
PUBLIC HEARING

RE: ARSENIC IN SOIL

MIDDLEPORT FIRE HALL

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REPORTED BY:

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PROFESSOR DANIEL WATTS
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DR. TERESA BOWERS
SENATOR GEORGE MAZIARZ
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MARK MADDALONI, EPA, NEW YORK, NY

MS. MAEDL: Thank you for coming. I'm really pleased with the turnout. And this should be a very interesting meeting. And we have some people that I would like to stand and introduce. First, I will have the representatives of the DEC, EPA and DOH stand and introduce themselves.

MR. MORTEFOLIO: My name is Matt Mortefolio. I'm project manager from Albany with the DEC. I started on this project in 1986. Been working on it since then.

First one I'll introduce is Bob Phaneuf. He's my immediate supervisor from Albany. He's also an engineer with the DEC.

Next person in line there is Steve Shaws. He's with the Department of Health involved with writing some cleanup levels from the State.

Next person in line there, his name is Tom Johnson. He's a toxicologist with the New York State Department of Health. He's been on this project before.

I don't know which direction you want to start. Person standing now is Tamara Girard. She's with New York State DOH. She's also the project manager for them on site. She's been here for a couple years now.

Person standing now is Dan David. He's from Region 9 Department of Environmental Conservation. And he's representing them here tonight.

Next one is Gary Litwin. He's with New York State Department of Health from Troy. He is the senior person here from them.

Next one is Mark Maddaloni. He's a toxicologist with the United States Environmental Protection Agency out of their Region 2 office in New York City.

Behind him there is Ed Dassatti. Also from Albany, works with the DEC as an engineer. He's, also, the senior person from the DEC here tonight.

And last but not least because of his size, is Mike Infurna, project manager

for EPA. He's also been on this project with me for quite a number of years. I think that's everybody. Thank you.

MS. MAEDL: The other people I would like to introduce if the FMC representative would stand.

MR. McGINNIS: I'm Brian McGinnis with FMC and this is Dana Thompson, our plant manager for our plant here in Middleport.

MS. MAEDL: Thank you very much and we really appreciate you all coming out for this very important meeting and. Now, I'm going to turn it over to Ann Howard. She is the facilitator.

UNIDENTIFIED SPEAKER: Ann, would be possible for any elected officials that are here to identify themselves or representatives?

MS. HOWARD: Sure. Any elected officials or representatives?

MR. WARD: Jim Ward from New York State Senator George Maziarz's office. The Senator will be here this evening in

about a half hour.

MS. HOWARD: Anyone else?

MR. RHONY: Cal Rhony, Town of Royalton Supervisor.

MS. HOWARD: Thank you. Any other introductions? Thank you. I want to do a couple of things here. First, some housekeeping things. We do have a stenographer/notetaker here this evening. And so for tonight's meeting, we especially ask that you start, if you are going to speak, ask a question, make a comment, start by saying your name and spell your last name if it's not a commonly used surname. Please speak up. And in order to make sure that we get a proper record, we are asking that there only be one person talking at a time. There's a lot of information here tonight so we're going to try to keep to that as best we can.

A little bit about our agenda, this is a meeting that's been organized by the Middleport Community Input Group. We always have our agendas scheduled through

the input group and the group is responsible for this agenda. We will have a very quick overview of the corrective measure study process by Professor Dan Watts, who is the consultant for the Middleport Remedial Advisory Group.

Then we will have presentations and they are in the wrong order on your agenda. First of all, the presentation on Arsenic Background Studies by Dr. Teresa Bower and I apologize again to Dr. Bower for getting her name wrong. And then presentations on bioavailability and Biomonitoring Studies by Dr. Rosalind Schoof.

We will then entertain questions and answers about those studies. And we will try to keep it to those studies. We will then have a break and then there will be presentations or statements by community residents. We've been advised there's a number of community residents who came to our input group meeting in September and others who may wish to make a statement this

evening. Then we will have responses to questions that were presented by Senator Maziarz to the State and Federal agencies. Then we will have additional questions and concerns.

For those of you who would prefer, we are asking that if you have specific questions and would prefer not to speak but would like to have us ask your question, we've provided you with cards. So if you have a question or a comment and would rather not speak but want to make sure that your point of view or your question gets addressed, please make sure you use those cards. We will have people walking around picking up cards throughout the evening.

And then before we leave this evening, the input group will have an opportunity along with Mayor Maedl to talk about what are the next steps. Please note that the Middleport Input Group is scheduled for its next meeting on November 5th, and we typically meet at 5:30 in the Masonic Lodge. So, Dan.

MR. WATTS: Good evening. I was asked to do a very brief introduction I guess explanation perhaps of the CMS process. And why it's becoming increasingly important for what's happening in Middleport right now. I won't go into great detail because I've done this twice before for many people in this group. I don't think we need to see all of it. If you have questions, let me know.

I want to really talk about is the steps in the corrective action process, which is what's going on in Middleport right now. There is basically three major steps. The first is a so called RCRA facility assessment that was done long ago. That's to determine whether or not there is a likelihood there is an environmental problem that needs attention. The answer to that was yes. In this community at the moment you are involved in the RCRA Facility Investigation or RFI. It appears that in many ways we are coming to the end of that process, which is what we are talking about

tonight is timely. The objective of that process is to get an idea of if there is contamination, the extent of the contamination, the level of the contamination and some idea of how many people might be affected by it and to some degree how they might be affected.

When that characterization is completed -- or during that process, one thing can happen. There can be interim actions. That is areas may be recognized as having significant problems, high levels of contamination, great likelihood of exposure to people. So some actions can be taken to reduce the risk without a lot of further study. And that's what's happened here in a couple of cases.

The reality is when that's done, a very conservative level for removal is selected. That is one which is likely not to be different or to be even perhaps more stringent than anything that might come out of further action. So that we don't have to go back and redo that study or redo that

work again.

The next thing that can happen when the RFI is completed or will happen when the RFI is completed is a so called corrective measure study. During that part of the process, which appears we are, you know, approaching in terms of beginning it, number of things can happen. There's opportunity in that process to actually think about risk, think about exposure, think about alternatives for cleanup levels based on real data and real situations that exist in the community.

Also during that process, there will be some consideration of various alternatives for remediation. Just some possible examples, some of them may be applicable here, some of them may not. All way from doing nothing down to capping or institutional engineering controls. Other things, I mean digging, haul removal of all the contaminated materials. Think about washing the soil, incinerating the soil. That, quite frankly, that is really not an

option for arsenic. I don't think you'd want to do that here anyway.

Latecomer to this particular list is fiber remediation because it's the only relevant evidence that's been considered. Stabilization solidification, all kinds of alternatives. Many of which require digging up the soil, doing something with it and perhaps putting it back or taking it someplace else.

So what we are trying to do tonight is I have a couple presentations about aspects that relate to -- scientific aspects that relate to the issue of establishing risk, establishing what may happen to people as a result of exposure to the arsenic that is in the soil here. So that's what we are going to talk about.

Before I introduce a statement here about scientific information, I give the statement to the students in my class and I'll give it to the people tonight. In the United States, particularly with environmental data, we are a science based

society. We like to have hard science that will answer the questions and lead us to a logical and meaningful conclusions.

It's important to realize that groups of responsible scientists can initially look at the same body of data and come to different conclusions. It sometimes takes further analysis of the data, further work and discussions to reach some kind of consensus. So what you may hear tonight and later as we go through this process, some different interpretations, different meanings. It doesn't mean anybody is wrong. It doesn't mean anybody is trying to go in a different direction deliberately or a wrong direction. This means further analysis is required. We will all have to think about that as we go forward. Dr. Bowers is going first, is that correct? Okay. I misunderstood.

DR. BOWERS: It's right in the program.

MR. WATTS: It's right. Then Dr. Schoof is going first.

DR. SCHOOF: Yes.

MR. WATTS: I promised before her introduction, Dr. Rosalind Schoof is a Board Certified Toxicologist. More than 20 years of experience in assessing health affects from exposures to chemicals. She is a nationally recognized expert on bioavailability of metals from soil including arsenic. She currently works with Interpol Corporation. She'll report tonight on some of her work related to bioavailability of arsenic from Middleport soil.

DR. SCHOOF: I asked Brian for a microphone that I could walk around with because I have trouble staying in one place. Thank you very much. Some of us need to wander while we talk especially if we talk with our hands.

I've been coming to Middleport, we were talking about this just before the meeting a few of us, since 1995. And I was thinking back and I realized I don't think

my hair was gray then and I think that's

true for a number of other people in the room who have been working on this project.

And during that time, a number of studies have been conducted. I've given -- come with regularity to give talks about issues related to the arsenic toxicology and assessing arsenic exposures. And we are moving forward. I know sometimes some of you may not think that's the case.

So tonight I'm going to focus on two categories of studies that have been conducted here and not by me. I was at Exponent until about seven years ago. Exponent, I mostly talk about some studies that scientists from Exponent have conducted here.

This one here, Middleport, many of you are probably familiar with the exposure study that was conducted and I'm also going to talk about a series of studies of the bioavailability of arsenic in soil, which is means of looking at how much arsenic is taken up into the body after you're exposed

either by ingesting soil or having soil

containing arsenic on your skin. And I'm also going to try to talk a little bit about how the results of those studies might inform our overall assessment of risks from exposure to arsenic in soil.

So I'll start of with the water biomonitoring study. I think the intent was to hold most questions until the end of both my talk and Terry Bowers' talk. But if you're really completely lost by something I say, please wave your hand at me and I'll go over it again. I don't want to leave people behind.

So this study was paid for by FMC but conducted by Exponent independently of FMC. The study design was reviewed and overseen by an independent panel of experts from a variety of academic and government institutions and participation on the part of residents was voluntary. And the results of this study have been published in a peer viewed scientific article in the Journal

Environmental Health Perspectives. And this slide shows the study area which

extended a little bit beyond the boundaries of the village.

So I've listed here some of the important features of this study. First of all, there were a large percentage of the residents of Middleport participated. This was an important issue for the representativeness of this study. There were almost 50 percent of the children less than seven years old participated and the focus really of our efforts to look at these kinds of exposures often is on children because children tend to come in closer contact with the soil than grownups do as many of you parents might be aware.

But we also have -- there's a pretty good percent, you know, more than 20 percent, probably almost 25 percent of the adult -- of the total population of the study area participated. And in this study, the means of assessing exposure to arsenic was to look at arsenic in the urine. And

the reason that's done is because when arsenic is ingested, it's pretty rapidly and

completely excreted in the urine within the next 24 to 72 hours. So urine is a good measure of recent arsenic exposure. So that means this study is looking at a picture of the arsenic exposures in this whole group of people in the prior several days.

And I have to get a little bit into the technical terminology here because you will see I say that they measure total and speciated arsenic. And the reason we have to do that is because there is -- a lot of our food, particularly in seafood, there are a lot of organic arsenicals and these organic arsenic compounds are not toxic and they are rapidly absorbed and also excreted in urine.

So total arsenic measures are often confounded if anyone had seafood in the last three days, even if you had a little tuna fish in a sandwich or clam chowder, your urine arsenic will shoot up

because of the seafood arsenic.

So what we call speciated arsenic is a measure of inorganic arsenic and its

metabolytes and reduces, but doesn't completely eliminate, that interference from the seafood arsenic.

They also tried in the study to collect toe nails because some of the arsenic that doesn't go out in the urine does end up in nails. And it didn't work out very well. It was hard to get a big enough sample and there's too often what we call external contamination, which means dirt on the toe nails that they just can't get off.

So also the goal of this study was to try to figure out if the arsenic in the urine was at all related to exposures to arsenic in soil. So to do that, you really need to have measures from the yards of the people you're testing of the soil in their yard, and how much arsenic is in that, and gardens because people come in contact with soil in their gardens, but they might amend

the gardens with other amendments that would reduce the arsenic concentration. And also indoor dust, which might be affected by soil

tracked in, and play areas which might be a focus of where children play.

There was also a questionnaire administered about a lot of behaviors and background information. Now, the reason that we can't just measure arsenic in the urine and arsenic in the soil, but we need all this other information is because people's exposures are governed by a lot of different behaviors. And so these studies are not -- you know, if it was really straight forward, we'd just test five people with arsenic in the soil at one concentration and five people with arsenic at a slightly different concentration and we'd see a nice correlation. But in fact, there are all kinds of factors that cause variability in how much arsenic you are exposed to. I'll talk about that a little bit more as we go on.

So this is one way to look at the results of this study. This just looks at the simple thing that I just mentioned to you. We are looking at the mean

concentration in this whole study population of arsenic in the yard soil. You can see for the whole study population it was 28 parts per million and for children less than seven, it was a little lower. And their house dust concentrations were pretty similar, the arsenic in the house dust and then these are the mean concentrations of the speciated arsenic in the urine and those values are low. They are pretty much as low as you see in any other study population.

