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Naval Weapons Industrial Reserve Plant
Calverton, New York

Restoration Advisory Board
Regular Meeting

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7:00 P.M.
March 14, 2001
Riverhead Masonic Lodge
Riverhead, New York

P R E S E N T:

Judithanne Hare	United States Navy Naval Air Systems Command
Joe Kaminski	United States Navy Naval Air Systems Command
Dave Brayack Judy Lamey	Tetra Tech NUS
Jim Colter	Northern Division, NAVFAC
Marsden Chen	New York State DEC

RAB Members

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CO-CHAIR HARE: Ladies and gentlemen, I think we'll call the meeting to order. I'm delighted to see so many folks here tonight thank you for coming on this cold, blustery night. I understand you had a little bit of snow fall recently like about 18 inches I was amazed when I heard that. And you can still see a lot of it piled up in the parking lots.

I'd like to say that this is our little mascot for the night, I bought this, he's an environmental bear and I bought him at your local teddy bear factory which is just down the street. That is a delightful shop, I met two great ladies, one of them is a well-known bear artist. I happen to be an avid collector, so I thought he was appropriate. If you never have been in that little shop, it is a great place to spend an hour or so just looking at all the cute stuff in there.

I think we have one administrative thing. We have the signature sheet for the RAB members that we had passed around I think at the last meeting and we are going to, because some folks were not here, we are going to try to get those signatures tonight. If you want to go ahead and pass it around if you haven't signed it, please do

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so.

Did everyone get the minutes, a copy of the minutes? I guess at this point, then, I will ask if there were any omissions other corrections to the minutes? Hearing none, all those in favor of approving the minutes signify by saying aye?

(All ayes)

CO-CHAIR HARE: They're approved. At this point in time, I have no other administrative remarks. So I think I will turn the meeting over to Jim Colter, and Jim will take us through.

CO-CHAIR JOHNSON: Actually do an agenda review yet.

CO-CHAIR HARE: Does everybody have a copy of the agenda?

We do have Jim Colter, who is going to take us through a status of the activities at the NWIRP, and what has been happening as of late. Of course we always have the action item review and the dates and discussion topics for the future meeting, before we close. With this that, I will turn it over to Jim at this time.

CO-CHAIR JOHNSON: I'm sorry. That

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is why I brought it up. I was asked for some agenda items and a couple of the folks sitting at the table had given me items specifically. I'd like to make sure that we are going to cover them tonight. Vinny had asked to go over the findings on the Sportmen's property. Is that going to be included in your review.

MR. COLTER: What was that again.

CO-CHAIR JOHNSON: Vinny had asked to go over the findings on the Sportsmen's findings, specifically. Was that going to be part of the.

MR. COLTER: Remember we went over that at the last meeting.

CO-CHAIR JOHNSON: No, we had a letter of additional findings.

A MAN: We were looking for additional information.

MR. COLTER: We were looking for additional information but we didn't have additional findings.

CO-CHAIR JOHNSON: According to me it was additional findings, I don't know if anybody else here thought it was also. Have you seen the letter? I have some copies to pass out. If you

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want it -- I'd like to since, you know, it was a member, it was a request, I'd like at least to take some time and go over that a little bit.

I'd also like to know if the TRC meeting that you have, is that part of your update.

MR. COLTER: Yes. You did get the minutes of the TRC meeting as part of the invite, right?

CO-CHAIR JOHNSON: We did, yes. Very good. Very good minutes, or at least -- also we'd like to discuss the TAPP proposal tonight. We had it on the agenda and we were supposed to prepare, Jean is prepared at least some additional introductory information so we can discuss it as a group and see if we want to move forward on that.

CO-CHAIR HARE: Sure.

CO-CHAIR JOHNSON: If we can amend the agenda to include those, I'd appreciate it.

CO-CHAIR HARE: Fine, fine. Okay, I think probably what we'll do is go ahead and start with the review and then as we go down the list we'll hit those other items. Okay?

A MAN: Jim, just a minute. What are we to do with these?

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CO-CHAIR HARE: If you had not signed it, we would ask you to just sign it.

CO-CHAIR HARE: What they gave you, this was the one that was at your place. That is just a copy of -- the overage is what's coming around for you to sign. The original. Did you get the original?

CO-CHAIR HARE: It was passed around. I'm not sure where it is at.

CO-CHAIR HARE: Okay. It is the original we need to sign.

MR. COLTER: Are we going to go now.

CO-CHAIR HARE: Yes. Proceed.

MR. COLTER: I'd like to bring everybody up to speed on the activities that the Navy has been conducting since we last meet, the last RAB meeting back in October. As you did receive as part of the invite, we did have a Technical Review Committee meeting with the New York State DEC and Suffolk County Department of Health back in of 8th. And what I'll do is kind of go through the highlights of those minutes and at the same time, give a status on the site by site basis with where we are at.

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Basically, at the technical meeting, we just represented the presentations that were given at the October RAB meeting. They included a discussion of the Site 1 bank stabilization project, we updated them on Site 2, fire training activities, the air sparge system and the product recovery. The monitored natural attenuation study we were doing at Site 7. And we gave them the Southern Area Site 6 A presentation that we gave at the October RAB meeting.

Regarding the Site 1 bank stabilization project, we did start discussing the concept of a full landfill excavation versus capping and bank stabilization. This came up as a request at this RAB and also during a peer review that we conducted from our office, other RPMs also have landfill sites on their activities, and it was thought that because of the size, relatively small size, of this landfill, that it might be although a little more expensive, it still certainly would be practical to excavated out the entire landfill there by eliminating all future Navy liability and monitoring requirements.

So we decided to do, as you all

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recall, we did have a minimum I Feasibility Study for different bank stabilization alternatives that we were about to finalize. We are going to hold off on that report. We are going to incorporate it into a combined R I and F S report for Site 1. Currently that plan is to have that draft report to the regulators on 30 July. What that will do, is that will update all the field work activities that have been done in the past at the landfill, and there's be a separate section in there discussing the full landfill alternative versus the capping and bank stabilization alternative and the no action alternative. Based on regulatory input and RAB input, we'll see if we can't make a good decision whether we should pursue full excavation or maybe it is better just to cap it and stabilize it. You'll be seeing that, depending on how the next RAB meeting falls, it will be close to that time frame.

CO-CHAIR JOHNSON: Is that something, Jim, we'll be able to comment on or is that just going to be a draft at that time?

MR. COLTER: The July 30th date is a draft to the regulators.

CO-CHAIR JOHNSON: And there will be

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a comment period.

MR. COLTER: That is why I'm not sure it will coincide with the next RAB meeting or not. We may have just submitted it by the next RAB meeting.

A MAN: Jim, in your discussion or in our assessment of total removal, please keep in mind we have something called the Long Island landfill law. You'll be prohibited from sending it any landfill on the island. You'll have to send it off the island. So you got to keep that in mind in your assessment and your pricing.

MR. COLTER: That is very significant. Because as you know, the biggest cost out here is transportation costs to get it all the way around the island. So that's very significant.

MR. BRAYACK: That is specific to the hazardous waste, correct.

MR. CHEN: Hazardous waste and I have to research the non-hazardous part of it. Specifically hazardous, yes. The other part like solid waste I'm not too sure of that.

A RAB MEMBER: I don't think you can.

MR. CHEN: What is that Vinny.

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A RAB MEMBER: I don't think you can put anything in the landfill.

MR. CHEN: I tend to agree.

A MAN: What is the character?

MR. BRAYACK: It is mixed. There is metal debris in there. There is probably a lot of marginally contaminated soils, petroleum.

A MAN: Giving more for a clean ticket than you have got.

MR. COLTER: Regarding the Fire Training Area, since the last meeting, we've shut down the small air sparging soil vapor extraction system that we operate every summer. An annual report on that latest operation is due out at the end of this month. We also completed the free product recovery for the season out at Site 2. Again, we are awaiting the annual report on that. Both those reports, at least a free product recovery record will evaluate how we did and if it is worth continuing.

At the technical board it was recommended that maybe we dig a couple of test pits near our highest historic areas of fuel recovery, to see maybe what's left on the water table and maybe

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at that point, it's more viable to excavate what's left versus trying to recover it through passive efforts with soaking pillows and whatnot. So when the next time we remobilize into the field at Site 2, we are going to try to incorporate some of these test pits into our field work.

Speaking of --

CO-CHAIR JOHNSON: Do you have a time frame on that.

MR. COLTER: Probably when we go out to the monitoring natural attenuation parameters.

CO-CHAIR JOHNSON: This year?

MR. COLTER: No, FY 02.

If you look at the schedule of documents for Site 2, we did send out the final R I report in earlier this month, I believe everyone hopefully got a copy of that? Okay? And you'll see there, that our work plan to go back out there and basically do we did at Site 7 is due to the regulators this December of 2000 and one. So over the winter, we will be finalizing a work plan and then next construction season we'll good out there, take some monitoring natural attenuation parameters do some test pitting for the fuel and things like

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that.

Regarding Site 7, which is basically the site that is farthest down the road. We submitted the draft Feasibility Study back on January 10th. We requested comments by March 2nd. During the -- I will mention this: That we had a phone conference with the DEC on March 8th, about a week and a half ago, basically just to get an update on how they're doing with reviewing the documents we sent them and if they had any comments or concerns that we needed to address. Regarding the Site 7 report, they basically -- we made a recommendation in the report to pursue air sparging soil vapor extraction and they had no adverse comments regarding that.

Based on that phone call, I began writing the decision document for -- to conduct air sparging soil vapor extraction at Site 7. I'm shooting to have a draft to the regulators for review May 4th. The report basically, it is called the Preferred Remedial Action Plan, a PRAP if, you will, it will include air sparging soil vapor extraction for the entire plume, versus source area removal, because there is no difference between the

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size of the source area and the overall outer extent of the plume. So there won't be any additional cost, maybe an extra well or two to encase the whole plume. We'll run that for as many years as we have to, to try to reach our remedial goals or until we determine that it is running in an inefficient manner it is costing more than what we are removing. Then we'll go out with the regulators and look at monitored natural attenuation as a polish or final action. But all those will be in this PRAP. It is similar to the Feasibility Study that you have. It its just a summary of that and kind of boiled down. But it also is the basis for the record of decision, which ties the Navy to carry out on the action.

If all goes well, and I'm not sure how the length of time of the regulatory review is on this, or issueance of a ROD, but we should be close to a record of decision time in August of this year. One of the requirements will be to that we have a public meeting to announce it to the community. And we can maybe, if the board okays it, at the next RAB meeting if it coincides with the public comment period, in lieu of a RAB meeting have the public meeting for the Site 7 recommendation

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something to think about.

The last site of concern was the Fuel Calibration Area, Site 6 A and the associated Southern Area. Again, we made the same field work presentation that you all saw at the last RAB meeting we gave it to the regulators. And got no adverse comments on our findings. We also mentioned that we had to then take that data and that presentation and put it into an R I report. We are still pulling together that R I report and a draft is due out to the regulators and the RAB April 13th.

Basically, the report will conclude that the nature and extent of the Site 6 A and the Southern Area groundwater contamination has been adequately defined although there are some vertical extent questions but we believe that when we start evaluating remedial alternatives and designing a remedial alternative, that the predesign field work that we have to do to verify our design can collect that data at that time.

Again, we'll after we finalize the remedial investigation, we'll move on to maybe the Feasibility Study where we'll evaluate different alternatives there's be a different remedy for Site

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6 A than there may be for the Southern Area, because of the levels of contamination. But both will include the monitor natural attenuation evaluation of which we collected that data in the summer of 2000 field work.

As far as the March 8th conference call went with the DEC, we went over again all the items that I just mentioned. We also submitted to them an extended site investigation report for the electronic counter measures site, site nine up in the northeast corner, which you will recall we had low level V O C contamination in the groundwater at the fence line and we were asked to go off-site and see how far it extended. We were denied access for about two years until last summer. We collected we went out two rounds of -- went out in the field twice to collect groundwater samples at how many locations.

MR. BRAYACK: Approximately ten or 12.

MR. COLTER: Ten or 12 locations and all of them came back non detect. We put that data in the report that was sent out to everybody including the regulators. As of the phone call

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there was for adverse comments from the regulators regarding those findings.

Because it was a site investigation phase, we can basically close that site out with no further documentation.

