

**MARE ISLAND NAVAL SHIPYARD
RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES
HELD THURSDAY, November 29, 2007**

The Restoration Advisory Board (RAB) for former Mare Island Naval Shipyard (MINSY) held its regular meeting on Thursday, November 29, at the JFK Library, Joseph Room 505 Santa Clara St., Vallejo, California. The meeting started at 7:08p.m. and adjourned at 9:04 p.m. These minutes are a transcript of the discussions and presentations from the RAB Meeting. The following persons were in attendance.

RAB Community Members in attendance:

- Myrna Hayes (Community Co-Chair)
- Michael Coffey
- Kenn Browne
- Wendell Quigley
- Paula Tygielski

RAB Navy, Developers, Regulatory and Other Agency Members in attendance:

- Michael Bloom (Navy)
- Marie Dreyer (Navy)
- Marc Smits (Navy)
- Gil Hollingsworth (City)
- Carolyn D'Almeida (USEPA)
- Steve Farley (CH2MHill/Lennar)
- Neal Siler (Lennar)
- Chip Gribble (DTSC)
- Richard Perry (DTSC)
- John Kaiser (Waterboard)
- Linda Rao (Waterboard)
- Carolyn Hunter (Tetra Tech)
- Tom Wallis (Weston)
- Dwight Gemar (Weston)

Community Guests in attendance:

- Diji Christian
- Eric Arnolchy
- Dennis Mishek
- Jim Porterfield
- James Moore

RAB Support from CDM:

- David Lange (CDM)
- Doris Bailey (Stenographer)
- Wally Neville (audio visual support)

I. WELCOME AND INTRODUCTIONS

CO-CHAIR BLOOM: Thank you. We'll go ahead and get started with our first presentation. It's going to be given by Marie Dreyer with the Navy and Steve Farley with CH2M Hill on behalf of the Navy. We're going to, as you can see right there, but it's a follow-on to the petroleum hydrocarbon investigation at the defense reutilization and marketing office update or the DRMO update. We've been doing some field work there for the last three weeks, and we'll give an update on that.

II. NAVY PRESENTATION: *Follow on Total Petroleum Hydrocarbons (TPH) Investigation at Defense Reutilization and Marketing Office (DRMO) Update*

**Presentation by Ms. Marie Dreyer, Navy and
Mr. Steve Farley, CH2MHILL/Lennar**

MS. DREYER: Thank you, Michael. Good evening, everyone. As most of you know, either through prior RAB meetings or through the various notifications that Lennar Mare Island has sent out, the Navy is doing some investigation in the vicinity of the DRMO. This investigation started in October, October 31st. And as you can imagine, a lot has happened in a month. So tonight's presentation will be an update to review the purpose and objectives of the current work. It will cover an overview of the scope of work for this project, the status of the field activities, as well as our preliminary findings. And an update on the remaining field activities currently ongoing only at Azuar Drive. One thing important to note for tonight's presentation is that this is simply an update for the field work that is happening right now. The Navy has not yet prepared any conclusions or recommendations for a path forward for the DRMO or the vicinity. So this investigation is a follow-on to the previous investigations done in 2005 and 2006. The results of these investigations were issued in a draft technical memorandum which was issued to the public in April, 2007. Per the conclusions and recommendations of this tech memo, the Navy felt that additional trenching was needed to assess the distribution of free product at Azuar Drive, Dump Road, and the sanitary sewer line west of the crane test area. In doing so, the Navy had hoped to study the relationships between the free product, possible other sources, and preferential migration pathways that would be primarily through the metal debris that we know is out there.

The scope of work for this investigation was to install trenches to inspect the subsurface sediments as well as to detect the presence or absence of metal debris in free product. Four different areas were evaluated under this scope of work. They were in the sanitary sewer line west of the crane test area, on Dump Road, on Azuar Drive, and also at the former wooden sump box inside the fenced scrapyard area at the DRMO. While we were doing the various trenching at these four locations, we also took samples and analyses of the soil and any free product that we encountered. To date the three trenches at the sanitary sewer line west of the crane test area, and these are these trenches here -- have been completed, as well as these trenches here. And those are the Dump Road trenches. Also three trenches there on Dump Road. Also, the former wooden sump box -- which is noted here in green -- not to be confused with the oil sump box which was excavated in an earlier investigation, has been located and was removed. And four of the five trenches on Azuar Drive have been completed with the fifth trench, that of AB-2, running here south of the former oil sump box started trenching today, and is scheduled to be completed at the earlier the end of this week. With that, I'd like to turn it over to Steve now to discuss the preliminary findings at these four locations.

MR. FARLEY: Any questions so far? Okay. I'm going to go through some preliminary findings of the work that we've done in the four areas that Marie just discussed. I'm going to start off with the sanitary sewer line. And just for your sort of reference, the locations of the trenches are included in your handouts. There's also a map showing the locations of those trenches if you need to sort of relocate yourself (Sanitary sewer trenches, SSL one, two, and three). The sewer line we suspected was constructed on a concrete grade beam based on a trench that was installed west of the area that we evaluated. We could visually inspect the pipeline and that grade beam, and there was some oil visible in the gravels, the coarse gravels that were underneath that grade beam. And the trenches that we installed show the same thing.

We found limited product. And when I say product, I mean free phase petroleum hydrocarbons, oil. In this case it is most likely bunker C, the black sort of tar-like substance that is fairly common

in some places on the island. So when I use the term product or free product, I'm primarily talking about bunker C. We found limited free product in the gravels below that grade beam. We also found that there was metal debris in the subsurface that had oil associated with it. But an important finding was that the metal debris was not actually in contact with the sewer line. One of the concerns that we had initially was that oil that had been found inside that pipeline was getting into the pipeline west of the crane test area, the Navy property, because the pipeline was in poor condition or it was sitting in a pool of oil or both. Well, we were able to confirm that the metal debris and the oil were not in contact with the pipeline. It looks like what happened was when the sewer line was installed, there was an excavation performed to put the pipeline in. And when the area was backfilled, it was backfilled with essentially clean dirt. So all the metal debris that we find in that general area to the north and south of that pipeline, about ten or fifteen feet on either side of the pipeline is not in contact with the pipeline. And so the oil that's in the metal debris is not in contact with the sewer line. So after we did that we went ahead and backfilled all the trenches. If you go to your next slide you'll see some example photographs. In fact, through this presentation there are photographs on the slide following the detailed word slides. So if you want to jump forward to the photographs as I'm speaking, you may do that.

MR. KAISER: I'm just curious. I see in that lower left photograph kind of a bluish, light material. Is that just the reflection of the sky, or is that sheen?

MR. FARLEY: That is sheen. What we found here were basically two different sets of conditions. One is there was a pipeline, this is the sanitary sewer line. And there's actually an IR-14 pipeline here and another one here. That's the old industrial wastewater treatment plant pipeline system. What's important in this photo and the reason we're showing it is there's no metal debris in immediate contact with that pipeline. And you can see here that it doesn't have any evidence of oil associated with these fill materials nor surrounding this pipeline. You can see here and here, as was just pointed out, there is a sheen on the water surface in the bottom of the trenches. This oil came from underneath these pipes where the grade beam was located, and came out of the gravels underneath, and it also came from some of the materials that are located to the south and to the north ten or fifteen feet away. And that metal debris that's located in those areas have oil in them.