But they don't tell the whole story. What we really need to know is do these arsenic concentrations in the urine change with the soil concentration. So as the soil concentration goes up, does the arsenic concentration go up? And it didn't.

So what you see is that -- and I'll show you a picture of the variation in the urine arsenic concentrations. But the

urine arsenic concentrations were all less than 20 micrograms per liter and they were generally lower than in other populations that have been tested and they did not

correlate with arsenic in the soil and dust. So in this study -- within the limits of the power of this study, there was no relation observed.

There were some individuals who had total arsenic in the urine that was higher than the reference level of 50 micrograms per liter and most likely, that was related to seafood consumption and the reason we strongly suspect that because they didn't have the same elevation in the speciated arsenic.

And then also arsenic was measured in vegetables in gardens in Middleport. And arsenic does tend to be highest in leafy greens naturally. But the results were variable and furthermore, when that questionnaire asked people how much home grown produced they consumed and produce

consumption didn't appear to cause urine arsenic levels to increase.

So this is another way of looking at the study results. The means speciated urine arsenic are those yellow dots which

are the values that I showed you in the prior table. And the bars just provide you with the range. So some people had no detectable arsenic in their urine pretty much. At least I assume that's what that minimum is because it is so close to zero. And the maximums are at or below 20 micrograms per liter.

So this study suggested that soil arsenic is not really causing any identifiable exposures in the study residents. So why is that? These are my thoughts. First of all, I don't think that much soil is ingested. And the amount of soil that people might have is we assume is dictated for the most part by hand to mouth activity. You have some dirt on your hands. It may not be a lot, but you put your hands in your mouth and especially if you are two

years old, you do that more often than other people. So you do get some, but it's not all that much.

Also, less arsenic is absorbed into the body from the soil than is arsenic

that might be dissolved in water or arsenic in food. We call that reduced bioavailability.

And we do know that in addition to that organic arsenicals that are in seafood. There is arsenic in organic arsenic in pretty much all the food we eat. At very low levels, but we eat a whole lot of food, a lot more food than soil. So even if the concentrations in your food are a thousand times lower than the concentrations in the soil, you are still going to get more total arsenic because you eat a few pounds of food a day and you don't eat very much soil.

And then also, these studies inherently -- it's hard to see an affect from the soil because there is a lot of variation in day to day in how much food

people -- how much arsenic people get from their food and from drinking water. So this slide shows what I think a typical normal or background exposure is to arsenic from these different exposure median. In other words, if you have normal soil concentrations that

are not elevated and normal concentrations in your food and typical water concentrations, food dominates, but water is also a fairly significant source of arsenic exposure and for many communities in the United States, the water actually is much much greater and dominates because there are a lot of communities that still have elevated arsenic in their drinking water.

So this slide is an attempt to show quantify how much those different sources contribute to arsenic exposure naturally. We are going to hear a talk about background concentrations of arsenic in soil, but when I use the word background, I tend to want to look at all of these sources and look at background from an exposure perspective as opposed to just the

soil concentration perspective. I may get you some confused about that, I apologize.

If you look a long the top line, the estimates that I've put in there for a range of average exposure or intake of inorganic arsenic everyday from the diet for

a child ranges from 1.3 to 3.7 and for an adult from 3.2 to 7.4. These are micrograms per day.

Now, the higher numbers there are from a National Academy of Science's report and the lower numbers are from a study that I directed and published at about the same time that National Academy of Science's report came out but not in time for them to cite it.

The first water line represents the intake of arsenic that you would get if your arsenic in your drinking water was at the national drinking water standard. This is EPA's limit for drinking water. And that would give you six micrograms a day for a child, 14 for an average adult.

I think the arsenic in the drinking water in Middleport is not elevated so I don't remember what the exact number is, but I've used one microgram per liter here as an example of a lower water contribution. And the bottom line you see that air is a very small contributer to

exposure.

So then in the middle I've tried to show what the -- what the additional amount of exposure that you might get from arsenic in soil would be. And I've put it in for a bunch of different soil concentrations, 20 or 30 parts per million or 40 or 50 parts per million. And I've used some assumptions that are at the bottom. I have assumed that you only absorb about one-quarter of the arsenic relative to how much you would absorb from drinking water from soil. So I've accounted for reduced bioavailability. And I've used what EPA considers to be central tendency or average intake of soil. When we do risk assessment, typically the EPA default values

are a higher end exposure.

So I think from my perspective these estimates of intake from soil are kind of high, but some people at the -- scientists at some of the agencies might say, well, they are kind of low. And that would represent a difference of opinion

about some of the underlying science related to soil ingestion.

Okay. Let's move on to the bioavailability studies. We first started looking at bioavailability of arsenic in Middleport soil in 1995. And we did and I was with the predecessor company of Exponent at that time and we did some what we call invetro studies so they are benchtop studies. Some people call it a glass stomach. It's a system that's intended to mimic how food or soil might dissolve in your stomach and measure the relative bioavailability from that and that value we came up with was 20 percent.

So the agencies weren't too

excited about that approach as being -- they considered it more a preliminary sort of approach and they preferred at that stage for us to do animal studies. So FMC did contribute to a research project that Exponent had as part of a Department of Defense grant to look at bioavailability of chemicals in soil from a lot of different

sites.

And we also did studies with an electron microscope that allowed us to actually look at the particles to see where and how the arsenic was present to help us understand why the bioavailability might be reduced.

There was a study done in monkeys. That an oral bioavailability study essentially produced very similar results to the earlier 1995 invetro study and then a study of dermal absorption and then I just have a slide or two on each of those.

So this slide just shows a picture of a soil particle with an iron arsenic oxide in it and those were some of the kinds

of the forms in which the arsenic predominates in Middleport soils.

And the monkey study that was conducted by Dr. Steven Roberts at the University of Florida actually tested 14 soil samples from 12 sites including three samples from Middleport. And the results of that study have just been published earlier

this year in the Journal of Toxicological Sciences, which is the Journal of the Society of Toxicology.

And these are the results. The lines in blue are three Middleport soils and the relative bioavailability was 19 percent. It's shown as a fraction here, but it translates to 19 percent, 28 percent and 20 percent, meaning that if you had the same amount of arsenic in water and the same of amount of arsenic in soil, you would get only 20 percent as much absorbed into your body from the soil as you would from drinking the arsenic in the water.

And the top two lines just for

comparison are orchard soils. As many of you know arsenical pesticides were used on orchard land pervasively until the 1940's and so there's a Washington orchard soil at the top and a New York State orchard soil just for comparison. They are fairly similar. And the two lines on the bottom, there's a very insoluable form of arsenic, Arsenate Pyrite was virtually not absorbed

and the then the bottom is a soluable form of arsenic, water soluable that was completely absorbed.

In the dermal study conducted by Dr. Ronald Wester, at the University of California at San Francisco. He had a done a study in 1993 for the California Department of Toxic Substances that looked into dermal exposure. They mixed a soluable form of arsenic with soil and then put it on the skin. So when we worked with Dr. Wester, we redesigned the study so that could be used instead of missing soluable arsenic with the soil so that we could take soil from the site that had been weathered

and test it and the results of that paper are actually now also impressed in Toxicological Sciences.

In this study there were about three monkeys used and each one received a whole series of treatments. The soil from Middleport, soil from a site in Colorado and soluable arsenic. This just shows the results for one of the monkeys. There was a

wash out period of several weeks between each treatment. And the orange spike is the soluable arsenic. And then as you can see all the soil arsenic samples, there's virtually no -- no absorption.

So EPA has a default assumption based on that earlier study that three percent of arsenic in soil might be absorbed through the skin and this study shows it's really negligible. Usually, even in EPA's risk assessment models, the dermal absorption is not that significant. This shows it's really, really virtually not measurable.

General conclusions and then some more conclusions more specific to Middleport. And then I'm just going to talk a few slides about how this connects with -- or might connect with risk assessment. So first of all, there is arsenic -- I haven't actually talked about this earlier in this talk, but arsenic is elevated above the background before man's arrival widespread across agricultural areas, former

agricultural land and other land in the United states. And in most cases, there's really very little absorbed from soil compared to the amount from other natural sources like diet and drinking water.

For Middleport, the biomonitoring study showed that Middleport resident's don't have elevated arsenic exposures. Now, I'm sure as the evening goes on, we may get into some more discussions about how confident we are in that conclusion and how we can extrapolate it from the time that study was done to longer term exposures.

There also have been recent

scientific studies that have shown that children ingest less soil than I think what EPA typically assumes. The bioavailability show that the oral absorption of arsenic from soil is reduced and dermal absorption is negligible. And I think that assessment can and should incorporate these findings.

So this diagram is intended to show the major steps in the risk assessment and we call that first box problem

formulation or hazard assessment. We have various names for it, but that is the point where we figure out what the major chemicals and exposure routes are that we are concerned with at this site. In Middleport, we are focused on the arsenic in the soil.

And then we get to assessing the risks from that soil exposure by on one hand looking at doing an exposure assessment of this specific site and how might people come in contact with the soil in estimating a dose. And then we what do is we compare that with doses that we have estimated the

toxicity -- assessed the toxicity of various doses of arsenic by doing a dose response assessment.

In the case of arsenic what we know about arsenic carcinogenicity is based on a very large -- study of very large populations in Taiwan and other countries where they have very high concentrations of arsenic dissolved in their drinking water.

But those doses are far higher than the doses that we see that we might be

exposed to from arsenic in soil in Middleport. And so we have to extrapolate backwards and try to understand what the dose response purpose at much lower doses. We can't see that low. And so this is a critical area of scientific controversy that many scientists think you should have a straight line and assume that there's some risk from arsenic exposure all the way down to zero, until you get to zero which, obviously, none of us will ever to because we all have arsenic in our diet.

There are also studies that

suggest that there's a threshold below which they are not toxic effects, but we don't exactly where that threshold is. So this is an issue that is currently subject to a lot of debate in the scientific literature. EPA recently tried to do a dose response reassessment for arsenic and the Science Adversory Board to the EPA basically said go back and do it again. Here are all these issues that we'd like you to address further. So it's not settled and so it's

very hard for any of us scientists to tell you what is the risk from the doses that you might get from Middleport soil. None of us really know exactly. Some of us think it's zero. Some of us think it's more and you need to really question us to understand the basis for the different opinions that we have.

So almost done. I know it's warm in here. So I think the risk estimates -- this is my opinion. This is going beyond what the standard risk assessment approaches

are. I think that the risk assessment -- given this uncertainty about the exposure to arsenic that you might get at these low doses, I think it's easier to understand them from a practical sense if you put them into context with the doses that you get naturally from all these other sources. And so this talks a little bit about how we do that.

When we do risk assessments, we are not looking at your dose. We don't want to know your dose on any given day. We want

to know an average dose you got over 30 years of exposure, however long you might live in Middleport. So that's going to vary from day to day. We want to estimate the average. The other thing we want to do is we are interested in understanding the dose per unit of body weight. And I'll explain that a little bit more in this slide, which is my last slide.

If you look, you'll see the children have a lower dose in terms of micrograms per day than the adult. But in

fact, in the same kind of a dose might be more toxic in children because they don't weigh as much. When we actually do the risk assessment, we calculate -- convert the dose into micrograms per kilogram of body weight.

And in this case, what I've done is I've assumed that the child was exposed for six years and the adult was exposed for 24 years. And that the child weighs 15 kilograms the adult weighs 70 kilograms. From that, I got to a lifetime average daily dose. Okay. What I've done here, I've got

your background -- what I call your background exposure from diet, water and air. And then I've added 20 parts per million of exposure to soil with 20 parts per million or 30 or 40 or 50 to try to give you an understanding of how those exposures might change with typical risk assessment assumptions.

So what you can see is it's a pretty small increase. You know, I think the increase I've shown here is actually a

little over estimated, but if we were doing a risk assessment with default assumptions, you would actually come out with a higher increase from the soil if you didn't account for the reduced bioavailability and if you used a higher soil ingestion rate.

But you about used all those default factors, you might find that you were assuming almost a 50 percent increase in exposure from the soil. Well, if we really were going to get that much exposure from arsenic in the soil, we would have been able to detect it in the biomonitoring

study. So that for me the use of the biomonitoring study is to me it puts bounds on -- it gives us an ability to check and see if our risk assessment estimates are in the right ball park. And so that's how -- the way in which I think we can use the results of the biomonitoring study.

I think that's all I have to say. Thank you.

MS. HOWARD: Yes.

MR. ARNOLD: I have a couple of

things to add or to say. Could you go back to your graph that showed the results of the Middleport study?

MS. HOWARD: Do you want it right now or could you want to wait until Dr. Bowers gives her talk? Because then we'll have a microphone to give to you.

MR. ARNOLD: Can everybody hear me?

