AFTERNOON SESSION

MR. KEATING: Thank you, your Honor.

Ladies and gentlemen of the jury, on behalf of myself and of Mrs. Lynch, Mr. Cheeseman and Mr. Temin, I want to thank you for the attention you have given to this case. I agree with Mr. Facher when he says this is one of the things that all of the lawyers in this courtroom can agree on, that your continuous service and attendance to this trial over 70 days has truly been extraordinary. And I want you to know that we are very grateful to you for that.

It's been a long trial and you've listened carefully to the evidence. And it's not my intention to spend a great deal of time this afternoon summing up the case for W. R. Grace. But the claims which have been made against our client are very serious claims. And under the American system of justice, cases are determined not on what is claimed but upon what the evidence either proves or does not prove. And so what I'm going to do this afternoon is I'm going to review with you some of the evidence in this case with the hope that that evidence will help you answer the special questions which Judge Skinner will give you to at the conclusion of his instructions.

There is no credible evidence in this case that W. R. Grace contaminated Wells G and H. In fact, there is an abundance of credible evidence that W. R. Grace did

not contaminate Wells G and H. The evidence in this case has established that those wells were contaminated by the Aberjona River, and the evidence in this case has established that there was no reason for our employees 10 or 20 years ago to have foreseen that their activity on their own property could have led to harm or personal injury to anyone else.

The first question that you will receive from the Judge that relates to W. R. Grace will come in two parts. You'll be asked whether or not there were chemicals disposed of on the Grace property after October of 1964, and you will be further asked whether those chemicals moved to Wells G and H so as to substantially contaminate those wells prior to May of 1979. Now, as to the first part of that question, were there chemicals disposed of on the Grace site after October 1st, 1964, the answer is yes. But that is only the beginning of your inquiry into Question No. 1 because the heart of Question No. 1 is whether or not those chemicals moved from the Grace property to Wells G and H so as to substantially contaminate those wells prior to May of 1979.

Now, the issue of groundwater movement, the issue of groundwater contamination movement is an issue of expert opinion. It is not a matter of common sense. It is not a matter of your intuition. It is a matter of science.

It is a matter of the application of scientific principles to certain facts. In this case, you have heard a dramatic difference of opinion between expert witnesses on the travel time for chemicals between the Grace facility and Wells G and H. You heard, on the one hand, the testimony of Dr. Pinder who testified for the plaintiffs, and on the other hand you heard the opinion that was presented to you by the testimony of Dr. Guswa and Mr. Maslansky. You have to make a choice. You have to make a choice. Dr. Guswa and Mr. Maslansky testified before you for about a week, and that was an ample opportunity for you to assess the thoroughness of their preparation, the care with which they formulated their opinions, and their credibility as witnesses on the witness stand. Dr. Pinder testified before you for some time over a week, and I suggest to you that you had more than an adequate opportunity to assess his preparation and the care which he took in formulating his opinions and his credibility as a witness.

How thorough was Dr. Pinder in his preparation? He didn't know a thing about the Aberjona River Valley. He hadn't consulted the most basic documents that a geohydrologist should consult if they're coming into a court in an important case and rendering an opinion. He didn't know where any of the industries were located. He'd never heard of half of the industries which were within

a stone's throw of Wells G and H. He had no idea about the size of the watershed that flowed into Wells G and H. He had no idea about the industries that lay to the north of Wells G and H.

end O

P

MC/kr

He hadn't even read his deposition before he came in to testify. He hadn't even gone through all of the documents, which are in those cardboard boxes, the very documents that he told you he was relying upon to give his opinion. He had done none of the nitty-gritty spade work, the detail work that you had a right to expect from an expert witness who was coming before you to testify.

How careful was Dr. Pinder in the way he formulated his opinions in this case? He hadn't even finished his direct examination before he had to correct a mistake he had made on the one issue he was called upon to testify in this case, which was travel time, and then he presents the famous blue Mediterranean chart, which was a chart that had a lot of factual information in it. None of that factual information had Dr. Pinder reviewed, although he was perfectly happy to tell you that that chart confirmed his understanding of the groundwater flow between Wells G and H and the Grace property. That chart, as you all know, had a glaring factual error in it, which required that chart to be corrected before Dr. Pinder left the witness stand.

How credible was Dr. Pinder in his testimony? Well, he gave so many different opinions and talked around so many issues in the course of his testimony that it is a little hard to know which of the

opinions you are going to pick out and decide whether that is the credible one or not. He couldn't answer a question straight. He never seemed to be able to recall what he had said the day before, and at one point, Judge Skinner had to suggest to him that he ought to go out and read what he had said the day before.