The only other documentation that will be done on this site, it will be when we transfer the property to the Town of Riverhead we'll do one of those findings of suitability to transfer which will summarize all the activities and all the results again to form the basis that the Navy says that this land is suitable to transfer.

So upcoming reports, again: These dates I've already mentioned, the Site 2 air sparge annual report at the end of this month. The draft Southern Area remedial investigation, 13 of April. The decision document for Site 7 May 4th, and the combined RIFS for the Northeast Pond July 30th.

That is pretty much it as far as the status update of what we've done or have done since our last meeting. Any questions?

CO-CHAIR JOHNSON: Yes, I have one.

MR. COLTER: Okay.

CO-CHAIR JOHNSON: In regard to 6-A

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and 10 B, DEC questioned the dry wells and the floor drains in the paint shop. It says the Navy -- there's some response here from the Navy, I guess. And then it was discussed that this unknown encourages the desire for more sampling. Is that your opinion, that because it is unknown there should be more sampling there?

MR. COLTER: We did go upgradient between the paint shop and the Jet Fuel Systems -- Fuel Calibration Area to address that exact question. We went to see in between, we have an upgradient well, was part of the 2000 field work, to see if since the Fuel Calibration Area is downgradient of the paint shops, that we would expected to have seen groundwater contamination in between, which we did not.

CO-CHAIR JOHNSON: Is that what you had indicated? Because I know we have raised that issue.

A MAN: You want to take a look at the drains.

MR. COLTER: The physical look at the drains sampling was conducted by Northrop Grumman as part of their close out report that was sent to Stan

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and his group and subsequently approved and they did ring their buildings upgradient, downgradient, side gradient with monitoring wells, if I recall they didn't find anything of significance in the groundwater.

And then in addition to that, we put another upgradient well between our fuel calibration and the paint shops just for a second verification of that last summer.

A WOMAN:

CO-CHAIR JOHNSON: Satisfies that pretty much?

MR. CHEN: You caught me I don't have an answer to that.

A MAN: Gets back to the issue we had. Where there was document being submitted to Stan and we weren't in the loop and couple of areas we thought might not have been investigated properly, it turns out probably going to be at point, where we asked, and.

A MAN: Those are reports raised by my unit. And I don't think anything was raised. I didn't personally. It was never raised with the dry wells. They were looked into. Should have been

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entered.

CO-CHAIR JOHNSON: Should have been.

A MAN: I was going to ask you about this site the Southern Area where it talks about the Sportsmen's Club, and that they can no longer use the well they are using bottled water. Are you going to address that further? It also says that it shows that the groundwater that is emanating from the Calverton source will go into the Peconic River. How are you going to address this.

MR. COLTER: Well, that's going to, if you recall the last presentation, that data was presented about the findings on the gun club, a hydraulic study we did for the Peconic River showing basically that it is a surface expression of groundwater and that groundwater basically flows up and comes out at actually is what feeds the Peconic River. And therefore, that acting as a hydraulic barrier for this area. We won't expect any groundwater contamination to go underneath the river as it will express itself at the river's surface water.

All that interpretation and everything will be part of that R I report that is

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coming out in April.

A RAB MEMBER:Jim, just bear with me because you just lost me. I -- maybe it is time of the night. Can you explain all that in layman's terms. All of that date, we have for impacts to worry about to the Peconic River system or its tributary.

MR. COLTER: I didn't say that. I'm saying the groundwater will express itself. Any contaminants that may be in the groundwater will not go underneath and continuing migrating further south they will come up to the surface water of the Peconic River but again they're low level volatile organic compounds to begin with. We don't expect any adverse impacts to the Peconic River from those low level chlorinated solvents.

We have in the past sampled sediments and surface water at the river and have not found volatile organic compounds or anything in the sediments or surface water.

A RAB MEMBER: So they won't flow down.

MR. COLTER: They won't go past the river.

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MR. COLTER: The groundwater actually rises in that area. It won't be able to go underneath and further downgradient beyond the river.

A MAN: Can you remind us what concentrations you were finding and how far away that is.

MR. COLTER: Do you want to do that.

MR. BRAYACK: As a lot of these questions are pointing out, this is a very complex issue and this is one of the biggest reasons why the report, it wasn't issued basically a couple of months ago.

Some of these you've seen and some of these we have been continuing to work on. I have handouts here for everyone on this.

Just for orientation for everyone once again, I'll point this out just because it was mentioned, the new paint shop is in this area here. As part of the program last summer, we actually put a well right between the paint shop and where we are finding contamination at what we are calling the Fuel Calibration Area, that is Site 6. We did a vertical profile boring, meaning we collected

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samples on the way down to 200 feet below the ground surface.

This area here we know we have groundwater contamination. In this area here, it is in the range of a thousand plus parts per billion for comparison drinking water standards are about five.

We have a second piece of contamination over here. That's -- we originally associated that with the Engine Test House. The chemicals we were finding were really more related to these chemicals. When we talk about Site 6, 6-A and 10 B, we really think as far as the groundwater is concerned, they are really the same site.

What we know from along Grumman boulevard here, we installed a series of piezometers --

A MAN: Asking what these contaminants were.

MR. BRAYACK: Chlorinated solvents.

A RAB MEMBER: All of them.

MR. BRAYACK: Yes.

A MAN: No TCA, or anything like that in there.

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MR. BRAYACK: TCA is a chlorinated solvent.

A RAB MEMBER: Okay.

MR. BRAYACK: 1,1,1-TCA, 1,1-DCA, and in some cases chlorethene. There are a couple of stray hits of freon. Those are the primary. There is a couple others in, mixed in there. But they're all chlorinated solvents.

Up to Site 6, BTEX compound, xylene, toluene, ethylbenzene. Couple stray hits of benzene in there as well. Several order of magnitude lower.

Site 10B, former underground storage tank, small BTEX plume associated with that, smaller than the size of this room. But also there is a much larger chlorinated solvent plume. That is why we don't think they're really related.

We put piezometers in last summer and what we do know, what we call temporary well 111, these are piezometers. Piezometers are basically temporary well, temporary well 112, 113. 112 and 113 were drilled on the Peconic Sportsmen's club. This here is the Peconic River that runs through here. As near as we could tell, the groundwater from this whole area will ultimately make it into

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the Peconic River. The question is, whether or not the contaminants that are associated with it, they don't move at the same rate. Will also. What's more is what concentration if they do.

Like I said, we have sampled the Peconic River a few times here and have not found it.

These piezometers right at the river turned up clean. We have another piezometer over here that turned up clean. And we also did a piezometer over here. Which would be well on the far side of it and that turned up clean, as well.

And with we know is from a depth of about 80 to 100 feet below the ground surface this is an upward gradient of five feet, which is pretty significant. That is what.

MR. COLTER: Was saying about it not flowing under.

When you see these areas, what it usually means is one or more wells did have some level of chlorinated solvents in it. We also have approximately half to two-thirds of the wells throughout there had nothing detected in it. So even though we are showing this kind as a continuous

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plume there's not. There is more non detects in this area than there are detections.

But what we are doing is we are just indentifying this whole area as problematic.

The only other thing I wanted to point out are these green arrows, those are culverts that run underneath the roads. We think a lot of migration of the contamination is associated with over land transport, meaning contaminated groundwater raised up into the ditches and flowed much quicker because it is much further out than you would just expect from the groundwater flow velocities.

A MAN: How fast is the groundwater move in this area different.

MR. BRAYACK: Dave it is variable.

A MAN: What is the range.

MR. BRAYACK: It is in the range of 100 feet a year, maybe 200 feet a year.

A RAB MEMBER: Faster toward the river and slower away from the river is that generally how it is or it depends on the material.

MR. BRAYACK: It depends on the gradients and the material.

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Like I said this is really a very complex scenario. Much of the work we have been doing since then has been on the geology and the hydrogeology.

I hope you could read this better than I can.

Because by the way, this cross-section is what's shown on the previous slide if you want to match the wells up.

Once again, here is -- is Site 6. That the hangar is also what is the paint shop it is upgradient. This here is the Peconic River. This green is the Peconic Sportsmen's club, there is one mistake on there. There is one number that is listed as 20. It should list it as 120. You see on T W 113?

So the question was what was the maximum off-site, the 2/20, was near the corner of the property. The one 20 was the maximum detected on the Peconic Sportsmen's club.

MR. COLTER: Let me interrupt Dave, real quick. The data that's gone into generalization of this cross-section is from our GIS computer model and as you recall, one of our early

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actions when the RAB first got established was incorporating all of the Northrop Grumman groundwater data that they collect as part of the their closure effort into our database. So if there were detections of groundwater contamination in and around the paint shop they would have shown up in this evaluation.

MR. BRAYACK: Okay. Similarly throughout this here you'll see this dashed yellow. These are all areas that are in the flow path. That these are all areas where on a hit and miss basis we believe we would find some level of contamination. The little number beside each of the points are what we actually detected there. So when you see this plume, it's not truly continuous. The green areas are where it has definitely been found. The yellow areas in many cases are just suspected. And I'm going to flip back to the previous one. I just want to point out this PZ 101, and T W 113. Because those are the two points that are off-site that have the higher levels.

Here's the P. Z 101 location. Here's the TW 113. So looks to be part of the concerned area.

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A MAN: Looking at this map it seems to me that there's the reserve. Groundwater flow is dipping to the south but you say there is a five foot upward gradient. Could you reflect a little bit on that for me. It seems with the five foot gradient there is a ton of water coming -- five foot upward gradient, large volume should be coming out of the aquifer.

MR. BRAYACK: That's correct.

MR. CHEN: Can you explain to me how to measure it. Based on the drawing here, I see it is tipping.

MR. BRAYACK: Let me get to that in one second.

MR. CHEN: Okay.

MR. BRAYACK: If you want to look at this map, here. What this line, here reflects is the groundwater table. The shallow groundwater is flowing into the Peconic River and into the Peconic River, okay.

A, we are finding I mentioned this five foot upward gradient. What we are doing we had piezometers installed shallow, intermediate and deep, and we had staff gauges on the river. What we

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are looking at is the difference between the deep piezometer, which is in essence a monitoring well, and the river itself. And then we saw the same approach over here. Had -- one of our primary concerns was the possibility that the contamination was flowing or had the potential to flow underneath the Peconic River. With that type of upward gradient, we were pretty much convinced that that is not a possibility.

A MAN: So you're pretty confident that that upward gradient originates at the clay layer underneath, that is showing underneath the Peconic on that drawing.

MR. BRAYACK: Yeah, what we have. And there is some interpretation in this: But what we have are really two silty clay units. They are not completely impermeable. What they do, is they have a tendency any downward migration and we have this one here and we have a second one deeper down.

This is the source area. This deep contamination here, we've chased it four times downward now. We know it is a problem, that it has not completely been defined vertically. This was what Jim was mentioning, to let us pick a remedy on

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that and further delineate it doing predesign activities, get out of the study phase and move into the remediation phase.

This clay unit here, we had a couple of relatively low hits here but we also had other wells along here that weren't finding anything. So there is probably contamination here. What we do know is that the shallow aquifer, the groundwater is much more coarse, the groundwater flows through it much quicker. When I was saying 100 to 200 feet per year, I was talking about this upper portion here. This stuff here is just much tighter. That it might be in the range of 10 or 20 feet a year.

So one of our concepts with the majority of the contamination and there's some unknowns here, is that it would flow along here, here's a couple of ponds that I was mentioning. The over land transport that would reintroduce the contamination, for the most part it was staying above this unit. And once we got into here, there was an upward gradient, you know, we see we have deeper ones right here. We have confidence it is not flowing down here. We have some other wells, relatively deep, suggesting that the contamination

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is staying shallow.

We have one exception to that, and that is on the Peconic Sportsmen's Club property. There was a question on this letter that was issued. This letter was specifically to request information from the Sportsmen's Club on how many wells they have, where the wells are, what depth, what pumping rate they are.

We believe that where we put this one well, that there was a groundwater pumping well there. And that it may have helped pull the contamination deeper than what we would have expected.

Like I said, because it is deep, what we did do is go back out and install wells down, further downgradient.

MR. CHEN: Dave, explain the elevation at P.S. 1030. Is that some.

MR. BRAYACK: This one?

MR. CHEN: In relationship to the rest of the elevation.

MR. BRAYACK: That is just the ground surface elevation.