So the important thing to keep in mind here is there's no oil in direct contact with the pipeline or any metal debris in direct contact with the pipeline. The only oil we find is in the grade beam that's underneath the pipeline. Does everybody know what grade beam is? Does anybody not know what it is? It's basically just a big concrete rectangle, in this case probably eighteen inches on the side or something, and it is on piers or posts to keep the grade of that pipeline where it needs to be. So it's like a supporting structure that sits underneath this pipeline. Along Dump Road we also installed three trenches. The trenches run perpendicular to the orientation of Dump Road. There was, in fact, metal debris and construction debris. This is a little unusual for the scope of this investigation to find construction debris, but we did find construction debris, and maybe even some possible burn debris, meaning that we wooden posts or two by fours, two by sixes that looked like they had been burned. We found lots of bricks. In some cases the bricks were individual bricks, and in some cases they were sort of blocks of six or eight bricks. We did find that there was free product associated with the metal debris and the construction debris. The interval was on the order of about three -- the top of the metal debris and the oil was about three feet below ground surface, the bottom of it was approximately six feet below ground surface. You had about a three foot interval of metal debris and oil.

After we got done with all the trenching we backfilled the trenches. Here are some examples of some of the material that we found in those trenches. You can see here primarily construction type debris. These are all pieces of brick here, these red or orange items. A piece of metal of some kind or another. These are wire tournes like you would create off a lathe. This is clearly all saturated with oil. And then here in the bottom of the trench you see various pieces of pipe and pieces of metal. It's not real clear on this one, but we must have found hundreds of feet of cable out there. Some were solid copper cable, half inch or inch in diameter, in some cases the big huge cables, one inch in diameter.

CO-CHAIR HAYES: Sounds like money to me.

MR. FARLEY: We were afraid the copper thieves would come out and steal them. So the other thing that I think is important to point out here is -- and it's a little hard to see -- but this interval, the ground surface is right about here, this goes down on the side of the trench about three feet. And what's important is this entire trench is caving in. So when you get below about three feet, all this metal debris that's mixed with water and oil tends to cave into the excavation. And what that does is it raises a number of potentially serious safety issues. What did I say, Myrna? It caved in. Did I -- should I just move on so you don't embarrass me more or --

CO-CHAIR HAYES: No, I'll actually address my amusement here. It is that the city of Vallejo and Lennar have an agreement which gives Lennar the scrapping rights to their area on Mare Island. So I'm just continuing to kind of be amused by that. Plus I think I remember something about IR-04 having a sloughing problem too, as they were trying to work, so --

MR. FARLEY: Yeah. It can be a really serious safety problem, particularly since we're very much being directed by the city of Vallejo to not close the roads before 8:00 o'clock in the morning, and all the roads have to be open by 5:00 o'clock. That's not that you stop working in that time period, you must have the road open, which means everything has to be backfilled and plated and secured and cleaned up. So it's really important to stay on top of, not only the safety issues, but the schedule issues as well.

But anyway, the point is that this is a common problem that we have in almost all of the trenches where we find metal debris. The former wooden sump box is a wooden structure that was located within the fenced scrapyard area or FSA. I think Marie pointed out where that was earlier. Anyway, it's inside the fenced scrapyard area. When we got there it was partially covered with dirt and partially visible. It looks like it was primarily constructed with two by six lumber that formed a box that was approximately twelve feet on a side and about eight feet deep. The wood and soil inside and surrounding this wooden oil -- or this wooden sump box contained free product. There was a metal pipe that was visible in the southern wall, sort of a large, maybe a six inch or eight inch diameter pipe, looks like it was a cast iron pipe, that went into the sump box that was coated in oil, both on the inside and the outside. All that was removed. There were some previous pipelines that ran through the fenced scrapyard area that Weston removed as part of their work for the Navy which tied into this structure. All of that stuff is now gone. There was not very much metal debris, an isolated piece of metal here and there. And the sump box excavation was backfilled.

Here are some photographs showing the lumber laying on the ground, lumber coming out with the excavator. Just an overall shot showing sort of what the surrounding ground surface was like. And then down here some photographs -- a photograph showing some of the lumber. This is all oil soaked sediments.

One of the things that we did notice, and this is actually, I think, kind of an important finding, we see this in lots of other places where we're working with this heavy, thick petroleum in fine grain sediments. The oil tends to move along high permeability zones, it doesn't tend to move through the fine grain sediments. And in a number of places when you excavate down you make it out of metal debris and the large amounts of visible oil. But if you take that fine grain, those fine grain sediments and you break them open, if you break along fractures in the sediment you'll find sort of veins, for lack of a better word, thin veins of oil that are in the cracks that are in this fine grain soil. But what you don't see is much discoloration perpendicular to that vein. If the oil had migrated a large distance into the fine grain sediment, you'd find a big zone, a big halo, if you will, of stained soils. You don't find that. So it appears that this oil moves along preferential pathways, whether it is zones of metal debris or back out towards the west end of the crane test area we actually find -- it looks like it's the boundary between the old wetlands area and the dredge materials and other fill material that was placed on top. You find a thin vegetation layer that sits in there, and sometimes the oil will seep out of that vegetation layer because it has a slightly higher permeability than the surrounding sediment soils.

Azuar Drive was probably the primary focus for this investigation. If you recall back a year and a half or two years ago, I forget now, but we did an investigation and removed the oil sump box and the perforated pipe, which was located right here. And there's a trench that we installed that went from here up to here, which represents the distance of a perforated pipe that was associated with this oil sump box. The oil sump box was a structure that the Navy poured oil into, there's not a lot of records about the exact operation or duration of that, but the oil sump box is located here with lots of metal debris. As Marie pointed out, one of the objectives was to go back and do some additional follow-on investigations around here. And we planned on these five trenches, one here, one cross cutting here, here, and here, and another one down here. AB-1 and AB-2 run north and south of the former location of the oil sump box. Trenches three, four, and five are the three that cross cut across Azuar Drive. All these trenches were complete or nearly complete except AB-2. And actually there's one minor caveat. We're going to do a little bit more on the west side of AB-3. But essentially we're nearly done with all of the work.

Bottom line is that we found metal debris and the oil in all of the trenches. We've not found the extent of oil in those trenches or debris in those trenches except for trench AB-1. This trench was planned to be about a hundred feet or so. And what we found is that the metal debris ended, and the oil ended about 30 to 40 feet south of what the original extent of the trench was going to be. We got out of the metal debris and immediately got out of the oil. There are a couple of places in that trench where we have a small amount of oil coming in through cracks, but it reaffirms the understanding that the oil is related to the metal debris, and you don't find the oil where you don't have metal debris. The interval in which we find the metal debris and the oil is between about five and eight feet below ground surface, so about a three foot interval. It may be six feet in some places, and it may be seven feet in others, but it's, in general, somewhere in the top of the -- the top of it is somewhere around five feet, the bottom is somewhere around eight feet, so you have about a three foot zone. Some of the metal debris in that interval is not coated in oil. So in most places where you find the metal debris you find the oil. But in some places the metal debris is shallow enough that it's above the top of the oil interval. And that's probably related to the fluctuations in the water table on which this material rides, the oil rides. And it just -- the water levels don't get high enough to push that oil up any shallower. It just reaffirms that the product appears to be associated with both the metal debris and those groundwater levels.

So here are some photographs. This is a pretty good example of the oil oozing out of a side wall, running down the side wall, and pooling up at the bottom of the trench. Here's a real good example of where the stuff is coming out of an area where there is no metal debris, but yet it's coming out of the side wall, and it's probably related to some kind of a crack or an isolated piece of metal or something of that sort. The metal or the oil just oozes out and puddles up down there. This also gives you an idea of the consistency of the stuff; it just kind of puddles up down here. And you can see on your images or your handouts, you can actually see some of the rings that form as the sump moves away from the side wall. A closeup of this stuff showing that the oil is not in the matrix of the soil, but the oil is in these cracks and preferential pathways. And then in here, just a shot showing an example of one of the trenches that we have, you know, about six feet of relatively clean or completely oil-free soil. And then you get down in this zone where you have pieces of pipe and cable. I've seen ship's bulkheads and crushed file cabinets in this stuff, so it's pretty wild. The remaining field activities, we're going to complete trench AB-2 next week. And then we have all the investigation derived waste that we're going to complete the characterization of and then dispose of that material off-site. Most of those samples have been submitted, we're just waiting for the approval from the landfill. Then we'll demobilize all equipment and personnel, do our final site cleanup and vacate the site. And we expect to be done with all of that work by the 14th roughly. We have a reporting step in here. There's a previous report that we did based on the oil sump box removal that we did. We're going to take that report, revise it based on the findings of this investigation, send it off to the agencies and other stakeholders, and then we'll get comments back from those entities, and then incorporate the comments and issue a final technical memorandum for the findings of this investigation.

