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TRANSCRIPT OF PROCEEDINGS

NASA/JPL CERCLA RPM MEETING

THURSDAY, AUGUST 11, 2005

FOOTHILL MUNICIPAL WATER DISTRICT

4536 HAMPTON ROAD

LA CANADA FLINTRIDGE, CALIFORNIA

- 1 APPEARANCES:
- 2 KEITH FIELDS – NASA/BATTELLE
- 3 STEVE SLATEN - NASA
- 4 MERILEE FELLOWS - NASA
- 5 NICK AMINI – NASA/BATTELLE
- 6 LORI GARNER – NASA/BATTELLE
- 7 GARY TAKARA - PASADENA WATER AND POWER
- 8 STEFAN CAJINA - CA DHS
- 9 ALAN SORSHER - CA DHS
- 10 MARK RIPPERDA - US EPA
- 11 ROBERT HAYWARD - LINCOLN AVENUE WATER COMPANY
- 12 JOHN LOPEZ - LAS FLORES WATER COMPANY
- 13 KAREN ARTEAGA - GEOSYNTEC
- 14 ROUMIANA KARAKANOVA - PASADENA WATER AND POWER
- 15 KURT SOUZA - CA DHS
- 16 LINDA THOMAS - FOOTHILL MUNICIPAL WATER DISTRICT
- 17 BEN HEADINGTON – NASA/BATTELLE
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1 LA CANADA, CALIFORNIA, THURSDAY, AUGUST 11, 2005

2 9:09 a.m.

3

4 MR. SLATEN: We'll go around and do introductions  
5 for the scribe.

6 My name is Steve Slaten, NASA JPL Project  
7 Coordinator.

8 MS. FELLOWS: Merrilee Fellows, M-e-r-r-i-l-e-e  
9 F-e-l-l-o-w-s. Outreach Manager for the project.

10 MS. GARNER: Lori Garner for Battelle.

11 MR. AMINI: Nick Amini with Battelle. That's  
12 A-m-i-n-i.

13 MR. FIELDS: Keith Fields with Battelle.

14 MR. RIPPERDA: Mark Ripperda with EPA.

15 MS. KARAKANOVA: Roumiana Karakanova, City of  
16 Pasadena.

17 MR. TAKARA: Gary Takara, Pasadena.

18 MR. HAYWARD: Bob Hayward, Lincoln Avenue Water.

19 MR. CAJINA: Stefan Cajina, California Health Department.

20 MR. SOUZA: Kurt Souza, California Health Department.

21 MS. ARTEAGA: Karen Arteaga, GeoSyntech.

22 MS. THOMAS: Linda Thomas, Foothill Municipal Water District.

23 MR. LOPEZ: John Lopez, Las Flores Water Company.

24 MR. HEADINGTON: Ben Headington, Battelle.

25 MR. SORSHER: Alan Sorsher, California Department of Health.

1 Services.

2 MR. SLATEN: Okay. So I guess we can just jump into  
3 our agenda today. We've got first on is a community  
4 relations update.

5 Merrilee.

6 MS. FELLOWS: A couple of things happening. It's  
7 been kind of calm and quiet. When people call we  
8 answer their questions, and otherwise just trying to get  
9 some work done.

10 We have a newsletter planned for October,  
11 November time frame. It's about time to reach out  
12 again. We kept thinking we'd have a public meeting, but  
13 those plans got delayed a little bit. So we're going to  
14 go ahead with the newsletter, including in that a notice  
15 that a proposed plan will be coming up and that they  
16 should watch for it.

17 Then when we do have the proposed plan out and  
18 we get about two weeks short of the 30-day public  
19 comment period, we'll send out a postcard or something  
20 that talks about the fact that it's now available at a  
21 web site or to call for copies, and --

22 MR. SORSHER: Excuse me. This plan is?

23 MS. FELLOWS: We'll get to that. It's really more  
24 involved than just me, but it's the proposed plan for  
25 OU-1 and OU-3.

1 And also, if they want to submit written  
2 comments, how to do that.

3 How I'm going to fit all that on a postcard, I  
4 haven't quite figured it out, but we will do it in some  
5 way that's clear for everyone.

6 The other thing that's occurred, we had a  
7 little bit of hydrogen sulfide smell near the plant, and  
8 the couple of the JPL employees commented on it. So we  
9 met with the employees twice and had toxicologists come  
10 and explain that the human detection level is far lower  
11 than the health effects or other effects, except that  
12 we acknowledge that if they feel crummy from it, it's  
13 not a good thing. We're sorry. We're trying to control  
14 it.

15 So there are -- we established a sampling  
16 protocol that we implemented immediately and found that  
17 it was really only detectable at, what, .007 -- what was  
18 it? Seven parts --

19 MR. AMINI: It's about seven parts per million --

20 MS. FELLOWS: That was only at one little pipe, and  
21 it was pretty far from where the employees were, and the  
22 dispersion is fairly quick.

23 So we talked to them about that and reassured  
24 them that we have these numbers and we're watching it.  
25 And at the same time we're developing some methods to

1 contain the hydrogen sulfide so that's not an issue any  
2 longer.

3 And the only other thing is the Prop 65  
4 hearings on perchlorate, whether it should be listed as  
5 a carcinogen or causing -- affecting reproductive  
6 toxicity, and that hearing, I think, is today. NASA did  
7 submit a letter on that from headquarters.

8 And that's pretty much it unless someone has  
9 some questions.

10 MR. RIPPERDA: Do you have any kind of estimated  
11 date for the proposed plan meeting?

12 MS. FELLOWS: You know, no -- yes. February?

13 MR. SLATEN: It looks like it's out in about the  
14 February time frame. If you started adding up 30 days  
15 here and 30 days there, we did a quick calendar  
16 yesterday, and it would be after New Year's.

17 MS. FELLOWS: I'm also working on the Stardust  
18 project for JPL which lands January 15th in Utah, so  
19 that period right in there I'm not available. It was  
20 just as good that it flopped over just a little bit  
21 longer.

22 And part of those 30-day things, I guess it's  
23 the FAA requires 60 days, but upon agreement it can be  
24 30 days. So that's the quickest it would be, would be  
25 February.

1 MR. SLATEN: We've put together on my board  
2 yesterday, what I titled reasonably short, which is as  
3 short as it can be made without extreme measures, puts  
4 it out to February time frame. And that is with 30-day  
5 review instead of 60.

6 MS. FELLOWS: And that's another reason we went  
7 ahead and decided to have the newsletter sooner because  
8 that's just too long before we talk to people again.

9 MR. SLATEN: Okay. No other questions about public  
10 involvement specific?

11 We'll jump into OU-3. Usually, we let Bob just  
12 go first on OU-3 so he can get off his chest whatever is  
13 going on out there.

14 Anything interesting happening, Bob?

15 MR. HAYWARD: No. Nothing out of the ordinary. The  
16 report would be just a continuation of our last sit-down  
17 meeting. We are operating as planned on schedule.

18 The only thing that we've had to focus on out  
19 of the normal operation of the plant in the past quarter  
20 would be the increased focus we've had to give to the  
21 carbon tet issue.

22 And we had an extensive conversation with Keith  
23 on the situation and trying to plan some strategy as to  
24 how we can best deal with the carbon tet issue. And we  
25 came to a consensus or agreement that we just continue

1 with our approach, and that is use only virgin carbon  
2 during the change-out and move away from using the  
3 regenerated carbon, and hope that we can get -- we could  
4 extend the life of the run of the carbon to deal with  
5 the carbon tet issue.

6 Keith, would you care to comment on that?

7 MR. FIELDS: Yeah. We worked with Bob and tried  
8 to -- there was an action item out at the last April  
9 meeting. I believe it was DHS, Jeff O'Keefe mentioned  
10 that we may want to look into some alternate carbon  
11 options because we were getting relatively rapid  
12 breakthrough as short as two months on one of the carbon  
13 vessels.

