

UNITED STATES DISTRICT COURT

DISTRICT OF MASSACHUSETTS

Civil Action

No. 82-1672-S

ANNE ANDERSON, for herself, and as parent and next friend of CHARLES ANDERSON, and as Administratrix of the estate of JAMES ANDERSON; CHRISTINE ANDERSON; RICHARD AUFIERO, for himself, and as parent and next friend of ERIC AUFIERO, and as administrator of the estate of JARROD AUFIERO; LAUREN AUFIERO; DIANE AUFIERO, for herself, and as parent and next friend of JESSICA AUFIERO; ROBERT AUFIERO; KATHRYN GAMACHE, for herself, and as parent and next friend of AMY GAMACHE; TODD L. GAMACHE; ROLAND GAMACHE; PATRICIA KANE, for herself, and as parent and next friend of MARGARET KANE; KATHLEEN KANE; TIMOTHY KANE and KEVIN KANE, Jr.; KEVIN KANE; DONNA L. ROBBINS, for herself, and as parent and next friend of KEVIN ROBBINS, and as Administratrix of the estate of CARL L. ROBBINS, III; MARY TOOMEY, for herself, and as parent and next friend of MARY EILEEN TOOMEY, and as Administratrix of the estate of PATRICK TOOMEY; RICHARD J. TOOMEY; JOAN ZONA, for herself, and as Administratrix of the estate of MICHAEL ZONA; RONALD ZONA; ANN ZONA; JOHN ZONA; and PAT ZONA,

Plaintiffs,

vs.

CRYOVAC, Division of W. R. Grace & Co.; W. R. GRACE & CO.; JOHN J. RILEY COMPANY, Division of Beatrice Foods Co.; BEATRICE FOODS CO.; and XYZ Company (ies),
Defendants.

SECOND DAY OF THE DEPOSITION OF GEORGE F. PINDER, taken on behalf of the Defendant Beatrice Foods Co., pursuant to the applicable provisions of the Federal Rules of Civil Procedure, before Kathleen L. Good, Registered Professional Reporter and Notary Public in and for the Commonwealth of Massachusetts, at the offices of Hale and Dorr, 60 State Street, Boston, Massachusetts, on Wednesday, January 8, 1986, commencing at 10:05 a.m.

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MS. WOODWARD: This is the continuation of the deposition of George Pinder.

Dr. Pinder, you realize you're still under oath?

THE WITNESS: Yes.

George F. Pinder, Resumed

Direct Examination by Ms. Woodward, continued

Q My name is Amy Woodward. Dr. Pinder, do you recall testifying at the first day of your deposition that you were waiting for the release of certain pump test information from the EPA in order to complete work on what you described as your comprehensive model?

A I have some recollection of that.

Q Have you received that information?

A Not completely.

Q Have you received some of that information?

A Parts of it, yes.

Q Since the date of your last deposition?

A I have some additional information since that time.

Q Can you tell us what the additional information is that you have received?

A Now, do you refer to the pump test information in this question?

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may have left the Cryovac site at any specific point
in time?

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A Only within the bounds that I have described to you.

5

Q And do you expect to testify at trial that any

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specific concentrations of any specific compound or

7

any group of compounds were leaving the Cryovac site

8

at any specific point in time?

9

A Probably.

10

Q Once again, do you expect that you will finalize your

11

opinion on that point at some point prior to trial

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that you cannot specify?

13

A Yes.

14

Q Have you ever attempted to make any calculation of

15

the total volume of contaminants that have left the

16

Cryovac site within any finite period of time?

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A No.

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Q You have never attempted to calculate, on the basis

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of the water quality data that's been gathered or

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from any other basis, what volume of contaminants

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left the Cryovac site in 1984?

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A I have not made that calculation.

23

Q Is it your intention to make that calculation at some

24

point?

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A Not probably.

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2 Q How about for 1985?

