Transcript of Proceedings

Date:January 17, 2013

Case: DuPont Chambers Works FUSRAP Site

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PROCEEDINGS

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DUPONT CHAMBERS WORKS FUSRAP SITE

FUSRAP COMMUNITY BOARD MEETING

- - - - -

PRESENTED BY MICHAEL HART

- - - - -

HAMPTON INN

429 NORTH BROADWAY

PENNSVILLE, NEW JERSEY

- - - - -

Thursday, January 17, 2013

7:00 p.m.

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BEFORE:

Michele R. Honaker, RPR

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MR. HART: All right. We're going to go ahead and get started.

Can everybody hear me in the back? Okay? It's fine? We have a microphone if you're having trouble, but I prefer not to use it if you can hear me.

My name is Mike Hart. I'm the Project Manager for the Corps of Engineers for the DuPont FUSRAP Facility.

I'd like to thank you all for taking the time to come out tonight. This is probably our biggest turnout in a long time. We really appreciate it. It is great to be involved in it.

Along with the members of the community, we also have additional members of the Corps of Engineers here tonight. Along with members of our community board and some members of the NJDP, as well as Cabrera Services, who have helped the Corps of Engineers do the investigation of the facility.

We're here tonight to present what's called The Proposed Plan For the Cleanup of the DuPont Site. So we're going to go ahead with a little bit

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of a project history and overview of what's been done there. We're going to present what our proposed cleanup plan is.

We'll take some questions to clarify anything that was presented tonight. And at that point we'll move to what's known as the Public Comment Period phase of the project, where we'll open the floor to anyone who wants to make a comment. That is submitted to the official public record. So, if you wish, you can go ahead and do that tonight once -- you know, once we have any clarifying questions. And those records will -- those comments will, you know, officially be submitted to the record.

We just ask if you're going to submit an official comment to state your name so that we can go ahead and accurately get it. And then if you would like to sign the sheet up front at the end of the meeting, we would appreciate it, so we have the spellings correct.

Just some meeting logistics. If you have been to a meeting before, you're pretty familiar with the scene here. I guess something a little different, we do have a stenographer here tonight

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to take a full transcript of the meeting; whereas, in the past we've meetings minutes available on the project website. We'll have a full transcript of tonight's meeting available. You'll be able to view that on the project website. Also, a copy of that is going to be placed in the admin record, which is available in the library, a library copy.

I'm just going to ask that you hold any questions on the project until the end of the presentation. And that we specifically deal with the items being presented within the proposed plan tonight.

And then, again, you know, once we get through the questions, we'll again have that formal comment period.

We'll have three ways to take formal comments for the project; as we stated, tonight you'll be able to make any verbal comments you wish, but tonight will be the last time that we'll be accepting verbal comments. Anything after tonight we ask be provided as a written comment.

We have comment cards available at the front of the room if you'd like to take one of those. There's long and short cards available. If you

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take one of the longer ones, please make sure you get an envelope and an address label, and there's stamps up front too for you guys to use.

If you'd rather submit an e-mail comment you can go to a project website. There's a link there to do that. Here's the address. We'll have it again up on the screen at the end if you want to write it down. Those comments will be directly submitted to the Chief of Public Affairs at the Philadelphia District.

So, just some background on the project itself: This FUSRAP project came about to clean up some contamination that was associated with Manhattan Engineering District, you know, processes that were done across the country.

Background on MED was, you know, work supporting the Nation's early atomic program. Existed from the 1940s to the 1960s. It was located on various federal and private sector facilities scattered across the country, there's about 40 of them.

Specifically at the DuPont site, DuPont was asked to process uranium, where they converted uranium oxide, uranium metals, uranium

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tetrafluoride; and those end materials were then shipped off-site for enrichment at other locations.

At the Chambers Works, processing uranium began in 1942 and ended about 1946. At the end of the processing activities, the site was then decontaminated and returned back to DuPont in 1949.

After that time period, in the mid70s, the FUSRAP program was created. Based on new sampling methods and new health criteria, it was determined that a lot of these sites were not cleaned up to, you know, today's levels. FUSRAP was created to go back and look at these sites that were used as part of the MED process and determine if any of these contaminates existed on sites still and to clean those up.

Originally that was -- that task was given to the Department of Energy. Congress then gave that, transferred that responsibility to the Corps of Engineers at about 1997.

1999 Corps of Engineers began working at the Chambers Works site with some, you know, initial investigations. And we did some building demolition and decontamination, materials were shipped off-site. At that point, we continued with

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what's called the Superfund or CERCLA process to go about investigating the site and cleaning it up.

Here we see that, like an outline of the CERCLA process which is being followed. We'll start here in the beginning with the sort of site assessment. Then we move to what's called the "Remedial Investigation," where samples were collected onsite looking for contaminates, and then the human health and ecological risks were assessed.

Completion of the Remedial Investigation resulted with what's known as the Feasibility Study where you looked at all the available methods to clean the site up and different ways to go about remediating the site and removal of the contaminates.

From the Feasibility Study, we developed what's known as the "Proposed Plan," which is what we're here tonight to present. It's the proposed scenario by the Corps of Engineers on what we feel would be necessary to clean the site up.

Once the proposed plan has been completed, we go ahead with what's known as "Public Comment Period," which is where we are here today; right at

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the beginning of that. It will be a 30-day public comment period for anyone to review the proposed plan and issue a comment on that.

Once those comments are received, we'll respond to those. The comments and responses will become part of what's known as "Record of Decision," which is the documented cleanup of the site. Beyond that, we'll move into the remedial design and cleanup action.

So throughout the process we've had four stakeholders which have been involved in the investigation and cleanup alternatives. The Corps of Engineers has been the lead agency behind DuPont, being the landowner, had some involvement; as well as we've had a pretty strong community board that has attended regular meetings, who have been briefed on the process and what we've been up; and then the regulators represented by the NJDEP and EPA have been reviewing the documents as well.

