Naval Weapons Industrial Reserve Plant

Bethpage, New York

Restoration Advisory Board

Regular Meeting

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7:00 P.M.
May 20, 2003

Bethpage Community Center
Bethpage, New York

P R E S E N T:

Joe Kaminski	United States Navy Naval Air Systems Command
Dave Brayack	Tetra Tech NUS Debra Cohen
Jim Colter	Northern Division, NAVFAC

RAB Members
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CO-CHAIR KAMINSKI: Welcome to this edition of the Bethpage Advisory RAB meeting, the purpose of which is to advise the Navy, and obviously talk.

I'd like to thank everybody for coming to this session of the Restoration Advisory Board of Bethpage. Appreciate everybody being flexible. Often times the Navy has had to be flexible, this time the community was flexible, vice versa, we appreciate all that. One thing we established here before the meeting was to reduce the flexibility with some solid dates for RAB meetings from now on, barring, real important holidays or things like that.

I think there was one reason we changed the RAB in Texas one time for hunting season or something like that, I don't remember. Just kidding.

But we are going to have these RAB meetings on the third Wednesday of the months of August, starting in August. And then November and then April, missing winter, which is okay with me. Although I have been here in the winter. It's been nice in the winter. Lot of snow. Last year there

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was a lot of snow.

We accomplished that part of the agenda, which may or may not be on there. We've accomplished that part of the business already. So that is my welcome. I think it is really good, one of the items, that Jim, our co-chair mentioned, is we are having trouble with timely production of minutes and ability to review minutes. I think we are going to clear that up with sticking with these specific dates. As I said, if we have to change the date, we have to, but let's try not to. Let's really, really try not to. Let's lock them in, put them on our calendars, and go for it.

So the minutes will be coming on a more regular basis so they can be reviewed a little more quickly and comprehensively.

With that said, can we approve the minutes anyway, that just came last week.

MR. McBRIDE: I'm going to abstain. I didn't remember. So I'll have to accept it.

CO-CHAIR KAMINSKI: If there's any question on the minutes of the last meetings' minutes, you're welcome to bring them up the next meeting and we'll amend them the next meeting or we

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will say that they are conditionally approved. The minutes are conditionally approved. We have meeting dates scheduled. We have some good presentations tonight. I'm good going to sit down and listen to them and let Jim close the meeting, on that note.

MR. COLTER: To give you a little status update on the groundwater Record of Decision for the Navy and some of the actions that we are working on. Most of you should have received a copy of the Navy's final Record of Decision, sent it out the 30th of April. Basically, it incorporated a set of comments on the draft version and another set on the final version, which is not typical of what we do. But there was some substantial comments. So we worked with the water districts and the DEC and got those resolved and were able to issue a final document according to Steve Scharf up in Albany, he's now sending it around to get concurrence.

I'm not sure how long that process takes but we are moving forward as we have this last few months, with the implementation of the components. And to bring you up to date, I think the last time that we spoke, we were talking about plans to install a pump and treat system at the GM38

hot spot location, and we had some access issues that we were trying to resolve. We were also working on site access, further to the south but upgradient of several water districts to put in sentry wells, early warning wells, if you will, and again we had site access issues before we could proceed with those plans.

Just last week, I met with both Town of Oyster Bay officials and Town of Hempstead officials regarding the wells, the sentry wells upgradient of the various water districts and basically got their verbal approval to install the wells and it's no different than what we've done in years past. We've installed probably about 20 wells in the local communities. So we are following -- my real estate branch is following up with the paperwork to secure those licenses to install those wells. We will follow that up, once the wells are in, with a final as-built survey and we'll turn those agreements into long-term easements, that the Navy will then pass on to Northrop Grumman, to -- those wells will then become part of the water monitoring that goes with the other wells in the network.

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At the same time, we also again met with the Town of Oyster Bay officials regarding the GM38 treatment plan. We got their approval from the board, from the legislature, to allow us to use the tract of land that we were targeting. And so now we can go in with a surveyor, we got permission to put a surveyor on the property, to survey the area out, for establishment of a license, to construct the facility and then again follow it up with a long-term easement to operate it.

A MAN: Can you give us a better idea of where that actual piece of property is? Am I jumping ahead of the game?

CO-CHAIR KAMINSKI: A lot of times we assume things.

MR. COLTER: This basically is a shot of the GM38 hot spot area and that's the blow up. Where we are at, is down in this area, here, down by the Bethpage water district plants five and -- four and five.

A MAN: You're just north of the hospital.

MR. COLTER: Yes, north and east to the hospital.

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A MAN: Under the high tension wires.

A MAN: That was town of Oyster Bay property.

A MAN: There was a tract of land in the woods behind the power lines and Oyster Bay Expressway.

A MAN: Are those woods level.

MR. COLTER: We will impact some of the woods yes with an access road and the facility itself. But that -- we have to survey out the area. We haven't really situated the building yet. We try to minimize impacts as much as we can.

A MAN: When you say you received approval that was from the town board, again.

MR. COLTER: I believe so, yes.

A MAN: A site plan is not required for that approval.

MR. COLTER: The first approval that was needed was whether they would even entertain us discussing that parcel of land.

A MAN: Uh-hum.

MR. COLTER: I didn't want to put all the real estate and we don't have a design yet. That's the next step but we are not there yet if you

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design it for that area and then the board says no thank you, we wasted a lot of money. So the first approval was basically would you entertain the Navy just using this parcel for the intended purpose. The answer to that was yes. So now we go back and we'll start putting a design together and that will have to be submitted for approval, as well.

A MAN: So the public would have notice of what you're doing, what it's going to look at. Because that is in the middle of neighborhood. So I know there's going to be interested parties to gain a greater understanding of exactly what's going to, you know go there and when.

MR. COLTER: Right. I'm not sure if I pronounce his name right, but Rich Fender, he's the town -- I don't know what his capacity is, but we talked about community involvement. What we are -- what we decided to do is to set up like a little workshop like a poster session. When the DEC had its public meeting on the Record of Decision, for their Record of Decision, they used the junior high school and set up poster stations and people came and walked through and they asked questions. We are going to do something similar to that. We'll

set up a workshop, we are not sure where. They were talking about the fall or wintertime frame. But maybe in this place, maybe at the junior high, we'll set up a workshop and with a bunch of poster stations, explaining the history of the project, why we are talking about using the property that we are, and what our ultimate goal of using that property is. So we will be doing some heavy community involvement before we start construction.

A MAN: What's the height of the structure that you're looking at.

MR. BRAYACK: The maximum height would be of a tower, and it is approving 40, 42 feet.

MR. COLTER: Will it be similar to Plant 4 or less.

MR. BRAYACK: It should be lower than what's at Plant 4.

MR. COLTER: Building and tower.

A MAN: Yes, I understand we need it but when you approach this, I think you're going to have a lot of community interest in that portion of it.

MR. COLTER: I don't doubt it.

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That's why we decided to go to the town officials first to see, you know, similar to we approached Bethpage water, to see if it would be possible to entertain using their Plant 5 property. It was feasible but there was a lot of restrictions. So then before going too far down a design, if at Plant 5, we said we're not going to use this property, let's see if there's other options out there with less restrictions, this seemed to fit that. That's why we wanted to get a sense from the board if the answer was no, we don't want you thinking about this parcel, then we would have had to have done something else. But they said looks like a good plan, but now we have to fill in the details of the plan which we are now going to begin our design, we'll have a surveyor out there, so we can support the design and we'll start working on the community workshop and things like that.

CO-CHAIR KAMINSKI: Along the lines of Plant 5.

MR. COLTER: No. We are not going to -- I don't think we are going to put a house facade as Plant 5 is. I really don't have any details as far as what type of structure. But,

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again, it is a minimal time frame, and I say minimal, it is not a typical 30 year pump and treat, it's seven to ten years, which is a lot less. Then of course when it's done part of the lease agreement would be full restoration, some agreed upon restoration of the property which we have to work out, whether that's replanting trees or revegetating, you know, those are details to be worked out.

A MAN: If you say you have tacit approval I would think in that neighborhood you're going to have a great interest in looking at what the alternatives are, because you're in the middle of a neighborhood. And if there are alternatives. I know that people view that.

So you're not misled, if the town board said that, that's fine. I find it hard to believe that they did, but you sure it wasn't just a representative that just took a look at it and said.

MR. COLTER: I talked to Rich Fender and he said.

A MAN: Before you -- I only question you, because I have been around these issues before. You might want to really double check and make sure

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that they have some consensus from the board before you spend that money.

MR. COLTER: Well, we are getting a license in writing to bring a surveyor on to begin surveyor. So there will be things documented about getting on -- we are going to keep a buffer between the houses and -- we'll put as much tree buffer as possible to minimize the impacts.

A MAN: This is on the east side of Seaford Oyster Bay.

MR. COLTER: West, west side.

A MAN: West side.

MR. COLTER: Yeah.

A WOMAN: What's the time frame as far as.

MR. COLTER: Hopefully, we'll have some type of design, at least a draft design to the regulators by the end of this calendar year. Hoping that we get some type of go ahead by the next construction season, which is April, that's probably when we'll award the contract. We probably won't be out constructing in April, probably next summer, about a year from now. That's if everything goes well so...

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CO-CHAIR KAMINSKI: We've got to continue to remember why we are doing this, I've seen the preparation, but you're going to be impressed with what we are going to be able to do down there in the way of remediation.

MR. COLTER: Kind of leads right into the next agenda item. Every quarter or so, the State of New York, Nassau County Department of Health, local water districts, Navy, Northrop Grumman and our consultants, meet to discuss the status, similar to this group here. Meet and discuss the status of where we are at. And we had one of those meetings last Thursday with all the water districts in the department of environmental conservation. So what I want to do tonight is have representatives from Arcadis, Carlo San Giovanni, and Rob Porsche, will go over the presentation that they gave to the water districts and bring you up to speed. This is more along the lines of the GM 38 remedy.

MR. COLTER: Guys?

A MAN: As Jim said, this is a presentation we just recently gave to what's called a technical advisory committee. What we covered

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there was recently we have produced about six reports for them, concerning groundwater modeling, the other two concerning the operation of the existing on-site groundwater remedy, and the public water supply contingency plan for the off-site public supply wells.

What you see here, are the titles of those six reports. Myself and Rob will go through each of them, we'll give you a brief overview, and a summary of the reports. In italics here, you see there's two fonts. In italics are the reports that were required under the Record of Decision. The other reports are what we prepared to address comments, questions we received from the various interested parties. So with that, I think Rob will cover all the modeling reports. He'll start out with the comprehensive groundwater modeling report.

MR. PORSCHE: There had been a series of comments issued following various staff meetings, that no comprehensive report existed to compile all of the modeling that's been done to date. This report was produced to provide that document. It covers the development of the model in 1997, a series of updates that were done since then, and

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some modeling that was done preliminarily for the GM38 area, along with modeling to select outpost well locations or sentry well locations, as Jim had called them.

This report has been distributed as final and it's available at the local libraries.

A MAN: Bethpage public library in the document repository, it also has been distributed to some if not all the people on the TAC, Technical Advisory Committee.

A MAN: The next report is -- the hydraulic effectiveness evaluation for the on-site component of the groundwater remedy. The objective of the report was to comply with the requirement of the ROD, to conduct an independent study, to evaluate how this existing system was performing. Specifically, the hydraulic effectiveness of the system. A work plan was prepared and submitted to the DEC and approved. Which spelled out the methodology that was going to be used in this investigation. It included basically a field study. The installation of what we call vertical profile borings, which are nothing more than a drilled boring where both soil and periodically some

groundwater samples are collected.

We installed several monitoring wells and then these new monitoring wells. The data was collected from VPBs. And some water level and groundwater quality data from existing wells in the area were evaluated as part of this investigation.

Let me go back to this figure so I can give you an idea of where -- what comprises this existing groundwater remedy.

There are actually treatment systems currently operating on the Grumman site. The first system is called the GP1 system? And it was implemented by Grumman as part of their production well water facility. The existing well, GP Well 1, is used to extract the groundwater. The groundwater is run through a treatment plant located generally in this area, air stripper. The contamination is removed and then the treated water is discharged both to what they call the Plant 5 recharge basins and the south recharge basins, about a thousand gallons a minute goes to the south basins and about 500 gallons a minute goes to the west basin.

The other component of this remedy is what we call the ONCT -- on-site containment

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system. It consists of three extraction wells, ONCT one in this area, two, and three, again the water is extracted. Treated through an air stripper in this general area and the treated water is all discharged to the south basins, about 2,000 to 3,000 gallons a minute, that system.

A MAN: Not being a hydrogeologist, how much water actually gets put back into the ground from a recharge basin putting in that much in, is equal amount coming out.

A MAN: It's also reintroduced to the ground.

A MAN: I mean how much time. If I put in a thousand gallons a minute going in, how long did does it take for a thousand gallons to come out.

MR. COLTER: How long does it take to percolate back into the water table.

A MAN: It happens almost instantaneous. There is no real standing water in the south recharge basins at all.

A MAN: Okay.

A MAN: During storms you might see standing water in the basins, but.

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A MAN: I didn't have a real understanding of what the rate was. Thank you.

A MAN: Okay.

The goal or the intent of this on-site containment system is to contain the groundwater plume that currently exists under the Grumman and Navy facilities. The expectation of the system was that through this shallow recharge and deep pumping, we would create a hydraulic barrier to groundwater flow right here along the south property boundary that would prevent any on-site contamination from migrating off-site. The purpose of the hydraulic effectiveness evaluation was to assess whether or not that is indeed what's happening.

Again, the data evaluation effort we went through, focused intently on the hydraulic performance of the system. We used vertical gradients to verify that indeed the hydraulic barrier at the groundwater flow was created. And in fact that is what we saw that was proven out. We also collected -- the groundwater quality data as well. We looked at hydraulic and groundwater quality information.

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Groundwater quality information gives you a snapshot at the time you collect the data but it takes many years for a groundwater trend to develop. Eventually we expect that the groundwater off-site will begin to clean, a clean zone will form south of the Grumman facility and we are starting to see that trend beginning but it's going to take many, many years for a long-term trend to establish. So the hydraulic information, we'll give you more on an immediate answer as to whether the system is performing properly and that's why that data is collected and evaluated here.

The results of the investigation was the on-site system, effectively prevented the off site spread of the groundwater and complies with the ROD.

As a result of these VPBs that we installed, we verified at the southern property boundary we do have the full extent, the full vertical extent of the groundwater plume delineated. And we are containing the full extent. If there's any other questions on that?

I will address questions as we go through each report rather than wait for the end.

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A MAN: Basically it works.

A MAN: It works.

A MAN: It's good to know.

MR. PORSCHE: In addition to the modeling efforts that have been documented in the comprehensive report, there have been a number of design simulations that have been performed in support of the GM38 design effort to be undertaken by the Navy and their consultants. This report simulation number one summary, is the first iteration, with the development of that system. It deals with the two well cleanup scenario, similar to what's outlined in these figures that we'll look at shortly. And it incorporates the relocation of RW1 from the very first preliminary effort in the design and incorporates a mechanism for recharging the treated groundwater. The system as it's currently laid out will be two wells pumping I think about 18 hundred gallons a minute to be reinjected through either a series of injection wells or a recharge basin system to be set on the property that the Navy's pursuing.

The system is successful in achieving the required cleanup of the hot spot area in the

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GM38 map gives you an idea of where these remedial wells are, and the injection wells are, relative to Hempstead Turnpike and Seaford Oyster Bay Expressway, we are on the west side of the expressway, there's two wells for cleanup and either an injection basin or injection wells are going to be placed south of that. And you can see the Bethpage Water District's two plants, four and five, adjacent to the system.

In response to comments received from consultants to the various districts south of the hot spot area, a suggestion was made to install a third remedial well in the vicinity of Hempstead Turnpike near Middle Island Hospital. It was recommended in the comments that that system be designed with a thousand gallon per minute withdrawal at that third well and the intent of the comment was to deal with the plume at lower levels of mass, off-site from the -- distant from the hot spot area.