14 So we looked into it. We called vendors. And  
15 basically, there is no specialized products for carbon  
16 tetrachloride or tailored carbon that would be more effective for  
17 carbon tetrachloride. But there is regenerated carbon,  
18 there is coal-base virgin carbon, and there's coconut  
19 shell-based virgin carbon.

20 And so we looked at several options. We looked  
21 at well, what if we -- Bob has four vessels right now  
22 operating in parallel. What if we operated those in  
23 lead lag so we got -- used more of the carbon per  
24 vessel. But that reduces his flow capacity and reduces  
25 his -- it increased costs in high demand months when

1 they have to buy more from Met Water. So that didn't  
2 make sense.

3 We've talked about, well, maybe what if we  
4 added another set of vessels? And we looked at that.  
5 It looked like the payback period on that would be at  
6 least -- I mean, if you operated year-round, it would be  
7 nine years, and that's not going to be the case  
8 eventually. So we're talking a payback period of a very  
9 long time.

10 So what was decided, and Lincoln Avenue came to  
11 this conclusion before Battelle did, but they just  
12 decided to switch over to virgin carbon and see if they  
13 could get a better run time on their activated carbon  
14 unit.

15 And basically, when you go to virgin carbon or  
16 a more specialized or maybe the coconut shell carbon,  
17 there is an increase in cost that's about equal to the  
18 increase in run time.

19 So overall, in your purchase cost for your  
20 carbon, you don't save money. But I think it's going to  
21 be better for Bob because he has -- it doesn't --  
22 operationally, he doesn't have to replace as much.

23 So we did a lot of effort and didn't get --  
24 well, we came to the conclusion that we would try some  
25 alternate carbons and see if that increased the run

1 time, just to help them operationally.

2 MR. HAYWARD: Yes. Because it's the O & M that  
3 really cost us, that really affects the efficiency  
4 economies of scale. Because in order to perform a  
5 carbon change-out just for one vessel, that could take  
6 us as long -- following the proper protocol as set down  
7 by DHS, that could take as much as a week, as far as  
8 deloading, inspection, disinfection, reloading, start-up  
9 of water -- start-up pump-to-waste water quality  
10 analysis, waiting on the lab results.

11 And it's just very time consuming and a total  
12 waste of loss of productivity. And during that time,  
13 we're buying imported water to compensate for the loss  
14 of the operation of the vessels. That's just one  
15 vessel. So when you've got -- we have four vessels.  
16 You have vessel after vessel after vessel after vessel,  
17 that's -- you can see it has an effect on the operation.

18 Again, that's staff time and productivity just  
19 dedicated to maintaining that process. So it's very,  
20 very frustrating.

21 And Keith understands what we're going through,  
22 and he's on top of it, and I appreciate that, and  
23 looking for an alternative. But right now, we're just  
24 dealing with the situation at hand, and hopefully it may  
25 work to our advantage, but we don't know yet.

1 MS. ARTEAGA: Are there any influent concentrations  
2 on --

3 MR. HAYWARD: Actually, influent concentration is  
4 not high. That's not the problem. It's the MCL that  
5 impacts us. I think we're still in single digit  
6 concentrations at the wellhead.

7 MR. CAJINA: Two's and three's.

8 MR. HAYWARD: Yeah.

9 MR. FIELDS: As high as four.

10 MR. HAYWARD: But it's the MCL that wreaks havoc  
11 with us.

12 MR. CAJINA: Basically, as soon as you see it here,  
13 you're over the MCL so --

14 MR. HAYWARD: As soon as you get a whiff of it,  
15 that's it.

16 MR. SORSHER: Looking at that graph, though, it  
17 looks like the concentration did jump up in the middle  
18 of '03.

19 MR. CAJINA: Yeah. It spikes some. There's a four  
20 at the end of 2004 --

21 MR. FIELDS: Yeah. We've seen, as we've talked about, I  
22 think, before, when the perchlorate went up, we saw an  
23 increase in the carbon tetrachloride as well. And so  
24 those have been tracking along similarly.

25 MR. SLATEN: So --

1 MR. HAYWARD: Go ahead.

2 MR. SLATEN: I was going to start changing the  
3 subject a little bit.

4 MR. HAYWARD: And that's about it. We -- I think we  
5 reported at the last meeting, we were very much  
6 surprised about the operation of the IX system in that,  
7 just being the first time around, with a functional  
8 operable system and a system being permitted by DHS --  
9 as a matter of fact, I don't think if there's -- this  
10 year, we just celebrated a year of operation. I don't  
11 know if there have been any other systems in Los Angeles  
12 County that have been permitted by DHS since that time.

13 But to go online like we did a year ago and  
14 have the system run for a year and have it operate as  
15 designed, as predicted by the manufacturer and the  
16 supplier of the resin, to me, I was just overwhelmed  
17 that we haven't had any major problems with it.

18 MR. SLATEN: So a year, about 2,100 acre feet,  
19 pumped, I think, without any major problems. We had  
20 to -- we needed to put on the backfilter system for the  
21 sediment after a little while, which wasn't too much of  
22 an upset, and otherwise, it's worked as intended.

23 MR. HAYWARD: Yes. We operate with the two vessels.  
24 We've only had to change out one vessel with new resin,  
25 and that was anticipated based on the projected run

1 time.

2 And, you know, we still switched lead lag. And  
3 the manufacturer doesn't project a change-out of the  
4 second vessel until December of this year. So that  
5 would be about a year and a half run on that resin.

6 I personally don't think it's going to go that  
7 long, but it has been pretty efficient from everyone's  
8 position. I mean, the manufacturer, I guess he felt he  
9 priced his product well, he made his profit, and we've  
10 experienced it does the job that we wanted done, and so  
11 everybody's satisfied.

12 MR. SLATEN: And we saw the predicted run time was  
13 just about exactly what it actually turned out to be.

14 MR. HAYWARD: Yes.

15 MR. SORSHER: We followed the Yogi Berra philosophy  
16 on permits. We only permit equipment that's going to  
17 work.

18 MS. FELLOWS: That's good to know.

19 Before we leave Bob's item, I wanted to mention  
20 that Lori wrote up and put on our website sort of a one-year  
21 anniversary of Lincoln Avenue's operation, and we would  
22 like to spread that news, so check out the web site.

23 MR. SORSHER: One other comment on the ion exchange,  
24 I just mentioned in passing. We did finally get some  
25 cooperation from Roman Haas as to the actual functional

1 group that they're using there. And I can't tell you  
2 what it is, because I'm sworn to secrecy, but we're  
3 feeling much better about it, that we're sure we're not  
4 missing any potential nitrosamines that might form. So  
5 I'm much happier now with Roman Haas, as far as that  
6 goes.

7 MR. SLATEN: The last bullet on here was about water  
8 level monitoring MW-17. We -- NASA installed, on our  
9 monitoring well there, which is the closest one upstream  
10 from Bob's Lincoln Avenue Well No. 3, a continuous  
11 recorder for water level monitoring, so we could see the  
12 effect on the aquifer when it -- 3 and 5 were turned on  
13 and off, would help us just give us more information  
14 about aquifer parameters that we can use in the future.

15 MR. FIELDS: And we just finished that up this week.  
16 And thanks, Bob. We had -- Bob had to -- we had to  
17 coordinate with Bob and his team closely, and it  
18 required a shutdown of their well for a little bit of  
19 time so we could do some draw-down measurements.

20 So we appreciate that, and those results will  
21 be forthcoming.

22 MR. HAYWARD: And you will share those with me?

23 MR. FIELDS: Absolutely.

24 MR. SORSHER: I don't recall. What is the distance  
25 between MW-17 and Well 3 again? Is that --

1 MR. SLATEN: Four hundred feet.

2 MR. FIELDS: It's about.

3 MR. SLATEN: Four hundred thirty feet, something  
4 like that.

5 Okay. So the statistics on Bob's system,  
6 2,268 acre feet, 100 pounds of perchlorate, 10 pounds of  
7 carbon tetrachloride, and 23 pounds of TCE.