3 A Not likely.

4 Q For any other year?

5 A Not likely.

6 Q For the entire period 1964 to 1979?

7 A Not likely.

8 Q For any other period of time?

9 A Not likely.

10 Q Would it be possible for you to make that
11 calculation?

12 A No.

13 Q Why not?

14 A Because I don't feel that it would make sense.

15 Q Why not?

16 A I don't fundamentally know how to do it.

17 Q On the basis of the data that exists and that you've
18 seen, it would not be possible for you to calculate
19 the volume of contaminants that have left the Cryovac
20 site in the plume that you have identified for any
21 finite period of time?

22 A Not in a way I feel would be meaningful.

23 Q Is there any additional information that might
24 hypothetically be gathered that would enable you to
25 perform that calculation?

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2 A Define the calculation for me again, please.

3 Q Let's say that the calculation is the total volume of
4 contaminants -- and I'll define contaminants as the
5 contaminants which are the complaint chemicals in
6 this case -- to the extent they have been detected on
7 the Cryovac property -- using that definition of
8 contaminants and using all of the data which has been
9 gathered and which you have seen or which you're
10 aware exists, is it your testimony that it would not
11 be possible to calculate the total volume of such
12 contaminants which probably left the Cryovac site in
13 the year 1984?

14 A That's a different question.

15 I think that calculation could be made. In my
16 capacity as a hydrologist, I probably would not make
17 it.

18 Q Why would you probably not make it?

19 A Because I don't think it's meaningful.

20 Q But it could be made?

21 A I think some hydrologists could make it.

22 Q Are you not qualified to make that calculation?

23 A I feel I'm not qualified to make that calculation.

24 Q What specifically is it that you lack in the way of
25 qualifications -- if you can answer at question --

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that makes it impossible.

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What specifically is it that you lack in the way of qualifications that makes it impossible for you to make that calculation?

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A I think my demands on accuracy and representation would be compromised if I tried to make that calculation.

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8

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Q Was that an answer to my question as to what qualifications you lack?

10

11

A Let's say that they are ethical qualifications.

12

Q In what way do you feel you would be compromised if you make that calculation?

13

14

A I think that the information that you would need to have to compute that number within accuracy bounds that I would feel as a professional I would be prepared to present, isn't and is not likely to be available.

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Q What would that information consist of if it could be available?

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A An accurate representation of the chemistry everywhere within the specified boundary, across which you want the measurement made.

22

23

24

Q So you feel that it would be unreasonable to

25

extrapolate from chemical data from a limited number

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2 of sampling points?

3 A Yes.

4 Q In order to make the calculation that I've been
5 describing?

6 A Yes.

7 Q You are, however, willing to testify that
8 contaminants in the range of tens of parts per
9 billion to thousands of parts per billion have been
10 leaving the site?

11 A Yes.

12 Q And you are hypothetically willing to testify as to
13 specific concentrations that have been leaving the
14 site within that range?

15 A Within that range.

16 Q So specifically what you feel you are not qualified
17 to testify to is the volume of contaminants leaving
18 the site as opposed to the concentrations?

19 A No, that's not correct.

20 Q Then specifically what is your problem with the
21 hypothetical? Is it the period of time?

22 A No.

23 Q Specifically what is it?

24 A It's the variability in the concentration in both
25 space and time.

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2 If you wish him to speculate, that is fine, but
3 those are not his opinions and he's not being brought
4 here to offer those opinions.

5 MS. WOODWARD: If you at any point wish to
6 instruct the witness not to answer a question or if
7 you wish the record to reflect you have an objection
8 to a form of the question, please do so.

9 I won't tolerate any more interruptions and
10 interjections to my questions.

11 MR. ELLER: I object to the form. You can
12 do whatever you wish in terms of your time. If you
13 wish to have him speculate about something on which
14 he has no intention of giving opinions --

15 MS. WOODWARD: I'm not going to tolerate
16 any more interruptions. Is that clear?

17 MR. ELLER: You can not tolerate anything
18 you wish.

19 Q Dr. Pinder, have you ever had occasion in the course
20 of your career as a hydrogeologist to attempt to
21 define the probable dimensions of a plume of
22 contamination?