We did the evaluation and the results are that this third well does not significantly affect the effectiveness of the treatment system. It doesn't provide much in additional mass removal

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and it is just not justified in terms of what you get for what it's going to cost to build.

The last of the modeling reports deals with the comparison of results. In addition to the comment about the third well there were a series of comments related to how effective is this system compared to doing nothing. So we had done this evaluation. What you've got here are various model layers depicted at the beginning of the model simulation, the top three figures represent mass in layers five, six and seven, under a no action alternative. The lower three figures are the same layers.

Under the no action scenario after a period of five years, these figures show you the location of the plume down to a level of about 50 parts per billion, and you can see that it's begun to move south from its original location and with depth is getting closer to the Hempstead Turnpike area.

The lower three figures incorporate the operational treatment system, you're pulling mass out from these remedial wells in layers five and six, at RW1, I think and seven, RW2 is

withdrawing mass from layer seven.

You could see, that you've arrested the southern movement of the plume and in fact shrunken the impacted area above 50 parts per billion in the shallower portion and approximately in all three horizons.

MR. COLTER: I guess just a question: When we say "no action", that's not GM38 pumping but the Bethpage Water District plants four, five, and six continue to pump at a normal business rate which tends to help migrate the plume.

A MAN: I have a question. The advantage is with the new pump you're going to be further south so you can catch up more, pump in as far as the plume, in relation to the plume.

MR. PORSCHE: What you've got is an area between the two Bethpage Water District plants that is significantly higher in contaminants than the areas around it. The goal of this system is to remove as much of that hot spot, as it is typically referred to, that's possible. To prevent impacts to southern wells, southern supply wells from this extremely elevated mass.

MR. COLTER: Our assumptions going

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in, because no one has defined, no one the state DEC has not assigned what this hot spot is. To investigate this area, the state actually put a one part per million restriction in contaminants over one part per million or a thousand parts per billion, we would trigger an investigation of the area and determine the feasibility of removing mass. When we design the system without having the definition of the hot spot, other than the 1,000 parts per billion, we arbitrarily said let's see how feasible it is to get the 500. And then that's how we've kind of designed the system, that's the inputs that we've had.

A MAN: 500 parts per billion.

MR. COLTER: Yes, one half of the term hot spot as used by the DEC.

As you go along, you'll see the results of that.

CO-CHAIR KAMINSKI: Let me see if I can elaborate on the question. What you got if the top figure, look at the one on the left because it's easier to see.

That one you do nothing. If you put two wells in the middle in the circles and you wait

how long.

MR. COLTER: Five years.

CO-CHAIR KAMINSKI: You can see you shrunk all of that, you've eliminated a large part of the problem. The two wells in the middle, those circles in the top, they result in reducing that whole plume down to those two little circles.

MR. COLTER: Each one of these represents a different depth. Layers five, six and seven those are vertical depths. For instance, this would be 500 feet depth, 600 feet department, and 700 feet depth.

A MAN: You had a model and in 3-D.

MR. COLTER: You saw how it shrunk over time, at the last meeting.

These are similar to that, except hard copies you can put into a report this is in response to one of the water district's comments. We basically take that 3-D version and make it a 2-D version.

A MAN: Is there a street number across, any cross-reference area.

MR. PORSCHE: For the 38 area, this is Hempstead Turnpike and Seaford Oyster Bay. And I

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don't know the residential.

A MAN: The high tension wires run across.

MR. COLTER: Yes.

A MAN: You know where they are, north of Hempstead Turnpike?

A MAN: So it's going to be right underneath.

MR. PORSCHE: This next set of figures is again the no action at 38 and pumping at 38 after a period of 10 years and you see that with treatment, you've essentially eliminated most of the mass. You're down to an area that's impacted right around 50 parts per billion in the vicinity of remedial well, the northern or southern most well, in layer six, there's no mass over 50 parts per billion, and layer seven two small ellipses, as compared to the no action alternative, there's no change in the plume with the exception of some movement to the south.

As a hot spot remedy this is expected to operate for a relatively short period of time. At the end of this 10 year period the simulation of the remedial wells stops and we just track the

remaining mass.

Under the no action alternative, the mass is essentially moved as a blob to the south. It has really dis -- it has not dispersed much. It moves in a southerly direction, it passes Hempstead Turnpike at depth. When you compare it to the treatment alternative, there's no mass over 50 parts per billion in any of these model layers. The remedy is effective, prevent the southern migration of this portion of plume and it remediates down to 50 parts per billion. This is basically saying after ten years, the previous slide, you've met your goal. If your goal was 500. After ten years, we are actually down to 50 in the hot spot. So we may be able to shut it off before 10 years. But that's a decision for down the road. After ten years, you shut the system off and just let the water districts continue to operate as they do, with natural diffusion and biodegradation over another 20 year period, a time frame out to a total of 30. You can see that there's nothing over 50 that remains.

There is contaminants below 50 and above the drinking water standard. We have to make that clear. It's not cleaned up but that's not the

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goal of the hot spot remedy.

MR. PORSCHE: Any questions?

A MAN: The last report is this public water supply contingency plan and it was prepared to satisfy a Record of Decision requirement, it essentially picked up on the statement that Jim Colter just left you with. At the end of this remediation if there's still water that exceeds drinking water requirements, there are a series of public supply wells that exists downgradient and in the path of the plume and what are we going to do about that.

Contingency plan addresses that. The groundwater model was used to evaluate how the groundwater moves and where best to monitor the groundwater. The idea being that we can locate an early warning monitoring system, that will get impacted first, see the impacts of any groundwater contamination first, prior to the public water supplies being impacted.

In this case we targeted that the early warning method provided at least a five year advance notice to the water districts that that impact is imminent.

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So as a result of this procedure, we established five steps that are spelled out in the contingency plan and laid out clearly in a flow chart that's made part of that plan.

The first step was to identify which supply wells may be potentially impacted and develop what we call trigger values for outpost monitoring wells. An outpost monitoring well is the same thing as an early warning monitoring well. It tells you what the concentration is in the groundwater, upgradient or prior to the public supply well being impacted. The trigger value's a concentration that is detected within that outpost well that would begin the process of designing and providing remediation for the well that's threatened.

The contingency plan then describes how the outpost monitoring wells will be installed, what type of groundwater monitoring there would be, what the frequency of monitoring would be, and that periodically this model needs to be updated. Modeling is very sensitive to pumpage, local pumpage nearby, as I mentioned there are a lot of public water supply wells in the area. If they vary their pumping to any significant extent that could affect

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the results of our evaluation. So there is a criteria to update the model or evaluate the need to update the model on an annual basis.

We would then as a last step based on the data that we've collected evaluate whether or not well head treatment or some comparable measure is necessary, and implement it as necessary. The implementation of any remedy would occur prior to that well being impacted so the public water supply wells would be protected.

Any questions on that one?

A MAN: Thank you.

CO-CHAIR KAMINSKI: How about Hempstead as an example? Hempstead well as an example? It's close to an impact and they're working on a solution.

MR. COLTER: That's the New York Water Service, 6150.

MR. PORSCHE: 6150 is going to be the first to be impacted by the plume.

MR. COLTER: That's New York -- no, that's South Farmingdale.

If you remember the last RAB meeting, Arcadis gave a presentation on how the model

predicted the locations for the outpost wells. And you saw that most of the wells had a predicted impact of over ten years. With the exception of the well we just talked about, the South Farmingdale District 6150 well field. That one showed that the prediction is within the five year time frame that these outpost wells are going to provide.

We have been discussing very minimally with the water district and the DEC about that situation. We've just kind of started a little bit of dialogue last week about it. What we feel we want to do is we still want to install an outpost monitoring well upgradient of that water service well field -- or water district well field, simply because the model is a predictive tool and we think it's very accurate. But what we want to do is there is a lot of conservancy built into the model for safety factors, four years of impact might realistically be seven, eight years of impact, something along those lines. We want to install the monitoring well, expecting to impact a contaminated zone, which would verify that the model's correct, that the plume has passed this area and we have less than five years to do something.

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If we put the well in and it's in a clean zone well then the outpost well is now in. If that well gets impacted then we have a five year impact to the water district. So we still want to put the well in. We fully expect it to be in the contaminant zone and then we'll start discussions with the water district about how to proceed.

The one statement I made to all the water districts was that the Navy isn't the speediest in response time, due to fiscal constraints and government bureaucracy, and what have you. The way the Navy and the Bethpage Water District worked, the Bethpage Water District and its consultants felt there was a need to take an action. So they pressed on with that in mind. They had a duty to their customers to protect the drinking water. They thought they needed to move at a faster pace than what was being provided by the Navy. I encouraged all the districts if you think that there's something that needs to be done, go and do it. Design your treatment system. Build your treatment system. We will sit down at the table and talk about an appropriate level of response, it may not be 100 percent, it might be 100 percent. But

don't wait for us to tell you there's a problem. If you think you need to do something press on with doing business the way you think you need to conduct it and then we'll sit down to talk.

We are hoping, again, I've gotten basically permission from the Town of Hempstead and the Town of Oyster Bay is right behind, with licenses to install these wells. Starting June 2nd, we'll actually be in the Town of Hempstead installing one of the outpost wells for the Levittown Water District and within that time frame of installing that well, which is roughly a six week time frame, we are hoping to get the Town of Oyster Bay's written concurrence. If that happens, we will move the second well, instead of being in Hempstead, which we already have agreement, we would jump to Oyster Bay and put the outpost well in for 6150, that would be our second priority.

So I'm going to be working with the Town of Oyster Bay to try to push that agreement within the next six weeks so we can be in a position to put that well in next.

A MAN: Where is that outpost well again.

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MR. COLTER: It's just -- the outpost well is just right up from kind of where the title is? That's the water district well field and we are just up right around that area.

A MAN: Up into the column and to the west of that.

A MAN: Are those wells visible.

MR. COLTER: They'll be flush mounted within the grass strip of the highway right of way.

Any other question? We put together a lot of documents and a lot of them were in response to the water districts. They would submit comments sometimes through me if the Navy was funding the work. Through Northrop Grumman if they were funding the work, and sometimes through Steve Scharf who would then forward it. There's a lot that goes into answering one simple question, there's a lot of modeling and data, so we tend to package it up as our response. That's what we've been doing over the winter time is trying to get the water districts satisfied a little with the efforts that we are making and make sure that we are moving in the right direction. So far it has been pretty positive. That's pretty much what we are doing with

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groundwater in the local community area. I'd like to turn our attention back up to the Navy's property. The hundred five acres specifically.

Last several RAB meetings, there has been a request to use the Department of Defense's Technical Assistance Program to bring in a third party to check up on some of the actions that the Navy's been working on. The RAB put it to a vote and one of the projects that you guys wanted to see an independent review of, was the investigation and exposure assessment that was conducted by Northrop Grumman for some contaminated drywells that have been cleaned down to a level of 35 feet but where PCB contamination still exists from 35 feet down to the water. So you guys had a couple of consultants in mind. You selected H2M Group, the Navy got them under contract and we have Gary Miller from H2M, that's going to have I guess an interim presentation.

MR. MILLER: We have a presentation to make to let you know where we are at.

Thank you for the introduction, Jim. As Jim indicated we are working under a Technical Assistance participation grant for the Restoration

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Advisory Board. We were asked to provide an independent review and appraisal of some studies done on these two particular dry wells.

In the way of some brief background -- Paul Lageraaen, one of my project managers, will go through the presentation this evening. While he's setting up, I'll give you some brief background. In 1997, 1998, Northrop Grumman was conducting a number of environmental assessments and investigations as they planned their closure and vacating the facilities here. One of those investigations focused in on a number of drainage structures, subsurface disposal systems, catch basins for drainage within the building, leaching pools, storm water drywells.

Plants 310, 17 North and 17 South, there were approximately 36 drainage structures that were identified as requiring remediation of those approximately three dozen drainage structures. They were all successfully remediated with the exception of two drywells, one located off the northeast corner of Plant 3, the other off the southwest corner of Plant 3.

Subsequent to the remediation,

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Northrop Grumman hired a new consultant to do site characterization. After that site characterization report was completed the consultant conducted a focused feasibility study and exposure assessment. The feasibility study examined several alternatives for additional remediation of the drywells. Our objectives in coming here tonight, were just to give you an overview of H2M's scope of work, to discuss our initial findings and then to solicit input from the advisory board as to how you would like us to proceed further. So with that, I'll turn it over to Paul and we'll walk through the demonstration. If at any point you have questions, please jump right now.

MR. LAGERAAEN: Good evening. As Gary said my name is Paul Lageraaen. The reason we are here tonight is we were assigned under a technical assistance grant to provide environmental consulting services for the Bethpage Restoration Advisory Board with regards to two drywells on the Navy property.

These are identified drywells 20-08 and 34-07 located at IR Site 1, which is also known in the Navy as the former drum marshalling area.

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Our tasks under this contract were to conduct a site visit, review these two reports that were produced by Roux Associates. One was identified as a site characterization report. This is all specific for these two drywells, 20-08 and 34-07, the focus feasibility study and then to attend this meeting as well as a follow-up meeting and prepare an evaluation report as far as our findings and conclusions with regards to the comprehensiveness of the investigation by Roux Associates.

A little site background. This is the comprehensive site background for the whole facility but specifically as it relates to these two drywells. Northrop Grumman Corporation conducted a Phase 1 and Phase 2 environmental site assessment at the Plant 3 facility. The conclusion of this Phase 1 and Phase 2 environmental site assessment was that two drywells, in addition to many others, but these two drywells, 20-08 and 34-07 were identified with PCB impacts. In June of 1998, these drywells were excavated to approximately 28 feet. That work was done by H2M and that was -- this program of doing the drywell excavations was done under the guidance

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of Nassau County Department of Health and US EPA underground injection program. It was then turned over to the DEC for the remediation efforts there.

After those drywells were excavated a number of other drywells were closed. These two drywells were doing a follow-up sampling of the base of the drywells or the base of the excavation, some PCB contamination were detected. The EPA requested further -- in addition to the excavation of these drywells, the EPA requested that further soil delineation be conducted as well as groundwater characterization. In September of 2000, a site characterization report was produced by Roux associate and then following that, in August of 2001, a focus feasibility study was conducted with regards to these drywells, also by Roux Associates.

We are going to provide a little background of the two reports. A summary, our opinion of them, reviewing them, providing you the facts of how the reports were conducted and outline of the scope of the reports.

The first report was a site characterization report. Giving you the delineation, the extent of the contamination that

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remained around these drywells. The objective of the report was to delineate PCBs in the soil, any PCB contamination that was above the DEC cleanup objectives or cleanup guidelines, those guidelines were 1/10, means one ppm PCB concentration in surface soils, or ten ppm contamination in subsurface soils.

Characterizing the groundwater was the other objective. As part of characterizing the soil vertically and horizontally to determine the potential remediation that might require remediation after they characterize the soils, they conducted soil borings, they did monitoring well installation, groundwater sampling and they had a QA/QC - quality assurance quality control sampling program.

The results of their investigation -- before I give you the results:

So you have an idea, there were two drywells. This was drywell 20-08. You can see what it looks like. You can't see much from the ground surface. It's a hole in the ground and a concrete manhole cover and this area is just gravel.

This is the drywell area currently at 34-07, this area during the excavation the asphalt

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was removed and it remains essentially unpaved currently.

A MAN: What building is that.

MR. TAORMINA: Three.

MR. LAGERAAEN: That's looking towards the east, that's Plant 3.

A MAN: Is that part of the property that the county's not taking, that's the part that the Navy is retaining title to?

That property was not being transferred? In other words the initial transfer to Nassau County that's contemplated.

MR. McBRIDE: Plant 3 or the carved-out road.

A MAN: There's acreage that's been carved out, and that's part of the acreage that the Navy is retaining title to.