So here we have just, kind of, an overview of the Chambers Works facility. As you can see here is the property here. Delaware River and Delaware Memorial Bridge and Shell Lane is down here. It's kind of an overview of where we are at

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on the site.

While on the site, three operable units were identified where uranium processing activities took place. We had Operating Unit 1, which is where they had production areas. Operating Unit 2, which are some of the drainage ditches from those areas. And Operating Unit 3, that is where the disposal areas, materials were disposed.

Of all those three operating units it was further broken down into six different areas of concern within those operating units.

So, all the processes used to develop uranium onsite were then evaluated against a list of specific radionuclides and chemicals that are eligible for cleanup under the FUSRAP program. All those materials listed, three were identified as eligible for cleanup under the FUSRAP program; it would be uranium, thorium and radium.

Onsite, within all the areas concerned, we sampled all various source of media for contamination. Soils were tested in all six of the areas concerned, as well as groundwater in all of those areas.

Sediments and surface water were only

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present at area of concern three and six, that's where we did the testing for those. In addition to that, background references were taken for all sample media throughout the site.

Several investigation methods were used to identify the presence of any contaminants. We used multiple methods, anywhere from geophysical surveys to air monitoring. In the end we collected more than 93,000 data points of possible contamination areas throughout the site.

So, as a result of those investigation and those data points, we determined that there were about two and a half acres in Operating Unit 1, which is this one here -- if you remember the past slide. And less than a tenth of an acre over here in Operating Unit 3 that were shown, were found that shown some contamination.

Groundwater, there was little or not -- there was some groundwater contamination detected for uranium. It was through monitoring of some wells onsite, it was determined there was little to no migration of that groundwater from the impacted soil areas.

There was limited impact in drainage issues.

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And there was no impact contamination to surface water. Because the groundwater contamination showed little to no migration there wasn't an impact to any drinking wells that were sampled.

Currently, at the DuPont facility, they currently run their own water recovery program for their own contaminants, which is kind of shown here. If you can see this, there's two pump stations here and here, which are actively drawing water towards the pumps, away from the river and away from surrounding areas. It's very hard to make out here, but these little blue dots are the areas where we had found contaminated groundwater. And these are also the sites where we had the contaminated soils, since, you know, we determined that the groundwater is not moving away from the soil areas. But here's to show that, you know, if that even was to occur that it's well within the DuPont catch zone for their own active processing.

Here's a map of the area which shows the public drinking water draw areas where this -- you know, this is where the communities are currently drawing drinking water from. You can see the green bubbles here at the end of what's being drawn for

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the local community.

Once again, it is harder to see now that we're further away, but here are the areas where the DuPont -- well, here's the DuPont site. Here's the FUSRAP contamination, again was present. But once again, we -- through sampling the wells from surrounding area, we were able to determine that there's been no migration of the groundwater, contaminated groundwater from those areas.

So once we went ahead and evaluated the site for the contaminants, we looked at the exposure risk and cleanup goals moving forward for the site. A critical part of that is to determine the future use of the site. And in looking at the DuPont facility, it was kind of determined that the site is and will be industrial use probably for the remainder; so it was evaluated, cleanup goals were evaluated on industrial land use scenario.

Once the land use scenario has been determined, then we go ahead and look at risk assessment for the cleanup. And really the risk assessment is just, it's determination if there's a hazard, how bad it is and who actually is going to be exposed to that hazard.

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So, for this site we looked at past and current human receptors onsite who could potentially come in contact with any of the contamination there. Current receptor scenario were the industrial worker, construction, utility maintenance worker.

Future scenario, which we base the cleanup goals on, were determined to be the construction worker.

And then also residential receptors were analyzed for comparisons.

So, of those operating units that were looked at and the samples collected, it was determined that within these operating units, just these areas of concern, showed they had potential for risk to a construction worker onsite in those areas, so then these areas were further evaluated for the cleanup goals. Cleanup goals were -- the criteria which we were going to remediate the site down to. They were based on an industrial land use scenario. For a construction worker being exposed to it and then the groundwater in that immediate area was not being used.

The cleanup level then collected was 65

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pCi/g, equivalent to 15 millirem per year exposure rate to a construction worker. 15 millirem per year is also the New Jersey Cleanup Standard for remediation. So this -- this 65 pCi/g is the level that the soil is going to be cleaned up to.

And just to put that in perspective what 15 millirems per year is equivalent to: Typically an average person is exposed to about 620 millirems per year just from natural, manmade occurring sources. Here we list some other typical amounts, typical exposure amounts that people could be exposed to during the course of a lifetime.

In the 15 millirem, a good measure would be equivalent to about three flights cross country that you get in an airplane, that's about -- about the same exposure onsite.

So then in those operating units, we went back and collected all the samples and, you know, found the areas where the samples exceeded that 65 pCi/g, and they are shown here in pink. So all these blue samples were tested and the smaller pink areas are where we found, you know, contamination levels in excess of that 65 pCi/g.

And here again, here's area concern six.

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Again, you'll see the blue tested areas and the pink areas where they were elevated levels.

So then the feasibility study went ahead to determine what action was going to be taken in those areas on the site. Three alternatives were listed.

S1 is no action alternative, which is just required to be in there for a comparison.

S2 was excavation of that material and disposal of it off-site.

Alternative S3 that we looked at was excavation of the material, followed by some sorting of the excavated material and then off-site disposal of the exceedances.

This is a graphical representation of what was going to be done.

Alternative S2, which is excavation of material, material is excavated out of the ground then put into a staging area where it was going to be sent out on railcars to a licensed landfill facility at different parts of the county and then it would be in turn there.

The excavation itself would be filled with clean material and then restored to the existing

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site condition.

So, Alternative S3, similar process, material is excavated, it's then sent to a soil sorting system, similar to site mitigator, something of that nature, where the material will be screened for contamination levels. Anything lower than the cleanup standard would be placed in a separate stockpile, anything exceeding the standard would then be stockpiled and placed on railcars and then sent to the landfill. Other material that was below the cleanup standard would then be used to refill the excavation, along with clean fill. And again, that would be restored to the existing site condition.

