MR. SCHLICHTMANN: Thank you.

Your Honor, Mr. Foreman, ladies and gentlemen of the jury, fellow counsel, ladies and gentlemen of the Court, the evidence for this part of the case is in and it is now time for us to hear from you about some very important decisions that have to be made. You're going to have to make a statement about the defendants' conduct. You are going to have to determine if what they did was wrong, and you're going to have to determine if what they did resulted in the pollution of Wells G and H.

And I don't have to tell you that this has been a very long and difficult trial. I want to say on behalf of myself, on behalf of cocounsel, on behalf of the families, I want you to know that we appreciate that you have made many sacrifices to be here. I want you to know that we appreciate those sacrifices that you have made to sit here and listen and decide.

Unfortunately, in this phase of the case you didn't have an opportunity to meet the Andersons, or the Zonas, or the Gamaches, the Aufieros, the Kanes, the Toomeys, or the Robinsons. You are going to have to make a decision in this case, in this phase, without having heard what happened to them.

I have noted that during this trial you have been extremely attentive to the evidence, and I have

also noted the strain on your patience when the evidence didn't quite go in as quickly as perhaps you would have liked or that there were various legal issues that had to be resolved. We appreciate your patience and your understanding.

As you will learn, some evidence in the case has been stricken, evidence that you will no longer give consideration to, but I want you to know that much evidence remains, more than enough evidence to make the judgments that count in this case.

In this phase, you are going to be asked to hold these companies responsible for what they did, and in the next phase you are going to find out what happened to these families because of what these companies did, and you are going to make a decision about what should be done about it.

Now, that is a tremendous responsibility that our society gives you. I can't think of anything, any responsibility that our society will give you that will have a greater impact on the members of our community than the decisions that you will make in this case.

Now, because the defendants have denied that what they did was wrong, you, on behalf of society, have to declare that it was wrong. And because the defendants have denied that what they did poisoned the

community, you have to declare that it did, and you must declare the depth and the degree of the suffering caused this community because of it.

Now, some words were said about sympathy. I want you to know that the families have traveled a very long road to get into this courtroom. They didn't come to this courtroom for your sympathy. See, the families have all the sympathy that they need. They have enough sympathy to last them the rest of their lives. They didn't come here for that. They came here for one thing, they came here for justice. Justice for the children and justice for the parents, as justice must be done for any child or any parent of any family who needlessly suffers because of a company's failure to care.

Now, justice is a judgment that although what happened in Woburn was needless, it did not have to happen, it was not meaningless. There must be meaning to this tragedy. Justice will not be done with one verdict in one phase.

To do justice, you have to do that based on the evidence.

Now, we have presented to you a lot of evidence, the testimony of witnesses, the testimony of experts, and diagrams and chalks and documents, and the defendants, they have given you the testimony of witnesses

and experts and diagrams and chalks and documents, and they have brought things into court, they brought muck from the river, and they brought sewerage, the smell, but they gave you something else. The defendants gave you the reason why you must do justice in this case.

You see, during all the days and all the weeks and all the months the defendants didn't give you the one thing that you as jurors deserve. They didn't give you the truth about their role in the pollution of Wells G and H, a truth which they are in the best position to tell.

In this trial the defendants' conduct was on trial, but something else was on trial. The defendants put the corporate community on trial, and the evidence is that the corporate community has a lot to be proud of in this case.

The corporate community can be proud of how it has used its freedom to profit and prosper. It may be proud of all of the goods and services that it has provided to all of us, it may be proud of the jobs that it has created, and it may be proud of the vast resources of talent and knowledge that they have accumulated. And the corporate community can be proud of those companies that recognize that with this freedom comes responsibility, responsibility to the community.

The corporate community can be proud of

those companies that understand that profit must never come at the expense of a community's health. The corporate community can be proud of environmental consultants, which they have used to advise them as to how to use their property, and the corporate community can be proud of their use of their resources, those companies that did, to identify and discover and rectify conditions on their property which endanger the community's health. All of these things the corporate community can be proud of.

But, unfortunately, in this case there are so many things that the corporate community cannot be proud of. The corporate community cannot be proud that Beatrice Foods and W. R. Grace allowed their properties to be used as toxic waste dumps. The corporate community cannot be proud of these two corporations' complete indifference to the harm caused this community by their property.

The corporate community cannot be proud of these two companies' failure to use their resources to have prevented this harm, and they may not be proud of these two companies' use of environmental consultants not to learn but to mislead.

They may not be proud of these two companies' failure to acknowledge to governmental agencies, to the families or to you the true role that they played

in the pollution of Wells G and H.

MR. FACHER: I object, your Honor. I don't think that is part of this case.

end V

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The objection is sustained. I think you are really required to relate your argument to the allegations in evidence in the case.

MR. SCHLICHTMANN: Yes, your Honor. I believe there are evidence as to those.

THE COURT: Corporate is evidence.

MR. SCHLICHTMANN: The corporate community cannot be proud of Beatrice Foods and W. R. Grace's failure to admit to you an obvious wrong.

MR. FACHER: Objection, your Honor.

THE COURT: Overruled. MR. SCHLICHTMANN: The corporate community cannot be produced of these two companies' attempt to avoid responsibility in this case by denial and wrongdoing.

MR. SCHLICHTMANN: Now, they say that what they did was okay because everybody did it. But when they say that, they insult every company that cared. Every company that cared as much for the quality of their waste as they cared about the quality of their product. Every company that cared as much for what was going out the back door as what was going out the front. Every company that cared as much about what was happening on their property as what was happening in their plant. Companies that understood that ownership of land is a trust. It's not a license to destroy or to allow

others to destroy. And companies that understand that property isn't just there to be exploited but to give back some care. W. R. Grace and Beatrice Foods would have you believe that what they did represented the best of the corporate community.

The evidence is that in some respects, in this case, it represented the worst. Now, they say they care. But did they care about the community's health? If you look at the site map of the Beatrice property and you look at the site plan of the Grace property, and you look at the pictures of what was found on the Beatrice property and what was found and dug up on the Grace property, do you get the impression in looking at those things that these are the properties of companies that care about the community's health and how the condition of their property may affect it?

You went on the view. You went to the Beatrice site and you saw drums, piles of drums, and you saw places where drums had been mapped by Weston Geophysical that are not there now. You went on the Grace site and you saw the picnic tables next to the monitoring wells and the tomato gardens next to the dumping grounds. I think that you had an opportunity to view the property and form a conclusion as to whether this represented the property of companies that cared.

Now, what would a responsible company have done that was in the position of W. R. Grace or Beatrice Foods? What would a responsible company have done in W. R. Grace's position? Well, the first thing they would have done is they would have trained their managers, their plant managers, as the proper ways to dispose of waste. What did W. R. Grace do? They put Paul Shalline in charge of environmental matters. He said he appointed himself. No training. They put Vinny Forte in charge of the plant, a man who professed complete ignorance about his plant disposed of their waste.

And, yet, we heard from Mr. Manzelli that, in fact, Mr. Forte contracted with Mr. Manzelli to dispose of some waste at the Grace property, a little waste, in a pit. A responsible company in Grace's position would have promulgated an environmental policy that made it absolutely clear you don't dispose of waste solvents on the ground, down storm drains or into pits.

What did W. R. Grace do? W. R. Grace considered adopting an enlightened environmental policy. It's in evidence. If they had, maybe many of the things that took place at the Woburn Plant wouldn't have happened. Well, they considered adopting such an enlightened policy and then promptly rejected it.

