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NAVAL STATION TREASURE ISLAND

ENVIRONMENTAL RESTORATION ADVISORY BOARD MEETING

TUESDAY, 19 OCTOBER 1999

7:00 P.M.

CASA DE LA VISTA

TREASURE ISLAND

MEETING NO. 60

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TRANSCRIPT OF PROCEEDINGS

REPORTED BY: STEPHEN BALBONI, CSR NO. 7139

TETRA TECH EM, INC.:
STACEY LUPTON
JERRY WICKHAM

GUTIERREZ-PALMENBERG, INC. (GPI)
BARRY ROBBINS
MARIA VILLAFUERTE

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ATTENDEES

U.S. NAVY:
JAMES B. SULLIVAN (BEC and Navy Co-Chair)
ERNIE GALANG (RPM)
DAVIS MANGOLD
MICHAEL BLOOM
WILSON DOCTOR

REGULATORY AGENCY:
CLAIRE BEST (DTSC)
DAVID RIST (DTSC)

COMMUNITY MEMBERS:
JAMES ALDRICH
CHRIS SHIRLEY
NATHAN BRENNAN (Alternate Community Co-Chair)
PAUL HEHN (Community Co-Chair)
HARLAN VAN WYE

SAN FRANCISCO MAYOR'S OFFICE:
ROBERT MAHONEY (TI Facilities Manager)
MARTHA WALTERS (SFRA)

CO-CHAIR SULLIVAN: I think we will go ahead and get started.

It looks like we have a few less people here tonight.

Well, welcome to our October Treasure Island Restoration Advisory Board meeting.

For those who are new to the meeting, we meet every third Tuesday of the month. We have been pretty much meeting every month of the year, although, I think, last year, we took off December for the first time. We will have to consider, depending on what is on the calendar for the RAB, whether we have a meeting in December. But we are scheduled to have our meeting next month.

Our agenda -- there is copies, if you haven't already received one -- there is copies, there should be additional copies of the agenda on the back table.

Is there any questions or comments concerning tonight's agenda?

(No response.)

CO-CHAIR SULLIVAN: Okay. We will proceed, then.

Our first item is public comment. We provide a time at the beginning of the meeting for members of the general public to make comments on the Treasure Island environmental program, so you don't have to sit through the whole meeting if you don't want to.

The floor is open at the beginning of each meeting for members of the public. But given the size of the group we have here, if members of the general public who aren't already RAB members wish to comment during the course of the meeting, you're free to do that, too.

But the floor is open if any members of the general public have any comments or questions.

(No response.)

CO-CHAIR SULLIVAN: Okay. Our next item is the City of San Francisco.

And I will turn the meeting over to Martha.

MS. WALTERS: I have no comments tonight.

CO-CHAIR SULLIVAN: Okay. Thank you.

CO-CHAIR HEHN: Can I ask a question on that?

MS. WALTERS: Sure.

CO-CHAIR HEHN: Do you have any update on what the status of the planning for the south waterfront is going to be at this point?

MS. WALTERS: I'm not sure. I will have to defer to Bob.

MR. MAHONEY: The question?

MS. WALTERS: The planning for the south waterfront area.

I'm not aware of anything right now.

CO-CHAIR HEHN: Until it is resolved, there is no time frame?

MR. MAHONEY: As far as -- what exactly on the south waterfront are we talking about?

CO-CHAIR HEHN: Well, has there been a plan

approved? Is there a time frame? Is there scheduling for when the activities are going to take place, any kind of redevelopment activity out there?

MR. MARINA: You mean in terms of the marina?

CO-CHAIR HEHN: That's correct.

MR. MAHONEY: No.

CO-CHAIR HEHN: No?

MR. MAHONEY: There is no negotiation.

There is an interim operator for the existing marina, but there is no plans of construction now.

I believe there is a presentation at tomorrow's TIDA board as to what they plan to do -- well, an interim, preliminary plan.

CO-CHAIR HEHN: Okay.

MR. VAN WYE: Let me just add, the preliminary plans on the agenda tomorrow, it's 1:00 at the meeting over there.

MS. WALTERS: The Development Authority.

MR. VAN WYE: The Development Authority, yes.

MR. MAHONEY: The presentation on the preliminary plan.

CO-CHAIR HEHN: Are you going to that, Harlan?

MR. VAN WYE: I tentatively plan to.

CO-CHAIR HEHN: Maybe you can report back to us, if you would, at the next meeting, if you make it over there.

MR. VAN WYE: If I don't make it over there, I will make it my business to find out.

CO-CHAIR HEHN: Okay. Great. Thanks.

MR. VAN WYE: I assure you, I will try to find out.

CO-CHAIR HEHN: Thank you.

MR. VAN WYE: By the way, the marina community has been very pleased with the way things have been developing in the first month and a half now of Almar's running the marina. The new harbor masters

are just terrific people, and the transition seems to be very smoothly.

I think we very much appreciate the people that occupy the marina and use it, very much appreciate the interim work that was done by the city staff. They took over in some very difficult conditions, and they treated us all with respect.

I think everybody made their way through this transition as well as possible. And we are still transitioning from a facility temporary, that's obviously temporary, and it's going to be torn down. It's going to be world class, totally, top of the line world class marina five years from now here at Treasure Island, because the site deserves it. So the marina community I think I can speak for, is very enthused about the way things are going.

CO-CHAIR SULLIVAN: Okay. Thank you.

Well, we will proceed then into the BRAC cleanup process.

I don't have any fancy slides tonight, but I

can discuss the project from the map, and then we can address specific questions or comments you might have.

Working from the agenda here, at Building 1133, which is located right here (indicating), we are just completing the site -- well, we completed the site restoration on a removal action for debris in soil.

We removed -- and we discussed this at last month's meeting while the work was still underway -- we removed up to four feet of soil in the area, predominantly along the west or seawall side of Building 1133.

We replaced that with four feet of new fill.

And then the city's leasing manager, the Stewart Company, is putting the fences and patios back up.

So we have prepared a -- I think Ernie and Jerry will have to help me out with this -- we prepared the draft action memorandum.

MR. WICKHAM: We prepared that October 1st,

the draft, removal site evaluation action memorandum. It came out for a time period for removal. That's still in draft stage right now.

CO-CHAIR SULLIVAN: So it's out for review?

MR. WICKHAM: That's right, yes.

CO-CHAIR SULLIVAN: And the comment due date on that is?

MR. WICKHAM: I don't know that we set a date for comments on that. It's for final --

CO-CHAIR SULLIVAN: Okay.

MR. WICKHAM: -- to go ahead with the final.

MR. GALANG: We will be working on 60 days from the start of the job.

MR. WICKHAM: Right. We have to do everything 60 days from the start.

CO-CHAIR SULLIVAN: Okay. Well, then, for those RAB members who received copies of the document, I think we need to have comments within 30 days of the issuance at the end of this month, end of October, and that will give us time enough to incorporate those

comments into a plan, action memorandum.

MR. WICKHAM: Okay.

CO-CHAIR SULLIVAN: Any questions or comments?

(No response.)

CO-CHAIR SULLIVAN: So all the technical subcommittee members got copies.

CO-CHAIR HEHN: Yes.

CO-CHAIR SULLIVAN: Okay. Building 1207-1209, which we had started earlier, which is located here (indicating).

We also completed or are just completing the site restoration project. It was a similar project in which we removed up to four feet of debris in the vicinity of Buildings 1207 and 1209.

And we had, in that project, we had previously prepared an action memorandum, and then we will be following that, the completion of the workup with a completion report.

And the due date for that is when, Ernie?

MR. GALANG: It's probably about 30 days from -- on Tuesday the 26th, there will be a site closeout with the project, so it will be two weeks after.

CO-CHAIR SULLIVAN: Okay. Next, this isn't out yet. I think it's, we will be putting it out in the next couple of days or early next week. The Navy is proposing a monitored natural attenuation at Building 1311-1313 site. This is the Navy's proposal. So it's going out to the agencies and the RAB technical subcommittee members.

Building 1311-1313 is located approximately here (indicating). And so this is an area where we had identified petroleum in the soil and the groundwater.

At the time, it was elevated above the screening level that we had agreed to for Site 12, of 1.4 parts per million total petroleum.

But since we have been monitoring that, the petroleum in the water has been, in the groundwater,

has been decreasing. And so we feel that it's decreasing on its own. We are proposing to continue to monitor that.

And so that proposal is, that draft proposal will be going out from the Navy to the agencies and to the RAB technical subcommittee within the next week.

MR. GALANG: Today.

CO-CHAIR SULLIVAN: Oh. It's already signed out. Okay.

MS. WALTERS: It's right here (indicating).

CO-CHAIR SULLIVAN: Great. Thank you.

CO-CHAIR HEHN: A very quick question on that.

On the monitored natural attenuation process, how many months or how many sampling events is that trend based on? Essentially, how long has it been getting decreasing trends that you are basing the natural attenuation on?

