RESTORATION ADVISORY BOARD

FOR

NAS JRB / ARS WILLOW GROVE

- - -

Wednesday, September 14, 2005

6:00 p.m.

- - -

Horsham Township Public Library

Horsham, PA

- - -

V A R A L L O Incorporated
Litigation Support Services
1835 Market Street, Suite 600
Philadelphia, PA 19103
215.561.2220 215.567.2670

LAWYER'S NOTES

PAGE	LINE	

PRESENT:

Jim Edmond
Russ Turner
Ed Boyle
Charanjit Gill
April Flipse
Jeff Dale
Kevin Kilmartin
Mark Medvesky
Jack Lebeau
Rick Myers
Dan McCaffrey
Sherri Jones
Karen Grassi
Ron Sloto
George Hoffer
John Martin
Margaret Smith

A G E N D A

1. Welcome/Naval Air Station Items/Comments

2. Air Force update of their remediation sites

3. Navy updates
   a. Plans for a proposed soil removal action at the former Fire Training Area (Site 5)

   b. Hydrogeologist presentation: "Monitoring Well Installation Primer"

   c. Update plans to install additional groundwater monitoring wells and obtain groundwater samples at Site 3 as requested by U.S. EPA

   d. Proposed Site 1 Privet Road compound monitoring well installation

4. Closing remarks
   a. Discussion of where next RAB meeting will be held, Horsham Library or Air Station

   b. RAB member questions and comments

   c. Set date for next RAB meeting (January 2006)
   Meeting adjourned

RAB 9-14-05

MR. EDMOND: Welcome, everybody. Thank you all for coming, especially the community members. This is our 26th RAB. This is our ninth year. Next year we go to year No. 10. So we're here and thank you for coming again. I'd like to again welcome everyone. Your participation is what we need. Without you guys we have no RAB, so thanks for coming. Tonight the agenda -- does everybody have an agenda? As always, people that are new to the RAB, there's some RAB sheets over there. One is a sign-in sheet and the other is to be a RAB member. Once you're a RAB member, you're on the mailing list and you get documents to review, you get a mailing letting you know when this meeting is and things of that nature. So if you could remember, please fill out the form.

We'll get started this evening. The Air Force will give a quick update on their POL site and we'll move on.

Gill?

MR. GILL: Thank you, Jim. Thanks for coming. We literally don't have a presentation today because we gave a presentation the last time, but we have made a little progress. We are doing our quarterly sampling and we have actually finished recently. So we'll have another presentation at the next RAB meeting where we will present the results of the sampling results and we'll discuss the next project for fiscal year '06. And that's all we have. We haven't done that much.

MR. EDMOND: Well, the Navy side of it we've done a little bit more so you'll get something out of this. We've done a lot of stuff over the summer as we told you we were going to do. Some of it we haven't got to yet, but Ed Boyle's going to update you on Site 5.

Ed?

MR. BOYLE: I'll give an update on Site 5, the fire training area. Then we're going to have a presentation from

RAB 9-14-05

Kevin Kilmartin in reference to the hydrogeologic description of a well. There was some questions from the RAB the last meeting. They wanted to see what a well actually looked like.

Site 3, the 9th Street landfill, we're going to give an update on that and the Site 1, Privet Road. Like Jim said, the last few months we've had a lot of meetings with the regulators. And Site 3 especially there was really nothing that was going on with the site. We weren't moving along. We had done some work out at the site, RI work in 1997, and additional work in 2000, and really hadn't done anything in the last couple years. We were working on higher priority sites. So we have each site moving along. And Russ and Kevin are going to discuss the Site 3 and Jeff will go over Site 1.

In reference to the Site 5, the fire training area, we've discussed this site a couple times. I think at the last

RAB I had mentioned we had a lot of things out there. One was we were working on funding to do the removal action, the removal action of about 230 cubic yards. Jeff had given a presentation earlier on that. We were working on funding for that. We were working on an action memorandum. That's basically a requirement to do the removal action. And we were working on funding actually to do the work plan and the field work. The action memorandum was signed last week by the CO. We've had regulatory approval of the work plan. And as of the middle of today, our schedule is to be out in the field the middle of October. With that, I'll turn it over to Kevin.

Just also to remind you of the site, this site is Site 5. This is the area where we're going to do the removal action. It's approximately 65 feet long by 10 feet wide and it has a 25-foot radius. The depth of contamination is

about 2 feet, 18 inches to 2 feet. And by the sampling we've taken out there, all this material should go out as nonhazardous. And the primary reason again why we're doing this removal action is so that there will be no institutional controls, no land use controls required. This property can be used for residential use when we're done. Thanks. Anybody have any questions?

MR. EDMOND: Then Kevin is going to give everybody -- the community group asked for kind of a description when we say we're putting in monitoring wells, what's a monitoring well. Like if you would drive on the Base, there's literally a hundred of these things around. It's how we sample the groundwater to see if there's any contaminants or what level contamination. Kevin Kilmartin works for Tetra Tech. He's a hydrogeologist and he's going to school you all on how and why we put in wells.

RAB 9-14-05

Kevin?

MR. KILMARTIN: Okay. All right. Again, this will just be a very short presentation. What you'll be hearing a little bit later this evening is that for some additional Site 1 and Site 3 work, the Navy is proposing the installation of some additional monitoring wells. And as Jim said, one of the comments we've heard in the past, well, what exactly is a monitoring well and how does it differ from any other well. So this is just a real short presentation to show you.

Basically, here you see our aquifer. I know we've talked in the past about the aquifer beneath us and that the bulk of the groundwater that we find occurs in these fractures or the breaks in the rock. So what we do simply first is drill a well. We drill an open bore hole in the rock. As it encounters these water-bearing fractures, of course, that open bore hole fills up with water. Now,

if this was a supply well either for your home or a Horsham Township supply well, odds are what you would do is just take all of this out and you would just have this open bore hole for your well because basically the more fractures that you encounter and that are open in that well, the higher yield of that well. And, of course, if it's a supply well, you want to be able to get as much water as you can out of it. But for environmental work, we're typically not so interested in yield as much as knowing exactly from where within the aquifer that water sample's coming from.