A responsible company would not need to

have been told by Thomas Barbas, "Hey, this is wrong to dump this stuff on the ground." But the evidence is W. R. Grace needed Tom Barbas to tell them it was wrong.

And then what did they do? They made Tom Barbas one of the dumpers.

A responsible company would have had their waste hauled away. But what did W. R. Grace do? The waste that wasn't dumped on the ground, that wasn't dumped into drainage ditches, was accumulated into drums and then the stuff accumulated into drums was dumped into pits. A responsible company would have understood that protection of the environment is an obligation of every one of us, including business.

Well, how did W. R. Grace feel about that? How did W. R. Grace look at the issue of environmental protection? Well, it's in evidence. We have the memo from 1967. Their concern was that the government was getting concerned and when the government gets concerned, that could be bad for business. So what did W. R. Grace recommend to its plants? It said, "In those areas where we may have problems, there will be some benefit in getting some representatives of the company to serve on local boards, simply to keep abreast of the role matter on enforcement of whatever laws there may be and, in some cases, helping to write the legislation which may

be involved in establishing standard enforcement." And they directed the plant to the public relations and local politics department.

During my examination of Mr. Morrill, he stated they never adopted this policy. But on cross-examination some attempt was made to say that they did, they did promulgate a policy. And you will get to read that policy. And you will see that the environmental policy that they did implement stated, "Where governmental agencies are making us clean something up, we better cooperate and this is a matter for the legal department and the public relations department."

For W. R. Grace, the ecology movement was adversely affecting business and so the message to the plant was: Don't spend money. We got a special procedure here. If there are any plants out there that want to spend money, we have a very special procedure. You have to follow that -- We know that Mr. Forte got the message -- Don't spend any money -- from his memo which is in evidence. We don't have any pollution problems here. We don't spend any money. And a company that was responsible, in W. R. Grace's position, would have obeyed whatever public health laws or environmental laws there were.

And as Mr. Morrill said, you shouldn't have

to wait for a law. There are certain things that a company should do, which just make good engineering practice, that makes good sense. And even if there isn't a law, you should do them.

Now, his Honor is going to instruct you about some laws that during this period of time in the 1960s and the 1970s dealt specifically with the kind of conduct that we have in this case, and his Honor has the duty and obligation to tell you what the law is. But it is your duty and obligation to apply that law to see if it applies to the conduct in this case. And, if it does, you can take that into account in determining whether this company cared.

Now, they kind of argue that those laws don't apply. But when you're making a decision about whether those laws apply, ask yourselves this question: Would it have made any difference to W. R. Grace whether the law applied or not? Would it have changed any of their conduct? Would they have done anything differently?

How about Beatrice Foods? What would a responsible company in the position of Beatrice Foods have done? Well, a company in the position of the Riley Company, who has property next to a town's drinking water supply, wells of a town's drinking water supply, would

take care that its property was not used as a dumpsite. A company, a responsible company in Riley's position, would have inspected the property and would have been concerned when they noted drums and tanks and chemical sludges and pesticide caps and debris and oil stains. They would have been concerned about that. And a company in Riley Leather Company's position would have been concerned that they would have done whatever was necessary to keep people from dumping on that land. Put up a fence. Do whatever else was necessary to protect the land from abuse.

Now, his Honor will instruct you that the Beatrice Foods Company is responsible for the acts of the Riley Company because they merged with the Riley Company in 1978. They assumed all the assets and they assumed all the liabilities. Merged one into the other. But you can ask yourselves: Would it have made any difference if Beatrice Foods had purchased the Riley Company and the 15 acres in 1958 instead of 1978? Beatrice Foods showed that it didn't care when it bought the company and didn't care about the condition of the property, didn't care that it had been used in the past. And Beatrice Foods showed it didn't care when it continued Mr. Riley in his position and made his policies thereon.

Who was this Mr. Riley and what were these

liabilities that Beatrice Foods embraced? Mr. Riley was a man who refused to see what was plain to the eye of an observer at thousands of feet up in the air. (Indicating.) Mr. Riley is a man who refused to see what Mr. Caine saw when he saw drums by the pump house. And Mr. Foley saw when he saw debris by the pump house. What Mr. Day saw when he saw drums and debris and sludges on the property. Who refused to see what Mr. Camerlingo saw, the man who came from the Whitney Barrel Company to dump Mr. Whitney's poisons on the ground.

MR. FACHER: I object. Characterization.

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THE COURT: Well, as my notes indicate, as a characterization by an advocate in this case is not improper. I will let it stand.

MR. SCHLICHTMANN: He would have seen what Mr. Camerlingo saw, and he would have seen what Mr. Camerlingo did.

And Mr. Riley refused to see what David Constantino saw when he was a young boy when he went through the 15-acre site. And he refused to see what Mr. Kelleher saw, the man from the DEQE, in 1980 when he visited the site. You have a copy of his report. When he saw all the drums and sludges that were there, some recently and some for a long time, and he would have seen what Mr. Drobinski saw, when Weston Geophysical went and mapped the site, and he would have seen even what Mr. Maslansky saw when he took his walk down the access road. But Mr. Riley saw nothing, smelled nothing, said nothing, did nothing.

Now, why didn't W. R. Grace and Beatrice Foods care? Was it that they didn't think these chemicals were dangerous?

MR. Morrill, who was an MIT graduate, a man who graduated in chemical engineering from MIT, he knew about solvents, he knew about their dangers, he was familiar with trichloroethylene.

W. R. Grace had the benefit of a letter from

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their insurance company in 1964, certainly making it clear that trichloroethylene, like other chlorinated hydrocarbons, can cause neurological damage, heart problems, addiction, and cardiac death, as well as skin problems and detailed the kinds of precautions that should be used by a company that was interested in the safe use of that chemical.

And W. R. Grace considered trichloroethylene to be a hazardous substance. It is in Mr. Shalline's memo in 1979. He puts trichloroethylene right at the top of the list, right above cyanide.

And W. R. Grace knew in 1973 that governmental regulations were going to come out, special medical -- physical examinations had to be taken of employees who were exposed to the material, and they, therefore, advised their plants to stop using it in '73, to phase it out.

Of course, we all know in 1975 they told the companies, the plants, to stop using it immediately because it is so dangerous and because it can cause or suspected to cause cancer.

Now, Riley and the leather company were certainly familiar with solvents. They used them. We heard about how many solvents that they used on a yearly basis, how many drums they go through. In fact, they used some of the solvents involved in this case, they admitted

to that.

They told us they had a whole library at the leather company, that there was material there from manufacturers about their chemicals. They had Mr. Kaine, of course, who is a chemist, so they certainly were in a position to be fully aware and informed about the qualities of these materials. They didn't care because they didn't know it was wrong to dump the stuff on the ground because Mr. Riley tells us that he understood that the dumping of chemical waste on the ground could pollute the water table. He said he wasn't a geologist, but he imagined it could. He understood that the dumping of chemical waste or industrial waste on the 15 acres was incompatible with having a well.

He says, why would we do it? The well is our life's blood. And he said that if he knew about it, if he knew there was dumping going on in his property, he said, "I would have stopped it." It is certainly an indication that he knew it wasn't the proper thing to do or proper use of the land. In fact, he stated the 15 acres was not an appropriate place as an industrial waste dump.