Essentially, when you are establishing you go for that monitored natural attenuation, you're

saying that you're seeing a decrease in the trend, in the total hydrocarbon concentration in the groundwater.

How many events have we seen that decrease occurs, one event, three events a year, two years?

MS. WALTERS: I think it's been since 1995.

MR. WICKHAM: There are different chronologies for the different wells, and they all were to start at the same period of time.

And so there are some wells, there is a well to the north bay. We have probably data since about 1995 or 1996.

I think that's correct, Martha.

MS. WALTERS: Right.

MR. WICKHAM: We have some other wells further to the south we installed more recently, so we don't have that kind of history.

The last well that we installed, actually, we installed this year. That was more to fill in the data gap to provide information, to make adjustments.

We don't have the concentrations near the shoreline that exceed our screening level.

It's not only based on just a trend. It's also based on the configuration of a plume, and based on what we have seen at other sites, too, where we have more of a, we probably have a little better history of attenuation.

So it's more, we are taking the consideration, all the information across the island where we have seen similar situations and similar concentrations, where we have more of a complete picture of decrease in TPH over time.

So we do have some data at this time, but it's not as extensive as we are going to get over a period of time.

So it's also based on our modeling, too. We have the fate transport modeling as well.

CO-CHAIR HEHN: Okay. And the data that the monitored natural attenuation is based upon, the program is based upon, is laid out in the report we

got today?

MR. WICKHAM: I'm sorry?

CO-CHAIR HEHN: The basic data that that program is going to be based upon is laid out in the report, as far as the monitoring data, et cetera, the results of that?

MR. WICKHAM: The document basically is a summary of the situation that currently exists.

And then we described, in general, the parameters that would be monitored. But the groundwater monitoring occurring over long term will be discussed in a groundwater monitoring, more comprehensive groundwater monitoring plan.

CO-CHAIR HEHN: I guess maybe that I will have to review it and get comments based on that and see how that fits.

One thing I wanted to make sure that we were looking at was, we weren't just looking at this based on, say, the last two quarters of sampling data or something, because if we go into a fall pattern, we

have all our groundwater elevations as we have seen in a lot of other sites.

And it gets higher in the spring, and then more groundwater in the aquifer.

So I wanted to make sure that we were getting a fairly broad basis of information, if you were going to be basing that program upon, rather than some short sampling interval; is that correct?

MR. WICKHAM: That's correct. It's not that we have concentrations. We can look at a configuration plume.

It's not that we have detected concentrations exceeding the screening levels. It's more inland. You could make a case there is going to be a significant natural attenuation occurring between the source and the shoreline here.

CO-CHAIR HEHN: How far is it from the shoreline?

MR. WICKHAM: Let's see. From the source area itself, it's probably, we have the nearest, the

wells that we installed recently were 23 and 24. They are probably about, well, 24 is probably, it did exceed 1.4 milligrams per liter, and that's probably a little over 58, about 60 feet from the shoreline, something like that.

CO-CHAIR HEHN: Has there been a compliance point established for where we are going to have to comply with whatever groundwater criteria or groundwater cleanup goal is going to be used for this?

MR. WICKHAM: More precise, well, the one site in the issues resolution that occurred in November of 1998, Site 12 was discussed and the agreement at that meeting was to use the wells nearest the shoreline as the point of compliance.

CO-CHAIR HEHN: Okay. Is that also laid out in the plan, the monitoring plan, the natural attenuation monitoring plan?

MR. WICKHAM: Yes.

CO-CHAIR HEHN: All right. Good. Thank you.

CO-CHAIR SULLIVAN: Any other questions on the 1311-1313?

(No response.)

CO-CHAIR SULLIVAN: Our next upcoming field event is in the Mariner Drive area.

I think the RAB technical committee and the regulators have all received the draft field sampling plan on that.

Originally, we were going to be out in the field this week, but we rescheduled that to the week of the 1st of November.

So we are in the process of incorporating the comments in the draft field sampling, or on the draft plan, and then we will be finalizing the plan and preparing to go out to the field the week of the 1st.

Any comments or questions on that field sampling plan?

CO-CHAIR HEHN: Where is it?

CO-CHAIR SULLIVAN: It's located right here,

right about where the first "A" is (indicating).

And the sampling locations are laid out in the field sampling plan.

MR. WICKHAM: And, Jim, we are still accepting comments on that.

We will finalize that one next week. So we could still have comments up until, through the end of this week.

CO-CHAIR SULLIVAN: Yes. That sounds good.

We definitely need to get any comments in by the end of this week. We have to finalize the plan next week if we are going to go out in the field the first week in November.

Okay. And future work plan, we are looking at additional areas in Site 12 to investigate potential debris areas, and we will be putting together site specific field sampling plans for each one of those areas.

So there will be another batch of plans that will be coming out probably, I have it scheduled now,

in November.

But every field event will have a site specific field sampling plan.

Now, in addition to that, in parallel with that, we are also developing this generic field sampling plan. Maybe it would be more appropriately called a field sampling guide. It has two components: One is a pilot study that we are doing in the, tentatively proposed in the Building 1231 and 1233 area. We are going to be boring or auguring.

The draft plan will come out within the next week if not the end of this week. More likely, the beginning of next week.

The pilot study will look at different configurations of auguring and boring sampling, and then based on the results of that, we will develop the guideline for the future borings.

CO-CHAIR HEHN: Is that the document you handed out?

CO-CHAIR SULLIVAN: Yes. That was the

original document.

CO-CHAIR HEHN: Has it been streamlined?

CO-CHAIR SULLIVAN: Yes.

And for those of you on the technical subcommittee that reviewed this, it was actually a combination of the generic field sampling plan and the pilot study. The pilot study was kind of mixed in amongst the general plan.

So the comments we got on this was to separate out the two documents. So we separated out the pilot study, and that's the document we will be issuing next.

And we will follow that with the stand alone generic field sampling plan.

But the next thing you will see is the pilot study. We expect to go out into the field for the pilot study in November, also.

The goal is to, well, is to complete the pilot study, use its data to complete the generic field sampling plan, and then use that generic plan as

the basis for completing all of the remaining site specific field sampling plans.

So all of that will be happening in November and December, which probably means we can't take December off.

And then we have tentatively scheduled the field work to start the first of the year, the additional field work.

CO-CHAIR HEHN: The additional field work at the other site?

CO-CHAIR SULLIVAN: At the other sites.

CO-CHAIR HEHN: Okay.

Will there be some sort of report back then on the results of the pilot study? How is that going to be reported back?

CO-CHAIR SULLIVAN: Well, we will report it back in a tech memo or tech letter format, and then it will be those results that are used to finalize the sampling protocol.

CO-CHAIR HEHN: Okay.

CO-CHAIR SULLIVAN: But if we do the pilot study in early November, then we will have to date it back two weeks or so later.

So we may have, maybe not by the November RAB meeting, but the latter part of November.

Certainly, we will have it by the interim RAB meeting in December.

Any other questions or comments?

(No response.)

CO-CHAIR SULLIVAN: And at this point, well, in terms of the Zone 4 FOSL, we are looking at doing a FOSL of the area in the Building 1311-1313 area, so I don't have a firm schedule on that.

But it would be for three buildings at this location here (indicating). We are working with the city, and our goal is to have it done by the first of the year, which means that we have to get a draft out within the next, within the next month, if not, probably in the early part of November.

But this would be based, we would be doing

that finding of suitability to lease based on the fact that the only issue at that site is petroleum, and then we will proceed.

And even if we did have to remediate for the petroleum, it would not -- well, we don't feel it would impact the use of the buildings. So all of that will be, you know, evaluated in the draft FOSL, which you will have a chance to review and comment on.

CO-CHAIR HEHN: And that all assumes that the monitoring natural attenuation plan is going to be accepted.

CO-CHAIR SULLIVAN: Actually, it doesn't. It's really independent.

We feel we will make the case in the draft FOSL. Whether we monitor or whether we eventually have to install a groundwater treatment system, it would not affect the usability of those buildings.

CO-CHAIR HEHN: But at this point, there is no consideration for having to do any further excavation in that area?

CO-CHAIR SULLIVAN: No.

Based on our, as some of you know, we were originally planning to do a soil excavation at 1311-1313.

But when we got out to the field to do the planning and did more delineation sampling, we found that the petroleum was over a wider area, and, actually, concentrated at a deeper depth.

And so we realized that excavation was not going to be very practical.

So then our attention turned to an in-ground treatment system. Then we were proceeding ahead with that, when we looked at the groundwater results and we discussed it in a couple of project team meetings.

And so the Navy is proposing monitoring natural attenuation. Of course, this is a Navy proposal. It will have to go through the appropriate regulatory review.

But regardless of whether or not we have to go back in there to do a treatment system, we still

feel that we could go ahead with the FOSL.

