 grouped 33:18 guarantee 46:16 guess 21:16 38:16 45:21 47:4 H handwriting 19:8 handwritten 19:10 happen 42:14 happened 31:18 hartley 2:2,3 4:8 5:15 6:4 7:12,13 14:12 16:16 19:18,24 27:24 28:10 31:4,12 32:15,23 44:23 45:6 50:10 51:14 52:9,10 52:14 57:8 58:2 59:24 61:3,15,16 63:8 64:6,8,9 65:9	65:21 66:20 67:2 69:1,13,23 71:2 having 5:22,24 24:18 37:22 Hayes 22:11,23,24 23:5,9 33:17,22 44:6 68:8,13 69:3 70:12 70:17 head 29:4 68:7 Health 25:8 healthy 62:11 heard 48:4 49:5 heart 51:6 hematopoietic 25:10 her 31:8 33:10 highlighted 36:9,18,20 36:22 45:9 him 48:24 hired 34:16 Honda 49:17,17,24,24 honest 12:4 62:3 horse 52:21 hours 66:10,13 huh 21:16 human 55:13,14,18 56:8,19 57:2 hundred 46:16 hygiene 58:21 hypothetical 54:2 I idea 47:23 identification 72:8 identified 5:23 illustrate 58:19 impact 20:11 21:2,8 31:7 33:2,7,12 50:24 51:7,9 68:19 70:15 Impacted 60:22 61:1 implies 60:12 Importance 47:11,15 important 56:2 Inaccurate 22:12,15 inc 1:11,12,21 23:18 include 24:13 included 10:1 15:4 16:14 65:19 includes 24:20 Incorporated 5:9 Incorrect 14:11 Increased 38:14 40:22 44:11 54:13 Independence 1:4 5:11 Independent 20:7 indicate 16:2 23:14 44:11 46:4 indicated 15:20,21 31:14 64:10,11 indicates 9:7 16:11 18:8 44:19 Individual 48:11 53:3 Individually 1:6 5:7 Individuals 11:17 induce 62:22 Industrial 12:6,11 58:20 Infallible 29:7 Information 12:18 32:22 53:18 56:1	60:13 ingredient 24:8 initially 8:10 inquiry 51:23 Institute 22:3,19 56:17 intend 51:3 interested 72:19 Interpret 63:5,14 65:2 Interpretation 14:22 34:23 interval 18:5,7 36:13 36:24 Involved 17:15 Irons 49:3,5 issue 33:10 issued 72:9 Italy 36:3 Itemized 7:20 Items 7:1 J JABFP 47:23 Jackson 1:3 5:10 Johnson 2:11 journal 47:24,24 Judged 55:14 56:7,19 Judgment 28:17 32:14 July 1:16 72:6 June 66:11 just 7:7 8:14 10:13 12:7 21:12 24:1 31:18 37:12 51:17 53:19 55:3 67:19 J.D 3:3 K Kang 25:4 48:19 Kansas 2:14 Kaplan 17:18 27:16 28:12 key 30:10,16 kind 11:2,16 23:11 38:20 knew 32:24 know 11:16 12:3 19:3 19:5,6 24:13,19 26:11,17 27:13 28:24 40:8 48:6,24 48:24 54:16 56:13 57:3,12 61:6 62:2,4 68:9 69:15 knowledge 23:3 58:15 known 55:13 Korea 25:5 Korean 25:7 KOSHA 25:9 K-a-n-g 25:4 L L 3:3 laboratory 49:4 lack 59:2 lacking 60:6,11,12 language 63:14 last 11:3 34:13 41:11 41:12 44:22 later 64:14 layman's 46:9 least 15:20 26:5 27:18	32:16 39:16 47:16 54:16 left-hand 12:16 44:10 45:8 leonard 1:6 5:7 less 15:13 31:22 45:24 46:3 52:24 53:10,11 54:17 64:19 65:13 65:23 67:13 69:7,12 69:18 70:13,18 let 28:1 31:5,19 