For transformation of the excavated material the site was going to use existing rail lines that are on the site. Similarly, a lot of these remediation sites used rails, we expect private transport and only licensed waste haulers would be allowed to remove the waste to the disposal facilities.

Then a feasibility study refer to look at the impacts of the groundwater within the area. Multiple wells and data points were collected in

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the area to determine which areas showed contamination from uranium. Here you can see the areas that were impacted are these orange bands. Here in Operating Unit 1. Majority of these areas also contain the soil contamination here. So, you know, a lot of this contaminated groundwater is representative of soil contamination still being present at these areas.

Again, here, we see this area controls -- are concerns six. Again, showed some localized groundwater contamination. Again, it's right in the area that there was the soil contamination.

So the feasibility study went ahead to outline, again, three alternatives to cleanup the groundwater within the area.

GW1 was a no action alternative.

GW2 was active remediation where the groundwater will be pumped and treated.

The groundwater -- Alternative GW3 is what is known as monitored nature attenuation, where once the source material is then removed from the site, that the groundwater itself is allowed to turn to its natural state, having the source material removed the majority of that contaminated

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groundwater is removed with it; and overtime the contamination levels, which is through natural processes received. And that goes on. That process is monitored through the course of time to make sure that that is something that's occurring, that it is -- that we can effectively see that the contamination is reducing in the areas.

So, I guess, there's six total alternatives were then evaluated through the CERCLA processes and any of these criterias. Any alternative first must meet these threshold criteria, its alterative must be protective of human health and environment and it must comply with all ARARs. This is where those no action alternatives were then removed from the decision process and was left with just the other two alternatives.

Further those options were weighed in the balancing criteria and that can be any of these that range from long-term, short-term effectiveness, reduction in toxicity, whether or not the alternatives is implementable, and other alteratives would be cost factor.

Finally, there was some modifying criteria for any alternative site, first being state

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acceptance. We have been in contact with NJDEP, they have seen a proposed plan and have issued an approval that...

Then we're moving now into community acceptance, which is represented by the start of the public comment period tonight, and everybody has a chance to review the proposed plan and submit comments on it.

This just shows the total cost estimate for each of the remediation alternatives. Obviously, no cost is no action. About $33 million dollars for excavation of the material. $30 million dollars for excavation in sorting. Groundwater treatment about $8 million dollars and $6.5 for monitored natural attenuation.

So having looked at all those alternatives and evaluated them, a proposed plan was developed. The purpose of the proposed plan is just to summarize for the public what the alternatives evaluated were in the FS.

Beyond that, we describe the Corps of Engineers preferred alternative for the cleanup of the site. And then we'd also like to solicit public review of the proposed plan and your

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comments on that plan itself.

As we previously stated, the public comment period beings tonight. It will run the course of 30 days, which ends February 16th. In that time frame, we would like to solicit any public comments, either be verbally tonight or as any other forms we elicited earlier.

So the Corps's alternative, preferred alternative, which is listed in the proposed plan, would be complete excavation of the material and disposed off-site, the S2 method. And the monitored natural attenuation of the groundwater, which was the GW3 alternative.

During that process there is going to be continued site access restrictions to the contaminated areas, which is currently the case now on the facility. The access is restricted.

All right. So then what's next? So, after we complete the presentation tonight, again, we'll open it up for any comments solicited from any of the stakeholders, which is the public. At which point, the Corps of Engineers will review those comments and respond to them. Both the written comments and the Corps's responses are going to a

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document, which is known as a "Responsiveness Summary." That document is then issued as part of the record of decision.

Once the record of decision is completed and reviewed, Corps of Engineers will issue a public notice of the completion of record of decision. And from that we'll move toward cleanup and start the remedial effort, which is expected to be some time in 2014.

Having said that, before we get to the public comment period, does anyone have a question, basically, on what was presented?

MR. BOMBA: The groundwater attenuation where you were saying you're going to then monitor -- or, actually, even in the cleanup, you didn't say where you're going to dispose of this water that would be coming from the wells, if there was a problem. Is that going to be onsite?

MR. YOUNG: Yeah. The water is going to be filtered and then discharged after filtration, but they remove the uranium from it.

MR. BOMBA: Right, okay.

Now, what's captured, where is that -- that goes into the solid waste and gets trucked off or?

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MR. YOUNG: No. Once we've removed the radioactivity from the water, then we're going to give it to DuPont and they'll put it in their treatment system.

MR. BOMBA: I'm not talking about the water now. Solid waste that you collected, you filtered, that would go into the solid waste that's going out?

MR. YOUNG: Oh, that goes by rail to landfills.

MR. BOMBA: Okay. Is that containerized material or is it -- what method is being used for that rail or trucking?

MR. HONERLAH: Any waste that's going to go off-site for disposal will be packaged in accordance with Department of Transportation requirements, whatever container requirements there are. And typically from a site like this we'd look at putting it in an intermodal container onto a railcar. And since the distance is so far, it would probably be more cost effective to put it on a railcar and ship it out west.

MR. BOMBA: Recognizing there's a problem with disposal or sites accepting radioactive

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wastes, do we have a disposal site in mind?

MR. HONERLAH: There are -- for this site, the potential to segregate into a couple different disposal waste streams, something -- there are low-level radioactive waste disposal facilities that are available. And then there are also record facilities that take low-activity waste for disposal. So both facilities will be either licensed or permitted. And we'll put it out for bid with our prim contractor to seek the most effective decision, I guess pathway for it.

MR. BOMBA: I guess the last part of my question: The well monitoring, if you found seepage or you found contamination later, what would be your remedial action at that point; to come back in or to redo testing?

MR. HONERLAH: I think as part of the record of decision, and the CERCLA process requires continuation monitoring, typically through a one or two-year review then into a five-year review where they will look at the wells and make sure that it's effective.