23 A No.

24 Q Do you feel that you're qualified to make such a
25 determination?

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2 A No.

3 Q What qualifications would you need in order to make
4 such a determination?

5 A I feel I should be a deity.

6 Q Excuse me?

7 A A deity, some kind of God, somebody who has knowledge
8 I don't possess.9 Q So in your opinion, hydrogeologists never attempt to
10 make determinations of the probable dimensions of
11 plumes of contaminations?

12 A I didn't say that.

13 Q In your opinion, a respectable and ethical
14 hydrogeologist never attempts to make estimations of
15 the dimensions of plumes of contaminants?16 A I have no knowledge of the ethics or respectability
17 of my colleagues who may on occasion attempt to do
18 it.

19 Q You have never done did?

20 A Not to my knowledge.

21 Q And it's been totally irrelevant to the course of
22 your career as a hydrogeologist?23 A I don't think it has significantly impacted my
24 career, if I understand your question correctly.

25 Q Dr. Pinder, do you recall giving an affidavit in this

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case sometime in the course of the year 1985?

A I gave an affidavit but I don't remember the date.
It's quite possible it was in 1985.

Q I have a copy here -- oddly enough, it's not dated --
but I'll show it to you and ask you if that's the
affidavit you recall giving.

A I think I can identify the printed matter. I'm not
sure about the photographs but I have no reason to
believe that this wouldn't represent something that I
had presented.

MR. ELLER: Do you want to make more time?

Take your time.

(Pinder Exhibit No. 12, Affidavit,
marked for identification.)

A Basically remains as I said. To the best of my
knowledge, it represents that.

Q Directing your attention to the third page of the
affidavit, subparagraph D, would you read that over,
please, to yourself.

(Pause.)

A Yes, I read that.

Q Is it still your opinion that the most recent
chemical data indicate that the area which was
excavated by Grace's engineers in which six drums

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were found is not the probable source of
contamination at the site?

A Yes.

Q Dr. Pinder, would you tell me, please, how you
arrived at the opinion that you testified to on the
first day of your deposition, the majority of the
contaminants found at Well G and H came from Riley
and Cryovac?

A I believe that at the time of that deposition, I
outlined those physical and analytical data and
methods that I used to arrive at those opinions.

Q What I'd like you to do now is take me step by step,
using specific numbers and specific equations
wherever your memory permits you to do so, through
the process that you took with respect to Cryovac's
contribution.

A All right. I will try and recall that. It's been
some time.

Q Is your process reflected in documents anywhere that
have not been produced?

A I think that the process is reflected in the
information that you have available to you to which
I've testified already.

Q Which information is what?

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A Well, I documented it in the original deposition. I probably could read it out of that deposition as well as to attempt to recall it.

Q If you would like, I can give you a copy of the transcript of that deposition and you can tell me where you testified step by step to the process that you took with respect to Cryovac's contribution, using specific numbers and specific equations.

A If you would like to give me the document, I'll try and comment.

Q I'll give you this one.

(Pause.)

A I think that probably the first relevant information appears on Page 27 in answer to a question stated on Line 3, wherein I begin to try and lay down the basis for my opinion.

In that and following pages, we try and describe the physical information that was brought to bear on that opinion. Then some additional information of relevance appears on Page 38 in answer to a question stated in Line 7.

It's fair to point out that that information preceded the actual statement of the opinion.
See that statement?

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2 Q Yes, referring to Pages 47 and 48, I believe.

3 A The question, as I see it, was read as:

4 "What steps did you take? What did you take into
5 consideration in order to reach your opinion?"