A MAN: It was always a Navy building.

A MAN: Yeah, that's my understanding.

MR. LAGERAAEN: This is a site plan. You can see where the drywells located up here is Drywell 20-08. I showed the picture before. This

shows the location of monitoring wells that were installed for groundwater, with the same planning and delineation. Down here, dry well 34-07, there's additional monitoring wells to the south. Towards the top of the screen is essentially north and the groundwater directional in this area is sort of south -- well, more towards the south and southwest.

The results of the soil sampling program were characterized laterally as well as vertically. They determined PCBs were detected above recommended soil cleanup objectives, from four feet to 54 feet below grade. So that means from four feet down to the groundwater table which is essentially at 54 feet, there were PCBs detected above the cleanup objectives which again was 10 ppm for subsurface soils.

The estimated impacted surface area was eleven hundred square feet, for 20-08. For the 34-07, 1300 square feet.

PCB contamination 34-07 was more or less from grade down to 56 feet. They had sampling into the water table and also indicated total soil volumes that Roux Associates had estimated. I looked at calculations that they made for estimating

volumes and everything seems appropriate as far as the methods that is they used for estimating soil volumes, their delineation efforts.

Total soils, going down to essentially if you have an impacted area of eleven hundred square feet, soils from 40 -- four feet to 54 feet below grade, that's equivalent to an area of 20 hundred cubic yards of that area though not all soils were impacted or above the recommended soil cleanup objectives. Impacted soils in that total volume below ground was about 750 cubic yards. You can see equivalent numbers for 34-07, we had 2850 cubic yards total soils, impacted soils, above cleanup objectives of 625.

I'm going to show some slides which show where Roux Associates conducted the soil sampling and what the drywells look like.

Here, in the center is drywell 20-08. And they conducted soil borings going laterally out from the center of the dry well, sort of in two planes. These A to A prime lines will be representative. I'll show you another slide, we'll show a cut section going down to depth how they delineate it where the contamination is.

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They did a number of soil borings. When you do site characterization work you do soil borings close to the source and you radiate outwards until you find clean points. So you no longer see contamination.

A MAN: That point that is identified at SB-2. Since there's nothing more on that A prime line going in a down direction is that to assume that they have delineated at that time, that point.

MR. LAGERAAEN: That is correct.

A MAN: In the other direction, with the SB-6, that was the clean point at that side.

MR. LAGERAAEN: That is correct.

MR. McBRIDE: Thank you.

MR. LAGERAAEN: This is a slide for the same area and before I indicated what the surface area was of the impacted areas. Can you see they drew lines essentially to the clean points. So the impacted areas or areas impacted with PCBs in the soils, is underneath this surface area. SB-2 as indicated before, was a clean point, this was a clean point and these are clean points in there, outside there is a clean point.

A MAN: But that, if we are assuming

that the contamination originally emanated from the dry well, probably the PCBs carried in with some sort of solvent, wouldn't we expect to see that going in the normal direction that groundwater would flow? Why would it be going north.

MR. LAGERAAEN: Generally when you get percolation through a dry well, you'll see coning, or a coning effect. Sort of radiates downward. It depends on soil conditions and the geology of the soils. It may be confining soils in one location and not in another. You may have a presentation in the Magothy, so that when the water percolates from the drywell, it might prefer to go this way as opposed to that way, based on soil.

The groundwater is not affecting how the drywell is percolating because it is above the groundwater table.

A MAN: Okay, good point.

MR. LAGERAAEN: These slides are in the site characterization report as well as the focus feasibility study by Roux Associates and this shows the soil borings that they conducted before. Here's SB-2. As well as the ones it sort of cut off because it was eleven by seventeen, and I tried to

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get it small so we could see it. This was the A to A prime line. If you did a lateral, sort of like a plane cut, you could see this is where they conduct the borings, they show the various depths in each boring and they indicated when they took a sample and what those results were.

This was the original location of the drywell 20-08. This area that's 10, was the area of the drywell that was excavated by H2M a number of years ago. That was the extent of all the soils that were removed. So when Roux Associates went back and did the site characterization report and did the additional soil delineation, these were the borings that they put in: "ND" means nondetectable, and "S", means no sample taken at that particular depth.

I'll show more slides similar to this one and you could see it was very comprehensive. There were a lot of samples taken.

Dry well 20-08, this dry well showed impacts as I indicated before from four feet down to 54 feet that could be seen here. This is the groundwater table at 54 feet, essentially saturated soils below here.

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19, with the cleanup objective, recommended soil clean-up objective by the DEC being 10 ppm for subsurface soils. The first impact four to 615, and that was 19, that was above the cleanup guidelines slightly.

You have a hot spot here, 45 thousand parts per million. 1700.

MR. McBRIDE: What do the numbers mean that are in the water table? You have the .3, the point.

MR. LAGERAAEN: That was the soils sample that was collected in the water table.

A MAN: How does that affect soil.

MR. MILLER: Above the water table we consider the soils unsaturated. Once we are in the water table the soils are saturated with water. Nonetheless we can bring up samples and analyze them.

MR. McBRIDE: Wouldn't they want to advance SB-1 to non-detect or do we consider .93 as low enough.

MR. MILLER: That's one of the questions that will be raised, yes. Did they go deep enough? And what would be accomplished by

going deeper?

MR. COLTER: Paul, explain the numbers in green in your excavated area.

MR. LAGERAAEN: These are the soil sampling that was conducted previous to the whole site characterization effort that was conducted by Roux associate. I believe these numbers were taken initially and that's why this area was excavated so that wasn't part of the more recent site characterization effort but that's why they excavated these soils to begin with.

MR. McBRIDE: You said these were excavated by your firm.

MR. MILLER: They were excavated indicated by a contractor working for us.

MR. McBRIDE: I didn't realize that.

MR. MILLER: The green color there is no explanation as to why they used the green color in there in particular. That boring that goes through the center of the drywell down to the water table was a boring conducted by H2M that is our analytical data in that particular borings.

A MAN: What is the process for cleaning the drywells.

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MR. MILLER: In this instance basically the dry well was physically, sheeting and shoring was put in, so the excavation could achieve the depths, we went about to 28 feet. That was the depth of the excavation using standard sheeting and shoring techniques.

A MAN: They dug a big hole.

A MAN: You dug a really big hole.

MR. MILLER: We call it dig and well solution.

MR. LAGERAAEN: We dug a hole 30 feet in diameter and it went down to 30 feet. It's essentially a large hole. This was, being 10 feet, this being 20 feet. So you're installing a 10 foot section of steel shoring and another 20 foot section and excavating all the soils, just pulling them out.

A MAN: Okay.

MR. LAGERAAEN: This is also the same dry well but in the other direction showing BB. Instead of AA this is BB.

You know, the format follows the same as I showed you on the other slide. You can see various PCB contamination, parts per million.

MR. McBRIDE: 470 is interesting all

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the way down on SB-4.

MR. LAGERAAEN: This is a high number.

MR. MILLER: The numbers do often bounce around a bit. I mean, theoretically and in practice, typically the contamination levels decrease as you go deeper but occasionally you'll see a blip here and there. We'd like everything to be uniform but in the real word it doesn't work that way. But that's pretty much what the trend shows.

MR. LAGERAAEN: I'm going to show you the same sets of slide for the other dry well, 34-07, they used the same methodology. Again there's the dry well in the center, they did cross-sections. You see the delineation stepping out from the center of the dry well.

We'll show the same slides.

Here we see the groundwater table right below the soil borings that was conducted 54 to 56 feet. See some high numbers right below the depth that was practical for doing the excavation. You could see it was still a high number of PCBs, which was the impetus behind continuing the investigation and doing more site characterization

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to determine the extent of PCB impacts.

This was the area that Roux Associates determined was impacted around dry well 34-07 and how they determined their total volumes of impacted soils versus the total volumes in this area times the depth of the 56 feet is how they arrived at their total potentially impacted soils that might need excavation treatment, something like that.

As far as groundwater characterization efforts go. Four monitoring wells were installed in the proximity of the drywells. Dry well 20-08 -- going back to this drawing, you can see where the monitoring wells were. 01, that's approximately five feet, maybe a little more, from the center of the drywell. MW-2, is 75 feet away. Data shows they installed groundwater sampling water, to check the PCB contaminants and this is in the groundwater flow direction. These wells represent downgradient from the dry well sampling locations.

A MAN: I thought the groundwater flow was more the opposite, more towards the southeast?

MR. MILLER: In certain areas of the

plant, there may be variations. In general it's north to south. That's the data I assume they were working, Roux was working with, when they installed the wells.

MR. LAGERAAEN: They had a ground water contour map? Roux prepared this map. It shows groundwater flow direction.

A MAN: That looks different than all the other drawings we've seen. I saw the groundwater flowing more towards the right.

A MAN: Were these basins active at the time the work was done, do you know if they were active.

MR. LAGERAAEN: They're still in service.

A MAN: That's the reason for the radial flow. The fact that you're so close to the recharge basins in this part of the plant is the cause.

MR. MILLER: The recharge basins are just to the north.

A MAN: This is just at the water table.

MR. LAGERAAEN: The blue lines are

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measuring the depth of the water from their wells during a survey.

These are the groundwater sampling routes. They installed two wells by 20-08 and two wells by 34-07. The first dry well was in -- the first monitoring well which is in close proximity to the dry well, was screened at 55 to 65 feet. That is essentially where they let the water enter the well, where they do the sampling. The monitoring well that was approximately 75 feet downgradient of the dry well, was screened at 65 to 75 feet.

The Groundwater interface, was 54, 55, 56 feet. Screened groundwater interface down 10 feet. When they were further away they screened even lower. PCBs tend to be sinkers, they'll sort of sink into groundwater as opposed to staying on the surface. It was their goal to capture anything that might be sinking.

They collected samples and filtered some samples and they also analyzed some samples that were unfiltered. The reason the did filtering samples is because one of the transport mechanisms for PCBs is moving through soil, they are insoluble in water so it's believed that PCBs travel in

colloidal particles of soil, they latch on and move along with the soil. So -- if you were to filter the sample prior to analysis and you could filter out all the solid particles, you get a different result than if it was unfiltered. So that would demonstrate PCB movement may be in colloidal particles. You can see it when they did groundwater analysis at the first monitoring well, unfiltered samples were at 3.9. This is parts per billion. So the DEC class GA groundwater quality standard there, which is for potable water sources, is .09 micrograms per liter, that's .09 MPL. They detected 3.9, which is above the standard. Once they filtered the sample, it was a nondetect further away. They also detected PCB contamination, doing unfiltered sampling.

This slash means they conducted two samplings in that location, they went back a second time to confirm . The second time it went to a 4.47. Roux Associates' conclusion to this was the PCBs were attached to soil particles that were smaller than the filter paper size that they were using. They were filtering 45 microns, which are very, very small particles. And assuming that the

PCBs remained attached to those and they came up in the analysis.

At monitoring well 34-03 and for dry well 34-07, they detected PCB contamination from the source -- when it was filtered, it was nondetectable. Approximately 75 feet away, 1.4 ppb and in the filtered sample again it was nondetectable. It shows that PCBs were detected in the groundwater and it did seem to be somewhat less 75 feet away.

A MAN: It was detected in the soil carried by the groundwater.

MR. LAGERAAEN: It was -- it was just a water sample collected from the monitoring well. And sediment.

CO-CHAIR KAMINISKI: The unfiltered sample was non detect, though, wasn't it?

A MAN: Both -- they were detected at both, right.

MR. LAGERAAEN: In the filtered samples in some cases it was still detectable in a filtered sample. In MW-2, this is 75 feet away, they detected PCBs in the groundwater.

MR. MILLER: That is likely they

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resampled a couple of months later.

MR. COLTER: That doesn't represent that the PCBs have dissolved in the groundwater. It's attributable to the turbidity.

MR. MILLER: It's attributable to the fine sediment of the soil. We are talking very fine.

CO-CHAIR KAMINSKI: Potentially. So it's not dissolved.

A MAN: Do we have enough information to say that's not dissolved.

MR. MILLER: That question has not been fully resolved yet. The fact they are seeing it in MW-2 in the filtered and in the unfiltered seems to raise that question.

A MAN: So this was predictable? Can you say what you're doing, was it predictable or was it surprising.

MR. MILLER: I wouldn't consider it all that surprising. We consider PCBs to be relatively immobile. That doesn't mean they will not move. They don't like to move. Their characteristic is such they like to stay where they are. If there's enough of a driving force

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in -- under the right circumstances they will migrate as this data would seem to indicate.

MR. LAGERAAEN: The conclusion on the site characterization report was that they had successfully delineated the soil contamination. They did conduct a number of soil borings and vertical profiles to determine the extent of the contamination.

Quotes -- direct quotes from the report, they saw a significant decrease in concentration of PCBs in the soil at depth and at distance from the drywells. We had agreed with that.

They recommended that you continue the next to step I guess following the characterization effort to produce with exposure assessment. There are impacts to the soil. What are the potential risks?

The conclusion for groundwater PCBs were detected. VOC contamination was detected. No semi-volatile organics were detected. I didn't indicate the results before, but as part of their groundwater, characterization report, they did do VOCs, as well as semi-volatile contaminant sampling.

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They did not detect volatile organic contaminations. Semi-volatiles were detected, there were some chlorinated solvents but that's all being addressed with the site groundwater monitoring issue. We are more concerned with the PCBs.

PCBs in soils have not significantly impacted groundwater. That's a loaded statement. It is questionable. I would agree they have not significantly impacted the groundwater but there are impacts to the soil. They concluded no further groundwater investigation at the drywells is warranted.

The next report was a focused feasibility study. Once they characterized the area, they conducted a focus feasibility study. The idea of this was to select remedial alternatives or options for addressing the PCB impacted soils.

A MAN: Was the exposure assessment part of this package, has that been issued yet? Or that's going to be part of your review, too.

MR. MILLER: The exposure assessment was summarized in that FFS.

MR. LAGERAAEN: There wasn't a comprehensive review assessment in the FTS but they

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gave you the conclusions. I'll give you those here.

They had conducted risk calculations, that kind of information wasn't provided.

A MAN: So they didn't do a full exposure assessment.

MR. MILLER: Yes. They did an exposure assessment, they did not do a risk assessment. They did sort of a streamlined risk assessment. The conclusions of that were summarized in the FFS.

MR. LAGERAAEN: They did present their conclusions within this report, their objectives to identify potential remedial technologies, to essentially address the soils that are above cleanup objectives, and essentially clean these remedial options to determine their applicability, to determine how well they would work at the site.

Roux Associates this report was produced in August of 2001. Once they identified potential remedial options for addressing the PCB contamination in the soils, they conducted an initial screening and then once you had a number of options and they passed through an initial

screening, they could get weeded out, then they would go through a detailed analysis. The initial screening was evaluating the treatment methods based on effectiveness, implementability, and cost. Those that remained as viable alternatives were further analyzed. And a more detailed analysis including compliance with ARARs, site criteria guidelines. ARARs are applicable or relevant. And applicable requirements are essentially the federal guidelines to follow. In this case you have PCBs impacting soils.

Protection of human health in the environment. Short term effectiveness, how this treatment health alternative or various treatment alternatives work in short term. The long-term effectiveness. Whether or not reduces toxicity or mobility of PCB soils. How well it can be implemented, cost and community acceptance.

These are the results of their exposure -- I'm sorry. These are what their exposure assessment was based on. Based on the result of the site characterization report they determined that the soils and dry well 20-08, from zero to 14 feet below grade, the PCBs were less than

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10 ppm limit so they weren't really included in the exposures assessment. There was one sample that was above the limit, at four feet, and I showed you that number, 19 parts per million. In general every other soil down to 14 feet, wasn't above cleanup objectives. 14 and 50 feet below grade, the number of samples were above cleanup objective, 10 parts per million.

Exposure assessment, for dry well 34-07, based on zero to two feet below grade, there were impacts above the one ppm limit which is for surface soils and from four to 56 feet, the soil was again above 10 ppm limit.