Through numerous talks in the past, we've talked about the quality of the shallow groundwater at a site versus the quality of the deeper groundwater. Now, if this was just a big open bore hole and water was flowing in from all different depths, any water sample we took here would basically just be an average of the water quality of all the

different fractures. So what we do is we retrofit that bore hole. By that I mean we build a well within the bore hole typically using PVC pipe. And what we'll do is we'll set a well screen, which is basically the slotted portion of the PVC pipe that lets the water enter the bore hole, pack it with filter sand around the pipe or the screen, and then put an impermeable seal above it. So the only place that water can enter this particular well is the water that's entering from that fracture right there. And what we often do even here at the Base is we'll install two different wells within a single bore hole by putting the impermeable seal in between the screens and then just repeating the process a little shallower.

So you can see here this is just one hole in the ground, that this pipe here will give us the water quality at that depth, this pipe here will give us the water quality from that depth

fracture. And so what we're doing again is not so much worrying about the yield or how much water we're pumping out but knowing exactly the quality of the water from the different depths at that specific point at the ground surface.

The second way that these wells really differ from your typical supply well is for a monitoring well we typically have no plumbing associated with it. There's no permanent pump inside the well, no transfer piping leading to any other place, you know, into a house or what have you. So when we periodically go out to grab our samples, we just bring a portable submersible pump and a generator.

And that in a nutshell really is how our monitoring wells differ from your typical supply well.

MR. EDMOND: Any questions for Kevin?

RAB MEMBER: How big is that bore hole you're talking about?

RAB 9-14-05

MR. KILMARTIN: The typical ones -- well, they can be any size based on your needs. The typical ones that we install here at the Base, the open bore hole is about 8 inches in diameter and each of these pipes is 2 inches in diameter.

RAB MEMBER: Jack Lebeau. What is it that you want to be analyzing for around here? Is it something specific to the area to the Willow Grove Base zone or is it a general thing?

MR. KILMARTIN: Well, typically at the start of your investigation it's a very broad range of chemicals or anolytes. And then as you learn more and more specifically about that particular site you're investigating, you sort of zero in on a certain set of chemicals. For example, at Site 5, which we just heard about, our main concern are what we call the VOCs or the volatile organic compounds, but that's a very site-specific, you know, analysis. If

you go to another site on the Base, maybe metals are a concern. So a sample there would be analyzed for metals and maybe VOCs also.

MR. EDMOND: When we did the original what they call the site assessment, they put in the wells, like Kevin said, we would look across the spectrum for anything. And then once we found certain levels, we would narrow that down and then do more testing to figure out exactly what the level of contamination was for those chemicals and were they from us or were they from another source. Some of the things we find are naturally occurring in the soil and water and other things are prevalent throughout the entire region. TCE and PCE is just prevalent. Horsham Water and Sewer Authority strips their water for TCE and PCE. The Navy Air Station strips their water for TCE and PCE. It's prevalent throughout the Montgomery-Bucks County area if that helps with your

question.

RAB MEMBER: Thank you.

MR. EDMOND: Any other questions for Kevin?

Thanks, Kevin.

I guess we'll move on to Site 3, Russ.

MR. TURNER: That should be me.

MR. EDMOND: Russ Turner is also from Tetra Tech. He's the program manager for us at Willow Grove.

MR. TURNER: Okay. We wanted to talk about Site 3. Of the four sites that we've been investigating for ten years, over the last ten years and making regular presentations at the RAB, Site 3 has been the one site that's lagged for a number of reasons. Now the Navy for a variety of reasons, funding for one and interest in the site, is reactivating the investigations here. So the Navy has asked us to do some additional investigations there and we want to explain what those are tonight. But

first since we really haven't talked about Site 3 much in the RAB, we want to give a little history of the site itself, what went on at the site, what the compounds of concern are at the site, where its location is, and a little bit about what's around the site. So those are my objectives for tonight. And still it won't be a long time.

The 9th Street landfill, this is a historical -- Jeff, do you remember the date of this photograph?

MR. DALE: 1978.

MR. TURNER: 1978, okay. So this landfill operation and the other things that occurred there occurred between 1960 to 1967. So it had already been shut down for 11 years at that point. And just to give you the overview here, one of the other sites, the antenna field landfill, was the predecessor of this landfill, which shut down in 1960 approximately. Things other than typical landfilling operations occurred here, but

let me tell you what occurred. Municipal waste was disposed here, some industrial type wastes from activities at the Air Station were disposed here. So what did that include? Sometimes reportedly paint wastes, solvent wastes, asbestos metal scrap, sewage sludge, as well as a lot of probably much more municipal type waste, the household waste that you typically would see in most landfills. The kind of operations that occurred here historically were trenching, interment of wastes, burning of wastes, and then covering of the landfill with soil.

After that operation ended, in addition to that, then a salvage yard was operated on the surface of the then inactive landfill. We don't really know how long, but we know that occurred. And salvaging things, empty drums, PBC transformers reportedly, just things that have no other place to go ended up there before it was either disposed of or sold off as excess, discarded equipment.

Now, there was a remedial investigation performed at the site that started in the late '80S actually, but phase 1 RI occurred in 1993. There were some data gaps. When I say RI, I mean remedial investigation where the Navy was sinking those kind of wells that Kevin was talking about, performing surface soil, subsurface soil sampling and analysis as well as sediment and any surface water sampling and analysis.

Are we okay there so far? Okay. One thing I didn't stress very well is this is Horsham Road, so this would be the golf course, the Commonwealth Golf Course, this sort of large area over here. And something I want to point out while I'm on this slide is that there are wells, these would be downgradient wells -- in other words, groundwater flows to the northwest, which is about like that more or less. There are wells here, here, and here. There's a, quote, background well up here,

background meaning upgradient well up here to see what the conditions of the groundwater are before entering the zone of the site. There are background wells here as well also.