And at this point, that's the only scheduled FOSL we have for that area.

Actually, the only scheduled FOSL, I think, we have anywhere is the FOSLs in the nonresidential areas that are basically completed, except for any future updating that might need to occur.

So we still have a couple of un-FOSL'd areas in the Site 12 housing area that we have yet to schedule a FOSL for.

Other areas. We just completed the field work yesterday for a sampling of a former storage yard area, which is located approximately here (indicating). This is an area -- and the RAB also received the draft field sampling plan for that also. This is an area where all we knew was, from aerial photographs, that there had been a storage yard present prior to the construction of the housing.

We didn't know anything about what was stored in the yard, if it was liquid or solid. We

felt the appropriate thing to do was to sample the area and to ensure that there hadn't been any releases from any material stored in the storage yard.

So we just finished the geoprobing yesterday, and just based purely on the visuals from the cores, we didn't see any sign of staining or even debris, but we are sampling anyway, and so, I mean, it was in the protocol to sample. So we will have that analytical back from the laboratory.

But based on what we are seeing in the field, we don't expect to see any significant detections there. But that will all have to be documented in a site inspection closeout report.

And then over to the east in Site 6, we have a pilot study underway. If you go out to that site over here, you will see the equipment located adjacent to Site 6, and, Jerry, could you give us a little bit of an update on that project?

MR. WICKHAM: Yes.

We have been operating that system. The

system is up and operating. There is one injection point. It's purpose is to perform a pilot test of the usefulness and feasibility for bio-sparging, primarily.

We also have been evaluating bioventing, but the main emphasis is bio-sparging, that is, injection of air into the, below the water table to increase the oxygen content of the water, and also to increase the rate of biodegradation that's occurring.

So the testing has been continuing to operate now. We have been trying various mechanisms and monitoring to determine what our radius of influence is going to be at this particular site, and how much the oxygen content is being increased by our actions.

The system is going to continue to operate probably for about two weeks, and then we will do a respiration test, that is, we will shut down the system and measure the effects of shutting down the system on the oxygen levels, if the microorganisms are

continuing to degrade.

Petroleum hydrocarbons are using up some of the oxygen, and we will see a decrease in oxygen content at the time. That will give us some idea of the rate.

We had seen significant increases in dissolved oxygen in the groundwater as a result of the biosparging that's going on.

There is a larger than expected radius of influence. This may be due to the presence of the fine grain layer. As you inject oxygen into the groundwater, it tends to move up and spread outward.

If there is a finer grain layer, which tends to cause the oxygen, rather than move directly up, it will cause it to move out into a larger horizontal area. That may be what we are seeing, a fine grain layer when they were installing monitoring points in the injection wells. So that may have given us a larger than expected influence of radius there.

But, also, we have some monitoring points

out there. We are continuing to operate, it's operating right now at a low pressure, operating about three cubic feet per minute right now.

After we have completed the systems shutoff and completed the respiration test, then there will be a phase to collect some additional soils in the groundwater and soil gas samples. That will be the final data collection phase.

We will put those results together into a report on the results of the pilot test. We expect to produce that document in December, the results of the pilot test.

CO-CHAIR SULLIVAN: Okay. Any other questions or comments?

MS. SHIRLEY: Question.

CO-CHAIR SULLIVAN: Yes, Christine?

MS. SHIRLEY: Were you able to compile a list of what's in the debris, a description of the nature of the debris?

CO-CHAIR SULLIVAN: Is that something that

was asked for?
MS. SHIRLEY: Yes. I wrote you a letter.
CO-CHAIR SULLIVAN: Okay.
MS. SHIRLEY: I followed it up with a phone call and said I.T. was preparing a list.
CO-CHAIR SULLIVAN: Oh, okay, from the completion report.
MS. SHIRLEY: Right.
CO-CHAIR SULLIVAN: Well, I can kind of tell you, from what I already know, but that we haven't finished the completion report yet for 1207-1209. That will have the list documented in it.
MS. SHIRLEY: Okay.
CO-CHAIR SULLIVAN: But, basically, we have been seeing wood, metal, glass, a little bit of asbestos, and some of the material is burned and some is unburned.
Basically, it's material that was probably either parts of buildings or associated with just the general operation of the base, since the base was

largely administrative and training, there wasn't a large number of industrial processes going on on the base.
Most of it, I would sort of characterize as kind of rubbish and construction rubble.
We are required to document that as part of the completion report, and, also, for the Building 1133, maybe we will compile a similar report.
Actually, for 1207-1209, we had identified the asbestos at 1133 but not 1207-1209.
CO-CHAIR HEHN: One question that Chris has just reminded me of, too:
In looking at the various sites associated with Site 12, we had talked about bringing in the aerial photos at this time. Did we make that happen?
CO-CHAIR SULLIVAN: Yes. We have those in the back of the room.
MR. WICKHAM: Yes.
CO-CHAIR HEHN: Can you spread those out at the break so we can take a look at them?

MR. WICKHAM: Yes. They're out on the table.
CO-CHAIR HEHN: Thanks.
CO-CHAIR SULLIVAN: And any time you need them for an interim meeting or other meeting, we can bring them along.
Okay. Paul, would you mind if we flipped-flopped the items? Do you want to do the pilot demo?
CO-CHAIR HEHN: Okay. Sure. We can do that.
So you want me to do that now?
CO-CHAIR SULLIVAN: Yes.
CO-CHAIR HEHN: Okay. What I was going to be covering tonight was a pilot demonstration project that has been approved with Treasure Island being one of the demonstration sites.
You will have to excuse the date on this (indicating). I actually had this ready for the meeting last month. This is actually the same, I had

the same date on it.
This was actually a pilot demonstration that was being done through the auspices of the AFCEE and ESTCP, which are two organizations within DoD that work on new development of new technologies.
One is the ESTCP, which is the Environmental Security Technology Certification Program. AFCEE is the Air Force Center for Environmental Excellence.
They have approved the funding and the pilot test protocol for these particular programs. They are ready to proceed now.
What the process actually is, we have presented a proposal to, originally to ESTCP for doing in situ reductive zone technologies, which is essentially a methodology for reducing the concentrations of solvents, in this case, TCE and their daughter products, into less harmful byproducts, all done in-situ or below the ground surface. Nothing is brought above ground at this point.
The idea being that it's an extremely

efficient process. It's very much more cost effective. When you have to bring stuff above ground, you get into the process of disposal or hazardous waste, or all the other issues that have to be dealt with when you bring it above ground.

If you do everything below the ground surface, then you have a much better chance of actually getting it done, getting it done more efficiently, getting it done at a much lower cost and not having to deal with any kind of off hauling or disposal issues.

Essentially, the IRZ Technology that has been developed by Gary Miller, and is actually a patented process that was developed by some of our scientists back in our Raleigh-Andover offices, essentially does all the remediation in-situ, as I mentioned.

In this particular one, we are looking at the TCE and the daughter -- it actually works for PCE, which is also a cleaning solution that's often found

around a lot of dry cleaners.

TCE and DCE, in the case of Treasure Island, it's TCE and DCE, and others we will look at in a minute.

What we are trying to do is reduce those to where they are at a much lower level, a cleanup level that's been established with the regulatory agencies for a particular site, or other cases, we can get that down to maximum contaminant levels or mcls, essentially drinking water concentration, drinking water levels.

One of the things that's very important about this, the technology has to be developed and designed on a site specific basis since each particular site is very different.

This particular program is being done as a pilot test on four different sites across the United States, one of which is Treasure Island.

There are two Air Force sites back in the East Coast, and there is also an Army base in

Wisconsin that these are being used at.

They all have very specific requirements as to depth to groundwater, how deep the wells have to be, how much sampling needs to be done; and, of course, in sites in Wisconsin, they have to deal with the fact they have a winter there. They have to deal with that, and so they have to judge that and base their program accordingly.

And the real advantage to the military on a type of technology like this, it's extremely cost effective, 75 percent or more cost savings, or 75 percent less than what a typical pump and treat or above ground treatment would cost for the similar removal of concentrations in groundwater.

This is what we are maybe looking at, we are looking at removing those concentrations in groundwater.

I should mention, too, we will look at this in a little bit, too, we have found that the IRZ Technology has a lot of benefits that we are just

beginning to explore in their fullest extent.

We first used it essentially to remove chrome 6, which is a very potent type of chrome, that is found in groundwater in a lot of sites. It's very toxic. It's very soluble. It moves very easily in groundwater.

We found that by adding this IRZ Technology, and the IRZ Technology is essentially injecting a proprietary mixture of, essentially, sugars and carbohydrates into the subsurface, into the groundwater, into the soil.

What happens is, the use of the sugars and carbohydrates, the natural organisms that are down there in the subsurface already find that they have a food source. They use those sugars and those carbohydrates as a food source. They metabolize these things. They go great guns for this great food source. All of a sudden, it shows up to the point that they metabolize all this material and use up all of the oxygen.