I think what we saw out when we did our investigation that the uranium contamination, as

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Mike talked about, is primarily -- in the water contamination is primarily associated with where the contaminated soil is. So I think our assumption is we remove the source term, i.e., contaminated dirt, any groundwater or seepage that comes in from new rainfall or things like that it won't become contaminated again.

MR. BOMBA: Okay.

MS. STRANAHAN: Is there any effect on the local aquifers?

MR. HART: No. This contamination was pretty shallow, primarily within the groundwater contamination, less than 20 feet, which would be the upper two aquifers, which really aren't used. It's the deeper aquifers which are actually, I think, used locally.

Ms. STRANAHAN: And did you go off-site to check any of the water in Pennsville or water in the river?

MR. HART: Do you know how far off-site?

MR. YOUNG: Well, we followed it from the center of where it entered the aquifers and then moved outward. So we only needed to go a couple of hundred feet at most. So we followed it from where

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we knew it contaminated the aquifer and moved outward.

So we didn't start where we didn't know where it was, we started where we knew where it was and moved out. And it was -- the contaminated groundwater only exists where there's uranium in the soil, so it's -- it hasn't migrated hardly at all in the last 65 years. It's really very well contained in those locations.

MS. POWELL: So you're saying there's no way to seep out into drinking water or the other water in the county?

MR. YOUNG: Yeah. We've got 40 wells that we've been -- had installed around these sources. So with the 40 wells we have good control and so we know exactly -- we've got wells that are upgraded and wells that are cross-graded, wells beneath where the contamination is and wells downstream too. So we've surrounded the contaminated areas with wells and measured those on a quarterly basis for quite a number of quarters in order to see if we'd see any change to the migration.

And over all of those events it was, it was -- we were all impressed by how the fact that

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there wasn't any migration at all. And we have good explanation why, part of that monitored natural attenuation is to understand the processes that cause that -- that uranium to stay in place. It's important to understand why. And we think we have a good understanding of why, and it's because of the chemistry of the uranium.

So, we know why it's staying in place and we're confident then, with excavation of the soil, 90 percent of the uranium in groundwater will also be removed. So only 10 percent will remain. And there will be soil monitoring -- after we excavate we'll monitor it and make sure it does remain in place. It should. The concentration should really drop down after we remove the uranium from the soil.

MS. JOHNSON: Excuse me. I'd like to make a request, please. Just so we can capture your comments and responses, because Carl just gave us fabulous, a good response to the groundwater issue, which I know so many people are interested in. If you're going to speak, could you please stand and state your name.

Michele, our court reporter, would love to

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get it all captured accurately, thank you.

MR. DAILEY: Yeah, I'm Mark Dailey. I want to follow up on that.

I misunderstood from the presentation. I thought -- when you gave the slide that showed where the water was drawn from the communities around, I thought you did some baseline testing there. And now I'm understanding from your answer that you did not do any testing from the --

MR. YOUNG: Not outside.

MR. DAILEY: Did not do any testing from our drinking water?

MR. YOUNG: Right.

MR. HOLLEY: Joe Holley. I'm from 733 Hawks Bridge Road. And I just wanted a question as far as do we think that there was any contamination of the canal that runs along the -- along your site that comes out going towards Cedar Crest or Hawks Bridge Road area that travels back there? Has anyone done any testing on that canal that has been there for a while? It's like a main runoff from there that goes back that way. You just put another boat ramp back there, right next to the house, and I was just inquiring about that.

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MR. YOUNG: Yeah. We looked at -- so, we started with this historical site assessment looking at what -- historically what they -- where they were onsite, where they did production, where they did the dumping. So we knew where they were working onsite, so we investigated those areas. And the farther south was along what's called East Road and that's quite a bit north of the canal.

So there was some disposal to the north, some in the center of the site, but not down in the south. And Jackson Lab had some work too, we investigated around that. So, there wasn't anything down farther south, it was all -- it was all East Road, Jackson Lab and north of that.

MR. HOLLEY: Okay. That was just, you know, one of my questions as how far that testing went out. I was just concerned about the canal because it's everybody's back door that even lives along that road there, going all the way back 40 and beyond.

MR. HONERLAH: We did test a lot of the drainage ditches in and around where the processes plants were and didn't identify anything in those drainage ditches that would have kept us from going

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further and further away from where the process plants were.

MS. JONES: My name is Luerine Jones. 733 Hawks Bridge Road.

I have lost my whole family there. 733, I had three girls, my husband. I took care of two guys from the estate in my home. Everyone has died from cancer. And I do believe that that -- around that area there its contamination that is around there. Because everybody that's there in that house is afflicted some kind of way. And I believe that there's radiation around that house.

I was intending to get a lawyer because I think that there is something there in that water.

How many feet, about 100 feet from the river there to my house.

MR. HOLLEY: Less than a football field I'd say, probably 70 yards at best. I mean, if we get a good rainfall or whatever it's at the back door.

MS. JONES: That's the last house right there, what you call, you know, just before the road there.

MR. HOLLEY: The closest one.

MS. JONES: It's just before that. And I do

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believe -- I don't think anybody has ever, you know, come to check that soil or check nothing around that house. The water is no good. We cannot drink it. And everything is just, it seem like it's, like a turmoil there.

And I, I would love to have some you all, whoever tests, to do some testing there around my house and that field back in there from that lake right in the back door.

The boat ramp is right in my door, almost. Where they put the boat ramp, it's right there. So it's something there in that soil and water that is just not right.

And if you could, I would like to have somebody to check that out. If you could.

Okay?

MR. HART: Thank you.

MR. GREEN: Hi, my name is Charles Green from Pennsgrove. I was looking at the screen when you said Alternative 1, Alterative 2, Alternative 3 and you had groundwater, Groundwater 1, Groundwater 2, Groundwater 3.

Now, number one, that means there ain't no contamination at all?