He didn't tell you that in the blue Mediterranean chart that those well measurements were not, in fact, made all the way along that chart, but that he had established the water table by drawing a straight line, which was a very serious omission.

He had an interesting way about him, I thought. Whenever a mistake was made, he always found it convenient to blame it on someone else. It was either the poor draftsman who did the blue Mediterranean chart, he was the one that made the mistake, or if something else came up, he would say, "You better ask John" -- meaning Mr. Drobinski -- "You better ask John about that one."

But I would suggest to you that you can learn more about Dr. Pinder and the reliability of his testimony in this case if you examine closely his testimony about the Aberjona River. It is absolutely clear at the outset that Dr. Pinder never even consulted the most basic fundamental document that any geohydrologist

would consult if they were interested in the Aberjona River Valley, which is the U. S. Geological Survey Atlas, which is an exhibit you can take into the jury room. This is basic stuff for a geohydrologist. If you are going to study, let alone give an opinion in an important case, this is the kind of material that you look at, and Dr. Pinder admitted that he had never looked at that material before he came into this courtroom.

So at his deposition, Dr. Pinder said: Well, the river water never got to the wells because, he said, the connection between the river and the aquifer is "not very well established."

Well, in fact, it is very well established to anybody who even has a cursory knowledge of this particular river in that particular valley, and it says so right smack in this document where it says that the heavy groundwater pumping of the wells along the Aberjona already reduced the flow of the Aberjona River, and you can read that in the jury room.

What we saw in this courtroom when Dr. Pinder was on the witness stand was the gradual erosion and change of his opinion as day after day he was confronted with factual evidence about that Aberjona River that he should have looked at before he ever walked into this courtroom and which was perfectly available to him.

He comes into the courtroom and says there is no water that leaves the river that gets to Wells G and H.

And as Mr. Facher has reviewed, and I will do it quickly, he is first confronted with the fact that in the USGS information, the flow data information, it is clear that between Olympia Avenue and Salem Street that the river is losing flow, and that is inconsistent with his opinion.

So he said, oh, oh, that is not inconsistent because, in fact, it is not that the river is actually losing water, but it is the fact that the river is not gaining water.

And then the next day he is confronted with the data that says that the river is, in fact, losing water between Olympia Avenue and Salem Street. It is not merely that it is not gaining water.

So, Dr. Pinder says, no problem, if it is losing water, all of this water is being held up by the peat that is like an impermeable sleeve around this river. So it is not getting to the wells, anyway.

Finally, the Judge asks him, wait a second -- He perhaps didn't say that. The Judge says: What happens to all this water that is being pumped from the river that is going into the peat?

P5

And Dr. Pinder says: Well, I think it would take about 10 or 20 years for that water to get to Wells G and H.

And then, finally, in the last change of this opinion, he finally acknowledges that maybe a little of that water would get to the wells before the end of 10 years.

End P

What are we to make of this performance by this Princeton professor? What was it about the truth of the Aberjona River that he could not acknowledge? Why did he hang so tough when the most basic documentation and the USGS data and everything that is available establishes that the river water goes into the aquifer in vast quantities when those wells were pumping and therefore goes into the wells?

Well, the two reasons why Dr. Pinder could not accept that was, first, that if half of the water from that river gets into Wells G and H, it completely shoots his theory that he came into this courtroom with, that the only sources of contamination to Wells G and H were the Grace Company or the Beatrice Company.

And the second reason why he could not fact the truth of the Aberjona River was because, if you don't know that half of the water coming out of those wells is actually coming from the river, as he didn't know, you go about and find water and get it moving faster into those wells to make up the 1,100 gallons per minute.

And so he was wrong in how he determined the time of groundwater movement in the areas of Wells G and H and it was for those two reasons.

And it was for those two reasons, I suggest to you, that Dr. Pinder could not accept the truth of that river.

There comes a time when you, as jurors, are assessing the credibility of a witness, when you are assessing the reliability of a witness, when you are assessing whether or not you can put your confidence in that witness in an important issue in a case.

There comes a time when that witness is so failing and so lacking in the care and attention which you are entitled to expect from him as the fact-finder, that you simply are entitled to reject everything that that witness has offered to you. And I suggest that Dr. Pinder passed that point with you when he revealed how grossly he misunderstood the role of the Aberjona River and Wells G and H and this entire aquifer.

It's as if you opened a can of beef stew and you took your first bite and it turned out that the meat was bad. You have got no obligation to continue to to fish around in the beef stew to see if there is anything in there that is any good. You're entitled to throw it out.