So the oxygen is used up and it goes from an aerobic, oxygen rich, to anaerobic, oxygen deficient environment.

We found that in the anaerobic subsurface environment, things like chrome 6 naturally degrade into chrome 3.

And so the chrome 3 tends to be much less -- it's not volatile, it's not as volatile, it's not as mobile, and it tends to adhere to the soil particles.

So we found that we could inject this mixture into the subsurface, into a groundwater plume that had a lot of chrome 6 in it, and in a matter of months, chrome 6 would disappear, go to chrome 3, and it would also drop out of solution in the soil matrices and end up with a clean water source down gradient.

So it's a very fast, very effective method of doing it.

We found that the same process actually works for doing it for TCE.

Here's sort of the hierarchy of volatile organic compounds, or TCE, cleaning solvents, chlorinated solvents:

Start out with PCE. As the PCE degrades naturally, and it naturally tries to do this degradation within the subsurface, it slowly strips off progressive chlorine atoms from that particular matrix.

So as it goes from PCE to TCE, it strips off one chlorine.

So it goes down to DCE.

And finally to vinyl chloride, which is often the case where it will go to vinyl chloride, and maybe it will kind of get stalled out there, because it's kind of taken the system as far as it can. There is not enough food source. There is not enough activity going on. It will kind of stall the vinyl chloride and stay there.

But it's trying to make that whole progress from TCE or PCE, all the way through that

biodegradation.

If it gets enhanced, it will go through the vinyl chloride to ethylene to ethane, and finally to the final byproducts of methane, carbon dioxide and water.

So what we found was that, in most cases, the natural biodegradation is already going on. It's prevalent at the site of Treasure Island, because when the sampling there shows up TCE, there's DCE, there's a little vinyl chloride, there's a little bit of methane, there's a little bit of ethane, I think, in a few cases, and so it shows that it's already trying to happen.

So what we need to do is try to enhance that to make it go faster and make it happen to go all the way to where it comes out to methane, carbon dioxide and water.

So by adding this in situ mixture is what we found will take that to that anaerobic condition and make that whole thing progress.

And what happens, we find that it will use up all that food source and then it will kind of stall out for a while. And then what we will have to do at that point is we reinject an additional amount of the solution to drive it to the next step.

Pretty soon, we found that, after a number of months, it will go all the way to that final byproduct, and you are back to where you have, essentially, a clean groundwater source again.

One of the things that we have done in a normal case would be, and this is sort of generally what we are doing for this pilot test, too, we have identified the problem. Right now, we are going through the process of working with the Navy as our client, us as the consultant, and the regulatory agencies to make sure that everybody agrees what the process is going to be and how we are going to go about that process.

We do a pilot scale evaluation, which is going to be the pilot demonstration, and that will be

taken to a work plan stage.

And then there will actually be, in this case, it won't go quite to full remediation, but it will go to a pilot demonstration project of a particular size of the site and try to take that whole process through remediation.

I should mention for Treasure Island, we are actually looking at two sites that have TCE impacts.

One is Site 21, down near the south waterfront. It has a lower concentration of TCE and some byproducts, close to the waterfront.

And then the other site is Site 24, which was probably a source from a dry cleaner there. Much higher concentration of TCE and daughter products found at multiple levels and a much larger plume in a much higher concentration.

At this point, we are actually trying to work out with the Navy and the city, too, as to which of those two sites they would like us to pursue for this pilot demonstration project.

So what I would like to do is just try to give you an example of a site that we have done this on. Essentially, it's a site over in the Emeryville area, which we have done the same technology on and the results of that.

This was a site that was a plating facility. They did a lot of chrome plating. They also used solvents for, you know, various cleaning solutions. So there was a former TCE degreasing area, and then there was a chrome plating area down here (indicating).

They detected in groundwater that they were having problems with pollutions, pollution in groundwater, chrome 6 and TCE and the daughter products.

So they were able to show that the TCE plume was, essentially, originating in this area of the TCE degreasing area, with a long plume going out off site; and then the chrome 6 problem was near the yellow, associated with the plating area and going down

gradient in the yellow color there.

So what we did for this client was to go in and put in a number of injection points. Injection points were essentially just a 1-inch diameter pipe that is driven into the ground. It can be done with a geoprobe. It could be done with a casing hammer. It could be done, if the problem is very shallow, it can almost be driven with a hand driver. It just depends on what the subsurface conditions are, and that's where some of the site specific information comes in.

In this case, they went through and did a bunch of injection points throughout the entire area where they had the two groundwater plumes. I think there was something like 150 or 170 sites, 150 to 170 injection points in this one.

Those are very fast. They are very quick. You can do anywhere from, oh, depending on the site, 20 to 40 points a day. So you might be out there for a week and you will be done and ready to do the injection.

This is sort of what the site looks like over there in Emeryville (indicating).

This is one of our engineers that works in our office who has been doing this for the last couple of years for the clients (indicating).

Here is where we are installing the driver points (indicating). Essentially, this is a geoprobe type rig. Essentially, it's just driving those drive points right down into the subsurface. Here, the groundwater is, I think, about 10 feet.

So very similar situation. For here, the subsurface conditions here are more fine grained sand. Over there, they are a little bit finer, more silt, a little less permeable, a little bit harder to move things around in the subsurface, and so they had to put in a lot of points in order to make sure that they got that solution out into the subsurface.

This was also a case where they actually did some of the points inside the buildings in order to make sure that they had a good concentration of

injection points.

So when they got done, the injection points were very low profile, not very noticeable. If the cones weren't there, you really wouldn't even know that the injection points were there.

Here's an area where they actually had all the injection points out and they were getting ready to do some injection (indicating).

So you can kind of see that they are very closely spaced here. They are probably about 50 feet apart.

Here, he's going in for the actual injection (indicating).

It's a very simple process. There is a tank back here that holds the solution that we are injecting (indicating).

A series of valves and connectors and a very simple double diaphragm pump to drive that solution down into the subsurface.

It's all pretty simply mounted on the back

of a pickup truck. It doesn't require a lot of expensive equipment to do it.

And it goes through a drive pump. The quarter hose is connected, taken out, wheeled out to the wells you're going to inject to.

Here, they are actually injecting into one of the injection points. Essentially just a cap that screws onto the top of the tube that goes down into the subsurface, a pressure value and a connector. Then go ahead and turn the pump on. Control the pressure of air. Pump a certain amount of solution down into the subsurface based on the concentrations they feel were necessary and how much they thought they could inject at that particular point based on site specific conditions.

So the results of all this, this is the site over in Emeryville (indicating). When they originally started this site, they had concentrations that were up to in the 60- to 70,000 micrograms per liter ranges, which are very, very high in groundwater,

very, very toxic. It was a very serious problem as far as the regional board was concerned.

They came in and did an initial pilot test. Got a slight drop in the concentrations. Based on that, we decided that, yes -- and we also did all the, there is all the testing that goes on that, dissolved oxygen, and a lot of things that we are doing for that natural attenuation just to make sure that the process is actually ongoing, and it looked like everything was favorable for that.

So they went ahead and did an initial injection event and saw this very significant decline from, say, the 60,000 down to around 25,000 micrograms per liter.

It starts to level off, starts to use up all the material that's there, and starts to not get so quite so active.

So we did another injection out here, and essentially drove it down to where it is at or close to zero now.

The time frame here is about a year and a half from the time from where you have a very, very toxic situation to where you have a very low and, in fact, the last report I saw, they were all less than 20 micrograms per liter and most of them were zero, as far as being any technical chrome 6.

So very, very effective, very, very fast when it actually gets down there.

When the subsurface get to the right conditions, the subsurface really wants to take care of that problem. So for TCE, we did the same thing. This is the average concentration for a number of wells. Started out here at about 3,000 micrograms per liter, TCE.

And then at the bottom here, we have DCE, and there is a little bit of PCE up here and vinyl chloride. But the main problem was the TCE, much like it is out here (indicating).

So, again, we did the pilot study. Saw a little decrease in that. Saw that the parameters for

biodegradation were working properly, and saw a really big drop. It took a little bit of time to get out there.

Then what happened here, unfortunately, we had a really high groundwater event in that really wet year we had in '97. That brought everything way up higher and got a lot more material in the solution.

We thought we would go ahead, do an injection. And right at that point, it just dropped off precipitously. And, again, it started to come out. The TCE went way down. Started to see the daughter products come out, the DCE, just like it should. The vinyl chloride, saw a little bit of an increase in vinyl chloride.

Started to level off again. Did another injection, and then it all dropped off. It's all been down less than 20 or 10, actually, and most of them have been down to zero over the last six months or so.

We are not seeing any rebound. It's not coming back. It's been pretty well degraded.

If we look at the same series of events for one, just one particular well, it's sort of central to the TCE plume at this particular site, the pilot, the high concentrations of TCE in this case, it was 4500 micrograms per liter.