MR. EDMOND: Russ, if I may, the three wells Russ was talking about along the perimeter to the golf course, we call them sentinel wells -- sentry wells because what we do, those wells are tested to make sure nothing is getting into the public. We know which way the groundwater's rolling. We know where our fence lines are. They're right adjacent to our fence line so we can assure the community that nothing is going past our fence line if anything's out there at all.

MR. TURNER: And then just in conclusion of that historical part, the information that was gathered in that remedial investigation field activities was reported out in a remedial investigation report that was finalized

in April 1998. And there were informal comments from EPA and some of which have been acted on since then, but that RI report was never finalized. So what the Navy has assigned us to do now is to prepare for a new remedial investigation. As part of the previous remedial investigation, human health risk assessment was performed, but we'll be redoing that now since a number of years have passed. And we'll tell you in a second about the new data we'll be collecting. So new data, new human health risk assessment and all new remedial investigation report will be submitted to be current with the current standards.

Now, specifically about the field work that's required for the new remedial investigation report, the preliminary report noted that the downgradient well as well as the upgradient well had approximately the same concentrations of perchloroethylene,

the solvent we just talked about a few minutes ago, common degreasing type solvent used in vehicle maintenance, for instance. As a result of an informal EPA comment or request, the Navy installed a series of those nested wells that Kevin just described, two wells, at an oil-water separator located at the corner of the Army Reserve hangar. So if you're driving along Horsham Road, you see the Army Reserve center with the big airplane here currently.

MR. EDMOND: P3.

MR. TURNER: Big airplane. I mean P3. And there's also the large FAA radar turning. That's the vicinity where you're looking. The other corner of that building was an oil-water separator, which is a process tank system essentially for separating oil and water resulting from activities in the hangar. So we postulated at this point earlier that the oil-water separator was the source because typically, you know, if

they're doing maintenance, there could be leaks, and we did find PCE in that well. Unfortunately, we didn't have any well further upgradient to say the source isn't further upgradient. So now all we have are wells with PCE in it and so we need to find a well that has no PCE in it so we can say the source is the oil-water separator or the source is somewhere else. There's an Army maintenance facility here, vehicle storage facility here. Unfortunately, they could also possibly be the source. Now, the other thing is there's also Site 5 that we talked about a few minutes ago also over here.

So we propose to put in a series of wells here, two wells really, to try to determine if the source could possibly be further upgradient. And depending on the results, we'll be doing additional work. What we'll try to do is identify the, quote, source area for the PCE. If there is PCE in this well here,

it implies that the, quote, source area, historical disposal area, would be further upgradient, which would be somewhere in here, in which case we would put soil borings to identify if there's a soil to groundwater connection and a source of PCE to get into the groundwater flow. If this well cluster is clean, no PCE, no solvents, no VOCs let's say, then we're back to our expectation that this Army hangar was the source because there's nothing in the middle. There's just concrete runway in the middle, in which case, clean. We would put that same series of soil borings and do the investigation back at the Army hangar where there's a trench drain, you know, the door opening, trench drain along the whole thing, which actually goes to the oil-water separator. And historically I remember seeing a drain out back. So we watch for those things too, you know. We don't want to ignore that. So there will be a series of soil borings put in there.

RAB 9-14-05

Ed, that's basically it for this presentation. Is that about right?

MR. BOYLE: Yes.

MR. TURNER: That's about it. Any questions?

MR. EDMOND: You want to show them the three wells you put in for the new wells this summer that are there?

MR. TURNER: Right. Remember the Site 5, the former fire training area, which is located maybe centered about here more or less. We had similar questions there, but the question was actually the reverse, how far downgradient can the contamination plume be going. We had existing wells. They don't show on this map, but I don't have a map to show them. We had existing wells as far as here. We had existing wells up along the flight line here, I guess one about here, but they didn't define the downgradient extent of the plume. And so this summer, one month ago -- actually, the analytical results

came in today for part of that work -- we put in one well here -- two wells here, a nested pair of wells here, one well here, coincidentally right by the Army maintenance facility, truck maintenance facility, and we put another well up here. And Kevin would have to tell you about the strike and the dip of the rock and the reasoning for putting them in there, but it's technically a little bit over my head to try to explain it anyway.

Does that cover what you were --

MR. EDMOND: Thanks, Russ.

MR. TURNER: I'm done unless anybody has some questions.

RAB MEMBER: I actually have some questions.

John, do you want to go ahead?

RAB MEMBER: All right. I was just wondering what the time table for these different wells is. In other words, we're not going to play hop, skip, and jump here and just keep jumping back

and forth. I mean, we must have an agenda that would show some results. In other words, you get an agenda that's more forward looking. I can't see where we're forward looking on this.

MR. TURNER: Okay. Let me see if I understand the question. The question is why after all these years these wells or are these all the wells we'll need? Are those parts of the question you're asking? Are we trying to think forward in placing them?

RAB MEMBER: Yeah. It appears to me that most of this stuff is gone over and over and over and over, we're just going back and forth and back and forth.

MR. EDMOND: John, let me try and explain to you. We put these wells in, these two wells here. We found contamination. This was an outfall here with distressed vegetation and we didn't know if it was emanating from the 9th Street landfill, so we put these two in.

Those two showed contamination. This is the oil-water separator here. So now these wells were put in to find out what was the outer edge of the contamination coming from 5. What this is supposed to do is try and give us an idea if the source from here may be coming from this direction and it really isn't the 9th Street landfill and it really isn't the hangar. So it isn't a hop, skip, and jump as much as a checker game. If you move here and if you find something, then you know you've got to go in a different direction. If this is clean, then we know, well, we need to move this way. It's kind of like a detective game. You're trying to cut out your suspects. See, here you got a lot of suspects. You have a landfill. You have an aircraft hangar. You have a vehicle maintenance, vehicle storage. And then you have Site 5. So you have a lot of things happening in a small area. You can't clean up the whole site because it's just not

practical for you as a taxpayer for us to say, okay, we'll throw $15 million here and clean everything up. It's just not good fiscal responsibility. So it's better to kind of like put your wells in where you think things are, define your area you're going to clean up, and just strike on that area. And that's what we're trying to do. That's the agenda. This well is because everything -- the water is moving in this direction. So we're putting a well here to see if maybe the contamination is less than here. Then we'll know, well, it isn't from here. If the contamination is more than it is here, then we'll go back and say, okay, this is probably the area of source. And that's why we're doing it in that way.