6 And then there's a sequence of information that
7 follows essentially addressed to that question, which
8 I think was the same one that you asked. If it's
9 not --

10 Q It's not. Now that we have gotten this far, I would
11 like to make clear to you what my question is.

12 You have had an opportunity to review the
13 relevant portion of the transcript of the first day
14 of your deposition and had an opportunity to refresh
15 your recollection as to the nature of the information
16 you provided at that time.

17 My question is this: I want to find out step by
18 step and using specific real numbers and specific
19 defined equations, how you determined what Cryovac's
20 contribution to the contamination found at Well G and
21 H was.

22 Do you understand the difference?

23 A I think that I can help you to some degree. I'm not
24 sure what you want that I haven't already provided.

25 The physical information that I used was derived

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2 from my opinion as to the characteristics of the
3 reservoir that lies between Wells G and H and the
4 Grace site.

5 The information derived from that is geologic,
6 hydrologic and to some degree, topographic.

7 The information that is geologic is basically
8 information on the materials that constitute the
9 reservoir and the parameters that are physically or
10 geologically based.

11 The topographic information is interesting from
12 the point of view of the distance from the site to
13 the well field.

14 The hydrologic information is water levels
15 collected over the period of investigation at the
16 site, values that are documented in the published
17 literature. Those values in turn have been
18 transmitted to you in computer readable form.

19 Q Where?

20 A In the floppies.

21 The engineering calculations that are involved
22 in establishing that concentrations of contaminants
23 in the range that I testified to are algebraic
24 formulas that are derived from fundamental
25 physical concepts.

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2 The algebraic formulas are mathematically the
3 solutions to the one dimensional transport equation,
4 formula of which I would be prepared to provide for
5 you if you find it enlightening.

6 Q I would. Would you like to write it on a piece of
7 paper?

8 A I would be happy to. We did this before, didn't we?

9 (Pause.)

10 A What I'll do here is present this --

11 MR. ELLER: You refer to that and we will
12 provide them with copies of that information if they
13 wish to have copies provided.

14 MS. WOODWARD: Let me mark this as an
15 exhibit.

16 MR. ELLER: Don't mark it as exhibit.

17 MS. WOODWARD: You're objecting to marking
18 this as an exhibit?

19 MR. ELLER: Perhaps.

20 MS. WOODWARD: Make up your mind.

21 MR. ELLER: I have a right to discuss it
22 with him before you mark it. Are we off the record?

23 MS. WOODWARD: If you want to take an
24 afternoon break at this point, I'm willing to
25 accommodate you. I don't think it's appropriate to

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2 consult with the witness before we mark as an
3 exhibit, a piece of paper in which he just recorded
4 calculations in response to a question.

5 The purpose of having him do it on paper rather
6 than give an oral response was so that we would have
7 an exhibit.

8 MR. ELLER: I believe he stated all this
9 information had been provided to you already on the
10 floppy disks.

11 Q Have these equations been provided on the floppy
12 disks?

13 A No.

14 What she asked me for was the engineering
15 expressions that are used to make simple calculations
16 of contaminant movement; and the equation that I have
17 presented there is the clearest exposition of that
18 without going into very heavy detail, I think would
19 be unintelligible to anybody who wasn't technically
20 oriented.

21 Q Is this the version that you used? That's what I'm
22 trying to get?

23 A This is the equation that I have used in establishing
24 my opinion.

25 MS. WOODWARD: Yes. That's what we want.

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2 MR. ELLER: Check it to make sure that's
3 correct and accurate. And then I will take you up on
4 your offer for a break.

5 THE WITNESS: I think that's correct, as I
6 can recall from memory.

7 MS. WOODWARD: May we have this marked with
8 the next exhibit number.

9 (Pinder Exhibit No. 13, Handwritten
10 document, marked for identification.)

11 (Recess taken at 3:30 to 3:50 p.m.)

12 Q The document that you created just before the break,
13 Dr. Pinder, which has been marked as Exhibit 13, is a
14 standard transport equation that you used in this
15 case in order to determine what the contribution to
16 the contamination at Wells G and H was from the
17 Cryovac property?