The result of their exposure assessment which was a streamlined risk assessment, overall they said there were extended PCBs present at the site, there was no potential risk to people at the site for commercial and industrial activities.

Groundwater, an exposure assessment was not conducted for groundwater, it wasn't considered part of the risk assessment.

MR. COLTER: Just to clear that up a little bit. When you an exposure assessment to

determine if there is an exposure, you need the contaminant, a pathway and a receptor. If you find you don't have one of those three items, then there's no exposure to conduct a risk assessment. There's no risk. You don't need to assess the risk if there isn't one because there's no contaminant, there's no pathway or receptor.

Remember, the Navy's restricted use of groundwater. We demolished all the pumping wells. So there is no access to groundwater so there is no pathway. Similar to the soils, I guess the philosophy, I'm guessing here, is that in a sandy soil you don't typically excavate too deep for foundation. You're not going to have any exposure to soils below a typical what would be typical, a sandy soil for a foundation.

A MAN: Nor for Long Island. We don't have those kind of buildings.

MR. COLTER: Their conclusions are, since there's no exposure, there's no receptor, no exposure pathway, there's no risk to calculate. I think that's where they were going with their report.

MR. LAGERAAEN: Agreed. The exposure

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assessment for PCB soils, pathways, inhalation, ingestion, dermal contact we are in an industrial setting, direct soils at the top aren't impacted. The 20-08 is covered. 34-07 had soil on top but they addressed that in what they recommend for remedying that situation. If you didn't want to do anything with the area as far as covering the area maybe with asphalt.

But for industrial commercial purposes there is no risk of exposure or exposure contact.

This is the list of some of the remedial technologies that Roux Associates evaluated. These are the technologies that pass their initial screening. They did more -- they evaluated more options that might be feasible for doing general remediation activities but weren't appropriate for PCB impacted soils, or they weren't due to the depth of the soils. For example, they considered an option for remediating soil as vitrification, which is essentially you melt the soil into a big glass ball. There's a limitation to that so that didn't past initial screening because it wasn't implementable at this site. That is only

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good to certain depth. Here we have impacts down to 54 feet.

The remedial technologies that passed initial screening are listed here. No action alternative, which must be included. In situ soil vapor extraction, "in situ" means it's conducted in the ground, in the site, in place, where it is. "Situ", means you're taking material out and you're going to do it there on-site or someplace else. In situ soil vapor extraction with hot air injection, that's essentially putting in wells, you're injecting hot air into the ground. You're going to try and capture your material, any kind of vapors hoping to extract PCBs by injecting hot air into the ground. It is not an applicable technology for PCBs, it didn't pass the second screening.

Ex situ dispersal chemical reaction. That's technology where you mix impacted media, such as, soils, with some kind of stabilizer, lime, something that could bind, chemically bind with your contaminant and limit its possibility and its leaching potential. At this case, doing any dispersive chemical reaction as an alternative, requires excavation of soils and you treat them.

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For example, you take them off-site. They didn't recommend that for this site because once you excavate the soils, you might as well take them out and remove them from the site.

In situ thermal desportion was an option, it was considered a possible alternative. Which is essentially heating the ground to the boiling point of PCBs and destroying them.

The last alternative excavation was off-site disposal. Again identified as possible for this site.

The criteria they used for more detail analysis are listed here. I made a table that shows the three alternatives that were selected as possible remedial options for the side. No action, thermal desportion, and excavation and removal from the site. Negative means it didn't meet the requirement or it was not applicable to meet those requirements. Plus is it did.

Compliance with applicable or relevant appropriate requirements, the no action alternative didn't really meet those but it's not a given that it has to. It doesn't necessarily have to meet those requirements by leaving it in place.

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Protective of human health and the environment, they all could be protective.

Short term effectiveness, they all will be good for the short term.

Long term no action alternative may have drawbacks. There may be more leaching from the site, there may -- who knows in the long-term what's going to happen at the site?

Reduction of toxicity mobility, no action, does not in any way reduce the toxicity of PCBs in the soil. It's not affecting their mobility. Implementability, the role -- you can implement any of these. No action is the easiest to implement.

What I mean by no action, I don't mean leave the site and walk away. No action alternative means properly capping the area, preventing rain water from percolating through the soils, that would limit any future mobility.

Thermal desorption was considered implementable. There are one or two firms in the US that do this. It's plus or minus. It's not a readily available technology. Based on the number of firms that do it.

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Excavation can readily be accomplished. Costs, no action, minor cost, lowest cost alternative. These costs are based on capping the area, not capping with clay, but putting asphalt over the drywells and doing some monitoring of the area over time. A deed restriction, probably used for commercial development.

Thermal desorption option. Half million, 2.2 million excavation. We are in agreement with these numbers, they seem appropriate and well derived.

Community acceptance, no action, it could be acceptable or it may not. It's potentially a viable alternative because you're not disrupting the soil anymore. If you start excavating soils, you have a potential dust problem. You may make the problem worse, you may spread contamination. That could be remedied by proper engineering controls, dust control, dust suppression. There is a potential concern even with excavating soils, of a risk hazard. Activating open pits, we figured thermal desorption -- Roux associate thermal desorption be accepted by the community because you are in fact removing the PCBs or treating them

effectively, to reduce their toxicity.

The conclusion of their focused feasibility study was that the no action alternative was their recommended alternative. The reason for this, is because PCBs are generally immobile in the soil. In general there were two feet of clean soils above impacted soils. The highest PCB levels in soils were 14 feet below grade. The potential exposures of excavation and transport would be avoided, if you're excavating soils and removing them from the site, you have a transportation situation. This is large volume soils, over 2,000 yards in each dry well that might require excavation. So that means you'd have a lot of truck traffic.

It's an attractive alternative for future sites to be commercial industrial site and with the deed restriction as far as identifying the soil's contamination, would prevent any future exposure pathways to the soils. Conservative risk calculations were conducted as part of the risk assessment, there's no potential risk for exposure if the site's used for commercial and industrial activities this is least cost alternative and second

recommended alternative was in situ thermal desorption. With excavation as the last alternative or recommended alternative.

That concludes the conclusions of the feasibility study as well as their characterization report. Do you have any questions regarding the report.

MR. MILLER: As I indicated earlier, this our preliminary look see at what was done back in 1999 and 2000-2001. I wasn't sure how many on the committee had seen the two reports so we did want to walk you through what was done and what their conclusions were. And we wanted to solicit input from you guys as to what you'd like to see or ask questions on what we presented tonight.

A MAN: This is the first time we've seen this report from you.

MR. MILLER: I wasn't sure whether you'd seen this before.

A MAN: That means there's no private homes can be built on these sites is that what it means when you say industrial.

MR. LAGERAAEN: They are talking about commercial or industrial, business, not

residential.

MR. MILLER: That would have to be part of a no action alternative. The deed restriction would probably preclude the use of that portion of the property for residential development.

MR. COLTER: That restriction is already in place just by nature of the agreement of the DOD to transfer this property to the county, is only for non residential type uses.

A MAN: It's always going to be industrial.

MR. COLTER: Always industrial.

One caveat with that: That the Navy expects the county to use it for non-residential development, for economic redevelopment, bringing the tax base in, making jobs and bringing the property back to its useful life.

If, though, in 15, twenty, 25 years the county decides to change that and the Navy has no say in that, basically in 20 years it's pretty much developed the way you want it if you so choose. But if you need to go to a more restrictive cleanup than what the Navy has put on the land then that additional cost to meet those regulatory standards

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is up to the property owner at that point. That's the only caveat with that.

A MAN: When I read the report initially, we got these areas that we know have higher PCB concentrations, there's some questions still in my mind as to where the levels were, we saw some hot spots pretty deep down. The buildings that are adjacent to both of these drywells are better than 50 years old. At some point those buildings are coming down, and something new is going up under the gist of industrial, at that point, I think there's potential for disturbance of these areas. If we have it there, why don't we address it now so it's controlled and find out what the best way is so that we don't have to worry about this 20 years down the road.

MR. COLTER: That's a good point. However, when we are transferring the property, we try to see the anticipated of the property. That is why part of the property transfer, in this case, the county has to develop a land redevelopment authority. And the purpose of that LRA is to bring in a developer type marketing type and see -- let's make a plan for the foreseeable future.

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A MAN: We saw the proposed reuse plan.

A MAN: But these exceed the industrial levels. We are having discussion like we want it to go from industrial to residential but isn't this proposal keeping greater than industrial with PCBs in place.

MR. MILLER: The numbers that the PCBs concentration were compared to, don't differentiate between industrial, commercial, residential. It's the one number we have.

MR. McBRIDE: The 10 parts per million we are using as a number, we are looking at 25 thousand parts per million.

A MAN: But again there's no difference between residential and industrial when it comes to PCBs.

MR. MILLER: The guidelines that we use now don't differentiate between theoretically if you got down to ten or below 10, 9.9, theoretically that would be fine, as long as they're at surface. At surface there's more stringent numbers, which is one part per million.

A MAN: There, we have none.

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MR. COLTER: Right. For the record.

MR. MILLER: Any other questions?

A MAN: What we need to do right now as a committee is set up a time where we can get together, that we can meet with the consultant to go over what our concerns are so they can be addressed.

MR. COLTER: So they can structure their review to be presented at the next RAB meeting.

A MAN: What sort of interface do we need with the Navy when we meet with the consultant.

MR. COLTER: None.

A MAN: Okay. Great.

MR. MILLER: Thank you.

MR. COLTER: Thanks, guys.

We have just a couple more things to go over before we close.

The last thing we want to talk about is what Jim brought up, what are some of the future plans for the remediation of the property. Like I told the Calverton RAB the other week, we have had a significant impact on our fiscal budget due to this war.

At the end of the last fiscal year,

whatever we hadn't spent, and this is not just my division in the northeast that is the national NAVFAC, what wasn't spent was taken away to help supplement the war effort. Similarly this year, we were delayed in getting our first quarter allotment and that allotment from my division was 3 million dollars below what we had planned to have. So there's always been this impact.

We got our appropriation about January and we were told in the late third quarter, fourth quarter, anything left is going to be taken. So we basically have four months to spend a year's worth of budget, which we did. One of the big reasons was we had a major overrun at the Calverton landfill cleanup out there, but there was a lot of other problems. So that kind of put us in, things that we had planned for this year obviously cannot happen. So you already move them back to next year and it's just a domino effect.

What we have been focusing on mainly is implementation of the groundwater remedy. Mainly because that is out there in the community, it's high visibility. The soils on-site because we are going to withhold that constrains the initial

transfer, isn't as great of a concern to get done because you're getting the property anyhow so if we have a choice, we'd like to go into the community and show some good will and try to get this groundwater remedy fully implemented so that's kind of where we have been concentrating.

MR. McBRIDE: Does that include the area where you had the vapor extraction process.

MR. COLTER: That's part of the area not transferring.

A MAN: The surface soils in that area, we don't have a contamination problem everything's at depth.

If someone were to go into that area right now, is there surface soil contamination in there.

MR. COLTER: No. The DEC defines "surface" as zero to two feet. At two feet you're not walking on it, so I would have to say no to that.

A MAN: Thank you.

MR. COLTER: What our plans are right now fiscally is to pursue design of the GM38 groundwater hot spot first. And then construct that

system next fiscal year. The outpost wells are already funded with last year's money and they're going in this year. So that takes care of that. That's pretty much the last component of the groundwater remedy other than potential treatment of water districts, which is way out if the future.

The funding or the soils clean up in Site 1 has been identified in the fiscal year late 2005, 2006 time frame. And that would also include these drywells, whenever. Right now we still have to meet with the regulators and decide on a final action for those drywells. But it's a similar contamination to what's at Site 1. Whatever is decided will be implemented at both sites, the both the drywells and the main Site 1 area.

CO-CHAIR KAMINSKI: Are you sure there isn't an opportunity to separate those.

MR. COLTER: There is. That's administrative, which kind of lends us to this long-term 2006 fiscal funding issue. There's some time yet to do the right thing and to come to an agreement. We have to put a design together. If we are going to excavate soils, we have to put that design together, send it to the regulators and make

sure all the proper air monitoring scenarios are included in the design and little details like that. So that's what we are planning on doing. There is an opportunity to always move items up into the budget. So starting next year one of things I want to do is get an excavation design under way, like a 35 percent conceptual, to get an idea of the magnitude of what we are talking about cost-wise for the excavation scenario.

When the soils ROD was written by the Navy for Site 1, this was before we knew these drywells existed, that was back in '95. At that time, the data that we had was that the Site 1 PCBs were because of an industrial leach field. And the construction of that leach field was eight feet, the depth and bottom of the leaching pools was eight foot. With the minimal data that we had, we just assumed we had an eight foot problem and that's typical so we just said we'll excavate down to eight feet and get rid of everything down to 10 parts per million.

When we started doing the SVE systems to reduce the VOCs, we did a lot of soil borings to characterize how well that system was working. We

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took the opportunity to analyze for PCBs what we found at Site 1. What we found is we have a bigger problem vertically than we thought. So we need to go back and take a look at what we know today. We know it's bigger than what we thought yesterday and what type of funding limitations does that put on that decision. We may have to reopen the decision, which will take a year, year and a half type of process to reopen the decision, and go through all the administrative stuff that goes along with it. I want to start that as early as next year when we get our next appropriations, to start seeing how big of a problem do we have financially and go from there.

MR. McBRIDE: At the next meeting can you give us an idea on some of these PCB readings you have on-site one.

MR. COLTER: Do you remember your request as RAB meeting ago about what's the PCBs look like, that was basically today's presentation.

A MAN: Yes, I'm sorry.

MR. COLTER: That's what we are basing our design on is that new data, that goes a lot deeper than eight feet. So we'll see if it's reasonable to stay with the ROD as written, that may

be an option. If the costs aren't prohibitive. We'll have to start looking at other alternatives.

The other thing I want to do in the next fiscal appropriation, it's not a big item but I think it will be useful here, is to take all this paper and all the paper in the library and get it into a digital format, get it scanned into a digital format that's searchable. We've done it at other places, and that's one item I want to do here, is to take all the paper, get it down to three or four CDs and put it on the Internet so we can have it accessible.

MR. McBRIDE: Along lines, lines to the rest of the economy, Jim had sent me two years ago at the time a copy of what we had in the library? I'm running out of space right now. So anybody would like it, great. If not, I need to know what to do with it. Is it the type of material you need back.

MR. COLTER: No.

A MAN: I have a file cabinet full of it.

A MAN: I'll talk to you afterwards. Don't throw them out. We'll find room

for them.

MR. COLTER: That's pretty much it for what we've been doing the last couple of months. I guess Joe already talked about the future meeting dates.

A MAN: If we have other subjects I have a suggestion, because if we are going to spend most of your fiscal resources this year on that groundwater issue and trying to set up that remediation that stripping tower, can we look at the alternatives to that stripping tower at our next meeting.

The alternatives to that site, the site alternatives.

MR. COLTER: There was one site alternative which was using the Bethpage Water District Plant 5's facility. By reviewing all the tax records out there, there was really no other landowner that had sufficient land and obviously we didn't consider residential landowners.

A MAN: Perhaps we could do those scenarios, just the two.

MR. COLTER: The water district did not want to lease us the land. They did not want

to have any appearance of being in partnership with the Navy so they wanted us to purchase their land and then have a reverter clause after we were done, to basically give it back to them. And I was told by the Navy, and the DOD because we are not in the business of buying property, we are actually getting rid of property, that the only way to use that piece of property is with a lease or a license type of agreement.

A MAN: I don't think the water district's here or whatever. We should take a closer look if that's less intrusive. The public should be aware that there is an alternative.

MR. COLTER: But it's not a viable alternative because we can't do what the districts require us to do. It's not a starter.