MR. TURNER: You know what, there's another part to that. The question came from the RAB the last time how much does it cost to put a monitoring well in. And I don't know if we have an

average number. It varies so much according to the materials, the rock you're boring into, but it's many thousands of dollars, maybe $30,000, maybe 20, depending. An easy well is less. So you can't just make Swiss cheese -- you can but our budgets generally don't allow us to make Swiss cheese. The other thing that happened at Site 3 is we had budget constraints and it was considered a lower priority. And that's why it's been sitting -- less activity investigating Site 3 over the past few years and concentrating on Site 5 because it's close to the Horsham Township well. The RAB agreed if you have a limited budget, that's what you want to concentrate on.

MR. EDMOND: Right.

MR. TURNER: So what Jim said plus each well the capital cost is high, we put them in in phases.

MR. EDMOND: Then once you put these wells in, eventually once the site

gets cleaned up, you have to close them all out. You have to cap them and take them away. I mean, you can't just leave these pipes that are sticking out of the ground this high for eternity. The State will say if you're not using it, you have to close it. So that's more money. So instead of just putting a whole bunch of wells in and doing it that way, with the limited amount of money we get to do this kind of stuff, it's kind of like a detective. You're trying to take your best shot at where you think it is, put your well in and see if it agrees with your assumptions. And then from what you learn from that well, if you need to, you look at all the data and figure out where you're going to put the next well.

RAB MEMBER: Well, Jim, I don't want to hurt your feelings, but I don't think we're getting anywhere.

MR. EDMOND: It's a slow process, John.

RAB MEMBER: But the taxpayers

aren't going to stand for it forever.

RAB MEMBER: If the taxpayers -- if Congress -- it's not the taxpayers. If Congress said here, Willow Grove, here's 50 million bucks, go out and figure out all your ills, we could do that, but they're not giving us 50. They may give us 2 million this year. So you're kind of like trying to do the best you can with a limited budget. Because Willow Grove has no ecological risk, ATSDR, the Agency for Toxic Substances and Disease Registry, which is part of the CDC, the communicable disease center, part of the United States government, came out and looked at the Base, looked at all our contamination, our sites, they looked at the flora, the fauna, what we do, the human imprint on our property, and they said you present no risk to human health or to the ecological balance of the area. So the Navy says, well, if you're not high risk, you're down at the lower end of the food chain when it comes

to money. Their money has to go to strike where there is a risk to human health or to the ecosystem. So it's a two-edged sword. Because we're not that polluted, we don't get that much money. If we had much more problems, they'd be throwing a lot of money at us. But because our problems -- I mean, to us they're significant, but in the big scheme of things in the big Navy and the United States, our problems are very minute in comparison.

RAB MEMBER: Jim, if I could just add, one thing to remember, John, is they mentioned right along the country club property boundary they put in wells, sentinel wells, which would check what's the quality of the groundwater leaving the site, and those wells show that there is no impact leaving the site. Therefore, this particular site, Site 3, was given a lower priority. And what they're doing I think is a very prudent investigation where they're doing it

stepwise going back to try to find that as opposed to, as Jim was explaining, sticking a whole lot of wells and knowing you have to install, eventually you have to clean, but you have to spend a lot of money to monitor and sample every three to six months. So it's a step phase. I think the pace of the investigation may seem frustrating to you, but it's probably commensurate with the amount of risk that this particular area poses to the environment and to the human population around.

MR. EDMOND: I mean, funding on things like this, John, and to everybody here is based on risk assessment. And our risk assessment is low. So it's kind of like a mission. If you're flying an operational mission, you know, if it's one tank you're going after, you might send two planes. If it's a regiment of tanks, a battalion of tanks, you're going to send a whole lot of planes. That's kind of a military analogy for this. We

don't have a lot of risk so the Navy's not -- there's only so much money that gets put into the budget. This money is controlled by Congress. Congress says, Navy, this is your part of the pie. And then big Navy divides that pie up amongst all its bases worldwide to clean up. This money is controlled by Congress. It's not controlled by the Navy. I mean, they're not saying we're only going to spend, you know, $50 million on cleanup and a hundred million dollars on airplanes. This money comes from Congress just for cleanup. That's it. And the Navy only gets one chunk of that pie. The Air Force gets a chunk. The Army gets a chunk. DOA gets a chunk. Department of Energy gets a chunk. So, I mean, the pie is not that big. We're getting a sliver and somebody else is getting a bigger piece, but they have bigger problems.

RAB MEMBER: Speaking of the pie, what about the bottom line? When

you finally do plot your contamination zone, are you considering something like bioremediation? It doesn't sound like this is a big emergency at all. It sounds like this is something you can sort of play with for a bit and get rid of in a gradual way perhaps.

MR. TURNER: I think I understand the question. Essentially, what happens is there's an EPA-moderated process, site discovery, remedial investigation, feasibility study, what kind of technologies can be used, what kind of remediation would be effective, so you've jumped into that. At this point for 9th Street landfill, it's not the source -- it's not the sole source of the PCE in the groundwater. And so 9th Street landfill is a Superfund site so it's governed by law and the Navy has agreements with EPA how to proceed. So anything we find will be outside -- likely anything we find here it can't be influenced by the site. But let me get

back to your question. What kind of technologies would be considered? For that reason, the concentrations are so low, they're above MCLs, the maximum contamination limits permissible for drinking water for PCE; however, technology doesn't give you much to work with at that level except just to maintain monitoring, make sure that it's not impacting human health, water resources people are drinking. I think that would almost certainly be the most you could do with it.