8 MR. SORSHER: Keith, could you go back to that graph  
9 of the concentrations?

10 MR. FIELDS: Yeah. The next two graphs we've  
11 already talked about. This was what U.S. Filter  
12 provided Bob before we started, and it's about  
13 1,800 gallons per cubic foot was their estimated  
14 through-put before changeout. And we actually -- their  
15 actual through-put was 1,847 gallons per cubic foot.

16 So we mentioned earlier how close their  
17 predictions were, so that was -- it was nice that they  
18 were telling the truth.

19 And then this was also -- this was -- we did a  
20 presentation at a conference up in San Francisco on  
21 Bob's resin, and this was just to give you a sense,  
22 these are some cost data and information from  
23 U.S. Filter. And it shows with the PWA-2 resin at Bob's  
24 plant, we're at a \$159 an acre foot.

25 Rialto recently just switched over. Bob was

1 the first permitted use of PWA-2, and Rialto switched  
2 over recently, and it dropped their cost significantly.

3 And then Fontana is using a nitrate specific  
4 selective resin. It's a little bit higher than --

5 MR. TAKARA: What was the reason for the higher  
6 treatment costs for the Rialto PWA-2 between Lincoln  
7 concerning the --

8 MR. FIELDS: I'm not an expert in this, but from  
9 what I understand from U.S. Filter, it's not what the  
10 concentration of perchlorate is. It's the concentration  
11 of perchlorate relative to the other anions. So if you  
12 had very high levels of nitrate or if perchlorate had a  
13 relatively high percentage of the total in ion load, it  
14 can affect the cost.

15 So it just happened -- it has to do with the  
16 chemistry of the water, and most importantly the nitrate  
17 levels and secondarily the sulfate.

18 MS. KARAKANOVA: But the nitrates, they are not  
19 removed by this resin; right?

20 MR. FIELDS: Right. But they do affect the  
21 equilibrium and how it removes the perchlorate.

22 MR. LOPEZ: The \$159 an acre, does that include  
23 pumping costs? Normally, they would not. That was just  
24 raw --

25 MR. FIELDS: One thing I did learn at this

1 conference is if you're talking to the vendors, you got  
2 to be careful because a lot of them will say, "Operation  
3 costs are \$100 a foot" -- "an acre foot" or \$80 an acre  
4 foot," but they're not -- that's not really turnkey  
5 costs. They're not including the disposal of the resin.

6 So, so far, from what I've seen, U.S. Filter,  
7 when they present their costs, it's the true cost that  
8 you would incur from them if you contracted them.

9 And some of the other folks are presenting some  
10 costs that may not be the true cost, but it looks better  
11 on paper.

12 Sometimes it's hard to compare apples to  
13 apples. I noticed that a lot at that conference.

14 MR. HAYWARD: And I just wanted to mention, Steve  
15 and Keith, I don't know the relationship, but the  
16 politics, the international relationship that NASA has  
17 with other countries, but for your information, a  
18 delegation from the government of the State of Israel  
19 has been over to inspect and tour our plant. And most  
20 recently, Lori brought in a group of delegates from the  
21 country of Mexico.

22 So I don't know what you're doing -- I don't  
23 know if you guys established a secondary market  
24 someplace out of the country, you know, selling NASA's  
25 technology, but anyway, I just thought I would --

1 MR. FIELDS: I wish.

2 MR. SLATEN: Just trying to be good citizens of the  
3 world.

4 MR. HAYWARD: I see. Okay.

5 MR. FIELDS: Back to you, Alan. You had a question  
6 on this?

7 MR. SORSHER: I was just wondering if the TCE levels  
8 had anything to do with his carbon usage, but apparently  
9 they're low. And it looks like your perchlorate level  
10 is in that same ballpark that it's been except for that  
11 one outlier.

12 MR. FIELDS: It was in May that Bob -- they had the  
13 highest level of perchlorate they had detected. It was  
14 46, I believe. But then the next month, it was back  
15 down. It looks like even the next weeks it went back  
16 down, sort of just like you said, Alan, an outlier.

17 MR. RIPPERDA: So looking at this graph, how does  
18 this compare with your groundwater flow calculations or  
19 your model? You know, assuming that the spike in  
20 perchlorate and carbon tet is from the Arroyo wells  
21 being off, does this -- whatever that two-year period  
22 for the contaminant to spike a little bit, does that  
23 match what your model or your flow water calculation  
24 would show?

25 MR. FIELDS: I don't know if we've done that

1 calculation directly.

2 MR. SLATEN: In a general way, yeah.

3 MR. FIELDS: In a general way.

4 MR. SLATEN: Move from over by the Pasadena Arroyo  
5 Wells over towards Bob over a few years, and it's still  
6 there. I think Bob's intercepting most of it is what  
7 we --

8 MR. RIPPERDA: I was wondering about the specifics  
9 of your model and your flow velocity calculations. I  
10 forget what the aquifer flow velocities were calculated  
11 to be. The last time we really talked about it is two  
12 or three years ago.

13 MR. SLATEN: It all depends on -- depending on  
14 pumping, since there is no natural flow out there  
15 anymore. It's all about who's pumping and how much.

16 MR. RIPPERDA: Are you doing anything with your  
17 groundwater model lately?

18 MR. FIELDS: We actually are doing that aquifer  
19 testing right near Bob's system. It's part of that  
20 to -- once the system's operating, to collect some  
21 additional aquifer parameters, see if we can get a more  
22 accurate estimate of certain parameters near the Lincoln  
23 Avenue system, and then we would recalculate the capture  
24 areas is the plan.

25 MR. RIPPERDA: The reason I'm asking is in case you

1 in Pasadena don't reach an agreement in the next couple  
2 weeks, you know, will want to move forward with your  
3 on-site treatment plant and situating the extraction  
4 well and injection wells, we want a model that's been  
5 validated with the most up-to-date local information.

6 MR. SLATEN: If we get this Pasadena system on, the  
7 model is totally different. Okay?

8 MR. FIELDS: This kind of relates to what you were  
9 asking about, Mark, too, is that closest monitoring well  
10 from JPL, which is 17, we continue to see a general  
11 downward trend since '02, early '03.

12 MR. SLATEN: Okay. For the rest of OU-3, I'm going  
13 to start just on the negotiations. We've been meeting a  
14 lot in the last few weeks with the City of Pasadena,  
15 trying to reach agreement on modification to the  
16 Devil's Gate agreement to include the perchlorate  
17 treatment system.

18 We've been in with the attorneys for many, many  
19 hours in the last few weeks. Gary can vouch for that.  
20 Gary has been in the last few meetings which have gone  
21 on for long enough hours.

22 MR. TAKARA: Too long.

23 MR. SLATEN: Yeah. So we're still working on it.  
24 You know, I continue to be optimistic we'll be able to  
25 reach agreement, although it's not guaranteed. We still

1 have a couple of big issues that we're working on. So  
2 we're working towards the end of the month deadline from  
3 EPA to have a plan in, so we're working towards that.

4 But I'm also working hard to try to make the  
5 City of Pasadena thing work so that the plan can be --  
6 the proposed plan can be for use in the City of Pasadena  
7 infrastructure. But I'm not going to put out a proposed  
8 plan for the City of Pasadena -- using the City of  
9 Pasadena infrastructure until we have an agreement to do  
10 so. It would just -- it would be non -- it would hurt  
11 credibility to put any kind of a plan out, I think, that  
12 says we're going to use City of Pasadena infrastructure  
13 until we have an agreement to do so.

14 So I'm working toward the end of the month as  
15 being the drop-dead date for this, and I think everybody  
16 is serious about that.

17 MR. HAYWARD: Steve, I have a question. And, of  
18 course, it may be not the right question for this group,  
19 but as a member of the Raymond Basin Management Board,  
20 you know, we put a lot of pressure on Sean Kwan and the  
21 City of Pasadena to give us dates -- time frame or  
22 projected dates as to when the basin will -- can expect  
23 some movement from the City of Pasadena, as far as the  
24 installation and the startup of a treatment plant in the  
25 Arroyo to address the Monk Hill contamination problem.

