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TRANSCRIPT OF PROCEEDINGS

NASA/JPL CERCLA RPM MEETING

JUNE 20, 2002

4800 Oak Grove Drive

PASADENA, CA 91109

1 APPEARANCES :

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1                   Pasadena, California, Thursday, June 20, 2002

2   9:21 a.m.

3

4           PETER ROBLES: Okay. We'll go around the room and  
5 introduce ourselves officially.

6                   I'm Peter Robles in the NASA management office.  
7 I'm the RPM for the government.

8           KIMBERLY GATES: Kimberly Gates with the Navy.

9           DAVID YOUNG: David Young with the Los Angeles Regional  
10 Water Quality Board.

11          ROBERT KRATZKE: Robert Kratzke with the Navy.

12          CHRIS LEADON: Chris Leadon with Southwest Div.

13          G.B. WICKRAM: I'm Wickram with Battelle.

14          DAVID CLEXTON: David Clexton with Battelle.

15          KEITH FIELDS: Keith Fields with Battelle.

16          LINDA HOLLINGSWORTH: Linda Hollingsworth with the Navy,  
17 Southwest Division.

18          RICHARD GEBERT: Richard Gebert with the State  
19 Department of Toxics.

20          MARK RIPPERDA: Mark Ripperda with the U.S. EPA.

21          BARRY MOLNAA: Barry Molnaa with ARCADIS.

22          DENNIS HOW: I'm Dennis How with the Navy.

23          PETER ROBLES: So we are all present and accounted for.

24                   So today what we want to do is give you a status on  
25 our programs, and we're going to go over all the three

1 operable units. The first one is OU1 and just basically look  
2 at what we are doing there. We'll take a break and then go  
3 to two and three in some more details.

4 So shall we press on?

5 KIMBERLY GATES: Did you want to start the presentation?

6 KEITH FIELDS: Yeah. What we'll do is I'll say a couple  
7 words about the pilot study that Foster Wheeler is  
8 conducting, just an update on that, and then Barry will talk  
9 about this upcoming OU1 insitu bioremediation pilot test.

10 So currently Foster Wheeler is dealing with some  
11 disposal issues of the treated water. They are working  
12 through those, and I think they have a plan now, and then  
13 they will be pressing on in probably about August. They will  
14 start the phase 2 operations. And then once that goes for  
15 about a month or two, then they should finish up with the  
16 report that you guys will see towards the end of the year.

17 You guys all remember that that's the pack bed  
18 bioreactor.

19 PETER ROBLES: The key here is the treated water  
20 disposal. We probably have to talk with the Regional Water  
21 Board.

22 KEITH FIELDS: Right.

23 PETER ROBLES: So we will have to present some  
24 information for discussing how we are going to dispose of the  
25 treated water.

1           DAVID YOUNG: On our last teleconference we discussed  
2 sending a letter to Huang Lee.

3                    Any progress on that?

4           KEITH FIELDS: Not to my knowledge. I think now what --  
5 I think they're going to avoid this issue with the pack bed  
6 because they are going to dispose of it as non haz waste  
7 or that's what they are trying to do; right? They are going  
8 to put it in tankers and then truck it off.

9                    But I think the Water Board issues on that one will  
10 not be an issue, but they will be one with Barry's study and  
11 then also future studies, future activities will have to look  
12 at this as well.

13           PETER ROBLES: I think with the ARCADIS in situ bio,  
14 we need to do a letter with Lee to ensure that. And  
15 that's one of the things that I want Keith to work with  
16 ARCADIS to make sure he has the right letter.

17           PETER ROBLES: Particularly so that we can see the letter  
18 and what we need to do to get the words right for Hung Lee.

19           DAVID YOUNG: I would be happy to talk to Huang Lee and  
20 see what he wants as far as that letter, to help you guys  
21 out.

22           PETER ROBLES: What kind of parameters, what kind of  
23 sampling he wants to ensure that the water can be disposed?

24           KEITH FIELDS: The last time, Richard had indicated at  
25 the last March meeting that the current approach is to

1 implement this in situ study and then move on with  
2 expanded pilot testing, similar to what they did on  
3 OU2 with, you know, running a system at a quite  
4 expanded pace and actually achieving some source reduction  
5 with that, within a pilot study.

6 I just want to reiterate that is still the  
7 approach, but we do want to get the results from ARCADIS and  
8 Foster Wheeler and the other pilot tests just so that the  
9 best decision is made before we move into the extended test.

10 RICHARD GEBERT: So the phase 2 in the pack bed is just  
11 to get more information for costs and --

12 KEITH FIELDS: Yeah. This would give us more  
13 information on costs

14 RICHARD GEBERT: For O&M and materials for the pack bed.

15 KEITH FIELDS: Exactly. Yeah, what is the best media,  
16 support media, and then also, you know, how to resolve any  
17 issues with biofouling or clogging or things like that. And  
18 so that it can be a good comparison with the work done by  
19 Envirogen with the fluidized bed.

20 RICHARD GEBERT: It is to run for about a month?

21 KEITH FIELDS: I believe so. And with that, we'll have  
22 Barry talk a little bit about the testing they're going to be  
23 doing here in the next few months.

24 BARRY MOLNAA: Thank you. By the way, my name is Barry  
25 Molnaa, and that's all I said, but I'm actually the principal

1 scientist for ARCADIS, and I'm in charge of managing the study  
2 and the technical oversight on the in situ perchlorate pilot  
3 study that's just now taking off here.

4           Just kind of briefly go through what I want to talk  
5 about tonight or today is go through our technology  
6 description, what we want to do, what the objectives are, our  
7 proposed location for the pilot test, some permitting and  
8 regulatory approvals that we'll be asking you folks to give  
9 us, key milestones, and project schedules, and we'll combine  
10 those two. Okay.

11           The technology description just simply is working  
12 under the premise that bacteria can use perchlorate as an  
13 alternative electron acceptor, similar to what is being  
14 evaluated in the Foster Wheeler bioreactor above ground. We  
15 now want to evaluate that in situ.

16           The requirements are that the conditions must be  
17 amenable for the bacterial population to thrive and remove  
18 perchlorate. What that really means is we need to create a  
19 mildly reducing environment in the subsurface and the  
20 by-products of perchlorate are chloride and oxygen.

21           This reactive zone technology is -- it is becoming  
22 quite accepted as a technology. The Regional Board actually  
23 has it as part of their general permit for waste discharge  
24 now for chlorinated VOCs.

25           I just put up a few sites so that you can see that

1 we not only do these chlorinated VOCs, but we also do  
2 perchlorate and chromium, and we're looking at some other  
3 metals, zinc and such.

4           And this is just a quick listing of some of the  
5 sites in California. The majority of these are in Southern  
6 California. And some are in full scale, some in pilot, but  
7 all doing pretty well.

8           Thank you.

9

10          BARRY MOLNAA: The objectives of the pilot study, first  
11 one, obviously, is to determine the effectiveness and  
12 implementability of vadose zone treatment using reductive  
13 biological treatment.

14           This technique that we're going to use is going to  
15 attack vadose zone perchlorate as well as saturated zone  
16 perchlorate. That will require that we create mildly  
17 reducing conditions in the saturated zone and also mildly  
18 reducing conditions in the unsaturated zone.

19           We want to determine the effectiveness and  
20 implementability of saturated zone treatment, and then  
21 ultimately what we would like to get out of this is  
22 full-scale design parameters, well spacing, dosing rates, the  
23 optimum reducing conditions.

24           What we found on other sites where we are looking  
25 at perchlorate is the mildly reducing conditions can range

1 from 0 to minus 150, and there's a range of about 50  
2 millivolts that is optimum for perchlorate reduction  
3 and -- but it will varies site to site. Sometimes it is 50  
4 to 100; sometimes it is 100 -- or minus 50 to minus 100 or  
5 minus 100 to minus 150.

6 The proposed location is right around MW-7, which  
7 is also the location of the Foster Wheeler pilot study right  
8 now. What we're going to propose to do is we would have a  
9 series of -- we have one injection well, which is IW-1 on  
10 that figure. And then we would have three saturated zone  
11 monitoring wells surrounding it, downgradient of it, and then  
12 two vadose zone monitoring wells as well.

13 And we use MW-7 as sort of a sentry well that we  
14 can monitor to make sure that anything that we add to the  
15 subsurface is being tracked.

16 The function of the vadose zone monitoring well  
17 will be constructed such that when we add the carbohydrate  
18 solution to the subsurface we'll be able to track -- you can  
19 see that they are varying distances, but we want to try and  
20 see the effective radius of the added solutions,  
21 both in the vadose zone and in the saturated zone.

22 PETER ROBLES: Question?

23 BARRY MOLNAA: Yes.

24 PETER ROBLES: How will they be screened?

25 BARRY MOLNAA: Well, what we hope -- well, what we are

1 going to do is, as we drill a well, we're going to collect  
2 soil samples and analyze them for perchlorate on a rapid  
3 turnaround. So we're going to install the injection well  
4 first, and we're -- I think we're scheduled to take soil  
5 samples every 10 feet. We will have those analyzed. If we  
6 have -- if we find areas with elevated levels of perchlorate,  
7 we will screen those intervals. And that's our basis for  
8 screened intervals in the vadose zone.

9           Obviously, in the saturated zone we're just  
10 targeting an area. We usually do that on a screening  
11 interval of about 20 to 30 feet in the saturated zone.

12           PETER ROBLES: The second thing is why MW-7?

13           BARRY MOLNAA: MW-7 was selected from -- because it's in  
14 the area of what will we call the 400 PPB contour.

15           There were three -- three wells that were within  
16 that contour. There's MW-16, MW-24 and MW-7.

17           This one -- this area has the best accessibility  
18 from the standpoint of being able to put this number of wells  
19 in a very small area.

20           Okay. Permitting and regulatory requirements.

21           We are in the process right now of preparing a  
22 workplan for submittal. Obviously, we will need approval for  
23 implementation. And the primary permit that we'll need to  
24 get is a waste discharge requirement permit from the Regional  
25 Board to add the carbohydrate solutions to the subsurface.

1                   There is a general permit for chlorinated VOCs. I  
2 don't know if it's going to be applicable to perchlorate.

3           DAVID YOUNG: There is a new general permit specifically  
4 for perchlorate.

5           BARRY MOLNAA: Oh, okay.

6           DAVID YOUNG: Just came out.

7           KIMBERLY GATES: Just in time.

8           BARRY MOLNAA: Thank you.

9           PETER ROBLES: This permit will be specifically for this  
10 project?

11          DAVID YOUNG: It is a general permit for perchlorate  
12 contaminated site.

13                   I haven't read it yet, but give me your card, and  
14 I'll send you a copy of the e-mail.

15          PETER ROBLES: Could you send me a copy as well?

16                   If you could just send Dave, then he will  
17 distribute it to everybody.

18          PETER ROBLES: I know this is just office chatter, is  
19 there anything --

20          DAVID YOUNG: I have not heard anything about it.

21          BARRY MOLNAA: I mean, typically when we implement this  
22 approach in the L.A. basin, we use the general permits that  
23 are out there already. They are much faster to get, and the  
24 parameters for the requirements are pretty reasonable.