But before we throw Dr. Pinder out, I want to examine one other aspect of his testimony. You recall

that Dr. Pinder testified about the travel time for TCE and Perc from the Grace site to Wells G and H and he said at least on his second opinion on the subject, that the TCE traveled in approximately three years and that the Perc would travel from the site to the wells in about nine years, and that is what he told you on direct examination.

He never told you on direct examination how he reached the figures of three years or nine years. I asked him on cross-examination how did he come up with those figures, and for the first time we learned that what Dr. Pinder had done was perform what you might call a "back of the envelope" kind of calculation. He had taken the distance between the Grace site and Wells G and H and he had taken a uniform hydraulic gradient, and he had taken one hydraulic conductivity figure and based on those three figures and applying what is known as the Darcy law, he had figured the velocity of the groundwater and then, applying a retardation figure, he determined the velocity of chemicals.

Now, critical, critical, to his formulation of travel time is the figure he selects for hydraulic conductivity. He agreed with that and so did every other person who testified in this case.

So you may recall I said to Dr. Pinder: How

did you come up with the figure of 75 feet per day for the entire distance between the Grace site and Wells G and H? I said: You have to acknowledge -- which he did acknowledge, of course -- that the subsurface materials between the Grace site and Wells G and H are very different and have very different permeability, and, therefore, have different hydraulic conductivity.

He said that he had had somewhere recollected that there were different subsurface materials, and so I said, "Well, how did you get your figure?" And he said, "Well, I took an average," he said. And, in fact, exactly what he said was, "I can't tell you exactly how I came up with that number. I did some type of averaging, at least in my mind, of those different values."

So I said to him, "Tell us, Dr. Pinder, what were the specific hydraulic conductivity figures that you applied to the various subsurface materials that you totalled up to come up with your average? What were those specific figures?" And Dr. Pinder said, "I threw them away." He threw away the figure, the most important, the basis for the most important figure that you have to determine, if you are going to determine groundwater movement, the hydraulic conductivity figures that underlie his supposed average.

I suggest to you, ladies and gentlemen,

that if you're going to testify in a case of this significance and particularly if you are a Princeton professor, you do not throw away the underlying data that gives you this average that you're suppcsed to have done, unless you do not want to reveal what particular hydraulic conductivity figures you've actually applied to the subsurface materials.

Or, I would suggest to you, that you may not have actually looked at the subsurface materials at all, and you may not have actually averaged anything but that you merely selected a hydraulic conductivity figure which permitted you to get the chemicals to the wells as quickly as you wanted to get them there.

Dr. Pinder did not testify in this courtroom about a single hydraulic conductivity figure, other than this supposed average. And don't let Mr. Schlichtmann suggest to you that he did, as he attempted to do in a question to a witness a couple of weeks ago, unless he reads to you precisely what Dr. Pinder said.

How are we or how is Dr. Pinder supposed to have checked the reliability of that hydraulic conductivity figure of 75 feet per day? What check on that figure did he tell you that he had made? Contrast his attitude and the way he looked at hydraulic conductivity

with the way Mr. Maslansky and Dr. Guswa went about the matter. You will recall their testimony about how they spent time looking at the specific soil samples, how they spent time looking at the boring logs, how they spent time looking at the below counts, all of which was directed towards giving them a more refined sense of what the subsurface materials were between Grace and Wells G and H and a better understanding of the permeability of those materials. Consider the checks that Dr. Guswa applied to his three-dimensional model. He applied a hydraulic conductivity figure to each of the blocks in that particular model, and then he ran what he characterized as reality checks. They were checks to determine, based upon water level data and other data, whether what he was coming to conclude from his model actually conformed with the real world.

Dr. Pinder did none of that. He showed you none of that. He came into this courtroom as a Princeton professor and said here is my hydraulic conductivity figure. And you ought to believe me. The only time Dr. Pinder ever said anything from which you can infer his opinion about a particular hydraulic conductivity value is when Judge Skinner asked him, "How long does it take for the water from the river to go through the peat to Wells G and H, the peat that was brought into this courtroom and what Mr. Facher showed to you earlier?"

End Q

Dr. Pinder said it would take ten years for the water to go through that peat to get to Wells G and H.

Well, as Dr. Guswa demonstrated to you, ladies and gentlemen, if that were true, if that were true, that peat would have the hydraulic conductivity of concrete.

Now, if Dr. Pinder is so wrong about the hydraulic conductivity value that he placed on that peat, why in the world would you credit him with any hydraulic conductivity figure that he claims that he has used in this particular case?