MR. McBRIDE: What Ed's saying if it is a viable alternative to accomplish the cleanup goals and the residents have an opportunity to view one on one site and the other on the leased site, if the residents believe the well should probably go on the water district, they should put pressure on the water district to work with the Navy.

MR. COLTER: That will be part of

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our overall workshop. We can do a briefly what I just gave you is the alternatives. Realizing, though, that...

A MAN: I think it's important to have others understand what went into the decisionmaking process. I only say do it at August, because if you have a limited budget why go down a road if it's really not the best road? Maybe it is, maybe it isn't. I don't know.

MR. COLTER: To us it's the only road because we can't comply with their requirements. If you want to pressure the district into taking a different stance that delays this whole process.

A MAN: I don't know enough about it to say I want to pressure the district.

MR. McBRIDE: That's not what I inferred.

A MAN: You can't move the plume because it's under a residential area.

CO-CHAIR KAMINSKI: What might be a better way to go, is to present options what this thing's going to look like, the visual impact it would be.

A MAN: Not having the opportunity to

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fully understand the project, and where the water district's land is, it seems to me, that if you have municipal land somewhere and it could be located there and the neighborhood is used to that municipal land, maybe that is a better place if it achieves the same goal. If there's a bureaucratic reason that's not happening, I think it's worthy of a discussion or at least the understanding of the RAB.

MR. COLTER: It's not all bureaucratic, I don't want to paint a bad picture of the Bethpage Water District. There's particular technical system because of their system and the proximity of our pumping well and treatment, to theirs, there's a technical reason why it would mess their supply up, potentially mess it up. Not definitely.

A MAN: Perhaps we can get the water district, if we are going to spend time and that's where you're going to spend your money, that's my suggestion for the next meeting. If it can't be achieved we can't do it.

A WOMAN: It might be good to at least let the public know what's going on with the

dialogue with the water district, as well as the Navy, because if it has to be in the site that you're suggesting, then that probably would -- for lack of a better word, instead of causing this big chaotic meeting which I'm anticipating the minute you tell them about that tower, I would say we can't use the water district because of X, Y and Z and let the residents be informed of that.

CO-CHAIR KAMINSKI: That sounds like part of the overall public presentation that we want to make but we don't have the preliminary design yet. How about we can accomplish something preliminary on how we will have a public meeting and present that to the RAB next time, give them input on what the workshop will look like.

MR. COLTER: I guess what I'm hearing there may be -- an outcome of this would be the public pressure to enter into a lease agreement with the Navy. That would change the dynamics.

A MAN: I don't have enough.

MR. COLTER: Yeah.

CO-CHAIR KAMINSKI: We got to discuss how to make it work. We are willing to show the community why this is the right thing and make it as

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good as you can. The community is not going to stop us. They want the water cleaned up too.

MR. COLTER: One of the reasons about that, there is Plant 4 nearby and it's already there, it's not in a nice house facade like Plant 5 is. One of the first things we thought, Plant 4 is there, this is not much different than that on a smaller scale and it won't be here as long as plant four's been there. So we kind of factored that into the community acceptance. We thought there would be community acceptance. We are not going to do anything until we knock on doors and fully brief the people of what's happened.

CO-CHAIR KAMINSKI: If we can get the RAB's input on how best to do that. We can give you ideas next time.

A WOMAN: AS the plan unfolds people are going to do whatever it is that's necessary to remedy the situation. The only problem in my opinion that I forsee, with the way the public reacts to this type of plan, is that with having the community park closed and having a lot of things in this community that are very visible and are affecting the daily lives of these residents, I

think they're a little more sensitive to things that are going on. I just think that it's very important to have them be a part of it and know.

CO-CHAIR KAMINSKI: Let the RAB help us present that sensitive issue. We'll give you ideas how we can present it and you tell us if it's any good.

A MAN: I personally would like a better understanding of the issue that you raise, with the water district. Perhaps we should have that discussion with them.

MR. COLTER: We can give you the rationale to the RAB. I don't want to turn it into a public meeting but we can do a one time thing. Remember, you're our community advocates. We can't reach out to the tens of thousands of people that live around here. So that's what your representation, your cross-section is to basically be our advocate. We have to give you all the information we have so when you get a question you could answer it.

CO-CHAIR KAMINSKI: We are going to come.

A MAN: We don't want to be at a

meeting three months or five months from now, saying, geeze, you know what, the water district would have changed their mind or perhaps we should have examined that further. Now we are down the road, we spent half the budget, it's not a feasible alternative, it was six months ago and while we are sitting on the thing, in reality, this is six months ago. If you tell me there's no difference no matter what, there will be that public opportunity to shift gears.

CO-CHAIR KAMINSKI: Why can't go along district property.

MR. COLTER: That's a good agenda item.

MR. McBRIDE: The residents are going to want to know the alternatives. Has there been any discussion by the Navy on the community park?

CO-CHAIR KAMINSKI: Nobody in this meeting knows anything about that. There's a federal attorney in New York that's working on it, is all I know.

A MAN: I wanted to know whether it was included in our part of the site or not.

CO-CHAIR KAMINSKI: No, it's out of my

hands.

The Department of Justice is dealing with it.

A MAN: We should invite members of the water district to the next meeting.

CO-CHAIR KAMINSKI: That is an important part of the answer, is to have them involved. If they're not here.

A MAN: We don't want to make it adversarial. Let's try to work this out.

MR. COLTER: We sat down with the district and had a meeting and this would be my interpretation of what I heard. We definitely need to hear -- we need to know we interpreted it right.

A MAN: We are not saying you didn't interpret it right.

MR. McBRIDE: When the public sees it, let's make sure they have all the opportunities to explore it and they understand maybe the position that the water district's taking and they understand that this is the optimal way.

A MAN: People have to be educated. We are just learning ourselves.

MR. COLTER: I agree.

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A MAN: We have been down that road so we...

A MAN: In any event, whatever public forum you have, I'm sure the issue will come up. You're better off having full answers, saying this is it, boom. I don't think that is something that will be overlooked.

CO-CHAIR KAMINSKI: Where is the action notetaker. We have three action items, RAB is to meet with their consultant.

We got an action to come up with why can't the tower go on the water district property.

A MAN: I would like it rephrased that would you please present the alternatives -- alternatives to achieving this goal. We want a presentation of viable alternatives. So the public can say yeah, why don't we use that.

A MAN: Your issue is going to be a 45 foot tower. If someone reasonably suggests technologies that don't consist of 45 foot towers.

A MAN: Viable alternatives and methods?

MR. BRAYACK: Is that an action item or agenda item for the next meeting.

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MR. COLTER: Both.

To back up here, when Grumman was in production, they had an air stripping tower that met the permit standard for extracted groundwater prior to use as non-contact cooling water. When Grumman put that system in and used government funds to pay for it, it became Navy property. When we transferred, when Grumman left the property, they did not take that piece of equipment with them because it wasn't theirs to take to begin with. It's Navy property so the Navy has an air striping tower at its disposal on a well that's been shut down.

A MAN: Is that Plant 3.

MR. COLTER: There's no use for the stripper, there's no water to run through it so we have ourselves a half million dollars piece of equipment.

CO-CHAIR KAMINSKI: One more action item --

A MAN: We appreciate your frugality.

CO-CHAIR KAMINSKI: Remember you said that.

A man: But not in Bethpage.

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CO-CHAIR KAMINSKI: One more action item is to, get like a preliminary idea of what a workshop would look like and let the RAB take a look at the concept, idea, next time.

A MAN: I think we are very familiar with workshops.

MR. COLTER: That wouldn't be bad if we have this memoranda this winter. We are not going to have another meeting after August.

A WOMAN: Is it possible for the water district to maybe hold a little informal meeting with us, maybe explaining due to the fact our next meeting is going to be August. There's A few months' lapse, if we can't call you guys, can we contact them.

A WOMAN: That may be the way to go.

MR. COLTER: Obviously they're not saying no to us using the property. They're just saying we want you to do certain things that is outside of our policy to do.

CO-CHAIR KAMINSKI: We need to look at the technical issue.

MR. COLTER: That's part of it.

I don't want to call them and say I

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heard you denied the Navy access.

CO-CHAIR KAMINSKI: The other thing is all the groundwater modeling that you saw is out the window if we go there. We don't know about the effectiveness anymore. We start all over again on effectiveness.

A MAN: We don't know if it could be a better place.

MR. COLTER: Actually the wells wouldn't change. The extraction wells and injection wells wouldn't change.

A MAN: So it's just the piping. It's not that far away, right.

MR. COLTER: It's a thousand feet, versus.

MR. BRAYACK: Versus being centrally located. Those are things we'll put in as considerations.

A MAN: Have a helicopter fly over and take photos.

MR. COLTER: We already have those.

A MAN: Anybody have anything else? Meeting adjourned.

(Time noted: 9:17 p.m.)

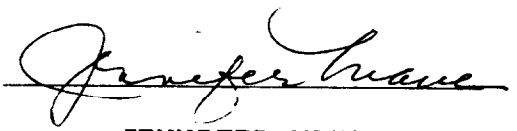
C E R T I F I C A T E

STATE OF NEW YORK)
) ss.
COUNTY OF SUFFOLK)

I, JENNIFER MAUE, a Registered Professional Reporter, do hereby certify that the foregoing Matter, taken at the time and place aforesaid, is a true and correct transcription of my shorthand notes.

I further certify that I am neither counsel for nor related to any party to said action, nor in any wise interested in the result or outcome thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of July, 2003.



JENNIFER MAUE

Naval Weapons Industrial Reserve Plant

Bethpage, New York

Restoration Advisory Board

Regular Meeting

----------X

7:00 P.M.
November 5, 2003

Bethpage Community Center
Bethpage, New York

P R E S E N T:

Joe Kaminski	United States Navy Naval Air Systems Command
Dave Brayack Judy Lamey	Tetra Tech NUS
Jim Colter	Northern Division, NAVFAC
Steven Scharf	NYS DEC
RAB Members Community Members	

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CO-CHAIR KAMINSKI: This is the Bethpage RAB meeting. Today is whatever day it is. Apologize for starting late, there was a rain delay. We expected to start at six and started at 6:30. We ran over meeting. First thing to do, I'm Joe Kaminski. Anybody who is a RAB member needs to move up to this table right now. The way the RAB works, is the RAB members sit up at the table. Anybody who is in the audience sits in the back so we know who we are talking to. The RAB is the community representatives. We like to think that the people who are taking the time and the effort to be members of the RAB are representative of the community and every one of you who is a RAB member, represents hundreds and hundreds of other people. That has been proven now any number of times. We'd like you to be here. I think the rain has delayed a lot of people. So we'll get started a little late. As people trickle in, that's fine. With the table wet and everything else.

(Brief recess)

CO-CHAIR KAMINSKI: This is the Bethpage RAB, thanks for being here. It is the regularly scheduled meeting, November 5th, Which we

didn't used to do, we used to do whenever it seemed like enough stuff accumulated to have a RAB meeting, with -- with the experience that the Systems Command gained in Texas with regular RABs, we found it was a better idea. Sometimes you have a few things to talk about, sometimes you have a lot of things to talk about. Today we are somewhere in the middle of things to talk about. At times we'll have long meetings and at times we'll have shorter meetings.

Standard issues, standard details of the meeting, are the approving the minutes of the last meeting.

MR. COLTER: We sent transcripts out without paraphrasing them. In response to the request at the last meeting.

MR. COLTER: Did you get the transcript.

A WOMAN: Yep.

MR. COLTER: I know Mike didn't.

MR. GRELLO: I just got it today. I'll review it.

A WOMAN: Make a motion to approve the transcript if somebody will second it.

MR. SCHARF: I will second it.

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CO-CHAIR KAMINSKI: That's done. Backing up a minute, let me congratulate everyone who won yesterday, including one of our members, I guess is just out celebrating but that's okay.

Legislator Mangano is one of the RAB members, he did win.

MR. GRELLO: So did John.

CO-CHAIR KAMINSKI: Failing to find anymore anecdotes for congratulations to you, I have to get right into the agenda. Which I'll get a copy of. And without any further ado we'll get right into it.

Jim, why don't you go into the agenda.

MR. COLTER: The next item on the agenda, regards the status of the Navy's off-site groundwater efforts. At the last meeting, we had an action item to update the question of implementation, and that's what I just handed out. Just a minute ago.

As you can see, basically, up on top, the installation of the outpost monitoring wells, that's what we are currently involved in and some of you may have seen the drill rig out in your

neighborhoods. We've gotten calls and we've talked to a lot of local neighbors so we're pursuing completion of that. In a second, David Brayack from Tetra Tech NUS will give a little bit more detailed accounting of what we have accomplished in the past three to six months, and where -- what we have left to do. But if you look at item eleven on the schedule, install outpost well clusters, we started that effort back in early June of 2003. And it looks like if all goes well, we should be done by the end of November. What I'll do now is turn the meeting over to Dave and he can go through, like I said, what we've done so far and what we have left to do.

MR. BRAYACK: Basically, we started in early June. We have been installing monitoring wells since then.

Some of the access to the monitoring wells was based on property access between the Town of Oyster Bay and the Town of Hempstead.

But basically, just to orient you, this is the Navy property in this area here? The Grumman property extends out further. What we do know, and Hooker Ruco is in this area here are, too.

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But there is a groundwater plume that's starting here and moving to the south.

Grumman has active operations going on on-site to capture it at the property. The Navy is in the process of installing a remedy in this area, here, this has been an isolated hot spot. But mostly we're looking at some contamination at fairly low concentrations. It is extremely widespread and just as a point, the contamination is not the entire thickness of the aquifer. It is generally present at varying thicknesses. Generally it starts at 200 feet below the ground surface and extends to three or 400 feet below the ground surface. There are a series of water district wells down in this area, there's a Levittown water district, which is to the west. Based on computer models, the contamination in this area is never projected to hit that, at least within the next 30 years.

There's a New York Water Supply system just to the south right here. This area has also been a concern because we did find some levels of contamination just to the north of that. We installed monitoring wells specifically to monitor the contamination in that area. We have the South

Farmingdale water district. For your reference, this is the Seaford Oyster Bay Expressway running down along here. There's the South Farmingdale water district, here. And then there's another set of South Farmingdale Water District wells over here. This is the Bethpage Parkway. This area, here, is about the width of the groundwater contamination. Once, again it is not continuous, it is sporadic. It is generally low level.

What we did was installed a series of monitoring wells, that based on computer modeling, are located between where the contamination currently is, and where these water districts pull their water from.

The idea being these wells would be used to monitor over time. They're located so that they give approximately a five year warning time. Meaning that if contamination shows up in this well, it is then projected at about five years from now, some of the contamination may enter the water districts, it may not. And at that point, the Navy has agreed to enter into negotiations with the water districts to make sure that those water districts remain protected.

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The contamination that we're talking about is predominantly volatile organic compounds, it is very easy to treat and remove from the groundwater. To date, we installed two monitoring wells here, they are called OW, Outpost Wells 41 and 42.

Just for your information, 41 is 692 feet deep, that's from the ground surface, it goes down 692 feet. Monitoring well 42, goes to 764 feet. So these wells are extremely deep in this area.

Outpost Cluster Number 3, there's two wells there, they're installed to 516 feet and 647 feet.

Those have been installed. Outpost Well 2, they're shallower, they're 400 feet and 495 feet.

And finally, at Outpost 1, 2, and 3, we finished installing Outpost Well 1-3, last week. We finished installing Outpost Monitoring Well 1-2 just yesterday. And Outpost Well No. 1, is scheduled to be installed and be in by the middle to end of next week. Once the wells are in, they need to be developed. As we have been installing the

wells, when we get the well installed, there's some formation fines. They have to be pulled out of the wells.

We have sampled one of these two wells. We have a problem with one of these wells and we have to go in and fix it right after Thanksgiving. We have installed these. To date, we did find one trace level of volatile organic compounds in one of these wells. We went back out and resampled it because sometimes we get false hits and this -- I just got the results back a couple of days ago. It looks like the first sample result was a false hit. The second sample which was sampled more like it should be, was perfectly clean.