So, in summary, we're nearly done with all the work. We found metal debris and free product in all of the trenches so far. There was also product observed associated with the former wooden sump box in the fenced scrapyards area. Trench AB-2 is the only significant remaining trenching activities. And then we're going to do the demobilization sometime in probably mid-September, and then reporting will begin in late December when we get the data back. And one thing I didn't mention is we've collected a number of soil samples and a number of product samples. Soil sampling is there to characterize the remaining, if any, concentrations in the soil. We didn't collect any samples where we still had visible product in the side walls, that's just a waste of time and money. But we did submit some samples for fingerprint analysis to see if there were any other constituents other than diesel gas, motor oil, PCBs, for example, or SVOCs.

The other thing that I would like to mention real quick is that we've been trying to coordinate and have coordinated with the various regulatory agencies. We have a morning a morning call to everybody letting them know what the status of the field work is for that day, and then send out an e-mail after that answering any questions they might have. Chip has been out to the site, what three times, Chip? I think you've come up three times to see the various trenching activities. And I think that's a really good thing. I've had long conversations with Brian Thompson from the Water Board about some of those -- some of the work that we're doing. I've talked with Carolyn about it. I think it's - really valuable for everybody that has an interest in this. Neal, for example, has come out and seen the site a couple of times. There's a lot to be gained by seeing the site conditions, and I commend everybody for making the special effort to get up there and take a look as the field work is progressing. So that's all I have. I'll be happy to entertain any questions and, of course, happy holidays to everybody, instead of happy Halloween from last time.

CO-CHAIR HAYES: I have one question regarding the Dump Road. Is the Azuar Drive segment south of Dump Road?

MR. FARLEY: The Azuar Drive segment is south of Dump Road. This is building 661 which is the northern most building within the fenced scrapyard area. This part of Azuar Drive is about 150 feet south of Dump Road.

CO-CHAIR HAYES: I guess -- and then you trenched in spots along Dump Road?

MR. FARLEY: In the Dump Road area, so here's -- just for everybody's benefit -- this right here is the western edge of the crane test area. This is that small paved parking area that is actually outside the west end of the crane test area. And so the trenches that we put in that crossed over Dump Road were here, here, and here. And those trenches were located based on these five dots here, are the locations of soil borings and/or trenches that CH2MHill put in for the Navy about a year and a half ago. And we knew that there was oil and metal debris over here and here, we placed those two trenches there to demonstrate that it did or did not extend all the way across the road. This trench here was placed based on soil boring data in the area.

CO-CHAIR HAYES: Okay. So you might have to put on your Lennar CH2M contractor hat to answer this question, or Neal might have to answer it, but are you -- I see you kind of going around the crane test area, and I assume that's because the crane test is Lennar's?

MR. FARLEY: That's a fair question. But the answer to the question you almost finished asking is no. The reason -- and if you look --

CO-CHAIR HAYES: I get that a lot. Don't go there, Myrna.

MR. FARLEY: If you look at your 11 by 17 handout, which is basically this figure here, what you'll see is that all of the trenches essentially started on one side of the road and went to the other side of the road, except for those that ran along the west side of the road. So trenches 83, 84, and 85, and trenches DR-1, two, and three, or actually one, two, and three, all basically started on the Navy side of the road because that's where we had data showing where metal debris and oil was previously found. And it went across the road. And the reason it went across the road and stopped at the other side is, A, we really didn't know how far this oil was going to go. One of the conceptual models for this investigation was that the roads, which were in large part old berms or old dikes or levees of some kind, that the metal debris that we saw out at the oil sump box, which was located right here and located on the shoulder of that old roadway, that that represented debris, metal debris and oil that was simply chucked off the side of the levee, and it didn't extend underneath the road. And there was no physical connection between the metal debris and the oil on the west side of the road to the oil that has been historically found on the east side of the road. So the point is that the starting point for the investigation was to put these across the road to try and determine if what the conceptual -- right conceptual model was for the old roadways, and whether or not the metal debris extended underneath the roads or was isolated to one side or the other. So it had less to do, Myrna, with any relationship between Lennar and the Navy, and more to do with the fact that we want to establish whether the oil does -- and the metal debris does or does not extend underneath the roadway or is isolated to the shoulder. And the primary reason for that is, you can imagine that the implications of it being one scenario or the other. If it was just isolated to the western shoulder along Azuar Drive, that's a much, much smaller problem than it being underneath the roadways for this whole area investigated.

CO-CHAIR HAYES: And so to ask the question, does it -- I mean now go back to your previous part of your presentation with that information. Does it go all the way under the road?

MR. FARLEY: Yeah. And I'm sorry if that didn't come across clearly.

CO-CHAIR HAYES: Well, it wouldn't have made, even if you said that I might not have --

MR. FARLEY: Yeah. The trenches extend across the road. You know, it's a fair comment, you know. Sometimes you get too close to things. But the metal --

CO-CHAIR HAYES: I do know that.

MR. FARLEY: The metal -- let me state it as clearly as I can because I probably didn't do a very good job here. The metal debris extends all the way underneath Azuar Drive, and the metal debris and construction debris extends all the way underneath Dump Road, and in both cases that metal debris and/or construction debris contains the oil. And when you get out of the metal debris, like we did up here at the north end of trench AB-1, the oil cleans up.

CO-CHAIR HAYES: So you're screwed?

MR. FARLEY: It's unfortunate.

CO-CHAIR BLOOM: It's unfortunate.

CO-CHAIR HAYES: It was a question.

MR. FARLEY: There are so many potential ramifications in terms of infrastructure development and all of those kinds of things. It's really an unfortunate finding, Myrna. So does that -- I'm glad you pointed that out because I --

CO-CHAIR HAYES: Well, I wasn't trying to trip you up, and I wasn't trying to say that you were just stopping at the boundary of Lennar's property.

MR. FARLEY: No.

CO-CHAIR HAYES: I just was trying to get an answer because I think at some point in the earlier presentations there has been some speculation that that product would, or evidence that that product was quite north of the road in some areas, like out where Weston had done some hot spot removal. So it's not a trick question, but --

MR. FARLEY: No. No.

CO-CHAIR HAYES: -- I'm sorry that you didn't put it in your slide there. I didn't even notice.

MR. FARLEY: Well, neither did I, until you were kind enough to point it out. But it's a good thing to reinforce the metal debris does, in fact, extend underneath the roadway, and the oil is associated with that metal debris, except where the metal debris is more shallow than the top of the oil. So the conceptual model for these roads now, at least in the areas that we've investigated, are that they weren't constructed as sort of engineered berms or levees, they were basically part of the overall building up of the entire island and --

CO-CHAIR HAYES: With debris.

MR. FARLEY: With debris.

CO-CHAIR HAYES: And contamination.

MR. FARLEY: And everything that we've seen has been just general metal debris. Everything from file cabinets to metal cable to shavings, who knows. Anyway, any more questions? I'd be happy to take any other questions anybody might have. Okay. Thanks very much.

CO-CHAIR HAYES: So actually, yeah. So why then just the metal? Do you think they burned the wood?

MR. FARLEY: It has to do with the depth and the permeability of those materials. A lot of the construction debris has a, sort of a fine grain matrix around it. In other words, the bricks are coated or in a fine grain soil or a matrix that doesn't have a lot of permeability to it.