35:1 35:23 48:2 54:7 61:4 62:18 68:12 let's 18:14 30:17 34:2 34:6 54:3 57:13 leukemia 18:19 27:11 27:14,15 49:14 52:7 53:1 57:9 62:22 64:20 67:14 leukemias 12:19 level 26:3 46:7 53:9 55:8 60:9,21 61:8 63:12 64:12 70:18 levels 26:20 54:12 55:21,23 65:23 license 5:24 lifetime 31:21 43:5,10 43:14 52:23 64:18 65:12 67:12 like 7:7,17 12:5 20:2 28:17 29:18,22 51:17 likely 46:10 limit 9:23 57:13 limited 58:11 59:4,12 line 59:16 liquid 38:11 40:5 liquids 45:15,18,21 list 7:1 16:13 47:6 listed 13:2 15:8 17:10 24:21 38:13 listing 16:6 lists 15:10 liter 1:7 5:8 literature 12:22 20:17 21:5 27:20 31:20 32:6 33:3,8,12 38:3 52:22 53:6,16,17 54:2,5,9,19 55:7 59:18 64:17 65:20 66:18 67:11,24 68:18,22 69:17 70:1 little 15:13,13 39:7 lived 9:20 32:11 located 5:4 location 8:13 long 8:4 long-term 49:12 look 8:17 9:1,2,3 10:14 11:18 12:15 13:11 15:22 16:21 17:21 18:13,14 19:5,7,23 20:1,16 29:1 34:11 35:2 37:20,23 38:6 40:10 41:3,6,16,24 42:14,20 44:5 45:8 46:18 47:4 48:2 49:7 51:3 68:8 70:24 looked 8:19 29:2,15 33:16 40:14 44:8
---	---	---	--	--

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

50:23 55:3,7 57:12 63:9,11,22 70:6,9 looking 7:7 9:23 14:21 21:7 36:3 38:19 45:19 46:21 60:19 68:22 looks 7:17 10:11,17,18 12:5 23:5 29:18,22 low 55:21 62:23 lymphatic 14:17 lympho 33:23 lymphomas 12:20 14:3 lymphopoietic 13:23 14:17,19 15:11,22 lympho-reticulosarc... 13:24	44:20 45:1,10,21 46:22,23 47:18 48:13,16,22 50:2,19 51:23 66:15 mean 19:13 26:15 29:7 29:7 37:7 46:13 47:2 meaning 49:4 means 14:14 16:17 26:7 46:9,14 meant 61:2 measurement 26:16 measurements 26:17 58:21 measures 43:2 Med 29:19 47:9,14 Mehlman 24:19 Mehlman's 24:23 Mele 47:4,5 mention 12:13 27:7 29:12 45:17 mentioned 9:4 11:19 11:21 21:20 22:5 23:4 41:15 methodology 63:23 might 6:19 9:15 47:6 51:18 56:14 million 26:10 27:6 31:15,22 33:1,6 52:15,24 53:4,11,12 53:13,21 54:6,10,18 62:23 64:3,19 65:4 65:13,24 67:13,16 67:21 68:2,13,15,20 69:3,6,7,18 70:13,15 70:19,20,21 mind 23:8 28:24 38:6 54:15 66:3 missed 21:15 missouri 1:3 5:10 6:20 misstated 28:8 67:9 MO 2:14 model 22:15 modeling 22:6,10 monitoring 58:12 monson 1:15 4:4 5:6 5:22 6:7,8 17:22 24:1 38:6 52:5 67:3 72:6 Monson's 7:10 more 8:7 10:19,20 25:7 29:1 45:24 60:18 morning 28:22 46:24 50:13 mortality 10:17 13:7 17:20 49:18 most 18:15 49:12 much 22:15 multiple 14:1 multiply 39:11 myelodysplasia 8:20 18:20 49:13 myelodysplastic 8:19 24:6 myelofibrosis 14:1,5 14:19 16:1 myelogenous 49:14 53:1 64:20 67:14 myeloma 14:1,4,19 myelomas 16:1 myeloproliferative	