MR. EDMOND: And if I could add, Russ, what we'll do when we get to the remediation phase is do a feasibility study. And the feasibility study will be presented in its draft form. After we, the military, and EPA and PADEP review it, it will have alternatives and you folks will get a chance to have your opinion on what alternative we should use. I mean, it's not a binding opinion. Don't get me wrong. But it's like Site

5. The community said Site 5, maybe that's the site we want you to work on first and that's what we did. We tried to the best of our ability to do what the community wants, but sometimes the constraints of what the community members want and what funding is don't always match. But you guys will get a shot at choosing the remediation process once we get there.

MR. TURNER: And let me finish. There's another important part that will be included in the feasibility study and it's what we're searching for now. It's if there's a source of contamination at a level that's causing this diffuse -- that's sufficiently high -- if there is a source of PCE at a level sufficiently high to remediate, then that has to be brought into the feasibility study; hence we have to look for it. Until we've found the source, we have to look for it. There may not be a source. It may be there could be an old leach field, not

uncommon. When this facility was built, it was built with a sanitary sewer system. It was an up-to-date system back in the '50s. So it discharged through pipes to a wastewater treatment plant. However, it's not uncommon for people working in facilities like that they may have dumped things in the back, they may have had a hidden disposal. It's possible. The point is we're looking for that potential of that hidden source that's causing this diffuse groundwater contamination. If we find a source that can be dug up, there are other technologies, bioremediation, for instance.

MR. EDMOND: Site 5, we're removing that soil because we know that's the source of the contamination. So we'll remove the soil, get rid of the source. Just biodegradation, the PCE and TCE will start going down, natural attenuation.

RAB MEMBER: Question partly

about Site 3 and then also kind of getting to the new wells on Site 5, which might be a little unfair since you just got the data back.

MR. TURNER: No problem. We have Kevin here for the hard ones.

RAB MEMBER: You're talking about PCE and you were talking about bioremediation. And the process would be dechlorination of that compound PCE to TCE to vinylchloride and finally ethene. You're seeing PCE in the wells around the 9th Street landfill. Are you seeing any of the degradation products?

MR. TURNER: Not really, no, we haven't really.

RAB MEMBER: So the bugs seem -- have you done any monitored natural attenuation parameters?

MR. TURNER: No, at Site 3 we have not.

RAB MEMBER: And the new wells in Site 5, have you looked at like bottled fatty acids, natural attenuation

parameters?

MR. TURNER: I want to answer the same question for Site 5. In 1991 we started looking for -- well, in response to your comment here at the RAB, there was an FS submitted at that time. It had considered bioremediation, but the RAB didn't feel it gave it -- bioremediation as well as chemical oxidation, those kind of technologies. The FS had considered these technologies. The RAB felt that they were given short shrift and the Navy opened back up and we reevaluated the FS based on that. At that time we did a round of monitoring well samples for monitored natural attenuation parameters, the kind of indicator parameters in the soil, in the rock, in the groundwater you can use to give you an indication whether biological alternatives are going to be usable in that type of geology unit.

Okay. Now, back to your question I think was the new wells that we just installed, we installed five new

wells and we sampled all five for monitored natural attenuation parameters, the same ones we did in the earlier round in 1991 or 2, whenever it was. In addition to that, we did a complete round of groundwater samples at Site 5.

RAB MEMBER: Are there products in Site 5? As I recall, there was, but there was no buildup of VC so the --

MR. TURNER: I don't remember seeing VC, maybe a little bit in one or two wells, being vinylchloride, the penultimate step to final degradation of these compounds.

RAB MEMBER: Do you know offhand for enhancing you're going to put in there emulsified soil, HRCs, lactate?

MR. TURNER: Both, all of those, yes. Our engineer, we have a guy who has had some experience doing these jobs, and it's either a couple of chemical oxidants and maybe three or four biological agents. And there's two ways of doing the biological remediation. One

is just putting in nutrients and if that works, great. Another one is you might have to add bugs, you know. And they have to be -- there have to be check points as you go along.

RAB MEMBER: I would just say if you're not getting vinylchloride, your bugs are there already, you don't need to add anything, just get an alternative carbon source.

MR. TURNER: I think that's probably right.

RAB MEMBER: Any idea when that will be happening? The soil removal's October.

MR. TURNER: The FS is going to await the resampling of the wells. So first resampling was done last month. Analytical results started arriving today. We'll have a report of that in about 50 days. And then from there we'll start up on the FS again.

RAB MEMBER: Thank you.

MR. TURNER: Anyone have any

pot shots or any tough ones?

RAB MEMBER: I need a little information from Jim down there.

MR. EDMOND: Yes, sir.

RAB MEMBER: Correct me if I'm wrong. How many of these RABs are there around the country?

MR. EDMOND: Every Base that has an NPL list, what they consider DOD Superfund, is mandated to have a RAB.

RAB MEMBER: You have access to that pamphlet? I know I had one at one time.

MR. EDMOND: I can give you one of these, which is a book describing the entire --

RAB MEMBER: That's what I'm looking for.

MR. EDMOND: That's yours.

And it will show you what our piece of the pie is. If anyone else wants one of these books, we have two left, but I can get more. It's great reading.

RAB MEMBER: My question was, has any of those in this book been wiped out?

MR. EDMOND: Yes, sir. You'll go through here and you'll see cost to complete, it's finished. Here's NASJRB Willow Grove. This is what we were funded to date, 6,867,000. And they think it will take another 6,235,000 to complete it.

RAB MEMBER: Your boys down in Washington will fess that up.

MR. EDMOND: This is Willow Grove Air Station here. It shows you a little writeup about us. It's Philadelphia, Mechanicsburg. This is all the Pennsylvania sites. It's state by state. That will be good bedtime reading for you, John.

If that's it for Site 3, we'll move on to Site 1. Jeff Dale from EFA northeast, part of the NAVFAC community, part of the Navy, will give us a brief on Site 1. Site 1 if you all remember is

the Privet Road compound. It's the other side of the Base, the Easton Road side, right across the street from where I work as a matter of fact.