1           And we can go back over a year, and every time  
2 we pose that question to the City of Pasadena, they  
3 would have a target date, and at every meeting, that  
4 target date would be moved up, moved up, moved back,  
5 moved back, moved back.

6           And what I'm hearing from you this morning is  
7 that you moved totally away from setting a target date  
8 for startup. I mean, you're focusing on, hopefully,  
9 signing an agreement.

10          I mean, so -- so as far as the Raymond Basin is  
11 concerned, is that the position right now, we can just  
12 take a target date as to Pasadena actually treating our  
13 water in the Arroyo, just take that totally off the  
14 table and don't have any imaginary future date for that  
15 and just deal with what we're dealing with right now?

16          My point is for the Raymond Basin and Lincoln  
17 Avenue Water Company, is it actually conceivable that we  
18 will be getting any help from the City of Pasadena and  
19 NASA as far as a second OU -- second OU-3 operation and  
20 doing the cleanup efforts in the Monk Hill, or is it  
21 just wishful thinking?

22       MR. RIPPERDA: Okay. You know, I actually had  
23 something pithy to say, and then it just, like, flew out  
24 of my brain.

25          Because of these (inaudible) between NASA and

1 Pasadena, you know, we all had this plan that Pasadena  
2 wells were the best way to go --

3 MR. HAYWARD: Yes.

4 MR. RIPPERDA: -- most logical, best for everybody.

5 But because, just like you say, it keeps moving out,  
6 moving out, but it's all predicated on the agreement  
7 being signed. No engineering can be finalized, no dirt  
8 can be moved until the agreement gets signed. So EPA  
9 sent a letter out about a month ago, and I don't think I  
10 "cc'd" you --

11 MR. HAYWARD: No.

12 MR. RIPPERDA: So I'll go back and send it out to  
13 everybody who I didn't send it to the first time.

14 We told NASA -- we sent it to both NASA and  
15 Pasadena -- that they had until August 31st to reach  
16 their agreement that would allow NASA to start funding  
17 Pasadena's treatment system and that if they weren't  
18 able to reach that agreement, we needed to get from NASA  
19 a proposed plan for doing the treatment system on-site.

20 So the two big picture alternatives are use the  
21 Arroyo wells, or NASA has to drill new extraction wells,  
22 you know, somewhere near their fence line, extract the  
23 water, build a new treatment system there, treat it, and  
24 reinject it somewhere on-site.

25 And under the Federal Facilities Agreement,

1 that's the agreement that a responsible party like NASA  
2 has to sign with EPA, you know, there's a schedule and  
3 that schedule says that by August 31st, NASA has to have  
4 submitted their formal documentation called proposed  
5 plan on what they're going to do.

6 Obviously, we want them to sign the agreement  
7 so that NASA can issue the proposed plan that Steve  
8 won't issue without the agreement. But if they don't  
9 sign an agreement, Steve is supposed to right now be  
10 having Battelle work at the same time on a plan for  
11 doing the treatment on-site.

12 So by August 31st, we should know whether  
13 they're going to be working with Pasadena or be working  
14 on-site, and then you can just take the design and  
15 engineering, the documentation from there, and there's  
16 actually going to be a treatment system.

17 But, you know, starting first of September,  
18 they should be moving on one system or the other with  
19 their whole CERCLA documentation, plus the engineering  
20 process.

21 MR. HAYWARD: Mark, are we just going through the  
22 motion of playing lip service? I mean, are we just  
23 dragging our feet here? Are we -- what are you going to  
24 do in the event August 31st comes and there is no  
25 movement, there is no agreement, you have no plan for

1 expansion --

2 MR. RIPPERDA: Then we're just going to have to  
3 basically stop negotiating with Pasadena and put up the  
4 money to drill wells on-site. And if they don't, they  
5 start to pay a fine of -- I don't know exactly what it  
6 is -- but like \$10,000 a day.

7 MR. HAYWARD: Okay.

8 MS. FELLOWS: So NASA will be doing something,  
9 whether or not Pasadena is or not.

10 MR. SORSHER: We had a conference call -- I think it  
11 was August -- or July 21st with EPA and Steve and  
12 City of Pasadena. You know, if there is any other  
13 assistance that we could give, just ask.

14 I don't know what the hangup is or what the  
15 stumbling block of the negotiation is. I don't know if  
16 it's anything on our side or something else.

17 MR. SLATEN: There are several things. I won't go  
18 into any details on any of them, but in an agreement  
19 like this, when people enter into it, there's always  
20 going to be some amount of risk to both parties that  
21 something might not work well in the agreement, and  
22 either party could be left -- could be left --

23 MR. LOPEZ: Harmed.

24 MR. SLATEN: -- harmed out of it.

25 And it's impossible, I think, to draw up any

1 agreement that's going to be perfect so that all sides  
2 are protected under any and every scenario.

3 For example, NASA is looking at putting up  
4 millions of dollars on this, but there's a possibility  
5 that some things could happen where those wells would  
6 not be able to operate, and our investment of millions  
7 of dollars might not be cleaning up the groundwater, and  
8 we might have to go spend more money to do something  
9 else.

10 So NASA has some risk going into this. We try  
11 to write up things to try to make sure that we can  
12 mitigate those risks.

13 Same thing for Pasadena: Going into this,  
14 they're going into a big thing where they're going to be  
15 operating a big system, and there's a possibility that,  
16 if the agreement doesn't run for at least a few years,  
17 that they'll be left somehow paying bills or harmed or  
18 not getting the value out that they need.

19 So it's difficult, especially when you get the  
20 attorneys involved. If it were just the technical  
21 people, we could decide what to do. But when the  
22 attorneys try to look for all of the bad things that  
23 could happen and try to cover that in the agreement, it  
24 is complicated and difficult.

25 And in the end, I think both sides will have to

1 go away and say, "Here is an agreement. It may not  
2 cover every possibility that something might go wrong,  
3 but it's better than the alternative of not having an  
4 agreement."

5 And we're trying to get to that point now so  
6 people can make their final decision. And we have been  
7 talking about it for well over a year now, so I'm ready  
8 for resolution.

9 MR. SORSHER: That's kind of enlightening to me  
10 because, you know, we're dealing with other operable  
11 units around the county and everything. And when I'm  
12 thinking about this now, it's enlightening because the  
13 other operable units -- I know that Glendale and Burbank  
14 OUs, and I believe the VPOU -- in all of those cases,  
15 you know, there's always been these consent agreements  
16 or consent orders or one of these legal documents that  
17 they seem they've already been in place when we come  
18 onto the scene. So maybe we haven't run into that as an  
19 obstacle before. This is the first time we're in it at  
20 this stage where it's impacting.

21 MR. RIPPERDA: Yeah. Those agreements were mostly  
22 in place because TCE primarily has been the driver at  
23 those other sites you're talking about, and so they had  
24 to reach their consent agreements between the  
25 municipality, the water purveyors, the principal

1 responsible parties and EPA --

2 MR. SORSHER: And timing --

3 MR. RIPPERDA: -- you know, years ago. And then  
4 when perchlorate came along, you know, those entities  
5 were all willing and able to just do whatever slight  
6 tweak to their agreement to have it cover perchlorate as  
7 well or the original agreement was written for all, that  
8 the perchlorate was just folded in.

9 That's kind of EPA's frustration with NASA and  
10 Pasadena, is that these other places you're talking  
11 about are much more complicated situations. There's  
12 multiple PRPs, multiple water purveyors, and yet, they  
13 manage to work out their legal agreement.

14 And here we just have one PRP and one purveyor,  
15 and they can't work it out one on one. So that's why,  
16 ultimately, we gave them a drop-dead date of  
17 August 31st.

18 MR. SORSHER: In this case, the PRP is the  
19 government?

20 MR. RIPPERDA: Yes. EPA, in this case, doesn't have  
21 any real power to come in and force NASA to negotiate  
22 one way or the other. You know, we have a little more  
23 power with a private PRP, you know, but the negotiations  
24 on this legal agreement between NASA and Pasadena are  
25 purely between NASA and Pasadena. We don't even know

1 what exactly the sticky points are, what the problems  
2 are, except to say how can there be a problem? This is  
3 beneficial to both parties.