CO-CHAIR HAYES: But the metal --

MR. FARLEY: The metal is just big, huge.

CO-CHAIR HAYES: It makes a pathway like it did in the other sump?

MR. FARLEY: Yes. Okay. Thanks, all.

CO-CHAIR HAYES: Michael was going to ask a question.

CO-CHAIR BLOOM: Wait, there's a question.

MR. COFFEY: Just a quickie, Steve.

MR. FARLEY: I didn't move quickly enough, did I?

MR. COFFEY: What is the reason that all this metal is -- if it's basically just island junk, why is it coated in oil?

MR. FARLEY: Oil has been disposed of in the area in different mechanisms. For example, the oil sump box was a structure that was used to get rid of oil. It appears that it didn't work very well. We can go into that another time. But it looks like it didn't work very well, but --

CO-CHAIR BLOOM: We have done that before.

MR. FARLEY: But the point is that the metal debris existed before the oil entered the metal debris. It wasn't dumped on top of the metal debris while they were crushing metal out there and building up the ground surface. It looks like the oil entered, sort of migrated horizontally along the metal debris. And in part it was because of the way the water levels go up and down out there and sort of pumps the oil horizontally. It can't go up so it moves horizontally.

MR. COFFEY: So to jump ahead, how extensive do you think this is?

MR. FARLEY: Well, you can see how extensive it is, at least along Azuar Drive. It's, you know, throughout this general area, and it's at least in this area there's other information that suggests that it -- at least it's along here. But the good news is it's not out in this area to much of a degree. But the short answer is, it's not completely characterized, so there's still more work that's going to need to be done to get to the limits of that. What I hope we have is that if we extend these potentially a little bit more we might be able to get to the limits of it.

MR. COFFEY: No guesses.

MR. FARLEY: No, I gave up on guessing a long time ago.

MR. COFFEY: I can see the amount of destruction it's going to have to the area when they mitigate all this stuff.

MR. FARLEY: Yeah.

CO-CHAIR HAYES: Well -- and my question is, do you need us to start a campaign to be able to close the road for longer period of time?

MR. FARLEY: No, I think --

CO-CHAIR HAYES: Is this a political decision that it has to be open, or is it just somebody not understanding the extent of the work that you're doing?

MR. FARLEY: It's a city requirement. It's working fine for the work that we're currently doing. It's a little bit of a hindrance, it just shortens the days a little bit, but it's not -- I mean we've been blessed with terrific weather, and the weather has actually worked more in our favor than the street closures have limited that work hours.

CO-CHAIR HAYES: But I mean --

MR. HOLLINGSWORTH: Every contract you have from 1994 on gives environmental cleanup priority. So you have to push the issue. And if you don't want to push the issue, you want to be a good guy, then you live with the damn restriction.

MR. FARLEY: Don't misunderstand, Gil. I'm not complaining. I'm just pointing out that the work hours we are working under is close the road at 8:00 o'clock and open it at 5:00 o'clock. If we felt that we had to extend those, we would go to the city and ask.

CO-CHAIR HAYES: And that was really the intent of my question. Again it's not meant to be construed as ridiculing or making fun of the city of Vallejo. It is the issue that Michael mentioned of, you know, how wide and how broad is this? How big of an issue is it? Now you're doing just test trenches, but at some point my point was sincere in that it looks like you may have to do some rather major remediation, in which case you couldn't close the darn street and open it every day.

MR. FARLEY: Let me try and circle back and sort of lower the anxiety of this. The city's requirements that we're working under right now, that we have not pushed for other hours, is not limiting us. It makes it a little more difficult, but if we really felt we had to, we would go back to the city and ask for more time. But the other part of this is there is no need to go ask the city to keep the road closed for two weeks or a month or six months, we're nowhere near that level of need.

CO-CHAIR HAYES: But there might be. I was thinking down the road, so to speak.

MR. FARLEY: I'm just --

CO-CHAIR HAYES: I'm not looking at now, I was looking down the road.

MR. FARLEY: I'm only talking about the work we're doing now.

CO-CHAIR HAYES: Okay. We're talking about two different things.

MR. FARLEY: Yeah, we're talking about two different things. Chip.

MR. GRIBBLE: Thank you, Gil, for reminding us of the priority for the cleanup. I think it's always important to keep that in mind. Steve, I cautioned about presuming the oil came -- I don't think we have any information that supports an interpretation that the oil came into the debris layer as opposed to being deposited with the debris layer. I don't think there's any evidence to say that one way or another, so I think we just have to be a little careful about how the oil came into the picture.

And it's very possible that it came in into the debris layer, but it's also very possible that it was deposited all together.

MR. FARLEY: It is possible.

CO-CHAIR BLOOM: Okay. Thank you. Thanks, Marie. Thanks, Steve. Next -- our next presentation will be given by Tom Wallis. It is going to be on installation restoration (IR) Site 15, an update on the bench scale testing.

III. LENNAR PRESENTATION: *Installation Restoration (IR) 15 Update on Bench Scale Testing*
Presentation by Mr. Tom Wallis, CH2MHILL

MR. WALLIS: Thank you. My name is Tom Wallis, I'm a hydrogeologist with CH2M Hill. And as was mentioned, I'm giving an update on the enhanced in situ bioremediation that we want to do at site IR-15 at Mare Island. So my objective today is to provide the RAB with an update on the treatability study, sometimes called a bench scale test, for remediation of chlorinated volatile organic compounds (VOC's) in groundwater at IR-15. What I want to do today is to review the site and the path forward that we talked about back in September 27th, at that RAB meeting, and then go to the treatability study, go to the objectives of that study, the scope, the reporting we're going to do, and also the schedule we want to meet in that study. So just a reminder of what IR-15 is and where it is; it's in investigation area C1, and it's at the bottom of that area. This is an aerial photograph of the site. The site is defined by the green polygon. And a quick review. The source of the chlorinated VOCs are these floor drains in B225. And over the years these floor drains leaked and they caused chlorinated volatile organic compound plume in groundwater going from B225 to the Mare Island Strait. And that's what we're worried about is that plume right there.

So just to review what we talked about on the 27th, the goal of the site is -- the first is to do a treatability study, a bench scale test of this remedial technology. Then we're going to -- if the results are favorable from the bench scale test, we'll then go in to the pilot scale testing. And then we're going to write the results of these two up into a remedial action work plan with a public comment period, and come talk to you guys. And then do a full implementation of the enhanced institution of bioremediation. So the goals or the objectives of the study are to assess the potential for enhanced bioremediation to degrade chlorinated VOCs using emulsified vegetable oil. I stress enhanced because there's strong evidence that there's already biodegradation going on right now, and we want to see if we can increase the speed of that by injecting this emulsified vegetable oil. The second objective is to determine the potential for the accumulation of vinyl chloride and metals in groundwater during bioremediation. To get to vinyl chloride is one thing, and then to go from vinyl chloride to ethene is another thing. We want to make sure we go all the way. And metals, there was a concern about mobilizing arsenic, and we want to make sure we don't do that. Or if arsenic is mobilized, make sure we can handle that. And then we want to determine whether a pH buffer or other amendments are needed to facilitate the in situ. So those are the objectives.

The scope is how exactly we're going to do it. We're going to have a series of microcosms which includes the soil groundwater and the emulsified vegetable oil. And they're going to be in a one liter glass bottle. And it's going to simulate the aquifer out at IR-15. There will be eight microtests -- eight microcosms representing four sites -- I'll show you the location in a minute -- and two control microcosms. One inert sterile, and one without any emulsified vegetable oil. And then each microcosm will be filled with 400 grams of wet soil, 800 milliliters of groundwater, and three

grams of the EVO, the emulsified vegetable oil in one liter glass bottle. And what we're going to be using is Newman Zone emulsified vegetable oil out of Minnesota. Not Newman's Own, Newman Zone. So what will happen is the microcosms will incubate at room temperature in a dark room for three to six months. And in a period of four to eight weeks we'll go ahead and periodically take water samples to determine if the microcosms actually does a reduction of chloride VOCs. If cVOC concentrations decrease more quickly or slowly than anticipated, the project team will adjust the sampling schedule and test duration accordingly. So we'll keep an eye on this for eight weeks, and we might change the plan as we go.