Jeff?

MR. DALE: Now, I'm mainly giving this to make the community aware that we're doing something because it's going to be very visible because the work is going to take place right along 611. Other than that, it's not going to be too exciting. As you know, our Privet Road compound Site 1 is up here and, like all the other places, waste was stored and burned and buried and some shipped off-site. And the Base supply wells are here and these were both contaminated with chlorinated solvents just like the other sites. And through our investigation of the supply wells, we've determined that the contamination in these wells occurs at depth mostly 2 to 3 hundred feet or more deep. And the geology suggests that there's a source

somewhere below us here on the page contaminating our supply wells. And we said, hey, EPA, you know, it's not us. It's not our landfill. It's right next to our wells contaminating it. It's something else. And obviously we're not the first people that have tried to make this case to the EPA that it's not us. So to try to determine where the contamination is at depth, we're drilling a deeper well here to see if it's coming at depth in this direction and a shallower well in this area to see if it's coming from somewhere shallow down here. And we're hoping that the EPA would then evaluate who it could be off the Navy property. And this well is going to be further up here or in this area. We're working with utility clearances and things like that. And this well will be just after the parking lot for the main gate. There's a grassy area up here with some new fire hydrants. And this is in an open parking lot area

here. And we're just letting you know because you're going to drive by in a month or so and see a big drill rig there for a couple days and people working and calling Jim up and asking him why. The next presentation we'll have pictures of that going on and the results -- well, I doubt results of the sampling by then, but it depends when the next RAB is. Now you can pepper me with 20 minutes of hard questions.

RAB MEMBER: Where on 611 -- where's that bottom well?

MR. DALE: This is the main gate.

RAB MEMBER: I want to find out because I grew up on the other side of C&C Ford, so I want to make sure if it's coming from my house.

MR. EDMOND: The well by the bottom there is right by the O'Brien club.

RAB MEMBER: That's good. It's not because of me. That's Kellet

Aircraft. And where's --

MR. DALE: Kellet Aircraft is somewhere up here and there's a couple other businesses in that area.

RAB MEMBER: The Ford agency is further down.

MR. DALE: About here, I guess.

RAB MEMBER: Because there's really nothing except for what there? Where's Hankin's house at?

MR. EDMOND: Right there at the bottom.

RAB MEMBER: But I'm saying there's nothing between there and --

MR. EDMOND: We don't know. That's why again it's like being a detective. That's why we're putting those two wells in to figure it out because we know -- we're fairly certain that it's not emanating on Navy property.

RAB MEMBER: But I'm saying I grew up there and it's not because of me either.

MR. EDMOND: But, I mean, we

have done testing. There's a PA site, a gas station. They had underground leaking storage tanks. And we put some wells at the community's request around Tinius Olsen. They were nervous Tinius Olsen was the source of our pollution. When we put in the wells around Tinius Olsen, we found there was MBTE in our wells and that only comes from unleaded gasoline. So that told PADEP that they had a problem with the gas station across the street. So, see, these wells not only serve the purpose of helping the Navy, but it also helps the community figure out maybe it's not the Navy, it's somewhere else, and it leads the State in the right direction or EPA in the right direction.

MR. DALE: The way the Superfund law is written, you know, we're the Superfund site and we're pretty much guilty till proven innocent.

MR. EDMOND: And as all of you know, the government has the deepest

pockets. So we're guilty until we prove ourselves innocent more or less. And this is what we're trying to prove, our innocence on this matter.

RAB MEMBER: Obviously, you're putting them over here because of potential suspicion of somewhere else. Monitoring wells surveying the area of either municipal or private wells, have they indicated on the east side of Easton Road that there is any potential or other contamination detected in other wells off the Base?

MR. DALE: To my knowledge, PADEP and/or the EPA have done some work in that area and some sampling, but I haven't seen the results. But I know in one of our reports there's a Horsham well further down maybe by --

MR. EDMOND: Down by Moreland Road.

MR. DALE: Near the Lee's hoagie place maybe and that has some contamination in it. And I believe a

supply well out around County Line Road, which may be Warminster or Warrington, also has contamination, but it's the same two contaminants that were very common, degreasers and solvents.

RAB MEMBER: You have Geller and Holtz that used to be there.

MR. DALE: But we are trying to get all the old files from it to present to EPA and make a better case.

MS. FLIPSE: There are very few residential wells left along 611. One of the supervisors from my section went out last spring and tried to find them all and get samples. And I have most of the data in my office. And a lot of it is -- there's a groundwater divide up there, which USGS has kind of drawn a map, and most of the wells are on the wrong side of the groundwater divide to be really providing much useful information for here, but I do have some data from the other side of the road, yes.

RAB MEMBER: This is sort of

new to me. One problem I have listening to all this is why the heck do we have to dig a well for $30,000 to get information that sounds to me like you could punch a hole in the ground to hit some water and sample it? I mean, what's that, a couple hundred bucks?

RAB MEMBER: It's bedrock so it's not that easy to go down.

MR. TURNER: There's no direct push technology.

MR. EDMOND: Bedrock at the Base is anywhere from 6 to 18 feet.

MR. DALE: This well is going to be 350 feet deep and there's a capital cost of just drilling that well and constructing it. But before we construct it as a well, we partner with USGS to bring in equipment that can isolate the zones at depth so we can collect discrete samples from the fracture zones Kevin described and hopefully find the most contaminated zones and construct the well at that location. And that work is an

additional cost. So if our 350-foot well hits six or seven of these fractures zones, we're going to sample all six or seven, find the most contaminated one, construct the well there.

RAB MEMBER: So it really is a multi --

MR. TURNER: It's costly, but at least it's maximizing what you can gain from the expenditure.

MR. DALE: We may find six clean zones and know the contamination is confined in one area, and hopefully you can further pinpoint the source.

RAB MEMBER: That's a good answer. Thank you.