18 A In part.

19 Q Did you use other equations?

20 A No.

21 Q But you used data to input into that equation to
22 solve it, correct?

23 A I used data to solve -- I used data to input into
24 that equation, yes.

25 Q Did you use anything in order to reach your opinion

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that a certain amount of contamination got from the Cryovac property to Wells G and H other than that equation and the values that you had to determine in order to solve it?

A I did not do what you just stated that I did, so we should rephrase the question, I think.

Q What did you do with this transport equation that's been marked Exhibit 13?

A I didn't do anything with that equation per se.

Q For what purpose did you write the equation out in response to my question before the break as to what equations you had used in order to determine what Cryovac's contribution was to the contamination of Wells G and H?

A I wanted you to understand that the solution to this equation with appropriate parametric information constitutes part of the basis upon which I made my original opinion.

Q Have you solved that equation?

A I have solved that equation.

Q Have you solved that equation for Cryovac's contribution to the contamination of Wells G and H?

A The answer to the question as you stated it is no.

Q Have you determined what Cryovac's contribution to

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the contamination at Wells G and H is?

A Not as you stated the question.

Q How would you state the question?

MR. ELLER: It's your question.

A It's not my job to state questions.

Q You answered the question implying that you had a problem with the question. Do you have a problem with the question?

A No. I can answer the question any way you wish. You pose the question and I'll try and answer it.

Q Let's pose this question: Have you determined what portion of the contaminants detected in the Wells G and H in May of 1979, originated from the Cryovac property?

A That did not constitute part of my opinion.

Q Have you determined that?

A Have I determined that? No.

Q Have you determined what portion of the contamination that you believe existed in Wells G and H in the year 1978, originated at the Cryovac property?

A Have I made that calculation? Is that the question?

Q Yes.

A No.

Q Have you made that calculation for any other year

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between 1964 and 1979?

A Between 1964 and 1979? Yes.

Q For what period of time have you made that determination?

A For the period prior to the pumping of Well G.

Q You have determined what portion of the contamination that you believe was present at the site of Well G prior to the time it started pumping in 1964, originated at the Cryovac property; is that correct?

A Yes.

Q What specific period of time were you looking at?

A I am interested in the opinion that I gave which basically involved the conditions at the well at the time that the wells began to pump.

Q What level of contamination do you believe existed at Well G prior to the time it began to pump in 1964?

A I think that the contaminant concentration at Well G was between tens and hundreds of parts per billion at the time that that well was turned on.

Q And what portion of that tens to hundreds of parts per billion do you believe originated from the Cryovac property?

A I believe that 100 percent of that contamination came from the Grace site.

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Q How did you determine that, sir?

A From my understanding of the fundamental physics of flow through ^{porous media} force medium, the hydraulic information that was available to me, the geologic information that was available to me and the information on the time of deposition of the contaminants as provided to me by Schlichtmann.

Q Did you use this equation, which has been marked as Exhibit 13, in order to determine and reach your opinion that 100 percent of the contamination you believe was present at Well G in 1964, came from Cryovac?

A No.

Q Did you use an equation?

A Not for that, not for the way you stated the question, no.

Q Specifically, step by step, tell me what you did -- and in order to save time, I'm not interested in hearing you recite that you looked at various general categories of information and put them all together and all of a sudden you knew. I am interested in getting a specific description of the process that you underwent using real numbers.

A Well, I think that in truth, it is as you say you

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2 don't want me to say it; that I brought together a
3 number of sources of information to arrive at the
4 conclusions that I arrived at. Part of that
5 information is the use of engineering expressions.