19:14 M-e-l-e 47:5 M.D 1:15 3:3 72:6 N N 4:1 5:1 Najean 10:23 18:18 19:19,21 20:4 21:7 27:16 28:3,12,23 29:2 name 6:5 10:23 49:5 73:22 nancy 1:7 5:8 National 22:3,19 56:16 nature 15:15 55:21 necessarily 11:15 need 32:9,17 37:13 needed 21:10 54:22 64:12 needs 11:7 55:8 neither 37:2 72:15 never 23:7 48:4 new 32:22 next 22:22 24:3 34:21 51:10 NHL 14:5,20 NHLs 16:2 Nisse 37:17 38:3 39:21 40:16,23 41:7 42:11 42:17,20 Nisse's 39:16 non 33:23 none 1:2 4:14 26:8 nonexposed 38:15 43:18 non-AML 27:15 non-Hodgkin's 14:2 north 1:11,12,22 3:4 5:9 6:12 Notary 6:1 72:11 note 19:10 37:24 notes 29:23 nothing 28:16 60:18 notice 15:14 68:12 noticed 62:17 number 1:24 5:11 13:7 36:19 46:1 47:6 54:15 58:9 59:17 63:1 67:4,7 68:3,15 68:17 69:2,5,9,16,18 69:22 70:2,21 numbers 45:19 66:2 69:21 numerous 7:20 N-i-s-s-e 37:19 N.C.I 56:22 O O 5:1 Object 14:10 19:16,22 27:21 28:7 31:3,10 32:13 52:13 57:7,24 59:20 60:23 63:4 65:6,17 68:21 69:11 69:20 70:23 Objection 16:15 32:20 observed 15:5,12,15 18:3 obtained 68:14,17 occupation 11:4 12:6	occupational 21:18 23:17 25:4,8 58:9 occupations 11:6 12:10 occur 60:10,22 61:8 occurred 10:19 occurrence 31:23 53:1 64:20 65:14 67:14 odds 36:7,12 39:1,4,12 42:6,11,22 43:5,8,14 43:17 off 50:6 64:5 66:22 68:14 71:5 Offered 4:14 offices 5:3 Off-the-record 64:7 often 12:19 59:5 Oil 62:19 Okay 6:24 7:12,17,23 8:5,17 9:18 13:19 15:2 17:6,11 20:7 21:6,21 22:1 23:24 24:13,19 26:19 27:2 28:11 29:15 30:17 30:22 32:5,9 33:5,10 33:22 34:2 35:1,23 36:2 37:12,16,23 38:24 39:10,13 42:5 42:24 43:17,23 46:18 48:8,16 49:2,7 51:12,22 52:3,9 53:9 53:19 54:16 55:1,7 55:12 57:4 59:13 60:16 61:20 62:14 63:21,24 65:1 66:4,7 66:12 67:10 68:8 69:2 70:5,9 71:2 old 60:3 one 9:2,11 10:17,17,19 10:20 13:5,6 17:6,8 18:18 20:1 24:3,6 25:22 26:16,24 27:14 31:18 34:6 37:17 39:7,8 41:11 41:12,13 43:4,4 44:5 46:16 47:8 50:14 55:8,23,24 56:14 64:23 69:22 ones 34:7 one's 17:11 only 8:24 9:2,13 19:17 21:4 26:9,24 27:14 28:4 38:7 43:11 45:22 47:9 59:10 open-ended 61:4 opine 7:11 32:6 53:9 opinion 10:6,7 30:18 30:22 51:1,7,9 54:4 54:8,12 55:16 opinions 6:17,22,23 7:10 8:5 50:13 51:12 51:17,18 60:18 order 47:6 72:9 originally 9:13 other 8:17 13:15,20 14:14,22 15:6,10,22 17:14,16 18:11 27:16 28:2,11,12,15 28:19,21 29:5,10,10 29:11,24 36:19	46:14,17,23 51:12 51:18 58:10 63:13 63:16 66:5 68:24 69:6 others 21:10 otherwise 72:19 ourselves 32:10 out 10:22 18:23 21:14 33:10 34:2 36:3 38:17 39:4 46:10,16 47:6,13 56:14 60:4 outcome 59:12 72:20 over 38:6,19 50:2 52:15 58:19 60:19 