So where are we going to take samples? Well, we're going to install five new wells. These new wells we're going to install, and also this well over here. Now these -- one, two -- three wells along the strait have two focuses. The first is to increase our monitoring network and receptors. And then these two down here, which are in the heart of the 120 micrograms per liter PCE plume, will be used to collect soil samples and groundwater samples for the bench scale test. We're also going to go to the source area, which is -- this is where the floor drains are or were. And we're going to be doing, in addition, to replace that well that got removed when we did a removal action and took out the soil, so we're going to go back and replace that well. And we're going to put a new well in under building 273. And the idea there is to see if this green hatched area links up with that green hatched area underneath the building. We don't have a well underneath that building. And we're going to collect the soil and the ground water from there as well.

MS. D'ALMEIDA: Can you explain what the green hatched area is?

MR. WALLIS: So what this map shows is the concentration of PCE in all of the places that we have groundwater data of all time. So the worst it's ever been in each well, okay? Then you have two areas, this one here is the 8.85 contour, and in the shaded area is the 120 contour, okay. So within this shaded area here and up here it's about 120. And the significance of that is that the 120 is the aquatic habitat goal for the protection of the environment. And the 8.85 is the number that's protective of humans eating fish in the natural river. Okay. So there's the two numbers that we worked with, 8.85 and 120. And we're interested in the whole area because chlorinated VOC's are notorious in having a long tail, kind of like a slug, they leave a long tail as they go. So we want to go ahead and get upgradient of the strait and attack it up here because we know it's going to trickle through for a long time.

I threw this slide in because I thought you might be interested to see what it actually looks like. These are the microcosms, those are from another project. And so the other one needed jars, and they're filled up with soil and then two-thirds with groundwater from the site. And they get put in this anaerobic glove box so there's no air inside this box. And the people that work with the glasses or with the jars put their hands through this glove. And so this is a -- right here, this is a compartment, like a space capsule you have to go into this, close the door, open that door and go in. The same thing here. You put the bottle in there, you close the door, you make it anaerobic, and then you open this door. And so this is what the microcosms look like, and they'll sit there in room temperature for many weeks. And every so often they'll come in and take a sample of the water in each one of these and test them.

So this is the scope. We'll have a baseline event where they set up the microcosms. They're going to go through and test for, obviously, the chlorinated VOC concentrations of PCE, TCE, etc. and geochemistry, the pH, dissolved organic carbon, and chromium. We do hexavalent chromium as well as arsenic, iron, and manganese. And also sulfate because sulfate is a competitor. So it's

going to sit there for four weeks, and then we're going to go and take more samples, and then eight weeks and twelve weeks. And if in this time we see maybe oily, and also all the vegetable oil is eaten up, we might do another injection. Or if the pH drops dramatically, we might put a buffer in to bring them back to neutral pH. So then at the end of this we're going to put together a final report. We're going to determine if the native microbial populations were capable of completely reducing -- complete reductive dechlorination of cVOC's. Hexavalent chromium, if present, see if that was reduced and immobilized. The VC, the vinyl chloride accumulated and to what extent, if it's going all the way to ethylene, but there's a potential it might stall. And so we'll report on that. And then the dissolved arsenic and other metals such as manganese and iron, and see if they accumulated or if it was a non-issue. And then we'll look at the geochemical factors such as high salinity, high sulfate concentrations, and low pH and see how they interfered with the effectiveness of the in situ bioremediation. So there's high TDS, so we want to see if high salinity, if high TDS is an issue here.

So now I'll go over the schedule. We made this presentation to the DTSC and the regional board on Tuesday, and it was suggested that we hold a workshop with the experts of DTSC. And so on December 18th we're going to sit down with the DTSC and the Waterboard and go over this plan in detail to make sure we're not missing anything, make sure we're all on the same page about a testing protocol and how we're going to set up microcosms. Then, once that's all figured out and approved, we're going to be collecting the samples in late December, early January. And then we start the actual microcosm study. And it's going to last three to six months. We're hoping three months, but it might go as long as six months. And then in the May to July timeframe we'll be writing up the report. And then I'll come and visit you back in July and tell you how it went. So that's my presentation. What questions do you have?

MS. D'ALMEIDA: I thought initially you were planning to use molasses and you've changed to vegetable oil; is that correct?

MR. WALLIS: Well, the last time I came here I talked about molasses as a potential or HRC, we didn't commit to molasses. We went with this Newman Zone emulsified vegetable oil for a couple of reasons. It's a -- there's two types of amendment that you can apply here. There's long lasting, which is very -- is more sticky, and then there's short lasting. The short lasting is like molasses, your acetate, your cheese whey. And what that's really good at is the short-term response. But the bugs eat it up very quickly, so they have to go in and inject it again, you know, six months later. The trouble with the long lasting stuff, the vegetable oil, is it's very difficult to get it into the aquifer. It lasts longer and the bugs eat it more slowly, so that's good, but it's difficult to get it in. What's good about this Newman's Zone EVO is it's emulsifying -- and so it actually looks like milk. And so the little droplets of the vegetable oil are so small that they're actually smaller than the soil particles, so the actual oil droplets can get into the aquifer much further. And then the other good thing about this product by Brooklyn Center, Minnesota, is that it includes sodium nitrate, which is the fast stuff. So it has sort of both the fast short-term substrate, so it injects quickly, you can actually see the results quickly, but also has the long term stuff, the veggie oil, which slowly dissolves into the water, and then the bugs get to keep that for a long time, a year. So that's why we went with this brand.

MS. D'ALMEIDA: Is your work plan out yet for this?

MR. WALLIS: It's in draft.

MS. D'ALMEIDA: Okay. I'd like to get a copy. And put me on the distribution for your workshop too.

MR. WALLIS: Okay. What else?

MS. TYGIELSKI: I was curious why these tests are done in anaerobic conditions?

MR. WALLIS: The bioremediation of chlorinated soils through vinyl chloride happens in anaerobic environment. So there's special bugs that cannot live in aerobic environment. So in order for this thing -- in order for this treatment to happen, to go from PCE all the way to vinyl chloride, it's got to be anaerobic. Otherwise the bugs that like aerobic, they're going to take over and they're going to eat the vegetable oil and eat the sugar. We don't want those guys, we want the special guys that are eating the PCE; okay? So we take great pains to make sure it stays anaerobic from the time that we take the soil from the aquifer all the way to the lab. And in the lab we have got to keep it anaerobic, otherwise these aerobic bacteria take over and anaerobic bacteria die.

MS. TYGIELSKI: And what is the emulsifying agent for the vegetable oil? I mean, are you using it as detergent or what?

MR. WALLIS: I don't know what they use to make it emulsified. I'm sorry.

MS. D'ALMEIDA: Would the anaerobic conditions be characteristic of what you're finding in a situation you've got at IR-15? It's pretty shallow.