Now, W. R. Grace, Mr. Morrill, told us that he understood dumping of chemical waste on the ground can pollute the groundwater and that there is all sorts of things that you would have to do for good engineering practice before you could dump on the ground because of its

danger of polluting the groundwater.

And Tom Barbas went to Mr. Shalline and he told him, young Tom Barbas, he said, "Look this is wrong, we shouldn't be dumping this on the ground; it is like gasoline, it could hurt people."

And it wasn't that these companies were not in a position to know that their activities posed a threat to the community's health. There was the state law that his Honor will tell you which prohibited companies from allowing their properties to discharge into a public water supply. Were these companies ignorant that groundwater could be used as a public water supply? Mr. Shalline said that he was aware that the city of Woburn from the 1960s was using water from the ground that

it had wells where it got water from the ground and Mr. Riley certainly said he knew when the City put their wells in in 1964, and it was just 600 feet away from the marsh and there were buildings there and in the winter, when there wasn't any foliage, I think maybe he would have also seen how close they were. He didn't have to see them, he knew they were there.

They act as if had they known that the City's -- that their land was polluting the City's wells, they would have stopped. But if that were the case, if that is what they were telling us, had we known, we wouldn't

have done it. Well, why when they decided to dump on the ground, why didn't they say to themselves: Hey, maybe we ought to check out whether something could happen to this stuff. It is going into the groundwater, and there are groundwater wells around here. I mean, the area was a rich aquifer.

Mr. Riley had his wells there, the City was using it. There are reports in evidence, talking about all the other industries that were using the rich aquifer area of the Aberjona River Valley for wells, so if the company should have been concerned and said to themselves: Well, let's check it out. And if they had checked it out, they would have found out that there were City wells and they would have checked it out and found out that there was a danger, a danger of pollution of this public water supply.

His Honor will instruct you about foreseeability and what the elements are about that. His Honor will talk to you about violation of a statute as being evidence of negligence, and he will talk to you about the fact that a company that operates a condition which creates a nuisance on their property, that that is also evidence that you can take into account in making your decision about negligence.

Now, was it that these companies, just they couldn't really take the time and the trouble and

spend the money to have done things the right way? Well, how about Mr. Riley? What did he really have to do?

Well, he had to send a message, he had to send a message to people who were using his land not to do it, don't dump here. And what would that have taken? We know what Mr. Riley felt about his land was something important to Mr. Whitney. We know that Mr. Whitney used the 15 acres to dump his materials, to dump the stuff that he had in his business, the tanks and the drums, and from Mr. Camerlingo's testimony, the stuff in the drums they didn't want any more.

And we know that not just from Mr. Drobinski in going through aerial photographs, but we know it from Woodward-Clyde, the Beatrice engineering firm, for Beatrice who didn't come in here and testify and tell you what they found on the site. All we have is their reports, which we put into evidence.

In their reports, 1984, Woodward-Clyde, an environmental consulting firm like Weston Geophysical, reviewed the aerial photography on that 15-acre site to get an idea about historical land use on the site. Certainly, Woodward-Clyde considered that to be an appropriate methodology to follow to get some idea of what was happening on this site; it is in evidence. And they interpreted the 1966 photographs, which talk about

this land being used as the extension of business activities of the barrel company and Murphy's waste oil. That is in their report.

Then they talk about the 1969 photograph, which shows an increase in those activities. And attached to the report they actually make diagrams showing how the activity changed. Here is the 15 acres, and they discuss what this means in their report. This whole area here is drum storage or sealed container storage, right over here (indicating).

And in 1969 they interpret the '69 photo and show increased drum storage, increased drum storage over the '66 photograph. That is Woodward-Clyde, not Mr. Drobinski.

So Mr. Whitney was getting a message, it seems, and what was there about the land that told Mr. Whitney that it was okay to dump there? Did Mr. Riley say or do something or indicate to Mr. Whitney that it is okay to use this land to dump your stuff? We know that he did talk to Mr. Whitney in the early 1970s. He told him to get rid of his tank.

Mr. Foley said he was mad about the drums and not the tank, but Mr. Riley said he was mad about the tanks and not the drums.

We know from the 1974 photographs that even

then, several years later, there are still tanks and drums on the property. And what was it about Mr. Whitney, didn't he get the message straight from Mr. Riley? Didn't he get the message straight to remove all of his tanks and drums from the 15 acres? Had Mr. Whitney removed all of his drums and tanks and left somebody else's?

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Well, that should have been an indication and certainly it is an indication that it wasn't just talking to Mr. Whitney that would solve this problem, because it was not just Mr. Whitney but others who had to get a message. But what would send a clear message to junk businesses like Whitney and Murphy in Aberjona? How about a fence, a fence along the southern portion of the property is a very clear message to anyone who wants to enter this site that the property owner doesn't want access, doesn't want you to gain access to the site to dump on their property or to dump on anybody else's property to which you have to get through their property. Whether it's the city property or whether it's the property up here at Hemingway.

Now, if Mr. Riley had taken the little effort in putting in a fence -- he said it would have cost a thousand dollars. In the sixties. Wouldn't he have sent a clear message to Mr. Whitney and everybody else and couldn't he have avoided (indicating) all of that? It wasn't the money and it wasn't the amount of effort.

How about for Grace? Did it just cost too much money? Was that what it was? Just too much money to do it right. Too much money to have it hauled away. How much, a few thousand dollars to have it hauled

away?

We know Grace was saving a lot of money. They had the money because they were spending less on waste disposal and antipollution than their competitors. It's in evidence.

Was it for W. R. Grace any amount of money spent on waste disposal and waste removal, no matter how little, was too much? Wasn't that the wrong message? Shouldn't W. R. Grace have sent to Mr. Forte the message that, "Look, the dumping of waste on the ground, no matter how little, is too much"?

Now, when this evidence is put before the defendants, the companies, what do they say? Well, they point to the north and they say that, "Look, these other companies were doing it." And they point to National Polychemicals and all those other companies along the Aberjona River, and they hold up with pride the pictures from National Polychemical, the pictures of the drums, and the pictures of the waste disposal sites and the disposal dump sites. They hold those up with pride and say, "They did it." They feel free to point their finger outside this courtroom, up north, to which there is little or no evidence having to do with the pollution of these wells, and they have a failure of will, of the ability to point their finger within these

walls of this courtroom to where there is abundant evidence.

W. R. Grace and Beatrice Foods do not have the right to point elsewhere outside this courtroom until they point across these two tables at each other and at themselves.

MR. FACHER: I object. That is not a proper argument.

THE COURT: I will deal with it in the instructions.

MR. SCHLICHTMANN: Ladies and gentlemen, I can't tell you why these companies didn't care. I can tell you what happened to this community because they didn't care. And I can tell you something else: That these two companies needed something else to make them care. These two companies needed something that only you can give them. These two companies needed the certain knowledge that society would not overlook their conduct, that their conduct would not go unnoticed, that the society would not condone their conduct by fear or failure of will. That can only come from you. This certain knowledge that if the company engages in this kind of conduct which results in harm, that they will be held accountable for what they did.

Now, in this part of the phase you hold

them responsible for what they did. And in the second part you will have the opportunity upon evidence to hold them responsible for what happened because of what they did, what happened to these families. They haven't been held accountable, yet, and they argue that they should not be held accountable. When all the evidence is laid before them about their conduct, they deny it.