70:7 overall 65:19 overlap 39:14 own 42:22,23 O'Brien 2:2 P P 5:1 46:2,4 page 4:7,12 12:9,15 13:10 16:3 17:22 19:7 34:11,13,21 35:2,24 37:23 42:21 44:10 49:9 Pages 1:1 paper 11:18,22,24 19:23 21:13,17,20 22:17 34:4 48:8 papers 63:11,18 65:16 paragraph 34:13,20 paraphrase 13:14 paren 15:11,11,23,23 19:12 49:16 Park 13:1,1 16:21,23 27:17,23 28:2 part 26:8 31:15 62:23 68:2,13,14,20 particular 9:1 16:11 21:20 23:21 29:16 30:10 31:6 32:3 34:23 41:4 42:2 45:13 47:12 51:19 51:20 52:1 55:2 61:13 68:1 particularly 13:23 parties 72:16,18 parts 26:10 27:5 31:22 33:1,5 52:15,24 53:4 53:10,12,13,21 54:6 54:10,17 64:3,19 65:4,13,24 67:13,16 67:21 69:3,6,7,18 70:13,14,19,19,21 past 58:13 patients 11:5,6 Patterns 13:7 Paustenbach 58:3,5,9 PC 14:8 penalty 73:7 pending 6:12 per 26:10 27:5,6 31:15 31:22 33:1,5 52:15 52:24 53:4,11,12,13 53:18,21 54:6,10,17 62:23 64:3,19 65:4 65:13,24 67:13,16 67:21 68:2,13,15,20
---	--	---	--	---

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

69:3,6,7,18 70:13,14 70:19,19,21 percent 18:4 36:24 percentage 38:22,23 perjury 73:8 person 24:6 27:6 petition 7:18 9:8 petrol 36:7,16 38:10,11 39:18,23 40:4 42:21 43:7,13,15,19 45:9 45:10,14,17 petroleum 13:8,16,22 14:7,16,23 17:21 41:7 49:19 50:1 petrol/diesel 45:20 Phillip 3:3 5:17 physician 7:16,19 physicians 11:5 pitch 37:12 places 9:12 Plaintiff 1:7,9 2:9,16 5:8 54:2 Plaintiffs 5:15 7:9 Plaintiffs 7:15 plant 13:8 24:7 27:4 48:12 49:19 50:2 please 5:12,20 28:9 31:11 39:20 65:8 Plr@maronmarvel.c... 3:8 point 10:10 21:14 26:9 26:13,14,15 polycythemia 8:12,14 10:24 12:18 13:17 14:2 16:2 18:2 29:23 30:8 position 56:17 57:3 67:9,10 positive 41:1 possible 10:20 11:5 28:20 post-it 37:24 potential 9:19 28:5 29:12 potentially 27:17 28:13 potentials 23:6 ppm 27:1 69:12 predecessor 20:14,15 44:6 preface 28:23 prefer 59:21 prepare 7:23 prepared 8:2 64:13 prescribed 72:9 present 16:8 presenting 38:21 presumptions 20:19 previous 11:4 34:20 previously 11:6 primarily 9:22 principal 24:8 printed 47:13 Probably 49:11 problems 60:17 proceedings 72:14 process 21:23 33:19 processes 23:6 58:19 produced 72:13 product 41:7 production 5:23	products 1:12 14:7 36:16 Professional 72:4 program 62:16 proper 59:3 proposition 56:23,24 provided 72:7 Pub 29:19 47:8,14 Public 6:1 72:11 publications 58:17 published 12:17 61:24 62:2 pull 10:22 18:23 30:9 34:2 pulled 30:14 purpose 58:21 put 33:22 PV 8:15 9:15,24 10:3,9 10:12,18 11:9 14:5,8 14:19 15:8 16:22 17:7,9 18:12,21,22 20:5,9,14,22 21:3,8 21:19,22 22:5 23:3 