6 It is not the only basis upon which my opinion
7 was derived. However, in response --

8 Q You did use engineering expressions?

9 A As part of my calculations, I did.

10 Q Did you use the engineering expressions that are set
11 forth on Exhibit 13?

12 A I used solutions to that equation to assist me in
13 establishing my opinion.

14 Q So you did use this?

15 A I did use that in establishing my opinion.

16 Q And we're talking about your opinion that 100 percent
17 of the contamination that you believe was present
18 before Well G began to pump came from Cryovac?

19 A That was not part of my original opinion.

20 Q I'm talking about the opinion that I just stated and
21 I'm trying to find out whether you used any of the
22 engineering expressions that are set forth on Exhibit
23 13 in order to reach that opinion?

24 A The opinion that you stated, that you would like to
25 attribute to me, would not require the use of that

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equation.

Q I have no particular interest in attributing to you the opinion that 100 percent of the contamination that you believe was present at Well G before it began to pump came from Cryovac. I believe I heard that from you.

A That statement, as you stated it, does not require that equation.

Q Tell me how you came to the opinion that 100 percent of the contamination that you believe was present at Well G before it began to pump in 1964, came from Cryovac.

Specifically, did you use any engineering expressions or equations in the course of reaching that opinion?

A The opinion that 100 percent of the contamination that was in the pumping wells at the time they were turned on is based on our understanding of the ground water flow in that system in the absence of pumping; and the determination of percentage is simply based on the fact that under non-pumping conditions, the Grace site is the only site that hydrodynamically could have contributed to that well.

Q So you have eliminated, for the purposes of your

1
2 opinion, the possibility that contamination from any
3 site anywhere in the Aberjona River Valley other than
4 the property of the Cryovac plant at 369 Washington
5 Street could have contributed any contamination to
6 Well G prior to the time it began to pump?

7 A It is my opinion that based on the ground water flow
8 patterns that we have available to us and the
9 information on the chemical contamination in the
10 valley, that the only site that I'm aware of that
11 could have been responsible, would have been the
12 Grace site.

13 Q Do you, for instance, have information that enables
14 you to eliminate the possibility that contamination
15 from the property of the Interstate Uniform Company
16 contributed to contamination at Wells G and H prior
17 to the time they began to pump?

18 A Yes.

19 Q What is that information?

20 A It's information provided to me by Schlichtmann.

21 Q What specifically is that information?

22 A That any contamination that had been introduced at
23 that site, Interstate Uniform site, occurred
24 subsequent to the initiation of pumping.

25 Q So this is an oral representation made to you by

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Mr. Schlichtmann, the attorney for the plaintiffs?

A That's correct.

Q Do you have any other basis for eliminating Interstate Uniform as a potential source of contamination of Wells G and H as of 1964?

A Other than?

Q Other than the oral representation made to you by Mr. Schlichtmann that you just described?

A At the initiation of pumping, the answer is no.

Q As of any subsequent point in time, from 1964, on, do you have any basis other than the oral representation made to you by Mr. Schlichtmann for eliminating Interstate Uniform as a potential source of the contamination of Wells G and H, if any?

A I think an examination of the chemical data may provide a fingerprint that would indicate that if Interstate was contributing to G and H at the time that the wells were turned down --

Q You're talking about 1979?

A Yes. I think that such a fingerprint may suggest that Interstate was not a substantial contributor to the wells.

Q Have you determined whether or not that's true?

A I have not had that responsibility.

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2 Q So it's not part of your opinion that you're stating
3 here today or of any opinion you stated in your first
4 deposition?

5 A Would you clarify the question, please.

6 Q None of the opinions that you stated at your first
7 deposition or which you are stating here today are
8 based on any information as to the possibility that
9 Interstate Uniform was a contributor to contamination
10 in Wells G and H except for an oral representation
11 made to you by Mr. Schlichtmann.

12 Is that a true statement?

13 A I'm really having some trouble with the question not
14 because you are being ambiguous but because it's too
15 long.

16 (Question read.)

17 A I can't answer that question. It's too complicated.
18 If you would like to break it up, I'd be happy to try
19 and help you.