MR. EDMOND: Because our water wells are over 350 feet deep. This is our water we drink and use for fire protection. So you're getting water rushing in from all those fracture zones so you know the water's contaminated, but you don't know where the water's coming from. The way the hydrogeology is of

this area, it doesn't always run in the same direction. It can run this way at one level and this way at another level and deeper it runs in a third different direction. So it's really a complicated -- and as April was saying, USGS, there's what they call the Stockton formation, which cuts across the south end of the Base. The Stockton formation, everything to the north is one separate story and everything to the south is a different separate story.

MR. DALE: Jim, the whole Base is the Stockton sandstone. You're talking about a different kind of rock called diabase that cuts through and that forms a barrier to groundwater flow. That's why most of the residential wells are south of that and the groundwater's moving south and anything north of it in our area the groundwater's generally moving north.

MR. EDMOND: The hydrogeology is really complicated. That's why we

have guys like Kevin and Jeff and now Karen to try and figure that out for us.

RAB MEMBER: The other thing that you get out of a well cluster like this where it's different zones, packering off or isolating those zones is you can take the water level between the lower zone and the upper zone, determine whether the groundwater flow is going down or up. And that will also play how you deal with it and more where the contamination might go.

MR. DALE: Well, what we really want to do is spend money and show that the contamination is not the Navy and the Navy won't have to spend their money cleaning up somebody else's problem.

MR. EDMOND: We can turn it over to State.

MS. FLIPSE: Nobody gave us any money either. Just so you all know, the reason I haven't figured it out yet is because our budget's been very, very, very tight also.

RAB 9-14-05

RAB MEMBER: I have a question real quick. They built one of those -- I don't know, the water substation, the square buildings, Horsham park there.

MR. EDMOND: A pump house.

RAB MEMBER: A pump house. Can maybe test wells also do a double purpose?

MR. EDMOND: No, because there's a pump in the well.

MS. FLIPSE: It's an open bore hole.

MR. DALE: The way we do it is kindly ask the municipal authority to let us take the pump out of their well and then we would bring in the special rig that USGS has with these packers. I'll have pictures at the next RAB. Then we would isolate those zones and collect the samples and it would function as if we drilled six or seven wells.

RAB MEMBER: How much does that cost?

MR. DALE: Tens of thousands of

dollars.

RAB MEMBER: That's what I'm saying is --

MR. EDMOND: The problem is sometimes your municipal water doesn't want that well. You have to take that well out of service for two, three, four, five -- maybe a week and then you're minimizing the water that they have the capability of pushing to homes.

MS. FLIPSE: We haven't done it to the supply wells off-Base, but we did do that or USGS did it to the Navy supply wells where you could do one at a time and have water out of well 1 while well 2 had the pump pulled and the packers in it and everything. So it's possible to do it. It's difficult to convince a municipal supply company that they can do without one of their supply wells, especially since we've had a couple years lately where there's been a drought, you know. They don't want to be without that well.

RAB MEMBER: I understand. If you have an existing hole to see if you can use it because that part is here and here's the Base here and the problem child is here, so-called.

MS. FLIPSE: There may not even be a well specifically where your pump house is.

MR. TURNER: There's none we know of.

MR. EDMOND: It's fire protection too. A municipal water authority is worried if they have a major fire and their well is off-line, they're not going to have enough water to provide to the residents and to put out the fire. So there's a lot of --

MR. TURNER: You know what, Jim, there's no well in that category that the Navy would be looking for. There's just none.

MS. FLIPSE: They're not in the right place.

RAB MEMBER: But meanwhile this

gentleman's going to do all this well stuff and now -- my parents still live there. I don't. But once you find your findings and the government's safe now --

MR. DALE: The Navy.

MS. FLIPSE: The Navy is and then either EPA or the State, DEP, will try to find some funds to continue the investigation.

RAB MEMBER: But I'm a resident of an area. I sit here and say, look, this doesn't stop now; right?

MS. FLIPSE: Well, hopefully if the legislature and the Congress give some money to the environmental agencies who are charged with doing investigations where you just don't know who the responsible party is.

RAB MEMBER: Well, they could be gone.

MS. FLIPSE: Right. And the suspect here, which is long gone.

MR. EDMOND: But the thing is, just so you know, your water is clean

you're drinking from your tap. Anything that's happening is deep.

RAB MEMBER: I understand. I'm just trying to save money. My dad says I'm cheap. I'm trying to save you guys money.

MS. FLIPSE: We look for that.

MR. EDMOND: We look for that all the time.

MR. TURNER: We're all taxpayers too.

MS. FLIPSE: The wells may not be from what we understand of the geology up here -- USGS has done a lot of work. So from what we understand of the geology and even where people's residential wells are, they're on that side of 611. That might be useful, they may or may not, and they may or may not be deep enough and you may or may not actually have enough -- like a lot of people have a residential well and can't tell you how deep it is, if it's open hole or not. So if you go to their tap and turn it on and

sample the water, it doesn't tell you anything because you don't know where it's coming from.

MR. EDMOND: And just so you know, I mean, we're a team here. Besides the community, EPA, PADEP, USGS, we've all worked together. I mean, USGS has done so much geology and hydrogeology up here, we probably know this area better now than anybody that's known it in years. PADEP shares their information because PADEP does things that maybe are on 611 and have nothing to do with us, but they have information that we can use to pinpoint or to take things off. So it's a team effort. We're trying to use the taxpayers' dollars as best we can. We each have little pots and we're trying to pool our information and our data, so it's working pretty good.

RAB MEMBER: What's the legal limitation on placement of these wells? It's on the Base. I understand that. But it sounds to me if I was playing

checkers you might want to put one on the east side of York Road.

MR. EDMOND: You get into all kind of real estate issues, easements.

How long did it take us, Ed, to get one in the golf course?

MR. BOYLE: I wasn't part of that one, but it does take a while. You have to go out and get an easement and then real estate has to determine the value of the property and do an assessment.

MR. EDMOND: That's long and drawn out.