As Mr. Facher said and as the Judge will instruct, the burden of proof in an American courtroom in a case of this nature lies with the plaintiff. It is up to the plaintiff to prove to you by a preponderance of the credible evidence that the contamination of Wells G and H, the contamination from the Grace site reached Wells G and H. I suggest to you that the plaintiff does not make out that case to you when it puts on Dr. Pinder and he puts on the performance that he put on in this courtroom.

If you want to be charitable about it, you say that Dr. Pinder simply had not done his homework. But the fact of the matter is, had he actually done his homework? Had he actually arrived of an understanding of the role of the river and of the actual permeabilities of the material between the Grace site and Wells G and H? Had he done all

of what he should have done, he would have arrived at exactly the same opinion that Dr. Guswa and Mr. Maslansky arrived at.

There is a few other facets of travel time that I want to discuss with you. You recall that I said the first part of the Judge's question is whether chemicals were disposed of at the Grace site after October 1st, 1964, and I said the answer to that question is yes. It is important, however, that the plaintiffs establish when particular chemicals were disposed of on the Grace site, and to illustrate that I would talk just for a moment about perc, tetrachloroethylene, which is one of the chemicals that the plaintiffs claim left the Grace site and reached Wells G and H before May of 1979.

Now, the evidence in the case is that perchloroethylene was not used at the Grace site until 1972 at the earliest, and it was actually not used in any substantial amount until 1974. Even if you were to accept Dr. Pinder's opinion of travel time for tetrachloroethylene, which was nine years, the tetrachloroethylene could not have reached Wells G and H before May of 1979.

Now, as to other chemicals that are still involved in this case, TCE and 1,2 trans, as far as Grace is concerned, the plaintiff has introduced the testimony of several present and past employees of W. R. Grace who

have testified about disposal activities that took place in the mid- to late 1960s and the 1970s.

I suggested to you in my opening that there would be difference of opinion in these particular instances, but I would ask you to consider whether or not you felt that that testimony was sufficient to establish to your satisfaction when certain contaminants went into the groundwater at Grace and what particular contaminants went into the groundwater at that time at Grace.

There is no question, as I'm sure you realize, and there is no contention from W. R. Grace or from me that the groundwater at W. R. Grace is not now presently contaminated.

Mr. Maslansky was completely clear and candid about that particular fact, but that does not answer the question as to when that contamination occurred. And I would suggest to you that you have to examine very carefully the evidence that you heard on that subject to determine in your own mind whether you believe the contamination went between 1964 -- or after 1964 did that contamination occur?

Now, we heard a lot of testimony about the pit. We heard about a week's worth of testimony about the pit where six barrels were found and where the contents of those barrels were disposed of. We had people drawing pictures on overlays, we had people testifying about what

month of the year it occurred, we had people who said they saw blue trucks and somebody else who said they saw red trucks in this particular area. But the pit and the contamination that was in the pit did not and was not a source of any contamination of Wells G and H.

Even Dr. Pinder testified, as I said he would in my opening, that the pit in the area within which the contents of those barrels were disposed of, Dr. Pinder testified that that was not a source of contamination to Wells G and H. And I would ask you to keep that in mind as an interesting example of how cautious I think you have to be about drawing conclusions about groundwater contamination and when it occurred and whether it was a possible source of contamination to Wells G and H because after all that we heard about the pit and the barrels and the disposal, when that area was examined, every expert who testified in this case on that subject said that that area was not a source of contamination to Wells G and H.

When we went on the view a couple of weeks ago, we walked from the area -- I will use this diagram -- We walked from an area, which Mr. Maslansky says is the source of the contamination that is leaving the Grace site, which is around this particular area, G-25, G-15, and we walked over to Well 21, which is right here (indicating). It is not marked as 21 specifically, but that is the well

over in Cumming's parking lot. I want to bring this to your attention because I think it would be easy for us to assume as it took us from one or three minutes to walk from this location to the Cumming's parking lot to Well 21 is that that is not a very far distance.

It was that distance or a little beyond that distance, as you recall, that Dr. Guswa testified would have been from 1960 on, not 1964, but from 1960 on about where he would have thought the contamination from the Grace site reached by 1979. There was some suggestion at the view that if you went right over to the end of the parking lot at the Cumming's property, you were practically sitting on Wells G and H. That is simply not true. You have to look at all the areas and the maps. There is still a considerable difference from this point to the parking lot to the rifle range and then down to Wells G and H.