4 But their lawyers are -- have overactive  
5 imaginations and --

6 MR. SLATEN: Hindsight, huh?

7 Okay. So we are working hard to try to get an  
8 agreement by the end of the month. If not, we'll have  
9 to take on-site alternative.

10 So back to technical issues, then. Working  
11 with the City of Pasadena to try to get ready in the  
12 planning for the eventuality of an agreement, and we've  
13 been working -- having Keith work to try to help them  
14 get ready to prepare for having a treatment system on  
15 the City of Pasadena property. We conducted geophysical  
16 survey, land survey, geotechnical sampling.

17 Do you also have the pumping test on another  
18 site?

19 MR. FIELDS: It's another site.

20 MR. SLATEN: Okay. We've continued on working  
21 through the 97-005 documentation process, back and forth  
22 with DHS on that.

23 Do we need to ask DHS what the status is?

24 MR. SORSHER: It's still working on it. You know,  
25 as you mentioned, we did get you initial comments in

1 June. Hopefully, within the next couple of weeks, we  
2 should have more detailed comments. Certainly, by the  
3 end of August, we'll know for sure that it's not all  
4 moot.

5 MR. SLATEN: Okay. Well, to some extent, one way or  
6 another, Pasadena and others in the Monk Hill will need  
7 the 97-005 process. So even if NASA is not involved in  
8 helping to get the documentation together, it will never  
9 be moot.

10 MR. SORSHER: Right; right.

11 MR. SLATEN: So --

12 MR. SORSHER: It would be more on to -- as affecting  
13 the other water systems that are out in the basin.

14 MR. SLATEN: Or if Pasadena chooses to try to treat  
15 their wells themselves.

16 MR. SORSHER: Yeah.

17 MR. SLATEN: That set kind of a schedule.

18 Generally, I suppose after August, if we have an  
19 agreement, we will go back and visit kind of the master  
20 schedule of what it takes to get the new system online,  
21 and we'll scrub that. And that will be something for us  
22 to talk about. We haven't tried to do that lately  
23 because we've just been so focused on trying to get an  
24 agreement.

25 The well pump testing conducted July 12th to

1 14th, for the purposes of trying to determine if  
2 nitrates, which seem to be higher in short-term grab  
3 tests, I guess you would call it, if nitrate levels  
4 would go down with some pumping, and they did, to some  
5 extent.

6       And what we -- I guess, the bottom line is that  
7 we don't think that nitrate -- that increased nitrate is  
8 a widespread consistent problem around those wells. And  
9 General Pump tells us that it's common that when wells  
10 are shut down for a while, you can see elevated nitrate  
11 levels, but they'll gradually come down over some weeks  
12 or months of pumping.

13       So what we're hoping and expecting is that the  
14 nitrate is not going to be a major problem after we get  
15 the wells on started up. So we'll document that in a  
16 tech memo, but we won't really know any more until wells  
17 get turned on and are pumped for some weeks or months.

18       MR. SORSHER: Gary?

19       MR. TAKARA: Yes.

20       MR. SORSHER: The 40 milligrams after 26 hours, is  
21 that what you expected or -- I kind of thought it would  
22 drop more than that.

23       MR. TAKARA: Well, we're always hopeful to see lower  
24 levels, but we didn't have any preconceived notion what  
25 the levels would be after "X" amount of hours.

1        Our thought going into this experiment was that  
2 we should see a gradual, if not a sudden change in the  
3 nitrate levels, which the trend was indicating to be in  
4 a downward fashion, but it wasn't as low as what we  
5 hoped for.

6        We should also add that we turned on the -- we  
7 shut the wells off for 24 hours, and then we resumed  
8 operating the wells for an additional two hours, and we  
9 did some additional sampling.

10       It did rebound back to the 40 milligrams per  
11 liter but at a much quicker pace. For 49 to around 46,  
12 that took a few hours, maybe say three, four hours. I  
13 don't know exactly -- I don't have the exact hours, but  
14 it was -- it took a while to just drop a few notches,  
15 and then it really started to drop really quick.

16       MR. SORSHER: Which wells were these?

17       MR. TAKARA: Just Windsor. Only Windsor.

18       MR. SLATEN: And besides nitrate, it does look like  
19 the Windsor well is still functioning and works pretty  
20 good. There is not a big problem with sediment. We did  
21 a sediment evaluation, so that's the good news.

22       My model -- I haven't heard anybody else say  
23 this, but when the well is shut down, my model is that  
24 there's surface infiltration of nitrates from sewer  
25 lines or fertilizer or whatever. And when you first

1 turn the well on, you're kind of sucking that down, you  
2 know, as you develop your cone depression. And so  
3 that -- in my model, that's why -- what levels would go  
4 down after some weeks of pumping.

5 MS. ARTEAGA: What's the total volume of water  
6 removed during the --

7 MR. TAKARA: What was the question?

8 MS. ARTEAGA: What was the volume of water removed?

9 MR. TAKARA: I think we probably total about 1.3  
10 million gallons, somewhere around there.

11 We also looked at additional monitoring wells  
12 at different parts, especially on the outliers, of which  
13 the data we got from NAS- -- from Battelle. And it does  
14 show a -- the good thing about it, it doesn't show  
15 increased trend over the many years, dating back to --  
16 starting from around 1994. So that was a good sign.

17 We didn't see any increases in trends on the  
18 nitrates. We saw some decreases, but overall they  
19 remained relatively constant. So that was a good sign.

20 And then Battelle also did a similar -- in  
21 their tet memo, they also looked at the same things and  
22 they also looked at some of the other production wells  
23 from Lincoln and Rubio, Las Flores, and it doesn't show  
24 any increased trends also in the nitrate levels.

25 So right now we're not -- from what Keith

1 mentioned, what he shared with his conversation with  
2 Mike Bodart with General Pump, it sounds  
3 like this is sort of a common phenomenon when wells are  
4 shut off and turned on only for sampling that you may  
5 have increased trends in nitrates, and hopefully  
6 after -- once the wells resume operating, these levels  
7 will start to decrease.

8 But we were unable to test the other well,  
9 Ventura.

10 MR. SORSHER: Yeah. As you know, typically, when we  
11 do a nitrate blending, we require a target or a trigger  
12 of 80 percent of the MCL, which is 36 --

13 MR. TAKARA: 36.

14 MR. SORSHER: -- milligrams per liter.

15 So this looks like it's going to be pretty  
16 close to that kind of number. So it's something that's  
17 going to bear some watching.

18 Also, with the slide that Keith showed us  
19 before of the costs of the treatment for the ion  
20 exchange relative -- you mentioned about the nitrate  
21 concentration -- so this would have some bearing on your  
22 ion exchange cost, I assume.

23 MR. FIELDS: It would -- as far as the utilization  
24 of your ion exchange, yes, it would have a bearing. It  
25 would not be -- we would not use the same resin to treat

1 nitrate.

2 MR. SORSHER: No.

3 MR. FIELDS: If that was a decision or something

4 that had to be done, that would be -- it might still be

5 ion exchange, but it would be a different type of

6 resin --

7 MR. SORSHER: Right. But it would affect your PWA-2

8 or whatever you use.

9 MR. FIELDS: Right.

10 MR. SLATEN: So Pump Check performed the evaluation.

11 Equipment was in good working order, pumping at about

12 1,300 GPM. So one well out of four in the Monk Hill that

13 we know is working, I guess, according to specs.

14 They did the sand test, just looking for sand

15 sediment, and it was within acceptable range.

16 And at the same time, we were collecting water

17 level data in Windsor and MW-19 to help us better

18 understand aquifer characteristics.

19 Next.

20 So yes, we're talking about our two newest

21 wells. MW-25 drilled in the Sunset reservoir area, and

22 MW-26 completed up in the Pasadena Unified School

23 District student parking lot.

24 This is second quarter MW-25 results for all

25 five screens.