DR. SCHOOF: Yeah.

MR. ARNOLD: What I wanted to just make a note of is that in that graph there was a line at the top that had the CDC

reference level of what is acceptable.

DR. SCHOOF: Oh, I forgot to explain that.

MR. ARNOLD: That's right. It was twice as high. Better than twice as high as the maximum number that was measured from anybody in Middleport.

DR. SCHOOF: There isn't actually a set CDC reference level for speciated arsenic because they have used

total arsenic more frequently historically and I told you that's not really reliable because of the seafood arsenic issue. So the CDC level I think it's 50 micrograms per liter. Mark, you can correct me if I'm getting that wrong. There have been various reference levels used by agencies related to CDC for different studies for speciated arsenic, but there isn't one set level. I seen them use 20. I've seen then use 40. I've seen them use 50 in various studies.

MR. ARNOLD: It's quite a bit higher.

DR. SCHOOF: Yeah, that's true.

MR. ARNOLD: The other thing I wanted to mention was that you spoke about we can't get rid of arsenic because it's in our food, but it's also in our soil. Even the soil that's brought in after remediation will have arsenic in because it's a natural occurring element. You can't get rid of it.

DR. SCHOOF: That's a perfect lead in to Dr. Bowers' talk. It is. That's great.

MR. ARNOLD: I'm Bill Arnold. I'm a property owner here in Middleport.

DR. SCHOOF: Thank you, Bill.

MR. WATTS: Our next speaker is Dr. Teresa Bowers. She has also nearly 20 years experience in this area. In her case it's exposure modeling and its application to risk based environmental strategies and site specific cleanup levels.

Her area of expertise includes modeling of body arsenic levels. She currently works with Gradient Corporation. She will update us tonight on her work related to background studies from

Middleport soils.

DR. BOWERS: Good evening, everybody. Thanks for inviting me here to speak tonight. My name is Terry Bowers and I work for Gradient Corporation, which is an environmental consulting firm. I've been there since 1990. I've been working as a consultant at FMC here in Middleport since 1993. So I've also been coming here for a

very long time.

I'm going to talk tonight, as my two people who introduced me said, I'm going to talk about background levels of arsenic in soil. Most of you probably took high school chemistry and maybe if you're lucky and can remember, I can barely remember high school chemistry, you learned about the periodic table of the elements and arsenic is, indeed, an element on the periodic table. It occurs naturally. It's in everything. It's in soil everywhere. It's in air. It's in water, et cetera, and that's why it's in our food because it's in everything else. So we are exposed to it to

some level all the time. And the reason that we gather at sites like this and in rooms like this is to talk about how much exposure is too much. But we just have to start from a common understanding that there's no such thing as zero exposure with arsenic like Ros just said.

Okay. So my first slide here talks about two different kinds of

background arsenic in soil: what we call natural background and what we call anthropogenic background. Natural background is the stuff that was there before mankind ever touched the Earth at all. And the reason there's arsenic in soil is because there's arsenic in rock. And so geologically, as the rock weathered and produced soil, you ended up with arsenic in soil. And it ranges considerably.

For about the last 5,000 or so plus years, mankind has been monkeying with the environment, doing all sorts of things, burning coal, making tools, making glass, making pesticides. As a result, widespread

there are low levels of contamination if you want to call it that. There are elevated levels of background arsenic in the soil. I think Ros had a slide up that saying that broadly across the United States 50 parts per million is not atypical definitely in farmland and crops, fields where pesticides in particular have been used.

I, in my line of work, work with many many sites across the United States where arsenic background levels in soil are an issue and so I've become well-acquainted with the levels of arsenic in soils across the United States.

So we call this anthropogenic background. It's higher levels than what natural backgrounds levels are and to further complicate things, because people always say to me, what is the background number. There is no one number. It ranges tremendously, natural background ranges and anthropogenic background ranges.

And it's important to us that we figure out what background levels of arsenic

are in soil because what of our issues here in Middleport is trying to distinguish arsenic in soil that came from historic operations of the FMC facility and the only way we can figure that out is to figure out what was there before FMC was there. We have to figure out how much arsenic was in the soil from both natural and non-FMC

anthropogenic background levels before FMC came to be here.

Government agencies pretty much agree -- you guys can stand up and say you disagree, but they pretty much agree that it doesn't make sense to cleanup soils to less than background levels. I mean, obviously, how are you going to do that. The only way you can cleanup soil is to replace it with other soil and if soil has arsenic in it, then there's only so much you can do outside of maybe importing sand from Florida which has lower levels of background arsenic than what New York does. You can't grow anything in sand, so why would you want to do that.

So these are two reasons that we

really need to understand what background levels are. Obviously, if we are going to try and talk about cleanup the background, we have to understand what background is.

So we are very interested in learning the level of arsenic in soil and I've got these listed here as two different

purposes. One reason we want to understand background levels of arsenicals is to be able to delineate what came from FMC, from FMC's historic operations.

The other reason that we want to understand the level of background levels of arsenic soil is if the risk assessment, which Ros is going to presumably eventually get to do on this site, if the risk assessment says the only acceptable level of arsenic in soil from a human exposure standpoint is background, then we have to know what background is and then we can cleanup to that. Now, notice I'm not saying necessarily that we have to cleanup to background. I'm just saying that if the risk assessment drove you to cleanup the

background, then you would want to know what it is.

Okay. I put this site location map up. You guys all know way better than I do where things are around here and how they fit in next to each other. I put this up for one reason and that is when we talk

about local determinations of background, I sometimes have questions about whether the background samples were taken from locations that were too close to FMC and thereby, impacted.

Obviously, you can't really see the plant site here. There's an area immediately around it that is considered to be the air deposition area and although, there might be a little bit of debate exactly how big that circle is that I can't quite draw here is, it's certainly doesn't go as far as Gasport where a lot of background samples have been taken.

I'm going to show you tonight one study from Lyndonville where there's some background samples as well. So the purpose

of this map is just to show you that those really are sufficiently far enough away that they are not impacted by any arsenic that might have come from FMC.

I have lot of information packed on to this slide so I'm going to take a

couple minutes to explain it. This is a summary of all of the studies that I know of in New York State about background levels of arsenic in soil. And so the studies are summarized down the left here. And I have another slide at the very end that has more detail about any of these studies if anybody is particularly interested in them. I couldn't cram it onto one slide.

Across the bottom I have arsenic concentration in soil. On this graph it's ranging from zero up to about 120 parts per million millograms per kilogram. And then for each one of studies, I have a bar. If there's a dot in the middle, that is the average arsenic background level from that particular study. I don't have a dot in the middle of all of them because some of them

didn't publish what averages are and I don't actually know what the value is.

The bottom of the bar is the lowest number found in a study and the top of the bar is the highest number found in that study. Now, way over here on the side,

I have another graph. And this graph is the number of samples in each of the studies. And the one thing you'll notice -- oh, I should say that these are by age date. Even though I don't have the dates here, this study I listed up here is from about 1980. Then this goes down to a very recently published study done by this state in the 2000's. So one thing you might notice is that when we first started studying background in New York State, we only took a few samples. And as you go along here, people got more interested and they took more samples and more samples and this one down here has a ton of samples in it.

One interesting thing about looking at the range of background, the more samples you take, the bigger the range is.

And just think about it, if you go out and take five samples, maybe you get, you know, 10, 12, 15, 20, 25. If you go out and take a hundred samples, you're almost bound to find one that is lower than ten and one that

is higher than 25. The more samples you take, the bigger the range always is.

So that's one thing that affects how this slide looks. But when I looked at this the other day and I never plotted it quite this way before, the thing that struck me on here, and I don't know if it will strike you this way or not. The thing that struck me is how really very similar these are.

There's two categories of things here. There's a bunch of bars like this first one that is labeled -- the second one that labeled Shacklette Boemgen and this one Clark et al. Right down here below it. There's one. There's one. Here's one. Here's one. There's one. There's one. This one has a real high sample out here, but the average is so slow. This one is

sort of low right there. All of those studies were looking at natural background. Those studies and they very similar. They all got very similar results. That's the level of natural background arsenic in soil

in New York State if it's not touched by mankind.

And then we have a bunch that look like this. This study by Shacklette, I think it was five samples in 1980, were all taken in New York apple orchards if you wanted to know 25 years ago how much arsenic there was in New York apple orchards. This study was in orchards. This study is actually a collection of samples from other studies and it includes samples from this study. So the high end here is orchards.

This study was done by Dupont up in Lyndonville. Although they did not say anything about orchards, they said that they took samples from a variety of different types of property, residential, industrial, railroad beds. Railroad beds always have higher arsenic from pesticides used to kill

the weeds to keep the tracks clean so you can drive on them.

So I don't know if there's orchard in this one but this one is definitely high

because of mankind. Now, the Gasport site which we will talk about more a minute -- so this is the orchard subset here. You can see it goes up pretty high.

These samples right here and I added them in. This was a category of wooded and cropland and the majority of the samples were down here, and there were four that were up here. And there were identified as outliers in the data set and they weren't included. I can tell you why they are outliers because they were probably next door to orchards instead. It's not that there is anything wrong with them. It's just they didn't represent wooded cropland. Instead they looked more like the orchard soils.

So I think we have two subsets of data here. We have natural background down low and then we have all these things that

come up higher here and almost all of them we know that there's historic orchard lands in the data sets.

Now, you probably heard some

discussion of this new Part 375 Regulation in the arsenic background determinations and what went into that study. This is the genesis of the 13 and the 16 milligram per kilogram numbers that I think you discussed to some extent. There is now the new statewide arsenic background level in soil, 16 parts per million which is used for residential cleanup objective. So these are the studies that went into that. One, two, three, those are clearly natural background. This one, also, as I said a few minutes ago, there are something like 265 samples in this data set. The average is down here at 7. The 95th percentile was at 13. The 98th percentile it was at 16. I don't have the whole data set. There must have been only one number up here. 68 to make that bar go out so long.

Okay. The stated purpose of this

study was to look at natural background levels of arsenic in soil. And that's what this study is. So that 13 and 16 parts per

million the number that you hear about are consistent with natural background levels of arsenic in soil in this state.

Now, you've also heard discussion and I think I've come to talk before at some of these meetings about the Gasport area background study. This was a study that was developed by FMC and the state working together. It was conducted by FMC. Paid for by FMC. I was involved in generating the work plans and reviewing the data, et cetera. Matt had a lot to do with it here.

And this study looked at four different property types. Basically, in an effort to get at this issue of natural versus anthropogenic background. So the residential samples looked like this. The commercial samples went up a little bit higher and that's because you've got some various and odd activities going on in commercial properties that sometimes results

in a bit arsenic.

The wooded crop samples were by far the lowest with the exception of these

four outliers. And then we have the orchard samples which went up really high here.

And the question is if you go back to my beginning slide where I said we need a back number to delineate FMC arsenic from background arsenic and we need the -- that risk assessment drove to us cleanup to background, we need a number to cleanup to. So the next question is how do you reduce all of this information to a number that you're going to use to delineate FMC's arsenic and/or possibly cleanup to and it's virtually impossible right because it's a whole bunch of numbers.

So one reason either disagreement about what the background number is or what the delineation number is or what the cleanup number is because I will submit to you the only way you can get from this to one number is by professional judgment. And so reasonable scientists are going to

disagree about what the one number is. I'd like to tell you that it's just not one

number. It's all of these numbers.

However, here's what we did to try to get to one number. We collected these samples from four different property types in the state -- in the state, in the Gasport area, in the Middleport area. And this study was done in 2001-2002. It was finalized and published in 2003. And at the time that it was published in 2003, based on aerial photographs going back into the 1930's, we did a survey of what percent of the land was in each of these four categories, what percent was residential, what percent was wooded crops, what percent was commercial, what percentage was orchard.

Obviously, the percentages changed over time through the decades so there was a very sort of complicated mathematical weighting scheme. You know, if it was 50 percent orchards, then it's two percent orchards now. We are going to, you know, weight it and come up with these numbers. So

in 2003, this is the weighting scheme that we came up with.

Between 2003 and now -- what I really could say is the old and new. This is old. This is new. Within the last year or two, we got a hold of a bunch of additional aerial photographs. I think this came from the state highway department or something. A bunch more of aerial photographs in the thirties, forties, fifties, sixties and the seventies that helped define even better how the properties in this area were used through this time historically and thereby, what we might expect the kind of arsenic levels would be on them because of their historical use. So now we have a different mix. And you can see that the main thing that has changed in this mix is that the orchard property percentage is much higher now than what it was before. I think probably this wouldn't come as a surprise to anybody because everybody knows that a lot of property around here was used historically as

orchards. We just have better aerial

topography confirmation of that now more than what we used to have.

So what we did then and now is we took these percentages of properties in each of these four categories and used that as a weight on those four sets of data that I showed you earlier to come up with quote unquote one number for arsenic background.