I want you, if you would, when you think about the travel time that was testified to by Mr. Maslansky and Dr. Guswa, to keep in mind what they told you about the subsurface materials that exist between this part of the Grace site and going down towards the Cumming's parking lot -- and that is exhibited in one of the long diagrams -- because the beginning of that particular trip through this particular material is, in fact, the longest and toughest part of the trip between Wells G and H --

excuse me, between the Grace site and Wells G and H.

It is because of the particular ground moraine that exists in this particular area that Dr. Guswa testified about that it would take so many years to go from the source, 800 feet, which is approximately the distance between the source and Well 21. So when you consider travel time and if you try, as you may well try to do a Darcy's formulation yourself because I think you have had adequate information in this case, I think you will find that what Dr. Guswa said to you about the travel time of those 800 feet would make sense to you if you make your own calculations on that subject.

Two more points on travel time, and I guess this bears on what connection the various expert witnesses made.

Did Dr. Pinder adequately explain to you how it is that the fingerprint of chemicals that exist at the Grace site does not match the fingerprint of chemicals that was found in Wells G and H in 1979? If the most prevalent chemical that you have at the Grace site is 1, 2 trans, which it is, and if that is the fastest moving chemical and if you assume the chemicals from the Grace site actually moved to Wells G and H before 1979, how do you explain the fact that no 1, 2 trans showed up at Wells G and H when they were tested in May of 1979?

And have they further, Dr. Pinder or anyone else testifying for the plaintiffs, have they further explained to you why it is not the contamination from the Hemingway property, which was much closer to Wells G and H than was W. R. Grace, and whose fingerprint of chemicals match perfectly the chemicals that were found in Wells G and H in May, 1979, in determining the reliability of those expert opinions, I would ask you, ladies and gentlemen of the jury, if you would please keep in mind those fingerprint of chemicals.

The second issue which I want to discuss with you is the role of the Aberjona River. Those wells, Wells G and H -- and there can be no doubt about this -- received about half of their water from the Aberjona River, and any contamination that was in the Aberjona River had to have been pumped through Wells G and H. Now, why is that an important consideration for you to keep in mind? Why have we spent time on the subject of the Aberjona River? The question that the Judge will ask you, the first question that I mentioned to you, not only says there has to be contamination on the Grace site by a certain time and not only does that contamination have to have moved to Wells G and H by a certain time, but the Grace Company had to substantially contamine Wells G and H taking into account all of the circumstances surrounding the wells and in the

valley.

Now, Wells G and H received half of their water from the Aberjona River. They received the other half of their water from an aquifer which extends approximately six miles to the north of Wells G and H. We introduced the testimony of either present or past public officials. They were Mr. DeFeo, Mr. Cady, and Mr. Warrington.

end R

Now, those public officials came into the courtroom and they told you a survey or surveys that they conducted along the Aberjona River in the early 1970s, which was precisely in the middle of the period of time in which Wells G and H were pumping. And they testified and showed you photographs and test results of their sanitary survey of the Aberjona River and what that testimony and evidence revealed, and I think there can be no doubt about this, as Mr. Cady said, "It was a grossly polluted urban stream." They described to you the conditions of the east drainage ditch. They identified to you, as Mr. Facher pointed out this morning, over 100 sources of contamination to the Aberjona River and to the aquifer that underlies the Aberjona River.

They showed you pictures of National Polychemical Company. They showed you pictures of Stouffers Chemical Company. They showed you pictures of the east drainage ditch.

You will have a chance in the jury room to look at those photographs. But here is a photograph of National Polychemical Company which Mr. Cady or Mr. Warrenton offered to you from their surveys. This was a company, ladies and gentlemen, that one exhibit in this case that you will have in the jury room establishes, that this company, every month, every month, disposed of

over one million pounds of chemical wastes either on the banks or directly into the Aberjona River. They described to you the east drainage ditch, and here is a picture of the east drainage ditch just before it goes to Mishawum Lake. And they described to you the condition of the east drainage ditch and the acidity within the east drainage ditch and the pollutants they found in the east drainage ditch when they did their testing and their examination.

Can there by any doubt, can there be any doubt in anyone's mind about the condition and the contamination of the water that was being pumped out of Wells G and H during the period of time in the mid, late sixties, mid-1970s, which was the period of time that Mr. Cady and Mr. Warrenton and Mr. DeFeo testified about?

They also told you about Mishawum Lake. The Mishawum Lake is the blue area here, right above the 10. Mishawum Lake was a lake which, for many years, had been just south of Hall's Brook and just south of the east drainage ditch, and the water from Hall's Brook and the east drainage ditch poured into Mishawum Lake.