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MR. HART: No.
MR. GREEN: What do you mean no action taken?
MR. HART: It is just we won't do anything about it. It's just purely there for a comparison.
MR. GREEN: Okay.
MR. HART: Just, yeah, going through the process we're mandated to list a no action alternative, just to show, to evaluate what would happen if you didn't do anything.
MR. GREEN: Okay. I was thinking it might be a little contamination but not enough to do any -- I thought that's what you meant. I mean, that's what you meant?
MR. HART: It's an evaluation of the contamination onsite. So if you were to look at it, just, you know, if we were to look at the site and what would happen if we didn't do anything. If we wouldn't do anything it would never --
MR. GREEN: It would be no harm.
MR. HART: Well, in this case there would be. We would never get below that cleanup standard. So, once that criteria where it cannot, it can't be harmful to human health, it would be if

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we didn't do anything. So that alternative is not, it's not selected. It goes out of the decision process. So, it's purely there as a comparison.

MR. GREEN: Oh, okay.

MR. HART: If you are following through the CERCLA process.

MR. GREEN: Okay. Thank you.

MS. DEMAREST: Hi, Pat Demarest. In your 85-page report I read online today, you had said that the Potomac group was the F aquifer where most of the water in South Jersey and Delaware came from. Can you show us where that was on the map in reference to the DuPont site?

MR. YOUNG: Oh, well, it's beneath the site, but it's --

MS. DEMAREST: I --

MR. YOUNG: So, that the aquifer is a letter A, B, C, D, E, F so it's, it's way down, you know, 100 feet --

MR. HONERLAH: In excess of 170.

MR. YOUNG: Yeah. So the uranium contamination we studied, we found it in A aquifer, in the B aquifer. We looked down in the C aquifer it wasn't there. And, so -- so we studied

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vertically underneath these locations to see how far down it went. So the B aquifer in areas, in our study areas, it's only 20 feet underground, the A and B aquifer. So, that's how we know it didn't go down, we have wells below that.

MS. DEMAREST: Thank you for clarifying that.

MR. GLADHILL: Wayne Gladhill. It was a good presentation. Unfortunately for me, it was pretty fast. You went through it really fast. I guess in the future for any presentation for me and other people it would probably -- I know it will extend the meeting a little longer, but chart-by-chart. There's a question I think I had and you were going through so fast, sort of taking notes, you know, I was trying to take notes as you were making issues you just went so fast. Is this presentation online?

MR. HART: It's not online. The transcript will be available online. We don't have any video.

MR. GLADHILL: What about the pictures you put up?

MR. HART: We can put that on the website also?

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MR. GLADHILL: That would be great.
MR. HONERLAH: And I think we'll be here until at least 9:00, so if the meeting breaks early and you want to stay by and chat specifics we can do that as well.
MR. GLADHILL: I got a couple of questions.
MR. HART: Okay.
MR. GLADHILL: You mentioned you had six area of concern on the plan site.
MR. HART: Right.
MR. GLADHILL: Where are those areas located on the plan site?
I mean, where can I find specifics where they are located at? I'm an employee of that plan site and I'd like to know where that's located on the site.
MR. HART: It might be the one behind me. We can put it up on screen.
All right. So it's shown here, I guess.
Operating Unit 1, area of concern one -- this one is near area concern two. Area concern six -- five and six are in here. And then I think four is --
MR. YOUNG: Four is the big one?

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MR. HART: Four is the area --
MR. YOUNG: And there's five.
MR. HART: Five.
Do we have one that shows --
MR. YOUNG: Three is the in between. We have one that shows AOC's in the back.
MR. HART: Don't we have one that shows them all broken out?
MR. GLADHILL: So, we're actually talking about areas on the plant site, DuPont Chambers Works?
MR. HART: Yeah.
MR. GLADHILL: We're talking about more than one area, correct?
MS. NELSON: We investigated six areas.
MR. GLADHILL: There are two areas above the contamination that are the roped off or areas where people can't get into.
MR. HART: Yeah. They are currently restricted.
You know, site access to the entire area is restricted and then furthermore onsite access is restricted.
MR. GLADHILL: I only know of one area where

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there is a sign that says, contact radiation stake off, and that's the only area I know of.

MR. YOUNG: That's actually two areas of concern there in that lot.

MR. HONERLAH: That's former Building 845 area.

MR. GLADHILL: And that's where --

MR. HONERLAH: And then the F-Corral, which was next to it. So, it really is a continuous area, but we broke it out into two. We call AOC 1 and one of them AOC 2 because there were two separate plants. I think under F-Corral was former Building 708, so that's actually one continuous area that's roped off, but we call it two AOC's.

MR. GLADHILL: So it's broke down.

Now, the F-Corral, as it stands right now, DuPont is expanding that area due to Homeland Security as far as parking area. I mean, you know, do you guys know that? Were you involved with that?

MR. YOUNG: Yeah.

MR. GLADHILL: Because as an employee we have no knowledge of what's going on.

This is -- the only chance for us getting

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information is to hear it from here, that's why I come to this meeting. Plus, I'm a local resident, so I got concerns about that, also.

MR. YOUNG: Yeah. They checked with us and we investigated all of that F-Corral and they asked well, could we put that road over on this part and that part wasn't contaminated so that part was cleared. So they -- where they actually worked with the Corps to design where that road could go through there.

MR. GLADHILL: Because the road is like right next to that signs.

MR. YOUNG: Yeah.

MR. GLADHILL: They are also going to spray that parking lot, also. They are pushing a lot of cars out of the area -- they are pushing everybody back into F-Corral, further down. So we have a lot more vehicles back in that area.

MR. YOUNG: Yeah. See the hazard would come from being in contact with the soil underneath the gravel in that area or drinking the water underneath the ground in that area.

So driving by that area there's no hazard.

MR. GLADHILL: So you would pick up nothing

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with a Geiger counter?