MR. GRELLO: Are you doing split samples on these, so we know if there's laboratory error.

MR. BRAYACK: We collect trip blanks. With trip blanks, if there's a laboratory error it shows up there.

MR. SCHARF: What was the contaminant that was in the first sample of well three, was it.

MR. BRAYACK: It was Well 3-1, benzene at two parts per billion. Benzene is not

one of our site contaminants.

As we develop these wells, we are using, you know, fuels. The fuels go into the air and we have seen fuels, benzene, toluene, sometimes affect our groundwater samples. That's why we went out the second time. We are planning on going out a third time within another week or so, another couple of weeks, and resampling it a third time, just to confirm, you know, the previous result.

So, based on the modeling, the modeling had actually projected that this area would be contaminated. Based on the results, we know that the model is somewhat conservative. Based on these results we know that the contamination is actually north and that there's not as much urgency in that area as we had first thought.

These are all preliminary results. We will be issuing this in a report, yet, but that's what we found so far.

These wells over here, they'll be sampled within the next two or three weeks but of all these wells we've been installing as outpost monitoring wells, it was the three clusters that we were the most concerned with. And we have two

non-detects for any type of site contaminant so far. So that's some level of comfort, there.

We expect, I think Jim mentioned the end of November, we will be done with this outpost well cluster by then. We had a little problem with one of the screens on this, we are going to go back in and fix it. So our end date is really more like the first or second week this December.

Then this will complete one aspect of the ROD.

CO-CHAIR KAMINSKI: Will the report be issued to the members before the next meeting? Will you get it cranked out by then.

MR. BRAYACK: The report is scheduled to be done probably end of January time frame.

CO-CHAIR KAMINSKI: You all will probably see it before we meet again, we can update it.

MR. BRAYACK: Okay. There's been some discussion about some of the southern libraries, this would be one of the records that goes into it.

MR. COLTER: Any questions on the --

Yes, ma'am?

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A WOMAN: Are these monitoring wells south of the turnpike or north of the turnpike?

MR. BRAYACK: The Hempstead Turnpike runs right across about the middle.

A WOMAN: Yeah.

MR. BRAYACK: For reference, this is the Southern Parkway. The monitoring wells are roughly a third to a half a mile away between those two.

A MAN: How many miles from Hempstead Turnpike.

MR. BRAYACK: The question is how many miles.

A MAN: From Hempstead Turnpike are the wells, approximately?

MR. BRAYACK: Three or 4,000 feet.

A WOMAN: Is there anything north of Hempstead Turnpike.

MR. BRAYACK: There is some known contamination up in this area, as well.

A WOMAN: Would that be west of Stewart Avenue?

MR. BRAYACK: It would be west of Stewart Avenue. Right now, the contamination is

very roughly bound by about Wantagh Parkway, and Bethpage State Parkway is a little too far east, maybe a little closer to the Seaford Oyster Bay Expressway. But groundwater from this area flows to the south and just a little bit east. So anything west of.

A MAN: You mean Wantagh Avenue not Wantagh Parkway.

MR. COLTER: Right, Wantagh Avenue.

MR. BRAYACK: Yes, Wantagh Avenue.

A MAN: Wantagh Parkway is another few miles to the west. You don't want to be over there.

A MAN: What concentrations were you founding there when you took the samples?

MR. BRAYACK: We got one detection of benzene at about two parts per billion.

CO-CHAIR KAMINSKI: We don't think that's a detection, though.

MR. BRAYACK: That is correct. The laboratory found benzene. Like I said, any of the fuels.

A MAN: Just benzene, nothing else.

MR. BRAYACK: Just benzene, nothing

else.

MR. SCHARF: Keep in mind these are outpost monitoring wells, where we went ahead of what we project where the plume is. So we put those wells in there to monitor that before it gets to the municipal wells. And in addition to that, Tetra Tech put in a whole series of vertical profile borings down 800 feet, over about a year period, that was about two years ago.

MR. BRAYACK: Yes.

MR. SCHARF: That was an extensive effort to delineate, which turned out to be much further than we had thought, but still fortunately not far enough yet to affect the wells south of Hempstead Turnpike.

CO-CHAIR KAMINSKI: We consider the leading edge of the plume at five parts per billion for detection.

MR. BRAYACK: As far as the outpost monitoring wells are concerned, there is an action level of between .5 and 1.5 parts per billion. The objective is to protect the water districts at the detection limit.

CO-CHAIR KAMINSKI: Okay.

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MR. BRAYACK: Which is .5 parts per billion.

CO-CHAIR KAMINSKI: In the known plume area we have readings from, detections all the way up to the hot spot, which is very, very contaminated, that we are dealing with separately.

MR. BRAYACK: There are places in particular on the Grumman property where they are routinely pulling out 500 to a couple thousand parts per billion.

This hot spot area here, it is a fairly well-defined area. Has a maximum of, I believe, one or 2,000 parts per billion. Anything south of the Hempstead Turnpike, is much lower, maybe 100 parts per billion. There's a couple stray hits down to, you know, the majority of the samples are clean. So as we are sampling down over 800 feet, we may collect 25 or 30 samples and we may find one or two samples at ten or 12 parts per billion.

MR. GRELLO: This is 100 parts per billion at the turnpike area, at what depth, approximately?

MR. BRAYACK: At the turnpike, the

majority of what's down here starts at perhaps a 100 to 150 feet below ground surface, which is fifty to 100 feet below the water table, and it goes to maybe two, or at the most, 300 feet below the ground surface. The water districts generally pull six to hundred feet. There's a lot of vertical buffering in there, as well.

MR. GRELLO: The 500 to 2,000 on the Grumman site on the hot spots what's the depth on those.

MR. SCHARF: 300, 400 feet.

MR. BRAYACK: I think three to four hundred feet, maybe 500 feet.

MR. GRELLO: Three to five.

MR. COLTER: Don't forget there's a containment system at the Grumman southern boundary that prohibits that from moving off-site.

MR. BRAYACK: That containment is three to 500 feet as well.

MR. SCHARF: Some of the contamination that migrated onto the site from the Hooker Ruco site.

CO-CHAIR KAMINSKI: It is all going to get washed away tonight.

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MR. COLTER: That's where we are at with the first item, the installation of the outpost wells, where as David said, we are nearing completion of that.

What Dave mentioned also, was the hot spot, what we designated as the GM38 area. It is an area where we have up to 3,000 parts per billion of contamination. So it is significantly higher than the remainder of the plume that David said is around from anywhere from 10 to 200. So part of our remedy is to address that site and take the mass, as much mass as we can, out of that area. As we mentioned at the last RAB meeting, we gave a little presentation about the siting of the remedy and some of the options that we had in front of us and we ultimately chose the area that they have pointed out, that's near the intersection of Broadway and Arthur.

What we have been doing, is talking a little bit with the Town of Oyster Bay, about the possibility of using their property. They have been receptive to that. So what I've laid out here, starting at item 17, is laid out a little bit more of a detailed outline of the steps that we have to

go through to design the remedy and then ultimately construct the remedy.

Basically, from item 18 down to item 27, we've completed that. The preparation of a basis of design report. And that was handed out a couple meetings ago. It was done by Tetra Tech NUS and it basically just outlined the schematic of what's going to be involved in this GM38 remedy and the location that we have chosen. It incorporates the model result that Arcadis Gerrity Miller had been doing for us, with the simulation of how many wells, the location of wells, the treatment plant, and estimated times to clean space up, those type of things. Where we are at right now is basically item 29. We're under the construction of the GM38 remedy sub-task.

What we have been doing since the last RAB meeting is working with our construction contractor, who is Tetra Tech FW and they were formerly Foster Wheeler. They have been bought out by Tetra Tech, but it is basically the same company that's been involved in this ever since we decided to take on this action. So there's not -- there's no new learning curve. It is just a name change.

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One of the first items we have to do is we have to conduct a survey of the GM38 treatment area. We have to do this for two reasons:

One, we need the survey information so we can start putting together site plans for the design. Secondly, we need legal descriptions of this area, so that we can write up real estate agreements between the Navy and the town, that states where we are going to conduct our work and how we are going to conduct our work, and things like that.

At this point, we haven't received our FY-04 allotment of environmental cleanup funds from Congress. We usually don't get them first quarter. It usually is late first quarter or even second quarter. But what we are doing now is basically work on contracts and getting proposals from different surveys and different drillers and getting everything kind of aligned so that when the money comes in, we can make a contract award. Again, one of the first things we need to do is conduct that survey. I'm hoping to do that starting in the first of December. I'm hoping we get some money this month that we can at least make an award

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to a survey contractor and get the ball rolling there.

It will probably be from the time they go out to the field, to come back and provide drawings and submit the drawings to us. We are probably looking at a deliverable date of about mid-January to get some type of drawings and legal descriptions from the surveyor.

Following that process, once we receive the survey drawings, I'm going to skip down to item 32, we are going to start the real estate process at that point with the Town of Oyster Bay. We anticipate that being a pretty lengthy process. You'll see I have till July 1st in there. It's a very cumbersome process with how real estate -- and I'm not a real estate expert, so I'm not going to try to explain all the details that go into that.

But while we are doing all that, while we are doing our surveys and working with the Town of Oyster Bay, we were asked also to conduct a neighborhood workshop for the residents in that area to let them know what's going on and what they can expect as far as construction and time frames and things like that. That's the other reason we

would like the survey drawings, so we can get an accurate picture of what their neighborhood looks like when we use that to make some posters of the area to help geographically explain what we are doing.

I talked to Steve a little bit about what he thought would be a good time. We had the elections coming up and now we have the holidays coming up. We don't have our surveyor under contract yet. What we kind of threw out is a date and this isn't even published, it is not set in stone, but for scheduling purposes we are looking at sometime in early February. February 4th or something like that. But it looks to be in February we'll have some type of community workshop out there.

MR. SCHARF: Also you may want to mention, Jim, you may want to combine that with an overall project review to the public, of a poster session with the overall Northrop Grumman, and the Navy project, so people can ask any questions that they feel are appropriate or just get information.

A WOMAN: Are you going to hold that here.

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MR. SCHARF: We are not sure where. It might be at the Bethpage High School.

MR. COLTER: We'll probably do it at the junior high school since it is close to the neighborhood. It is going to be a poster session, it is going to be a walk-through, we'll have 15 or twenty posters set up and people can walk through. We'll have consultants and Navy personnel, state personnel, manning posters, answering questions. It is not going to be a formal sit down computerized presentation. It is going to be informal, just walk through ask any questions you have.

MR. GRELLO: Will you have a public comment thing set up so people can talk or are you going to let people run wild.

A WOMAN: People are going to ask the same questions over and over again.

MR. GRELLO: Why don't you have a forum where people can ask the questions? Otherwise they'll all ask the same questions. Usually the high schools are better set up for that.

MR. SCHARF: To answer your question, when we had the proposed remedial action meeting, we had a formal meeting and a forum where people could

stand up and ask questions and we had a stenographer, as we have tonight, to take the minutes. After that, we had the poster session at the middle school and it worked very well, it went from the beginning of the site history up to the present with all the goings-on, all the current activities, all the design work that was happening. And everybody that came through had all their questions answered, and when they were satisfied they got the answer they needed, or they met the people that could get them the answers to the questions that they had.

MR. COLTER: The decision basically that was back in December of 2000, was the formal public hearing and public comment period, asking for comments at that time.

At this time we wanted to do something informal and target those neighbors that are going to be impacted and keep it informal. It is not going to be a public meeting.

(Whereupon, Mr. Mangano joins the proceedings)

MR. COLTER: How you doing, Ed. Congratulations.

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MR. MANGANO: Thank you very much. Sorry I'm late.

MR. COLTER: Continuing on with our schedule for the construction. After -- well, at the same time, again that the real estate process is being done with our real estate people in the Town of Oyster Bay, Foster Wheeler will be performing some site work to collect some data that you have to do when you do a design of any building or system. And one of those things is the geotechnical investigation. Basically they're going to go out and take soil samples and things and figure out what type of soil was out there, what type of foundation can you build, how much can this foundation support. Because we are going to be building a treatment plant with heavy equipment. So we are going to be doing geotechnical work out there, which is going to ben incoporated into the design of the treatment building itself.

Another field effort that we'll have to do is what we call predesign groundwater investigation. That's basically putting in the extraction wells, where the model predicted they should be, installing monitoring wells around this,

and doing a pump test to actually find out what are the physical characteristics of the aquifer and see if that matches what the model is predicting. The model is good to get you in the ballpark but now we have to actually get in there and see what the aquifer characteristics are and to see if we can meet the pumping rates that we have to meet in order to agree with the model. So -- that's all part of real estate also. We'll have to get agreements for the well locations and things like that. So there's a lot of up-front work that has to be done. At that point, Foster Wheeler, after installing all of that, will conduct a treatibility study, that's the pump test.

After they collect all of that geophysical data and groundwater data, then they'll start doing their design or what we call a draft implementation plan. If all goes well and the funding comes in and the schedule goes off the way I have it here, we should be seeing some type of draft design or implementation plan sometime around early September of 2004. We'll get that plan or design reviewed by the RAB and regulatory members. And hopefully put out a final plan this late October,

and then we'll basically have the winter to finalize everything, obtain any construction permits that we have to obtain and hopefully by the next good construction season, starting in March of 2005, we will be out there putting the treatment building up and putting in the air stripping tower and getting the system constructed.

MR. GRELLO: When would be a projected start-up, to be able to stay on schedule.

MR. COLTER: Probably it would take about it looks like maybe 125 working days, five days a week. The remedy, the system should be constructed and final construction by sometime September of 2005 and start-up would be soon after that. I think that's a six-month construction period. That's a pretty lengthy construction period but you never know. Sometime in 2005 should be the start-up of the system.

As the model has predicted we should have reduced almost 100 percent of the mass sometime within the seven to 10 year time frame. So that's kind of what our real estate agreements would be written for with the anticipation that if we meet our goals at that point the system would be shut off

and dismantled at that point. Wells would be taken out and the site fully restored at that point.

That's kind of where we are at.

MR. GRELLO: When you say "reduce the mass", you're talking the state TAGM levels.

MR. COLTER: No. We are taking out as much mass, where that area now reflects the rest of the plume. As Dave mentioned before, the plume basically is from, you know five to 10 to 100 to 200 parts per billion. Our goal is not to clean that site up because there is more contamination north of it that will flow through. This is basically getting a significantly higher concentration of organics and getting them out of the aquifer. It's too unfeasible to clean up the entire aquifer to drinking water standards. That was part of that whole public comment period several years ago that that was -- it is too big, too expensive. You'd have to put a pump house and air stripping tower in people's yards, you know, all along the southern boundary, that we kind of talked about that earlier, as being infeasible. The plan now is to keep -- where most of the contamination is, keep that on Northrop Grumman property with the

containment system. What we've missed, we've missed. And let's make sure that the water supplies are protected and that's the purpose of the outpost wells in the aquifer. There is this hot spot and we want to reduce the mass there but not clean it up to TAGM.

MR. GRELLO: What numbers are we shooting for.

MR. COLTER: The model basically says we can get down to less than 100 in the seven to 10 year time frame.

CO-CHAIR KAMINSKI: Explain the alternate protection. Is the treatment system on the water district wells. The two of those have already been put in. Just reiterate.

MR. COLTER: In Bethpage water.

CO-CHAIR KAMINSKI: Through Bethpage water which has already been impacted it already has the protective treatment systems on them so the water that's used is never contaminated.

MR. GRELLO: For the chemicals that we are talking about here, what are the state TAGMs on them.

MR. COLTER: It is federal MCL, which

is five parts per billion for most contaminants. The federal drinking level is five. For most of the volatile organic compounds, we are talking about. And the state levels are similar to the federal, five parts per billion.

MR. GRELLO: How did you come up with 100 parts per billion being safe.