The golf course took us, Russ --

MR. TURNER: Just to sample, permission just to sample. And USGS logged the geology down the bore hole and it took months to get permission. And, in fact, last we heard they said they probably won't cooperate any further.

MR. DALE: We feel we can get enough information with the wells

installed in our property boundary, whether on one side of the road or the other. It won't affect our information. It's obviously easier to drill on our property because the first thing you have to do is get permission.

MR. EDMOND: And while we're drilling on the property, lawyers aren't involved. As soon as you go off, lawyers are involved. And everybody knows what that's like.

Any questions for Jeff? Okay. Well, that's about it. I just wanted to ask everyone is this meeting area all right or would you like to move it back to the Base?

RAB MEMBER: Back to the Base.

MR. EDMOND: John, I have to ask you, is the coffee all right?

RAB MEMBER: But the chairs aren't worth a crap. I keep moving around in the chair to get comfortable.

MR. EDMOND: Consensus? Here? The Base? Okay. We'll send out a

questionnaire and I'll pool the entire group. And whatever, eight on one side, nine on the other, the nine will win.

RAB MEMBER: What stops you from doing it every other?

MR. EDMOND: Nothing. We're trying to do what the community wants to do. We had problems with people getting on the Base because of security and their cars being searched. I mean, for people with stickers it's not hard to get on the Base. But for people without stickers, it can be a trying experience if you're not used to going through the gate and having people with guns look at you and things like that. Now, Rich Peffal, he doesn't mind. He shows his Montgomery County Police badge and he's in. But I'll send out a questionnaire.

Also, Sherri, when is the Cheap Trick concert?

MS. JONES: 2 October. We have a free concert for the community 2 October. The gates will open at

4:00 p.m. You can bring your lawn chairs, bring blankets. There is no assigned seating at all at the concert. It's an open air concert. There will be some food vendors on a very small scale, free limited parking. As you know, we don't have a whole lot of parking on the Base any longer. And more details will come out in the community. We sent it out to the Chamber just recently to get it out. But we want everybody to come. This is for the community for everyone to enjoy a nice concert. Hopefully, we'll have the beautiful weather back and it will be a great night.

Another one just so everybody knows, I'll take this opportunity, 15 October is our traditional annual Navy birthday ball. And this year we're holding it on the Base so we can invite the community members to participate in the ball. It's an evening wear event vent. It's a nice time to get out and get dressed up, but the ticket prices are

extremely low because this year we want to include as many people as we can.

MR. EDMOND: That's Sherri Jones. For people that don't know, she's our public affairs officer for the Air Station.

Well, without anything else, I had the next date for the meeting --

RAB MEMBER: Excuse me. I'm sorry. I don't want to be rude or anything, but it says member questions and comments. Why hasn't the BRAC word come up tonight?

MR. EDMOND: Because this is not a forum for that, for one, and, two, it's still out there.

RAB MEMBER: I understand that. Okay. Worst case scenario, what we talk about on all these wells and all this other stuff, worst case scenario the Base goes to Army Reserve centers and the Navy goes to McGuire, which I can't see where you're going to fit, what happens to your jobs?

MR. EDMOND: That's yet to be determined.

RAB MEMBER: Fair enough. I only asked the question because who takes possession -- you guys will still be here I'm sure; right?

MS. JONES: Yet to be determined.

MR. EDMOND: Yet to be determined. I mean, not to say the B word, but this is still in Congress and the president -- I mean, nothing is final so we're not taking any stand on whether we're here or gone. It's in higher authority's hands.

RAB MEMBER: So next month we'll know for sure.

MR. EDMOND: Looks that way.

RAB MEMBER: Ask fast Eddie. He knows.

MR. EDMOND: He may come to the next meeting. Who knows. We'll ask April. She knows.

I have it down for January, but

would we like to have it in December? December would be three months from now. January's four months. I didn't know how people feel with the holidays. Would you like to have it after the holidays or before the holidays?

RAB MEMBER: After.

MR. EDMOND: Then we'll hold the next meeting on the 18th of January. Tentatively, it will be here, but that's yet to be determined. I'll send out a questionnaire so we can make sure everybody gets their fair say. And with that, any other questions, comments? Oh, yes. The community has asked maybe if the Air Force and the Navy could go back at the next meeting, if not the next, the next following meeting after that, and go back over all the sites. I know the Navy had ten active sites, the Air Force had four or five, I think, and give an update on where those sites were.

MR. GILL: We have seven sites.

MR. EDMOND: And give an update

from the beginning to the end, more or less a history of the NPL of the IR program at Willow Grove.

RAB MEMBER: You don't have to be here for two hours doing this, but as a summary as a big picture because we have a lot more new people here and we started out with, whatever, 20 sites, five are closed out and done, some are halfway, you know, a couple -- whatever it is, just a nice big picture where we started nine glorious years ago.

MR. EDMOND: This started nine years ago. We started this maybe 15 years ago.

RAB MEMBER: If you want to go back 15 years, go ahead.

MR. EDMOND: We'll have a summary of the whole thing.

RAB MEMBER: That will be good for the community too. We can see a snapshot.

MR. EDMOND: What we're going to try to do, I've talked to Ed and Russ

about this, we've had fact sheets out, I think four fact sheets out since we started, but the last one was like 2000. So we're thinking of producing a new fact sheet up to date for 2005. So that way not only will it be available for the RAB, but we can put them out in the Chamber of Commerce for whoever wants an update on what we're doing. People who don't come to the meeting but have an interest, this will give an update on where we're at.

Well, see you after the first of the year. Have a great holiday.

(Whereupon the meeting adjourned at 7:20 p.m.)

- - -

CERTIFICATE

I HEREBY CERTIFY that the proceedings, evidence, and objections are contained fully and accurately in the stenographic notes taken by me on September 14, 2005, and that this is a true and correct transcript of same.

Kimberly A. Overwise
Certified Realtime Reporter
Notary Public

(The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or supervision of the certifying reporter.)

D

E

P

Q

R

S

T

Lawyer's Notes