There is a sketch that Mr. Cady did that is in evidence and was blown up. Mishawum Lake acted as sort of a sponge for the contamination that was upstream

in these heavily industrialized areas. And as the contamination came down the river from the east drainage ditch and from Hall's Brook, it went into Mishawum Lake.

And you remember Mr. Cady's testimony on Mishawum Lake. There was not a living thing in Mishawum Lake in the early 1970s when he conducted his survey. The only life that was around Mishawum Lake were snakes and snapping turtles, who, as he said, had the ability or the sense to get out of Mishawum Lake when the pollution got too bad.

Now, in the early 1970s, and ranging for two or three years in the early 1970s, the City of Woburn decided to drain Mishawum Lake. The reason they drained it was because they filled the lake in to become part of an industrial park that was known as the Industriplex area.

Mr. Cady described to you the black sludge in the lake and the color of the lake and everything, and for a period of two or thee years, while Lake Mishawum or Mishawum Lake was drained, all of the material, all of the liquid, all of the water in Mishawum Lake was flushed down the Aberjona River in an area right north of Wells G and H and forced into the aquifer, going right by Wells G and H.

You also heard testimony about the floods.

This area, this area north of Wells G and H, is an area where at least on an annual basis you have floods. And when we went out on the view, the river appeared to be a very narrow stream, but you have an exhibit that was introduced, I think, by Dr. Guswa which you might want to look at, which was actually, as he said, taken about a month before, about a month before your view -- sometime this summer -- and that shows the river going right up practically to Well H, kind of in the form of the marsh that is depicted on this particular area. But when the floods occurred, any of the contaminants which were in this area would be scoured down towards Wells G and H.

And I should point out to you, at least for the record, that W. R. Grace's facility is not within a flood plain. But, more important than that, is that in January of 1979, which was barely four months before Wells G and H were first found to be contaminated with chlorinated solvents, there was in this area the largest flood in recorded history. Even Dr. Pinder acknowledged that a flood of that proportion would have caused the contamination that was on the ground in all of the areas north of Route 128 and the areas up here to get scoured down and to flow by Wells G and H.

And you may remember the testimony of

Mr. Murnane, who said that during that particular flood he was in the Industriplex area, and that he was on streets in the Industriplex area which were under two and a half to three feet of water. And that was four months before the contamination was found in Wells G and H.

The plaintiff on this issue, the plaintiffs on this issue, once again, have the burden of proof. It is not -- and Judge Skinner will tell you -- it is not the burden of W. R. Grace to prove to you that the contamination in Wells G and H came from any of these other sources. It is the plaintiffs' burden to establish to your satisfaction that the contamination that existed in Wells G and H, that W. R. Grace, in the light of all these circumstances, that W. R. Grace substantially contributed to that contamination.

Why is it that all of the expert witnesses that the plaintiff introduced in this trial seemed to come into the trial with blinders on as far as any of these other possible sources are concerned?

Plaintiffs' experts' perception of this case, I think, is most dramatically depicted by the very first exhibit that Mr. Schlichtmann showed you when he gave his opening argument.

Now, I would suggest to you that PAL-1 is

the plaintiffs' experts' view of the Aberjona River. It's an area that has only two corporations, W. R. Grace and Beatrice. It has two wells very prominent between the two companies. And it has a very narrow little river that does not even extend beyond Olympia Avenue.

Why was it that neither Mr. Drobinski or Dr. Pinder dealt with any of these other possible sources of contamination that are in this particular area? Mr. Schlichtmann will tell you, I predict, when he has an opportunity to speak, that you won't get contamination from the river to the wells because in 1985 they did surface water testing of the Aberjona River and they did not find at that time the presence or a high presence of chlorinated solvents.

Well, I would just like to say on that subject that, of course, as Dr. Guswa said, the river would flow in about a two-hour period from this area past Wells G and H, so you don't know what was actually in that water two hours before or two hours after those tests were done. But passing that for a moment, what you learn about what was in that river in 1985 does not tell you anything about what may have been in that river in the period of time between 1964 and 1979 when those wells were pumping. We introduced through Dr. Guswa what is this overlay to the aerial G-977, which shows all the

areas in the 910.