25                   I don't anticipate any other permits necessary

1 other than your standard well permits, things like that. So  
2 if there are other agency permits that we have overlooked, we  
3 would be interested in hearing about this.

4 PETER ROBLES: The only thing is it will have to go  
5 through JPL to make sure the coordination for utilities and  
6 other things.

7 BARRY MOLNAA: Yes.

8 We are actually working with Dave on that and hope  
9 to have that started next week.

10 KEITH FIELDS: And David will work closely with JPL --  
11 with Cal-Tech, because they coordinate permitting.

12 PETER ROBLES: The waste water discharge requirement or  
13 application also needs to go through Chuck.

14 MARK RIPPERDA: Does Chuck actually apply for the permit  
15 and not ARCADIS?

16 PETER ROBLES: Right. It would be the site contractor  
17 that would apply for it.

18 BARRY MOLNAA: Key milestones.

19 We have had a couple already. The kick-off meeting  
20 for the project was on June 4th.

21 The technology selection letter was submitted last  
22 week to JPL.

23 In that letter, just to kind of give you idea of  
24 what that is, there are many, many studies in the literature  
25 about which substrate to use, what's the best

1 substrate out there to facilitate the perchlorate  
2 degradation.

3           There is no consensus. The only consensus that  
4 really is out there is that if you create a mildly reducing  
5 condition, something a little stronger or greater  
6 than minus 150, you will get perchlorate degradation.

7           It is very similar, perchlorate and  
8 nitrate to bacteria are pretty much the same  
9 compound.

10           So in that letter we recommended the use of corn  
11 syrup as the carbohydrate that we would add, for several  
12 reasons. One, it's pretty easy to get. We can get it in a  
13 food grade quality. So there is no real stigma associated  
14 with adding something foreign to the subsurface.

15           And we have two other sites, one, the Aerojet site  
16 where we have seen very good results with corn syrup. A lot  
17 of the reactive zone technologies you'll see use molasses --  
18 and in fact ARCADIS is a big proponent of using molasses. We  
19 don't want to use molasses here intentionally, and that's  
20 because molasses has a high sulfur content, and we don't  
21 want to add any more sulfur -- sulfate, basically, to the  
22 aquifer for a variety of reasons.

23           One, sulfate competes with the perchlorate  
24 reactions, and also we're creating reducing conditions. And  
25 if we put sulfate into a reduced environment we can create a

1 hydrosulfide, and we can end up with secondary effects of the  
2 aquifer that we don't want to worry about.

3           So we have thought all of that. Corn syrup is a  
4 nice -- a pretty pure carbon source. It's fructose and  
5 sucrose and glucose, so it's another pretty simple compound.

6           KEITH FIELDS: I don't know if you guys -- there was a  
7 microcosm study performed here on ground water and sediments  
8 from the JPL facility. And that microcosm study showed pretty  
9 much any carbon source was going to work. It was just some  
10 worked a little quicker, but all of them seemed to be --

11           BARRY MOLNAA: Except benzoate

12           KEITH FIELDS: I mean they tested it on everything.

13           BARRY MOLNAA: Yeah. And they were all quick.

14           The other nice thing about this is these reactions  
15 are pretty quick in the subsurface. It's not like a typical  
16 cVOC reactor zone which can take months or up to a year to  
17 establish. We have seen results pretty quickly.

18           PETER ROBLES: What kind of time are we talking about?

19           BARRY MOLNAA: Well, we're hoping to create the reduced  
20 condition within a matter of about 30 days. And once we have  
21 created the reduced condition, the reaction with perchlorate  
22 is almost instantaneous from a biological standpoint. A week,  
23 to a month. It can be very, very quick.

24           PETER ROBLES: So in 90 days you can have --

25           BARRY MOLNAA: We could have this thing knocked out in

1 90 days.

2 Now, a lot of this has to do with how much  
3 perchlorate is up in the vadose zone and how much is going to  
4 leach down into the saturated zone, but it will be leaching  
5 into a reduced area, and we will be monitoring MW-7 to see  
6 what happens there.

7 KEITH FIELDS: In your studies, have you seen, is nitrate  
8 degradation a prerequisite for perchlorate?

9 BARRY MOLNAA: Yes.

10 KEITH FIELDS: I mean, does it seem like that's reduced  
11 first, and then it goes to perchlorate, or do you see  
12 concurrent --

13 BARRY MOLNAA: Yes.

14 BARRY MOLNAA: The key monitoring parameters in the  
15 sequence is going to be you have to pull out the nitrate.  
16 Nitrate actually competes. You pull out nitrate. Then  
17 perchlorate and then -- but they are still organic. It  
18 will continue to reduce.

19 KEITH FIELDS: Okay. Your nitrate concentration is  
20 significantly higher than the perchlorate -- right? -- an  
21 order of magnitude?

22 BARRY MOLNAA: So you have got most of your --

23 KEITH FIELDS: the carbon source will be to address -

24 BARRY MOLNAA: we will load the aquifer to remove  
25 nitrate. It's actually -- it's a good point.

1                   One of the -- one of the things that we're  
2 exploring as a company is targeting nitrate treatment for  
3 drinking water wells, using this technology, because it's so  
4 effective at removing nitrate, and it is a huge market for  
5 us. So yeah, it's a proven approach to get nitrate out as  
6 well.

7                   The pilot study workplan, we're hoping to have that  
8 ready for submittal in July. We are waiting for comments  
9 back on the technology selection, letter from JPL, and as  
10 soon as we get that -- we have already started work on the  
11 workplan. We know what we are proposing to put the study.  
12 We have a good idea on how we are constructing the wells,  
13 with some caveats. We reserve the right to move the screens  
14 based on the perchlorate.

15                   Once we have the workplan in for approval,  
16 hopefully, that will turn around quickly. We're scheduled to  
17 have the well and system installation in September. We would  
18 like to have the WDR permit approval then. Obviously, we  
19 will submit the workplan as part of the WDR application with  
20 the general as required.

21                   And then operation and progress report will go on  
22 thereafter, and we're hoping to have a final report in  
23 February of 2003. Sooner if the thing burns quicker.

24                   CHRIS LEADON: No permits are required under CERCLA. Is  
25 this a CERCLA?

1           MARK RIPPERDA: He said that no permits are required  
2 under CERCLA.

3           CHRIS LEADON: Usually just needs to meet the requirements  
4 thing we need to discuss --

5           MARK RIPPERDA: Right. That's one of the things that  
6 we need to discuss --

7           PETER ROBLES: What we really need to do is submit the  
8 data that they need so that at least it meets the  
9 requirements of the permit application without getting the  
10 water board permit.

11                   The biggest thing that we want to do is make sure  
12 (inaudible) is agreeable with what we are doing and our  
13 discharge and everything else.

14                   The actual permit may not be -- I'm talking with  
15 our attorney about that issue, but the issue is we have to  
16 act like we are applying for the permit and doing all the due  
17 diligence that we have to to do and providing all the  
18 information to the Regional Board so they can make -- have a  
19 warm fuzzy that we are doing the right thing. And then they  
20 can make comments on that, no, should do it this way or that  
21 way.

22           BARRY MOLNAA: Right. Basically meet the substantive  
23 requirements of the permit.

24           PETER ROBLES: Right.

25           MARK RIPPERDA: How are you going to inject into the

1 vadose zone? Are you going to have a single injection well  
2 and multiple sets of tubing coming down? How are you going  
3 to control it?

4 BARRY MOLNAA: It's -- right now we have proposed to  
5 construct a multi-port well, and we're going to have -- so  
6 it's a single string with multiple points, and this can  
7 change, basically, on how the construction ends up. But we  
8 would inject from the bottom up, and we would back off  
9 sections, put in the packer gravity feed, the carbohydrate  
10 solution and saturate the zone, come up with the next level,  
11 we would do the same as we--, come out of the well.

12 MARK RIPPERDA: How diluted is the corn syrup?

13 BARRY MOLNAA: In the vadose zone we are anticipating it  
14 being a two percent solution.

15 MARK RIPPERDA: So its viscosity is --

16 BARRY MOLNAA: There's no - it's water. Ultimately  
17 we want to get a TOC loading in the aquifer of less than 100  
18 ppm, so it's not a lot of organic load.

19 PETER ROBLES: It's that effective?

20 BARRY MOLNAA: Yeah. We're looking to -- one of the  
21 things we have learned is overdosing the aquifer creates a  
22 very strong reducing condition and will shut off the  
23 perchlorate degradation. So we have to be very careful about  
24 how we deal with that, create the reducing conditions  
25 (inaudible) mildly reducing condition.

1                   And what we -- we have seen this on five sites now,  
2   that we can even shut off nitrate degradation. Even if we  
3   flow through minus 150, we can shut off the nitrate  
4   degradation, and it keeps going. So you have to be very  
5   careful about that.

6           MARK RIPPERDA: How many gallons are you going to  
7   inject?

8           BARRY MOLNAA: Right now we are still in the process of  
9   designing the radius of everything, but it's -- it's  
10   thousands of gallons of water to saturate the vadose zone, it's  
11   200 feet of vadose zone. And we have to try and saturate it to  
12   create an anaerobic condition. So it's a significant amount.

13                   One of the challenges is going to be where we get  
14   our water. Right now, what we're anticipating is using the  
15   bioreactor, treating the MW-7 water, removing the organics, the  
16   CVOCs that are in there, breaking down the perchlorate in the  
17   bioreactor, testing that water and seeing if we can use that  
18   water as the make-up water as our injection water into the  
19   subsurface.

20                   There's a lot of questions associated with that,  
21   but I know there's an issue associated with using the tap water  
22   here as injection water.

23           KEITH FIELDS: Has there been consideration given to  
24   using Foster Wheeler's water?

25           BARRY MOLNAA: Actually I just wrote that down.

1 KEITH FIELDS: They are already doing the bioreactor,  
2 the same thing.

3 BARRY MOLNAA: It sounds like we may be able to use  
4 their water. I just wrote that down as a question to ask.

5 MARK RIPPERDA: Especially now there's -- what do you  
6 call the permit? -- the general permit?

7 It's like before, JPL wasn't even allowed to inject  
8 that water, even though it came out of the aquifer. They  
9 couldn't inject it back in because it had slightly higher  
10 chloride than was allowed, but maybe the general permit would  
11 be more forgiving of that kind of thing.