Yes, Geiger. You would pick up no rems on a Geiger counter in that area?

MR. YOUNG: Well, in the roped off area, if you had a sensitive enough meter in those area where it is roped off you would see measurements.

MR. GLADHILL: So you would see readings?

MR. HONERLAH: You would see reading, but it wouldn't be a significant health hazard. In the roped off areas uranium has some shielding in between where the contaminated dirt is and where a person would stand in the form of, you know, six inches of gravel. So you might see something slightly elevated above background, but it wouldn't require posting or separate controls that say radiation area.

MR. GLADHILL: I have just another question. You said you listed that you had came across -- you said you would equate it out to 50 millirems, which actually would be 65 --

MR. HART: pCi/g.

MR. GLADHILL: Yeah. You mentioned that there was a couple of areas higher than that, where are those areas located at and what were your

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readings?

MR. HART: Well, the areas when are -- if you could go back, Carl.

I'm not sure you can make them out back there, but it's these -- all the dots are the test areas. It's the -- it's the pink, purple ones here that had the elevated readings in it.

Carl, did you know what the --

MR. HONERLAH: I don't remember what the numbers were.

MR. HART: What the peak numbers were?

MR. YOUNG: Oh, well, what the highest reading would have been? Well, the highest reading is about one percent or so. So, at 20,000 pCi/g in the hottest part -- see the production building was 708 and there was -- there was contamination underneath the building. And so the highest concentration is about one percent uranium, 30,000 pCi/g in the soil, three -- two, three feet down underneath the ground.

MR. GLADHILL: When was the last time you took readings of the area?

Of the hot areas are the two main areas you're concerned about.

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MR. YOUNG: Well, so the investigation was kind of progressed in a stepalized fashion from production areas to other areas, so we did this investigation first and that happened back in 2002 or about 2002.

But groundwater was investigated afterward. And there were further, kind of, a lot of backing, subsequent readings after that, so the initial investigations by us done in 2002, but even some earlier by other investigators before that.

MR. GLADHILL: All right. So the last time you took any real readings was back in 2002?

MR. YOUNG: Oh, no. We sampled wells just four months ago. And the levels in uranium groundwater went way down. As a matter of fact, just six months ago, so we were just out there in 2012.

MR. GLADHILL: So based on your opinions you are reading from there's no real health hazard to employees who walk through the area or park in the area or work in the area?

MR. YOUNG: Yeah, that's true. That's absolutely true.

MR. GLADHILL: Unless there's digging being

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done?

MR. YOUNG: Right.

MR. GLADHILL: How far do they have to go down to experience any type of abnormal levels?

To me, you know, no matter what type of radiation is not normal. I know you say 360 millirems per year. If you go by the International Standards, there's no safe amount of radiation, no matter what the level. And that's the International Standards, no matter how low or how high there's no safe rating. So if it's 15 or 300 millirems, I know that's within so-called standards, but really it is no safe level of radiation. Just what I know.

MR. HONERLAH: Well, and the 360 -- or actually they just changed their thing, it's more like 600 millirem per year is what you get regardless. It's just background; from naturally occurring materials, from medical imaging tests, x-rays, from other things that are just commodities that we deal with everyday. So the 600 is what everybody is exposed to.

Now, in New Jersey it may be less than 600. In Denver, Colorado where you have higher elevation

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and, you know, different types of rocks in the mountain chains out, there might be a little higher than 600, but on average 600.

And I think the thing that we're looking at here is 15 versus 600. It's a standard that's been promulgated by the State of New Jersey for us to consider. But for us to clean that level is really only a fraction of what is naturally occurring and that folks are exposed to annually from what's already in the ground.

MR. GLADHILL: Okay.

MR. HART: Okay. Any additional questions?

We may have moved into the comment period, but, you know, if anyone has any specific comments they would like to express now, in addition to what we've already talked about, you can go ahead and do so now.

Otherwise, please feel free to take a comment card or comment sheet at the front desk on your way out and drop them in the mail with a written comment.

Sure, Glen.

MR. DONELSON: I have a comment. I'm Glen Donelson and I'm the community leader. I have been

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on this since it started.

MS. JOHNSON: You sure have.

MR. DONELSON: And I can't remember when it started, it was so long ago. And I have seen a lot of elected officials, I have seen a lot of DuPont employees and retired employees come here, and the one thing that I'm very pleased to say the Corps Army of Engineers and Cabrera have always answered the questions.

I have heard this presentation probably a dozen times at least, if not, and sometimes when people come out wow, we're going to go through all this presentation again. But what I'm very pleased about -- and I live in the community, I live less than two miles from here, as I said I worked for DuPont for over 37 years and have been all over DuPont, and I know miscellaneous stores and you know, a lot of people work there. But I would give these guy as great big outstanding comment for Mike, Carl, Ann, they have always been aboveboard about their answers. And, in my opinion, have never attempted to hide anything from any of the people in the community.

MR. HART: Thank you.

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Sure, Ma'am?

MS. STRANAHAN: My name is Terry Stranahan again.

The reason I came here is because I am concerned about the water. I'm concerned about the drinking water. Many of us got letters from DuPont stating that there was contamination in the water. That fizzled out, I guess, because I sent my response back in and never heard anything from them. I don't know if that's connected to this or not.

I know from working in the area of Pennsville/Carney Point as a visiting nurse we have a high number of cancer people here. Some whole streets from house-to-house have had cancer. I would call it a cluster. I haven't done research on it, other than face-to-face. So, I'm just -- that's my main concern.

So when you start talking about not going off-site, do you have any overlap with this other situation DuPont has with the water?

MR. HART: No. I mean, we just tested for the area contaminants that were associated with the FUSRAP eligible contaminates. So, we followed

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those contaminants within the site that were local used during the MED process.

MS. STRANAHAN: So is anybody here from DuPont?

MR. LUTZ: Yes.

Ms. STRANAHAN: So maybe you can answer about the water.