MR. CHEN: That is ground surface.

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MR. BRAYACK: The top one is ground surface. The one with the little arrows on it are the water table.

MR. CHEN: Okay.

MR. BRAYACK: This looks much better on the big maps.

A MAN: Dave, you're showing some discontinuity in the clay layers. Is that because you don't have data.

MR. BRAYACK: Yeah. We don't -- we want to go back on the Sportsmen's Club property and drill deeper here. We want to do a technique called gamma-ray logging. It maps out all these clay unit as we go down. We don't have any information here, the clay may or may not be present. But we do want to get back onto their property and drill this in particular deeper and fill in this gap, here.

Does this -- there's a possibility that this clay unit here, there is a gap which would give an opportunity for it to split, that is a possibility. We are not saying that that happens. But we really want to get back in there and try that.

A MAN: Do you have any concerns on

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TW-113 that you didn't get down to a non-detect at your deepest monitoring point? Could that point be deeper?

MR. BRAYACK: Yeah. This is the one we want to go back and go deeper on.

A MAN: Yeah, that's it.

MR. COLTER: We had tried to contact the gun club on several occasions to go back out and go deeper and we couldn't hook up with them and we didn't want to go back on unannounced. That was kind of the rationale.

A MAN: They have guns.

MR. BRAYACK: That was part of the decision, too.

A MAN: Well TW-113 since you do have deeper contamination there, obviously, you still don't think there would be a possibility of there's deeper contamination to spread underneath and beyond the Peconic River?

MR. BRAYACK: When we found this, okay, when we originally did this, we only went to 100 feet here and we went to 100 feet here. When we found this contamination, we tried to get right back on the property. As Jim said, we just couldn't

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connect. There was -- we just couldn't connect.

What we were able to do, though, because we already had access to this, we hopped right back out to this location, here, and drilled down to this depth, here. Had the contamination been here and flowing, then -- and already flowing under or whatever, then we would have expected to see it, here. So that's pretty much why we did that.

A MAN: You also said the deeper level flows slower than the upper levels. Maybe it has not gotten that far yet.

MR. BRAYACK: Yes. This site is very complex, like I said. Especially with these chlorinated solvents, and they're doing three or four different things here, and that's what we are working on right here.

A MAN: I'd be more concerned about TW-04, 04, where you got contamination -- well, either you don't understand the silty clay layer up there, or it isn't terribly, isn't much of a barrier. Go to your cross-section map, you'll see what I'm talking about to the left. In fact, you haven't really well defined the bottom of that

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rather strange plume which is extreme vertically, and not much horizontal.

MR. BRAYACK: We have redrilled this spot five times now.

A MAN: Have you seen clay and are you punching through and taking.

MR. BRAYACK: We are checking soil samples. We select soil samples on 10 or 20 foot samples. We do the gamma-ray log and correlate the date to make -- this silty clay is definitely here. One of our initial concerns, because we had very contaminated groundwater here, as well as free product, is that as we were drilling, we were pulling it down with us. And then we went back and we actually cased off to about 50 or 60 feet, and drilled through the casing. This is -- this has been an ongoing bafflement.

What we did do, though, we -- you could see these wells, this is about 100 feet, I believe. We put wells on either side upgradient and downgradient. To see if there was some big plume coming down from the paint shop. We didn't find anything there. We did get a couple stray hits downgradient, so, yes, there is some horizontal

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migration on it. But that's definitely a gap that we identified and Jim mentioned that earlier.

A MAN: The problem is that silty clay, if you're counting on it to block anything, it apparently doesn't.

MR. BRAYACK: It probably doesn't block everything.

A MAN: From much.

A MAN: I wonder if there's some holes in it. There may be some areas where it is not present.

A MAN: That is an actually thick area not to have holes on it. Generally speaking, for Long Island. I have some idea where the clay lays here.

MR. BRAYACK: We have not come up with a good explanation on that one. When we look at remedy, the remedy would take that uncertainty into account.

A MAN: This is my first time here. I assume you dragged USGS into this.

MR. BRAYACK: No.

A MAN: You ought to.

A MAN: They have done an awful lot of

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hole punching especially around landfills on Long Island.

A MAN: As you said, this is a very complicated and therefore difficult plume. I think there is going to be a lot more definition needed before you know for sure what to do.

I have a couple of questions and one that has been asked, you don't have any hypotheses how you have deep contamination at that site where there is no upstream source. You, at this point, you can't speculate as to how it got down that deep, right.

MR. BRAYACK: (Nodding)

A MAN: That is fair. I can't, either. But I think somehow we need to try and find the answer to that question.

The second one is, and this is what the other people were alluding to, too. We don't have any other potential upstream source to think of, except the paint shop, and that's the big suspect. But there's still and always has been the mystery of why we have not found any significant contamination right in the vicinity of the paint shop and associated facilities. And the question

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is, maybe it's time to go back and pull out the reports and carefully review all the work that was done around those buildings, with a fresh view, and analyze everything that has already been done and see if in fact there are any holes and what was done? And if so do some other detailed looking around that building.

Because part of the problem is even if you succeeded in cleaning up or addressing the in-place contamination here, you have to be sure you solve the problem of whether there is still remaining somewhere a concentrated source.

MR. BRAYACK: Two things: One is the paint shop is another version. Meaning that it was built with all the secondary containment units.

A MAN: Yes, I know. But there's the old paint shop, too.

MR. BRAYACK: The second point, though, is that we did put a well upgradient of there.

A MAN: Yes, I know.

MR. BRAYACK: And, you know, it was clean.

A MAN: I know. But what you have

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so far still is a lot of mystery. And some information that doesn't give you complete answers. It just adds to the mystery. So I think you still have to keep pursuing the mystery until you get some answers or else you may end up walking away still leaving significant problems in place and not knowing it.

A MAN: Since I represent those 458 gun toting concerned citizens, I can tell you pretty much what they're going to ask me. What are you proposing to put on gun club property?

MR. COLTER: At this point we are just proposing to go back and redrill in that area, a little deeper. I don't know what you mean by "put on the gun club property"?

A MAN: They are going to know what the up side is, you're going to drill 200 feet, 300 feet. You want to take samples every 10, 20 feet.

MR. COLTER: We have to evaluate that with DEC and Suffolk County. We need to go deeper certainly.

A MAN: Time out. Three times you made reference to the fact that you were stonewalled at the door -- at the gate of the gun club.

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Nobody's heard any suggestion about what you're going to do. They're going to ask me. I'm going to go back to the meeting and they're going to say what do they want to do.

MR. COLTER: Drill deeper in that area.

A MAN: And sample.

MR. COLTER: Yes.

A MAN: For.

MR. COLTER: Volatile organic compounds, just like the first time around, exact same thing as the first time around. A work plan was submitted.

A MAN: That hasn't been conveyed.

MR. BRAYACK: We would like information on all the wells on the gun club property.

A MAN: The two wells that exist here, are glacial aquifer, and I couldn't imagine them over pumping the aquifer.

A MAN: Is it for domestic purposes, watering the lawns.

A MAN: No, it's for the gamekeeper there. He doesn't drink a whole lot of water, if

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you know what I mean.

A MAN: It is a glacial aquifer.

MR. BRAYACK: One of the wells is located within 50 feet.

A MAN: Of the pistol range.

MR. BRAYACK: How deep is that well.

A MAN: Somewhere between 35 and 50 feet.

MR. BRAYACK: That is as deep as it is.

A MAN: They are small diameter, domestic wells. That's all that is there.

A MAN: Dave, the first time you drilled, and you didn't go deep enough, what did you do? Did you sample every 10 feet? What was the procedure?

MR. BRAYACK: On 20 foot centers.

MR. CHEN: Maybe that is what you need to tell the gentleman so he could go back, and you know, get --

MR. COLTER: What happened was, when we drilled down we took our samples and sent them off to the lab for analysis. While it was at the lab, I don't know what the turnaround on it was, it

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wasn't quick turnaround. It wasn't 48 hours. We left the property, drilled the rest of the program. When we got the analysis back and found it was contaminated, we wanted to go back on and go deeper on another 20 foot center, but that is where we had the disconnect.

So, you know, that is what we are trying to do, is to get back on and go further. We didn't want to have a lag. But you didn't want to pay our driller standby for all these months, either.

A MAN: That time lapse is more like a couple of months, if I recall.

MR. COLTER: I'm not sure of the time frame. I know Dave is trying diligently to contact.

A MAN: The way you're saying it, you're going to put the rig in reverse and back up. It was a couple of months.

MR. BRAYACK: Right, we were drilling on site. When we were drilling, we were actually drilling at about five or six different sites on Calverton. And when we, you know, we drilled these, we drilled a series of others and we were chasing plumes basically. We got the results in and then

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during this time, we demobilized, and we brought the rig out a second time. And that was why we were trying to get on.

A MAN: They'll give you permission to drill on there, with the provision that we split samples.

MR. COLTER: That's fine. It's no different than the work plan we submitted the first time around, that's all. Same exact procedures.

A MAN: Come on a day when there's no shooting, though.

CO-CHAIR HARE: We'll take that under advisement.

A MAN: Can we bring our own guns.

A MAN: Sure.

MR. CHEN: Can I make a suggestion, Jim?

If the club gives you permission to go back, could you take a series of deep samples. We don't know what is in the samples, and take a series of them. In other words, do it in one drilling session rather than having to go back time and time again. Is that a possibility?

MR. COLTER: Yes, more like a

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vertical profile boring.

MR. CHEN: Right.

MR. COLTER: It is not a problem doing that, but it is coordinating the result, getting the results back versus continuing to drill and take samples, you know.

MR. CHEN: That is what I'm saying.

MR. COLTER: Maybe we need to agree if we get three consecutive non-detects, that we can stop. Or four consecutive non-detects, something like that.

MR. CHEN: I'm not talking about that. I'm talking about the fact that when you go back and take samples and wait for the results to come back it is time-consuming. To bypass that, you could go back and take a series of five samples and see what you get out of that. If you have to go back --

MR. BRAYACK: That is what we did the first time. We took samples at 20, 40, 60, 80 and 100 and submitted them.

MR. CHEN: Okay. So you're ahead of the game.

MR. BRAYACK: Getting back to John.

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You said there was one well right near the pistol range, is that correct.

A MAN: Yes.

MR. BRAYACK: That was about 35 feet deep.

A MAN: There are no deep wells there, there is no supply wells. They are glacial aquifer and used for domestic, handwashing stations and domestic usage.

MR. BRAYACK: There is one well on the house.

A MAN: That one well at the house is not used.

MR. BRAYACK: Are there any other wells on the property?

A MAN: There's two wells by the skeet range, shallow wells, used for watering the lawn. But they're well out of -- they are across the other side of the river.

MR. BRAYACK: Okay.

A MAN: Where there is no contamination.

MR. BRAYACK: When we were talking to various people out there, people were mentioning

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wells to 100 feet, 150 feet. But everyone -- no one was quite certain how deep those wells had gone. Okay.

A RAB MEMBER: I don't know, just a rough scaling off this map, this whole area that you look like you're characterizing l,looks close to 6,000 feet, 5 or 6,000 feet, anyway, based on the scale on the bottom, here. How confident are you that if some of these non-detects, where this stuff is going from the source area?

I know in a lot of locations, it looks like you just have one boring. Perhaps some of the explanation for some of the non-detects you're saying, you're east/west of where the plume is, maybe it is not that wide of plume. How confident are you on the groundwater movement here.

MR. BRAYACK: Back in 1997, the Navy --

Jim, who was the other?

MR. COLTER: Nature Conservancy.

MR. BRAYACK: Nature Conservancy did a groundwater flow survey for this entire area.

A MAN: Did a synoptic sampling.

MR. COLTER: Four times, each quarter

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in the one year.

MR. BRAYACK: Based on that, this entire area was reasonably delineated as to where the groundwater was flowing. Like I said, what you see here with these contour -- these represent both where we've detected it plus the groundwater contours that were developed. As an example, in this case, here, you would -- there would be a contour that is flowing into here, and over here it was flowing into here. Basically the Peconic River is the major receiver of all groundwater. Then the only question is how does it get into there?