12 DAVID YOUNG: The general permit for chlorinated  
13 solvents is much more open to reinjection standards. So I'm  
14 sure that the perchlorate general permit is the same.

15 BARRY MOLNAA: Is Steve writing the permit?

16 DAVID YOUNG: David. David wrote the permits.

17 MARK RIPPERDA: Always talk loudly so that she can hear  
18 you.

19 How does that compare to the amount of pore  
20 volumes? Are you actually flushing --

21 BARRY MOLNAA: No, actually we're going to design so  
22 that one of the analyses, once we drill the well, is to try  
23 and figure out we want to saturate without creating  
24 infiltration, obviously will create some, but the goal is not  
25 to flush in the aquifer. It's to create that anaerobic

1 condition in the vadose zone. We have had some success doing  
2 that.

3 One of the concerns here is that this is a fairly  
4 porous vadose zone, and we're not -- right now we're not  
5 certain how much water we'll be able to put in. That's why I  
6 couldn't answer your question specifically on the volume.

7 KEITH FIELDS: When are you going to do that?

8 BARRY MOLNAA: It will be part of the --

9 KEITH FIELDS: are you doing some geotechnical analysis?

10 BARRY FIELDS: Well, it will be part of the start-up  
11 activities, is to evaluate that, and the monitoring system  
12 around the wells, the saturated zone monitoring system will  
13 really tell us are we starting to flush stuff or not --

14 MARK RIPPERDA: And personally I don't think flushing  
15 the vadose zone is a problem. I don't see how you cannot do  
16 it because it is so sandy gravely.

17 But I was wondering about interpreting the results  
18 of the test in a saturated zone, when you come back and  
19 monitor after the test. I know you will be monitoring other  
20 parameters, but how much of the reduction of perchlorate will  
21 be due to flushing and how will be due to reduction?

22 BARRY MOLNAA: We are going to try and get as good a  
23 mass balance as we possibly can. We have got a pretty rigid  
24 monitoring program set up looking at the nitrate and  
25 perchlorate and TOC and other aspects. So I think we'll be

1 following it.

2           And the nice thing is that we're going to establish  
3 the reactive zone in the aquifer first so anything that does  
4 flush literally is just entering our treatment system. So we  
5 may never see the perchlorate we flush into the aquifer in  
6 the monitoring. We'll never see it.

7           MARK RIPPERDA: How much perchlorate order of magnitude  
8 is absorbed to get 400 parts per billion, dissolve  
9 phase, what is the mass quantity in water and what is the  
10 mass quantity in the soil matrix?

11           BARRY MOLNAA: I don't know yet, but that's actually  
12 my -- part of the workplan. One of the things -- we outlined  
13 the workplan yesterday. So we're pretty early on in the  
14 project.

15           But one of the things that I asked the team to do  
16 is, obviously, we have got sort of a stable 400 PPB contour  
17 at the site. And if you look at the water balance across the  
18 site, there must be a way to calculate how much mass is  
19 coming into the aquifer to maintain that constant contour.

20           And so we're trying to do that, sort of a box  
21 model, right now to see what the mass balance is into the  
22 aquifer right now. It must be -- I would think it would be  
23 significant.

24           And it is one of the reasons that we actually  
25 started looking at the vadose zone treatment. We were going

1 to initially do a saturated zone and insitu saturated zone, and  
2 we started looking at the stability of that 400 PPB contour,  
3 and we were concerned that if we cleaned up the aquifer we  
4 would leave, and it would come right back.

5 LINDA HOLLINGSWORTH: Barry, when you are talking about  
6 overdosing. If you overdose, do you just have to wait until  
7 the level comes down?

8 BARRY MOLNAA: Yes.

9 LINDA HOLLINGSWORTH: So it's not like you wiped out the  
10 whole test; you have to basically wait until the conditions  
11 come back into the range where it works.

12 BARRY MOLNAA: Yes. You basically just have to take your  
13 foot off the accelerator and come back to the right speed.

14

15 LINDA HOLLINGSWORTH: Okay.

16 KEITH FIELDS: I noticed you were actually, in some of  
17 your monitoring wells in the vadose zone, you had some sort  
18 of a sump collection system, but you indicated that you are  
19 not trying to oversaturate, or you are just trying to fill  
20 the pour volume.

21 At your other sites have you noticed that you are  
22 still able to get collection of water within those sumps?

23 BARRY MOLNAA: Yes. You will get driving force away  
24 from the well, so what you are getting is a driving force away  
25 and you are getting a driving force down, and what you try and

1 do is balance those driving forces as best you can to preclude  
2 flushing.

3           But the way that the vadose zone monitoring wells  
4 are being constructed is with a screened interval and then  
5 there is a five-foot sump so that any water that is migrating  
6 through the zone will actually be collected in the well so  
7 that we can go down and sample it in the sump.

8           And what we are looking for in that water is  
9 reduced conditions. We like to see low ORP (phonetic) in  
10 those water samples. If they pick up perchlorate, that would  
11 be great. We know that we're flushing perchlorate zones that  
12 way. But mainly, if there's water in these, we will know  
13 that we have affected the radius that far out, even 15 or 20  
14 feet away. That helps us with the full-scale design,  
15 basically.

16           KEITH FIELDS: One more question was on -- I thought I  
17 had read someplace, and maybe it was other studies, where  
18 they use a tracer.

19           Are you guys intending to use a tracer to determine  
20 like what Mark was talking about, how much dilution you may  
21 have from your flushing or from the injection of water within  
22 the vadose zone?

23           BARRY MOLNAA: Yes. Thank you, because I forgot to  
24 mention that. You would use bromide as a tracer. We typically  
25 use -- bromide is a pretty much acceptable tracer in

1 aquifers.

2 I think we said about 100 PPM is the number that we  
3 proposed. That does a couple things. It tells us where our  
4 solutions have gone, and it also helps us account for  
5 dilution. So we can account for decreases in concentration  
6 as a dilution versus degradation.

7 MARK RIPPERDA: You are going to be taking soil samples  
8 or core samples while you are drilling the monitoring wells  
9 and the injection wells.

10 Are you going to go back after the fact and take  
11 more soil samples to test the soil in the vadose zone?

12 BARRY MOLNAA: We hadn't anticipated doing that for the  
13 pilot study. What we were hoping to do is to show some --  
14 basically blow a hole in the perchlorate, and then show that  
15 it's not coming back; there's no rebound effect from the  
16 perchlorate plume and use that as some evidence.

17 We don't have soil samples scoped into the pilot  
18 study per se.

19 KEITH FIELDS: That would be something that could be  
20 thought about on the way, at another point. But yeah, I know  
21 there has been over the past year or so some desire stemming  
22 from the EPA to get some soil samples for perchlorate, so  
23 this will get some.

24 MARK RIPPERDA: And we always ask for it as part of the  
25 SVE system, since that looks like the only new wells that

1 were going to go in.

2 KEITH FIELDS: Now, I think there are going to be  
3 some for the SVE, even though we certainly anticipate not  
4 seeing perchlorate in the vadose zone, at least it gives us a  
5 nondetect on the outskirts.

6 MARK RIPPERDA: And would it be beneficial, is it  
7 Praxis --

8 BARRY MOLNAA: ARCADIS.

9 MARK RIPPERDA: -- ARCADIS -- to have ARCADIS collect  
10 and analyze those samples so that it's done in the same way as  
11 the samples they're collecting as part of their pilot study?

12 KEITH FIELDS: It's a common -- it's an EPA method --

13 BARRY MOLNAA: The way the drilling event is occurring  
14 anyway is the driller that's doing the SVE wells is also  
15 drilling our wells. So the drilling methodology is the same  
16 contractor is the same. And we're using the same lab.

17 KEITH FIELDS: The same --

18 BARRY MOLNAA: We are using the same lab, so the only  
19 thing that would be different would be the geologist on-site.

20 MARK RIPPERDA: That is about as similar as it gets

21 KEITH FIELDS: We may be able to -- I don't know if you  
22 could use their QAPP

23 PETER ROBLES: Why don't we do that --

24 KEITH FIELDS: Use their sampling and analysis plan and  
25 QAPP.

1           PETER ROBLES: Mark has a valid point. How are we going  
2 to show what is in the vadose zone? We need soil samples  
3 before and after. Before and after. Why  
4 don't we take - we're doing soil samples before, why not take  
5 it after so at least we know how effective this study is. I  
6 mean, then we have got proof. We saw something before, see  
7 nothing afterwards.

8           LINDA HOLLINGSWORTH: What if we see nothing before?

9           MARK RIPPERDA: Then you take nothing after.

10          ROBERT KRATZKE: Are these in the current scope?

11          BARRY MOLNAA: The before samples are in the scope.

12          MARK RIPPERDA: Certainly if you see nothing before you  
13 are not going to bother with the vadose zone load.

14          ROBERT KRATZKE: We'll talk about this after the meeting;  
15 we need to modify your contract.

16          BARRY MOLNAA: What we were thinking is we could --  
17 there's a way we could do that where we were going to  
18 originally look for rebound. We don't see rebound, we go  
19 back, take the soil samples. It's a double confirmation at  
20 that point.

21          ROBERT KRATZKE: We had these other issues we wanted to  
22 add on later in the project so we can just do those in a  
23 modification afterwards --

24          KEITH FIELDS: Are there any other questions with regard  
25 to the insitu study?

1 G.B. WICKRAM: I have a quick question. You guys have  
2 been doing this thing in a lot of Southern California sites.  
3 Did you run into similar kinds of situations with flushing, and  
4 how did you -- were you able to --

5 BARRY MOLNAA: The flushing question --

6 G.B. WICKRAM: In the -- yeah, vadose zone treatment.

7 BARRY MOLNAA: Yeah. I mean, you know, it's an obvious  
8 question. I mean are you flushing, or are you treating? And  
9 we're treating in that zone. But there is -- I mean, you know,  
10 there is some flushing because, just from hydraulics you are  
11 going to create a downward force, which is why we create that  
12 reactive zone underlying in the aquifer. We haven't seen  
13 significant flushing. Now, that may be -- there may be two  
14 reasons for that. One, we are not significantly flushing the  
15 aquifer. That's what we think is happening. Or two, anything  
16 that we flush is being degraded, and we don't see it in the  
17 monitoring system.

18 KEITH FIELDS: You may see it with the tracer, though.

19 BARRY MOLNAA: You can see it with the tracer -- well,  
20 but we add the tracer to the saturated zone as well.

21 So we don't -- we would have to use two tracers to do that  
22 and we don't have two effective tracers.

23 MARK RIPPERDA: I don't care about flushing, as long as  
24 you have got reduction happening --

25 BARRY MOLNAA: As long as the mass -- as long as you can

1 account for mass, which is what we do, we account for mass.  
2 And I honestly don't know the answers, whether that's flushed  
3 and degraded or not flushed.