MR. WALLIS: Oh, yeah. We know it's anaerobic now, we have data and dissolved data at IR-15 from the wells. And it is anaerobic now. And we have ethene and we have vinyl chloride. So we know that there is degradation of the chloride VOCs all the way through to ethene at IR-15. It's just not going fast enough. So the wells on the strait have vinyl chloride in them, and we want the wells along the strait to have ethene in them, you see what I'm saying? We don't want vinyl chloride to go into the strait. So what we're trying to do here is put an amendment in the ground which will increase the population of the good folks so they chew up all the chlorinated VOCs faster before it gets to the strait. It's a tricky task because, for example, if you -- if you -- there's a scenario where you put the EVO, emulsified vegetable oil in, the bugs eat that, they produce acidic acid, yeah, and that drops the pH. Well, dropping the pH kills the good bugs, so then you got to go in and put in a buffer to bring the pH back up. So it's a very complicated. It can get complicated if -- and that's why we want to do a bench scale first and then a large scale. Does that answer your question?

MS. D'ALMEIDA: Uh-huh.

CO-CHAIR HAYES: Well, you answered my question about why you would try to maintain the pH at neutral. And so I only have one other question, and that is on your photo -- review photo.

MR. WALLIS: Yeah.

CO-CHAIR HAYES: Could you review with us why IR -- well, IR-15 has a very large green band, a big area, and you just got this one plume area plus the drain. What happens to the whole rest of that area? Have you confirmed sufficiently that there are no levels of contaminants at elevated levels that you need to do any kind of remediation in the rest of this green polygon or whatever it is?

MR. WALLIS: Yeah, we have tremendous amounts of data. IR-15 has other problems. I mean, it has lead in the soil at B.273. And it has chromium in the soil at B225. And it has two underground storage tanks, neither of which have been closed. So those -- and it's got a hexavalent chromium

plume. So no way am I saying this is the only problem at IR-15, but this is the one that we're doing the bench scale test on. Now --

CO-CHAIR HAYES: All right.

MR. WALLIS: Now, I'm very, very aware that our remedy for the chlorinated VOCs has to be compatible with the hexavalent chromium plume. You don't want to fix the chromium VOC plume and let the hexavalent chromium plume get to the strait. So there are the other things going on here as well other than the groundwater. So why the original polygon was drawn so wide, I don't know. I mean it's not like there's a problem in each corner and they connected it. It's just that they just drew it really big.

CO-CHAIR HAYES: Okay.

MR. WALLIS: What else? Chuck -- I mean, Chip.

MR. GRIBBLE: Very interesting, Tom, thanks. So in the end it says you're going to report on the treatability study in May to July, '08. So assuming that you were able to resolve this successfully, then what would happen after that? I assume you're going to come out with a removal action work plan, and when would that -- what's the timeframe that you anticipate that happening?

MR. WALLIS: Okay. So we'll have -- May, June will be the write-up of this report. And what I'm envisioning is that at the same time we do the write-up for this report we'll be writing up a plan to do the pilot study, okay, assuming everything goes well, okay -- And then -- and so I think that late -- middle to late July, middle to late summer, 2008, we'll be doing a pilot study, and that will probably go about six months. And so what we'll be doing will be picking a corner of the green area, and perhaps here, you know, and actually injecting this EVO and doing regular groundwater sampling in the wells below it. It's got to be a six month's project. And then we will incorporate that into the final FS remedial action work plan, the RAW into this IR-15 remedial action work plan next fall, with full implementation in the spring of 2009.

MR. GRIBBLE: And one more comment. I think you have too many sampling wells. Would you go back to slide number eight? I suggest you -- there are three -- the three up in the upper right, I would suggest you can eliminate those.

MR. WALLIS: The three in the upper right?

MR. GRIBBLE: Yeah, the black, blue, and green.

MR. COFFEY: He's pulling your leg.

MR. WALLIS: Thanks, Chip.

MR. COFFEY: The ones out in the middle of the strait, yeah.

CO-CHAIR BLOOM: I was about to put one of our maps up there.

MR. WALLIS: If there are no other questions, thank you very much for your time. Thank you.

MR. FARLEY: If I could just make one quick comment. Tom came down from Redding tonight to give this, and I, just as a colleague, I just want to say thanks, Tom, for coming down.

MR. WALLIS: My pleasure, it's fun to do.

CO-CHAIR BLOOM: All right. We're on our first public comment period. Is there any public comment? No. We'll go ahead and take our break. Ten minutes. (Thereupon there was a brief recess.)

IV. ADMINISTRATIVE BUSINESS (Myrna Hayes and Michael Bloom)

CO-CHAIR HAYES: Just before we get started on the next quarter or half or whatever, did everybody get to sign both of these cards for Cris Jespersen?

CO-CHAIR BLOOM: Okay. First is -- that was administrative business and announcements. That was the first. Second one is if anybody has any comments on the minutes from October, please get them to myself and/or Myrna.

V. FOCUS GROUP REPORTS

CO-CHAIR BLOOM: And with that, I don't think we have any other announcements so we'll move to the focus groups. And community, Wendell you're up first.

a) Community

MR. QUIGLEY: Oh, I have nothing. I'm sorry.

CO-CHAIR HAYES: Oh, but make your correction now.

MR. QUIGLEY: March 28th of 2008, that is a Friday.

CO-CHAIR BLOOM: Well, thank you for pointing that out, because we won't be here on Friday, so we'll change that. Mr. Lange, make a note. Thank you.

b) Natural Resources (Jerry Karr)

CO-CHAIR BLOOM: Okay. Next would be -- anything on natural resources? Jerry is not here.

CO-CHAIR HAYES: No.

c) Technical (Paula Tygielski)

CO-CHAIR BLOOM: Okay. We'll move on to Paula with technical.

MS. TYGIELSKI: I don't have a technical report. I do have some raffle tickets to sell.

CO-CHAIR BLOOM: Those folks go see Paula after the RAB meeting. Next is Gil, city report.

d) City Report (Gil Hollingsworth)

MR. HOLLINGSWORTH: We have nothing.

e) Lennar Update (Steve Farley)

CO-CHAIR BLOOM: Steve with Lennar update.

MR. FARLEY: I have something. The two handouts are deliverables tracking form and the eleven by seventeen handout that has some summary information about our activities. Both are available over at the front table. Let me start with the photographs, it seems to draw everybody's attention first. And on the left side is a photograph of some work that we did or are doing at the building 866 sump. This is an area where it was inside a portion of building 866, and we're doing some excavation for some contaminants in the soil and groundwater there following a pipeline and stuff that connected this former work area to a waste oil sump that was out at the west end of building

866. The interesting thing here is that -- it's not common for us to work in level B. Level B is respirators. And if you look real closely you can see the two workers there, in this case -- excuse me, they're actually on supplied air. So the health and safety issues at that site required that they actually be on supplied air for the work that we were doing. So pretty serious health and safety considerations and -- but the work went on with no problems. So -- The upper right is a photograph showing some trenching that we're doing along a FOPL segment, fuel oil pipeline segment. If you look in the background there you can see the weighs and the cranes over by dry dock number one, so that orange one, so the strait is to the left in this photograph. This is FOPL segment G110(7)E. And this is just one of the trenches that we're putting in to assess the conditions around one of the pipeline segments where there may have been some leaks of petroleum.

In the lower right corner is a photograph of some work that we're doing or were doing inside building 676. For those not familiar, the AL designation stands for assessment location, and then the number, so this is a PCB site. Anytime you see an AL after a building number, that's a PCB site. And the interesting thing here is that sometimes we have to work in these little tiny cramped areas to remove concrete floors. And you can see the dark areas in those photographs are areas where we've removed the concrete and replaced it with asphalt inside the buildings. So this is just a range of the kinds of activities that we're doing out there right now. And those three photographs are representative of the bulk of the work that's represented by the various dots and labels and the pink lines -- or is that fuchsia? I'm not sure. Those represent primarily different underground storage tanks, PCB sites, fuel oil pipelines. That happens to be the bulk of the work that we're doing out there right now.

In the lower left corner are the various documents in review and upcoming public comment periods and that sort of thing. The only major change there is that the D1.2 LUC O&M plan has actually been submitted for agency review. I believe it was submitted on the 14th of this month. And no changes to the number of sites closed. With all the work going on, I'm sure that will change in the near future. So that's all I have for tonight. I'm happy to answer any questions.