When you go to W. R. Grace and confront them with the evidence, what do they say? We never used trichloroethylene. Not that much. One drum. Three drums. Four drums. More drums. We only dumped here. There. Everywhere. It was only a little. Little more. It was enough.

And Beatrice Foods: There was never any dumping ever at that property. One drum. Two drums. Three drums. It was only here on the property. Not over here. Over here. On our property, too. Everywhere. But it wasn't that much. It was enough.

MR. FACHER: Objection, your Honor. Your Honor has ruled on this aspect with respect to dumping -- inference of chemicals.

THE COURT: I will deal with it on the instructions. I see no grounds for objection at the present time. It's argument.

MR. SCHLICHTMANN: And what does the Beatrice Foods Company tell you about their site? They tell you that: Look, the evidence is very clear here. All this contamination, this contamination that you see, well, obviously we can't deny that. That is plain and obvious to anybody. It's there. But it only got there, let's see, within the last six years, right after the wells closed.

Now, what is the basis of their telling you that it got there, all of this contamination, in the last six years? Well, they have given you the testimony of Dr. Braids, and the basis of his testimony is that there were bugs there and they would have eaten this stuff and would have broken it down into vinyl chloride. But it's the first time anybody has ever done it and it's not an accepted methodology. Nobody has ever used it before and while breakdown may occur we are not quite sure what the conditions are.

And you have to ask yourself: Well, is this an appropriate methodology in this particular case to decide when things were dumped on the Beatrice property, when the site become contaminated? I think at the very least we should do a little reality testing of Dr. Braids' theory.

So it had to have happened within the

last six years since they closed the wells in May of '79. Well, it didn't happen this year. We have been in trial. I doubt very much it happened then.

1985. Well, Weston Geophysical was there mapping the site, taking all of these samples. So I don't think it happened then.

Let's see. How about '84? Or '83 when Woodward-Clyde was on the site doing all of their investigation about the past disposal activities that occurred at the site? I don't think it occurred during '83 or '84. I doubt very much Wood-ward Clyde would have put up with it. At least I would hope not.

How about '82 when the families sued Beatrice Foods for being one of the parties that polluted the wells? That was the year Mr. Riley put up his fence. Well, during that year, that was 1982, that was a year the EPA gave their final report about their investigation of the area that had dated back into 1981 and earlier of that site and the aquifer. So I don't think it happened then.

How about 1980 when Mr. Kelliher came on the site in October? It's in evidence. His report of what he saw. All the drums he said had to have been there a long time. Did it occur then?

Well, that leaves us with 1979. Well, the wells were closed down in May of '79, and Mr. Riley, the tannery, tested their well in the property in September of '79. Now, that well was found to be contaminated in September of '79. So I guess it must have all occurred in the summer of 1979, after the wells closed down and before they tested.

Well, does that make sense? Does it seem right? Woodward-Clyde, I don't think, would agree because their report is in evidence and they talk about this period '78 to '81. They go through the area photographs and they say: There is really very little activity here and it doesn't look like there is any access from Salem Street onto the site, and they talk about all the activity occurring in '66, '69 and in the seventies, just like Mr. Drobinski talked about it when he showed you the area photographs. They talk about contamination isn't activities. But how, how do you contaminate land? Somebody has to engage in an activity. I mean you got to do something. I doesn't grow there.

Mr. Braids said the contaminants took up residence on the site. Well, they'd at least have to be bused in.

So I mean somebody has to go there and dump the stuff from drums or tanks or whatever, and it

appears that the activity which we can logically assume contaminated the site is that activity which is plainly shown in the aerial photos and reported by Woodward and Clyde. They tell you that, well, be that as it may, there is no way that that contamination could have got to Wells G and H.

Now, why do they say that? They say that because they would have you believe that the water which normally and naturally flows in a southeasterly direction, and it is in the Woodward-Clyde report, they have the arrow, southeasterly, not southerly. You can see the arrow going to the river. It's southeasterly fashion. They say that when the wells went on, this water that naturally goes in a southeasterly direction drew the water down on the Beatrice site and shoved it away to the west. Does that make common sense that that would occur? There must be a hydrological principle that could explain it because the common sense would tell you that, well, if the well is pumping, you would think water would be naturally drawn to it. There must be a hydrological principle to explain it going away.

Well, did Mr. Kotch give us a hydrological principle to explain why it went away? What he said was that, well, the river was a barrier, the river was a barrier.

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Now, why did he say the river was a barrier? Because he said that if you looked at the shallow wells, you will see that the water actually goes west instead of east.

This is his diagram -- Actually, it is a picture of his diagram. You will remember it, I'm sure. It has his flow arrows on it. And right here at the river he has the water flowing west. Well, we know there is something wrong with this picture because everybody agrees, Mr. Maslansky, Dr. Guswa, that flow lines should be perpendicular, arrows should be perpendicular to contours. He has them askew. And Dr. Guswa said that this is going to tell you the vertical gradings, the vertical direction of the water. And it is interesting that he doesn't take into account this part of the aquifer, the lower part of the aquifer, the aquifer where the contamination was. That is the area that Dr. Guswa looked at. That is the area that Dr. Pinder looked at. Why didn't Mr. Koch look also in that area?

When I asked him to look at it and we drew these lines, he showed it goes from 14 over to the east on the basic hydrological principle that you go from high head to low head, and when those wells are pumping and drawing the water down, there is lower head between the wells and the Beatrice property which would tend to make the water go in this direction (indicating).

When I gave those values to Dr. Guswa -- As a matter of fact, they came out of his file. These are the values that he used -- it is very clear that the head was from a higher to a lower to the wells.

And doesn't it also make sense from Mr. Koch's own diagram, if from nothing else, you see this contour line right here, that is an indication, isn't it, if we follow the principle that an arrow should be perpendicular, we have the flow line and the arrow should be perpendicular, he has it kind of going out and coming back (indicating).

There is no contour here. Here is the contour. If he drew this arrow perpendicular to this contour, wouldn't he have water coming down from the river and going over to the wells? And, in effect, isn't that exactly what Dr. Guswa drew?

Now, the next day, after Dr. Guswa did this, he did talk about -- He said there was a problem, there is uncertainty here about water level measurements.

First of all, there is no disagreement to anybody about the water level measurements because he wrote them down here, that the head here is higher than here. So we know it has to go here. Well, 14 is on the Beatrice site. 14 is right here. It has 37,000 parts per billion of trichloroethylene in it. It is a pretty contaminated well,

so we made landfall on the Beatrice site (indicating).

The next question is how much further did water flow from the Beatrice side and go to the wells? And you asked Dr. Guswa to do an exhibit, and he did that for you, and he showed you how the contour lines would be when he drew them.

How about the Grace site? Now, I do want to bring up one other thing about these water levels because I think there are things that have been said in this trial which are disturbing. They claim there is this measuring point difference between Weston Geophysical, which accounts for this difference in water level measurements. Weston Geophysical measuring points were put into evidence. They were put into evidence by Beatrice Foods, the certified surveyor's calculations of the measuring points, they have been put into evidence. Those are the ones that Geotrans, that Dr. Guswa used, those are the ones that Dr. Pinder used. It wasn't until the second day of my cross-examination of Dr. Guswa that we learned that there was this measuring point difference.

Well, what accounts for the measuring point difference? If Woodward-Clyde had been in here, maybe they could have explained it to us. There was some talk it wasn't just Woodward-Clyde but Geraghty and Miller, too. We are not sure who was doing what measuring.