What we know is where we put the non-detects, or where we found the non-detects, there are some wells that are 20 or 30 feet apart, where we have a detection in one well and nothing detected in the wells around it. I think we had six or eight temporary wells across this edge, here. As I remember it, half of these were dirty. Half of them were clean. We may just be looking at time effects. If we went back and resampled now, where it was clean is now dirty, and vice versa. We are trying to get a handle. We'll never have 100 percent information. We are trying to collect

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enough information to see the magnitude and try to select a remedy.

A RAB MEMBER: Right. What I'm really asking is, as you get away from the source area, have you done a series of borings perpendicular to these plumes, to be confident that where you're going, you're actually where the plume is, or is there a lot of uncertainty? We are talking travel time of 30,40, 50 years here.

MR. BRAYACK: We have in the range of 50 monitoring wells, plus, in this area here, that helped delineate that initial point. And we have six or eight, maybe 10 wells along the road, here. Once we get off-site, we really only moved off-site last summer.

A RAB MEMBER: That's where many more of my questions are focused on, is off-site.

MR. BRAYACK: Right.

A RAB MEMBER: How confident are you of where this stuff is. Where you're looking is the right spot. I'm not trying to second guess what you're doing. It seems like it is very complex geology. With the movement of the groundwater near the river, it seems very complex. And even though

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the river acts as a sink for the groundwater, still, it looks like, just looking at that picture, it looks like the water is moving in some very dynamic directions. In places it makes some big changes.

MR. BRAYACK: It is a small area that expands as it is moving. It is a typical dispersion type plume. It is affected by minor seasonal variations. There is a couple ponds shown on the map. One of the ponds is right in this area here, and the second one is here. If you look at the groundwater contamination flowing and discharging to this point, and then to a series of ponds that all intersect here, that is where we see most of the spread occurred from. That if it was strictly a groundwater flow, then I think we would see what you're mentioning, a fairly tight plume, you know, moving all the way through.

But we are seeing, we got detections here, we have detections here. We have detections here, and we have detections here. They are the same chemicals. We have no reason to believe that they're truly independent hits.

A RAB MEMBER: You have non-detects in between.

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MR. BRAYACK: Not in this case here. Vertically we do but not horizontally. And that's why we have, you know, the two different hatches. If you see the double crossed-hatch, any well in that point means we definitely found contamination. In these cases, here, they're all related. I think this one was 5 parts per billion. I forget offhand. This one was relatively low, too. These were both very low and very shallow. There was nothing deeper on them.

This was an intermediate depth. This is the only deep hit that we found.

A MAN: Dave, do you have any deep wells northwest of TW-20 in the same depth as where you found the contamination.

MR. BRAYACK: TW-20 is the upgradient well that is clean.

A MAN: Right. Do you have any more?

MR. BRAYACK: We have shallow wells, not deep ones.

A MAN: You don't have any more deep ones.

A MAN: You don't have any proof,

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other than TW-20, that your deep contamination isn't coming from further upstream?

MR. BRAYACK: That is correct.

A MAN: Is there any reason why you haven't put in deeper wells? Your results kind of beg the issue of deep well, deep water recharge. Here, the complexity of the area, the hydrogeology, which is not fully understood, and the fact that you have hits on a vertical scale, you stopped drilling before you ran out of hits, kind of begs the issue of deep water testing.

MR. BRAYACK: In which area?

A MAN: Where you stopped drilling and you still found results.

MR. BRAYACK: Here? That is what we said, and here. Those are the two places we want to go back and drill.

A MAN: What are you talking about, when I give my report and I say "deep drilling", what are you talking about?

MR. BRAYACK: Until we quit finding it. What we would propose here, is we stop at 100 feet. This is on the Sportsmen's Club. We probably go to 200 feet. If we get it clean at that point,

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then we will be done.

MR. COLTER: Bear in mind, back at TW-20, we do have other deeper wells. We drilled this site five times and we have gotten the same results each time. We have gone upgradient and downgradient. We have done additional, deeper wells, to try to box this thing in and try to figure out what is going on -- it is not that we just got it and walked away. We have done three or four rounds of deep wells over here in the last couple of years.

A MAN: Deep well, 200 feet.

MR. COLTER: Look on the map you'll see total depth of 202. We've gone just as deep as we have found the contamination. Upgradient, downgradient, and we haven't been able to find it expanding that is what aids in this confusion. We are not sure what is going on. But we have attempted. What we want to do again, is to bring -- you have to bring a different rig in. This is one of the reasons we stopped here.

We used a hollow stem auger that was probably effective to, as far as we have gone, 200 feet. We're going to need a different type of rig

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to go further, and more money. We have to plan for that type of program. We would probably go with some type of mud rotary, hopefully. We are using that at Bethpage, but that's things we have to work out with the regulators as far as the drilling techniques. If mud rotary isn't acceptable, then we have to come up with some other technique to get down to 200, 300 feet.

A MAN: You can go another 100 feet with a good auger except that you might have trouble with all that clay.

MR. COLTER: A lot of drillers get nervous with that. We have trouble finding somebody to do it.

MR. BRAYACK: As we are drilling down, the concern we have, especially with the hollow stem auger, you never get a truly tight fit on them. When you're collecting samples in the clay, there is still a chance that these detections that we are seeing is a result of our drilling technique, and that they're not there. That is still a very viable explanation for that. It is not good enough, and that is why we are talking about going back. But it is possible.

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A MAN: Have you considered permanent monitoring wells.

MR. COLTER: That was my next point. Part of doing temporary wells is you try to define your plume so you can reasonably put permanent wells in where it is not a waste of money. So far for the last couple of years that's what we have been doing, a lot of temporary wells. We've tried to define the plume.

What we want to try to get to, if we can, is say that we know the horizontal extent of the plume, as was shown on the previous page, is adequate enough for us to start choosing some type of remedy. Just for an example, if the remedy was let's monitor this plume and see if it continues to migrate or does it naturally attenuate, the way you do that is with a series of permanent monitoring wells. But that is basically a remedial decision.

In order to make a remedial decision, you have to go through the circle of hoops, a PRAP, a ROD, Feasibility Study. That is what we want to get to so we can start putting in permanent wells as part of a solution.

Regarding the FCTW-09 area, the deep

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one there. If we were to -- we have a 1000 parts per billion. We have many types of extraction systems we need to put in there. Part of that design of that system would be a deep boring all around there to, you know, how many wells do you need? What type of capture zone do you have? All that drilling would aid in defining the design. So we could go back out time and time again with additional temporary wells, we can keep going down 20 feet further here or there, or we can start trying to put permanent wells in and do other field work as part of a design. And going towards some type of remedy.

Like I said, the remedy will be different for the left side than it will be for the right side only because of the vast difference in concentration. You're looking to the right side, 20 part per billion, 43, those are levels where pump and treat really isn't going to do you much good. You've already got down to those levels with the pump and treat system. So we have to decide, we have to work with the regulators and find what else is out there, what else can we do? We need to get to that stage, and the stage is the Feasibility

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Study that we do, that type of analysis.

In my opinion, and as far as our last couple of technical meetings have gone, the regulators opinion is we have done a lot of study. We have done a decent enough, not 100 percent characterization, but adequate characterization that we can start talking about what to do at this point and what to do about that deep contamination. I'm just trying to suggest that we do that as part of a remedy versus another round of studying. Something to think about.

A MAN: Even with the deep contamination at TW-04, there is an anomaly because of drilling technique, the big blob of contamination midway, there, in the first silty clay layer, is not an anomaly. And even that is very difficult to explain. There's no logical reason for it to be down that deep if the source is the paint shop area. I'm still very puzzled by the pattern.

A MAN: Is there any evidence that these releases were sporadic as opposed to continuous.

MR. BRAYACK: This was -- Grumman used to first pressurize their aircraft fuel systems

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in this location. And when the fuel lines were all pressurized, it wasn't uncommon for them to leak. And when we first moved out here, we expected only to find fuels. This is the edge of a concrete pad. I don't know if you could -- if it shows up on here. But this TW-04, is the very -- is the first edge of concrete within hundreds of feet upgradient from there. So anything that was spilled on the concrete could very easily flow off to the edge.

Like I said, this location is literally within about 10 or 20 feet of the concrete. Any spills in the area would have entered the groundwater right at that point.

From this point, from here to at least over here and up to here, this whole section, is all building concrete. It is thick concrete. They used to run the airplanes over this. This isn't just little, thin, 68 inch slabs. But this operation occurred over decades. From the '50s to the -- I don't know when they stopped, probably the '80s or '90s. So what we are seeing is probably releases over 30 years.

A MAN: My question is since you're showing blobs, you wouldn't expect to see blobs with

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a continuous release.

MR. BRAYACK: That is correct. That is what we were talking about in part, these overland transport? Groundwater is only three to five feet deep in this area. And during storm events, probably during the recent melting of the snow, the groundwater table comes up. And is actually above the ditch line. It is only about a foot from the ground surface at that point. Any contaminated groundwater could very easily enter the ditch here. This is a culvert, it is a concrete culvert, that flows from here and dumps into a pond down here.

So what might normally take five or ten years to move, can occur in one day. Under the right conditions. There is a pond here. We think a lot of this actually resulted from the leaking of this culvert. It hit these ponds in this area, and it would sit in there for a while and migrate. Actually most of -- we put a lot of wells around those ponds those are actually clean. It is a likely scenario it is clean water, now, it is all flushed out.

From these ponds under the right

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storm conditions, the groundwater will flow under the railroad tracks into another set of ponds, here, which would -- once again, what would normally take ten years, can occur in one or two days. And then there's culverts. This is a little stream that runs down through here. It actually runs from about here, right down to this point, because we put this point right beside that stream. What would normally take five or ten years, could once again occur in a day. We are seeing 30 years of discontinues flows. So the different patterns that we see here are more than likely storm events.

A MAN: Have you ever put a 5 or 600 foot well down there.

MR. BRAYACK: No.

A MAN: Why?

MR. BRAYACK: The primary reason is that we start where the contamination is and we work outward from there, which includes vertically and horizontally.

A MAN: You have a body of evidence.

MR. COLTER: In that one area, that may be where it ends up being. We don't normally go up to 700 feet without evidence of shallow,

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intermediate zones. In that area, you may be right, we may have to go down to that depth.

A MAN: My question to you on October 24th is the same one today. It does not appear that you have found the bulk of the contamination.

MR. BRAYACK: I don't know about that. This source area, here, at one time had tens of thousands.

A MAN: You're talking about an operation that exceeded 40 years of usage, with daily usage, of 55 gallon barrels of engine cleaner.

MR. COLTER: But not daily disposal.

A MAN: You weren't there. You don't know that.

MR. COLTER: The evidence isn't there, in the surface.

A MAN: My point exactly. You didn't find it.

MR. COLTER: You're assuming that they disposed of it on the ground for 40 years.

A MAN: Actually, there was accounts of personnel on-site during those years that said, yes, that's what they did.

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MR. COLTER: Most of the spills, I think we, as part of the close-out report, Northrop Grumman identified all the spills through the DEC and addressed each spill. I mean, John, you're asking us to prove a negative, and you can't do it.

A MAN: I'm asking you to find out what you haven't found.

MR. COLTER: That is poking holes on every two foot centers to prove a negative. That is not the basis of the program. It its not the basis of any CERCLA program, whether it is run by the state or EPA. You just don't poke holes on a grid to try to prove a negative. It is not part of the CERCLA process.

A MAN: One of your big points here, correct me if I'm wrong, is that this is a highly anomalous area.

MR. BRAYACK: I disagree. Go ahead.

A MAN: There's no anomaly.

MR. BRAYACK: No, you said "highly ".

A MAN: You're talking about five foot upward gradient. You're talking about a river that used to be seven feet across that is now 100 feet across. There's been a lot of stagnation and deep

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water recharge. I'm not a hydrogeologist, but it kind of makes sense.

MR. COLTER: As far as the hydrogeology goes, everything we presented tonight has already been published by the Suffolk County Department of Health. We are not shedding new light in this area that has not already been published.

A MAN: We're not asking you to reinvent the wheel. We're asking you to find it.

MR. COLTER: We are at a loss, John. There may not be anything to find. We found sporadic hits.

A MAN: Punch one hole down there and find out if there is nothing there. That is not a double negative.

MR. COLTER: We may dig deep in that area. We're not arguing that point.

A MAN: It sounds like it.

MR. COLTER: We want to go back to the gun club and go deeper in this other area. But we want to do it as part of a remedy of putting in a permanent well and monitoring the plume.