So this is the range of all four property types combined. Minimum arsenic number was down here is like two. The maximum one was something like 122. I can't remember exactly, 121 maybe. Obviously, an orchard soil was up there.

Okay. By using these percentages we were able to calculate a variety of what we call summary statistics for the data set. So the dark blue dot is the sample average. It's a weighted average. The lighter blue dot is something called an upper competence limit on the average. We don't need to get into that, but basically it's saying, you know, the uncertainty that comes with any

statistical exercise how high might the

average be.

The green dot here is the 95th percentile. So it's a weighted 95th percentile. It says with this mix of property types we would expect 95 percent of the samples that we take to have arsenic levels below this value. At the time that we did this in 2003 we did not calculate a percentile higher than the 95th.

Okay. So now, we have redone this exercise with these new property weights and that you can see how all the dots have slipped to the right. So the average is a little bit higher than it was. The upper competence limit on the average is little bit higher than it was.

The 95th percentile is 50 parts per million and this is the 98th percentile, this pink dot. The 98th percentile is 87 parts per million. The reason I got the 98th percentile on here is because the other thing that changed between 2003 and now is that new Part 375 Regulation came out and

remember how I said it's professional judgment what number you pick. So that regulation picked the 98th percentile. That's where the 16 parts per million comes from that's for natural background levels of arsenic in soil. And so we said, well, so somebody made this professional judgment decision for us. If you're going to the 98th percentile there, we'll calculate the 98th percentile here.

So basically, this value right here, this 87 parts per million is the site specific equivalent of the 16 parts per million in the Part 375 Regulation. And this green dot, the 50 parts per million is the site specific equivalent of the 13 parts per million in the Part 375 Regulation. And the difference is natural background. Remember, the studies that New York State did were really aimed at what are the natural levels of background in soil versus here, we're talking about a major anthropogenic influence over time and that influence is largely the historic orchard

land use.

So I'm not quite certain how to answer the question about what the one number might be, but these are some ways of getting to one number. And I think we are going to have some discussion down here in this range about which of these values to use for delineation purposes to try and separate FMC arsenic from arsenic that was here from either natural or anthropogenic causes before FMC showed up. And that is all I've got.

MS. HOWARD: We are doing some questions and answers, but I remind you we have a notetaker so it's important that you give us your name. Speaking slowly so we can get all of the commentary onto the tape. Any questions. Yes, sir.

MR. COLLEY: Nelson Colley, C-O-L-L-E-Y. My question is what part of the study on the water was done on wells and regular processed water through the treatment plants and were they deep wells or were they shallow wells?

DR. SCHOOF: Were you asking about Middleport. Well, Wai, I think that's for you.

MS. LACHELL: Waichin Lachell, first name is W-A-I-C-H-I-N. Last name is spelled L-A-C-H-E-L-L. The studies that Ros and both Terry were talking about were not done on water from the facility, neither ground water but we have done and we continue to do extensive groundwater studies where we monitor groundwater and we've also sampled and identified private wells around the FMC facilities. So there's been numerous studies on that. We have not found that any of the private wells have been impacted from any FMC contamination at the facility. So I don't know if that answers your question?

MR. COLLEY: Yes.

MS. HOWARD: Other questions?

MR. ARNOLD: Bill Arnold again. I would like to know before the night is over the agencies' position on using the 2007 data versus the 2003 data to determine

what should be the background level of Middleport?

MS. HOWARD: I think we've got a response to the last question and if you give your name and spelling, please?

MR. MORTEFOLIO: My name is Matt Mortefolio with the DEC. I was involved with the first study quite a bit as Terry mentioned. The first study that we put together was put together sort of jointly between us and FMC and was also peer reviewed by the University of Buffalo, a peer review group and kind of blessed it before we started out.

The second one that she's shown here tonight is kind of new to us. We probably got it a few weeks back. And I didn't have a chance to look at it. A couple things with it though that I had to look at new aerial photos. We'd have to take a look as to how they were weighted over time and see that figures into the mix.

The other thing I think there were some additional orchard samples used that we

previously didn't use in the original study we negated it because in the original study the concept was to do a blind study, to sample where neither us or FMC knew what the outcome would be and not used existing data where we kind of know what the cards said. So we also have to look at the inclusion of that and maybe question that. So in a nutshell we really haven't reviewed the second one, but the first one was, you know, reviewed extensively by us and University of Buffalo.

MR. ARNOLD: Matt, I'm not going to let you get that way that. That letter was sent to you by Brian McGinnis in June. You had plenty of time to look at it. Not a couple of weeks ago.

MR. MORTEFOLIO: He's correct about that. The agency made a decision to keep the process going, basically, have it become a part of the process, which is the RFI CMS process that Dan Watts talked about. FMC submitted that basically outside that process. We've recently sent them a letter

few days back saying, okay, you have your impressions. This is the way we want to go forward to get the schedule moving and in the process of that, we will take a look at this and we will meet with FMC on it, but that hasn't occurred yet. So it's a little difficult for us at this stage to evaluate it.

MS. HOWARD: Other questions?

MS. RIZZO: My name is Julie Rizzo, R-I-Z-Z-O, from Middleport. I'd just like clarification on the second graph here. What you are saying to me is you're 95 percentile is 50 parts per million, which would indicate that you think that you should go out and sample all around and 95 percent of the population would fall into that 50 parts per million under it, is that correct?

DR. BOWERS: At or below.

MS. RIZZO: At or below. Okay, great. Woodland -- wooded area, wooded crop area from what I remember from one of your previous slides was a very low average.

Orchards were the highest average and they are only 19 percent. To me, it doesn't seem possible that if you're -- the orchards, it doesn't seem possible that your graph is that high up when you have 44 percent wooded area. That's very low and only 19 percent very high and residential being in between. Would you comment on that?

DR. BOWERS: That's a good question. And it is really very complex. And I don't have enough figures to show you all of this. As I'm sure you're all aware, the historic use of properties in this area has changed through time. And so the way these percentages were developed was by looking at aerial photos over certain time periods and if you look at the time period and I forget the exact breakdown. So if you look at the exact period of the thirties through the fifties, the percentage of orchard lands were very high like 50 percent.

Then if you look at the time period between the fifties up to the

seventies or the eighties, it drops down to a much lower percentage because a lot of the orchard lands went away and other uses came to those lands.

The problem, of course, is the arsenic may still be there from the earlier time. Then these final percentages here, the 19 percent, et cetera, that was a weighting of the old and the new. So if you had 50 percent before and you have 10 percent now, the average is 25 percent. It's a very complex mathematical thing.

And we are kind of back into the realm of professional judgment, again, here on whether this kind of weighting scheme is the correct way to go about doing it and producing one number. I mean there's a part of me that would just love to go to any particular property and say how was this property been used since 1900 and then I will tell you what the number is. But obviously, it's not realistic for us to try and figure out the historic use of every single piece of property in order to do

that. So it's just kind of the best approach we can take.

MS. HOWARD: Other questions?

MS. TOWNSEND: My name is Bettina Townsend, B-E-T-T-I-N-A T-O-W-N-S-E-N-D. My question is why, you know, I've worked with statistics my whole career and why has so much time been spent on determining the background arsenic level when we should be looking at the bottom line, what's, you know, what's actually a hazardous level. Who cares what the background level is. The background level in other parts of the United States is sky high and yet it's safe. So why we talking about background arsenic level when we should be looking at other factors entirely.

DR. SCHOOF: I think the agencies will get to that perhaps.

MS. HOWARD: Any other comments or questions?

UNIDENTIFIED SPEAKER: Can we have an answer?

MR. OWENS: This is just real

quick. The 2003 study was mentioned that it was peer reviewed by the University of Buffalo. Has the 2007 been peer reviewed by anybody?

DR. BOWERS: The correct answer is, no, the 2007 has not been peer reviewed by anybody. But I would like to comment that it's really the same study. It's the same samples. It's the same protocol. The only thing that has changed is additional aerial photos have given us different percentages for property uses over time. So it's not that the study has changed. It's just that one factor has changed and I agree that the agency needs to review the aerial photos and look at it. I would just hate to have it called two different studies.

DR. SCHOOF: Yeah, I think between us we can answer the other question. Well, you know, I think part of the answer is that in the course of investigating a study, you do need to establish background in order to understand your area of impact. Just as you should also do a risk assessment

to look at the health affects. It would be a more robust decision making process if you had those two tasks completed in a similar time frame, my opinion.

UNIDENTIFIED SPEAKER: Excuse me, could we have -- could you follow-up on that?

DR. BOWERS: I'll just add one more answer to that, from the slide that I put up where we said we want to understand background for two reasons. One is to be delineate FMC's arsenic. And that doesn't have anything to with risk. And the second reason was if the risk assessment said you needed to cleanup to background -- this gets to your question, is what is the hazardous level, what level should we cleanup to. That's really what Ros is working on, the purpose of risk assessment but there may be -- backing away from that for a moment, there may still be some value in just delineating this arsenic came from FMC and this arsenic did not.

MR. LITWIN: My name is Gary

Litwin. I'm from the New York State Department of Health. Just to follow-up what you said on background. We agree with you that there's an awful lot of ways to look at background and a lot of it depends on your perspective. Our perspective is to be protective of public health. So in looking at this, even I think if you look at the data itself, and you look at the studies that you said for natural background, it's pretty clear that it's single digits parts per million. One can make that argument.

UNIDENTIFIED SPEAKER: 13 to 16.

MR. LITWIN: Personally, I would say maybe 8 or 10. But you're going to have those disagreements straight through. But beyond that, you can say, okay, that is natural background which we are discussing and then there's, okay, what is the added value or concentration of arsenic from other sources. I think the way this is going is, well, how much can we prove was contributed by FMC, which is not

the question for us.

There's two ways to look at all these things and again, it goes back to perspective. If from let's use just 10 for natural to 20 as a problem of 40 or 50, it doesn't matter. If that added increase is from commercial or orchards or whatever and FMC, the question some folks I guess are asking is, well, can you tell me that that arsenic came from FMC? Certainly, FMC is asking us that question. Can you say this is our arsenic?

The question that we have to ask is, can we say it's not come from FMC. There's different ways that you have to look at these things and as we go through these discussions, I think we need to keep that in mind. I think they both alluded to that fact in their presentations, but a lot of this is the difference in how we look at things.

Our job, the Federal legislation, the State legislation is made to be protective, to be protective of public health and the environment. In order for us

to be protective, that's the way we look at it. So please try to keep that in mine as we go through these conversations.

MS. HOWARD: Any other questions? We're going to take a short break just to give you our stenographer a break. Oh, I'm sorry. We are not taking a break.

MR. MAZIARZ: I wanted to wait until everyone else had their chance to speak and first, I want to acknowledge and thank Mayor Maedl for setting up this meeting. Mayor.

About a month ago, the mayor and I submitted several detailed questions to the three agencies: the DEC, the DOH and to the EPA. And requested answers which some of the questions were answered, which the mayor has copies of today and we'd be happy to distribute.

I think that the message that I want to send to the agencies more than anything is that Middleport, this beautiful small community, you know, has been going

through this issue for over two decades now. And it really is time to take some action. There was a 2003 study. There was the 2007 study. You know, I think -- I wonder if we are not going to be here four years from now talking about the 2011 study, until, you know, some decisive action is done in this community. When I say decisive action, I'm not talking about destroying a street like Vernon Street, which is what happened to this community.

When the Commissioner of the Department of Health, Dr. David Dane, was before the Senate for confirmation, I told him and he's a new Commissioner of Health, who was appointed in January by Governor Spitzer, I told him about this issue here in Middleport and how this beautiful little community and how one particular street in this beautiful community was destroyed by I think several governmental agencies on all levels.

You know, I think the message that I'm hearing here today, is that if people

want their property remediated, let's remediate. You know, if they don't, I mean if they feel safe there, because I don't think any study you take is ever going to say, I think these two scientists pointed out very well, there's really no level I think that we are going to be able to come at that says, you know, it's safe at this level and not safe at this level. If people do not want their property remediated, let's not punishment them for not wanting it remediated. Let's not put a scarlet letter if you will so that their property will never increase in value.

But I think that more than anything, we are -- I've been in the Senate now for going into my 14th year. In some people's mind that is too long, like my wife, for instance. But you know, we keep having meetings like this, either here or at the Masonic Hall or at the high school. And every time we have a meeting like this, we are not having a meeting with a business owner, who wants to create jobs here in

Niagara County, here in eastern Niagara County, in Middleport. We are not having a meeting to talk about how we can use the canal to increase tourism here in this beautiful little community along with other communities along the Erie Canal. You know, I think people would be scared to buy a home here in some instances or to locate a business here while all this is going on.