In the early 1980s, all the areas upstream of Wells G and H, where TCE contamination was found either in the river or in the ground water. And you will recall the testimony or the report of one of the EPA consultants which established that TCE that was found at Salem Street during this period actually originated from the east drainage ditch, which is up north in the area of the National Polychemical Company. Can there be any doubt in your minds, ladies and gentlemen, that during this period of time, based on the opinions of Mr. DeFeo and Mr. Cady, that the groundwater in this area was not substantially contaminated? And I would ask you when you reach the question, which is the first question posed by the Judge, were there chemicals on the Grace site after 1964 which substantially contributed to the contamination of Wells G and H in May, 1979, that you answer that question with an emphatic no. The plaintiff has simply not played out its burden of proof on that issue.

The last matter that I want to discuss with you, and I will only take a few more minutes, is the second question -- another question that Judge Skinner will pose to you, which is whether Grace violated any duty of care to the plaintiffs. In other words, was Grace negligent in any of their activities at the site toward the plaintiffs?

Now, this,as Mr. Facher has described to you and as the Judge will instruct you, depends upon what we call in the law foreseeability. What that means, as Mr. Facher said and I believe the Judge will instruct, is that it had to have been foreseeable to the Grace employees that their conduct could have led to harm or personal injury to other people. So when you are considering that issue, you have to make a judgment as to what was reasonably foreseeable 10 or 20 years ago to the employees at the W. R. Grace Company at whatever level. I'm not saying just the employees at the Woburn plant, I'm saying the employees at any level.

It seems to me that a good starting point for your consideration of that particular issue is what public officials at the time knew. Now, this is a matter that was dealt with at some length by Mr. Facher, and recognizing the hour, I will not repeat what Mr. Facher testified, but, basically, what he said on that issue relates to what I would have said to you on that particular

issue.

You had in 1964 the City of Woburn placing those wells near what had to have been recognized as polluted river, and, apparently, the officials of the City of Woburn did not foresee a risk from that activity. You had throughout the period of time when Wells G and H were pumping, as Mr. Murnane told you, complaints about the quality of the water from Wells G and H, and, yet, the City of Woburn continued to rely upon those wells, obviously not seeing a risk to the public from that particular water.

In 1975 the Department of Environmental Quality Engineering wrote to the City of Woburn and called their attention to the poor quality of the water which was being pumped from Wells G and H, and this is Exhibit G-157, and I would just like to read a paragraph or a few sentences to you.

The letter is from the Department of Public Health to the Board of Water Commissioners in the City of Woburn dated June 24, 1975. It says, "We feel it is necessary, however, to call your attention to the poor quality of the water obtained from Wells G and H. Analyses performed over the last few years show that the water from these sources contain elevated levels of nitrates, ammonia, nitrogen, chlorides, sulfates, sodium, manganese, and

hardness, and has poor physical characteristics in addition, as evidenced by the test results of color, odor, turbidity, and sediment. The Department does not encourage continued reliance on these sources to meet warm weather demands."

But despite that recommendation from the Department of Public Health, the City of Woburn continued to rely on that water until 1979.

And as Mr. Facher has pointed out to you, in 1977, after all of this work and all of these studies had been done on the Aberjona River and the recognition of the Aberjona River, particularly by Mr. Murnane, the town engineer who testified as a grossly polluted urban stream, I think he used another word for it, but it meant exactly the same thing, despite all those activities, the City, the State of Massachusetts, the Department of Environmental Quality Engineering recommended that yet a third well should be put in this area right next to Wells G and H.

Well, as Mr. Facher said to you -- and I don't mean to embrace his comments, but it may be just a shorthand way of doing this and not taking too much more of your time -- how is it that W. R. Grace should be expected to know more about the contamination of Wells G and H, wells that they did not even know existed and had no reason to know existed than the public officials both at the City of Woburn level and at the State of

Massachusetts level who were sworn, charged duty was to protect public health and to protect the public water supply?

In order for you to find W. R. Grace to have violated another duty of care in this case, you will have to conclude that they should have known more about these issues than the very people, the very public officials who were charged with protecting public health.

But let's examine for a minute what the employees of W. R. Grace actually did know during this period of time. You heard the testimony of the people from the plant, and they testified about the disposal activities that took place in the back of the plant. And I would say to you right now that those activities I don't believe are activities that any corporation or company should condone. Certainly not by today's standards and perhaps even by earlier standards. However, those employees told you here that it was their honest belief that those volatile solvents that they disposed of on the ground actually evaporated.

And you heard from every expert witness in this case that the issues of groundwater movement are not issues that you can expect people of nonscientific backgrounds to really understand.

How were the employees of W. R. Grace, the people who worked at the Woburn plant, to have known that

when they disposed of materials in the south ditch, which was pointed downward in the direction of the easterly part of the plant, that, in fact, that material would go down into the groundwater and would actually revest? In other words, it would go in precisely the opposite direction that you would expect it to go in the area toward Wells G and H.