24:14,20 25:12 27:7 27:20 28:2,13,20 29:12 30:3,3 33:9,14 50:15 51:23 66:14 PV's 28:5 Pyatt 48:24 49:2 Pyatt's 49:8 Pyune 3:2 P.A 3:1 P.C 2:11 P.L.L.C 2:2	42:19 46:20 49:23 49:24 50:4 55:11 57:15 61:22 62:13 63:18 70:11 recently 44:8 52:5 recess 50:7 66:23 recollection 9:17 21:13 22:13 25:14 46:22 47:1 48:22 70:7 reconstruction 59:7 record 6:6 7:8 50:6,9 64:5,8 66:22 67:1 71:5 72:14 recorded 72:7 record's 52:5 Redding 6:7 refer 8:22 reference 28:2 35:18 references 69:4 referencing 69:19 referring 45:4 refineries 17:21 62:8 refinery 9:21 13:8 15:16,23 58:10 61:12 refining 36:16 regard 55:6 59:8 Regardless 48:8 Registered 72:3 relate 68:23 related 28:20 30:18 31:8,16 66:14,15 72:15 relates 32:2 64:21 relationship 20:18 28:20 39:17 40:4 41:20 42:2,8 45:16 46:10 52:12 59:11 60:8 relative 35:7,9 72:17 relied 58:11 65:3 rely 63:6,16 68:2 remainder 46:21 47:3 remember 33:20,22 34:1 62:6 repeat 19:17 39:20 rephrase 28:1 31:5 60:1 report 17:3,6,10 24:5 24:10,24 25:7 26:5 26:20 31:14 35:5,12 42:21 43:11,11 45:13,19 46:2 48:9 51:15 52:21 57:17 68:10 70:2,8 reported 1:23 18:2 32:22 42:4,11 49:24 50:1 57:16 65:15 70:12 71:1 reporter 5:18,19 72:1,4 72:5 REPORTERS 1:21 reporting 36:15 38:9 39:21 40:1,3,6,17 41:7 43:17 reports 40:2 44:24 49:9 62:21 66:2 represent 5:13 representing 6:15	research 29:10 residual 13:24 14:6,18 15:1,4,5,11,23 16:1 16:10,12,14 17:8 respect 33:9,14 respond 51:21 59:22 rest 18:17 restate 31:11 65:8 67:8 result 6:18 16:19 retained 6:11,14 review 20:8 25:2 37:16 44:16 49:8,21 50:21 67:23 68:17 reviewed 7:2,17,21 64:24 65:18 reviewing 15:7 19:19 49:23 61:13 re-ask 28:9 richard 1:15 4:4 5:6,22 6:7 72:5 right 6:16 9:9,11,13 13:9 19:19 22:22 23:2 28:1 40:7 41:11 52:18 55:16 61:9 right-hand 17:23 Rigolin 41:12,24 42:14 ring 48:2 Rinsky 24:13 risk 13:17 14:8,16 27:11 34:15 35:7,9 38:14 40:22 44:11 44:20 54:13 risks 13:22 14:24 road 51:18 robust 59:5,14,22 role 62:15 Rothbart 3:3 5:17 rough 46:1 RPR 1:23 ruled 25:17,18,19,21 ryan 1:6,7 5:7,8 6:13 9:20 30:23 32:10 53:20 Ryan's 6:18 31:8 32:24 R-e-d-d-i-n-g 6:7 R-i-g-o-l-i-n 42:15	23:12 30:17 47:20 53:19 see 7:4 11:18,21 18:14 19:1,5 20:17 21:9 23:16,23 27:10 34:6 34:17 37:20 42:24 47:20 48:2 51:8 61:4 66:20 seen 17:1,2,3,14 24:18 27:23 33:16 35:24 37:22 42:17 44:2 50:24 55:23 61:17 61:18,21 69:16 70:1 sentence 11:3 13:13 13:18 14:13 49:9 68:4,15 70:22 separate 54:1 September 63:24 series 26:16 64:23 Service 1:18 Services 5:4 23:18 set 6:15 16:20 51:20 sets 45:18 seven 15:12,15 several 20:19 