MR. COLTER: We are not saying it is safe. The goal is to get a higher chunk of contamination out of the aquifer to reduce the aquifer. It's not to clean it up.

CO-CHAIR KAMINSKI: If water that's contaminated up to 100 parts per billion ever reached the well, the system that is put on the well knocks the hundred down to nothing.

Every well that would be impacted, the three wells that are currently impacted, have treatment systems on it. If the outpost well finds -- detects a contamination level that would impact the drinking water well, then the system would be put on the drinking water well to make sure it's.

MR. GRELLO: But our job is supposed to be restoration of the aquifer and protection of

our drinking water. Not cost. Cost should not play a factor here. Once it's all set up and the design standards are set up, it may be more feasible and better for the community to leave it running for another ten years and get it down to 50 parts. Okay, of course we are not going to get it down to MCLS 5 or TAGMs. But 100 parts per million is a lot to leave. Especially when development continues to go and the accessibility of putting more treatment somewhere else, when we do have a problem, becomes unfeasible, as we are finding nowhere to set it up. Restoration is our business. 100 parts per million --

MR. COLTER: You got to understand. This whole thing, those types of questions and everything, there was a series of a lot of alternatives that were presented way back.

MR. GRELLO: I understand.

MR. COLTER: We are now implementing the preferred remedy that was chosen and commented on by the public. I understand you're coming in at kind of like the home stretch here. Maybe what we need to do is meet with you separately. Because this has been a 10-year process.

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MR. GRELLO: I know that.

MR. COLTER: And it has been a process that has been going on. To answer all your questions that you have a valid point on every one, we've doing that for the last ten years. But we can't do it all right here. We will be here till midnight.

MR. GRELLO: Of course not. All I'm saying for the record is that once that system is set up and running, it pays to leave it running a few more years to get it below 100 parts.

MR. COLTER: But there's more contamination there north of this that continues to come through. And then you have similar levels on the western side. You can't put a system in, that cuts that off. I mean, we've done that up on Northrop Grumman property. This system, the plume that's left the property, is too wide. You'd have to -- we are having a hard time finding a spot to put this treatment system in.

MR. GRELLO: You know that that's what I'm saying.

A WOMAN: I offered you a spot.

MR. GRELLO: That's why I said at

the last meeting, maybe with these studies we should be looking at injecting the treated water upgradient so we create a flush.

MR. COLTER: That'ss all --

MR. SCHARF: If I might answer that part of your question. That's what we are doing right now with the containment system north of the area.

MR. COLTER: Talking about GM38 *D2 remedy. The containment sump is on the Grumman site. We are pumping 4,000 gallons a minute of water and treating that essentially to non-detect and reinjecting that water through the recharge basins. Just north of Central Avenue, there's a series of recharge basins. In fact, they actually mentioned this at the last RAB meeting.

MR. COLTER: Yes.

MR. SCHARF: Injection in the sense of putting it through recharge basins. Part of the remedy, was to confirm that the containment system is working. And that work was performed by Tetra Tech as part of the ongoing process of implementing the ROD.

Not only did that show that the

site's being contained but it also demonstrated that the groundwater is cleaning itself up south of the former Grumman facility.

A MAN: I have a question to ask you about the treatment. Now, the treatment of the water. If one well seems to get overwhelmed, does it shut down? Will it actually be able to handle it? Or if it breaks down, the well, and starts just dumping the benzene in our drinking water, does an alarm go off? Does it shut down?

MR. SCHARF: I'm not sure I follow you. You mean the treatment system Jim's talking about.

A MAN: I'm talking about our wells, our drinking water on the wells.

MR. SCHARF: You're talking about the treatment of wells.

A MAN: Yeah.

MR. SCHARF: If the well is impacted or actually if it's determined that it is impacted, in the event that a well will be impacted, the goal of this program with the outpost monitor ing wells is to put treatment on those particular wells before it gets there.

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A MAN: That's not what I'm saying.

MR. SCHARF: I know. But I'm leading up to that. There are -- as part of this program we have to sample monthly to make sure the systems are working. These systems are fairly routine. If these airstrippers are packed towers, as long as their flow is working right, we can fairly safely assume the technology is working, to do what it has to do. In fact it has been demonstrated that if the system fails, the whole system shuts down. There are all sorts of system controls to do that.

If the packed tower -- the packing fails, we are going to know that by all the flow rates that we monitor by computer at the facility.

A MAN: If it is only taken once a month if you happen to go two weeks past, and you injected all that drinking water into our drinking pipes.

MR. COLTER: You need to talk to the water district. They have safeguards against that.

A MAN: This is what I'm trying to figure out and find out.

MR. COLTER: I'm not going to speak for them, they have the capacity to shut a well down

and continue the --

A MAN: Not shutting a well down but how much contamination got into the pipes that we all started drinking. What is that woman in California? She left a glass of drinking water from that place would you like to drink that water? I didn't think so.

MR. GRELLO: If I may, what I think he's trying to project is what I said at the last meeting. We can, we cannot rely on mechanical well head extraction, because mechanical failure, and human error, I believe the best restoration that can be done is the best remedy. Take the blackout we had.

A MAN: We have a cogeneration power plant over here in Bethpage, and it knocked us all down, 60 thousand people were supposed to have power. How did Long Island get knocked out of power? It is garbage.

MR. GRELLO: If there's three to five weeks between testing the plume, there could be three parts per million of TCE, or something else. We know two parts per million may not kill you over the three-week period we are drinking it, but we're

breathing in other contaminants in our area, and other contaminants are in our food we are eating, that is why I said before restoration is the name of the business.

MR. SCHARF: If you're asking a question, the state health department sent out regulations which are fairly stringent and conservative. The methods that are used are strict across the state not just on Long Island to demonstrate to the satisfaction of the health department they are providing water that is potable and safe to drink.

CO-CHAIR KAMINSKI: We can put this on the agenda.

MR. COLTER: We need the water district.

MR. MANGANO: Can you invite the water district down to the next meeting as a speaker on the subject. So you get it on the record.

A MAN: I'd like to take a walk to one of the treatment plants and see. There's a way that you can fudge things up.

MR. GRELLO: If you want, next time I'll bring some water that has contaminants in it of

two parts per billion, and see if you guys want to drink it.

MR. MANGANO: I'm sure they'll be receptive. We'll get them here for the next one. If you want those answers, the water district has been very receptive. You don't need to wait three months. You can all go over there and Andy, will be able to answer those question.

A MAN: Ed, between test periods, we can be drinking two parts, five parts, five parts, 10 parts per million because the well head treatment was not doing its job. It is like making a pot of coffee. Without that coffee filter, you're going to drink the grinds.

MR. MANGANO: I would love to get them here, I was not under the impression that we could get to the point it could get into our drinking water. Every meeting I ever attended, they always represented it can't get into the drinking water to reach our homes. We should get them, those that are responsible, for that care, to be here and perhaps they can explain in greater detail how they prevent something like that. I'd like to know that answer as well. That's a great question.

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MR. SCHARF: As a chemical engineering student in college, I studied process engineering, they run systems to work and they run tests on it. And the companies that design the systems, take samples probably every hour, sending contaminated water into a given tower and insuring it works that way. For example, when we start up a pump and treat system you start every month, we sample the wells and elevations. Once you get the system running, you have a certain level of confidence. Just like, I guess, just like anything else.

A MAN: Not to overwhelm your education, or your knowledge, but Three Mile Island still happened.

MR. SCHARF: Absolutely. It is a valid question. I'm trying to tell you these are designed into the system. Otherwise they wouldn't be putting these on.

A MAN: What's the safety system? I would say Three Mile Island would have a greater safety system, and it still happened.

MR. MANGANO: I was under the impression that we don't pump from the areas that

were contaminated, that was the impression that I was under. We are not pumping drinking water from those areas. So I think we should get the water district.

MR. SCHARF: That is not exactly 100 percent.

MR. COLTER: For the southern districts, that is true. For Bethpage water that's not. That's -- Northrop Grumman Navy paid for the treatment systems on this.

MR. MANGANO: We'll get them down here, then.

A MAN: Venditto wouldn't want to drink that water.

CO-CHAIR KAMINSKI: Jim, can we.

MR. COLTER: We'll invite John Malloy from Bethpage water.

CO-CHAIR KAMINSKI: We'll make it an agenda item for the next meeting.

A MAN: Get technical person that's treating the water, who knows how the system works and what's the reliability of it. We want to see how the system actually works.

MR. SCHARF: John Lovejoy from the

county health department told me the county has a working model air stripping tower they can bring to public meetings to show people how it works.

A MAN: That should be done at one of those poster things you're going to have at the school so they can explain how the treatment is done. Because we are going to relay this stuff. We have to give everybody, the truth. In case of something happens, we got to show them. We are not going to go on this is what they say you might as well get up there and speak and let us stay home.

MR. SCHARF: Given the number of municipal wells on Long Island, for example, that have been impacted and those wells that have air strippers on them and have undergone sampling at different times, only a couple of companies make these systems, and they're all performing up to par. I would say it is a fairly good level of confidence that we are in good shape. But that's a good question. You want the people who do work on the design to answer that question.

A MAN: Erin Brokovich once said that too, we are in good shape. Drink the water.

MR. COLTER: That wraps up what

we've done in the last three months. Not a whole lot has been accomplished because of the funding issue, but we're making progress. Once the funding comes in this fiscal year, by the next meeting, which we'll talk about a little bit later, there should be some reports out. You'll see some progress.

CO-CHAIR KAMINSKI: You want to summarize what Ed missed on preliminary results for the Hempstead Parkway.

MR. COLTER: Before you got here, Dave from Tertra Tech gave us an update on the status of the installation of the outpost wells that we are putting in upgradient of South Farmingdale well field, New York service well field, and Levittown well field. Right now, all four wells are in. Either two or three wells are at each location monitoring at different depths. We should be, we completed one well today at the South Farmingdale well furtherest to the east. And we should be finished with the third well in that cluster within a couple of weeks. So after, by the end of November, all of the outpost monitoring wells will be in. Upgradient of the water supplies for the New

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York Water Service water well, that was shown by the model to be already within the five year time frame. That contamination should already be at the outpost well location. That well went in when we sampled it. We didn't find any site-related contaminants, the TCE or the PCB that we've been tracking. That we did get a hit of benzene, but it wasn't in a typical well sampling technique that we found it. When we were sampling the well water after we purged the well? Before we dump the water, we have to sample it before it goes into the POTW. In that frac tank, we found benzene. So not knowing where it might have come from, we weren't back two weeks later into that well and we resampled it using sampling techniques. So it is actually a repetitive sample of the aquifer, not in the frac tank, and we found non-detect for benzene. We are going to go back out in two more weeks and we're going to resample the well again.

MR. MANGANO: On all of that, you work with the local water districts, they're aware of those resamplings in those districts?

MR. COLTER: I foward them progress reports and things like that. Gary Loewshirt of H2M

has asked for those results. We resampled, and we just got the results yesterday. So I'm going to forward the results to him. I'm also going to let him know we are going to go back in in two weeks to resample just in case. That not being a site-related contaminant. We didn't detect it. It looks like that well is free of site-related compounds so there's not as much urgency as the model may have been predicting. So it is some good news.

CO-CHAIR KAMINSKI: We'll get you a complete report by the next RAB meeting.

MR. MANGANO: Traffic, motor vehicles.

MR. GRELLO: When we find hits like that and it's confirmed that it's not laboratory error, is the DEC going to investigate where the source is coming from, if it is not site-related?

MR. SCHARF: Absolutely. If we find benzene from an oil spill, from a tank that's leaking, we have to track that source of the spill in Stony Brook. We refer that information to them.

MR. GRELLO:Mike I had this same problem with the Liberty site where they found

petroleum floating in one of the wells and it took nine months until they decided to go after the gas station that it was obviously coming from, which was a block away. By the time you go through your remedial design phase and you set everything up, you just made the problem two or three times as bad. So when we do find something like that by accident or through an act of God, we need to act on it quickly. Thank you.

MR. SCHARF: Absolutely.

MR. GRELLO: Thank you.

MR. SCHARF: You're welcome. Appreciate your input.

MR. COLTER: The last item on the agenda is an update from your TAPP contractor, which is H2M. Gary Miller is here. He's been reviewing the dry well report for the Navy site that the TAPP -- or the RAB had requested, that the report be reviewed by an independent consultant. You guys chose H2M as your independent consultant. He has been doing that over the last several months and I'll turn it over to Gary to give you guys an update of where they are at with their review.

MR. MILLER: As Jim pointed out

several months ago, H2M was tasked with conducting an independent review of the investigative study work done at two drywells at plant three. These drywells were previously identified as having been impacted with PCBs. While there were some remedial efforts taken in these drywells, soils were excavated down to 28 to 30 feet, which was the limit of practical investigation. The remediation stopped at that point. Additional study was done to determine, to gather information on the extent of the PCB contamination, moving downward and laterally, looking at the groundwater and then looking at what options were available to remediate these drywells further.

At this point in time, H2M has reviewed all the reports. We are in the process of preparing our own report and we will summarize our findings and conclusions. For the purpose of this meeting tonight, we prepared an executive summary which highlights what we looked at and what our findings are. I'll let Paul Lageraaen touch on some of the highlights. We have copies. I think we may have just enough to hand out to everyone.

MR. LAGERAAEN: What I have here, is

a draft copy of the executive summary for the evaluation report. The evaluation report again is our review as far as the investigation and remediation of these two drywells over at Plant 3.

There were two main reports that we reviewed, and they were performed by Roux Associates. The first report was a site characterization report. That report was essentially an investigation as far as the extent of PCB contamination at these two drywells. And they investigated the soil contamination and groundwater contamination around the two drywells. The investigation was comprehensive especially for the soil investigation. They determined -- for the PCBs, they went a radial distance 20 feet down to pretty much the groundwater table. They checked the soils for contamination above the recommended soil cleanup objectives for the DEC. And they determined an area that was impacted with the PCBs and then they also did groundwater sampling, by the drywell, as well, 75 feet away. They found minor impact of PCBs in the groundwater, and they also, after preparing a site characterization report, did a focus feasibility study on available technologies

for treating PCB contamination in the soils, to determine what is available commercially, and what might work for addressing the PCB contamination in the soils. They evaluated a number of different technologies and we reviewed the different technologies that Roux evaluated.

And upon review of their focus feasibility study, we feel it was a fair report and they evaluated the technologies that are commercially available. We also looked for ones on our own. We couldn't find any that were applicable to PCBs in soils.

As far as the soil contamination went, they evaluated a no action alternative, no action meaning they'd leave the soils in place, versus excavation. And treating the PCB soil contamination in place. And the conclusion of that report in the focus feasibility study was that there really is no exposure, potential human exposure, to the PCBs, and a no action alternative was selected. Our evaluation of that is we don't find any fault with that conclusion. We don't disagree with it. Leaving PCBs in place, seems, based on the exposure assessment, that they had conducted, that there

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really was no exposure pathways for human contact. As long as the area drywells are paved over, there is no potential human exposure to risk. So we don't disagree with the conclusions of the feasibility study as far as the no action alternative for the PCBs.

As far as groundwater goes, the focus feasibility study looked at remedial alternatives, it didn't address groundwater. They did find minor groundwater contamination above class GA groundwater drinking standards, which for PCBs is .09 parts per billion, and the highest concentration they found was about 12 parts per billion, that's still low numbers, but they were above the GA drinking standards about 75 feet away. They did not do a feasibility study for treating the groundwater, because there was no exposure hazard for groundwater. Which really is true. And also, there's an extensive, as we know, groundwater treatment and remediation system on-site. So, the one recommendation that we would have, as far as groundwater goes, and their evaluation is, that the on-site treatment and monitoring program for groundwater actually incorporates PCBs in select

wells, since PCBs were detected in the groundwater.