MR. LUTZ: I'm not sure why you got the letters, but the groundwater under the facility is contaminated.

I work at DuPont. And just to answer Ms. Stranahan's question, yes, the groundwater under the site is contaminated. And DuPont is investigating that and has been controlling the groundwater since the 70s.

So, the contamination has not moved from the property to the extent of what we know. But those letters went out as a result -- actually, I don't know, I can't say why.

MS. STRANAHAN: There's a litigation associated with it.

MR. HOLLEY: Unified Letter of --

MS. STRANAHAN: That's funny?

MR. LUTZ: No. No, I'm not involved with

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that.

But those letters went out as a result of PFOA, which was suspected of emanating from the plant. It's an unregulated compound. But DuPont agreed to test everyone's well within a two-mile radius of the site and that's what those letters were about.

We can talk about this after this FUSRAP meeting is over. I'd be happy to discuss what we know about your questions, rather than clogging a FUSRAP --

MS. STRANAHAN: That was my question, is it related?

MR. HART: No.

Yes, sir?

MR. DAILEY: I'm Mark Dailey. I have just one final comment: In the interest of public confidence of what's going on -- and I understand that it may be outside of the scope to go off-site of the Chambers Works plant -- but I think that the testing of the wells where the surrounding community draw their water, just to be sure -- given its contamination occurred 70 years ago, would help raise the confidence of the general

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public and the area that the lady back here expressed concern about, because it is connected, I think, in the interest of making the community feel better about what's going on that that testing would be helpful, given it's a $40 million project.

MS. STRANAHAN: I second that.

MR. HONERLAH: Can I just -- Carl, real quick.

MR. YOUNG: Sure.

MR. HONERLAH: In response to that question. I think his first question was focused on this graph here, where it talks and it shows about -- and I don't know if you want to put that up.

So his first question, as I understood it and I think you missed the point of the question, what is this information here where it's showing the public water wells off DuPont and their reach?

I understand we're showing that the reach isn't pulling water from the DuPont site, but how did we get this information? Did we get this from the public supply wells?

MR. YOUNG: We got this from the State.

MR. HONERLAH: From the State.

MR. YOUNG: Yeah, the State Water Well

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Registry. The State database.

MR. HONERLAH: So that shows us where and how the water is drawn for the public water supplies?

And then the next question, and typically the public water supply wells must meet, I guess, the public drinking water regulations, the MCL's. And there is an MCL for uranium, so the public water supply wells are required to test for that annually. And they should publish their results annually for uranium, and they'll typically also look for gross alpha, gross beta and radium.

So, that information should be available at the local water treatment facility that's supplying the public water.

MR. DAILEY: Well then couldn't that also then be incorporated in your report?

MR. HONERLAH: We can -- I guess as the comment, I think what we'll do to try to address the comment is we'll go to those facilities, look at their data and confirm that it meets the requirements.

MR. HART: Okay. Thank you.

MR. BOMBA: Patrick Bomba again.

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That's great for the wells that you're showing there, but I would say that the people in the Cedar Crest/Mannington, areas like that are on their own wells. They are not on the deep-wells that are being shown on that graft.

MR. HONERLAH: Okay.

MR. BOMBA: My well is only about -- well, up until about a year ago, was only about 30 feet deep, okay. I just had to have a new well put in, now I'm about 170.

And, of course, I was very curious of the aquifer that I'm pulling out of, so I did a little research. And I think that's where the concern is with some of these other people because of, especially in the people in Hawks Bridge, I know they do not have city or local water that way. Theirs is well water.

MR. HONERLAH: Well water.

MR. BOMBA: Okay. That's it.

MR. YOUNG: Maybe this map here is probably a good thing to look at. In that case, the map that shows where DuPont is pumping the ground water beneath their site, they are capturing the water beneath their site.

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MR. BOMBA: And they are treating it onsite.

MR. YOUNG: And they are treating it on site.

And then you take one step from that, the very tiny areas where you have uranium contaminated groundwater they are -- at the very top, you know, only 20 feet down at most, it is very localized. And we've got wells below that. So, we're really confident that that uranium hasn't moved out from those little tiny areas.

And when you consider how far away from the property line even those spots are and the fact that DuPont is recovering that groundwater anyway, the thought that that -- the uranium could get from those little tiny spots any distance at all, you know, we would know. We would know.

MR. HART: Yes, ma'am.

MS. DEMAREST: Pat Demarest again.

I have another question. When we're talking about transporting the byproduct off-site, what kind of security will be instituted at that time?

MR. HART: Are you talking physical security or security on the --

MS. DEMAREST: Security of moving

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radioactive contaminants off a site.

MR. HART: Material will be placed in lined gondolas or railcars, and that material will be sealed and then transported from the site area.

MS. DEMAREST: Okay. But then how about further security? I'm not saying armed guards, but I mean the risk of that being taken.

MR. HART: Oh, I don't, it's very low-level kind of radio active material.

MR. HONERLAH: The Department of Transportation has certain trigger levels where you would require specific security plan if you have material that exceeds a certain concentration. I don't think that anything that we're going to excavation from here is going to hit that.

MS. DEMAREST: Okay.

MR. HONERLAH: That requirement.

MR. GLADHILL: A followup question on the soil removal, especially the hot areas F-Corral: When you start doing the digging, how far do you expect to go down to have to dig out to get to a safe zone?

MR. HART: Well --

MR. GLADHILL: Well, in other words, no

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radiation, no uranium.

MR. HART: Right. The majority of the areas we expect to go about eight feet. I think some of the deeper sections, or there's an isolated deeper section and it is about 14 feet, I believe. But some of -- those two posters show the cut lines, the excavation cut lines, the depths we intend to go.

We will be actively testing during the excavation to make sure we do remove all materials below that cleanup standard. So, once you get to a point and test the bottom, once we've gone below the cleanup standard then we'll stop digging basically.

MR. HONERLAH: As well we will have air monitoring around the dig -- I knew where uranium going.