A MAN: Nobody beat you up about putting permanent wells in the gun club.

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MR. COLTER: We have a process we have to follow. We have to go through the regulatory hoops.

A MAN: That is all well and good, somewhere along the line don't you think it would be appropriate to test the Raritan? Don't you think it is appropriate to go down just once on that, someplace in that area and see if --

MR. COLTER: We very well might end up at the TW-04 area. We are not saying we don't.

A MAN: -- your upgradient well.

MR. COLTER: It's not the upgradient. Off to the left there, the one that is the deep that we haven't defined.

A MAN: I thought TW-04 was upgradient.

MR. COLTER: That is the one we have been talking about all night. We end up at the Raritan. We don't know but we'll get out there and start the process. But to start the process takes time.

A RAB MEMBER: Based on those questions and John's questions and Mr. Pim from the health department was asking to solve the mystery.

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Then what David explained about finding levels of contaminants or water or whatever from those areas jumps into a man-made culvert and it moves and it jumps into a man-made culvert and it moves. Then looking for contamination to define it, we really can't use. It has created a mystery in what the health department is saying.

So in these, specifically in these two areas, because those are points right now I know you want to go into a remedy situation because it's more cost-effective to start working on a remedy than to do -- we all know that. Now we have two definitive things that we have to look at and really solve mysteries here. Maybe we have to come out of the box on how we go about defining stuff, because we have real complex hydrogeology, here. We have, for want of a better word and not being able to deal with the jargon, we have bodies of water that just sort of bubble over.

The Peconic tributaries have to create such emphasis to the contaminant flow, and I know you brought up the Nature Conservancy, how reliable really is that data for groundwater contours? That you're using as a baseline.

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MR. COLTER: I'd say very reliable as -- Northrop Grumman, maybe Suffolk County Department of Health, Nature Conservancy, all sample wells on the same days. I would agree with you if it was on different days. We all did it on the same days, four times a year. All the maps that were generated, which I believe you all have, showed the same type of flow. In addition, when you compare that to what Suffolk County Health Department has done over the last several years, here, they match up right on. So we are very confident with groundwater flow.

A RAB MEMBER: Then we have a solid foundation of the groundwater contours to look at. But just based on what David said and the fact that we -- you know, there's a mystery here. The paint shop dump, the air force base did X, Y, Z, cleaning fluid and jet fuels and metals and stuff, and all, really to say we have done characterization and we just aren't quite sure where it's coming from, this has got to bother you guys too, because you know it is there.

So we have to come out of the box, is all I'm saying, and do it on these specific areas.

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I think you need to deal with the state and the county on how you're going to nail it down. I think John Pedneault is right in going for deeper, a deeper look. Because if it can jump that quick, then it is mitigated down deeper and you haven't gotten to the end of it, over the years, you really haven't. You have to go deeper because it is not behaving -- the contamination, all I hear in all I go back to, is the contamination historically is not behaving on this site the way it behaves elsewhere on Long Island. Please don't bring up the difference in hydrogeology, because I understand. It just doesn't behave the right way in any way, shape or form.

MR. COLTER: This is not explainable, what we are finding, especially in the TW-04 area.

MR. BRAYACK: The TW-04 area is a problem and we are going to go deeper, that is basically what we have been saying. The location of TW-113 area is a problem. Be what we are saying is, first of all, we know that that's a major source.

MR. COLTER: Define problem. We are at 20 and 40 and 120 parts per billion, levels where pump and treats are ineffective. So.

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A RAB MEMBER: I understand. But we still have to deal with it.

MR. COLTER: We have to delineate it, and that's what we want to do.

MR. BRAYACK: That the area, Site 6-A, there was at one time several feet of free product sitting on the water table. Hundreds of gallons of free product were pulled out of there, that free product was measured to be contaminated with chlorinated solvents. There is no mystery as to where the groundwater contamination came from.

If you go out there right now, you could open up certain wells and there is a free product recovery system going on, if you open up the well, there is free product sitting on the water table. That is the source. We have the chlorinateds. We have the fuels. They are right there. We found them. That was one of the first things we delineated in '94, is where that free product was. It is a small area. It is about 100 foot deeper right at the edge of this concrete. We went further up in there. We did not find anything further up. That is why we never went further upgradient.

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There was the one question about the contamination, in particular the deep contamination was flowing in from upgradient sources. The hangar, here. Maybe it dropped this way. We put a monitoring -- vertical profile boring upgradient from there, right between those two points and we didn't find anything.

So what we have is we have a smoking gun right here. We haven't talked about it but there is one other mechanism for the contamination to come down, and that is a D-NAPL, if you get 10 or 15 gallons of trichlorethylene and you dump it on the ground, it is going to hit the water like putting water in oil; when you put a drop of water in oil, the water is going to go straight down to the bottom. That one mechanism could account for all of this. I'm not saying that is what is happening, but that is one possible mechanism.

As far as.

A MAN: What species have you found deep?

MR. BRAYACK: That is why we keep going down and looking at concentrations, but we are finding most of them. Which includes the fuels,

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too. Which means if you have a chlorinated solvent and a fuel, you mix the two together, they're going to be heavier than water. If you drop them, there is a possibility D-NAPLs are able to penetrate a clay unit without stopping. So that is one explanation. Our bottom hit was only 13 parts per billion, compared to 13,000 parts per billion up at the source.

So, you know, even though we are not at the bottom, we think we are pretty close at this point.

A RAB MEMBER: Do you know historically, at all, where the next clay layer would be?

MR. BRAYACK: No. This 200 foot is the deepest we've gone.

A MAN: Is there any USGS information or historical information.

MR. BRAYACK: Not deep like this. At least not in this area.

A MAN: You never found an explanation of why there was solvents in the fuel area.

MR. BRAYACK: Other than that there

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was a paint shop and that was the edge of a concrete pad.

A MAN: You never found any explanation of solvent usage in the fuel operation.

MR. BRAYACK: It is possible they used the solvent to clean up the fuels after they were spilled, so if you have an aircraft there and you have that diesel fuel spilling all over, you probably go get solvents and wash it down and clean it up. That's a possible explanation. It would not be -- it's like a maintenance operation. You have some amount of solvents there regardless. It is predominantly fuels, but you would have some solvents in general.

A RAB MEMBER: You came up with 1300 as the highest hit before. What is 4,000.

MR. BRAYACK: The highest hit was 13,000 back in 1991. That has since dropped to, I believe, is it 4,000?

MR. COLTER: Yes.

MR. BRAYACK: The contamination levels are definitely dropping in this source area.

A MAN: Dave, the area of free product, can you give some details on that.

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MR. BRAYACK: The area.

MR. CHEN: The area of product where there was extracting.

MR. BRAYACK: The area of free product. This is not the best map. But if you see where TW-04 is on your map, it is right here, it extended roughly from a little bit to the west of TW-04, maybe 10 or 15 feet, and it extended east about 60 or 80 feet. And it was approximately, that was the east-west orientation on it. And it was in the range of 30 to 50 feet north and south.

MR. CHEN: How did you determine the boundaries behave.

MR. BRAYACK: Grumman did this. They put a series of shallow water table wells in, looking for free product formation. There's trace amounts right now. The Navy is doing free product recovery.

MR. COLTER: As part of the Site 2 free product recovery system, we also were doing the same at Site 6, here. We installed, I don't have the number, but we installed additional wells to put the pillows in to extract and soak up. That will all be in that report that I'm supposed to be

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getting here shortly, to document how much we have, what's left, what should we do next.

MR. CHEN: And what's the free product.

MR. BRAYACK: The free product is predominantly fuels, diesel fuel and jet fuel, with chlorinated solvents a half percent, 1 percent.

MR. COLTER: Those pillows we take them out and send to the lab for analysis. I don't have that data back but all of that will be in the report. We'll know how much solvents, if any, we are detecting in the pillows.

MR. CHEN: In the field?

MR. COLTER: In this area and Site 2, they put the same type of shallow extraction system.

MR. CHEN: What site.

MR. COLTER: Fire Training Area.

MR. CHEN: Fire training. Within TW-04, is that the only location they did this investigation?

MR. BRAYACK: They put these temporary wells on about 25 foot centers, and they kept gridding outward until they didn't hit any more free product and they did free product -- they had

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an active free product recovery system with the groundwater extraction cell that ran until '91, and they pulled hundreds of gallons out of here. It is in one of our reports.

MR. CHEN: Hundreds of gallons on this site.

MR. COLTER: This, here.

MR. BRAYACK: At times, there was upward of over a foot of free product, contaminated with chlorinated solvents. Some of the later tests at TW-04, showed it was a fuel chlorinated solvent mix. If you come over to this edge about 60 or 80 feet, there was no chlorinated solvents in it. It was probably separate occurrences so it wasn't a continuous mix. It was, you know, pure diesel, and diesel is a chlorinated. Where we are finding the deep contamination is where the mix is.

A WOMAN: The contamination that you have here on the Sportsmen's Club, was that the same contamination as was at the paint shop.

MR. BRAYACK: The chemicals are very similar, yes.

A WOMAN: Isn't that a long distance away?

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MR. BRAYACK: Yes, that is what we were just talking about. If you look at groundwater velocity times. One of the things we are working on is the monitored natural attenuation modeling. That gives predictions on, if you released it here, how long does it take to get to the different places? And this report that we issue, it is a complex report, those numbers are in it. That is what we are finalizing right now. But in general, that evaluation indicates that a release here, shouldn't move very far.

What will happen is you'll get the natural attenuation, these chemicals stay around for a long, long time. But when you look at how the groundwater is moving, you look at their degradation rate versus how fast they're moving. This contamination here, you don't expect it to go very far out. Just based on modeling. That has to be confirmed, of course. And that is why we think most of this problem area here is that over land, that culvert transport, that we were talking about that -- we did sink a lot of monitoring wells in this area, here, that were all clean. As well as in here, that were all clean.

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MR. CHEN: In your monitoring natural attenuation, if you have any data from the wells, to substantiate the model. In other words, I want to see product and vinyl chloride. If you have that information. Because if you don't have that, then after all these years, if we haven't seen it, then it's a good guess it is not occurring.

MR. BRAYACK: What we have, there is a three pronged approach for monitored natural attenuation. One, is the modeling which is probably the weakest part. It is more theoretical.

Two, is the formation of degradation products just like you were mentioning, Marsden.. Take for example, our chemical 1,1,1-tricolorethane. One of the products of its degradation is dichloroethane, and then chloroethane. We have those.

The third, is the actual monitored part, the monitored natural attenuation. That is, looking at the concentrations over time. We now have data from '91, '94.

MR. COLTER: '97.

MR. BRAYACK: We have some from '97. Do they have to be in the exact same well? It is

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not quite perfect like that. Like I said, that's the monitored natural attenuation, trying to understand and evaluate this plume is what's taking us so long on this report. But it was those three prongs, was the last thing that we have been working on, and that is what really is holding it up right now. We just finished that.

MR. COLTER: If we were to get to the point where we were to install permanent wells outside of the Navy's property, we can start that type of long-term analysis. As you know, we have long-term property access issues that we have to deal with. Possibly with the gun club, possibly with the Town of Riverhead.

But that's kind of where we are hoping to get to, is maybe get a decision along those lines or at some remedy line that we can start installing permanent wells instead of always taking temporary wells, and start some type of long-term analysis to try to back this premise up.

It is getting to be a quarter to nine. I know there are some other issues that were brought up from the beginning of the meeting.

A MAN: One question. You said this

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area here, underneath the gun club, it is difficult to remove that by pumping it out of the ground essentially.

MR. COLTER: Right.

A MAN: What other remedies are there for that type of situation.

MR. COLTER: You want to speak to that.

MR. BRAYACK: Well, one of the remedies that would be considered would be pumping. There are other remedies that aren't as good. One is like a monitored natural attenuation. If it's fairly well defined and not impacting anything, we could put some permanent wells in there. When you do monitored natural attenuation, you do certain assumptions. One of the assumptions is that it stable, it is not moving. You put the wells in to prove that.

One would be to confirm it is not moving and not impacting anything. It is kind of deep for technology such as air sparging, although we just installed an air sparging system 200 feet deep at another site. That is something to be considered. I don't know if it would work here. We

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would not consider something like Fenton's reagent. Some of these in situ oxidation technologies, iron filing barrier. They are too aggressive for the low levels of contamination.