We came in and did the pilot test. There was fluctuating concentrations of the pilot test. There was a significant drop on that. We went in and did the full remediation injection event. Saw an even larger drop down to near zero level. Saw a little bit of a rebound here in a wetter period.

Did another injection even, and that drove it all the way down to zero.

The same thing with the daughter products, the DCE came out and went down again, as well as the vinyl chloride. Those are all just a little bit offset because those are all daughter products as these things degrade.

So, now, again, over the last six or eight months, everything has been down to zero and stayed

down to zero, or close to it.

So, essentially, the product, the process works so that it all does everything in place.

What we are proposing to do is to take either Site 21 or Site 24 as a pilot test. We will go ahead and do some initial testing of the subsurface conditions, do some groundwater sampling, the samples that we have taken, go back to our laboratory in Raleigh. They will determine whether the site conditions are optimal for doing the pilot demonstration project, and then ESTCP, AFCEE have decided what they would like to do for these four sites is based on the initial pilot test results. It will do for those initial groundwater samples, they will select two of those to go to a full demonstration project.

Yes?

MR. VAN WYE: How is it going to be selected here at Treasure Island, whether they do 24 or 21, do you know?

CO-CHAIR HEHN: That will be determined.

MR. VAN WYE: All right.

CO-CHAIR HEHN: We had talked about that. I think that's one of the things we need to get feedback from the Navy, also from the city, as to which is a preferred site for them, based on their criteria and what they would like to do.

MR. VAN WYE: Obviously, other communities may have a lot of different criteria.

I would just, and, obviously, I'm speaking from a parochial standpoint, but I would think that 21 might be suitable for the test for a number of reasons.

Number one, it's a lesser problem, and perhaps more manageable as a pilot test.

The other is that that area around 21 is the first area slated for substantial development as part of the marina operation. And as I say, obviously, I have a parochial interest there, but I would like to see, if there is cleanup to be done in that area, to

get done as quickly as possible.

So let me vote for 21.

CO-CHAIR HEHN: We will mark down your vote for that one.

I think that, based on looking at the initial concentrations and what's been sampled over there over the last few years, the concentrations are quite low.

It's very likely, in my estimation, doing the pilot test in that particular site would literally clean up that site, because it's so efficient to do that, on Site 24, because of the higher concentration and potential for the aqueous liquids.

We selected a part down gradient and picked an area between somewhere in the plume where we can see where we can inject, and then what the results are down gradient. We would be cleaning up part of that plume, but not really taking care of the significant part of the problem unless we go for the full pilot demonstration. It's much larger.

MR. VAN WYE: In the two, the Air Force Base and the Army base being looked at, I would think, perhaps, the area around 21 is unique because of it's proximity to the water.

Whereas the situation at 24 might be more replicable at one of the other sites, so you have less duplication.

CO-CHAIR HEHN: There is discussion about that point. It's good you bring that up.

One of the issues that we were looking at was, how will this particular technology work in, essentially, a brackish water condition where you are in the tidal zone right up against the shoreline?

In talking to our technical experts, they feel it would work fine. They have used technologies like this in other areas with brackish water. But that will be one of the things that will be tested.

If we chose Site 21 for this pilot demonstration, they would have to know, yes, you're dealing with a brackish water condition and see how

the results show how effective it's going to be.

Naturally, ESTCP and AFCEE want to have a technology that's as broadly universal as possible, so it could be used on as many bases as possible. So this may be part of that selection process.

I agree with you, Harlan, to tell you the truth, but that's something that has to be determined with the Navy and the city, as to what is best for their purposes, too, because the Navy is providing the access and the ability for us to do the pilot demonstration on the site by agreeing to have it done.

And the city, naturally, want to know what their controlling concerns are for doing this, say, at the south waterfront area, or whether Site 24 is going to be better because it's not going to be an impact or interference with anything coming up in the next year or two.

MR. VAN WYE: Yes.

MS. WALTERS: What is your proposed time frame to do this pilot test?

CO-CHAIR HEHN: Well, we have the authorization, we have the contracts, we have the funding available for it.

What we have to do next month and a half or two months is to select the site for Treasure Island, we have to do any other, make sure we have all the information available so that not only I know of, but I can get that back to the people in Raleigh; and then we write a work plan, we submit to the Navy first, or ESTCP and AFCEE, and then the Navy and the regulators, and, I assume, the city for everybody's agreements.

So within the next six to eight weeks, we really sort of need to know where we are going to go with this as far as which site they are ready to write the work plan and feel that review process will take some time because of the, it has to go through ESTCP after AFCEE, the Navy and the regulators. We need to give that enough time to make sure it happens.

If they have enough time after that, that would be about right, so probably right after the

first of the year for the actual field work, which may include, if it turns out it needs November, I think I put in potentially five or six additional wells on Site 21.

If it needs that, probably more on Site 24 because of the multiple layers of impacts there, and depending on whether we do one layer or several layers. So we are in that frame, time frame where we are, you know, two months to get to the work plan, and four or five to do the sampling.

MS. WALTERS: What I would propose to the Navy at this juncture, make it an item for November BCT.

CO-CHAIR SULLIVAN: Yes.

MS. WALTERS: And I also need, after we do a technical evaluation, consult with the city and come up with what we would think our preferred site would be.

We appreciate your consideration about that, but I think that's the best way to go.

CO-CHAIR SULLIVAN: I think that's appropriate.

And, Paul, I don't know if you could be at the November meeting, but provide us with the input so we can schedule it and have it on the agenda, regardless of whether you're able to be there or not, so we could look at the pros and cons.

MS. WALTERS: Yes.

I have four or five technical questions I will defer.

CO-CHAIR HEHN: That's fine, depending on what the redevelopment process will be for the south waterfront.

As you could see, essentially, there is little impact on the surface. There is no equipment. Just get access to it, two or three times during the course of the pilot study.

Other than that, there is regular monitoring wells there. No impacts.

But if you do excavation or build buildings

there, that will impact what will happen to the south waterfront.

MS. SHIRLEY: Paul?

Were those injection points around the source or did they cover the whole plume?

CO-CHAIR HEHN: They tried to cover not only the source area but down gradient plume parts, realizing they had a spread of where the high concentrations were.

Obviously, the source area with injection points there, but also for a significant distance downgrade to knock out as much material already in that plume as possible, so it was essentially both.

MS. SHIRLEY: And can you give me an order of magnitude of cost on this?

CO-CHAIR HEHN: I forgot to mention that.

A site that we did over in Emeryville -- actually, it would be larger than what Site 21 would be. That site from initial testing through pilot testing through injection, also, we are entering the

monitoring phase now, was a couple of hundred thousand dollars, much, much less than anything I have ever seen, and much less than any above ground treatment of any type I have ever seen, on the order of, several orders of magnitudes from that.

So, it's very, very cost effective and very fast; and a lot of our clients love it because it doesn't cost nearly as much as the others.

MR. VAN WYE: Can you estimate the difference between Site 21 and 24 for doing a remediation?

CO-CHAIR HEHN: For doing a full remediation?

MR. VAN WYE: Yes.

CO-CHAIR HEHN: No. I wouldn't want to guess that.

I guess probably the difference, and this is strictly off the top of my head, that because of the higher concentration, the multiple levels at which it's impacted in several different layers, and the

length of the plume, I would guess that it would probably be -- and this is strictly a guess -- somewhere between maybe four times, maybe six times more, just because it's much more extensive.

And that's strictly just a ballpark number.

MR. VAN WYE: Sure.

CO-CHAIR HEHN: Because you're looking at, the more distance you have to cover, the more man time that you have to literally go out and do the injections. You have to monitor that result, and you are dealing with a much higher concentration.

So it means you have to do more injections to take care of the same amount of materials in the subsurface.

MR. VAN WYE: And it's a longer period of time.

CO-CHAIR HEHN: And a longer period of time.

The time frame -- actually, let me backup -- the time frame, it really doesn't take any longer. If you do Site 21 or you do Site 24, you just hit it

heavier. You just hit it harder up front, and you do it maybe more often.

So you clean up the same amount of time, let's say you might still be at two years taking care of the Site 24 plume, but you're just hitting it a lot harder than you would Site 24, because you are dealing with a much higher concentration on 24 than 21.

Any other questions?

(No response.)

CO-CHAIR SULLIVAN: Okay. Thanks a lot, Paul.

CO-CHAIR HEHN: Thanks.

CO-CHAIR SULLIVAN: And we are pretty much on schedule.

I think it's time to take a break. The breaks are equally important in our meeting. It's a time for interaction and social activity.

So let's try to keep it to 10 minutes if we can, because we are probably running a little bit behind so we can get back on schedule.

So 10 minutes.

(Short break taken.)

CO-CHAIR SULLIVAN: Okay. We are ready to go again. We are probably a little behind.