4 MARK RIPPERDA: The size of the system is really small,  
5 which is actually good, 20-foot radius. That's about all you  
6 can fit into the space you are going to be working in.

7 But how easily, if this works really well and you  
8 want to treat the entire plume out to MCLs or out  
9 to -- pick some number, a hundred parts per billion, how easy  
10 is it to scale up?

11 BARRY MOLNAA: It's pretty easy. To give you an idea,  
12 at the Aerojet site, the well field is -- I think it's 500  
13 feet long that we're injecting into, and the treated zone is  
14 1500 feet long. So it's 500 feet wide by 1500 feet long, and  
15 there's 10 injection wells, and I would say it is five points  
16 it's nested to, so there are 10 wells.

17 KEITH FIELDS: This is a vadose zone --

18 BARRY MOLNAA: No. That's an aquifer -- it is actually  
19 both. I mean, they do have pumping on it. But that pumping  
20 is at the request of the Water Board up there, just to  
21 control everything. It is also a pilot study.

22 So you can scale it up. Obviously, the spacing is  
23 going to be dependent on dispersive action and where we want  
24 to hit. We had thought of this as a hot zone, hot spot  
25 treatment technology to knock out the mass flux into the

1 aquifer. My guess is that if you knock out the mass flux in  
2 the aquifer the plume is going to attenuate pretty quickly.

3 KEITH FIELDS: The Aerojet site, at least in geology, is  
4 fairly similar to what we have here. You got a large vadose  
5 zone.

6 But with that you are seeing the 20 -- 15 to 20  
7 foot rate of influence so we then be -- okay. Good.

8 BARRY MOLNAA: These are actually closer together for a  
9 couple reasons. One, parking lot is not big enough; and two,  
10 we wanted to make sure that we saw effect; and if we go much  
11 further than that, then the test gets longer.

12 KEITH FIELDS: Any other questions at all?

13 On the agenda we have a break, so if we want to  
14 take five or ten minutes, we will come back, talk about OU2  
15 and 3 and our supporting activities, and then we'll adjourn.

16 (A brief recess was taken.)

17 MARK RIPPERDA: Can I just ask a few more conceptual  
18 type questions. Because a lot of questions will be more  
19 intelligent afterwards.

20 Anyway, if this works really well, and I agree with  
21 you that it's best to do as a hot zone knockout, don't go  
22 chasing the whole plume, but could it be feasible to do some  
23 injection upgradient of the impacted water production wells as  
24 a way to protect them, possibly instead of having to do so much  
25 pump and treat at the City of Pasadena wells?

1           KIMBERLY GATES: That would probably depend a lot on our  
2 negotiations with them to get in getting more land to put more  
3 wells in. I don't see that it would be an issue technically,  
4 but it would still be a political issue.

5           MARK RIPPERDA: If you could inject low volumes of a  
6 carbon source upgradient to them and create a reactive barrier  
7 wall so the water that is getting to those wells is passing  
8 through a reduction wall knocking perchlorate out.

9           BARRY MOLNAA: We are doing that for nitrate. That's  
10 one of the things that we are targeting. For nitrate it's a  
11 similar treatment. It's the size of the well field that you  
12 have to think about, and then the other issue is convincing the  
13 DHS that you are not going to affect the water source supply.

14          MARK RIPPERDA: Although that is a little different  
15 because, for injection, you have to deal with David's office,  
16 not really the DHS.

17          BARRY MOLNAA: But if we are near the pumping well  
18 field, the only thing -- what will happen is they would put  
19 requirements on those wells to sample for TOC or possibly  
20 by-products of degradation.

21          MARK RIPPERDA: But those sampling requirements would be  
22 a lot easier than the 97-005 permit requirements for treatment  
23 at the wellhead.

24          BARRY MOLNAA: Yeah.

25          MARK RIPPERDA: So it's something to think about

1 long-term. I know you are having a lot of problems with  
2 wellhead treatment and putting in injection wells and  
3 extraction wells, and I doubt that this would be a complete  
4 fix, but you may have results from this by September,  
5 October. It may give you an option to pump and treat less  
6 water.

7 KEITH FIELDS: One consideration here at least to keep  
8 in mind is that if you got, for instance, drinking water  
9 wells, you got 600 feet of aquifer to get carbon source and  
10 nutrients to. So, I mean, not knowing it may or may not  
11 be as cost effective.

12 It's not a -- it may be, but I mean because of the  
13 speed of the water through there, as far as creating some  
14 sort of a reactive zone, that kind of maintains itself that --  
15 you can correct me, that may be more difficult, and then also  
16 just that trying to affect that much aquifer could be a  
17 challenge as well. Certainly, I mean it's something that  
18 should be considered.

19 PETER ROBLES: Let's look at that.

20 I think that's an interesting concept.

21 MARK RIPPERDA: I doubt that the perchlorate  
22 contamination some distance upgrading to the Pasadena water  
23 well is truly, you know, 50, 60 parts per billion over the  
24 600 foot contour. It's probably more like a 100, 200 parts  
25 per billion over a smaller interval.

1 KEITH FIELDS: There's no data. We know we have  
2 perchlorate in the third aquifer layer, in the second there's -

3 MARK RIPPERDA: So I always want NASA to keep an  
4 open mind. It may be cheaper to drill a well, get some  
5 samples, than to do a full blown pump and treat system.

6 KEITH FIELDS: Definitely worth considering, but  
7 realizing that there are issues.

8 KIMBERLY GATES: Easier than dealing with the Department  
9 of Health.

10 LINDA HOLLINGSWORTH: The other issue is that it's my  
11 understanding that you are required actually to have kind of  
12 a back-up system with sort of a dual system so that you are  
13 not completely relying on just one treatment train, and it's  
14 possible that if we had something like this going upstream,  
15 then what we would consider a treatment train is the backup.

16 MARK RIPPERDA: No. That's a good idea, but it doesn't  
17 meet the minimum requirements that DHS would want, which is  
18 essentially you have to be able to meet MCLs at the point of  
19 distribution and upgradient in situ treatment giving you MCLs  
20 as it goes into the pipe.

21 LINDA HOLLINGSWORTH: Would not be considered.

22 BARRY MOLNAA: We have evaluated that approach on a  
23 similar aquifer regime. It does require -- we can't do it  
24 passively. We have to create almost a recirculation system  
25 to guarantee that we would affect the whole thickness of the

1 aquifer. We have evaluated it elsewhere.

2 MARK RIPPERDA: I doubt that it will work. With the  
3 numbers going down, those water wells are pulling in aqueous  
4 phase from a radius. That's still going to be above  
5 whatever the numbers is going to end up being for a good,  
6 long time.

7 KEITH FIELDS: But it's certainly an option to consider  
8 depending on how negotiations and everything goes with the  
9 City of Pasadena.

10 Were there any other questions Mark?

11 MARK RIPPERDA: I did, but I forgot them. So go on.

12 KEITH FIELDS: Any time you think of them, we'll just  
13 jump right back.

14 The next thing we're going to talk about is just a  
15 summary of Operable Unit 2, where we are at, where we are  
16 going.

17 They continue to operate at Vapor Extraction Well  
18 1, and as you can see from this graph that they are still  
19 getting mass recovery. We're certainly not achieving  
20 performance criteria or shutdown criteria identified in the  
21 ROD yet, so at this point they are going to continue to  
22 operate at VE01.

23 There has been some effort to refine the locations  
24 of the new injection or the new vapor extraction wells. And  
25 David has been working with Chuck and Cal-Tech, and they are

1 trying to make sure that they are in appropriate locations.  
2 So since the last meeting there may have been a switch to  
3 maybe another parking lot, 50 or 100 feet away.

4 But at this point these are sort of the refined  
5 locations, and I believe they are going to be drilling in  
6 July at the three new locations, which includes the three  
7 here on the outskirts.

8 I believe we all walked over to the system last  
9 time. But just to give you -- we did talk about it was  
10 trailer mounted now. This is a schematic.

11 The portion that is trailer mounted includes the  
12 vapor extraction blower and knock-out tank, some other  
13 components, and some of the controls. And then each of the  
14 carbon vessels are skid mounted.

15 So I included this slide in here just to go through  
16 that, just as we talked about that, and we all saw this, but  
17 this is a picture of the new trailer mounted system, and the  
18 next one is a picture of the skid mounted carbon units.

19 And so now the RD/RA workplan was submitted the end  
20 of May, and then the expanded pilot test where they were  
21 going to start extracting on one or two of the new wells,  
22 once they are installed, was submitted May 13th.

23 So I wanted to take this opportunity to see if you  
24 had any comments, if there were any concerns about the  
25 approach. If you haven't had a chance to review it yet, if

1 we could try to identify a target date for getting any  
2 additional comments you may have on the approach.

3 MARK RIPPERDA: I have comments with me that I'll give  
4 to you at the end.

5 KEITH FIELDS: Okay. If you could give those to David,  
6 that what be great.

7 MARK RIPPERDA: And I couldn't -- the several times I  
8 tried, I couldn't access the web page.

9 DAVID CLEXTON: What browser did you use?

10 MARK RIPPERDA: Netscape.

11 DAVID CLEXTON: Try Internet Explorer. Don't ask me  
12 why. That's been the solution.

13 KEITH FIELDS: I think Microsoft does that kind of stuff  
14 on purpose.

15 KIMBERLY GATES: Hey, that is family; don't knock it.

16 RICHARD GEBERT: I have had the same trouble.

17 DAVID YOUNG: Me too.

18 KEITH FIELDS: What we can do is to download these  
19 files.

20 DAVID CLEXTON: You have been able to get through, right?

21 RICHARD GEBERT: Using Internet Explorer.

22 KEITH FIELDS: Does everybody have the files now?

23 DAVID YOUNG: No.

24 MARK RIPPERDA: I can get Internet Explorer from our  
25 computer people. So I had Bill, the contractor, look at it,

1 and he had three comments, several of which have already been  
2 answered with what you have talked about.

3 DAVID YOUNG: And I'll try it with Explorer.

4 DAVID CLEXTON: You want it e-mailed to you, let me know.

5 I will be glad to work that out.

6 RICHARD GEBERT: I have a general question on the pilot  
7 test. What is the purpose of that? I was looking through  
8 documents, and the pilot test and the RD/RA seem almost  
9 identical, and we are receiving them at the same time.

10 What's the purpose of the expanded pilot test?

11 KEITH FIELDS: My assumption was the original goal was  
12 to be able to move faster because this expanded pilot test  
13 only requires a verbal from you guys to say yes, keep on  
14 going, whereas this RD/RA workplan has to go through some  
15 formal reviews, some finalizations, public notifications to  
16 tell them when you are going to install the system and give  
17 them -- it has to go through a little bit more of the CERCLA  
18 process. So what we are trying to do is keep the process  
19 moving.