Kelly Facker cross

There have been a couple of things about water levels in this trial. You remember when Dr. Pinder was cross-examined, it was represented to him that Well 12 had a measurement of 40.5, and do you remember when Dr. Pinder used that value, which was represented to him, the arrows crashed together. You remember that. Well, where is the evidence that that is the proper value for that well? It is not on Mr. Koch's sheet of values that has been submitted into evidence, and it is not the proper value that was used by Geotrans, Dr. Guswa, or by Dr. Pinder.

And, also, on this issue of facts and representations, do you remember that Dr. Pinder was cross-examined and there were representations about the pumping of the Riley wells? Well, there are no doubt about it there are two wells, but if you read the Woodward-Clyde report, they make it very clear the Riley Well No. 1, it is in the report which Dr. Pinder read, the other experts read, it says that Riley Well 2 substituted for Riley Well 1. In fact, they talk about it as being abandoned. And what is the amount of pumping they say historically occurred at the Riley site? Woodward-Clyde reported an average of 325 gallons per day, 200-odd gallons per minute. Not six or seven hundred gallons per minute. And, so, when we talk about how much capturing goes on with the Riley well, let's not confuse the issue and say there were two wells pumping

at a million gallons per minute, because they weren't.

There is no dispute in this trial that 300,000 gallons is the limit that the tannery used, 300,000 gallons of water. Mr. Foley talked about that. They certainly didn't use 1,600 gallons or a a million six hundred thousand gallons or whatever.

And you look at this report about the capturing of Riley Well 2. They did a pump test and actually drew a little circle about what their cone of influence was. The cone of influence that Woodward-Clyde draws does not cover the entire site. If you draw a line between those contours, you will see the groundwater divide -- This one is 43 and this one is 41 and this one is 42.

Even in the Woodward-Clyde report, the second one around, when they did the test on the pump, they used the Riley well and put it up to its max, six or seven hundred gallons per minute and still, as far as I could get was Well 6. As far as I could get was here (indicating). How about all of this? That was Well 6. That wasn't captured. Even if they used the thing to the maximum, which certainly they did not.

How about the W. R. Grace site? Well, they tell us that the site is stuck in cement. It was squished down by the glaciers many thousands of years ago so tightly that things don't move through it very quickly;

very, very slowly. Nothing actually has left or nothing has gotten very far from the Grace site.

And what is the basis for this opinion as to how fast things move? Dr. Guswa tells us it is his model, his model of the aquifer. That represents his understanding of the aquifer.

Now, Dr. Guswa explained that when you go to model, when you do a model you map out an area, and he did that with his grid. That represents his area, and this is the area that you attempt to understand (indicating). The conservation of mass says you have to understand what comes in and what goes out. You have to understand the system. It must be consistent within itself. If it isn't consistent, then something isn't working, the parts aren't working together. He says to us, the way you check on these things, you do reality testing. You don't just do a model in an abstract sense, you go and test it. How do you test it? You bring it to reality. You remember, we went on a reality test drive on Dr. Guswa's model down at the Beatrice site. Something happened to the model, it got stuck in the zone of uncertainty, the zone of uncertainty.

Now, Dr. Guswa says that this zone of uncertainty is there because there is a conflict between the measurements. He doesn't know which one to use.

Well, isn't that the whole purpose of the

model? Couldn't he look: Let me have Weston's figures. Let me put it in this model here and see if it makes sense with the rest of the system. Let's see how it looks. If it is inconsistent or doesn't work, maybe Geraghty and Miller will give him more data, and he puts that into the model and see if that works. But he didn't do that.

On this site, the Beatrice site, which is smack dab, if I can use that phrase, in the middle of Dr. Guswa's model, which is just a few hundred feet from the wells, he has a zone of uncertainty.

Now, he said he didn't do this checking between the various values and try to figure out the zone of uncertainty because that was Beatrice's problem. He was hired to handle Grace's problem.

Well, if Dr. Guswa's model can't figure out the Beatrice problem, then Dr. Guswa's model has a problem. And if Dr. Guswa's model has a problem, then W. R. Grace has a problem. So we took the model up to the Grace site to try and understand what was happening to all that water that Dr. Guswa said was coming down in the aquifer, the 7,400 gallons a day that was leaving, and we determined, using a basic scientific formula, that the Grace site would be under 10 feet of water every day if you used his hydraulic conductivity in his formula. That would be even more devastating than even the 250 year flood. And in an

attempt to understand what went wrong, what was not accounting for this water, we discovered another zone of uncertainty.

The other zone of uncertainty was the bedrock. The water had to go into the bedrock to explain this problem. He had to get rid of some of this water and it went through the bedrock, but he couldn't tell us where it went.

Well, the bedrock is fractured, and there are fault lines, and he agrees there is a fault line going from the northeast to the southwest, and that his model assumed the fractures were opened. And, in fact, we have put into evidence this EPA Report in June. In fact, they have a picture of the fault area. This is the picture, and you will see -- You can see a fault goes right there (indicating). Remember that parallels the bloody bluff fault. This is the southeast and that is the southwest. Here is S-21 and S-22. Those are the wells up here by our Grace site, and S-21 and 22, which the report says are highly fractured and the fault line goes down below S-8, and S-8, as you will see in this report is right in the middle between Wells G and H. There is no reason to believe if, in fact, a lot of water is going into that bedrock, we have a good reason to believe what direction it is taking.

Now, there was also a problem between Dr. Guswa's analysis of the situation and Mr. Maslansky. Remember, when we used Dr. Guswa's hydraulic conductivity and Mr. Maslansky's gradient and porosity, there was a problem, a real conflict.

Mr. Maslansky's water wasn't moving any faster than Dr. Guswa's contamination, so there was a problem which required homework. And I think it is understandable that Dr. Guswa hasn't quite worked out the bugs in the model because as was apparent in the examination, he really didn't get a chance to work on the model until after I deposed him on January 22, that is when he was working on it, and he still has these zones of uncertainty. And I submit to you, ladies and gentlemen, that when Dr. Guswa works out all the bugs and figures it all and makes the system all consistent and the water doesn't back up on the Grace site but flows in and everything is consistent, I think his figures will probably agree with Dr. Pinder's.

Dr. Pinder also analyzed the system. He also did a model. That was one of the ways that Dr. Pinder analyzed the system. Dr. Pinder did it other ways as well. He tried to have an understanding of the system.

Dr. Pinder showed you a computer printout of his analysis, which illustrated his analysis of the aquifer before pumping and after pumping, and his analysis

of how contaminant plumes move from the Grace site and the Beatrice site through the well field. But he wasn't content to do it just that way, he also analyzed it using field data as well independently, and he also showed how it was before pumping and after pumping, another way to analyze the system.

And then, in the end, he exercised his judgment in putting all the stuff together. In the end, ladies and gentlemen, you are going to have to decide what makes common sense, what seems right. Did it look like -- which expert seemed to be following basic hydrological principles and which seemed to make sense.

end Z

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Now, they say, Grace says and Beatrice says: Look, look to the river. Don't look at our properties. Go to the river. There is where it is. It's all coming from the river. It's all from there. This is to the north. The river is the place to look.

I think we should be very clear when you look at the river. It really doesn't make any difference if the river gives 99 percent of the water to Wells G and H or just one percent of the water to Wells G and H. The issue about the river is: Was the river a source of contamination -- not water, but contamination -- to Wells G and H?