It is true that the Grace Corporation, unlike for instance the Riley Company, had available to their plants at the Cryovac headquarters people who were there to consult with them, with the local plants on environmental matters, that is true. But their attention at this time was directed particularly to those large plastic manufacturing plants that Graces owns where there was substantial potential environmental problems by the disposal of large quantities of plastic materials from those plants. The Grace headquarters had always been advised by Woburn that they, "they" meaning Woburn, was in compliance with all local and state regulations and that they had no environmental problems.

When the Grace Corporation realized in the early 1980s through Mr. Maslansky's efforts that there was groundwater contamination on their property, they did act responsible, as Mr. Maslansky's testimony to you, I trust, established.

Now, Judge Skinner will tell you that

when you determine whether or not Grace breached a duty or was negligent, that you are entitled to consider whether or not their conduct was in conformity with the conduct of other industrial plants and other manufacturing facilities which were in their immediate vicinity. And I would ask you to think about this or think about that when you consider this case.

Think about what you have heard in this case about the way companies in this period of time in Woburn treated their waste. Think about what the exhibit said to you about National Polychemical and how they were disposing of a million pounds a month of chemical waste on the banks of the Aberjona or into the Aberjona. Think about Whitney Barrel, which was in the business of cleaning and refurbishing 55-gallon drums where the employees would simply dump the contents of the drums out on the ground before they cleaned them.

Think of Stauffer Chemical Company where there was testimony where there were unlined lagoons of arsenic, unlined lagoons of chromium, and unlined lagoons of other materials, waste material from this company that covered literally acres of land on those particular sites.

Think about the Riley Tannery because Mr. Riley testified here that his company would deposit buffing dust and other waste products from their company

on the ground behind their particular plant. It was the way these companies did business in this area in this particular period of time.

The last point I would like to mention to you on this, however, relates to the testimony that you heard on the activities of other companies. Mr. DeFeo and Mr. Cady testified, as I said earlier, about their sanitary surveys of the Aberjona River. I would suggest to you that Mr. Cady and Mr. DeFeo are fine public servants. They are also qualified sanitary engineers, and they testified to you about their trips up and down the Aberjona River within eyesight of Wells G and H, and they testified to you about the waste and the disposal activities and the contamination that they observed along the banks of the Aberjona River north along where Wells G and H were located. And they testified to you about the pollution of the water within the Aberjona River.

Now, these public officials in good faith never once made a connection between the contamination that they observed on the ground and in the river in the areas north of Wells G and H in the groundwater that they said was contaminated in the area north of Wells G and H. They never made a connection between what they were observing and the quality of the water, which was being pumped from Wells G and H, which in many cases was within

eyesight of where they saw the contamination.

I would say to you that what Mr. Cady and Mr. DeFeo knew reflected the state of knowledge that existed on these subjects in the early 1970s, and that as those public officials who were sanitary engineers did not ever make a connection between the pollution that they observed along that river and in that river and the quality of the water in Wells G and H, which they saw as they walked up and down the river, that it would be grossly unfair, ladies and gentlemen, that it would be grossly unfair for you to conclude that the W. R. Grace Corporation should have known more about that subject than those public officials knew.

And so we will ask you as to the Judge's question whether W. R. Grace disposed of chemicals on its site, which, substantially, contaminated Wells G and H by 1979, that you answer that question no.

And we ask you that as to the Judge's question, did Grace's employees violate any duty of care, were they negligent towards any persons, was it foreseeable for them that their conduct could have led to personal injury of any persons in the period of time when these activities took place, that you answer that question no.

end T

U

BS/kr

It is said that if you represent a major corporation today and if that corporation has been accused of contaminating the environment and that if it stands further accused of causing injury to innocent people as a result of that contamination, it is said that the emotional issues are so strong that you cannot receive a fair trial. But the people who say that do not believe in the process. My partners and I believe in this process. We believe that when you took your oath several months ago and when you promised that you would decide this case on the basis of the evidence and on the basis of the Judge's instructions and not on the basis of sympathy, my partners know, and I know, that you will be true to that promise.

We believe in this system. And the reason we believe in this system is because we believe in you. Thank you very much. Thank you, your Honor.

THE COURT: Now, there remains one more argument to go. The rule is to give the plaintiff the advantage of having the last word and that advantage should not be lost because you may have gotten a little tired from listening to everybody else. So I am going to suggest that we take a brief recess, that you go upstairs until 2:30, walk around, stir the blood, get some of it working up.