So the message I want to send to the three agencies is, look, we appreciate your help. We appreciate your professionalism. We appreciate you being here over and over and over again. But we really, really, really have to call a halt, make a decision, do the remediation where it's needed and move on with our lives. Thank you.

MS. HOWARD: Okay. Now, we can take a break and we will be on break for about ten minutes.

(Break.)

MS. HOWARD: At the last community input group meeting we were

advised that there were a number of residents who wished to make statements this evening. So now, we're at that point in the agenda.

If you are making a statement, please give your name so our notetaker can get it accurately. If you have a written copy of the statement, that would help her a great deal as well. So we can get started. Yes.

MS. TOWNSEND: I apologize to those of you who have heard this before. My name is Bettina Townsend. My husband, Homer, and I live at 34 State Street and we hereby add our names to the list of Middleport residents who are refusing remediation in the FMC arsenic program. We encourage all of our friends and neighbors to do the same.

Our decision is based upon our own extensive scientific research regarding arsenic contamination, including the fact that the EPA's own threshold for arsenic remediation, as listed on their web site, is

95 parts per million. This is almost five times the artificially low standard being forced on FMC and foisted on the people of Middleport.

After much consideration we are fully satisfied that our three year old grandson is safer playing in our yard than he would be eating a McDonald's hamburger.

We're lifelong environmentalists and both retired from California State Parks, where Homer was a Chief Ranger and I was an environmental planner. In my experience when you have environmentalists at odds with an environmental agency, there is sometimes a problem within the agency.

As an environmental planner, I was intimately involved with the development and review of environmental documents and responsible for ensuring compliance with environmental laws. I can't help but notice that in the case of this project, there is a decided absence of compliance with environmental law as I understand it. Not only does there not seem to be a complete

project description, which is the basis for all environmental review, the so-called project seems to be growing and expanding by the minute.

It appears that someone somewhere has declared that this project is exempt from the National Environmental Policy Act, NEPA. Even if there were a complete project description, there is no way that anyone could declare a project of this magnitude exempt from Federal legal requirements. It certainly is not categorically exempt, and emergency action cannot be justified when conditions have persisted for a hundred years. And there is no demonstrable adverse impact from these conditions.

If ever there was a project that qualified for a full Environmental Impact Statement, an EIS, this is it. Instead of taking the time to develop a thoughful and complete EIS, the project's directors seem to be haphazardly plowing ahead with an extremely ill-planned project.

25 Not only is much of the plan

apparently secret, there have also been written and verbal threats to Middleport residents who refused to comply with the proposed unreasonable slash and burn remediation tactics.

NEPA issues that should be addressed before the project proceeds include but are not limited to the following:

Number one, a complete project description including unassailable proof that the project is even needed, the addresses of properties proposed to be impacted, and a complete and accurate description of remediation plans and recommendations. It is illegal to split a project into parts, as seems to be the case here, for the purpose of avoiding the preparation of an EIS and legally mandated public review. There is also a question about the legality of forcing a project on private property owners who do not want it.

Number two, a discussion of the

proposed actions and alternatives.

Number three, impacts to historic, aesthetic and natural resources and air quality.

And number four, cumulative impacts, including damages to quality of life and increased utility bills and discomfort of residents who no longer have the benefits of trees shading their homes.

Our home was one of the very first built in the Middleport area and we have a certificate dating from 1976 issued by the Village of Middleport certifying it as a Middleport Century Home. In fact, it was actually built in 1850, and there are at least six trees on our property that are over a hundred years old. These trees anchor the historic landscape of our street and add immeasurably to not only our own emotional health but the health and well-being of our neighbors. The loss of this invaluable cultural and natural resource would be unforgivable, and we will

never permit it to occur.

In the past, those in charge of

this project have demonstrated little regard for the value of anectodal evidence particularly, when it flies in the face of their own judgment. Their judgment tells them there is poison in the soil and their knee jerk reaction is to get rid it, regardless if there is any evidence to indicate any unhealth affects or harmful impacts.

In fact, the much sneered-at anecdotal evidence indicates that the conditions existing in Middleport may contribute to a more healthful lifestyle and a life expectancy greater than that of the general populous.

The goals of this project will without doubt damage these special conditions beyond repair. My grandparents lived nearly their entire adult lives in a house on Freeman Avenue and both lived into their nineties. My aunt lived for over 80 years in Middleport and passed away just

last year at the age of 91. My uncle, who actually worked for Niagara Chemical, lived

into his eighties. My mother and another aunt, who grow up here when the sprayer was at its most lethal, are now 89 and 91. And finally, in August of this year, there was a notice in the paper about a good friend of my grandparents who had passed away recently at the good old age of 103. Fern White was born in Middleport and lived here for her entire life.

Having worked my entire career for an agency that prides itself on doing what is best for people and the environment, I understand how sometimes you can come to think that you know better than anyone else what is best for the people you are serving. However, I observed that in some cases, in spite of our best intentions, California State Parks really didn't know what was best for our customers. On those occasions, in spite of what we thought we already knew, we benefitted from the sitting down and

listening to their valid concerns and sometimes changing our plans. It's never too late to do that. In fact, I should be

facing this way. Your customers, the people of Middleport have every right to expect that you will listen to us, react with thoughtfulness and act within the legal requirements of the law, not above it. Thank you.

MS. HOWARD: Others who wish to provide statements?

MS. STORCH: My name is Elizabeth Storch. I have a prepared statement. One of the things that is in the handout sheet over there is before you cut that tree, I wrote it up as a one page document. A lot of trees are being taken down in Middleport and when I went on the internet and everything that I do, because I'm a retired librarian, has internet citations so that people can go to the internet and read these documents for themselves and judge if they agree with me or disagree. They can read it.

But anyway, when you cut a tree down, you're hurting the environment maybe as much as this whole arsenic problem.

Trees filter out nitrogen dioxide, sulphur dioxide, ozone, carbon monoxide and particulate matter less than 10 microns. And it's ironic that parts of the EPA and the DEC are promoting the growing of trees and the planting of trees while the agencies that have come into Middleport have had a slash and cut and remove policy. So just think about that when you lose trees and it can be your neighbor's tree that impacts you also.

Another thing is I've been in contact with Professor Gary Harmon of Cornell University. And he's got a resume that would be right up there with Dr. Schoof and Dr. Bowers. And today he wrote me, arsenic in the soil is essentially unavailable and if it's tied up to the soil. If indeed it is tied up and unavailable, is it really a problem. In other words, when

it's way down there, why do we have to dig it up and disturb it.

I would like to say, also, that later on in this meeting the agencies have a

document that they are going to defend. It's the same old stuff. I got responses and it's back there at the back table. A rebuttal as best I can do. I would say to you, village people, take one home. One of the things that I have done is try to put it in language that you can understand. The agency has tried to confuse. There are no citations. You can't find things on the internet. You have to go rummaging around yourself. I found information on the internet that is more up to date. They are citing information in their factual thing they are handing out tonight that the study dates 2003 going back to 1998, nine years old. I have information from January, 2006, and also, March of 2007.

And I would also say and I'm looking right at you people. This is a rough thing to say. Normally, I wouldn't be

so impolite especially in public, but I'm truly angry. I'm angry, very angry.

Your salaries are being paid by the FMC I understand tonight. You have an

easy job here. You don't have residents that speak up. You know, is it really a risk or are you trying to preserve your jobs? That's a very rough thing to say, but I'm asking it.

Now, I'll read my prepared statement. I am Elizabeth Storch. I first moved to Middleport in the fall of 1972 and rented for the first seven years.

In 1979, I moved into my home at 59 State Street. Since that time, I have been an excellent steward of the property making needed repairs and improvements to the home. During those 35 years, my extended family has become the community of Middleport. It is difficult for me to stand up here and speak. I am a law abiding citizen and I'm looking over there at John Swicke, our Chief of Police. He knows. I

have never even had a traffic ticket, a bounced check and Margaret Droman is in here. I haven't had a late tax payment. I am conservative and just do my everyday things without notice. However, I may be

one of the next recipients of one of those demeaning and condemning letters from the authorities behind this remediation. I saw the letter that you sent to the lady over on Park Avenue, who refused remediation.

For the first time in 59 years, I may become a social criminal if the DOH, the DEC and the EPA in Middleport do not realign their plans. It was just this last July that I discovered by accident that my property at 59 State is ultimately due for remediation. I found out from a friend who happens to be sitting right back there. We went out to lunch and she said did you get a letter. I said what letter. Well, is your property all clear. And I didn't have a clue, but I found out.

Remediation is a nasty term that means cut every living green thing in your

yard to ground level and then bulldoze everything. I heard nothing since a letter of July, 2005, stating that my soil testing was slightly elevated. Upon investigative research on the web sites for the Centers

for Disease Control and the Agency for Toxic Substances and Disease Registry, both Federal agencies to which the New York State Department of Health, the EPA and the DEC should pay attention, I found that 20 parts per million of arsenic in the soil as a trigger point not a cleanup point but as a trigger point for remediation is artifically low.

My soil has an average of 27.2 parts per million, which happens to be a number lower than the 30 at the school yard. The research I found indicated that any property below 70 parts per million of arsenic in the soil is safe. There's written information back there with the internet sites and each one of you can go on the internet and read it and you can

interpret it as you wish but that is the way I interpreted it. There is no health risk.

After an unbelievable number of hours of heart wrenching investigation, talking to people at FMC, the CIG and searching for a new home in surrounding

areas of Lockport, Albion, et cetera, I have reached the conclusion that I along with many of my fellow Middleportians are being subjected to an unnecessary and unwarranted scientific halocaust of the green space this year. I will not permit my property to be denuded of its trees and gardens because the scientific research I found indicates it is not a health risk.

You people sitting at that table have caused me grief. And I want you to know it. My emotions are one of disbelief and anger at the callusness and unscientific way in which arrogant -- arrogant outsiders with inflated salaries and fancy titles are coming into our community and destroying it rather than helping it.

In closing I think you are

irresponsible for the desecration and emotional suffering you are imposing on this community. Since you have characterized yourselves repeatedly as not listening to the public, I am appealing to the elected government officials responsible for this

area to intercede and use all of their authority to bring quote unquote good sense to this whole issue of arsenic in this area.

And I want to thank Senator Maziarz. You certainly have might vote as long as you're running for elected office.

MR. MAZIARZ: Thanks.

MS. STORCH: Back off on the air deposition areas of the community where rampant remediation is not warranted. You can change. As Bettina says, you can change. As a number of people, you can reassess your objectives here. Back off on the air deposition area and concentrate only on those areas of the tributaries and culverts where the arsenic levels are much higher. Thank you.

MS. HOWARD: Others who wish to make a comment?

MS. REED: My name is Ann Marie Reed. I'm not from Middleport. I am from the Town of Pendleton. I'm here tonight because I'm concerned about the levels of arsenic. I do not know a lot about what is

going on here, but I am concerned as to any levels that are changed by the State or Federal government and how it will affect other people in New York State. I believe there should be public meetings held in the future if you are going to change those levels. I don't believe a corporation should have the full say here. And I don't believe that the town residents of Middleport should have the only say as well.

There was different things that were brought up tonight, but I did not hear anything from the two women that are up in front here, you brought up the fact that you took toe nail samples and you took urine, but you did not mention hair samples. Was there a reason you did not use hair to check

for arsenic especially in children?

Also, I'll let you answer in a minute. You also stated that you had the people not eat any seafood. Did you also not have them eat chicken? And I'm concernd with such as Perdue chicken which has, I believe, higher levels of arsenic. So I'd

be interested to know if you did not have them eat chicken. I know what you're saying it's not relevant, but it is if they were told not to eat seafood or if they did not eat fish. So I would like to know that.

I think everyone knows the government works very slow. I've had a lot of issues through the EPA and the DEC. They don't like to listen. And when they do finally listen, they are slower than a snail. But I'm not going to totally put you down a hundred percent because you are there for the public. And maybe you're not working as fast as we want you to, but I do expect that you will look out for us because corporations are not there to look out for

us. They are looking out for the money they are making. So I do appreciate when you actually do your job.

There's been a lot of things mentioned here tonight about sampling and so forth. And I was wondering is if homeowners with the arsenic levels whether they are a little bit detectable or not for your

property, if homeowners are allowed not to remediate their soil, and they decide to sell their home, who will be responsible to make sure that you're within the State guidelines? Will the new homeowner have to pay for that remediation if they don't feel it's acceptable or will FMC pay for that or will the State pay for that or the Federal government? Because I think it's more than just what people feel for their property because at the same time then are you going to keep the property forever? Because someone might buy that house at a later date maybe when you pass away that have children and they might not feel that's acceptable. And arsenic has been shown to cause -- I

know that everyone has different professional opinion, has been shown to cause problems with IQ scores with their children. I would really love to see the IQ scores of the children in the districts surrounding the contamination or within the contamination as far as how these kids -- could they be scoring higher. Could they be

more productive when they do graduate than if they didn't have the arsenic.