1 MR. FIELDS: You may recall from the first quarter,  
2 we had some discrepancies in the 314 and the liquid  
3 chromatography spec results, and so what we did during  
4 the second quarter was we did all screens with both  
5 methods. And they -- they seem to be -- they seem to  
6 have matched up this time. Basically, we had  
7 perchlorate in the top four screens.

8 MR. SLATEN: Yep. You couldn't get, really, any  
9 better match from anything.

10 It does point out, though, that there's no such  
11 thing as an absolute real true number. One of those  
12 numbers is as true as the other one, probably.

13 MR. SORSHER: The important thing is there is no CTC  
14 there so far.

15 MR. SLATEN: That is -- that's an important point,  
16 yes.

17 Okay. The next slide --

18 MR. FIELDS: I guess the one other thing to mention  
19 here is as part of the isotope study, we will be doing  
20 the perchlorate fingerprinting isotope analysis on those  
21 top four screens.

22 MR. SLATEN: Do we have slides there just on the --  
23 yeah. All right.

24 This slide is intended to point out that in our  
25 newest well, which ended up with only two screens

1 because we hit bedrock a hundred -- couple hundred feet  
2 shallower than we expected, that we do not see any  
3 perchlorate with the approved EPA method 314.

4       However, when we did it with the mass spec  
5 method, we saw 1 to 1.5 parts per billion of  
6 perchlorate, and the detection limit is down around 1 or  
7 less.

8       So this is probably -- this is probably a real  
9 number. Very low levels of perchlorate exists in this  
10 area. Unless, for some reason, it's somehow cross  
11 contamination or for something. But probably not,  
12 because by now this well has had time to equilibrate  
13 with natural groundwater flow --

14       MR. FIELDS: One thing to note with the isotope  
15 studies, we will not be collecting perchlorate samples  
16 from this well because it would just take -- it would  
17 take months of pumping, because of the flow rates that  
18 you would -- that you would need --

19       MR. SLATEN: The low concentration.

20       MR. FIELDS: -- that you would need to collect.

21       MR. HAYWARD: So what you're saying, Steve, I mean,  
22 you're not -- can we draw some conclusion between the  
23 data you've collected so far from your newest monitoring  
24 well versus what's happening at the Sunset well field?  
25 I mean, are the -- is the jury still out? Can we draw

1 some conclusion or -- I mean, what does this tell us?

2 MR. SLATEN: That the jury is still out. It's  
3 interesting that we have such very low levels between  
4 where we know our perchlorate is and where we know some  
5 other perchlorate is. And it's difficult to imagine in  
6 a model that our perchlorate would move down through an  
7 aquifer, concentrate somewhere else, and then flush out  
8 in the middle. But that's not definitive. You know,  
9 you can't take that to the bank.

10 So as we're going through the -- is it next on  
11 the isotope study? As we go through the isotope study,  
12 this is our next best tool. And over the next year or  
13 so, we're doing this study; we're spending a lot of time  
14 and money to try to use another tool, which we hope will  
15 be definitive. But there is no guarantee it will be either  
16 until we see the results.

17 MR. HAYWARD: Okay. And again, I'm thinking in  
18 terms of Raymond Basin concerns. You are not tying any  
19 results from these new monitoring wells and the Sunset  
20 well field to the negotiations with the City of Pasadena  
21 that you currently in as far as the Arroyo Seco --

22 MR. SLATEN: No. Totally separate issue. This has  
23 nothing to do with our discussions now on the Monk Hill  
24 wells with Pasadena. We're not letting it interfere  
25 whatsoever. That's a discussion for the future once we

1 determine whether or not those chemicals originated from  
2 JPL.

3 MR. HAYWARD: Okay.

4 MR. SLATEN: We've gone over this before with you,  
5 that we're collecting samples around concentrating  
6 perchlorate, looking at the isotopic ratios of  
7 perchlorate, hoping to find a fingerprint. It's not  
8 common. There's not laboratories that do this as they  
9 do for most other parameters. So we're going off to  
10 university laboratories. Takes a lot more time.

11 And then, once we get this information back,  
12 we're going to analyze, verify, validate before we  
13 release any of the results. So don't expect a rush job  
14 on this. We're going to do this right. So we're not --  
15 don't be in a hurry to see this.

16 MR. SORSHER: Would you go back? Seventeen,  
17 eighteen, nineteen. Okay. Nineteen is south of  
18 Windsor.

19 MR. SLATEN: The philosophy was we wanted to get  
20 some in our source area so we could get a good  
21 fingerprint on our chemical and then to go out and get  
22 others afield so that we try to determine the extent.

23 MR. SORSHER: Yeah. In my mind, I kind of envision,  
24 you know, there's -- there's some plume from JPL, and  
25 then there's also a more regional plume coming in from

1 the west and sweeping around to the south. And  
2 basically, the question is where is the dividing line?  
3 You know, apparently, they mix at some point, you know.  
4 They blend and mix. And you're trying to find basically  
5 where that point is that extends.  
6 MR. RIPPERDA: And by having MW-19 and MW-21, and  
7 that's kind of -- with the existing monitoring wells,  
8 that's as good as you can get for the upgradient water  
9 coming in south, southwest of JPL. And then MW-18 is  
10 clearly up north of that water that's coming through.  
11 MR. SORSHER: MW-19 might turn out to be in the band  
12 where it's --  
13 MR. RIPPERDA: I would expect 19 to be, you know,  
14 the stuff coming from the north and the stuff coming  
15 from the west. MW-21 is as good as you can get for a  
16 monitoring well that wouldn't be coming from up north.  
17 Then you're also sampling from the wells in  
18 La Canada, aren't you? Are you sampling any (inaudible)  
19 wells up there?  
20 MR. FIELDS: No.  
21 MR. RIPPERDA: Okay.  
22 MR. SORSHER: Well, MW-21 might be in that band or  
23 boundary, depending on the flow direction from JPL.  
24 That might be a combination as well. Maybe. I don't  
25 know.

1 MR. RIPPERDA: It might be, but with the bedrock  
2 outcrop just, you know, basically right at the freeway,  
3 you can't really get much more south to try to get away  
4 from the water that's coming.

5 MR. SORSHER: Yeah. Yeah.

6 MR. RIPPERDA: And anything that's coming from the  
7 north is pretty much coming from the Arroyo, because due  
8 north of JPL, of the source area, you also have bedrock.  
9 So there's not, you know, groundwater flowing from due  
10 north underneath JPL.

11 MR. SLATEN: Well, after we get information back, we  
12 can get -- lock us all in a room with Mohammad, and  
13 we'll talk about this stuff all day long. Because, I  
14 mean, it will be really interesting. Hopefully, we'll  
15 have some good information to talk about.

16 Okay. So on to OU-1, our on-site treatment  
17 plant. Ninety acre feet total extracted. Almost 300  
18 pounds of perchlorate taken out. Eight pounds of carbon  
19 tet, and a little bit of TCE.

20 What's the next slide?

21 MR. SORSHER: Just for the benefit of Kurt and  
22 Stefan, this is a biological treatment on-site.

23 MR. CAJINA: Right.

24 MR. SLATEN: The good news -- I mean, the really,  
25 really good news is up here in the -- near the source

1 area, the hot spot, there's 300 pounds of perchlorate  
2 that won't, in the future, be out in somebody's drinking  
3 water well.

4 What's the next slide?

5 This is our extraction wells levels currently.  
6 We've been running at about 150 GPM since the spring.  
7 We've had no breakthrough of the VOCs in our first  
8 L-GAC. And what we're starting to see may look like a  
9 trend locally is that decrease in our local monitoring  
10 well levels. It's starting to look like a trend. I'm  
11 still a little bit skeptical. We've proven that there  
12 is a trend of lower local concentrations.

13 MR. FIELDS: In fact, MW-7 is the well that --  
14 historically had the highest level of perchlorate. And  
15 then it was down to 150 PPB. And it is situated right  
16 in between our extraction well and our injection well,  
17 so it's possible. I think, yeah, we need more data  
18 before we can say definitely the system is done.