shannon 1:23 5:19 72:3,24 sheet 62:19,21 Shell 13:1 16:22 17:4,7 17:15 shortcut 34:3 Shorthand 72:4 shoulder 38:7,19 show 35:1,23 44:16 62:18 68:12 shown 62:22 significance 20:3 43:12 significant 15:19,21 18:9 35:13 37:3,6 39:2 40:18 41:14 42:12 43:7,9,12,20 43:23 45:1 46:6 significantly 34:16 44:19 simpler 60:2 simply 29:7 30:24 37:7 39:5 55:3 67:15 since 51:15 66:4 sit 8:3 51:22 54:22 69:8 six 15:13 Skik 9:4 Skikne 7:14 9:5,6 Smith 44:14,19,24 SMR 15:16 16:12 18:4 18:8 35:6 solvent 41:2 42:1 solvents 11:7,12,16,23 12:7 40:19 42:5 43:1 43:5,12,20 solvent-exposed 40:23 some 11:14 12:7 15:6 18:15 25:15 26:6 44:7 51:16 58:5 62:5 something 12:2 37:6 40:2 55:1 sorry 10:6 13:2 15:12 19:7 22:24 27:9
--	---	--	---	--

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

39:20 40:12 42:23 56:21 60:24 69:5 sort 26:8 sounds 49:21 58:14 South 25:5 speak 59:8 speciality 6:8 specific 8:7 10:14 12:2 12:13 16:7 51:21 68:23,24 specifically 15:3 44:8 52:8 65:7 67:20 specificity 59:9 specified 15:14 specify 54:13 spell 37:18 sponsored 23:15 SS 73:3 standpoint 20:23 21:9 32:17 33:11 46:22 50:16,20 53:15 state 1:19 5:5,13 7:7 27:5 43:1 44:13 67:20 73:2,17 stated 42:9 statement 26:1 58:8 64:16 states 45:4 46:8 49:11 56:6 statistical 43:11 59:22 statistically 15:19 18:8 35:13 37:2,6 39:2 40:18 41:13 42:12 43:6,8,19,23 46:6 statistics 16:20 stenographically 72:6 step 51:11 still 7:8 18:8 stopped 21:6 Street 1:19 2:5,13 3:4 5:5 strike 40:2 54:7 56:4 70:16 studied 49:11 studies 14:22 22:4 28:4,12,16 29:11 38:3 42:22,23 57:10 57:11,13,14,21 58:10 59:4,7,9,13 60:6,7,14,16,16 61:13,14 62:7,10,12 62:21 64:24 68:1,24 70:6 study 10:10,14,17,24 11:9 12:5,24 13:4,14 13:20 14:14 15:7 16:21 17:20 18:22 19:3,4 22:24 24:24 27:3,9,13,17 28:3,3 36:3 38:9 39:22 40:12,17,24 41:3 42:20 44:2 45:5 46:19 49:17,18 57:4 57:16 63:2,5 64:21 64:23 65:18 68:23 68:24 subject 7:10 32:21 subjects 35:3 substance 55:17,19,20 56:7,19	substances 8:12 57:1 subtract 39:11 Sugar 6:20 8:13 9:16 31:9 32:12 suggest 30:21 suggesting 10:8 Suite 2:4,13 summarizes 23:7 38:2 summary 7:23 summers 2:11,12 5:14 5:14 support 39:17 41:20 57:5 59:18 66:18 68:2 supports 13:14,20 14:14,22 32:6 39:22 54:5,9 sure 8:8 10:23 13:4 21:14 22:14 28:15 31:13 37:21 39:14 39:21 44:7 47:2 56:22 60:4 61:2,24 63:1 64:6 65:10 Swaan 27:2 48:20 swear 5:20 sworn 6:1 72:11 syndrome 8:19 24:6 T table 15:10 16:14 25:19,22 26:2,6,19 26:20 35:2,23 36:9 37:23 38:2,9 42:20 45:19 68:8,12,13 69:4 70:3 tables 12:8,10 24:22 25:13,17 Taiwan 48:6 take 