So I think there's still a lot of questions to be asked and yet, I think 15 years or 20 years is way too long. I think things should have been done a lot sooner and, you know, I just hope when these things are all decided, that you don't forget the rest of the state because we do have a say. It's not just Middleport. It's not just FMC. It's just not the State and Federal government. If it's going to be a state level for the entire State of New York, then I want to have a say in it. Thank you.

MS. HOWARD: Real quick.

DR. SCHOOF: Okay. Hair and chicken. Number one, hair is subject to external contamination by arsenic just as are toe nails. It is true that if you had a reliable sample from hair, if you could strip off all the external contamination, you could see a longer period of exposure than you can from the urine. But at this point, urine is by far the best measure we

have of arsenic exposure. One way we deal with the short term of exposure that the studies look at, is by testing lots of people so we get a cross section of a lot of different behaviors.

Chicken does not have elevated arsenic in it. There was one publication that came out by a professor from Johns Hopkins that had a three order magnitude error in the units that she had. It was agregious that it got published. We tested inorganic arsenic in chicken in the dietary the study that I published on which my data was based and there is no evidence of increased inorganic arsenic that's

substantially elevated in chicken in the United States. It's higher in rice.

MS. HOWARD: Other statements?

MS. RIZZO: Again, my name is Julie Rizzo and my concern is the affects on humans being, specifically children. If higher arsenic levels are left in place, there's no guarantee that future generations soil will not be -- the soils will be left

alone, but they wouldn't be tampered with. Actually, right in the immediate future, on November 15th, we as a district will go to vote on a capital improvement project at our school, which includes building a building at the Middleport Middle School. I'm sorry that the aesthetic value of your properties will be ruined. I, myself, believe it or not, I'm a tree hugger. I plant trees as much as I can. I have a lot of property to plant on.

I see studies of documented illness as the cause -- being caused by arsenic. I have heard many Middleport

friends stress over family and friend illnesses, not sure where they are coming from, what happened. Perhaps even the low scores at Roy-Hart District received on National testing is not due to the school and the teaching at the school. Perhaps it is a result of the arsenic. I thank the agencies for holding Middleport to a standard that is trying to keep the general public as safe as reasonably possible.

MS. HOWARD: Any other statements? Okay.

Next on our agenda, there had been several references and Senator Maziarz referenced himself. He submitted a series of questions and concerns on behalf of the community. There is a -- Matt had mentioned earlier that there is a formal response to generally those questions. Would you like to just briefly summarize your responses? How would you like to go forward?

MR. MORTEFOLIO: Couple things. I will basically read what we came up with about what we call six frequently asked

questions that were more than just what we heard from Senator Maziarz, what we've heard from many people through the community meetings and said group meetings and try to best as we can address them.

One thing I'd like to say is a lot of tonight's focus is on arsenic risk and different opinions on it. But what I've heard in the past from communities concern for trees and that's been a big overriding

concern from the community. I'm from the DEC. I work for the DEC and I didn't go to work there to cut down trees. That was not my objective taking a job with the DEC. It's not where I'm coming from. But what I'm coming from is something that Dan Watts mentioned before. What we have been doing up to now were called interim measures that don't give us a lot of options on how we do the cleanup. Basically, it's either -- it's basically just removal. That's basically the only option that we do under these situations because that's the most

protective option right now.

As Dan mentioned, we are going to enter into the CMS process. And there's more than one way to get the arsenic out of the soil potentially than just removing it. We are going to look at that.

We've requested FMC to begin what's called vital remediation study. It's a pilot program. In layman's terms, it's basically planting vegetation that has a history of other sites of uptaking the

arsenic out of the soil without removing the soil and then you remove the vegetation and gradually you lower the arsenic levels in the soil. I don't know if it's going to work here. We are going to look into it. FMC has agreed to do that study. That will begin next spring we hope. That will factor in the CMS that Dan was talking about.

Other options associated with trees are instead of completely removing all the soil around them, to remove them in segments so as to preserve the tree so much per year? That may also be looked into. As

well as looking into if there's an isolated tree on your property and there's elevated levels there slightly, but you cleanup the rest of the property, that's something that may or may not be acceptable. All these things I think will be part of the corrective measure study and so it will not be this potentially slash and burn thing that's happened before I agree. That is the way it's gone down to this point. There's no doubt about that. Whether that's right

or wrong, it was kind of a feeling between us and FMC that some areas wanted to get it over with. We both agreed that something needed to be done and why wait until the end of the process. But we're hearing more of a concern for trees and I think we want to look into satisfying your concern of the trees but also achieving a cleanup that we think is necessary in a lot of places. That's my speech.

MS. HOWARD: Thank you. We will now open up the floor for other

questions, other comments?

MS. STORCH: Can I make a quick, quick statement? I just want to say a plus for Brian and Deborah Overkamp and FMC. To the lady that spoke about the -- I would not be taking this stance if I felt there were any danger. Both my parents died of cancer. One was a heavy smoker and I think the other one got it from secondhand smoke.

As being a school teacher 33 years, I certainly am concerned not only

about my own health but my children and I would not be standing up here and taking this stance if I felt there were any health risks and I have researched it and I looked into moving and all this. But I have found FMC to be as most helpful as they can. They are limited in what they can do because they have the agencies ordering them what to do. But I think FMC has been a very responsive institution. I want to thank you, Brian.

MS. HOWARD: Questions for anyone in the room?

MR. ARNOLD: Bill Arnold again. I just want to make a comment to you as well. I think it's important to understand what is the level that will affect children, not just to blind cleanup to some level that someone else has established, whether it's the agencies or whoever. You raise a concern about people buying homes in Middleport. It's a State Law that when we sell a home, there's a two or three or four page form that has to be filled out. I suppose it's a form that's requested by a

realtor or a future homeowner, but has to be filled out. There's an environmental section and the last question has any tests been done on the property for toxic substances. And the answer is either yes or no, but if it's yes, you have to supply the data. So that data would be there for any perspective buyer to look at if they wanted to. If you're concerned about arsenic and you're thinking about buying a home and you're a little leary about Middleport, go

somewhere else.

Now, my family has owned my property since 1939. It's a farm. It's not a residence but a farm. My grandfather worked in that farm and it's in the shadow of FMC. It borders the FMC property. He worked on that farm for most of his later adult life and he sprayed his orchard trees and he planted his garden and he hoed it and everything else. And he died simply of old age at 93. Nobody in my family that I know of has ever suffered any problems with arsenic. And my mother is -- I'm not going

to that say how old she is, but she is doing reasonably well for a lady her age. In fact, she insisted on digging her own flower garden and planting it. This year she drives her car wherever she wants to go and the only medication she is on is Lipitor.

Now, the other thing I wanted to mention was that some of my farm is in trees and thick bushes. And there's a large population of wild animals like deer, turkeys, foxes and the like living in that

area. If that gets stripped away, they are not going to be there any more. I know that they'll just go across the property to county line and live over there just fine, but I won't be able to see them any more. And I think it would be ashame to destroy this natural habitat that has grown up since farming ceased operations on that property for the reduction of a limited elevation of arsenic.

Now, my property has arsenic ranging from below 20 to over 200. The 200 is along the property line of FMC. I have

no problem in remediating that. Come with a back hoe or bulldozer and dig that out if you want. The rest of it is pretty much below 70 and most of it is below 50 and in the 30 and 40 range.

I don't see from what I can find from the studying that I've done and Liz has helped me out a lot on that, that arsenic levels in the 30, 40, 50 range is harmful to people. Now, the State agencies have tried

to determine what the level would be to get a one and one-million occurrence of cancer. I think that whole analogy is flawed because you base it on an extended exposure over a lifetime of say 70 years and I believe it's 300 days a year of exposure. That's a lot of exposure. But on the other hand, people don't live in the same houses for 70 years. And the soil in this part of New York State is not available 300 days a year.

Now, you and your regulations that you have written up have cited a Cornell study that determined the latest frost that occurred in the year and the latest frost

that occurred at the beginning of the year, and determined that was a 217 day span. That's less than 300, but those numbers were obtained from New York City. And this area is much colder than New York City. So the available of soil in this area is much less than even 200.

The other thing is if you're worried about children, I don't know of children who would be exposed to this soil

for that period of time because I don't know of any children that are still playing with his toy trucks in the dirt when he's 70 years old.

So I think what you need to look at is what is the acute exposure to arsenic not the chronic exposure to arsenic. And come up with a number that represents what is the danger level or the risk level of an acute exposure because nobody is really exposed to the same arsenic at the same soil for 70 years of their life, not typically. I know there is people that will live in the same house all their life, but that doesn't

usually occur.

Back on this table over here there is a document I think it starts with Health Consultation and I would urge anybody in here to take that document. That's the one. That's an analysis of what was done to determine the chronic -- I'm sorry, the acute risk of arsenic in Omaha, Nebraska, and it's a very comprehensive document and

it's an EPA document. They went through and determined what amount of soil children will eat through normal play or putting their hands in their mouth or whatever, and determined what the bioavailability of the soil was in that area. They determined what the risk level would be for the children, which is probably a pretty standard number, and they came up with a chronic exposure of 70 parts per million. So anything under 70 would be okay for children who ate a lot of soil while playing. I have to believe that number is probably pretty close to what it would be here. And I just can't understand why you would want to dig up soil that's 27

parts per million to get it down to 20. That's a reduction of 7 parts per million, which seems to be awfully foolish and a waste of money. But a lot of people would say who cares about money. FMC has deep pockets, but think about what it's going to be like if FMC decides to pull out and we don't have an FMC. Think about what your taxes are going to be. Thank you.

MS. HOWARD: Yes.

MS. HUGHES: Sue Hughes. You know me. Mr. Arnold, I can answer your question. Studies are showing levels as low as 10 parts per million can lower a child's IQ score by 10 parts.

MR. ARNOLD: Is that billion or million?

MS. HUGHES: Million.

MR. ARNOLD: Is that soil?

MS. HUGHES: Soil, yes.

UNIDENTIFIED SPEAKER: Which soil, where you got these numbers from?

MS. HUGHES: The number is on the web site.

MR. LITWIN: Gary Litwin. A lot of you said a lot of things and as the two scientists up front said, there's different opinions on different things and quite honestly, we disagree with some of the things that were said. A lot of it I don't think it's worth it to go point by point and go back and forth with you folks. I think

there are certain things though that we have to address and I'd like an opportunity to do that a little bit now on certain things, but the bottom line is on some of these things as was said many times tonight, you get different scientists looking at different things. A lot of these things start with assumptions and different people start with different assumptions or just different assumptions through the work and through their equations and come out with different answers.

Different states and different EPA -- well, different regions of the country, there are community based legislation that is like the cleanup levels in this state are

one in a million -- starting at one in a million cancer risk. That's by legislation because that's what the majority of the people in this state want. It's not that we decided that. I mean I kind of get the feeling that you folks are thinking that we arbitrarily just decide these things. We don't. This stuff is in statute and law.

The SCO's that were brought up before the Part 375, the SCO's are soil cleanup objectives. The state is actually being sued because they're not protective enough. So there's a lot of varying opinions on all this stuff, but the simple matter of it is if you go to Pennsylvania, the cleanup standards and the cleanup numbers are higher than they are in New York. If you go to different states, they are going to be all over the map. It's that way because different states, populations and constituencies demand, require, whatever word you want to you use, a different level of cleanup for their state and that's in the legislation. And the federal law, it's in

their legislation.

So it's not an arbitrary thing that we are just deciding up here. These folks that are sitting here. We're public servants trying to do our job. The one thing I would ask you to keep in mind through these discussions are that we didn't

put the arsenic in your yards. FMC put the arsenic in your yard. We are trying to come up with a way to make things right for everybody. And we are going to have differences of opinion, I understand that, but it's one thing to keep in mind.

As far as what you have to cleanup to, being forced to cleanup to, there is the issue of somebody wanting to get an all clean letter and things like that, the simple fact of the matter is if you don't want your yard cleaned up, it doesn't have to get cleaned up. As the gentleman says, if you're comfortable with it and you know it's here and the community is comfortable with it and they know what to watch out for like keep it grassed, don't let your

grandchildren play in the dirt with 200 parts per million under the tree or whatever it is. That's fine. That's your decision.

Our responsibility, though, is to put that exposure in perspective so if we have data that says you got high levels of arsenic under a tree that you don't want cut

down, we say, fine, go ahead and do that, but we will send you a letter that says, you know, it's prudent to not play in that area. You should keep it grassed and other things like that.