20 KIMBERLY GATES: Pilot test was to get them out in the  
21 field now. So that we could do the drilling at the same time  
22 that ARCADIS was going to do their drilling and then the RD/RA  
23 was just a formality in order to make it a final remedy.

24 KEITH FIELDS: Had we not, you know, according -- we  
25 just would have waited until the RD/RA workplan was finalized.

1           KIMBERLY GATES: Which would have pushed us back a couple  
2 months.

3           RICHARD GEBERT: So you need our comments on the what?

4           KEITH FIELDS: I would say the expanded pilot test,  
5 certainly, first and foremost. But, you know, I am sure,  
6 like you are saying, comments on one would probably apply to  
7 the other and that can be interpreted that way.

8           RICHARD GEBERT: I'll have comments to you next week.

9           KEITH FIELDS: And then also, hopefully everybody  
10 received copies of the final ROD. Issues regarding  
11 ARARs were worked out. I understand that the Water  
12 Board has an additional review.

13          DAVID YOUNG: It is just a technicality. Before the  
14 executive officer signs, the section chief needs to review it,  
15 but I don't anticipate any changes or comments.

16          KEITH FIELDS: Do you know what kind of timeframe they  
17 need to review?

18          DAVID YOUNG: I am hoping by next week.

19          KEITH FIELDS: And David will continue to be in contact  
20 with you all trying to coordinate the signatures. We had  
21 hoped today to have kind of a signature ceremony where we  
22 would have all the signatures and maybe we could get Dr.  
23 Parker to come in and take a picture of everybody and that  
24 kind of stuff. We will have to do that maybe at the next --

25          MARK RIPPERDA: Tell you section Chief thank you for --

1 KEITH FIELDS: So that will be a key milestone for the  
2 CERCLA program here, so we are moving forward with that. But  
3 hopefully there's not too many more changes to go through,  
4 and we'll do that.

5 And as we are talking about this, I do have -- we  
6 put together a draft version of the notification that will  
7 appear in the newspaper for this ROD, once it's finalized.  
8 If you could take a look at that and give us any comments  
9 that you may have on it.

10 What we did is based it on some of the other  
11 notifications we have done for this project and then also  
12 some other projects we have had where we put notice in for  
13 availability of the ROD. So if have you any comments on  
14 that, you can either forward them to David or me. And we'll  
15 move forward with that.

16 Are there any other questions on OU2 before we  
17 press on?

18 MARK RIPPERDA: The slide you showed us about the  
19 current extraction, and we haven't seen much decrease.

20 My other question was, because it had to do with  
21 the conceptual model of that, when -- I don't know which  
22 contractor recalculated mass in place for the SVE system, it  
23 went from thousands of pounds down to, I don't know, 200,  
24 something like 50 left in place, but looking at that, with  
25 still no turnover of the slope, it looks like there's more mass

1 in place than you guys most recently calculated.

2 KEITH FIELDS: If we can go back to that, since they  
3 started sometime early last year -- yeah, January of 2001 --  
4 they have only removed 30 pound -- 34 pounds.

5 So, I mean, even though we are still in a general  
6 increase, the concentrations, I mean it's still a very low  
7 mass removal. It's not like where you are removing pounds a  
8 day. It's like a pound a month or something like that.

9 So, I mean, this would be what you would  
10 anticipate, I think, from some of the modeling that was done  
11 by Praxis. What is left in the vadose zone is  
12 some of these VOCs saturated in some confining lenses,  
13 some siltier clay lenses that are diffusion limited. So  
14 now it's just kind of easing out as you go.

15 So I still don't think, once we put all this  
16 together, I mean the revised estimates, I think we had  
17 indicated that there was probably another 50 pounds left.  
18 So, you know, we're at what, 10 or 20 pounds closer. There's  
19 still 30 -- I mean, the point, we don't want to look at it  
20 like that. But I think that those estimates are more on the  
21 level that you would anticipate, that there's maybe another  
22 30 pounds left or maybe another 50 pounds left. There's not  
23 another thousand pounds left.

24 MARK RIPPERDA: And I agree with that. It looks to me  
25 like maybe there's a few hundred pounds left anyway. But

1 just the difference between what one contractor says and what  
2 another one says. It reminded me of where Foster Wheeler and  
3 Chuck used to say that the vadose zone every time I asked for  
4 vadose zone samples it was like no, don't bother because the  
5 vadose zone doesn't matter for perchlorate because so much of  
6 JPL is buildings and parking lots and storm water systems,  
7 take all the water to the Arroyo, so there is no infiltration  
8 through the vadose zone so therefore all the mass that we see  
9 in the ground water has to be held within the aquifer.

10 I never knew whether to believe that or not  
11 because I don't know enough about runoff and how much is  
12 infiltrating here. So it's just interesting to me to hear you  
13 focus so much on the vadose zone and the probability that the  
14 continuation of plume is from infiltration through the vadose  
15 zone and not through mass, which is being held in the aquifer.

16 KEITH FIELDS: And, you know, in reality we don't know  
17 at this point. I mean, 50 years later, we are still  
18 seeing increased concentrations in the suspected source  
19 area. The assumption is, obviously, that there's probably  
20 some sort of residual trapped perchlorate whether it is the  
21 vadose zone, whether it's trapped elsewhere within the  
22 saturated matrix. That's hopefully some of the information  
23 we'll get from ARCADIS' soil sampling and water sampling. They  
24 have never done soil sampling in that area for perchlorate.

25 Anything else on OU2 or OU1 before we move on?

1 MARK RIPPERDA: No.

2 KEITH FIELDS: Now, as far as OU3, we're current --  
3 actually, CH2M Hill is currently working on getting a draft  
4 EE/CA and ground water modeling report pulled together. The  
5 EE/CA, as far as CH2M Hill is concerned and I think it's  
6 going to sort of stand alone as far as the substantial --  
7 some of the more -- a good summary, rather, of the ground  
8 water modeling efforts, but then a lot of the details, you  
9 know, the next level of detail will be contained in this  
10 ground water modeling report.

11 So they are going to complement each other, and  
12 certainly the EE/CA will talk about ground water modeling in a  
13 sufficient detail. But some of the intense details will be  
14 contained in that ground water modeling report. And the  
15 intention is to submit those both around the same time, mid  
16 next month.

17 And then also concurrently with this process NASA,  
18 the Navy, are currently in some heavy negotiations with the  
19 City of Pasadena. They are -- CH2's also pursuing  
20 the DHS 97-005 working through that process. That's well  
21 underway. They have just submitted a draft, an internal  
22 draft, to do some additional sampling.

23 But if you would, Peter, maybe you can elaborate on  
24 some of the efforts and some of the decisions and how things  
25 are moving forward with the City of Pasadena and DHS and some

1 of those organizations.

2 PETER ROBLES: We have had meetings almost on a weekly  
3 basis, and Dave Clextan has been working with us on that, and  
4 we had Robert Kratzke there as well. We're about ready for  
5 the finance people to start meeting, talk about how to do the  
6 transfer of funding.

7 We have worked on some of the proposals for the  
8 EE/CA, and they have come up with their wishlist, and we have  
9 pared that down and are working with them on the PWP cost  
10 estimate folks, so we feel that we are close enough.

11 We have given them a copy of our estimates, and  
12 they are looking at it right now to see that they got  
13 everything that they want in there. And at that time, then,  
14 I can present that to NASA headquarters.

15 We are looking at between approximately 12 to 14  
16 million in capital investment, approximately 2.5 to 2.8 on an  
17 annual O&M in for the operation of the nitrate system added  
18 onto the VOC plant. These are estimates.

19 The operation, 2.5 to 2.8 includes bringing in the  
20 VOC plant into superfund as well, and the continued payment of  
21 that so that we can have it all at one shot.

22 It would basically be that we would use the Arroyo  
23 well and Well 52, which is 3800 GPM. They have stated that  
24 at that rate they could keep the pumps running for 11 months  
25 out of the year and that would meet our goal for the EE/CA of

1 containment. At the same time it would allow them to be able  
2 to meet their distribution requirements for drinking water.

3           We also are looking at the process that, if we can  
4 get this agreement done and have to give an update  
5 constantly -- they are looking at September as the date that  
6 they have hoped everything can get to some point so we can  
7 see the light at the end of the tunnel that we may have to --  
8 while we are waiting for 97-005 that we can maybe discharge  
9 the water until 97-005 is approved to the spreading basins so  
10 that it doesn't look bad for NASA headquarters to say I'm  
11 spending all this money for a plant to sit there like a  
12 La Puente. We can probably operate at 1,600 gpm, so we can do  
13 something during that time. The long pole in the tent is the  
14 97-005, we are working very feverishly. We have the first  
15 four steps done.

16           We are looking at the source review of the aquifer  
17 and looking at that. One of the key issues is what are we  
18 going to be held to. We are saying 18 ppb, but we're allowing  
19 for the existing technology right now, Calgon has stated to us  
20 that they can strip down to 2?

21           DAVID CLEXTON: 2.5.

22           PETER ROBLES: We will only be held to 18 ppb. The City  
23 thinks Calgon is great because their requirement is four ppb,  
24 so we can use it to blend with Ventura and Windsor wells so  
25 they can distribute the water to the public.

1           The sticking points with the negotiation is not the  
2 treatment system or the GPM or the type of technology. It's  
3 all the other additional costs that they want covered. They  
4 want us to pay all their electrical charges. They want to  
5 pay permits for the well -- it's your well, you need the  
6 permit; you need to issue yourself a permit, and land use  
7 fees -- lease fees, for land use. So they want us to pay  
8 lease land use fees, things like that, that are kind of a  
9 little tough to swallow.

10           And those are the sticking points that we are  
11 trying to work with. But outside of that, we seem to have  
12 opened up a good dialogue. We have learned a lot about  
13 purveying water. And we have learned that they are not too  
14 sure of how they purvey water. Because when we ask  
15 what are the electric rate, give us your rate, the rate  
16 structure, they go, well, we are changing our rate structure,  
17 and we don't know how it's going to look like. So that's a big  
18 problem.

19           How do you put that into a budget when they don't  
20 even know what the rate structure.

21

22           MARK RIPPERDA: When you say rate structure, the rate  
23 they charge the customers --

24           PETER ROBLES: Yes.

25           MARK RIPPERDA: -- or the rate they pump their wells --

1           DAVID CLEXTON: Both.

2           PETER ROBLES: Both. Utility rate structure is going  
3 through a tremendous change over there. At the same time,  
4 which is a good thing, we have kept the lawyers out of this  
5 discussion, which means it's been an engineering solution.