5:5 7:8 11:20 18:14 20:1 24:15 37:8 66:20 68:8 taken 26:16,17 50:7 65:14 66:23 talk 8:2 12:10,11 27:8 30:17 43:2 48:16 64:13 talked 28:21,24 29:3 46:24 48:19,20,20 50:23 65:7 67:3 talking 57:10 70:22 talks 18:18 22:6 Tallahassee 23:18 tape 5:6 technical 63:20 telephone 51:9 64:14 tell 6:5 16:10 51:7 54:21 55:16 56:3 63:17 term 52:17 55:22,22 59:22 terms 30:8 46:9 testified 37:5 41:16 65:2 testifying 64:12 testimony 50:12 73:12 text 16:13 Thank 45:3 49:15 Thanks 61:11 their 10:21 16:13 33:24 40:9 42:22,23 43:18	57:3 60:17 thereto 72:19 thing 34:4 47:8 things 21:14 29:24 46:17 58:7 think 10:13 12:4,6 13:2 18:16 24:16 35:19 50:22 56:1 57:4 63:24 thinking 12:1 THIRD 1:22 thirteen 18:11 thousand 33:5 three 26:9 28:21 29:8 36:8 41:22 63:18 threshold 55:17,22 56:1,8,18 57:1,5,17 67:17,18 through 11:18 21:13 66:11 time 5:20 11:13,20 44:7 50:5,8 58:19 60:19 66:21,24 71:4 times 46:10,16 tissue 13:23 14:17 Title 27:11 today 5:18 6:22 7:21 8:3 17:12 42:17 44:3 54:23 64:14 67:7 69:8 together 14:5 28:5 33:18,23 top 12:15 19:10 topic 30:10 topics 30:11 totally 60:14 town 6:20 training 20:8 transcript 72:13 73:8 73:11 transform 19:11,14 20:5,9 travel 51:17 treating 7:16,19 trial 50:14 true 60:6 72:13 73:11 try 20:21 55:2 trying 10:13 34:2 38:17 42:24 43:1 60:19 61:22 64:15 twice 45:18 two 7:9 8:24 12:10 26:9 39:15 43:2 45:18 50:13 51:22 type-written 61:23 T.W 62:19 U unable 55:8 uncertain 22:16 under 41:6 73:7 undersigned 73:7 understand 16:18 19:13 20:3 21:1 33:15 41:24 50:12 56:11 64:3,15 69:10 69:14,24 understanding 9:18 63:7,15 64:21 unexposed 35:8	United 56:6 universally 57:18 unless 27:23 unstable 18:7 update 17:20 19:4 Updated 49:18 use 37:10 62:16 67:18 67:19 used 8:20 9:11 52:17 59:21 70:16 usefulness 59:4 using 11:6,17 30:7 59:23 60:24 utilized 67:4 utilizes 68:13 U.S 16:19 V V 15:10 42:20 validity 22:18 value 46:2,4 values 53:17 vapors 38:10 39:19,23 various 14:18 38:2 57:20 62:7 Ventura 62:20 vera 8:12,14 10:24 12:18 13:17 14:2 18:2 29:23 30:8 veras 16:2 version 35:1 versus 5:8 6:13 38:15 38:15 40:19 41:8 very 12:16 55:21 63:19 video 5:6 VIDEOGRAPHER 3:11 5:3,18 50:5,8 66:21 66:24 71:4 VII 37:23 38:2,9 vital 16:20 voice-identify 5:12 Volume 1:1 vs 1:10 W Wagner 2:4 walsh 1:23 5:19 72:3 72:24 want 50:11 52:20 63:24 way 6:15 16:19 28:11 54:3 58:23 61:5 ways 8:20 weight 31:19 37:15 41:20 52:22 64:16 65:11 67:10 well 7:21 18:18 26:4,7 26:24 27:22 32:16 36:17 38:11 45:24 47:4,13 48:6 54:3 57:12 60:12 61:22 62:4,9 63:2,18 64:23 69:21 went 50:22 were 8:8 