There is disclosure laws. There's not going to be a choice. You're going to have to tell somebody about it. But if this is what it is in Middleport and everybody knows that, then as he suggested, if you don't think that's a problem, you buy a house here. If nobody wants their yards cleaned up and it's all like that, it will sort itself out over time. It has in many communities. There are ways to save the trees. We have been asked -- we were asked by this community as the Senator asked us,

buck it up, let's get going and let's get some of that stuff done. Well, we tried to do that. If us moving ahead forward is a problem, then we'll slow down and go through CMS process and all this stuff will be considered.

I've been doing this for 30 years and I've been involved in soil removals in communities and I got to tell you, this is the first time I'm getting beat up for going -- that I should go higher. Usually, it's you're not taking out enough. But the bottom line is, we worked in an awful lot of communities, but it takes everybody working together, everybody trying to understand everybody else's perspective, understand all the issues because they are not going to be the same. As somebody said, if your neighbor -- you like your neighbor's tree and it shades your house and they cut it down, it impacts you. It just doesn't impact them. It does change the nature of the community. We understand that. I don't want to cut down any trees that we don't

have to cut down. I'd go further than that. I mean you got some nice landscaping that, you know, you've done over five years, you know, there's ways to save this stuff, but FMC has to be willing to do it. You have to be willing to let them do it. It has to

fall into the, you know, what kind of clearance you want at the end of project. All these things have to be considered.

And it doesn't boil down to just what is the number. Everybody wants a number. It doesn't boil down to that. They ask why we are not dealing with risk and why all the talk of background. Quite frankly, it is because the Federal government and the State government determine risk. Those numbers are below background. And you can't really cleanup to. So that's my in general statement. But I think as far as the things about the Omaha risk assessment, the number, the health consultation you referred to is Omaha, Nebraska, is that correct?

MR. ARNOLD: Yes.

MR. LITWIN: All right. We

don't agree with some of the assumptions they do. If we were to do that health consultation, we would come out with a different conclusion at the end, but I think it bears quickly explaining what those

things are so you can consider those, also.

But I will tell you this, you can go on the internet. You can find all kinds of studies and all kinds of things that they are going to tell you. The different numbers are okay. You're going to find equally numbers of studies that say they are not. You got to look at both sides of the question and both sides of the issue.

And once again, I will stress we are a health agency. I am a health agency. Our job it to be protective. You may be perfectly fine with a yard in 70 or 50 or 200 parts per million of arsenic, but we have to think about who might buy your home and whether they are going to be comfortable with that or not. And the choice has to be up to them. They got to know about it. We can't just say, okay, you're okay with it,

so case closed, you're done. There has to be some notification. There has to be information. I think that's only fair. I don't believe any of you in this room would like to go buy house somewhere else and find

out after the fact that it had radon or some other problem that nobody told you about.

So I mean there's a lot of practical stuff to consider here. There's a lot of ways to make this work, but it's going to take everybody cooperating and looking at everybody else's perspective and maybe people will give a little bit. That is my two cents.

I'm going to ask Tom Johnson here to speak to the Omaha Health Consultation because I think that's -- as you said, if everybody is going to take that and read it, I think they should hear our side of it also.

MR. JOHNSON: Thank you. I'm Tom Johnson with the State Health Department. There are a number of things in this health consultation that were different

-- that are different from ways we would do risk assessment at the New York State Department of Health. Again, there's several what we call exposure parameters.

There are different -- these are ways that scientists use to estimate how much arsenic someone might actually absorb into their body if they ingested it from that soil. And what this health consultation did was they used several factors, the 40 to 60 percent bioavailability factor which we would not necessarily disagree with. 30 year exposure duration (inaudible) Part 375 regulations, we used 70 years exposure duration. This health consultation did not consider uptake of arsenic into plants and vegetables and things of that sort nor did it consider splash or contaminated soil on to vegetation. So that's an exposure pathway that was ignored in this health consultation.

And they also used different soil ingestion rates. I have to say something that we do and this is maybe more Steve's

area, but our soil ingestion rates do not assume 350 days or 360 days a year. We time weight that according to how much time the soil is actually available. So it's

actually about 217 days a year.

UNIDENTIFIED SPEAKER: It's less in Middleport.

MR. JOHNSON: Secondly -- if I can finish. Thanks. Secondly, we also consider both children and adults throughout the lifespan. We consider children, young children having a much higher soil ingestion rate for a much shorter period of time. We did not consider that the adult consumes a lot of soil. We time weighted -- that soil ingestion rate is much much lower. We also considered that an adult would not be exposed to the dirt for as many days of the week as a child would.

So we took different stages of life and made the soil ingestion rate match the stage and then came up with a soil ingestion rate different than what was done here where the soil ingestion rates we

pretty much constant throughout.

So there are a number of different things that we do at the health department

that are different from the way this health consultation was done.

And one of the main things that I want to say, too, is what Gary said before, is that we make our decisions based on an increased lifetime risks of one in one million. What drives those soil concentrations corresponding to that risk downward making it more conservative is the fact that arsenic is a human carcinogen and secondly, arsenic has the ability to cause cancer that is a higher ability to cause cancer than most other chemicals. That's what makes the numbers so low and by law, we are constrained to make our decisions based on that risk level and if that risk level is lower than background, we revert back to background.

MR. MORTEFOLIO: Matt Mortefolio, from the EPA Toxicologist. I thank Ros and Terry. I think they did an

excellent job with their presentations, very technical material. Sometimes I struggle with it and I do it all day. They did a

good job of putting it into layman's language and identified areas where they is clearly a lot of uncertainty and some reasonable professionals tend to disagree. Maybe I can, you know, point out a couple of, you know, issues associated with that.

First, as Tom said, first, I think I'm proud that I work for the Environmental Protection Agency. You know, I'll stress the P. We don't want to regulate at the level where we are seeing affects. We want to ensure that the American public has an adequate margin of safety when they are exposed to chemicals.

I'm very familiar, a lot of my colleagues at Columbia University go to Bangladesh because they had a problem there with drinking water. People were getting sick. Kids were dying from diarrhea because they had contaminated surface water. Someone came up with an ingenious idea to

put these punch wells in to get much much cleaner water from a ground source. It

worked phenomenally until they found out that the ground water was highly contaminated with arsenic.

Now, you can see pictures of what's called Black Foot's Disease. People that have extraordinary circulatory problems because of high exposure to arsenic. No one is getting that here not from this soil. We don't want to regulate at that level. We want to be way way lower than that. Okay. So that's part of the discussion here.

You know, that, yes, Ros showed that no one is showing high urine arsenic from their soil. Frankly, if she would have showed what was a statistically significant increases in arsenic levels in the children, I would have said that would have required immediate action. That would have been very serious if that was, in fact, to occur. So we are trying to protect the public well beyond affects levels. I think everyone just needs to understand that.

As Tom pointed out, Ros, arsenic is a powerful carcinogen. There are a

handful of chemicals and in the thousands upon thousands of chemicals that we normally get exposed to where everyone, international agencies, the EPA, every single health agency agrees this is a known human carcinogen. Like asbestos, like biochloride, like bentine, this stuff causes cancer. And we're just trying to ensure that you receive the same level of protection as everyone else in this country that was dictated by Congress. If you think we are being too conservative, yes, speak to your Congressman. They are the ones that set the level of one in a million. We have a little more range in the EPA, a risk range. I'm delighted that I live in a country that we have such rigid standards that we benefit from that. Much of the world doesn't and I think that is a very important point and it seems to be getting lost here.

There are a couple of other I

think facts that I would like to clarify.

This lady here, the librarian, you deal with facts all the time. You mention a highly respected Cornell investigator, who had more initial after his name, maybe akin to Terry and Ros. I have quite a few myself. You quoted as saying why arsenic in soil, it's bound up. Ros's own research contradicted that. She showed that those monkeys, which is an excellent model, about 20 to 30 percent of it got absorbed. That's not trivial. That's still -- it's not a hundred percent. But that's not a trivial amount. And it needs to be considered and it should be considered in a risk assessment and hopefully, we will consider that. But it's not like it doesn't exist. It's the same thing with lead in soil where I have a lot more experience. Kids get exposed to lead in soil and it causes increases in blood lead.

One of the things that Ros did point out, she showed that it seems to be that diet and food contributes to a major

share of the arsenic. There's two things I

would like to add. It's true. That is the case. But most of that arsenic is inorganic form and it's intrinsically less than the toxic inorganic forms for use that are in industry and certainly, in pesticide production.

The other, and Ros made this point in her presentation when she showed the graph of the arsenic being contributed from soil, she assumed 25 percent absorption. Not unreasonable given the data that she presented and some other data of colleages that I have a great deal respect for; however, the food arsenic probably is not absorbed all that well either. There's no mention of that. It could even be much greater the impact of food.

In fact, I did my own doctorate discertation work on the absorption of lead from soil. Actually, used adult volunteers that did this work. I was curious to see how actual adults -- people absorbed lead from soil. But I did two groups. I did a

fasting group and a group that had a meal and the group that was fasting absorbed ten times as much. They absorbed 26 percent of the dose where the people got the same soil with a meal only absorbed two and a half percent.

So the fact that you have food in the stomach has a powerful affect. Certainly, in lead and no doubt it does with arsenic as well. I mean I know this. I knew this long before I became a toxicologist. I'm a pharmacologist, also. And the first thing you went and had a preparation filled. What does the pharmacist tell you. Take this pill one hour before or two hours after a meal because we know how much food interfers with the absorption of drugs and drugs are just chemicals that have pharmacological affects as well as anything else.

I just felt compelled to clarify the record of what I thought were just some, you know, some misnomers that were stated here tonight. I'll be glad to answer any

questions.

I'm going to end on one final note, and because a lot of has been discussed about this Omaha Health Consultation. There another piece of misinformation that said it was an EPA. It wasn't an EPA. It was an ATSDR, Agency For Toxic Substances and Disease Register. They are a Federal agency. They work hand in hand with EPA, but I just wanted to clarify. It wasn't an EPA study. When I found out about that, I actually contacted my colleague at EPA Region 7, which is located in Kansas City where the jurisdiction for that Omaha web site lies. I know my friend, Mike Barringer, worked on that site and I called him up. He sent me this message. I'll be glad -- it's an e-mail message. I'll send it to anyone who wants to read it for themselves. Take my word for it. Mark, the health consultation can be found at the following web site. And that's where it is. Obviously, everyone's got that web site. As I thought, they used the relative

bioavailability of 42 percent from the VBI 70 site data. That's called Vasquez Boulevard site. So they didn't even do a site specific bioavailability study. They just borrowed it from another site. It goes on to say, Region 7 never officially supported this approach nor any soil values used as cleanup goals for this site.

So it should not be perceived as something EPA endorsed. Okay.

UNIDENTIFIED SPEAKER: The CDC did enforce it, right?

MR. MORTEFOLIO: It's ATSDR's document.

UNIDENTIFIED SPEAKER: Right. CDC.

MR. MORTEFOLIO: And they base it on an acute and we were -- as Tom said, arsenic is a powerful human carcinogen. We are worried about long-term exposure. I know that not everyone is going to live 30 years and be out in the soil 217 days a year. There is a lot of uncertainty with the assumptions that we use. And in the

face of uncertainty, yes, we do sort of, you know, lean on the side of conservatism to be safe rather than sorry. That's why we have this, you know, extremely high level of protection that we're able to afford the American public. That is it. So we can continue discussion, but I think this needed to be said.

MR. ARNOLD: I'm sorry if I'm taking too much time here. I want to touch on a couple of points here. Mr. Litwin, you said that FMC put all the arsenic here. That's not true.

MR. LITWIN: I didn't say all of it.

UNIDENTIFIED SPEAKER: Yes, you did.

MR. ARNOLD: Yeah, you did.

MR. LITWIN: I said FMC -- you're right. The way I phrased it.

UNIDENTIFIED SPEAKER: That's right.

MR. ARNOLD: There is a -- there is a definable -- but you can see on a

map if you plotted out the contamination, what air deposition and what the water run off is from FMC. But there's a lot of it especially on my property that was because it was an orchard area.

Now, you take a lot at some of the properties in Middleport and how they range in terms of contamination, there's some areas that are way over by the canal that are more highly contaminated than the areas in between that area and FMC. That's not air deposition. Somebody sprayed a tree on that property or sprayed the lawn for bugs. I just wanted to make that point.

MR. LITWIN: I agree.

MR. ARNOLD: This project has gone beyond what FMC has done. This project has gone into what everybody has done whoever lived here since this area was first settled or since this area started using pesticides that had arsenic in it.

This gentleman over here, I'm sorry, I forget your name. Yeah, you're right, it is 217 days in New York State. My

contention is that we don't even have that here because the 217 days is based on New York City numbers not Western New York numbers and our winters are a lot colder here than New York City.

I agree that arsenic -- where was that gentleman that was talking here?

UNIDENTIFIED SPEAKER: He left.

MR. ARNOLD: I agree that --

UNIDENTIFIED SPEAKER: Oh, here, he is.