6                     Now, the attorneys have met, and they feel very  
7 comfortable that after we work out the agreement on what is  
8 the engineering solution, we'll give it to both attorneys,  
9 the City, and they can put all of their boilerplating on it  
10 so they can make it happen.

11                    Right now, on the NASA side, the issue is not if we  
12 are going to do this or not. It's how do we send money to  
13 the City. So they have been looking at the Space Act to  
14 document their (inaudible) with NASA, can we do a cooperating  
15 agreement, do we just do a performance-based contract with  
16 the City, do we do a grant, do we give them the money and let  
17 them do it with certain parameters, or do we have tighter  
18 control, do we put it through the Navy?

19                    That is the kind of thing that is being discussed,  
20 and we're expecting an answer within the next two weeks.

21                    So everybody -- there's a lot of people working on  
22 this issue. The whole goal is to go under the assumption  
23 that we can make this agreement work. And that's the key.  
24 We're trying to look at that.

25                    But here are the biggest issues right now, the DHS

1 97-005, which is currently underway, but there is a big  
2 discussion within NASA, is this really a ARAR is the biggest  
3 thing. If it's not, probably it --

4 MARK RIPPERDA: With --

5 PETER ROBLES: That policy.

6 MARK RIPPERDA: Doesn't matter. I guess I don't  
7 understand that. If you want to do the treatment and sell  
8 the water, you have to get the permit, so whether it's called  
9 an ARAR or not is irrelevant.

10 KIMBERLY GATES: Brought that up on Tuesday. They said  
11 the same thing, but we would have to go through this process  
12 anyway because the City has to --

13 PETER ROBLES: Let me just throw a hand grenade in this  
14 whole issue. If we made the City of Pasadena a PRP, we don't  
15 have to follow 97-005 because now the City has a cloak of  
16 CERCLA around it.

17 There are political ramifications for that, but our  
18 attorneys are really considering it. If this is going to  
19 stop the program, why not make CoP a PRP, but  
20 officially they can come in and say this is a CERCLA process  
21 and this is not a promulgated rule process. We look at the  
22 intent and we don't need your approval. That's really being  
23 considered.

24 And I am saying, guys, before you do that, I have  
25 to bring it up to the regulators.

1 MARK RIPPERDA: I love being creative.

2 PETER ROBLES: That's too creative.

3 MARK RIPPERDA: And I never mind considering screwy  
4 ideas -- a lot of screwy ideas that help, but the problem I  
5 see with pursuing that too strongly is just the public trust  
6 issue. You are going to be selling the water to the public,  
7 and DHS is going to fight this tooth and nail, and you are  
8 going to have the public in the middle with one state agency  
9 telling them that the City of Pasadena is not following safe  
10 drinking water act procedures.

11 KIMBERLY GATES: I would be afraid of what the media  
12 grabs ahold of if we go that far.

13 PETER ROBLES: We want your inputs on that. I want to  
14 bring this back to the senior people, and particularly the  
15 attorneys and say, hey, guys even though it may be a good  
16 procedural issue, politically, it's a time bomb --

17 RICHARD GEBERT: What is the criteria for naming them a  
18 PRP?

19 MARK RIPPERDA: They own land under which the plume  
20 exists, so even though they weren't responsible for putting  
21 contamination there. If you own land that's contaminated --

22 PETER ROBLES: By definition you are, plus the fact is  
23 how they purveyed water, how they shut it off, how they turn  
24 it on.

25 Technically, we right now can make them a PRP if

1 NASA wanted to. We don't want to; it is not to our  
2 advantage. And it muddies the water. We would rather work  
3 with them on a way that is much more conducive, plus the fact  
4 is that, even though every time --  
5 CH2M Hill (Dolegowski) had their 97-005 person talk to us, and  
6 I really raked him over the coals.

7           And I have to apologize to him because I said I am  
8 not raking you; every time you talk to me I see DHS.

9           It seems that sometimes DHS is arbitrary and  
10 capricious in the way that it does the 97-005 and that's my  
11 frustration. Just tell me the process, give me the  
12 guidelines, be consistent, and we are ready to go.

13           And is this the most difficult thing.  
14 That's why I put it No. 1. This is the most difficult thing  
15 that we have to do. I am trying to anticipate Vera's desires  
16 for what she wants within that process. It's been very  
17 difficult.

18           MARK RIPPERDA: My advice on that, the same as it's  
19 always been, the attitude you have with the City, we are  
20 assuming we can get this done. If you have that same  
21 attitude with DHS, it will happen. They have already issued  
22 97-005s for perchlorate. The fact that they have a couple  
23 under their belt is going to make subsequent ones easier and  
24 government permitting process, the government is always going  
25 to come to you and ask for some data that you think is

1 irrelevant, but if you get them the data, no matter how  
2 irrelevant it might be, they can put a check in the box and  
3 move on.

4           And I just got a phone call from an attorney who  
5 represents the water wholesaler who sells water from MWD to  
6 all the Raymond basin entities to inject, and I gave him your  
7 name and number, and you probably already have it. I don't  
8 have his name with me.

9           PETER ROBLES: Could you e-mail it to me?

10          MARK RIPPERDA: Yeah. But he was calling to ask if  
11 there's some way that -- I couldn't believe it -- they could  
12 help be involved in the process.

13          PETER ROBLES: Oh, I would love to have them on board  
14 because they have political clout that basically says, you  
15 know, what DHS policy says, it really impacts their ability  
16 to wholesale water.

17          MARK RIPPERDA: And he's been going to the meetings in  
18 Baldwin Park or La Puente, and he says that Vera comes to  
19 either monthly or quarterly meetings; she comes to every  
20 meeting. It's much more politically charged there. It's  
21 sometimes good, sometimes bad, to be under the radar, and  
22 this particular site in Pasadena has been very quiet about  
23 the whole ground water contamination and perchlorate issue.

24          PETER ROBLES: I don't want to stick my head up the hole  
25 and get shot.

1           MARK RIPPERDA: And some of these other communities have  
2       been very noisy and have State senators involved in, like,  
3       political, which is a headache. And maybe because of that Vera  
4       herself goes to every single meeting, and he said that she's  
5       just moved those permits along incredibly fast. And he was  
6       surprised when I was saying that DHS had told us it could  
7       easily be two or three years. He said the most recent one has  
8       gone much faster than that.

9           PETER ROBLES: CH2M Hill has stated that if everything  
10      goes right, according to -- they talked to our guy who works  
11      for Vera, said as a minimum it would take 18 months, if  
12      everything worked out okay.

13          MARK RIPPERDA: My guess is that he was being overly  
14      conservative, and that it would happen faster, but by giving a  
15      long timeframe, he covers themselves.

16          PETER ROBLES: Because we're trying everything. We have  
17      a very good team working on 97-005, and we believe we can get  
18      most of the items done on this. We feel very good about  
19      that. That's the biggest thing.

20                  And I have to appreciate the Navy, particularly  
21      Michael Pound from the Southwest Division, who really provided  
22      that alternative - sub-alternatives, basically, to put the plan  
23      that if it sits there --

24                  So we got to think about how to run it even at a  
25      reduced level so that it can show operation and it can be a

1 testing phase. Why not ask the City to spread it at the same  
2 time. So we're looking at that, and we are pressing on as if we  
3 can make this happen.

4           The second thing is the City of Pasadena has issues  
5 on compensation. I have told them I can't talk about that.  
6 That's the attorneys. The attorneys have basically stated to  
7 leave it off until they see -- and supposedly the City  
8 Council are looking at our negotiations and keeping  
9 everything at bay to say, if we can make this agreement, they  
10 are looking at it favorably with us.

11           So this issue of compensation is now quiet  
12 until -- if no results happen within the negotiations it will  
13 be raised up again.

14           But that's a big concern.

15           And we have made it clear to the city that, you  
16 know, as far as I am concerned, as far as NASA is concerned,  
17 the negotiations are separate from the issue of compensation.  
18 They can pursue it. We want to do this negotiation, we think  
19 that this is the optimum way to protect the public and do the  
20 control of the plume.

21           The wishlist, the PWP wishlist, as I stated before,  
22 is we are looking at items that may be outside the CERCLA  
23 requirements. Trying to be creative, Mark.

24           Sometimes Dave and Keith and Robert kick me under  
25 the table because we try to be very creative in offering

1 solutions. But give us your wishlist, and we'll see what is  
2 in CERCLA and what falls out of it because I have to really  
3 get final approval from NASA for this.

4           The other item, the Hahamongna watershed project has  
5 reared its ugly head again. This is the one that really  
6 concerns me more. And as you can see, we have the web site  
7 that is on our agenda. We are asking that you guys kind of  
8 look at this. They have now a master plan and EIR out there,  
9 and they want to include what we are doing in Superfund in  
10 there.

11           The fact is they -- it's strange. The Hahamonga  
12 people and the purveyors of water do not talk to each other.  
13 And they want me to negotiate between them, and I'm saying  
14 that's your -- it's across the hall. You guys can work it  
15 out.

16           But the biggest issue is that they are basically  
17 saying they are the ones that are going to control  
18 what's going to be spread or not, where the plant is going to  
19 go or not, where the piping is going to go, and I'm working  
20 with the City purveyors, and these folks are talking about  
21 the water park and no, you can't put it here and you can't do  
22 this. And so this is an issue. And I have David going to  
23 the public meeting next week to kind of listen -- it's on the  
24 25th.

25           You need to look at that plan because it has

1 tremendous impact on what they want to do. They want to take  
2 the plan in a nutshell, want to take our 300 parking spaces on  
3 the east side of the Arroyo Seco that we are leasing from the  
4 City at \$2,000 a space a year -- \$600,000 we're paying the  
5 City just to park 300 cars, and they want to use that as  
6 spreading basins and they want to build us on their dime and  
7 charge us fees for a 1200 parking space structure on the west  
8 side parking lot that we are leasing on our property and charge  
9 us for space and then open it up to the general public in the  
10 evenings.

11           The whole community in the Flintridge, La Canada  
12 paper said time out, traffic jam, pollution, noise, 9-11  
13 issues; you're going to have everybody coming through there.  
14 And on top of that they want to have permanent water in that  
15 basin, right behind it, continuously.

16           So what I have asked, and we will be bringing this  
17 information to you, is the public comments period ends --

18           KEITH FIELDS: I think it's July 30.

19           PETER ROBLES: July 30th, and so I have the CH2M Hill  
20 folks that have done the modeling to look at what would happen  
21 in the standpoint of our remediation, if there was a permanent  
22 pond right behind Devil's Gate Dam, what would happen if they  
23 spread all the water that they wanted to, that they are  
24 protecting, what impact would that have on the plume and  
25 anything else.

1                   Now, I have also asked Battelle to look at overall  
2 what would be the impact of the Hahamonga project on our  
3 long-term remediation. This is going to be of real concern  
4 to me. If this project has been in existence for 10 years  
5 and they have finally got an EIS -- and I don't know how they  
6 were able to do that, but the public is in an uproar about  
7 this.