19 MR. SORSHER: Didn't it have several thousand  
20 once --

21 MR. FIELDS: It was -- it was the one that in 2002  
22 had 13 parts per million.

23 MR. SORSHER: 13,000 parts per billion?

24 MR. FIELDS: 13,000 parts per billion

25 MR. RIPPERDA: But because it's located between

1 extraction and injection, you're now getting clean

2 injection water --

3 MR. SORSHER: Oh, I see.

4 MR. RIPPERDA: -- cycling through that little zone.

5 So, yeah, you've taken out 300 pounds, but you're also

6 getting clean water coming in, diluting what's there as

7 well.

8 MR. SLATEN: What's the next slide, Keith?

9 So here is the layout that we have always

10 talked about. Phase I that we've been operating over on

11 the right now since late winter, spring, is working.

12 And our Phase II, we have -- you know, we keep

13 re-evaluating, if that's the right thing to do, and it

14 definitely does look like it's still the right thing to

15 do. So Phase II of drilling more wells, putting in a

16 little more pipeline, and upping the volume of the

17 plant.

18 What's the next slide?

19 MR. FIELDS: The one thing to point out is that

20 we -- on MW-7, we saw the decrease in perchlorate.

21 MW-24 is in the range that we've seen it historically.

22 MW-16 and 13 have -- the last quarter had the

23 highest levels of perchlorate we've seen since '97. Not

24 like, you know, 13 at one point had 590 and this one was

25 609. I mean, it's not that they're significantly

1 higher, but we do see these wells over here continue to  
2 have elevated levels of perchlorate, and it does look  
3 like Phase II type approach still makes sense.

4 MR. SLATEN: That is such a nice line, it starts to  
5 look like a trend, but --

6 MR. HAYWARD: But didn't Mark disqualify that chart  
7 right there? I mean --

8 MR. SLATEN: Well, it's a trend -- well, no, he  
9 didn't. He said that the well was in between these two  
10 so clean water was flushing. I mean, the reason there's  
11 a trend here is because, in that very localized area,  
12 you've taken out perchlorate and put clean water back  
13 in.

14 MR. HAYWARD: Yeah. But if you had to wait to  
15 bypass that process and sample the true -- the native  
16 water, you may see concentrations still in the thousands  
17 of parts per billion.

18 MR. SLATEN: You will in places --

19 MR. HAYWARD: Yeah. So really, I mean, that's  
20 like -- you know, we created the graph that we wanted to  
21 see.

22 MR. SLATEN: Well, it's a graph of the concentration  
23 right there locally. I'm not trying to extrapolate that  
24 to the whole area is being cleaned up that well.

25 MR. HAYWARD: Okay.

1 MR. SLATEN: It's a very local -- and that's why we  
2 need to put in the next set of wells, to expand our area  
3 and increase our radius.

4 Ultimately, I will probably be needing to talk  
5 to somebody about some water rights so I can actually  
6 extract some water there and not put it back in, start  
7 creating a larger cone of depression and getting more  
8 coming towards this area.

9 MR. HAYWARD: That agency right there, right there.

10 MR. SLATEN: We're not quite ready to do that yet,  
11 but I can see that on the horizon. If we continue this  
12 plant at this process at this place, we'll probably need  
13 to lower the groundwater table in the future, for sure.

14 MR. HAYWARD: You know, Steve, that's what I have  
15 to take back to the Raymond Basin. I mean, the  
16 Raymond Basin, we're talking about a 16-member agency  
17 that extends from La Canada-Flintridge all the way over  
18 to the city of Arcadia.

19 The fact that their perspective as --  
20 perception as to what you're doing up here. But, you  
21 know, you just are qualifying it for me.

22 And when I go back and say, "You know,  
23 150 gallons a minute. How long is it going to take?  
24 How many millions a year?"

25 Well, like you said, that's 90 pounds of

1 chlorate that --

2 MR. SLATEN: Three hundred pounds.

3 MR. HAYWARD: Three hundred pounds of chlorate that

4 you remove that will not end up in someone's drinking

5 water well. And the fact that you're making a sincere

6 effort to increase that, improve on that. That's the

7 type of information that the Basin, like, wants to hear.

8 So I understand exactly what you're saying.

9 MR. SLATEN: And it's good we communicate, because

10 in the future, I'm going to need to ask --

11 MR. HAYWARD: Exactly.

12 MR. SLATEN: -- the Basin to let me waste some

13 water.

14 You know, when I first came here, what I heard

15 was, "We can't waste any water because we don't own it."

16 So we re-engineered, redesigned, and put in a clarifier,

17 add some complication and expense to our system to avoid

18 wasting water --

19 MR. HAYWARD: Yes.

20 MR. SLATEN: -- and that's what we're doing now.

21 In the future, I'll probably have to put some

22 water down the sanitary sewer in order to lower the

23 water table there, and I'll have to come to the

24 Raymond Basin Management Board to ask permission to do

25 that.

1 MR. HAYWARD: You know, you -- when you first  
2 approached the Basin Management Board, you know, they  
3 didn't know you from the guy down the road.

4 Right now, we've established a relationship.  
5 I'm almost -- I'm positive that the next time around  
6 they'll be a lot more receptive as to what you need to  
7 do and cooperate with you to get it done.

8 MR. SLATEN: We do have a proven track record now.

9 MR. HAYWARD: Yes.

10 MR. SLATEN: When I first got here, we didn't  
11 have -- had not accomplished any real cleanup and now  
12 it's going so this is -- this is our best bragging  
13 rights here of accomplishments.

14 MR. SORSHER: The other thing, Steve, on this pilot  
15 demonstration here, this was designed to be a  
16 semi-closed system, so it was not designed to extend  
17 laterally very far. It was designed to just focus on  
18 that defined area.

19 MR. SLATEN: That is true. And that was what the  
20 expanded treatability study was about. But we were  
21 also -- we had enough foresight to overdesign the  
22 capacity of the system knowing that probably there would  
23 be -- that this expanded treatability study could become  
24 a part of a more permanent solution. And so we have the  
25 capacity to double or almost triple the volume.

1 MR. SORSHER: That's hydraulically (sic) -- or  
2 hydro- -- hydrogeologically speaking, it was designed as  
3 a limited area to impact. It was not designed to --

4 MR. SLATEN: For the treatability study, that's  
5 correct. And even -- even expanded, it would still be a  
6 relatively limited area. We're talking about a dozen  
7 acres or so. But there's a lot of water, underneath a  
8 dozen acres so --

9 MR. SORSHER: And a lot of perchlorate in that  
10 water.

11 MR. SLATEN: That's -- that's correct.

12 So it worked well. We'll be moving on to the next  
13 steps of that and working on expanding the system this  
14 year.

15 MR. FIELDS: I think it's interesting to look at  
16 Bob's summary versus the OU-1 summary, just to show, you  
17 know, we get 90 pounds of perchlorate removing 2,000  
18 acre feet, or we get 300 pounds of perchlorate removing  
19 90 acre feet. We are getting more cost -- more focused  
20 mass removal where we're at in OU-1.

21 And that's the point. We're trying to -- we  
22 want to get the perchlorate out, and it makes more sense  
23 to get out the bulk of it right at the source.

24 MR. SLATEN: Do we have a slide that talks just  
25 about our operational lessons learned on this? I mean,

1 as a treatability study, we have learned a lot about how  
2 to operate this plant. And this plant is a lot more  
3 complicated than I dreamed it would be, and it's a lot  
4 more complicated than straight ion exchange.

5 I mean, Bob's plant sits over there, and runs  
6 almost all by itself. And our plant requires constant  
7 supervision. We have a full-time person out there, and  
8 sometimes a lot more than one person working that plant.

9 Every day, it's something else to be worked on,  
10 if -- it has gone down a couple of times for a few days  
11 at a time. It -- the bugs are a living thing that have  
12 to be kept happy and fed.

13 The -- in order to keep the biological system  
14 part of it going and everything it takes to support  
15 that, and then the filters to take out any of the extra  
16 biomass before reinjection is a fairly complicated  
17 system.