We are back to an item that I had switched with Paul, and that's on the FY-00 budget. Right now, I only have kind of a few brief remarks to make on that.

We are still working on putting together this year's project list, and so we will be discussing that in more detail at the project team meeting on the 1st of November, but I can talk about it kind of overall.

Basically, our budget for this year is about two and a half million dollars. That's less than what we received in fiscal year '99.

However, we have already, we have awarded a lot of work, like most of the investigation work has already been awarded, either in '99 or in prior years. So we still have work that can be done based on

projects that we have already awarded the contracts on.

So the fact that our budget might be lower this year doesn't reflect the fact that we are still working on projects that we had previously contracted for.

So, basically, the focus for fiscal year 00 started a couple of weeks ago, the 1st of October. It's to get through the investigation phase and get us set up to do the majority of the necessary cleanups in the following fiscal year in, fiscal year 01, which would start next October.

So as some of you know, I mean, some major documents that we have, investigation documents we haven't completed, so we have a lot of work to do this year. We have plenty to do, regardless of what the budget is.

And so we will be working to complete the remedial investigation, and, also, the corrective action plans, both for the major petroleum sites, as

well as we have some smaller corrective action plans for some of the smaller USTs. And we also have the fuel line, which is its own separate corrective action plan, and we are just beginning the investigation phase for the fuel line.

So we have plenty of investigative work to complete over this next fiscal year.

We are, however, completing, working to complete a couple of other programs. We are going to be completing the asbestos abatement on, we only have a couple of $100,000 worth of work to complete for that, so that would finish off that program. It seems prudent to go ahead and complete that.

We also have some additional lead abatement work in some of the older housing on Yerba Buena Island and working with the city and their priorities. We want to complete that, also, so that those units can be leased out.

So we are completing the lead paint abatement for a batch of the units in the middle of

the island now, and those will be leased out.

And then we just have to finish the remaining lead abatement. So that would probably be funded this year also.

And then we have additional funding to complete a RAP/ROD for the offshore sites, as well as some miscellaneous funding for the CAP sites.

So all told, that totals out to somewhere right about two and a half million or maybe a little bit more, and so we have to work within the budget that we have been given.

So we will be adjusting those projects and presenting that to the BRAC Cleanup Team and our BCT meeting on the 1st of November.

Any questions or comments?

CO-CHAIR HEHN: What was the budget for this year?

CO-CHAIR SULLIVAN: The budget for this year is either 2.5 or 2.3.

MR. GALANG: 2.6.

CO-CHAIR HEHN: I'm sorry. The current year, '99.

CO-CHAIR SULLIVAN: Oh, for last year.

I think we finished up --

MR. GALANG: Around 9 million.

CO-CHAIR SULLIVAN: Yes, around 9 million.

What actually does happen during the year, you start out with a budget and then execute projects. And sometimes if the projects come in at a cost higher than we estimated, sometimes additional funding is available so your budget goes up.

Or if there is additional funding available, it becomes available later in the year to award projects that you hadn't anticipated. That amount can change.

So our initial budget is around 2-1/2 million, but that number may change over the course of the year.

CO-CHAIR HEHN: So that's a significant change, then. I was thinking three or four million.

CO-CHAIR SULLIVAN: Yes. It's a significant change, but we actually have a lot of, essentially, money in the bank, and contracts that are already underway that were previously awarded.

So the bulk of the investigation work has already been awarded. So we have plenty of work to do just based on what we have already awarded.

But that will mean the bulk of the remedial funding will be the following fiscal year in 01.

CO-CHAIR HEHN: How much assurance is there that that will actually come through, it won't be at a lower reduced level? There is no way to ensure that, obviously.

CO-CHAIR SULLIVAN: There is no way to ensure the budget from one year to another, because it's based on the annual Congressional appropriations.

And then, of course, things change within the government over the course of a year.

So we base our next year's budget based on, our 01 budget based on the projections we receive, and

then as we get closer over the next 12 months of the beginning of that year, that number may change somewhat and then finally get more locked in at the end of the year from now.

Any other questions or comments of the budget?

(No response.)

CO-CHAIR SULLIVAN: So I will have a more detailed budget for our BCT meeting on the 1st, and then I will carry that over for the interim meeting on the 3rd.

Just while we are talking about the interim meeting, Paul, did it sound like Pat wasn't able to host that on the 3rd of November?

CO-CHAIR HEHN: Yes. I got a voice mail message from her today. I didn't get a chance to get back to her.

I will get back to her and find out whether or not that's going to work, or whether or not we have to find another location for our interim meeting.

MS. SHIRLEY: We can do it at ARC.

CO-CHAIR SULLIVAN: Is ARC available if we need it there?

MS. SHIRLEY: Yes.

CO-CHAIR SULLIVAN: Okay. Well, I appreciate that if we can pencil in ARC as an alternative if Pat isn't available at PG&E.

MS. SHIRLEY: It's really easy to get to. It's right at the top of the Powell Street BART station.

CO-CHAIR SULLIVAN: Yes. It's as easy to get to as Pat's office.

MS. SHIRLEY: If you don't drive.

CO-CHAIR SULLIVAN: If you don't drive.

CO-CHAIR HEHN: If we make that change, what we might want to do is just put it on a little map so everybody knows how to get there.

MS. SHIRLEY: Right.

CO-CHAIR SULLIVAN: Okay. So I will work with Pat and we will confirm whether or not we can

meet at PG&E.

And if not, I will call Chris and we will work out the logistics.

I will be sending the notice out on that sometime next week.

MS. SHIRLEY: Okay.

CO-CHAIR SULLIVAN: Okay. Great.

And program updates, well, we have discussion and approval of the September 21st meeting minutes.

I had kind of previously dropped this item down lower in the agenda from a couple of meetings ago when we were focusing on some of the, we thought we needed more time up front for some of the project discussion. It sort of stayed down where it was. But maybe on the next agenda I need to bring it back up towards the beginning of the meeting again.

But you should have received a draft, and then there was additional copies of the September draft meeting minutes on the back table.

Are there any comments concerning the draft minutes?

MR. VAN WYE: Move approval.

MR. ALDRICH: Second.

CO-CHAIR SULLIVAN: All in favor?

September meeting minutes are approved as written.

General updates, announcements.

Are there any announcements anyone would like to make?

(Co-Chair Hehn conferring with Co-Chair Sullivan.)

CO-CHAIR SULLIVAN: Yes. I think as a general announcement, I would like to cordially introduce our new regional water quality control board member, Chris Maxwell.

Is this your first RAB?

MR. MAXWELL: It is, yes.

CO-CHAIR SULLIVAN: Yes, I'm sorry.

We had a number of meetings over the course

of the last month or so, and I forgot this was your first RAB meeting.

MR. MAXWELL: Thanks.

CO-CHAIR SULLIVAN: So we definitely welcome you to the RAB.

MR. MAXWELL: Well, I can't promise I will make every one, but I will try to make as many as I can.

CO-CHAIR HEHN: Can you just give us a little thumbnail sketch of your background?

MR. MAXWELL: Sure.

I worked for the regional board office in Victorville (phonetic) since 1990.

I just moved up to the Bay Area four weeks ago.

I'm the project manager for Treasure Island, and, also, for Hunter's Point, and for another project out at Hamilton Air Force Base.

So I have a lot of things going on, and like Jim said, it seems like we have had about five

meetings in the last four weeks or more, so there is a lot of things going on at Treasure Island.

I'm trying to get up to speed as quick as I can on the issues.

In general, my experience has been tanks and landfills and watershed management, and a lot of other things.

This is my first real experience with a facility of this type, so I'm getting up to speed in talking in acronyms.

MS. SHIRLEY: What's your phone number?

MR. MAXWELL: Oh, that's classified.

No.

It's 510-622-2377, which is actually the same as Dave Leland's was.

And then my e-mail is CM@RB2 dot SWRCB dot CA dot GOV.

MS. SHIRLEY: SW?

MR. MAXWELL: SWRCB. It stands for State Water Resources Control Board. It's the way our

system is set up.

MR. VAN WYE: Chris, your last name is?

MR. MAXWELL: Maxwell, M-A-X-W-E-L-L.

MR. VAN WYE: Thanks.

MR. MAXWELL: Thanks, Jim.

CO-CHAIR SULLIVAN: Okay. Thank you.

We had our last BCT meeting on Monday, the 4th of October, and most of what we covered was related to our Site 12 work.

We also discussed groundwater, and we have some, we have an additional meeting schedule for that later this month.

So we are working the general issue of the TI base wide groundwater.

We also discussed the offshore RI. The Navy is planning a no further action document for the offshore areas, so that document, well, we actually have gotten, well, we were working on the, I think we've already issued the response to --

MR. GALANG: On Thursday to comment.

CO-CHAIR SULLIVAN: The response to comments from the agencies on the previous offshore document.

MR. GALANG: It will be Thursday, the 21st.