I think that the defendants have focused on how much water and not on the issue of how much contamination. You have to look at the river the way you look at any site, whether it's the Grace site or Beatrice site. What is the evidence that the river is a source of contamination to those wells?

Well, the witnesses who came in here, the witnesses brought to you by W. R. Grace, they said that the place that they looked at up the north country was just like it was 10 and 15 years ago. We went on our view and you went to the east drainage ditch and you saw the same ugly red water, horrible water, that was there now, as it was there 10 years ago. The pictures,

you saw.

They talked to you about the fact that, in fact, this north country was looked at by the EPA. That is the reports they are reading from, the east drainage ditch report we put into evidence, and the final report, after the east drainage ditch report, the one done by the EPA in June of 1982, and it certainly talks about the whole area, the whole study area, including National Polychemicals in Wilmington, Swanson and the dump, and it went through the whole area.

They checked out the geology by the way. You will remember that one. (Indicating.) It shows the geology. It shows the peat. They call it peat. They discuss the peat in this report, you know. And it is interesting. It says that a seismic survey was performed to gather the necessary depth to bedrock information. The performance of this survey was hampered by thick deposits of peat along the Aberjona River. So, I don't think the EPA is disputing that there is a peat layer at the Aberjona River.

It's also interesting, they have another comment in here, it says, "1938 area photographs indicate that extensive peat bogs and swampty terraine once covered the entire length of the Aberjona Rivery Valley." They make a very interesting comment.

"This peat may have acted as a barrier to the discharge of groundwater into the river." This is peat that is in that drum. (Indicating.) That is the muck you pick up with your hand. These people are talking about peat deposits that a river causes, and the peat in the Aberjona River, I assure you, ladies and gentlemen, is no different than any other river's peat. Nothing special about that peat. It isn't different.

Well, so where is the evidence that the river is a source of contamination? I asked Dr. Guswa to go through the test results about the river, and, as I say, the red, ugly water at the east drainage ditch is still there, and the witnesses tell us the same company is doing the same kinds of things, the same kinds of conditions are still there. Then I suspect you would begin to see this river was a conduit of contamination. Well, where is it? It just ain't in the river.

Now, there are plenty of reasons why any kinds of contamination like volaile organics could volatilize over a distance, why we don't find anything here. They point to the east drainage ditch report, which talks about -- they did their exhibit with all of the lows and the highs. Well, if you read the report to see how low they were and how high they were and where they were, and they got low when they got down here.

(Indicating.) And the only time they come up with anything was right over here at Salem Street, and what did it show? These are all the lows and the highs. What did it contribute to this river all the way down here? Of course, there was nothing in between. But, assuming it came from there, 27 parts per billion of TCE, 27 parts per billion. Well, is that the source of the contamination of Wells G and H? To get from the river it has to get into the peat. The peat is high in carbon. And if the contamination went from the river and poured out like a sprinkler head down into that aquifer with all that contamination, wouldn't you expect to find some remnant, some fingerprint, something left to tell us pollution was here from the river? These organics were here?

Well, where is it? It is not in the shallow wells. It's down deep. (Indicating.)

Now, why is it down deep? Why, when we look at the contamination in these wells by the river, why when we get from the Beatrice property do we find the contamination in the area here going deeper? If it was coming from the river, not from over here, wouldn't we see it high here, going lower and lower to the well? You don't see that here. And I asked Dr. Gusway, "In fact, if we compare these results with each other, we find this

trend -- Correct me if I am wrong -- that the deeper parts of the aquifer tend to have the highest concentration of chemical contamination, and the upper part of the aquifer by the river has the least or none of these chemicals; am I right about that? Is that true?"

And he said, "That is the pattern we see on that map, yes.

"Now, Dr. Guswa, is that pattern consistent, that we see, is that pattern consistent with the following: That no contamination came from the Aberjona River into this aquifer, but that the contamination that we detect in this part of the aquifer under the river is coming from sources in the aquifer which are away from the river? Is that consistent with that?"

"Answer: Is the pattern consistent with no source from the river?

Question: Right.

Answer: And only sources away from the river?

Question: Exactly.

Is that pattern consistent with that?

Answer: It is not the only explanation, but it is cnsistent, yes.

Question: It is consistent with that?

Answer: Yes."

And then I asked, "Is it possible that this could happen: That, in fact, the contamination from Wells G and H could have come from an area to the northeast of Wells G and H" -- "could have come from an area to the northeast" -- the northeast (Indicating) - "and from the west?" This is west.

" . . . contamination could have gotten in the aquifer from those places" -- not the ones I pointed to. I just asked Dr. Guswa northeast and west. Those places.

But, "contamination could have gotten in the aquifer from those places and got deep in the aquifer in the medium and deep layers and then pulled over to Wells G and H; and no contamination came from the river; and is it possible that that could happen to explain the contamination at Wells G and H? Is that at least possible?"

And he said, "The contamination we see at G and H now?

I said, "yes."

He said, "That is possible."

But there was another question asked. The Court said, "Is it probable, yes or no?"

The witness said, "You are asking me the question?"

"The Court: I am asking the question."

"The Witness: Probable? I think it is a probable source. It is a probable possibility; it is a probable --"

The Court says, "No, no."

And then the Court says, "In your opinion, if the explanation that Mr. Schlichtmann has presented to you is, in your opinion, a probable explanation of the result that you see," and the witness said, "And the question was phrased to the north and to the east with no particular, specific locations; is that correct?"

"Mr. Schlichtmann: Yes.

"The Court: Northeast and west.

"Mr. Schlichtmann: Northeast and west.

"The Witness: Yes, that is a probable source."

What happened after Dr. Guswa said that? What happened was W. R. Grace blew the horn for retreat and they pulled the forces down from the north country and they pulled them back from the river and they retreated up the northeast corridor back to the plant. And what stood between W. R. Grace and the well field? What stood between W. R. Grace and the contamination of these two wells? The rifle range and the neighbors on Dewey Street. The rifle range. And the neighbors

on Dewey Street.

Ladies and gentlemen, I do not think that the defendants are counting on the evidence. The evidence is complex, complicated. There is a lot of it, no doubt about it, and you're going to be getting questions by his Honor tomorrow and there is no doubt about it, these questions are not simple and there are four for each defendant.

In answering these questions, however, although the questions are difficult, the answers to them are truly simple and can be made simply and clearly. I'd like to go through those with you because they are complicated and, if you will bear with me, I have blown them up and I will go through these.

The questions that you are going to receive will be a little different and I have tried to put the corrections that were put in there, which were minor, so the sum and substance is going to remain the same. The changes will not change the answers.

The first question that you are going to be asked is, "Have the plaintiffs established by a preponderance of the evidence that any of the following chemicals were disposed of at the Beatrice site after August 27, 1968 and substantially contributed to the contamination of Wells G and H by these chemicals prior to May of 1979?"

Now, this date, August 27, 1968, is the date of the March letter, this letter by Mr. Maher from Mr. Riley of the Riley Company. It was in this letter Mr. Maher informed Mr. Riley the water table has dropped in Wells 1 and 2, the two wells, and says that the static water table has been effected by the city well which have been put, installed, in the same general area.