20 Q First of all, let me go off the topic for a moment.

21 When you say tens to hundreds of parts per
22 billion of contamination were present at Well G when
23 it began to pump in 1964, does that mean anywhere
24 from the No. 10 to the No. 999 parts per billion?

25 A Yes. That would be a reasonable interpretation.

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Q Is that in fact what you mean?

A Basically, yes.

Q Going back to the question, do you have today any information relevant to determining whether Interstate Uniform was a contributor to the contamination of Wells G and H other than an oral representation that was made to you by Mr. Schlichtmann?

A I have the complete suite of chemical data that could be brought to bear on such a question.

Q Have you examined that collection of data in order to determine --

A Not for that purpose.

Q -- whether Interstate Uniform is a potential contributor to the contamination of Wells G and H?

A No.

Q As of today, which is when we're deposing you to determine what your opinions are, and as of the first day upon which you were deposed, at which time we were deposing you for the same purpose, you had no basis for any opinion as to the potential contribution of Interstate Uniform other than an oral representation that was made to you by Mr. Schlichtmann?

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A The opinion that I gave at that time, which still remains my opinion as stated, was predicated on all information regarding the timing of contaminants being provided by Mr. Schlichtmann.

Q How did you go about eliminating the possibility that contamination which you believe was present at Well G in 1964, came from any other property located in between Cryovac and Well G?

A I have no evidence of any sites between those two positions.

Q Did you do anything in order to eliminate the possibility that contaminants were introduced into the surface or the subsurface anywhere in that area?

A No.

Q Do you have any information that would enable you to eliminate the possibility that Hemmingway Transport Trucking Company was a potential contributor to the contamination you believe was present at Well G in 1964?

A I'm not aware of that.

Q Do you have any information --

A I don't even know the name that you gave me. It's completely unknown to me.

Q So you have no way of eliminating that possibility?

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A Absolutely no knowledge upon which you speak.

Q Do you have any basis, any way of eliminating the possibility that the Woburn Municipal Landfill was a contributor to the contamination that you believe was present at Well G before it began pumping in 1964?

A I'm not aware of the location nor have I taken into consideration that landfill.

Q So you have no way of eliminating that possibility?

A Without knowing where it is, I have absolutely nothing to say about it.

Q Do you have any basis for eliminating the possibility that Brody, Inc., was a contributor to the contamination you believe was present at Well G before it began to pump in 1964?

A I have no knowledge of Brody, Inc., either.

Q Do you have any basis for eliminating the possibility that contamination present in the Aberjona River contributed to contamination which was pumped by Well G when it first began to pump?

A Yes.

Q What is that basis?

A That the hydrodynamics associated with flow in the valley, vis-a-vis the location of the river, would preclude the existence of river contamination at or

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about the well field at the time of its initiation.

Q What about the --

A At the time the pumps began to pump.

Q Are you saying it would take a certain amount of time after the wells began to pump to get water out of the river and into the wells?

A Yes.

Q Discounting that period of time, approximately what period of time are you talking about there?

A Well, based on our pump test results, it would seem that it was probably quite a long time.

Q How long?

A All right. In terms of possibly tens to twenties of years.

Q It would take 10 to 20 years after Well G began to pump before any water from the Aberjona River was first induced and pumped out of Well G?

A That is not an unreasonable statement based on what we know from the pumping test.

Q Then, in your opinion, it's probable that no water from the Aberjona River was ever pumped by Well G?

A I didn't say that. What I said is that if I were going to try and bracket the time of travel of contaminants from the river to the well, it could be

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as long as 10 to 20 years.

Q Is it your opinion that no water from the Aberjona River was ever pumped out of Well G?

A Scientists always have problems with absolutes. When you say no water, you're being very absolute. I think I have to answer that, I don't know.

Q It's possible?

A It's possible.

Q That water from the Aberjona River was pumped by Well G?

A It's possible.