CO-CHAIR SULLIVAN: And then, also, we went over the general document schedule.

We talked about the pilot test that we are running on Site 6.

And we kicked around the Site 1 and Site 3 no further action, which we discussed in previous meetings, and looked to revive that again, especially for Site 1, where there isn't anything, any other remedial site in the vicinity.

But we didn't set any firm schedule for further Site 1 or Site 3 documents.

And, Jerry, do you have anything to add?

MR. WICKHAM: Let's see. No. We also had on the agenda here, the 1311-1313 monitoring natural attenuation proposal.

And you mentioned the groundwater discussions.

And we presented a short discussion of a scenario for groundwater and what would happen if you were to try and use the inlands of water, fresh water at Treasure Island for continued use. Due to the intrusion of saltwater and the presence of highly saline water that's in the ground surface there, the pumping would cause a degradation of the water quality.

Pumping, we discussed the mechanism which we calculated at.

CO-CHAIR SULLIVAN: So even though we have a fresh water table, the Navy presented a scenario to show that if you started to pump that, you would start to degrade that fresh water quality pretty quickly.

The source of the fresh water on TI is basically just what precipitation falls on the island, plus amounts added by irrigation; but, again, due to the small size of the island, since the island is its own watershed, there isn't any single collection of water.

MR. VAN WYE: Jim, in the history of the island, is there any evidence of anybody pumping fresh water, nonpotable fresh water use or any other use?

CO-CHAIR SULLIVAN: Not on Treasure Island since it was built.

Apparently, there were some older wells on Yerba Buena Island.

MR. VAN WYE: It would seem to me that the use of fresh water on TI is a nonissue for groundwater.

CO-CHAIR SULLIVAN: That's all part of the case that the Navy needs to make to the regulatory agencies, and so we will have a follow-up meeting later this month on that.

MR. VAN WYE: Yes.

CO-CHAIR SULLIVAN: TAPP contract status.

Did you have any more info on the contracting process, Ernie?

MR. GALANG: Naomi or -- there are contracts people who handle that, apart from Cindy, the $10,000

we can use in prior money. We have the scope and it's ready to award. We can award it even before December. Funding is not a problem for that amount of money.

CO-CHAIR HEHN: So it's limited at this point to $10,000 rather than 25,000?

MR. GALANG: It's still 25 per year, but I think -- ask Jim -- it's probably around 7,000.

CO-CHAIR SULLIVAN: For just the small amount of, I mean, what our contracting people are basically saying, for that small amount of money, we can look in our prior year contracts, and if there is amounts that haven't been spent, we can pull that out.

So the 10,000 is kind of a ballpark number for being able to easily do that.

CO-CHAIR HEHN: Because I'm not sure that that will be sufficient to do the number of documents that we are talking about originally.

But I don't know where we stand with the document count either, so I don't know.

CO-CHAIR SULLIVAN: There is still, we still

have, and Ernie has already budgeted the 25,000 maximum, the 25,000 into this fiscal year's budget, although even that amount is open to discussion if there was a need beyond that.

But, historically, most of the RABs have kept within that or even below that.

CO-CHAIR HEHN: Okay.

CO-CHAIR SULLIVAN: So I think we could work to award another block of either one document or multiple documents over the next two months.

CO-CHAIR HEHN: Okay. So what's the next step, what do we have to do next?

CO-CHAIR SULLIVAN: Well, I think the next step would be to identify which documents we want to award a TAPP review for.

CO-CHAIR HEHN: Okay.

CO-CHAIR SULLIVAN: And then go through the similar documentation that we did for the scope of work in the last one.

CO-CHAIR HEHN: Okay. I think we did that.

We identified the documents that we were going to -- has the document list changed significantly so that that will be different?

CO-CHAIR SULLIVAN: Well, the schedules of the documents may still be an adjustment.

I will take a look at what we put together, and then Jerry and Ernie and I can match that up against what our plan document submittal dates are.

CO-CHAIR HEHN: Because even if that turned out to be over a longer period of time, it probably would make it easier to try to do that, if there is more time in there.

Originally, we were looking at maybe the last two months at the end of the year to try to get all these documents out.

If we can spread that out, it may make it a little bit easier to deal with from our standpoint.

So we have the list of documents -- and that changes -- and you have the scope sent to you originally for that. So we have those two things. So

I guess whatever we have to do next, if we could get that going, I think that would be real helpful.

And we will maybe look at what we have as far as documents that are still outstanding, too, to see what is coming up, to go through the document status.

Are we going to go through that tonight, take a look at that tonight?

CO-CHAIR SULLIVAN: We can take a look at it.

Just one administrative item for the previous TAPP. We just need to make the final decision on whether or not to not do the presentation and have that -- I think we sort of decided to do that.

CO-CHAIR HEHN: Yes. I think let's go ahead and formally close that out, that last amount that was left five or eight hundred, whatever that was, close that out. It's probably better, as we move into this next round.

Jeff Hawkins (phonetic) would be one of the ones who would be interested in bidding on the new document, too, so let's close out one and go to the next one.

CO-CHAIR SULLIVAN: Okay. We will do that.

CO-CHAIR HEHN: Okay.

CO-CHAIR SULLIVAN: And, actually, there is also a requirement -- maybe we could work on that at the interm meeting -- there is a requirement for the RAB, the community members, to kind of submit a closeout report on the TAPP.

CO-CHAIR HEHN: Okay.

CO-CHAIR SULLIVAN: And the example, when I put together the example package from Alameda, there was a symbol, I think it was basically a half page or less, but that has to come from the community members to indicate that the contract has been fulfilled.

CO-CHAIR HEHN: Okay. If you get a chance, bring that to the interim meeting, too.

CO-CHAIR SULLIVAN: Okay. Organizational

business.

I will turn it over to Paul.

CO-CHAIR HEHN: Well, I guess probably, actually, I will throw it back to you, Jim.

What is happening with our idea for soliciting for new RAB members? We were going to put out an ad to do that. It probably got caught up in all the other activities going on, right?

CO-CHAIR SULLIVAN: Yes.

We weren't able to do that when we discussed it, but we still have been talking about it. It's something that we're going to follow through on.

I think we're also thinking of some other ideas to further publicize the RAB, and it sounds like there is, from talking to some of the residents, that if we get the word out, there will be more residents interested in attending and becoming, potentially becoming members of the RAB.

MR. VAN WYE: Jim, at some point the RAB is going to go out of business. I mean, at some point,

all goods things have to come to an end.

Is there any sense by anybody in a leadership position of the RAB as to when we might be able to hold our farewell party?

And I raise this as a serious question, because the amount of effort that one would expend in going out and soliciting new members to come in and learn all this stuff when we are so far down the road on so many things might be, perhaps, not a great use of resources.

CO-CHAIR SULLIVAN: Well, I think there is a lot to accomplish over this next 12 months.

We really have to, we are going to finish the investigations, and I think that's where having additional members, especially since we have had some membership loss over the last 12 months or so, you know, we do need, I think Paul and others have expressed, we do need more bodies to help look at documents and provide comment.

And I think this is really kind of almost

the critical phase as we get to the end of the investigations and make the decisions as to whether remedial actions are necessary.

MR. VAN WYE: I don't disagree with any of that.

And maybe it's reinvigorating to people that have been a part of it for a while, to get them in to really push for what is, if not the home stretch, if not the beginning of the end, at least the end of the beginning, as Churchill once said.

MS. SHIRLEY: The end came here.

MR. VAN WYE: The end came here.

To move this process along, you know, if the RAB is only going to be in existence for, let's say, two years from tonight, and our work will be done and we can bid adieu, then that's one thing.

But if five years from now, if we are still going to be in business on this stuff, that presents another situation, and I think that's important information for anybody to know when we are thinking

about precisely these issues.

CO-CHAIR SULLIVAN: Well, our current plan is to award the bulk of the necessary cleanups next fiscal year, so 12 months, over the -- starting 12 months from now.

So over the next 12 months, we have to complete the investigations and make the decisions on cleanup and then execute that during the following year.

MR. VAN WYE: Will there be ongoing monitoring on the part of the RAB during that, or once those contracts are all awarded, would the RAB then essentially become an entity that is no longer serving a useful function?

CO-CHAIR SULLIVAN: I think the issue of when the RAB ends is kind of a -- I think the question has been raised, I think, in a couple of the RAB caucuses. I think Chris has heard of them or been in some of those conversations.

MS. SHIRLEY: It depends entirely on the

RAB.

I mean, if a RAB wants to disband after the Record of Decision has been signed and just trust what decisions were made will be executed, that's fine.

MR. VAN WYE: What does federal law require?

MS. SHIRLEY: There is no guidance there.

So the guidance in the Navy manual, management guidance, says, basically, if the RAB agrees to disband, it's time to disband.

So it depends entirely on the RAB.