Now, the issue here is have the families established that chemicals, these chemicals, were disposed of at the Beatrice site after that date which contributed to the contamination of Wells G and H substantially. And the answer to that question is that the activities which resulted in the contamination of that property occurred from the mid-sixties to the early to mid-seventies, the early seventies. And it's not just Mr. Drobinski's opinion. I think when you read the Woodward-Clyde reports, you will see that they also have a substantial basis for saying that -- for Mr. Drobinski to have said that. This isn't something Mr. Drobinski made up.

And so we know that once disposed of on the land, it very quickly goes from precipitation into the groundwater and the issue here is how long would it have taken to get from the Beatrice site to the wells, and the travel times given to us by Dr. Pinder

would have taken several months -- a few months in some cases, several months in another, and I will go through that with you, but certainly well within the time that the wells were closed down in May of '79.

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And so, when you come to this question, when you look at the aerial photographs and you read the report and you remember Mr. Drobinski's testimony and the reasons for it, the reasons under the opinion -- it just wasn't a naked opinion, there was a basis for it -- that this question, the trichloroethylene, should be yes and tetrachloroethylene should be yes and trans-dichloroethylene and 1,1,1 trichloroethylene should be yes. All four chemicals were found in great abundance on the Beatrice site.

If you answer no to these questions, you need not go any further in answering any other questions, the case will be over.

The second question says that if you answered yes for any of those questions, what, according to the preponderance of the evidence, was the earliest time after August 27, 1968, that such chemicals disposed of on the Beatrice site made a contribution to the contamination of Wells G and H? And you are asked to give a month and year for the chemicals. Now, how would you be able to figure that out?

Well, we know the travel times for the chemicals. Now, for the Beatrice site, the travel times that Dr. Pinder testified to for trichloroethylene is three years, and for tetrachloroethylene, 9.67 years, and for 1,2 trans, it is 1.03 years.

THE COURT: I think you may be reading the Grace site figures, Mr. Schlichtmann.

MR. SCHLICHTMANN: I'm sorry, excuse me. How do you like that? I should listen to what I am saying. Thank you.

See how difficult it is? All right, now I can't make a mistake.

For the Beatrice site, the TCE is three months, tetrachloroethylene is 9.67 months, 1, 2 trans is 1.03 months, and TCA is 2.34 months.

Now, to get to the Beatrice site, the wells have to be pumping, so you have to look at an exhibit to find out when the wells were pumping for what period of time. If you look at Exhibit P-780, they have the dates for the well pumping in 1968, and you look at this period of time from August, you will see what well was pumping. G was pumping all the way into 1969 into, in fact, October of 1969. The well was pumping all during that period of time.

Now, after this date, when is it reasonable to assume that chemicals were disposed of on the site which could have contributed to the pollution of Wells G and H?

Well, if this was the period of time that the activities were taking place and Mr. Whitney was making use of this property for the disposal of his waste, and we know what kind of waste was disposed of on this site during

this time, these chemicals, and is it not reasonable.

MR. FACHER: I object, your Honor. That is not a correct statement, "during this time."

MR. SCHLICHTMANN: I object. He was interfering with my argument.

THE COURT: If he has a legitimate -- please read the last part back.

(Last part of argument read.)

MR. FACHER: These chemicals, pointing to this chalk, which is a 1985 chalk.

THE COURT: It is the same chemicals, and I will permit it as identification of the chemicals, the four chemicals that we are concerned with. Go ahead.

MR. SCHLICHTMANN: Is it not reasonable to assume that disposal of these chemicals was taking place for at least the next 30 days of this date? Is that not reasonable if this is the period of time in which disposal activity is taking place and we look at the 1969 photo and we see the amount of activity that took place during that period, is it not reasonable to assume that Mr. Whitney and whoever else was doing the dumping, their dumping at least within the 30 days of that?

If you use that 30-day period and you use those travel times, then the date of arrival for trichloroethylene, if you use three months from that 30-day

period will be December, 1968.

And for tetrachloroethylene, the travel time is 9.67 months. .67 months is about 20 or 21 days. But if, in fact, you are putting it in as a month or year, it isn't much different if you use the dates, 9.67 months, within that 30-day period may take the chloroethylene arriving in that pumping period July, 1969.

Now, for 1,2 trans, the travel time is 1.03 months and .03 months is .9 days, but that still would be covered by the period of time that you have been asked to put in. And if you have the travel during that 30-day period, that would be October of 1968.

And for 1,1,1 trichloroethane, the travel time is 2.43 months. .43 is 12.9 days. Again, I don't think it makes a difference. We are just doing it by month and year, and that would be December, 1968.

Now, in the next question, if you have answered yes in Question 1 as to any chemicals, please answer the following question:

Have the plaintiffs established by a preponderance of the evidence that the substantial contribution to the contamination of Wells G and H prior to May 22nd, 1979 by chemicals disposed of on the Beatrice site after August 27, was caused by negligence of Beatrice, that is, the failure of Beatrice to fulfill any duty of due

care to the plaintiff? Then it says with respect to the same chemicals, and if the disposal activity took place during this period of time and this was a period of time that Mr. Riley, who knew about the City wells also knew from Mr. Maher that the City wells were affecting his water table, and Mr. Riley from the 1969 photographs and the other evidence of the other witnesses knew or absolutely should have known that the site was being used as a dump site, you certainly can find that during this period of time Mr. Riley was negligent in not doing something about the disposal activities that were taking place on the land. If you so find, you can answer as to each of these chemicals yes.

And then the last question. If you have answered "Yes" to any part of Question 3, what, according to a preponderance of the evidence was the earliest time at which the substantial contribution referred to in Question 3 was caused by the negligent conduct of this defendant with respect to the same chemicals? And the analysis for Number 4 is really the analysis that you went through -- excuse me, for the second question, that had been done something within that 30 days, it is reasonable to assume that if he had done something to stop the dumping, he could have prevented the arrival of those chemicals that would have been disposed of during that period by putting

up a fence or making his message clear some other way to Mr. Whitney or whoever else was using that land. And so as to Question 4, the analysis must be the same as it is for Question 2, as the analysis for Question 3 must be the same for 1. Because the numbers are important, are very important in the case because I can tell you that in essence yes answers on Number 1 and Number 3 are answers that are in support of the plaintiffs' case, and no answers are in support of the defendants' case, but when it comes to this part, it is not easy.

I would like you to remember these dates and the analysis that I went through with you.

Now, for the Grace site the same types of questions are also being asked. Have the plaintiffs established by a preponderance of the evidence that any of the chemicals that were disposed of at the Grace site after October 1, 1964 and substantially contributed to the contamination of Wells G and H by these chemicals prior to May 22nd, '79? Now, here the date is different, it is October 1, 1964. That is the date that Well G opened, and so the question here is: Have we shown that chemicals disposed of at the Beatrice site after October 1st resulted in the pollution of the wells with these chemicals? And if you accept Dr. Pinder's travel time that chemicals used during his travel times in those years, then those chemicals

would have arrived, you will find they were disposed of at that period.

Now, at the Grace site, there are just three chemicals, trichloroethylene, tetrachloroethylene, and trans-dichloroethylene. When you look at this exhibit, you will see that there is contamination of these chemicals to here, all three, into the building here, and, of course, down here, along here, GW-3, and coming off the property, this is GW-3 (indicating). All three chemicals. And you have been told, well, the only evidence is we purchased the chemicals, tetrachloroethylene in 1972. Well, there is no evidence that any trans-dichloroethylene was purchased. That is not the issue.