Q Is it possible that water from the Aberjona River pumped out of Well G during the 1960s?

A Not probable.

Q But possible?

A But possible.

Q Is it possible that water from the Aberjona River was pumped out of Well G in the 1970s?

A I don't know.

Q Is it probable?

A I don't know.

Q Going back to other potential contributors to the contamination that you believe was present at Well G before it began to pump, the fact is that the only

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potential contributor you've looked at is the Cryovac site; isn't that true?

A No.

Q What other potential contributors have you looked at?

A The Riley site.

Q The water from the Riley site wouldn't have been induced over to the wells until they began to pump. That's your opinion, correct?

A That's correct.

Q So other than the Riley site and the Cryovac site, you haven't looked at any other potential contributors to that contamination that you believe was there prior to 1964; is that correct?

A No.

Q It's not correct?

A Not correct.

Q What other potential contributors have you looked at?

A The Interstate Uniform site.

Q But you've already told us that you relied on a representation from Mr. Schlichtmann that UniFirst could not have been a contributor until sometime in the late 1970s; isn't that true?

A What I think we established was that Mr. Schlichtmann informed me that to the best of his knowledge, the

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2 contaminants induced at UniFirst was not within that
3 time frame. However, that does not preclude me from
4 using that information in establishing what I believe
5 to have taken place prior to that.

6 No contamination is information.

7 Q Do you have information that enables you to determine
8 that there was no contamination from the Interstate
9 Uniform site at the Well G site prior to when it
10 began to pump in 1964?

11 A Information, yes.

12 Q Any information other than what Mr. Schlichtmann told
13 you to assume?

14 A No.

15 Q Have you looked at the possibility of any other site
16 being a contributor to the contamination that you
17 believe was present at Well G before it began to pump
18 in 1964?

19 A I did not look at any other site other than the three
20 that we have spoken of.

21 Q So you looked at three potential contributors to the
22 contamination present before Well G began to pump in
23 1964: One of them was Riley, and you know that the
24 water from Riley would not have flowed to the well
25 prior to its beginning to pump; one of them was

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2 Interstate Uniform and you were told to assume that
3 there was no contaminants introduced there until much
4 later; and the other was Cryovac; isn't that correct?

5 A That's correct. Everything you said, I think is
6 correct.

7 Q So that makes it very easy, doesn't it, to conclude
8 that 100 percent of the contamination you believe was
9 present came from Cryovac?

10 A Yes.

11 Q Now, does your opinion that tens to hundreds of parts
12 per billion of contamination from the Cryovac site
13 were present at Well G when it began to pump in 1964,
14 depend at all on the specific location at which
15 contaminants were disposed of at the Cryovac site?

16 A To clarify the question --

17 MR. ELLER: If you don't understand the
18 question, have her restate it so you can answer it.

19 A As we have defined the site, the Cryovac site.

20 Q The entire property belonging to the Cryovac plant.
21 You understand that, don't you?

22 A As we defined it. I don't know what property belongs
23 to the Cryovac site other than what we showed --

24 Q We were looking at the map which was Exhibit 13 to
25 the Drobinski deposition. That's the property we're

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talking about.

A I want to make sure that's what you're talking about; you didn't have another parcel across the street that I didn't know about. The location within that polygnal area would not influence my opinion.

Q Would the method of disposal of contaminants at the Cryovac property have any effect on your opinion that tens to hundreds of parts per billion of contaminants originating from Cryovac were present at Well G before it began to pump?

A I can't answer that question. I find it too vague.

Q What exactly do you find vague? The term "method of disposal" too vague?

A Yes.

Q Would it make any difference to you whether the contaminants that you believe were disposed of at Cryovac were injected into the ground or were, on the other hand, spread on the surface?

A No.

Q Does it make any difference to your opinion what the quantities of contaminants were that were disposed of at the Cryovac site prior to 1964? Does it make any difference to your opinion about the presence of the tens to hundreds parts per billion at the well in