CO-CHAIR HAYES: Well, actually I do have a question. On this sump excavation, this looks like you're working pretty deep. And is it going to be -- what's the size of the excavation that you're doing? You have this really narrow trench.

MR. FARLEY: Right. The trench is on the order of about ten feet deep. It was a pipeline in the bottom of that trench; we've removed the pipeline and now doing some over-ex to remove the soil that was below that pipeline. If you look at the background you can see -- it's a little hard to see, but you can see a block of wood that looks like it's crossing over the trench. Behind that is another part of the excavation where the excavation opens up into an area that's probably on the order of 40 feet on the side. So a fairly large excavation. But, fortunately, it's not a huge deal. Most of the problems have been resolved already, and it's just going back and doing a couple of over-excavations. So even though -- while the size may be a little bit large, fortunately it's a relatively limited problem.

CO-CHAIR HAYES: My other question goes back to the PCBs that are underneath this building. Do you know -- are you working on those or have that area identified or --

MR. FARLEY: I'm not sure.

CO-CHAIR HAYES: Well, remember last time I was talking about that Shell -- I think it was Shell had that heat and treat --

MR. FARLEY: Oh, building 866, I'm sorry; I thought you were talking about --

CO-CHAIR HAYES: Isn't this 866?

MR. FARLEY: Yeah, that's right. That work, I believe -- I think Lennar is working on getting some more work done associated with those. Yeah. So there is more work going on in the area of that formal thermal treatment area. It's just not part -- For everybody's benefit, there was an area where the Navy had some sort of a demonstration treatment technology come in to basically bake the soils to rid the soils of PCBs that were in the soil. And the -- the outcome of that was that the PCBs were destroyed, but there were some very, very low levels of dioxins and furans that were either created or potentially created. And so there's some additional work going on to address characterization of those constituents or and/or take an action in the area. It happens to be essentially behind the photographer, it's to the west of this specific area.

CO-CHAIR HAYES: Some of that was on the outside of the building and some of it, we were told, was under the building.

MR. FARLEY: If it was under the building it was under the very, very western edge of the building. That thermal treatment area occurred around, in the vicinity of a former underground storage tank that was outside the building. And so if there was some work done that affected the area underneath the building, it was at the very, very western end of that building.

CO-CHAIR HAYES: Yeah.

MR. FARLEY: Yeah.

CO-CHAIR HAYES: But we don't know that it took -- I mean, can you confirm for sure that it did destroy all the PCBs at that site?

MR. FARLEY: No, I can't confirm that.

CO-CHAIR HAYES: So you --

MR. FARLEY: And I didn't mean to imply that.

CO-CHAIR HAYES: So there will be more ongoing work to determine whether there were PCBs that are under the building still?

MR. SILER: Why don't you let me answer, Steve?

MR. FARLEY: I was just -- I was trying to figure out -- yeah.

MR. SILER: There's numerous PCB sites that were under the building, and all those have been remediated; all the ones that we know about, whether they were assessment locations that were identified in the consent agreement, or if they were unknown sites that we found when we went through our original due diligence. So all of those have been remediated, we've received NFA on all of those.

CO-CHAIR HAYES: Even if they were under --

MR. SILER: If they're under the building. Before we ever started demolishing the building, it's been taken care of.

CO-CHAIR HAYES: Okay. Well, I think that's news to me. I don't know when -- whether you did give a presentation about that and I've just forgotten about it, but I've been very curious to know,

you know, what the outcome would be as you were working on that building in the area where that treatment pilot took place.

MR. SILER: Yeah. The only location we know where any of that thermal treatment took place, which was in the area around underground storage tank 866. And that's where we plan to go and do some additional characterization work. And if we find some dioxins there in the areas that would be acceptable for residential development, we'll remediate those areas.

CO-CHAIR HAYES: All right. But in addition there -- you're saying that there were additional PCB sites throughout the building that, before you deconstructed it, you went in and remediated?

MR. SILER: That's correct.

CO-CHAIR HAYES: All right.

MR. FARLEY: Yeah, I'm sorry, Myrna. I was totally focused on the treatment area, and I think Neal has covered the status of all that.

CO-CHAIR HAYES: I -- yeah. I wasn't just specifically looking at that treatment area. I didn't know precisely where it was. But -- yeah.

MR. FARLEY: Yeah.

MR. GRIBBLE: Actually I think there's an interesting question to that, Neal. I don't know if you have an answer, or maybe there might be an answer at some point in the future when you do that additional work by the --

MR. SILER: Underground storage tank 866.

MR. GRIBBLE: Yeah, the UST 866 where they did the thermal treatment. Somebody -- it was mentioned the furan as a by-product from that quote unquote "pilot study." And do we know if actually those were by-products from that treatment study? Or if that's just an unresolved question?

MR. SILER: We've actually taken one sample in that area, and we have found either non-detect dioxin and furans. And what we're going to do to get a statistically more representative idea of what went on there, we're going to take four to six additional samples in that area. So the indications are right now that nothing was produced, but we want to go back and go ahead and make sure that we can say with a lot better, you know, definition that no dioxins or furan were produced. But we'll find out once we get the results back.

CO-CHAIR BLOOM: Thanks, Steve. Next is the Weston update. Dwight.

f) Weston Update (Dwight Gemar)

MR. GEMAR: Thanks, Michael. First I want to say thanks to everybody for their well wishes to Cris. He's doing well, and I think the prognosis is a full recovery. I'll make sure that he gets these cards tomorrow. So I appreciate that.

Regarding the status as far as documents go, we've got several either in the queue or soon to be out for review. We have a work plan for doing the radiological survey of a couple of former outfalls by the northern portion of the Western Magazine area. We've gotten comments incorporated from DTSC, so we're basically done. We'll probably be doing that work in January with detectors to check for the radiation levels at the surface to make sure that there's nothing that exceeds safe levels. Since outfalls have a history of radian buttons, and there were some that were removed from these outfalls, so we'll check the surface consistent with what was done at the other outfalls.

The agency has a document called a post closure care plan for the containment area, and we're expecting some comments in January. And we have a couple of documents related to the munitions history and the recent removal actions out at the Western Magazine area at IR-05, and we'll be getting those two documents; they're called the conceptual site models. Those will be going out for review tomorrow. It's hard to believe that it has been five years since the western early transfer parcel was transferred, so we're doing a five year review of the remedy, and that document will be to the agencies shortly. Time flies when you're having fun. And the draft final remedial investigation report for IR-05 and the Western Magazine area, we're trying to incorporate some of the recent sampling results that we've been doing out at IR-05, and hope to get that out later this month or possibly early in January. As far as hot spot removal, we're down to the last dregs there. We got two side walls that we need to overexcavate. I think the agencies have a couple more datasets, so we're hoping to get some final feedback on those shortly so that we can wrap it up and be done with the consolidation of hot spots within the containment area. The grading work and subgrading work continues. We're on the downhill stretch, so to speak, with the landfill cap within the containment area. We've got five acres done, and about another eighteen or seventeen to go. The installation of the geosynthetics continues as well. We have 53 acres completed, which is 74 percent of the cap. And assuming that we have good weather, the liner crews can do about an acre a day. So we still have a good twenty work days left. So I think that's going to take us into mid-January, or longer if the weather doesn't cooperate. So far it has. Once the geosynthetics are installed, then we place a two foot minimum soil cover over those layers. And that work, of course, is continuing. And then when we get a large section completed, we hydroseed that, we spray seed, native grass seed over those -- that soil cover area, and pave to hold it in place. And we're actually completing that work this week for 25 acres of the cap. So that's moving along.