The issue was not what was purchased or what W. R. Grace says they purchased or when they purchased. If nothing else in this case, we can be sure W. R. Grace isn't quite sure what they bought when they bought it and how much they bought. They told the EPA in a 1982 letter, when the EPA asked them how much trichloroethylene, they said one drum. Then, when they were asked in '73 by the EPA who was doing a survey, Mr. Shalline in that memo that was in evidence -- I hope you don't have as much trouble -- P-266A, there is the memo on the second page where they talk about the year, and this is 1973. It says up until September used trichlor, 150 gallons. When he was answering,

he was answering the EPA's request up to September of that year, 150 gallons. When the EPA wanted to know how much they used, they said one drum. And in the 1969 hazardous substance memo of Mr. Shalline's, he states one drum at a time in 1969. So I don't think we can count on W. R. Grace as being accurate about how many drums of trichloroethylene that they used.

So what you have to do is go to their site and look at what you find on the ground and where you found it. You find by far, the greatest contribution of trichloroethylene everywhere and trans-dichloroethylene in other places and equal amounts of trichlor. But the higher amount of trichlor in the north part of the site, right about this first addition, with the other chemicals. So you can rightly assume that there was dumping going on underneath this building, which is built in 1966, of the chemicals that we find there. It is a fair and reasonable conclusion (indicating).

You won't be able to use the W. R. Grace documents and records to help you. You will have to go to what we found on the ground and where we found it and where it was reasonable to assume when it was dumped and where it was dumped. This was built in 1966, and this was added on in 1974. We know from the overlays of the aerial photographs from Mr. Barbas and the other witnesses, talked

about the dumping that went on underneath this area where the plant is built over, the dumping that went on (indicating).

When we look at the wells at both ends of the building, we find those chemicals. We know the water flows like this (indicating), and this is asphalt now.

When was that contamination put there? Isn't it reasonable to assume it was put there before they put this addition of the asphalt down? And the dumping of these chemicals came from this building, and it is underneath that building before they put up that building (indicating).

So for those chemicals, it is reasonable to assume in October of '64 that all three of them were being disposed of at that site, and they would have then traveled, and the travel times -- Now, I will give them to you again. TCE, three years, and tetrachloroethylene, 9.67 years, and 1,2 trans, 1.03 years. Now, if you have answered yes in Question 1 to those chemicals, then you then have to say what the travel times were. You can use the date of October 1, '64, because you can assume this was a normal business routine from the evidence. That is pretty clear that this is how they got rid of their waste on a regular routine and that, therefore, it is reasonable to assume as of this date and the next date there would have been some

dumping of these chemicals which would have resulted in contamination of the aquifer resulting in contamination of the wells.

Now, the dates of arrival, months by year, we'll translate them. For TCE, October, 1967, and for tetra, which is 9.67 years, and .67 years, amount to two days, June, 1974. And for 1,2 trans, the travel time is 1.03 years. .03 years is 10.95 days. That is October, '65.

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On that point I'd like to point out to you that when you talk about the fingerprint of chemicals there are lots of chemicals disposed of at the Grace site, as indicated in this exhibit. There are lots of chemicals that are found on the Beatrice site. These are the chemicals that moved. How they moved and when they moved is dependent upon where they were disposed of and in what concentrations and the amounts that arrived at Wells G and H are going to depend upon where and what.

The major contaminant is trichloroethylene and it's interesting to note on the Grace site, trichloroethylene is everywhere and trans-dichloroethylene, while it may be in equal amounts in other places, is not in every place that we find trichloroethylene.

And the third question, again, the analysis here is, if you answered yes in Question 1, have the plaintiffs established by a preponderance that the substantial contribution to the contamination of Wells G and H prior to May 22, 1979 by chemicals disposed of on the Grace site after October 1, 1964 was caused by negligence.

I don't think I have to repeat the comments I made about whether it was negligent to have allowed this to have occurred. So the analysis to the

answer here must be the same as it is for No. 1. It must be answered yes, based on the evidence.

Finally, for the last question, if you have answered yes to any part of Question 3, what, accordance to the preponderance, was the earliest time which substantial contribution to the contamination was caused by the negligent conduct?

And, again, the month and the year. The analysis has to be the same as it is for Question 2. And, again, these dates are important.

Now, the evidence is complicated. It is difficult and there is a lot of it. And that process that we went through was very tedious and time-consuming; but, like many things in this case, it is something that we have to do. If the end result is going to be justice for these families, as difficult as it is, as tedious and as time-consuming as it is, it must be done and it must be done right, if these families are to receive justice in the end.

I believe that everything that I have asked you to do in this case, every answer that I have asked you to make is based on the evidence, fairly on the evidence, and I ask you to make that judgment based on that evidence.

I don't think the defendants are counting

on the evidence, and I don't think they are counting on the fact that it is too difficult or there is too much of the -- maybe too much evidence of wrongdoing here -- maybe there is too much and it's too easy to become distracted or go down the wrong path or take the wrong turn. You must stay on the right path for these families to eventually receive justice and you must not be distracted.

There was a lot of evidence to distract you, a lot of things that can distract you, and put you down the wrong path so you will take a wrong turn. Please don't. Are they counting on the fact you won't have the courage to declare that what these companies did was wrong or the strength to carry on until the job is completed? The families are counting on something, too. The families are counting on the fact that you do take your job as jurors very, very seriously. There is no doubt about it. Nobody can doubt from your attendance and your interest that you will have the courage and you will have the strength to see this through to the end.

Ladies and gentlemen, you must have that courage and that strength. You must have it for the families. You must have it for every company that ever spent the money or took the time to make this

community better for their presence, and not for worse. You must do it for W. R. Grace and Beatrice Foods, because they, too, are part of our community. You must do it for the children and the grandchildren, for Mr. Shalline's and Mr. Morrill's and Mr. Riley's, for everyone's.

I hope that you won't do the expedient thing and end the trial.

I'm reminded of Ibsen's play, "Enemy of the People," and Ibsen talked about this issue a hundred years ago in a play about a tannery that had contaminated a public water supply. He stated, "Expediency turns justice and morality upside down 'til life here just isn't worth living."

Ladies and gentlemen, truly by your verdict in this phase and by your verdict in the next phase, you will not turn justice and morality upside down but turn it rightside up and you will make life worth living for us all.

Thank you very much.

THE COURT: All right. Members of the jury, I am going to excuse you now to ponder these several excellent arguments. Consider them all. Remember that the lawyers here have made conclusions based upon the evidence, offered you conclusions, but the ultimate task is yours to remember and assess and evaluate the

testimony.

Tomorrow I will give you the instructions on the law. I don't believe it will be anywhere near as exciting as today has been, but it is a necessary part of the process. Then you will start right in with your task. So you might review in your minds all that you have seen and heard, as well as you can. Keep your minds open until you begin to discuss this case among yourselves. I will see you tomorrow morning at nine o'clock. All of the jurors, the alternate jurors, as well, must attend the instructions, in case you are called upon to serve. There still may be some chance of a variation in the rule and I will know it by tomorrow morning.

I think that is all at this point. I will check my several notes here. All right. Thank you. You are all excused.

I will see you, Mrs. Gilbern to discuss a problem with you and I will see counsel after that.

(Whereupon the jury left the courtroom.)

(CONFERENCE AT THE BENCH AS FOLLOWS:

THE COURT: I am sorry to hear about your sister.

MRS. GILBERN: She was with me last week and she had been living in Philadelphia for a while and we had a wonderfule time. She went Thursday and died