When you do a lot of them, you destroy the aquifer for other reasons. You have to look at the cost benefit on it.

MR. COLTER: That is what our Feasibility Study would answer, your questionnaire, weigh the different alternatives, implementability, time, cost, that is what our RFS would do.

MR. BRAYACK: We are constantly looking for new, innovative technologies, for situations like this.

A MAN: Can I try to summarize what I heard the next steps are. Issue your draft IR report by April 13th. And you're not doing anything at the source area until basically the whole process goes through the review, FS and remediation analysis, is that right.

MR. COLTER: Probably not. Probably won't wait that long.

A MAN: Tell me what you will do, then.

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MR. COLTER: We don't know. We haven't sat down, we haven't issued the report. We haven't discussed strategy with the DEC. You know, it is kind of like this is -- the table here. It is not my decision or just Marsden's. It is what do people think the best approach is. And there's other things. We are trying to put in a remedy at Site 7. We are trying to put an air sparge system in. We are trying to hopefully, maybe fully excavate the landfill at Site 1.

A MAN: I think you're hearing the sensitivity of the people here to the Peconic.

MR. COLTER: Yes.

A MAN: The Sportsmen's Club area sounds like you'll go back early sometime this summer if you can get access.

MR. COLTER: Or if the funding is there.

A MAN: Wait, wait, wait. I don't want to hear that.

MR. COLTER: We haven't got to that point. I can't promise we will be back this summer.

A MAN: To drill one or two wells, that has to be in your budgetary judgment, no?

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MR. COLTER: To do a deep boring to 5 or 600 feet.

A MAN: I'm going back to get to the bottom of those wells on the Sportsmen's Club.

MR. COLTER: Okay. We can mobilize for one well. It is a lot of hoops and a lot of things for one boring. What are the levels, 20 parts per billion at the bottom there. It is 120? Okay.

Even at 120, versus the 13,000 on site, is considered in the science as low level. We have -- the RAB has to set its priorities. You know? We can't -- I'd love to do everything that I have planned on this site in the next three years but we have to set our priorities.

A MAN: I know. The air sparging soil vapor extraction is a good thing to do.

MR. COLTER: We are almost there. We are this close.

A MAN: The Sportsmen's Club is unknown, because it has such potential impact off-site and to the Peconic, you have to go there. That is a high priority.

A RAB MEMBER: Taken any samples out

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of the well from the Sportsmen's Club.

MR. COLTER: That was one of the portions of the letter that you sent, you requested the analytical data. I'd like to get it if we could.

CO-CHAIR HARE: Can you share the data?

A MAN: Absolute.

A MAN: I'm going to instruct them to comply fully with the RAB board. I have no problem with it. Fully intent with having you on board on the property. They'd like a say in the issue and they'd like split samples.

A RAB MEMBER: There's' supply wells on site.

A MAN: They have -- they don't have, I don't think they have anything to do with their contamination because it's too many gaps there. It appears that there was some loss of gasoline that contaminated the shallow wells. I don't personally think they have anything to do, one with the other. Our problem is the deeper wells. We are kind of wondering what's happening below, where they have tested 100 foot in that particular geologic area, is

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really kind of scratching the surface.

MR. BRAYACK: You don't have any wells deeper than 35 or 50 feet at that.

A MAN: No. They are all glacial.

A MAN: What is the drinking water standard for volatile organic compounds?

MR. COLTER: Five parts per billion. That is our ultimate remedial goal. That is why these systems are costed out to 30 years. If we pump and treat a source area down to say 120 parts per billion and we are pumping more groundwater than we are removing, then you go to like a biodegradation model and it takes time. We usually budget 30 years to reach our remedial goal, which as most of you know, is a lot of the time unattainable. But we strive over the years.

A RAB MEMBER: Jim, you said before that, to Bill Gunther's questions as an ending to it, that the RAB board has to decide where they want.

MR. COLTER: Input. Input.

A RAB MEMBER: Where they want to proceed. We have to give input. The state and county is here. I think we should put input on all

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of this tonight. I think you should leave here tonight with input, serious input. I'd like to hear from Marsden and Jeff where they believe some priority issues are here and certainly from Jim Pim.

Jim Pim has been dealing with this site for a long time here. The county has definite concerns and is watching over this. I don't think we should let them leave out their input.

A MAN: I would like to see, in the Southern Area, say we found these levels here. Unless we see it, one of these in front of me, with all the data there, and a bunch of different maps to look at, it's sort of hard -- I agree with most of your points here. Come back and put more wells in here. Put more delineation. The paint shop speaks back to the old Grumman reports. Take a look at those. Where it is correlated. You have three or, three or four different pathways we are following for different sites. Take an aggressive approach to try to get reports done. Because we have studied this, I won't say to death, we took quite a bit of sampling out there. It's time to get it down, and say what are you going to do? Let's get out there

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and clean it up.

Like an approach with the Fuel Depot Area. So you're starting to pull the different chunks out and take care of certain areas.

A RAB MEMBER: Marsden, what do you think would be a priority for this?

I don't want to put you on the spot.

MR. CHEN: We are not on the spot. You know, Jeff mentioned Southern Area, which everybody has been talking about. When we first started on this project.

Jim Pim was really concerned about that paint shop. I don't see where the paint shop is relationship to TW-04 and just said that you did put another upgradient well between TW-04 and upgradient area, whatever that is. Is that upgradient to the paint shop?

MR. BRAYACK: Yes, that is between, yes.

MR. CHEN: All right. The thing is that TW-04, it is the further one up, you went all the way and you didn't stop finding stuff, as we call it. So the question is, irrespective of that upgradient well where you found nothing ,I don't

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know how deep you went to that upgradient clean well. When all of this was going on, this paint shop concern that Jim Pim had for years, it just kept hitting me, something that occurred at that paint shop is causing this deep contamination that is in the, we don't know.

Jim alluded to that. Maybe you need to go back.

And the gun club drilling. And those are the two projects. Everybody is focusing on those two. So, yes. And then again the free product stuff you mentioned to me. That came as a surprise to me. And irrespective of Grumman doing a fan type sampling, until they came up with nothing, are there other free product areas outside of this area that Grumman had sampled. So the two priorities are the gun club drilling, and the upgradient well, in a nutshell.

A RAB MEMBER: Do you concur on all of this, Jim?

MR. PIM: Yeah.

A MAN: They can all run concurrent. We definitely, raised some eyebrows tonight in terms of going back and taking a more comprehensive look

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at that point shop area and downgradient area, definitely.

MR. PIM: D the only explanation that makes any sense so far, for the pattern that you have, is the D-NAPL problem which is a real possibility, except you would probably have thought you would have discovered a heavier contamination column all the way down if that had been the case.

MR. CHEN: It depends D-NAPL also. Not all D-NAPLs go through clay. Some of them do, and some, as concluded by a study from *University of Texas, Austin, some stop. Depends on what species you're talking about.

MR. PIM: I asked him what species he had, he said he had them all, all the way down.

Even if that is the cause and you are in it and you're going through where the puddle was, and you got the column going straight down, we still need to find out, as you're saying, how deep does it actually penetrate? So you'll have to follow that all the way down.

But as they have said, I still think with this much complex evidence here, it is worth the trouble to go back and thoroughly and carefully

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go back over the old reports for everything upstream, from that paint shop and other buildings that are involved here, and systematically go through and analyze what Grumman did do, rather than just saying Grumman did it and don't look at it. Go through it, look at it. What they did, was it adequate, was it sufficient, was it thorough, was there any spots that they might have missed related to those buildings, which should be looked into further.

I looked over those things back then, too. I was puzzled not to find anything in the explorations that they did. I think you guys can do the same thing. You may come up with the conclusion everything they did was all they can do, and nothing more can be done there. That's fine and it will be done. You may, in doing a proper analysis, find here's some things they didn't look at.

MR. COLTER: If I could play devil's advocate. I believe those questions, I'm sure those questions were all asked by the RCRA folks in Region I. I couldn't imagine that they.

MR. PIM: I asked the questions. I didn't always get complete and satisfactory answers

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years ago when the reviews were on their way. I'm only suggesting that because you had a mystery here, and you're saying that is a potential source, then it is logical to go back and review the work that was done to see if it was sufficient.

MR. COLTER: I think --

MR. PIM: Generally, you people have always resisted, for whatever reason, my impression, going back and reviewing anything that Grumman did. Maybe I'm wrong.

MR. COLTER: We also reviewed, since it was our property, we also reviewed the reports. But we put a lot of the emphasis, we laid that with the DEC/RCRA folks, who were the regulatory authority. When we reviewed them, we reviewed them for, "did they do what we would have done in trying to determine if this building is a source area".

MR. PIM: That is what I'm suggesting be done. I don't know if you have done it in this case, or not.

MR. COLTER: As part of the closure process, it was done. When RCRA came back and said we agree with the conclusions, the Navy was satisfied with that. As far as the paint shop being

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the source area, I don't think we are homing in on that, as far as us. I think Dave has alluded a couple of times that we've, Grumman looked at the paint shop. Grumman looked around the paint shop and just didn't find anything.

What's more likely a source is that this grass area is where all the runoff from several hundred thousand square feet of concrete, is the discharge point. It is more likely that things that got spilled on the concrete, or maintenance activities that took place on the concrete, this is where they ended up. I think what we are saying is that it is more likely that is the scenario than the paint shop.

MR. CHEN: In effect that is what Jim Pim is saying. The RCRA program is conducted by Stan's shop. I divorce myself from anything Stan was handling that part of the shop. What always stuck in my mind, however, is that there was a RCRA investigation to identify areas that CERCLA sites would need to have identified, and I think that is the point we are probably trying to make, here. RCRA put the well here, Superfund site is here. Actually Superfund well should be up here. If this

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well's in the RCRA investigation, it's clean.

We don't know if this upgradient is clean. And that's a point that you need to take a quick look at. What Grumman did on the RCRA to see if their investigators were satisfied, all the Superfunds.

MR. COLTER: Would that be something that maybe you could get the report that Stan has and see if it meets your standard or.

MR. CHEN: Then I would be doing your work for you.

MR. COLTER: Or vice versa. You're asking us to regulate Grumman.

MR. PIM: I can do the same thing. I can dig out the report, re-review them and go over them all again, and think it all out again, and decide in my own opinion whether it was adequate or not. But I'm suggesting that why don't you guys do it. Why should I have to do it again? That is my point.

MR. COLTER: If you take the team approach to this, we can certainly do that, dig out the reports and give it an analysis. But that's going to take time away from something else. It has

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to.

MR. PIM: Boy, it sure does with me, too.

MR. COLTER: That is not a criticism. That is the reality, that if we want to get the landfill looked at and the Site 7 depot cleaned up and, you know, additional wells drilled, we can do all this. But it is not going to be in the next three months, it it's -- some things will get done and some things won't. We can do it, but everyone here has to realize that there are costs associated with spreading Dave and his group thin. Some things aren't going to get done.

MR. CHEN: The reason I'm saying I'm doing your work for you is true, but also the underlying fact in our section, we have -- men with multiple, multiple operable unit because we are stretched pretty thin.

MR. COLTER: You know what I'm talking about.

MR. CHEN: I know what you're talking about.

A MAN: Let me say one thing about the Grumman RCRA closures. You have to recognize

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that Grumman Northrop had 40 different consultants that were doing all the buildings, the entire site. The final RCRA closure report, I think there were 16 volumes yea thick (indicating) that were analyzed. The paint shop was one area not of -- it was of concern, but I don't think, my recollection, it was that thorough, you know, analysis they went to the dry wells and searched wherever we could from the recollections of people that had worked on site.

I think Al may have known something about that, is we came to certain conclusions that it was clean, but that was the extent of the investigation that was done, and it was done very thoroughly, based on as much knowledge as we had. I remember at one time, Jim Pim, when we walked through the site, he particularly went to the paint shop, the washes, how they flowed from the building. We traced that, and I know even way back then, there was a concern before it surfaced, because that was a very critical area where contaminants were used, and how they were possibly abused, and which way it went from the building and it was a pretty loose operation, at least in the old paint shop. But I'm giving you my recollection of what the RCRA closure

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investigation review entailed.

MR. COLTER: Let me reiterate that all the data in 16 volumes, we did include in our GIS. When we talk about this area, we talk about all samples taken from the Navy and Northrop Grumman over the last 10 years.