MR. VAN WYE: At which point --

MS. SHIRLEY: You know, on what is going on on the base. Some cleanups will take years to implement.

MR. VAN WYE: Right.

And the question is, basically, and believe me, I don't have any conclusions at this point, but I just raise some of these things as questions.

At that point, once all the contracts are let, and the RAB could go out of existence, then it

would seem to me that the major stakeholder at that point would be the City and County of San Francisco and the state, in terms of groundwater, water quality people. The Bay Conservation and Development Commission is going to have a lot to say about the area I'm interested in, marina development, with qualified professional, Cal-EPA, of course, and the various regulatory bodies would have professionals to look at this.

And I'm not sure what useful purpose would be served by ongoing meetings once all the contracts are finally let.

I raise this as a question, and I'm certainly open to somebody suggesting why we should continue after that.

CO-CHAIR HEHN: I think one of the things that I might submit on that question, Harlan, is that once the ROD is signed and executed successfully, the number of meetings that might be required would be greatly reduced.

I think that there would still be an important part for the RAB to play just to make sure things get done in the way that they are supposed to get done.

Maybe you would have a twice a year meeting just to sort of update, to say: Well, here are what the updates are, here's how it's going, so there is an ongoing public dialogue that happens to see how this is going on; and, certainly, as more and more residents on the island are here, I think that they may want to know more about what's going on, how it's progressing as more and more redevelopment happens, too, in addition to what the city is going to want to know and the regulators.

So I could see that there may be not a need for a monthly meeting, because there's going to be ongoing remediation, but there's not going to be quite as much activity on a month-to-month basis, but maybe every six months just to kind of get an update to see how it' s all going.

And if something is not happening the way it was proposed or the way it was promoted, you could say, hey, wait a minute. How come this isn't working? We aren't making any progress here. Is there a way to get involved or to change that to give an update?

MR. VAN WYE: I agree with you, the usefulness of that, and I'm wondering if the RAB would be the organization to continue that on an ongoing basis with such a limited jurisdiction and even more limited authority; whereas the San Francisco Treasure Island Development Authority has a Citizens Advisory Council that is supposed to advise the Development Authority on all sorts of various issues concerning Treasure Island.

At some point, once all the contracts are let, it might be appropriate to suggest that the RAB, as a federally sponsored agency, that the function of monitoring the ongoing toxic cleanup and progress in that area might more appropriately then fall under the jurisdiction of the Citizens Advisory Committee to the

Treasure Island Development Authority, because they're going to have a broader jurisdiction of ongoing monitoring for the overall development of Treasure Island. And one of the issues of concern, I would think to those people and that agency, would be toxic cleanup, and the City and County of San Francisco, being the principal stakeholder in this whole business.

I think along those lines, because as a taxpayer and a citizen, the idea of some board or commission going out of business actually sort of warms the cockles of my heart.

We do our work and we do it well, and when it's done, it's time to cash in the chips, which is the reason I raise that; because if we are going to recruit new people in here, we need to give them an honest assessment of what they are being recruited for.

CO-CHAIR SULLIVAN: Actually, that's an excellent point. I think it is a really good point.

I think we need to assess the mission and role of the RAB as we go, but I certainly think that significant milestones, like the completion of the remedial investigation reports and signing of the ROD and awarding of the remedial action contracts would be, you know, significant milestones.

And I think we ought to acknowledge those milestones to acknowledge the work of the RAB, the community RAB members over the years.

So I think it's a good -- playing off your comment -- I think it's a good point to make sure that we acknowledge the milestones so that everyone feels like we are making specific accomplishments and marching towards an end point.

CO-CHAIR HEHN: I think probably another thing, too, Harlan, is that you're talking about the complexity of building on that base of information.

I think a lot of the documents that are coming out now, for instance, on the excavation activities on the various sites on Site 12, are things

couple of seats that are, essentially, people who have been on, you know, with the idea that they initially at least be filled by people -- and I'm not suggesting myself as one of those, trust me -- but, you know, people who have been ongoing and involved with the RAB to get on there to help the Citizens Advisory give an institutional memory for the Citizens Advisory Commission to monitor the ongoing cleanup of Treasure Island, since that is going to be an ongoing body, whereas the RAB really needs to sunset at some point.

CO-CHAIR HEHN: I agree.

I think I should mention, too, that the only one who has heard back from any of the interest in being a member on the C.A.C. has been Nathan. He did go and talk to members of the selection committee for the mayor's office.

Nobody else has heard anything back, probably just because none of the rest of us were City of San Francisco residents, which were kind of the requirements we didn't know about when we signed up

that you can get a handle on really fast. I think those are all new things to us, too, and all we are doing is building a little bit of that background into what we've done on this site of activity.

But someone new coming in could look at that particular activity and get a good handle on that relatively quickly without having all the other background stuff, because it's all new information coming out.

So I think that could still lend a lot of information, a lot of help, and a lot of input into that kind of review of those current documents coming out now.

We could sure use the help on them.

MR. VAN WYE: Oh, absolutely.

And one of the things that, ultimately, we might suggest to the Treasure Island Development Authority is that they add one or two environmental seats to their Citizens Advisory Group. I know there are some now, but add a couple of chairs, you know, a

for that.

So, yes, I think that if he is able to get a seat on that, environmental seat on the C.A.C., I think that would be real helpful. Hopefully, that will happen.

MR. VAN WYE: Yes.

CO-CHAIR SULLIVAN: Okay. Environmental document status.

I won't go through the laundry list of documents, but there were copies on the back table. It's basically an update of the previous document list.

Are there any questions concerning the documents status list?

(No response.)

CO-CHAIR SULLIVAN: So we are providing it now, both by category and also in chronological order, so you can more easily see which documents are coming next.

CO-CHAIR HEHN: Do we have a time frame or

agenda for getting the ad out for new RAB members?

I think that, whatever we do on that, we want to make sure that gets into the leasing office and maybe for distribution around to Treasure Island residents.

Do we have a schedule for that? I thought we had the ad sort of put together.

CO-CHAIR SULLIVAN: Well, it was based on the previous ad.

So we have kind of an ad that we have used before. I think it's reasonable that we can make a renewed attempt to get that out before the next meeting.

That would be what we want a key to, to get an advertisement out and then note the date for the next upcoming RAB meeting.

CO-CHAIR HEHN: That would be real good.

CO-CHAIR SULLIVAN: So we will work on that.

CO-CHAIR HEHN: Okay.

CO-CHAIR SULLIVAN: Any questions concerning

the environmental documents?

(No response.)

CO-CHAIR SULLIVAN: Other business, open questions, things we haven't otherwise covered in tonight's meeting?

(No response.)

CO-CHAIR SULLIVAN: I took a stab at some agenda items for next month for November.

We will go over that at the interim RAB meeting on the 3rd.

Since we've issued the 1311-1313 proposed monitored natural attenuation, we can have a briefing and discussion on that.

I think it's time for a UST update, because we have had some continued investigation at our smaller UST sites, and we are also gearing up for the fuel line investigation. So I think November would be an appropriate time for that.

Plus, we will have additional updates on Site 12 .

But we can add, we can discuss additional agenda items at the November 3rd meeting.

And then it looks like, tentatively, that the draft EIS/EIR might be out in December, but I don't have a firm date for that. I think it's getting pretty close.

Well, with that, our next regularly scheduled meeting is Tuesday, the 16th of November.

We still have a meeting scheduled for the 21st, although that's the holiday week. So we will have to think, as that gets closer, whether or not we want to either defer the December meeting or adjust that to another day in the month. But I will keep it penciled in on the 21st.

And so the next interim meeting, interim community member meeting will be Wednesday, the 3rd. And if we can't hold it at Pat Nelson's office at PG&E, we will have it at ARC Ecology.

And then our next BCT project team meeting is Monday, the 1st of November. And that's going to

be at Tetratech's office in San Francisco.

And I put in storage yard geoprobing schedule for this week. We actually finished all the field work yesterday.

MR. VAN WYE: Do I suggest that a motion to adjourn is in order?

CO-CHAIR SULLIVAN: That would be early.

MR. VAN WYE: I know. I want to note that this would be a new world's record. By my watch, it's about eight minutes before 9:30.

(Applause.)

MR. VAN WYE: And I sense, from the far reaches of this cavernous hall, that a motion to adjourn is now being made by the representative from Orinda.

CO-CHAIR SULLIVAN: Last chance: Is there anything else that we otherwise need to cover tonight?

MR. VAN WYE: Moved?

CO-CHAIR SULLIVAN: Okay.

MR. VAN WYE: I move to adjourn.

CO-CHAIR SULLIVAN: All in favor of adjournment?

Okay. The meeting is adjourned. Thank you very much.

We will see you either at the BCT meeting on the 1st, the interim meeting on the 3rd, or the regular meeting on the 16th of November; and, please, grab some cookies and whatever else food we have left on the way out.

(The meeting adjourned at 9:25 p.m.)

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