9:1,13,19 10:18 11:17 12:7 16:23 18:2 21:7 22:11 25:10,10,17 25:18,19,21 26:17 26:23 44:20 45:1	59:15 61:24,24 62:2 62:5 West 41:6 we're 5:3 8:21 50:8 66:24 we've 27:19 28:21 41:15,22 48:20,20 67:3 68:15 70:22 Wheeling 2:6 while 7:6 32:11 Wilmington 3:5 witness 4:4 5:20 6:12 7:5 9:7 19:2 47:22 51:16 72:7 wondering 24:1 29:9 word 9:11 24:15 37:10 67:18,19 words 23:16 30:11,16 59:21 60:24 61:2 69:6 work 49:3 66:13 worked 24:7 51:24 worker 62:11 workers 13:8 17:20 27:4 34:16 40:23 44:12 49:19 50:1 58:10 working 11:6 17:15 48:12 works 58:5 wouldn't 27:22 37:10 39:5 47:2 53:13 56:11 62:4 63:3,6,16 wrap 50:11 write 12:16 written 22:17 28:17 44:17 54:17 58:6 wrong 24:17 wrote 58:9 WV 2:6 X X 4:1 Y yeah 33:24 47:8 year 66:5 68:3,15 years 27:6 31:22 33:1 52:15,24 53:4,11,12 53:13,21 54:7,11 64:19 65:5,13,24 67:13,16,22 68:20 69:6,7,19 70:7,15,19 70:20,21 Yin 44:5,10 45:5 Z zero 15:6 O 0.01 46:3 0.5-7.1 36:13 0.6-5.5 37:1 0.88 18:3 0002 26:24 01 46:7 03-13 72:9 04 1:10 5:11
---	---	---	---	---

9F0632A
RICHARD MONSON, M.D. JULY 29, 2005

1 1 1:1 25:19 26:6 35:2 62:23 1,164 18:5 1-73 1:1 1.7 36:24 69:15 1.9 36:12 10:39 50:5 10:44 50:8 100 46:10 105 2:13 1067 35:2 11:07 66:21 11:13 66:24 11:19 1:17 71:4,7 120 15:17 16:12 18:5 1300 3:4 137 35:24 159 27:5 160 12:15 163 12:9 19 22:24 1980 11:13 29:19 30:9 19806 3:5 1986 17:21 1988 18:19 19:20 1989 38:10 39:22 45:7 1990 40:13 1991 13:6 27:18 46:19 1995 41:6 49:20 1996 44:5,10 1997 11:13 35:1 68:10 1998 27:16 28:3 2 2 25:22 26:19,20 35:23 36:9 45:24 2.5 43:8,19 2.6 43:6,22 2.7 43:21 200 54:8,10 2000 23:1 34:4,9 44:6 2001 2:5 23:7 34:8 47:21 2002 24:13 2003 24:16 2004 24:20 49:8 2005 1:16 27:2 29:20 30:9,15 64:16 72:6 73:14 223271 1:10 5:11 23 39:4 232 44:10 26003 2:6 288-3376 1:23 29 1:16 72:6 3 3 12:8 68:8,12,13 30th 66:11 300 53:21 302.425.0180 3:6 302.425.5177 3:6 304.233.0774 2:7 304.233.0777 2:7 35 39:3 350 33:1 39 13:10 16:3	4 4 12:9 4.1 35:11 40 31:15,22 52:15,24 53:10,12 54:17,21 64:3,19 65:4,13,24 67:13,16,21 68:2,13 68:14,20 69:3,7,12 69:18 70:13,18,21 40-part-in-a-million-... 67:4 401 2:13 423 34:11 45 53:4,13,18 455 18:4,8 72:9 5 5th 1:19 2:13 500 1:22 516 17:22 535 49:9 6 6 4:8 6.7 70:14,19 6.9 69:15 600 2:4 61 39:8 63 39:8,9 64106 2:14 7 7 13:7 7-2 26:10 7.1 42:4,6 72 34:17 8 8 47:6 80 30:15 800 1:23 816.221.5370 2:15 816.283.3200 2:15 84 1:19 5:4 842 10:24 11:9 88 19:4 21:6 9 9F0632A 1:24 9:22 1:17 91203 1:22 92 19:7 931 42:21 95 18:4 36:12,24 96 34:8 97 34:8 98 19:3 99 46:10			
--	--	--	--	--