A MAN: Stan and I have been around since the early '70s. That Fuel Calibration Area, that old fuel calibration was a very messy site. I mean, it was messy.

A MAN: We are talking about the paint shop that was adjacent to it.

A MAN: The new paint shop was a dry operation. But the Fuel Calibration Area itself was very messy. We used to do repairs over there.

MR. PIM: These things I mentioned. What else, you say repairs in addition to the fuel operations?

A MAN: They had a fueling operation in which they tested the fuel tanks and everything else. There were spills. They also did repairs on stuff. They also did run-ups over there. Like I said, it was a real messy area.

MR. CHEN: Metal washing in that.

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A MAN: I'm talking 30 years ago? But it was a messy operation, I mean, even back in the early '70s, it was pretty dirty.

MR. PIM: We have the evidence of that.

A MAN: It might just be from the operation they did at the Fuel Calibration Area.

That new paint shop, by the way, was only built in the '80s.

A MAN: We have no problems with that.

CO-CHAIR JOHNSON: What happened to the old one.

A MAN: It is still there.

A MAN: One was converted to a dry operation and the other one they basically stopped using in the early '80s.

CO-CHAIR JOHNSON: Was that fully investigated, the old one?

A MAN: Yes, it was the type of investigation that was not as thorough as you would need to make conclusions, based on the investigation, to be able to say it was thoroughly cleaned and appropriate for closure. Or transfer.

CO-CHAIR HARE: It is five after

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nine. Should we be moving on to the next subject?

CO-CHAIR JOHNSON: We want to give some input here as a group first? Do we have a consensus or agreement on -- do we want to make a recommendation at this point on where we'd like to see them go, what we'd like to see them do? Is there any more discussion among the RAB members? Do you just want to leave it at that, let the state and the county speak? Do you want to wait?

A RAB MEMBER: Bill Gunther, you started this. You tie it up.

A MAN: I tend to agree with the Navy's approach of going through the process, and I was pleased to see Jeff supported that. Basically get the report done, get it out so everybody can review it, get all the data in one place. However, I think because of that downgradient area, the Sportsmen's Club, we have unknowns. I'd like to see while the reports are going through the process, an additional field investigation at that location.

MR. PIM: Which is what they say they're going to do.

A RAB MEMBER: We'll second that.

A MAN: I want to hear them say

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they're going to do that, Jean.

MR. COLTER: We'll do it.

A WOMAN: We have someone here in the Sportsmen's club that you can talk to. You said they can go on the property, right, they need a letter from you?

MR. COLTER: We still just won't go on unless we can get a hold of somebody.

A MAN: That would be ill-advised.

MR. COLTER: We have the permission. We still have to get the contact. We always had the permission. We just haven't been able to click with the on site man.

Jim Olivant is the man you have to go through, the president of the club.

CO-CHAIR HARE: That is who the letter was addressed to.

MR. CHEN: Do you have the president's number.

MR. BRAYACK: We have his cell number, home number.

MR. CHEN: Vice versa, does he have your number?

MR. BRAYACK: Yes.

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MR. CHEN: How about this gentleman, you have his number.

MR. BRAYACK: Yes.

A RAB MEMBER: You'll be speaking to Mr. Olivant within the week, correct.

MR. COLTER: Yes, we will be speaking to him. We want to get the report out to everybody, that's what we are going to do. And this summer, we probably could do some type of field work plan.

A MAN: Jim is going to ask you how deep the well is going to be.

MR. COLTER: We have to talk about that with the regulators and get a work plan.

A RAB MEMBER: But your intent,Jim, your intent is to do it this summer.

MR. COLTER: I can't promise that.

The summer is towards the end of our fiscal year, a lot of money gets yanked from us and sent all over the country. I can say today money is there to do it and tomorrow the money is not there. What do I come back to tell you folks, I made a promise I didn't keep.

A RAB MEMBER: I didn't ask for a promise. I said the intent is to do it this summer.

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MR. COLTER: Yes, the intent is there. The intent is there, yes.

A RAB MEMBER: Apparently there is a possibility you might need money.

MR. COLTER: Yes.

A RAB MEMBER: You're telling me the budget is at a strain now.

A RAB MEMBER: We need to go after money to make sure it is done this fiscal year.

CO-CHAIR HARE: Was the next issue that you wanted to talk about the TAPP application, is that correct?

CO-CHAIR JOHNSON: We went through everything else, I guess.

A RAB MEMBER: Did we answer all of Vinny's questions.

A RAB MEMBER: Yes.

A RAB MEMBER: The TAPP proposal is fairly easy and we had started out the steering committee way back when. After tonight's information, there might be input and discussion on changing it. The TAPP proposal that I had put together, which is really rude of me because I should give Judith -- do you want me to give this to

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Jim, or do you want it directly, because I have two copies.

CO-CHAIR HARE: Is that the application?

A RAB MEMBER: The placing and background information.

CO-CHAIR HARE: If you have two copies, one has to go to Jim. But I probably need one also because Jim and I will be going back and forth on the phone with it, or whatever.

A RAB MEMBER: The Navy is getting the two copies I have tonight, the rest of the board members, state, and county will get it as of this weekend, I'll mail it out. Saturday I'll dump everything.

The TAPP basically is a questionnaire form and according to the handbook and all the handbook says, stick with the form and don't elaborate with all this other stuff. So what I had given, what everybody got, was just a basic background of a technical adviser who is already on DOD, because I got it from the DOD web site a couple of months ago. The technical adviser, they list technical advisers that other RABs use. This

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gentleman has been checked out. He has a lengthy background in other DOD sites, helping RABs with all sorts of understandings. Now, my copy --

CO-CHAIR HARE: If you need this one copy back.

A RAB MEMBER: No no. I have the original. Basically, as a steering committee, we sat down and discussed feasibility of TAPP for community RAB members in downgradient groundwater modeling of south eastern boundary of the data that's there, to find out future impacts or intrusion to the Peconic River. And that was our greatest focus. I worked and researched a good hydrogeologist and a GIS specialist that could take that data. If the steering committee and the rest of the RAB members want to go that way, we can give the TAPP to you to discuss and put forward.

However, my personal understanding of everything tonight that you have been given, I had just said to Sherry moments ago, perhaps the TAPP money might be spent better with an outside technical consultant and someone that has GIS understanding, to review all this data that.

That is now the present, and go back

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and review all the historic data and find out where the RCRA documentation or the RCRA closure might have gaps to the CERCLA process and fill in those gaps as we are remediating.

MR. COLTER: In this area. It has to be specific.

A RAB MEMBER: To the Peconic.

MR. COLTER: To evaluate RCRA versus CERCLA on the 3,000 acres.

A RAB MEMBER: No, I don't want to do the 3,000 acres. Anyone can disagree, the major focus of the community and the surrounding people that live here is the Peconic River, that is the living ecosystem we are all concerned with.

MR. COLTER: Okay.

CO-CHAIR HARE: Are you saying you think you'd like to change the application perhaps.

A RAB MEMBER: It is something to throw up and discuss.

MR. COLTER: They do have, they have the whole range of disciplines, they have environmental people, they have GIS.

A RAB MEMBER: The package that I just gave you has the, I guess you would call the

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prime contractor, his entire background. He's a master hydrogeologist everything from radionucleotides.

MR. COLTER: CSCI Associates.

A RAB MEMBER: You can call the gentleman and speak to him. I know all due deference and respect to the Navy, you have the last say so on who it is.

MR. COLTER: We can't sole source any work. We need I think a minimum of three qualified consultants that have to propose this. Now.

A RAB MEMBER: We can draft the IFP.

MR. COLTER: Unlike typical awards, where we have to go with the low bid, I don't think we have to go low bid necessarily. It has to be a RAB decision as far as here's your three qualified consultants, you know, this guy's this much money, here's his expertise, this guy's this much money, here's his expertise.

CO-CHAIR HARE: All three of the contractors that proposed.

MR. COLTER: The Navy doesn't. The DOD and the RAB as a whole, it is up to us the DOD to do the contracting for you so you don't have to

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do invoices.

A RAB MEMBER: That is not a problem. Believe me.

CO-CHAIR HARE: This is normal channels. In other words, they don't -- because these -- the reason I'm asking the question and obviously I should know, except that very few of these TAPP projects actually get funded. I'm going to be honest with you, that is the true situation. But in fact I've never had one with any of the facilities I've worked with. That is not to say.

CO-CHAIR JOHNSON: Have you ever had one submitted to you.

CO-CHAIR HARE: No, no, no. With my facilities that are all across the country, I've not had the experience of one that was approved. You have to remember, that sometimes the applications go in and as Jim kind of mentioned, sometimes people want this broad huge expanse of things and they're not, the TAPP program is set up to focus in --

A RAB MEMBER: On one thing.

CO-CHAIR HARE: On a specific area. A lot get tossed out for that reason alone. We have no, we have no approval authority, here, as far as

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that part of it is concerned. That's done up at the office that handles the funding and looks at the applications. We try to get the applications in the best form possible before they get sent up so they aren't just going to be automatically rejected right away.

A RAB MEMBER: I'll do whatever needs to be done.

MR. COLTER: This looks like a very specific project not data collection. And that's good. What I think you have to send up, though, you have to have more consultants instead of just one on the application. You might want to consider.

A RAB MEMBER: Actually, there is two.

MR. COLTER: You might want to consider, this guy in Delaware is not going to know much about the Peconic estuary. It might hurt your agenda.

CO-CHAIR HARE: Make the suggestion we call up there and find out, you know, they want to submit this application, you know we don't want to reject it right out of hand, here, how many consultants do they need when they submit the application so we don't go through this chase of.

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MR. COLTER: There is a whole section in the RAB --

A RAB MEMBER: This is a handbook how to fill out applications for technical assistance. From what I read and understand in the handbook, it is not us that decides on the technical adviser. It's the military.

MR. COLTER: It is the RAB/military part of the RAB, in concert with the community members.

A RAB MEMBER: So I have no problem putting together other sources for us to all discuss that who would be the best technically expert, most well-rounded person to deal with. I'm sure, Mr. Pim knows people.

MR. COLTER: Bear in mind the bigger gun consulting firms, there is only a maximum of 25 thousand. Your bigger guns, you're going to get a lot less for a lot more.

A RAB MEMBER: I stayed in the box of your stuff. When I started researching this back last April, I downloaded as much stuff as possible, I went out and got all my resources and all, and I stayed to the list on the DOD sites who, what

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technical experts were already out there in the field working on other RAB boards. And I made phone calls and talked to those RAB communities, members of McClellan, *AFSI contracts that are getting the big run of the money right now and running around and doing a lot of remediation, talked to those community groups, who they like, who they didn't like, what was the easiest way to go, that is the end result of what you have in front of you. How else we want to move from there...

MR. COLTER: We'll take a look at it and we'll make sure that the application.

CO-CHAIR HARE: I suggest, number one, that you consider, do you want to change it or not.

A RAB MEMBER: Do the other members?

CO-CHAIR HARE: If this is.

A RAB MEMBER: I want to leave tonight without the other members making a decision on that. We waited too long for me to present this. I think we need to know tonight. When I seriously heard, when Jim Pim said what he said, that was like a big data gap we need researched.

A MAN: The way you have it written

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up, review of all data generated to date with specific emphasis on the southeastern boundary. Hopefully, somebody looking at the data would like the historical information as well.

A RAB MEMBER: Yes, that is true.

A MAN: It is general enough, but specific enough of the area. I think it is all right. Go for it.

CO-CHAIR HARE: We'll make a phone call to check out how many they need. Do they need two, is it better to have three.

MR. COLTER: That is not Navy. That is our contracting officer. He has to follow the FAR. There is expedited contracting mechanisms specially established for this so that we don't have to take our typical five or six month source collection board and that stuff. We can get three quotes. Quotes are just quotes. They are rough estimates and we submit those quotes and their resumes to you, us as the RAB, and that joint decision goes on to the application, I believe. But I'll look into that. If I need additional quotes, I would suggest maybe local firms that are more knowledgeable of the Peconic, but who also have the

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environmental expertise and GIS capabilities to do what you want. Maybe there aren't any that are local that are the big guns. I don't know.

A RAB MEMBER: I leave that to suggestions.