We'll have air monitoring around the dig to ensure that as we're excavating that we're not releasing contaminated material out in particular off -- outside the excavation.

We'll use engineering controls through moisture, water to spray down the dig if it's too dry. Hopefully, as we get a little deeper, the

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soil will be moist and that will help us as we go through controlling the situation.

MR. GLADHILL: You will have 24-hour monitoring as far as air monitoring, but also is going to determine how much -- if there is any additional radiation coming out in just the air itself, regardless of -- the soil is another question I have, but concerned about that also.

But just in the area itself --

MR. HONERLAH: Oh, yeah. Yeah. We will --

MR. GLADHILL: Especially employees being around there.

MR. HONERLAH: We have to monitor for the DuPont employees, which will be considered members of the public, but we also have to monitor for the employees conducting the operation.

MR. GLADHILL: Right, that's correct.

MR. BOMBA: Patrick Bomba again -- oh, sorry.

MS. WOOTEN: My name is Cheryl Wooten. I live in Deepwater. I live right in front of the plant, right near the canal.

I want to know are we going to be contacted when you start digging? Are you going to have any

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more meetings to let -- I think more of the residents in Deepwater don't know -- we kind of just take it advantage of the fact that we live in Deepwater and oh well. But this is not going to be oh well, this is going to be something we're going to be concerned about.

I guess it's supposed to start in 2014. I don't know when it's supposed to start, I didn't know if you're going to contact us. If you are going to start digging and everything is going to happen in my neighborhood.

MR. HART: I mean, we've conducted regular public meetings. We typically like to try and have them twice a year, we'll continue with them up through the remediation.

In addition, once that raw document is finalized we'll issue a notice that that's being published. And I guess at that time we may know further towards when we anticipate starting construction, so -- but you can, again, visit the public website. We have information of activities we're up to on that.

We can, you know, as we get closer we can, you know, post something as we're about to start

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activities. But probably the best source of information is to just attend the meetings.

We send out mailers similar to what we did to this one all the time. We also -- I believe we put public adds in the paper.

MS. JOHNSON: And before any response or action starts there would be information sent out, particularly to the neighbors right around in the area that you're talking about and on Shell Road as we did with this meeting? We raise -- we tried to make sure that we got the postcards to the neighbors.

MS. WOOTEN: Well, I didn't get a postcard.

MS. JOHNSON: Well, you got to get on the mailing list.

MS. WOOTEN: The only way I found out is I read the newspaper.

MS. JOHNSON: Well, we need your name and address and --

MS. WOOTEN: Well, maybe I should give you all my neighbors' names and addresses.

MR. HART: None of them received them?

MS. WOOTEN: Just make sure Deepwater gets everybody included.

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MS. JOHNSON: We sure will.

MS. WOOTEN: I'll go around and get a petition or a paper or asking people. I don't see any of my neighbors in this room and I live right in front of it.

I know, the altitude is people don't care, but when people hear radiation, uranium and then all of a sudden oh, they get concerned. And I think people need to be concerned now. And it's best to be a neighbor -- because DuPont -- my husband's father and grandfather, both of them, they all worked for DuPont. They work at Chambers Works. They worked at all the other DuPont. DuPont is a wonderful company.

But I mean I work for people in Pennsville that -- I clean houses for many men that work for DuPont and it's a wonderful, it's a wonderful company to work for, great benefit. I don't know what it's like now, but years ago it was. And I know that the Corps of Engineer where we go camping is wonderful. They share a lake down in North Caroline, we go camping in Virginia and the Corps of Engineer are wonderful people. So I have

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wonderful things to say. But it's just a concern that now they are talking about something that's been there forever and now you're going to dig it up.

MR. HART: All right.

Yes, sir.

MR. BOMBA: Pat Bomba again.

When you start your excavation, recognizing that core drilling is your sampling method doesn't always identify exactly where your hotspots could be or where they go off to, will you continue your monitoring, continue your digging so in case it has to expand you'll be doing that as well?

MR. HONERLAH: Yes.

MR. HART: Yes.

MR. HART: We'll actively monitor the depth and the lateral extent of the excavation.

MR. HONERLAH: We'll use field instrumentation that guide the excavation instead of saying here's where we stop and when we go in that's where we stop.

MR. BOMBA: Recognizing that the sampling is very local, but then as you really start to dig then you'll kind of have to evaluate whether you

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have to move or not.

MR. HONERLAH: Yes.

MR. HART: Okay.

Anyone else have a comment? I guess.

Okay. Carl, if just go to the end read quick. We'll just show -- once again we have the postcards. And if you visit the project -- oh, I'm sorry.

Go to the project website as well, there will be a link for an e-mail address. And I'll just leave this up here on the screen in case anyone wants to write it down. Here's the website address where you can go to get more information about the project.

On that site there will be a link, it will bring you up to this man here, Ed Voigh. He's the Chief of Public Affairs for the Philadelphia District, the Army Corps of Engineers. You can address all your e-mail comments to Ed's attention.

I appreciate everybody coming out tonight. I just thank you for your interest in the project.

MS. JOHNSON: And if anybody didn't get on the sign-in sheet, please do, because we really would like to capture your address.

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MR. HART: Yeah, especially if you didn't get a postcard.

MS. JOHNSON: And get you on our mailing lists because there will be more communication.

MS. HART: And also we'll stick around here until nine o'clock so if anybody has any additional questions, concerns you'd like to come up and address us we'd be happy to talk about it.

(Meeting concluded at 8:14 p.m.)

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C E R T I F I C A T I O N

I, MICHELE R. HONAKER, Registered Professional Reporter, certify that the foregoing is a true and accurate transcript of the foregoing deposition, that the witness was first sworn by me at the time, place and on the date herein before set forth.

I further certify that I am neither attorney nor counsel for, not related to nor employed by any of the parties to the action in which this deposition was taken; further, that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

Michele R. Honaker

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Michele R. Honaker, RPR