Just in the future, it might be worthwhile to look to monitor for PCBs. As far as it is our understanding PCBs aren't looked at in the groundwater monitoring program. A no action alternative was recommended for that, and we can't find fault for that, because there is no exposure pathway for a contact with the groundwater. But with something like that, if you just monitor for PCBs, in the groundwater treatment or monitoring program at a few select locations, where you think it might go downgradient from these locations, that might be advisable.

MR. SCHARF: I would like to add that the focus feasibility study was done under, by direction, by Northrop Grumman at the time, as part of turning the Plant 3 government-owned contractor operated facility back to the Navy. The conclusion that they came to report about no further action, I did not concur with that conclusion. I put in writing that the department wanted the PCBs to be addressed in the drywells, concurrent, as part of the Site 1. This has now been made an extension of the Site 1. And that was how I left it. And have

you ever responded to that, Jim?

MR. COLTER: Not yet.

MR. SCHARF: That is -- just to let the community at large know that. That the work was done by Northrop Grumman as part of the process of turning the plant back over to the Navy. And those work plans were reviewed by me and approved by me, to implement, to derive data that went into this report.

MR. LAGERAAEN: Okay. Roux Associates had conducted, the initial report was a site characterization report. The purpose of that was to, basically, to determine the extent of potential contamination in soil and groundwater in between formulating the site characterization report and doing the feasibility study, which evaluated treatment for the soil, they did formulate an exposure assessment independent report. That report was a risk assessment evaluating the potential hazard of PCBs in the soils, as well as in the groundwater. It was conclusive in that exposure assessment report and they did the next step and did the feasibility study for potential remedial options.

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MR. MANGANO: My only question is when will you have the Navy determination on monitoring PCBs.

MR. COLTER: The first thing we wanted to do, was to get your TAPP contractor's comments.

MR. MANGANO: Okay.

MR. COLTER: And address those comments as part of our decision-making process. We are almost there but we are not quite there.

MR. MANGANO: In the next meeting in that three month period you'll have a determination.

A MAN: We had hoped to meet with the smaller committee, yourself, and Jim McBride, to go over our executive summary and from there prepare our final report. We want to have that final report well before the next meeting in April.

A MAN: Jim, could you explain compared to some of the other contaminants, the way PCBs move or don't move? Because it was my understanding that as a contaminant, PCBs don't move, or move very little, compared to some other contaminants.

A MAN: That is correct. PCBs are

considered relatively immobile compared to the other contaminants. The volatile organic compounds tend to move at or about the same speed as groundwater. PCBs are considered relatively immobile. The fact that Roux did find them in a well downgradient from these drywells would lead us to believe that they have moved a bit.

A MAN: Okay.

MR. COLTER: One of the mechanisms that we think may have happened in the process is that Northrop Grumman was using, they were using TCE as a cleaner for some of their equipment that used PCB as a heating medium. And it is just a theory that you know, upon routine maintenance using TCE to clean out their equipment, that the PCBs bound onto the solvents, which does migrate pretty readily through the -- soils, that is our only theory how it got so far down. Normally, you're right, if you have a release of PCBs at the surface, they'll go down to some depth and then they'll get bound up and won't go any deeper. So there is some mechanism that got them down to this depth. We think it had something to do with the TCE, that was also found in that area.

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MR. GRELLO: The impacted soil that's impact with the PCBs, what depths was that at?

MR. COLTER: In the report, Northrop Grumman, when they first discovered the drywell, which the depth of the drywell itself I think was eight feet below ground and it was a soil earthen bottom, and that is how it got into the soil. Northrop Grumman dug down to between 38 and 35 feet, which is as far as their boom could go for a typical excavator. Right now they backfilled that with clean soil. Right now, at 30 to 35 feet, there is no PCBs around the drywells. Contamination starts again from below 35 feet down to the water table, which is about five five feet.

MR. GRELLO: All the impacted soils are below 35 feet.

MR. COLTER: Yes.

MR. GRELLO: Being there might be future construction on the site, that means there has to deed restrictions put on the property so we know what is going on.

MR. COLTER: That is one potential way of handling it, we'd definitely have to call out the locations of these soils for future

construction, but there's not too many footings that go down 35 feet. There's not too much risk with worker exposure, but the locations of these soils will need to be called out in any transfer document. That's one way of handling it.

MR. SCHARF: Mike, for your information the area of these drywells is not going to be transferred. For property that is slated to be transferred. There is a ROD. It's written to address soil contamination, one of which is PCBs. Most of that PCB contamination is at shallower depths. The DEC made its response to the ROD in its report to the Navy, and they haven't gotten back to us yet. It is one of those things out there, given all this.

MR. COLTER: Because we are retaining that parcel, we haven't put as much urgency on that. As we have trying to transfer the remaining 96 acres, we are trying to do, to Nassau County. We are trying to do all that in the immediate future. Since we are retaining that property and we are not going to allow use on that property, it's not as high a priority right now. Once we get the property, the remaining Navy property transferred,

and we get some more of this groundwater system in place, we are going to -- that's another one of our items we have to submit.

MR. GRELLO: Impacted soils 0 to 15 feet would be a big question, but at 28 feet, the chance of human exposure are next to nothing. Like you said it would just be for the worker, which would probably be trained in it anyhow by then.

MR. COLTER: That is some of the things we have to evaluate when we get back into it.

MR. SCHARF: Which includes possibly monitoring the groundwater monitoring program, as H2M mentioned, as part of their review.

There is going to be an excavation right next to that in Site 1 for PCBs. And that is going to have see.

However, the drywell was dug down to 20 feet with the sheet piling and they hit pretty much the limit of excavation considering they are next to Plant 3, it is right next to the building.

MR. GRELLO: From my knowledge of deed restrictions, if a deed restriction is put on any portions of property, it has to be filed with both town, county and if there's a village involved,

there has to be some program where a flag goes up, otherwise a village or town grants an okay to do something because only the county knew about it. So we have to make sure those procedures are put in place.

MR. SCHARF: It is possible. For one thing the Navy may never transfer these particular parcels.

Also.

CO-CHAIR KAMINSKI: No, that's not possible. It is absolutely not possible.

MR. SCHARF: Jim has also mentioned.

CO-CHAIR KAMINSKI: For the record, that's not possible or I'll lose my job.

MR. SCHARF: Jim has agreed to go back and look at the possibility of new innovative technologies as they come around, that are cost effective, to lower the numbers in the soil. The Navy does have a research center out in California where they maintain a data base of all different technologies that they are using as a different base of clean up. Jim will go back and look at that, at feasibility, what's there, what they found, where it is located and come up with a response to the

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Department's letter.

MR. GRELLO: You could do a bench study and see if it works. Bioremediation has come a long way.

MR. SCHARF: PCBs are tough for bioremediation.

MR. COLTER: We actually have, I'm not sure what you call it, but it is generally something out to the technology community out there for requests for any, again that is from our service center out in California, we put out a standard issue saying if anybody has anything innovative with PCBs at deep depths, we'd be interested in seeing your proposal. So that is out there. We'll see if we get any responses, or anything like that. If it seems something, we might want to use this site as a test case, we would consider that.

That's kind of where we are at. Since the last meeting. I don't have anything else.

CO-CHAIR KAMINSKI: Right now I think we've talked about action items for the next meeting -- not action items but agenda items, which relate to some action items. And the Navy is going to ask the Bethpage Water District if they'll come

and make a presentation.

MR. COLTER: Yes.

CO-CHAIR KAMINSKI: We'll let you know on the agenda.

MR. GRELLO: If I may, make the recommendation to put in a cluster for South Farmingdale and their potential for future impacts. That South Farmingdale also be notified considering we weren't involved in directing the decision, because we did not know we were going to be impacted.

MR. SCHARF: No, that is not true. We had a meeting. What happened --

MR. MANGANO: Why don't we write to South Farmingdale.

MR. SCHARF: Before the ROD was written, we had meetings with South Farmingdale, Bethpage Water District, New York Water Service, Town of Hempstead Water District, which is Levittown Water District, and Massapequa Water District. And we had meetings just to discuss at the time the information that we had as to what the extent of the plumb -- what we felt the extent of the plume was. But we had already asked and answered these

alternatives and we made a selection based on the fact what was feasible and what wasn't. It's part of the program, that once a ROD was signed, to do a predesign study. The Navy has taken on that task and completed that work. We found, as I said earlier, the plume was further than we thought but it's still not at the point where it will impact any wells other than Bethpage at the current time.

MR. GRELLO: Back then, they didn't feel we were ever going to get to this point where this could be a potential impact of what we are talking now. That's why I'm saying we weren't so involved with the ROD back then, because we didn't feel we were going to be impacted. From that perspective, that is true. The districts were notified.

MR. GRELLO: Yes, I spoke with them.

MR. COLTER: What I would offer, in lieu of inviting them to the next meeting, New York State, semi-routinely we meet with the water districts at what we call technical advisory committee meetings and we go over the status of the technical plan with the Hicksville Water District, the Bethpage, Plainview, and we have them here.

Have them all here so they can all answer the questions.

MR. COLTER: If we have a TAPP meeting, and it's up to Steve, we can invite the RAB members to come to that meeting which may be before the April meeting.

A MAN: But we seem to have to have all the water districts and see how they actually treat it. Because no offense, I don't want no oil changer going ahead and allegedly cleaning these things out and having accidents occur because I've seen it.

CO-CHAIR KAMINSKI: There's two different agenda items here. One is to have a water district with the treatment system such as Bethpage explain how they operate.

A MAN: Not just.

CO-CHAIR KAMINSKI: They are the only ones with the treatment system right thought.

The second agenda item, is for you to listen to the discussions that Steve routinely has with all the water districts so that you understand what they understand.

MR. MANGANO: For the record, are the

water districts, you're saying are communicating on a regular basis about this issue.

MR. COLTER: Yes.

MR. MANGANO: Both Bethpage, that is affected, and those that may be affected, they have been doing that for how long.

MR. SCHARF: Two years now.

There's two consultants that represent all the district, D&B and H2M. I'm sure they routinely discuss what's going on here amongst themselves and also with each other, the two different consulting firms.

Keep in mind, this is a state ROD for the overall Navy and Grumman site. In order to get funded for their work, the Navy had to write their own ROD specific to their site. It incorporates everything that's in the DEC ROD, but it spells out parts that the Navy need funding for to implement.

As part of the overall ROD, one of the things it calls for is this meeting, periodic meeting with the water districts. Technical advisory committee meetings. These were set up to advise the state of what's going on. However, these meetings we have on a semi-routine basis have grown.

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When we have these meetings we get 30, 40, 45 people coming. Unfortunately we do them during the day, which makes it difficult for the afternoon person to attend.

A MAN: I'll be retired.

MR. SCHARF: There you go.

It kind of has developed a life of its own, these meetings. They weren't originally envisioned to open them up to the public, but I don't see why we can't. Everything we discuss there, is everything we discuss here. It is the ongoing updates. It give us updates what's going on with the overall process.

CO-CHAIR KAMINSKI: So, we have an action item for Steve to invite the RAB to the next water district meeting, to a water district meeting as you see fit. I don't know that you need to bring the whole public in. If you bring the RAB members in, that would make sense, because they represent the public.

MR. SCHARF: What Jim and I were talking about is, was sometime in February we were going to have this public availability session.

CO-CHAIR KAMINSKI: Its going to get

too confusing.

MR. SCHARF: In terms of time.

CO-CHAIR KAMINSKI: It will get confusing.

To have them come and listen to the water district, that is one item.. A water district with a treatment system can come here and explain how they operate it. That's two items the.

The third item is going to be for you, to review this process we know about, because we have been at it so long, could you make a presentation at the next RAB meeting that reviews the whole thing.

MR. SCHARF: I can do that.

CO-CHAIR KAMINSKI: I see three things that shouldn't be confusing. We shouldn't also confuse that with this neighborhood workshop, which is all about there's going to be people in your neighborhood drilling wells and putting up stuff and don't misunderstand what's going on. That is four different things.

MR. SCHARF: I don't mean we should have them all exactly during that time, the TAC meeting and to have the RAB meeting. We're all

shooting toward the date in February.

CO-CHAIR KAMINSKI: Sometime in February will be cool. It doesn't have to be a RAB meeting.

MR. MANGANO: You want to get the water district at the RAB meeting, for the RAB record, about the questions you have raised about the drinking water. That's we are going to do that one, right?

A WOMAN: In April.

MR. GRELLO: To tell us about the operation of the system. We want to know about the possible failure and how long it had to detect.

MR. MANGANO: You need the water district to do that.

MR. GRELLO: Testing done on Monday the 22, when is the next testing done? What is the possibility for failure in between testing, how long does it take for the samples to get out and the results to come back, is there a backup generation for the well head treatments?

CO-CHAIR KAMINSKI: Right. That can be conveyed to Bethpage. Although this is a Navy RAB, and we cannot cause Bethpage Water District to

present that to you.

A MAN: We'll get a hold of you.

MR. MANGANO: I feel confident if they say no, can you alert us if they're saying that they won't. If they say no, can you alert us well in advance and we'll try to appeal to them.

MR. SCHARF: Dave, can you put something together how an air stripper works.

MR. BRAYACK: Why don't we have the water districts do it.

MR. GRELLO: The question is not so much how it operates, it is the possibility for failure and how long our, exposure would be and maybe even a human risk assessment. If we had 10 failures in a 10 year period and we drank two parts per million of TCE and threes part per billion of PCBs or whatever, what would be the health risk assessment over a 10-year period if it happened 10 times, to an eight year-old, 20-year old and an 88-year old.

MR. SCHARF: I think Gary Miller may be able to address the issue. If they didn't feel a high degree of confidence these things worked well and did what they were designed to do, they wouldn't

be putting the systems on.

MR. MILLER: I'm not an expert in the design of stripping towers but there are other folks in our firm that do that. As far as I'm aware, most if not all water districts do have backup water generation. When we had a blackout a month or two ago, the water kept running. So they do have backup generation. But as with any mechanical system, there's always a chance of failure. There are safeguards built in so the treatment system keeps working. I'm not an expert. John Part (ph) of the technical advisory committee would be happy to come down and go through the details.

MR. GRELLO: I agree with 100 percent of what you're saying. But if you ask any water district if they'd rather have restoration of the aquifer or well-head treatment, you know what the answer's going to be. That is what brought up the conversation leaving 100 parts per billion.

A MAN: We run into problems with shifting breaking pipes. They have pipes right now that are copper pipes that are getting pin pricks in them and nobody knows where it's coming from. It's not low voltage. We took houses, separated

everything from it, and tested it.

Then they claim it is from the flux. It it is not from the flux.

A PERSON: Pinning occurs in copper pipes. It is very well-documented.

CO-CHAIR KAMINSKI: Agenda item is going to be get Bethpage Water District down to get your question answered.

MR. SCHARF: They're good questions and we'll get them to answer your questions to your satisfaction.

CO-CHAIR KAMINSKI: Another action item.

MR. SCHARF: They're going to review the whole nine yards for us. Start us from the beginning.

We'll have to have those presentations that Gary Miller put together and work on something. Have to modify something.

A WOMAN: I have been to water treatment plants, and they seem to be checking stuff every single day.

MR. COLTER: That's good news.

Thank you every one for coming.

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CO-CHAIR KAMINSKI: One of you guys will have to substitute for Jim before the meeting is over.

Would you all like to know when the next meeting is?

MR. GRELLO: Yes. When is the next meeting?

MR. COLTER: April?

CO-CHAIR KAMINSKI: First Wednesday in April.

(Time noted: 8:37 p.m.)

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C E R T I F I C A T E

STATE OF NEW YORK)
) ss.
COUNTY OF SUFFOLK)

I, JENNIFER MAUE, a Registered Professional Reporter, do hereby certify that the foregoing Matter, taken at the time and place aforesaid, is a true and correct transcription of my shorthand notes.

I further certify that I am neither counsel for nor related to any party to said action, nor in any wise interested in the result or outcome thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 14th day of March, 2004.

JENNIFER MAUE