MR. COLTER: I wouldn't want to discuss it tonight. We'll get back to you and from what I see, a lot of the work has been done. That is excellent.

CO-CHAIR HARE: It is pretty complete.

CO-CHAIR JOHNSON: So you want a time frame, Jean, when? As soon as possible, Jim? I mean, so that.

MR. COLTER: Yeah.

CO-CHAIR JOHNSON: Do we have to vote on this?

MR. COLTER: There has to be a majority, there has to be a documented majority of the RAB that wants this.

A RAB MEMBER: All in favor of going after the TAPP proposal.

CO-CHAIR JOHNSON: If we take a vote tonight will that hold through?

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CO-CHAIR HARE: For what? To submit it?

CO-CHAIR JOHNSON: To submit it and show support.

A MAN: Like to know what the bottom line is in terms of dollars for this TAPP program.

A RAB MEMBER: Only 25 thousand.

MR. COLTER: 25 thousand per project, a maximum lifetime cap of 100 thousand dollars per site. So if you can get this for 10 grand, that is great. If you can get it for 25, you only have 75 thousand left.

A MAN: If we don't spend this on the next expert, can we spend it on a big party.

CO-CHAIR HARE: Actually, people go to jail for that.

MR. COLTER: That would be an ineligible project.

CO-CHAIR HARE: Think there is a motion on the floor. You made a motion?

A RAB MEMBER: To vote. Are we going to go through with the TAPP proposal.

CO-CHAIR HARE: You're stating that as a motion.

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A RAB MEMBER: Yes.

CO-CHAIR HARE: Do I hear a second?

A RAB MEMBER: Are you going to do the other things, the landfill, that is still going on?

CO-CHAIR HARE: This is separate. It has been moved and seconded that the application that was presented tonight be submitted to the Navy for approval. Are you ready for the question?

All those in favor, signify by saying aye.

(All ayes)

CO-CHAIR HARE: Motion is carried.

MR. CHEN: Jim, the fact that Jean Dunn downloaded the people off the DOD website, would that affect the need for three quotes?

MR. COLTER: Probably, yes. We just can't sole source under any conditions. You have to have some type of competitiveness.

A RAB MEMBER: No problem. I had to have a starting point to my mind that was the best, which was to go right to your website.

MR. COLTER: I may be calling you, Jean, or Sherry if I need additional quotes. We

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have to start canvassing some firms.

CO-CHAIR JOHNSON: I want you and Jean. Jean has been researching this. She has done a fabulous job, she has been working on it for nine months. She had it.

MR. COLTER: You guys in BNL deal with environmental consultants, it's not just me. It's the RAB.

CO-CHAIR JOHNSON: Communicate with her. If she needs further.

A RAB MEMBER: Does everybody have my home phone number so they can call me to discuss this, come up with suggestions of experts to see how we proceed.

CO-CHAIR HARE: Are there any other issues.

CO-CHAIR JOHNSON: No, I think we basically covered, pretty much covered everything.

CO-CHAIR HARE: All right.

CO-CHAIR JOHNSON: That I had.

CO-CHAIR HARE: Any action items that we missed along the way or have we, the letter. There was one action letter, a letter of thank you that the Navy sent to the Masonic Lodge for the use

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of the room. They have been so cooperative and we found out tonight the letter was.

A MAN: It was received and read.

MR. COLTER: Well, thank you.

CO-CHAIR HARE: Sherry, did you get a letter on the RAB meeting in Denver?

CO-CHAIR JOHNSON: That was the other item.

Yes. The meeting in Denver.

MR. COLTER: Did you get my e-mail, Sherry?

CO-CHAIR JOHNSON: Yes, I did. I thought I responded to you.

CO-CHAIR HARE: This is a meeting that is put on for the co-chairs of restoration advisory boards all across the country, who are invited to this meeting. Obviously, the Navy as well as the community co-chairs. I recommend attending. They go though some very good topics in this session. So I would highly recommend trying to go.

CO-CHAIR JOHNSON: I'm not available that weekend. That was one of the other weekends.

A RAB MEMBER: Is this all expenses

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paid?

CO-CHAIR HARE: The Navy does pick up expenses.

A RAB MEMBER: What weekend is this?

CO-CHAIR HARE: Can you can get a substitute to go for you.

CO-CHAIR JOHNSON: That is what it says. If someone would like to attend, it is May 18th to the 20th, it is going to be held at the Denver Marriott Tech Center, Denver, Colorado. I have a copy of the letter and agenda if someone would certainly like to.

MR. COLTER: I want to see the contest you're going to have to pick this alternate.

CO-CHAIR HARE: That part the Navy will not get involved with at all.

CO-CHAIR JOHNSON: Could I sell this. Could I auction this?

CO-CHAIR HARE: You could do whatever you want.

A RAB MEMBER: If we don't go, do you save money in your budget to do work here.

CO-CHAIR HARE: You're talking about two different pots of money.

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CO-CHAIR JOHNSON: I will talk to you folks. I'd like to find somebody to go.

CO-CHAIR HARE: Go ahead, follow the instructions and pursue it.

MR. COLTER: Sherry, I have one administrative thing. I'm not sure if you keep track of attendance. Dr. Manning did call and said he wasn't going to be able to make it. He had another commitment. I wanted to let you know he didn't not show up.

CO-CHAIR JOHNSON: For our next agenda we are going to look at membership again because we do have some, a couple of other folks who have not attended despite saying there is -- and we have had a couple of requests for additional seats. And just so everyone knows, North Fork Environmental Council had requested a seat and so we might want to put them on as alternates at the next meeting or bring them right on, because we had a steering committee meeting. Citizens Campaign For The Environment, Eric Dumont had been here a couple of times. They expressed interest in having someone.

CO-CHAIR HARE: Is there anything else?

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A RAB MEMBER: Can you tell me if the fire training area document that was sent to us, is this the final.

MR. COLTER: It is the final nature and extent. Now we are going to do similar schedule to Site 7. We are going to go throughout the field take a synoptic round of groundwater samples to see what's in them today, to monitor natural attenuation parameters and do a Feasibility Study, the same exact process we did with Site 7.

A RAB MEMBER: Because in this, there are chains of custody missing. To match up towards the data. And other things. If you want comments, I'll give you a list, rundown on all of that because there is definitely data missing out of this block and supporting data.

MR. COLTER: If we have to issue an addendum we will.

A RAB MEMBER: The other question, how come only volatile organic compounds in the Fire Training Area, were focused on, and we never did any metals.

MR. COLTER: Metals were done in the earlier rounds. As far as migrating away from the

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source area, we never detected, correct me if I'm wrong, metals downgradient.

MR. BRAYACK: When we did the initial phase.

MR. COLTER: Except the soil.

MR. BRAYACK: We found Semi-volatiles, pesticides, PCBs, and groundwater. We concluded the only concern was groundwater and VOCs. There is a Phase II report here that looked at migration beyond that. But it is in the Phase I report, is all that information.

A RAB MEMBER: Yeah, and.

MR. COLTER: That was summarized.

A RAB MEMBER: There's hits and things. I was wondering why we didn't go any further.

MR. COLTER: Detections are there but as far as widespread high level contamination, if it was, we would have included it in our Phase II work plan.

A RAB MEMBER: This local laboratory used in here, the 1997, did you do an on-site audit of this laboratory prior to giving them samples.

MR. BRAYACK: No.

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MR. COLTER: The Navy.

A RAB MEMBER: At any time, did you do an audit of this laboratory.

MR. COLTER: The Navy has a certification process that it goes through and each lab has to pass the certification process to be used on our contracts or they wouldn't be used. I don't have the exact time frame, but I can tell you that if we used them, that they did pass the Navy's criteria to be a lab.

A RAB MEMBER: Do you have a copy of that criteria.

MR. COLTER: Yes, I can try to find it.

MR. BRAYACK: They are a local lab.

A RAB MEMBER: I know they are.

MR. COLTER: Have you had a bad experience with them.

A RAB MEMBER: Not personally, no. I have question about suitability and QACCO, the data, yes, I do. Of course whatever, I'll write you all my concerns on this document and stuff, and all. But I'd like to know what test they had to pass. I want to see that criteria.

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MR. BRAYACK: It would be a state certified lab.

A RAB MEMBER: I know. Passing two out of their three proficiencies and all. I understand that much.

CO-CHAIR HARE: Anything else.

MR. PIM: You probably talked about the dump before I came in, I wanted to know was there any new information on deciding whether to excavate it or not?

MR. COLTER: Only what we went over at the technical meeting, that we think it is a viable alternative to consider and right now Tetra Tech is doing a Feasibility Study on the differences between full excavation and capping and bank stabilization versus no action, and that report is due out June 30th to you guys in draft.

A MAN: Just another word of precaution. I think it was expressed before, tipping fees on the Island are excessively high, when you estimate you have to go by 21 dollars a yard for just clean-fill, sandy material. I don't know whether what it is around the rest of the country, but it is higher than most.

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A RAB MEMBER: Is excavating the landfill part of the document as a viable alternative.

MR. COLTER: We have to determine availability, implementability, cost, like we said before, if we have to transport everything off the Island, we have to look at that, versus long-term monitoring, long-term maintenance. It may still be, up-front, a lot of money. But over a 30 year discounted period, we -- it's the kind of evaluation we have to look at.

MR. PIM: Before you leave that. I assume the state wouldn't object to them returning inert materials to the same site if they did this, would they.

A MAN: If it is not contaminated. That is a concern.

MR. PIM: I don't know how the rules go. That is why I was asking.

A MAN: We have to go back and reexamine the whole subject about what goes in and what is going to have to go out.

A MAN; they're concerned in their reviewing what would be best for the wetland for the

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removal.

MR. COLTER: There is one other group that I just learned about that may dump this into capping it. This is a highly sensitive archaeological area. As part of the closure, the Navy has to do a Cultural Resources Survey. They hired a cultural archaeologist consultant who came out to test the pits and found artifacts and deemed this area as highly sensitive for archaeological artifacts. I've already sent a question to the state historic preservation officer.

The read on it from him is that if we excavate, we need an environmentally certified archaeologist on site. And as we get down to the bottom, they're going to want to do a very detailed analysis, which means time and money. And when you're talking -- if they make us do it on the 22 acres, it may get prohibitively expensive. We are trying to talk to them to see if we could do a test area that may be representative of the landfill and get on with business. I've never dealt with archaeologists from the state so I don't know how reasonable they are.

CO-CHAIR HARE: It depends. Based on

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what other -- we did an archaeological dig on the main part of the facility. That was necessary. Once we did the Cultural Resources Survey, they said but we think there is more there. And we had to do an archaeological dig. That was additional funding. Obviously, all this costs money.

A RAB MEMBER: Talk to Lorraine and get a tie-in from Lorraine and the Montauk tribe, to find out what you're going to need. It might be easier to present your plan to the state if you have them on your side of what you're outlining.

MR. COLTER: I had definitely planned on talking to Lorraine, seeing what her take is on this, after we get the report and sit down with her.

A RAB MEMBER: If you go with her support.

MR. COLTER: When you're talking wetlands and archaeology, all of a sudden, your getting all material out isn't as important.

MR. PIM: If you can identify native soil, when you reach it, maybe you can get them to allow you to get to that point and no further. You're doing them a favor. Because you're uncovering the native soil again.

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MR. COLTER: I would ask when this becomes an issue, that you go over these, Lorraine, and Jim, and Marsden, if we can all back up the process, if it is deemed -- if it is deemed that we want to pursue excavation in the archaeology side, it may be what holds it up.

CO-CHAIR HARE: On the core part of the property, when they did the archaeological dig, although they found some things pottery chards and that sort of thing, from early settlers, et cetera, the findings were not huge. So they may take that into consideration and evaluate that with the whole area. And they might agree to, okay we'll take a sample of one area. And then that, that may satisfy.

MR. COLTER: We have a cultural resources expert in my office, and I have been working with her. She has done this before.

CO-CHAIR HARE: She did the original.

MR. COLTER: I'm deferring to her a lot. Her read on it is they are reasonable but they may ask for, for lack of a better term, throwing them a couple of bones.

CO-CHAIR HARE: Pun unintended. On

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that note, we'll adjourn.

A RAB MEMBER: Our next meeting is when?

CO-CHAIR HARE: It should be to June. Probably first part of June.

(Time noted: 9:40 p.m.)

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