8                   There are folks that don't want this to go  
9 any further a lot of issues and plus the City doesn't have  
10 money to implement this, but they are pressing on with it.  
11 There's a whole politics about that that are outside and  
12 that's going to be my biggest concern right now.

13                   But I want you to look at that website and kind of  
14 familiarize yourself because there's -- this thing is going  
15 to butt heads with us on the off-facility remediation issues,  
16 so we need to really look at it.

17                   KEITH FIELDS: On initial review it looks like the  
18 biggest issues it could affect plume capture or additional  
19 spreading basins, which would add another source term and  
20 maybe if the system, I think CH2 is evaluating whether it would  
21 be enough size, enough flow to contain the plume as they  
22 wish.

23                   And then they are also talking about a pump back  
24 system to take from the Devil's Gate reservoir and pump water  
25 back up to the mouth of the Arroyo Seco and let it go through

1 the spreading basins again, just to increase the potential to  
2 get all of the rain water to infiltrate down. So those are as  
3 far as the EE/CA and potential impacts on that, that what is  
4 CH2M Hill is going to focus on. And I do have a mistake on  
5 this slide. I think it's June 25th. That's the one David is  
6 going to rather than July.

7 ROBERT KRATZKE: Time period ends July 30th.

8 KEITH FIELDS: Yes.

9 PETER ROBLES: June 25th is the public meeting, and  
10 we're reviewing that very carefully. Why -- also there is a  
11 major impact, David, for me is when we are looking at, you  
12 know, hey, we're going to be possibly looking at the public  
13 meeting for EE/CA or future -- Hahamonga said, time out, you  
14 don't do a public meeting without us there because you are  
15 going impact us. And you got to coordinate with us our  
16 public meeting.

17 And I am going, "Whoa, wait a minute. Hold on."  
18 That is the water project. We are talking CERCLA. They are  
19 really vehement about this. We hold public meetings without  
20 their input, they can have a very negative impact, you know,  
21 informing the public against us. That is the biggest thing I  
22 am concerned about.

23 ROBERT KRATZKE: Do you anticipate that NASA will have  
24 any official comments in their comment period?

25 PETER ROBLES: That's what I am looking at, at CH2M Hill

1 has looked at the modeling and what's the impact on the  
2 spreading and from Battelle. I want paragraphs of comments  
3 that I can submit to them to say hey, look, this has a  
4 negative impact because then the public will say, Hahamonga,  
5 you've got to not have impact on the CERCLA process.

6 MARK RIPPERDA: Is NASA management, apart from the CERCLA  
7 stuff --submitting comments on that --

8 PETER ROBLES: I believe that JPL is going to because  
9 the concern is, yeah, we would love a parking structure. We  
10 even thought about building one ourselves, trying to get  
11 funding and stuff, but where they want to put it and how they  
12 want to be accessed, we have always thought of a parking  
13 structure off the facility and allowing, you know, use for  
14 like when they have football games with the four schools and  
15 so on that they have a problem with parking on the streets.  
16 This would be usable.

17 The problem is they want to put it on the facility,  
18 and right now we have a security issue with allowing that  
19 many people to come on-site and what are they going to charge  
20 and that means they are going to take the parking spaces away  
21 and construction issues are involved in that. They are doing  
22 this without any coordination with us.

23 And that has been the way the Hahamonga has worked.  
24 We see them a couple of years quiet, and then they come out  
25 with a bombshell. We understand their concern, and they want

1 this water park, but it seems like they want -- the best way  
2 to put it is a Sea World out there with all of these items,  
3 and it's been a concern.

4           One of the big ones that I'm concerned about, if  
5 you put that much water in the spreading basin, and this is  
6 crazy, you are going to have bullfrogs, which are predators  
7 to the Arroyo toad. Fish and Wildlife will say, time out,  
8 you can't do this," you know. You may be creating -- it would  
9 be great for the toad, but it's not good for them if the  
10 predator comes out and starts eating them up. So they didn't  
11 even think about that issue.

12           So there's a whole -- you know, aesthetics, the  
13 public is saying, "Whoa, all this there," and the soccer moms  
14 are going crazy because they said, "You should be building  
15 soccer fields, not water parks." So there's a whole  
16 political -- do I see this ever happening? It's going to  
17 take five to ten years for this to happen.

18           But in the meantime we have a group that's saying  
19 you can't have public meetings unless we approve them and  
20 coordinate them. And this is what I'm having a struggle with  
21 because I don't want to anger any group -- so if you can look  
22 at the site and see it and check for future RPM meetings, this  
23 may be a good issue for us in that sense.

24           KEITH FIELDS: If there is no other comments or questions  
25 on OU3, we'll move into the support activities. We submitted

1 the draft final CRP amendment 1 in April. We got comments back  
2 from Mark. Which were to take out the discussion on the admin  
3 record website since it wasn't up and running yet and to add a  
4 contact under on of the subsections. Did the Water Board or  
5 DTSC have any comments on that or --

6 RICHARD GEBERT: No comments at all.

7 KEITH FIELDS: So we can proceed with the final on  
8 addressing Mark's comments, and we have some additional  
9 comments from NASA's attorney.

10 All we did there is try to take the lessons learned  
11 from our last public meeting and kind of document those and  
12 give us a way to move forward. The fact sheet was  
13 submitted -- I think Richard sent it out in mid-April. All  
14 this was, and this is going to maybe change a little bit.  
15 It keeps changing as we move forward.

16 This is trying to educate the public community as  
17 to where we are at in the CERCLA process under each operable  
18 unit and inform them that there is a public meeting that will  
19 be held potentially this year, probably October, late fall,  
20 early winter timeframe. So I didn't know if there was any --  
21 we haven't seen any comments on that one yet.

22 If there are no comments we'll kind of incorporate  
23 what we have received from the NASA attorney, from Tim  
24 Howell, and we'll submit a final and kind of rework it. But  
25 each time we think things are changing things are in such a

1 state of flux that if we wait a month, things will change. I  
2 think eventually we're going to have to send it out, make a  
3 date, and move forward.

4 MARK RIPPERDA: I don't have any comments on the fact  
5 sheet.

6 RICHARD GEBERT: I don't.

7 KEITH FIELDS: Ground water monitor. I know they are  
8 going out doing their next round of monitoring in July. I  
9 think the report from the last quarter is coming out soon, for  
10 your information.

11 And then the administrative website, we considered  
12 all the comments that were received through the last March  
13 meeting. Kimberly provided a lot of detailed comments that  
14 we addressed. To the extent possible we have addressed that,  
15 what we would like to do is, as Richard indicated in the March  
16 meeting, we want to move forward, try to get this implemented  
17 on a concurrent basis, continue to maintain the hard copy  
18 records, start to get this implemented at the libraries and  
19 move forward with it.

20 What I'll do -- it won't take long, but we can do a  
21 brief demonstration of some of the changes that were made,  
22 see if everybody is in agreement. There is certainly some  
23 things that we probably want to improve as we go along. We  
24 will probably get some comments from the public.

25 But I think we're to a point where at least we can

1 implement it, and the good thing about the way it's being  
2 implemented, we can change it at any point as we move along in  
3 the process. We can change it on the server. It's going to  
4 take me a couple minutes to log out and load it and get online.

5 If we would like to take a quick five-minute break.

6 KIMBERLY GATES: Do you want to discuss when you want  
7 the next meeting?

8 KEITH FIELDS: If you want to talk about that while I mess  
9 with this that would be great.

10 KIMBERLY GATES: That way we could get that out of the  
11 way.

12 DAVID CLEXTON: I wanted to ask you as well if you had any  
13 comments on the SVE workplan or if we could get a verbal to go  
14 ahead and do the drilling?

15 RICHARD GEBERT: Approval as far as I'm concerned -

16 DAVID CLEXTON: Yeah, I don't think you guys have been  
17 able to see it. OK. So maybe I can get with you next week.

18 MARK RIPPERDA: These are Bill Mabey's comments.  
19 They were just kind of things to think about.

20 RICHARD GEBERT: As far as the well placement or  
21 the well design --

22 DAVID YOUNG: I told you I would look at it next week,  
23 so I'll get back to you.

24 MARK RIPPERDA: Yeah, from my point of view, you can go  
25 out and get started, and I can send -- if you wanted a letter

1 saying we agree, go ahead, or if my verbal is okay.

2 DAVID CLEXTON: I think the verbal is okay, and then with  
3 the comments on the RD/RA we'll be alright.

4 DAVID YOUNG: When do you want to start drilling?

5 DAVID CLEXTON: Mid-July.

6 KIMBERLY GATES: The next RPM meeting would be September  
7 12th. Richard will be coming back on board a couple weeks  
8 before that way I'll be coming back by then so that will give  
9 all of us a chance to -- it is a Thursday.

10 ROBERT KRATZKE: Next week after Labor Day. That first  
11 Thursday of the month might be bad because people sometimes  
12 take vacation that week.

13 RICHARD GEBERT: That's when we have our staff meetings  
14 is the second Thursday.

15 MARK RIPPERDA: Are your staff meetings all day?

16 RICHARD GEBERT: Usually.

17 MARK RIPPERDA: Really? Would you --

18 PETER ROBLES: Is it Wednesday?

19 RICHARD GEBERT: Wednesday will be fine.

20 PETER ROBLES: So the 11th?

21 KIMBERLY GATES: Do you really want to fly down that  
22 day?

23 MARK RIPPERDA: It might be a good day to fly.

24 ROBERT KRATZKE: September 11.

25 KIMBERLY GATES: The night before would be easier, and

1 most of you are local.

2 PETER ROBLES: And really, Mark comes in and then can go  
3 back that same day. That's why we hold it in the morning, if  
4 possible. So we'll shoot for September 11th. Wednesday. If you  
5 can look at your calendars and confirm that, send that back to  
6 Dave. We can look at that at the next RPM.

7 And that will give us a good time -- by that time  
8 as to how far advanced we are, negotiations are ready to be  
9 signed, or are we on deadlock, and I am hoping that we'll be  
10 able to work a deal.

11 MARK RIPPERDA: Also have to go for much more than you  
12 are willing to give.

13 PETER ROBLES: What has been really nice about this is  
14 the fact that both attorneys have basically said, "Here,  
15 look, we're staying out of it," because when you bring  
16 lawyers -- and so we want this to be an engineering solution,  
17 and our attorney has explained to their attorney the CERCLA  
18 process.

19 He has asked the question, "How committed is NASA?"  
20 or "Oh, the CERCLA process commits you" -- this is not a  
21 whim. We are here ready to negotiate.