MR. MORTEFOLIO: What did I miss?

MR. ARNOLD: Mark, I'll agree that arsenic is a carcinogen. And I'll agree that we should keep levels of arsenic down to reasonable levels, but the contention is what is a reasonable level.

MR. MORTEFOLIO: I agree with you.

MR. ARNOLD: Now, really, if you want to go after reducing cancers, how about reducing the trans fat in the foods we're forced to buy.

MR. MORTEFOLIO: You shouldn't be going home and drinking a six pack.

MR. ARNOLD: How about the cigarettes. If you want to protect children, how about taking the lead out of the paint in their toys.

MR. MORTEFOLIO: We are trying to do all that. That's doesn't mean --

MR. ARNOLD: I haven't seen it done. It's just not getting done. Yet, you're here with your bulldozers and your backhoes ripping up everybody's lawn for a few parts per million of arsenic.

The other problem that I have is the number of different areas in the United States and I know it's outside of New York, but in the United States that have had cleanups. And these are approved cleanups. You may say it's not EPA, but damn it, it is EPA that has approved cleanups in other areas of the state, United States, that range all the way up to 250 parts per million in Montana. Now, those people that are there are just as human as we are. We

are all subject to the same problems, the same problems with chemical exposure and whatever. So why is it all right for Colorado to have over 250 parts and Middleport can't have over 20. I don't understand how it's okay for them and not for us.

Now, I'm not saying we should have 250 because that is too high. I'm not going to argue with that, but 20 is too low. 30 is too low.

I was going to say something about the bioavailability that was borrowed from Denver for the Omaha test. I guess I don't understand just how much the bioavailability varies from one location to another. And that's maybe something I have to get educated on. I don't know if it differs that much or not. The 42 that's in Denver may be okay for Omaha and it may be okay here. I just don't see why that would be an objection.

MR. MORTEFOLIO: I can tell you why. We actually have guides on the use of

bioavailability data for making decisions on specific sites. And you should go to the site and they have done that at FMC and actually, I applaud that work. I think I know the researchers that have done it. It looks pretty good. I have to give it a thorough review. It adheres in principle to our guidance and I think it will form decisions at the FMC site and will add to the body of knowledge in general on the bioavailability of soil born metals.

MR. ARNOLD: I wasn't aware that FMC had a bioavailability study.

MR. MORTEFOLIO: And they should be duly recognized for that doing that.

MR. ARNOLD: I know there was some work done with Exponent, but I didn't know that there was an official number that had been derived at that the agencies would agree on. The fact -- or from I heard from the agencies, they don't even want to acknowledge Exponent ever happened.

DR. SCHOOF: That's not what

he's saying.

MR. JOHNSON: Mr. Arnold, can I address something, too, in the bioavailability is that, again, even if we assume that it's only 20 percent of the arsenic that you get in soil is actually going to be absorbed, because we start with a one in a million cancer risk level which corresponds to a soil concentration anywhere from .1 to one part per million depending on the scenario you're talking about, with veggies and what not and all that kind of thing, you would be able to increase that based on bioavailability by a factor of five. The highest you could get that risk based soil concentration up to would be five parts per million and that is still below background so that's why the cleanup is driven by background.

MR. ARNOLD: I read the regulation and I understand what happened on that. The one in a million was really too low for arsenic and so you had to go to the background. I also reviewed how you

calculated the background, but I think you did a pick and choose on what points were used, but I don't want to get into that.

Miss Hughes --

MS. HUGHES: Yes, sir.

MR. ARNOLD: I have a couple comments I want to make. You're concerned about -- you stated that 10 parts per million caused problems with IQ's in children. But I don't know that there's very many locations in the United States you can below 10 parts per million so basically, what you're saying is that we should get all our children out of the United States.

MS. HUGHES: No, what I'm saying is that there is evidence out there that even low numbers of arsenic is harmful to children in the way they learn.

MR. ARNOLD: However, the study that Exponent and showed that there was no elevation in the arsenic in the children here in Middleport.

MS. HUGHES: The study I'm referring to in Michigan was done with hair

samples not urine and IQ testing.

DR. BOWERS: Hair. Okay.

DR. SCHOOF: Hair.

MR. ARNOLD: Well, that's a different interpretation. I have looked for evidence of learning disabilities in children on the internet and I did come up with a site that said there was a study that showed there may be a problem with that; however, it concluded that there was so much other contamination around, they couldn't determine if the arsenic was the real cause and that may be in the study that you looked at, too.

MS. HUGHES: That wasn't. There's several studies out there.

DR. SCHOOF: I just wanted to offer one more observation. We have been talking about a number of specific assumptions related to risk assessment. And what Tom just said is true, is if you're decision point is one in a million incremental cancer risk, risk assessment is irrelevant for arsenic because you will

using the current EPA cancer slope factor and operating within the constraints of risk assessment methodolgy as it's laid out for us now, you will be below background.

The only reason that we got higher than background for risk based cleanups at some sites around the country is because we used EPA's risk range which goes from -- it's hundred fold range from one in a million to one in 10,000. And at some of these sites that have higher cleanup level where they have had more research to support to reduce the uncertainty, they have gone to higher cleanup numbers. So if you want -- if you as community are interested in having a risk based higher cleanup level, you're going to have to get Senator Maziarz to make sure it's okay for that to be applied to this state.

MS. HOWARD: Two individuals I believe had questions or comments.

MR. OWENS: Richard Owens. The only thing I'd like to mention is we are concerned about our children. I'm concerned

that when we lose all our trees, what is the risk factor with the additional sunlight that we will be having on our kids that will be playing in the yards or is that a nonfactor?

MR. MORTEFOLIO: It is a factor. That's the part I was saying earlier is a corrective measure study. That's something that definitely should be evaluated and other options of preserving trees where in cases where arsenic removal is needed, you know, that is definitely going to be looked at and should be looked at. You know, and granted like I earlier, the remediation that's done to this point have not -- that's not occurred because we haven't gotten to that point in the process. We are in a hurry, definitely. We all agree we are in a hurry to get that point. We need to finish the delineation of the arsenic or at least delineate it within the village anyway and get that done first so we can do it separately and then move on to looking at all these issues to the

corrective measure study and evaluating all the alternatives there are do to cleanup not just the one that where you guys are used to now that, you know, that really nobody likes, but that's the only option that we are currently using.

MS. HOWARD: Thank you.

MS. CRAFTS: I decided not make a comment today, but here I am. My name is Susan Crafts. I lived in the community since 1976. I, too, am a scientist and I appreciate the attentiveness of science. That's the joy of science. That's why we do it. So I appreciate all of the data that you've given me, but I have to tell you I'm a sociologist. And the process that this cleanup has taken, the trajectory that it's had over the years is simply wearing me out and everybody else. Yes, it's 9:00 o'clock. We are all tired, but I am so sick and tired of coming to these meetings. I've come to hundreds of them. Many of you here are very familiar faces because you've been to meeting after meeting and the high school

and here and Masonic Temple and we still don't have data from you. We don't have anything beyond this seemingly open ended process that will eventually lead to something called a CMS. I'm really tired of that. I don't want to argue numbers with you. You know, I appreciate that you have different opinions than perhaps some of the people out here. I do feel that we are talking at cross points a lot at this point. And I have been very disturbed by the amount of finger pointing on both sides. I've heard both condescending and a very helpful speech from that side and I've heard things from this side, well, problematic perhaps in reaching a conclusion. I really want you to think about this process. It's not working. It's not working for the people in this room. It's not working for the people in this community and whatever the numbers are, we need processed to get us through this and we don't have that. We don't have any clear sense of direction I think other than we are going to clean it up. And I've been to the

meeting. I mean if I don't know that we have a sense of direction, I don't know who would. I've been pretty faithful. So I don't really want an answer. I just wanted to make a statement.

MR. McGINNIS: Thank you very much, Sue. My name is Brian McGinnis. I'm with FMC. First, I'd like to thank everyone for coming. It's 9:00 o'clock at night. We have been here for three hour and you should all be applauded for coming here. I know that I greatly appreciate it. Some of you know FMC has been meeting with a community input group that was put together by Mayor Maedl. She asked FMC be part of that. The reason she put it together is she wanted to hear what FMC had to say. She wanted to make sure we heard what the community had to say. And this has been going on close to a year now. And I think the meetings have all been extremely productive. I thank all the people that have come to those meetings.

At our last meeting we did -- the last couple of meetings we discussed where

do we go from here, what's next and we listened to what the community was saying and we went back and tried to formulate a plan and if I could, I'll read that off for you and they are in no particular order. And this is all subject to agency approval. We will put it together. We'll put it in front the agencies. We got to get their approval to move forward with it. And I think, you know, we discussed these with the agencies and I think we are 90 percent in agreement I think at least.

For 2008, like I said, these are in no particular order. One is perform a fito remediation study to evaluate the effectiveness of specialized plants on the remedial arsenic. People talked about that here tonight. We're right now working on a work plan to submit to the agencies for their approval.

We also want to continue to complete our corrective action management unit application and submit that to the agencies for the management of soils,

remediation soils on sites -- on the FMC plant site.

Another thing, the third thing is to continue our efforts to obtain some grant funding to demolish the unsound buildings on the former Noco property. It's a win win to get a grant. Those buildings like most of you know on the Noco property are really pretty sad, they are ready to fall down. We need to do some work on that property to remove some arsenic that's there. But it's really going to be difficult for us to do with those old dilapidated buildings there. We've been working with the village to try and put some grant applications together. I believe some -- I don't know if a grant application went in for that particular project. I know some grant applications did just go in. I believe they went in, didn't they? They went in on Friday. Great, cross our fingers and we will get you guys some money.

Forth, in the air deposition area, FMC based on feedback from what we heard,

was we are not going to propose any future remediation be performed in 2008 in that area. Rather, we believe and what we heard is that we should complete the -- I hate acronyms, the RFI which is the RCRA Facility Investigation. We need to complete that. Get it sent into the agency for approval and start a corrective measure study for the air deposition area, which will evaluate remedial alternatives like Matt was talking about and we are also going to propose we perform a site specific risk assessment for that area.

Fifth thing on here is some possible remediation in 2008 out in the field. But this would be on culvert 105 going north of Sleeper Street.

We are also proposing to complete our investigation for the rest of culvert 105 and get that turned into the state and get it approved.

And also, to begin and possibly complete the remedial investigations for

tributary 1 south of Pearson Road. So what

we are attempting to do is we'll talk to the community input group about is try and take littler chunks rather than trying to take one big chunk because it is a large area and try and break it up so it's easier for us to handle and it's also easier for us to understand and hopefully, easier for you to understand.

Those are the things that we'd like to do next year. We're having another community input meeting in November. I don't know the date. Mayor Maedl might know the date. I don't know it off the top of my head.

MS. MAEDL: The 5th.

MR. McGINNIS: The 5th. Thank you. It's the 5th. You're all welcome to come. That's why we have the meetings, listen to your concerns and listen -- are we doing the right thing, are we going the right way. But we think this is the plan that's been formulated. We will continue to talk to residents and take their input.

It's been a great year for me. I

know a real learning experience to listen to everybody and hear their comments. I really appreciate your participation. Thank you very much.

MS. HOWARD: Several people have said I'd it's 9:00 o'clock, but I'll just ask one more time, are there any other questions or comments?

MS. STORCH: My name is Liz Storch. And I think it's too low. I'm going to drive home down the street. I think -- what is my risk of being killed just leaving this building. If you have a child growing up, it's like this law is so low for cancer. It's like if you have a child, you never want him to leave the house because they might get -- this happened, this happened, this happened. I just think that's -- how do we do that politically?

DR. SCHOOF: I'm just a scientist.

MS. STORCH: I didn't approve

that. I was never asked. It was never a referendum, you know, what do you consider a

viable --

DR. SCHOOF: The Senator has left. He's the one you need to ask.

MS. STORCH: Okay. I just think, you know -- I just think it's a matter of extremists. There are places in Middleport that do need cleanup and I'm so glad that the air deposition area is going to maybe be heard.

MS. HOWARD: One more call for questions? Okay. We ask that you please make sure that you've signed in. If you have cards and you've expressed concerns, please make sure that we have those. We will bring them back to the community input group. And they are collecting the cards in the back. There is Mrs. Wiskit. She's collecting cards. Again, thank you all for coming and remember the input group is meeting again in November.

(Whereupon the proceedings concluded at 9:05 p.m.)

C E R T I F I C A T E

I, DOREEN M. SHARICK, do hereby certify that I have reported in stenotype shorthand the Arsenic in Soil Public Hearing at the Middleport Fire Hall, Middleport, New York, on October 1, 2007.

That the transcript herewith numbered one through one hundred forty-seven is a true, accurate and complete record of my stenotype notes.

_____

DOREEN M. SHARICK

Notary Public.

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