In the upper right-hand corner there's some of the equipment that we're using for transport of soils for the subgrade. Just for relative purposes, the truck -- the dump truck that you see in the photograph is a 40 ton offroad truck. So if you're used to half ton pickup trucks that you see on the road, this would be the equivalent of eighty half ton trucks. And we have nine of those. So every time they make one loop, the nine trucks haul the equivalent of 720 pickup loads. Down at the lower right hand of the picture we have excavation activities that have been performed recently at investigation site five which is at the south end of the island. This is soil that exceeds ecological human health criteria. And so far we've removed almost 20,000 yards from there as well, and have transported that to H1 for incorporation into the subgrade. And we're waiting on some analytical results to see if we need to do anything further at IR-05 for now. But that work is going on pretty well. So that's what we've been up to. Are there any questions?

CO-CHAIR BLOOM: Thanks, Dwight. Next is the regulatory update, Chip.

g) Regulatory Agency Update (Chip Gribble, Carolyn D'Almeida, Brian Thompson)

MR. GRIBBLE: We've just been busy with keeping up with the field activity and reviewing data packages for hot spots and backfill material. Weston is moving at such a pace that it's hard to keep up with them, so --

CO-CHAIR HAYES: Getting older; aren't you?

CO-CHAIR BLOOM: Thanks, Chip. Next is Linda with the Water Board.

CO-CHAIR HAYES: You should turn your sign around.

MS. RAO: So I'm providing an update both for Brian Thompson and myself. So we provided comments on the final building 690 remedial investigation and interim removal action summary, IA-C2, as well as comments on the draft tech memo for TPH at the DRMO site vicinity. And also we've made lots of site visits. Brian has visited numerous UST sites -- I think four or five, as well as working with folks on what future steps to take. Let's see. He's also been to IA-C1, the fuel oil pipeline segments and the DRMO trenching investigations, two or three of those. And then we were both out visiting basically Weston and their hot spot removal actions for IR-05. Pending work that we're in the middle of now is -- let's see. Brian's reviewing UST sites reports for 84 and 231. Let's see, he's got it here. We're both reviewing the data gap sampling plan for IR-05 and the Western Magazine area. We're reviewing the remedial investigation area K sediment report. And we continue to review confirmation sampling data that Weston submits so that we can keep things moving to approve backfill. That's it for us.

CO-CHAIR BLOOM: Thanks, Linda. Did Carolyn leave? Okay. No update from Carolyn. Next is our co-chair report. Do you want to go first?

VI. CO-CHAIR REPORTS

CO-CHAIR HAYES: Well, I'll just put, again, the Flyway Festival on your calendar. It's on my list of things to do. So it's February 1 through 3. And also, if anybody is interested in visiting the south end of the island, I have an outing going on December 8th from ten to three. And just meet at the gate at ten. And December 11th is the city council meeting in which the Regional Park Task Force will submit their findings, their recommendations to the Vallejo City Council regarding management of the south end of Mare Island area owned by the State of California and managed through the grant from the State Lands Commission as park land. And that has been a number of years in coming to the council. I think it's a great effort, and evidence of what a handful of hard working people can accomplish if they work on it long enough. And Jerry Karr was the chair and Kenn Browne serves on that committee, as well as Diji Christian who's here tonight. And Dwight Gemar and Cris and the Navy had a representative on it. Gil is our staff person. So it feels a little bit like also holding, you know, a miniature RAB meeting. Because that's one of the challenges of developing the south end as park land is the -- we follow -- we chase the environmental cleanup. It's an example, again, of how environmental cleanup makes reuse possible.

CO-CHAIR BLOOM: Thanks, Myrna. Next is the Navy's report. Actually I'd like to make an announcement since you brought up the Flyway Festival. Saturday, which would be the 2nd, I guess, will be -- we'll also be doing RAB tours of the environmental sites on that day. We thought it was a good idea. So -- but we will -- we'll have a bus there, similar to what we had before, and we'll be putting together the sites, and the details are forthcoming on that. The public will be there. Anybody will be able to go that wants to. So actually a lot of the -- on the handout here, some of the field work that was on here was talked about already. The DRMO trenching, there's a picture of them doing that, but that was the presentation given tonight by Marie and Steve. We also have performed excavation at underground storage tank 993-4 which is located in the northern end of where the former service station was. And we went in to remove the soil. We removed it and we backfilled in October. There is some residual contamination in soil located at a depth of about eight feet, just in one area on the -- basically the edge of the building, underneath the building. So we didn't obviously remove that yet because the building is there. But the Navy portions -- Brian was up there, you know, and then we'll report on that. In addition, obviously the TCRA for the -- for the sites, you had a presentation on that at the last RAB. You had a good update on that. But

the next update is we've removed -- continue to remove the majority of the abrasive blast material at IR-04. There are nine of the thirteen areas that have been completed. We're awaiting some information from NOSSA, who's the naval ordnance center, because they're smaller areas, but four of the thirteen areas were actually out of the F2 area, but they're in the F1 area, which they were concerned about. So they're reviewing that before we continue on in those four areas. The paint waste area, I believe, was discussed last time. We actually stopped, we haven't done any removal there, we're awaiting -- we're discussing it with our radiological office as well as DTSC. We put together a plan of action there, and hope to continue with the removal at the area next week. But in the meantime, we shifted to IR-05. Dwight just talked about that in his update, and you heard about that. But pretty much completed the removal there as of right now. And we're going to begin the fourth site, which is the horse stables area, beginning on Monday. If you turn the report over you'll see documents that we submitted. We submitted a response to comments on our draft final ROD, IR-17; the offshore sediment investigation at Area K that Linda talked about; and the response to comments at Building 742. And, as Linda mentioned, we received comments from Brian on the DRMO tech memo. We had our BCT meeting this afternoon. The next one is planned for two months from now, the afternoon of the RAB. As far as early transfer goes, the latest date for that, that the parties are talking about for hopefully things to be taken care of, I believe, is July, 2008. The parties' counsels for both sides, more than both sides, I guess, are meeting. They've been discussing terms of the ETCA. The environmental and technical folks have been talking about the assumptions of what's left to do at the sites as far as environmental cleanup. And with that, any questions?

CO-CHAIR HAYES: Regarding one of the sites that's included in the early transfer, and that includes the houses for the south end -- I think that's parcel 7B -- I just forgot in my own comments to thank the Navy for re-roofing all of those houses in the last two weeks. And that's been a long time coming, but it's important to protect the resource, and it is the Navy's responsibility because they still hold the property. And under the conditions of the National Historic Landmark and the historic district it's their responsibility. But it's something that's probably, you know, not the best use, in some people's mind, of their limited amount of BRAC money. And I think it was a real testament to the commitment this team at the Navy here has to make sure that the resources, when they are transferred, both have environmental remediation complete, but that they're also transferring historic resources in a condition that will make them usable or continue to be available for interpretation and economic use. So I appreciate your team stepping up to the plate on that.

CO-CHAIR BLOOM: Thank you, Myrna, I appreciate that. With that, we go to our last public comment period. Any public comment? (No response.)

CO-CHAIR BLOOM: If not, we'll adjourn. Everybody have a great holiday because we will be out in December, back the last Thursday in January. Take care everybody.

LIST OF HANDOUTS:

The following handouts were provided during the RAB meeting:

- Presentation Handout – Follow-on Total Petroleum Hydrocarbon Investigation at Defense Reutilization and Marketing Office Update – Navy
- Presentation Handout – Treatability Study for Enhanced in situ Bioremediation (EISB) at IR15, Mare Island– Lennar Mare Island
- CH2MHill/Lennar Mare Island Deliverables Schedule November 2007
- Mare Island RAB Update November 2007 – Weston Solutions

- Navy Monthly Progress Report Former Mare Island Naval Shipyard November 2007

(Thereupon the foregoing was concluded at 9:04 p.m.)