22 They both agreed to let it be an engineering  
23 solution. That's why it's gone so far as it has. In the  
24 last 60 days we started from -- you couldn't even talk to  
25 hey, we are almost there in the sense of figures, the issue

1 is not dollars, what is a CERCLA cost and what is not. We are  
2 talking about the big issue.

3 The bigger issue is now how do we distribute that  
4 money? It's amazing. The government, if it receives money,  
5 it can't handle it. How to send money is a big issue. It's  
6 not how to spend it. It's how to send it, how to account for  
7 it. I have never seen that.

8 Navy has the authority that we have, going back to  
9 the Space Act of 1959 and read it all over again to see what  
10 is NASA's authority and make sure GAO doesn't hit them on  
11 anything.

12 MARK RIPPERDA: You can have Pasadena sell you a hammer.

13 KIMBERLY GATES: There you go.

14 PETER ROBLES: One of the most creative, which I am very  
15 pleased that the NASA people, the budget folks and the lawyer  
16 even said it, you know, maybe the best way to do this is to  
17 have a performance-based contract with the City and just say  
18 here is a pot of money, you build it according to what you  
19 need. All we want you to do is be able to pump the water,  
20 treat it for containment. What you do with it is your  
21 business. Here's the money. If you save money, it's yours.  
22 It's your money. It's your -- everything is yours.

23 And all we want is just the performance based on  
24 that, and that makes it easy. I mean, they are considering  
25 that, if that would be even possible. The City would love

1 that. They have the liability, but they have -- and then we  
2 would be a funding stream for them for the O&M. They would pay  
3 for it, voucher us, and we would make sure that it meets the  
4 requirements, and we reimburse them for that just like we do  
5 with the VOC plan.

6 The biggest issue is everybody wants this to happen  
7 on both sides. So that has given me faith that in no way in  
8 hell are we going to do this, and now I feel that we have a  
9 very good shot at doing this.

10 So hopefully I will have some very good news this  
11 September for you guys because our goal is if we work it all  
12 out to have the thing built in place and turned on next  
13 October 03. That's what our goal would be. That would be  
14 great.

15 KEITH FIELDS: Why don't we move on to the AR website.

16 There wasn't much -- many changes that occurred to  
17 the home or the main pages. We put in some new links to make  
18 them a little more colorful and obvious.

19 We did make a couple changes to the schedule. Just  
20 what I ended up doing was putting it more like major  
21 milestones and sort of in general what the present conditions  
22 are, since these things -- it's hard to maintain a date  
23 schedule. We are just saying presently this is what we are  
24 working on under each operable unit like conducting pilot study  
25 and insitu bioreactors or things like that. Finalizing the

1 record of decision, remedial design, things like that.

2 The primary changes are the most substantial  
3 changes that came within the admin. record portion.

4 The search function, the search capability is where  
5 we had most of the comments.

6 And so what we did is we added frequently asked  
7 questions that has general questions about CERCLA, links to  
8 several websites to have information that pertains to that  
9 kind of thing.

10 And I would invite -- I think with the meeting  
11 announcement we sent out the link and the access information,  
12 so if you would like to review the details of the text and  
13 stuff, we would certainly welcome that. I don't think that  
14 this is probably the time to get into any of those details,  
15 but they are certainly there and available.

16 We improved the help information with screen shots,  
17 I believe, to help in clarifying what exactly we are talking  
18 about when we say do this or that or the other. There's no  
19 reason to wait for those to download. Of course, we would  
20 welcome any input you would have on that as well.

21 We changed primary documents to key documents. And  
22 now what this site has, according to the federal facilities  
23 agreement, the FFA, we have background documents, primary  
24 documents, secondary documents, fact sheets, and newsletters.  
25 And they are all organized here. This is sort of your quick

1 reference to some of the most important documents that have  
2 been produced.

3           And then one of the biggest changes we made was for  
4 larger documents. Before, when you would be at this screen  
5 and you would hit the link and that -- and there was actually  
6 maybe a dozen links there to how those files had been broken  
7 apart, we actually had a link to another HTML page now, which  
8 shows the document, shows each of these PDF files, which was  
9 what we saw before and then let you know sort of the content of  
10 each of those files so that you can say, oh, okay. This is  
11 appendix A. That is where I am wanting to go, or I can check  
12 out the table of contents first and then move down. So any  
13 document that had multiple PDF files now has sort of an intro  
14 html page.

15           As far as the -- this is the simple search. One of  
16 the comments was -- I believe it was from Judy -- was to have  
17 searching by some of the key topics, so we have key topics  
18 here.

19           Soil vapor extraction, if you select that one, hit  
20 the search, it returns all of the soil vapor extraction  
21 related documents. So makes that process a little bit easier.

22           You can also do key words. There was a request to  
23 have, like, an and/or requirement, if you want to put in two  
24 words.

25           And then we had some quick search functions that we

1 put in as well. You know, documents within the last 30 days,  
2 within the last year, ground water monitoring reports, soil  
3 vapor and monitoring reports, treatability test, soil vapor  
4 extract report. Just general categories so that if you  
5 clicked on those general categories, you could see what was  
6 within the admin. records and then select those accordingly.

7           The advanced search, I don't believe the advanced  
8 search changed significantly. So still some of the same  
9 features there where you can select the type of record, you  
10 know -- each record has identifying, whether it's a report or  
11 fax or data.

12           I think what we did do, was one of the main things  
13 that we did when we did -- I think within the key  
14 documents -- oh, within the key documents, we took the  
15 abstract or maybe some general information from the document  
16 and linked it up to the title. So now if you want to know a  
17 little bit more about what the federal facilities' agreement  
18 was, if you wanted to explore that more, it just gives you  
19 like the abstract or kind of general information as to what  
20 is in there.

21           So very -- just, you know, text that was straight  
22 from the report, not adding anything, but certainly a way to  
23 get an overview before you pursue opening up some of these  
24 PDF files.

25           So that's where -- I don't think we had any changes

1 to the feedback. Just to refresh us, what the feedback will  
2 have is from here, they can ask to be added to the mailing  
3 list. They can look at comments that have been submitted to  
4 the site. Of course, none have been submitted yet. And then  
5 they can submit comments that will then be, you know -- they  
6 will be evaluated, whether they are worthwhile to respond to  
7 and somebody is not just messing around, and then those will  
8 be posted with the comment and response to the feedback, to  
9 the response area.

10 PETER ROBLES: Have we provided this information to the  
11 libraries?

12 KEITH FIELDS: Nothing has been provided to the  
13 libraries. I think that we have their IP addresses. Our  
14 security measures are going to be utilizing their IP address.  
15 So right now there are two websites that are working off the  
16 same database and information, but one we all have access to  
17 with our passwords, but the one in the libraries that we use  
18 will actually -- the security will be within the IP address.  
19 So only those computers that we specify can access this  
20 website.

21 So people won't be able to access it from home and  
22 that. It's just to restrict. There was some concern about  
23 restricting the usability. So it hasn't been implemented.  
24 What we would like to do is try to get some general  
25 concurrence on the approach. And maybe it needs another 15

1 to 30 days of review, if you wanted to look at details.

2 I did -- I have a comment response table that we --

3 if would you like to see it, I would be more than willing to

4 send out. I need to give your comments to you, Kimberly.

5 But if we can get some preliminary concurrence, maybe we'll go

6 ahead and try to get some of these implemented within the

7 libraries and test it a little bit, see what kind of

8 connections they have, make sure that things are moving okay

9 and then move forward with some refinement, as we go on, but

10 I think -- I feel that we are certainly at a point that we

11 are ready to implement and at least maintain the duplicate,

12 you know, certainly not going to this exclusively but to

13 maintain the hard copies and the web based.

14 You guys are a lot easier on me than the last time.

15 MARK RIPPERDA: Because it all looks so good now.

16 LINDA HOLLINGSWORTH: It looks really nice. I

17 particularly like the idea that when you hit on one of those

18 large documents that you get the nice index to it, because

19 there's nothing more irritating than having to open up a

20 dozen different things trying to find the piece that you are

21 looking for. I think that is very helpful.

22 KEITH FIELDS: Well, if we can, let's say we'll have a

23 30-day review period. We'll be open -- one thing of primary

24 concern will be to get it to Chuck and Judy and make sure

25 that NASA is okay with the information that is here. It's

1 been provided, I think -- I'm sorry. Cal-Tech. JPL is  
2 comfortable, and then we'll move forward with that. And that  
3 is all we had on the schedule.

4 Kimberly?

5 KIMBERLY GATES: I think that's it. Are there any other  
6 items that you wanted to discuss or not?

7 MARK RIPPERDA: Conference calls?

8 KIMBERLY GATES: Yeah, I guess we should do that. See,  
9 I'm in Hawaii. I don't think about it. Okay. So the one in  
10 July.

11 PETER ROBLES: Next week is the 4th of July. We're  
12 going to have to do it the second Thursday. You got your  
13 meeting. Will be the second Wednesday, maybe.

14 PETER ROBLES: So the second Thursday.

15 ROBERT KRATZKE: Which is the 11th.

16 PETER ROBLES: Is the telecom.

17 KIMBERLY GATES: At 9:30. And we'll send out the agenda.

18 PETER ROBLES: And then August 8th.

19 ROBERT KRATZKE: Could I suggest we make it the 15th  
20 because Richard will be back on the 12th.

21 KIMBERLY GATES: Come on.

22 PETER ROBLES: That is the Thursday.

23 ROBERT KRATZKE: Third Thursday.

24 KIMBERLY GATES: Right.

25 PETER ROBLES: So we'll keep it on Thursday.

1 KEITH FIELDS: These are at 10:00 a.m.

2 KIMBERLY GATES: 9:30.

3 RICHARD GEBERT: The next one was August.

4 KIMBERLY GATES: 15th. That way Richard has to cram  
5 for it.

6 PETER ROBLES: Okay.

7 KEITH FIELDS: And the next RPM meeting has been  
8 scheduled.

9 KIMBERLY GATES: September 11th, 9:00 a.m.

10 KEITH FIELDS: That's here?

11 KIMBERLY GATES: Yes.

12 LINDA HOLLINGSWORTH: So not only are we planning it for  
13 September 11th, actually 9:00 a.m. is when it occurred.

14 KIMBERLY GATES: Yes.

15 LINDA HOLLINGSWORTH: We should all able to remember  
16 that.

17 PETER ROBLES: More importantly the roads will be  
18 cleared. You can fly and have all the seats you wanted.

19 KIMBERLY GATES: It probably will be the safest day for  
20 you to be doing this.

21 PETER ROBLES: Security will be at its highest.

22 BARRY MOLNAA: Don't pack any tweezers or anything.

23 KIMBERLY GATES: If that's everything, if anyone wants  
24 to join us for lunch. The meeting is adjourned.

25 PETER ROBLES: Thank you very much. -o0o-