18 We have -- for example, we are -- we are right  
19 next to some office trailers in there, and we built out  
20 somebody's parking lot. We took away some parking  
21 spaces which didn't make friends with us right away.  
22 And then right outside somebody's window for a year we  
23 were digging and compacting and banging and building and  
24 everything.

25 MR. SORSHER: Vibrating.

1 MR. SLATEN: And vibrating and everything else, you  
2 know, within a few feet of people's office space.

3 We got the plant online after all of that, and  
4 tried to be good neighbors and trying to -- Merrilee's  
5 done a great job of internal community relations,  
6 working with our -- working with the people that work  
7 there.

8 And then a few weeks ago we had a -- all it was  
9 was a motor on a blower, and the blower was to  
10 back-flush the filter, to get the sediments that's  
11 trapped in the filter, back-flush them so they can go  
12 off to the clarifier. The motor on the blower, which  
13 happened to be manufactured in Italy, the motor went out  
14 on the blower.

15 So we weren't able to -- we weren't able to  
16 filter the water before reinjection, which means we  
17 can't reinject, which means we can't extract, which  
18 means we can't bring in fresh water for treatment.

19 So we had to put the FBR in a recycle mode and  
20 feed the bugs to keep them happy while we had a motor --  
21 luckily, there was one on the East Coast that was  
22 shipped in. And the system was in recycle mode for six  
23 days. We kept the bugs alive and happy during that  
24 time.

25 But then when we put the motor back on, we

1 started the system back up, the next morning employees  
2 came in and complained of a rotten egg odor. We had  
3 hydrogen sulfide generation from our plant, which we  
4 didn't plan for and we didn't expect, but that caused  
5 several of the employees to be irritated, you know, it  
6 is nose, eye irritation. Some employees -- maybe  
7 sensitive employees were somewhat distressed by the  
8 smell. So that took a lot more PR, it took a lot more  
9 technical investigation to find out what was going on,  
10 how it was happening, how we could mitigate that.

11 Just one more lesson we learned. Every day we  
12 seem to learn a new lesson about how to operate that  
13 plant and what it takes to do it right, and the special  
14 condition of operating it in such a populated area.

15 If it -- this hydrogen sulfide issue, if we  
16 had been way out in the middle of the desert, nobody  
17 would have noticed it or smelled it. But we do have  
18 special situations where we have to be good neighbors to  
19 our closest neighbors and employees.

20 So it's been interesting, but it's been a lot  
21 more work, a lot more labor, a lot more care and feeding  
22 than we expected.

23 MR. FIELDS: One of the com- -- things that makes  
24 our system more complicated than some of the others that  
25 Environgen put in is the whole backwash recovery

1 clarification system.

2 MR. SLATEN: That we did because the Raymond Basin  
3 Management Board told me I didn't have any water rights.

4 Sorry, Bob, I just needed to do that to you.

5 MR. HAYWARD: Thank you.

6 MS. FELLOWS: It's not Bob's fault.

7 MR. FIELDS: Most of the systems, they would just --  
8 all the backwash water, they just dump it down the  
9 sewer. And so -- but that just creates --

10 MR. HAYWARD: That's what I do with my backwash  
11 water. I'm not going to comment a lot about --

12 MR. FIELDS: We've got a lot of backwash water.

13 MR. SLATEN: Yeah. We had a fair amount. It would  
14 have been acre feet per year of backwash water. So we  
15 put in this system to filter out and to save almost all  
16 the water.

17 MR. FIELDS: So, again, then you have the  
18 filtration. It's just one of the complexities, I think,  
19 that we're kind of blazing the trail on the challenges  
20 associated with that, with the system.

21 MR. HAYWARD: You are to be commended for the, you  
22 know, technical creativity that you had to come up with,  
23 you know, thinking on your feet. But, again, like I  
24 say, had you used a different approach a lot of that  
25 would not have been necessary, but I can't go there.

1 MR. FIELDS: You know, and that's good that you said  
2 that because that's our next couple of slides because we  
3 asked the same question. Did, you know, we have --  
4 Bob's having great success with his -- with his resin.

5 When we did this system, when we selected it,  
6 we were not at the point where they had the perchlorate  
7 selective resin or they were sort of on the market.  
8 This was ahead of that.

9 So we wanted to re-evaluate our current -- our  
10 decision. Did we make the right decision? If we had to  
11 do it again, would we change? Would it make cost sense  
12 to change now?

13 MR. SLATEN: And this was a treatability study.  
14 That's what we're supposed to do is learn from this.

15 MR. HAYWARD: Okay.

16 MR. SLATEN: So until you actually do it, we -- you  
17 don't know how much it's going to cost or how hard it's  
18 going to be or what the other factors are. So we're  
19 putting together our lessons learned.

20 MR. HAYWARD: Okay. So you actually factored into  
21 the budget the contingency to say "Learn as we go. We  
22 group everything" and then -- okay. I understand what  
23 you're saying. That's the way you do budgets. Okay.

24 MS. FELLOWS: You were at the Space Shuttle launch.

25 MR. HAYWARD: Okay. It makes sense now.

1 MR. FIELDS: When we did our -- when we made the  
2 selection for fluidized bed treatment, we were looking  
3 at these types of numbers, \$124 an acre foot for the  
4 FBR, \$600, \$700 an acre foot plus for the conventional  
5 ion exchange resin that we were getting from --

6 MR. RIPPERDA: That's because the concentrations are  
7 orders of magnitude higher than yours so if the resin  
8 breaks through, there's so much --

9 MR. HAYWARD: (Inaudible) concentration.

10 MR. RIPPERDA: Or both.

11 MR. HAYWARD: Well, okay. Because had they used the  
12 conventional IX system, they would not be continuously  
13 pumping their reinjected water. That's very, very  
14 clear.

15 MR. FIELDS: We would still have to reinject.

16 MR. HAYWARD: Then you -- again, I understand what  
17 you're saying, but those numbers are skewed because of  
18 that process.

19 Go ahead.

20 MR. TAKARA: I don't follow.

21 MR. HAYWARD: Those numbers right there are skewed  
22 because you're not really treating the native water.  
23 You're treating --

24 MR. RIPPERDA: But no matter what --

25 MR. HAYWARD: -- a closed system with a --

1 MR. RIPPERDA: It's called a closed system, as

2 closed as --

3 MR. HAYWARD: Yes.

4 MR. RIPPERDA: -- something can be where you're  
5 injecting something hundreds of feet underground, you  
6 know, it's moving and mixing. But no matter what, their  
7 native water was at 13,000 parts per billion; is that  
8 right?

9 MR. FIELDS: That was the highest level.

10 MR. RIPPERDA: And now it's come -- or at least the  
11 influent to the treatment plant was --

12 MR. FIELDS: Close to 2,000.

13 MR. RIPPERDA: Around 2,000, and it's come down  
14 somewhat, but no matter what, it's still over a  
15 thousand --

16 MR. HAYWARD: Yes.

17 MR. RIPPERDA: -- you know, plus or minus 30  
18 percent --

19 MR. HAYWARD: Yes.

20 MR. RIPPERDA: -- it's still over a thousand, so it  
21 doesn't really matter that it's reinjected upgradient or  
22 not.

23 MR. HAYWARD: Okay.

24 MR. SLATEN: We are different from you because we're  
25 not a one-way system --

1 MR. HAYWARD: Yes.

2 MR. SLATEN: -- because we don't have anybody  
3 drinking this water. We've got to put it back in  
4 somewhere.

5 MR. HAYWARD: I understand.

6 So, Keith, I'm sorry. Go ahead.

7 MR. FIELDS: Right. So when we made the decision,  
8 we didn't have the PWA-2 resin to think about.

9 So what we've done, what we did is we've asked  
10 U.S. Filter to run some curves for us at different  
11 concentrations using a PWA-2 resin.

12 And this is the through-put versus  
13 concentrations at 80, 160, 240. But you can see that  
14 the through-put drops off significantly as your  
15 perchlorate concentration increases.

16 And so what we did then, with that data, is  
17 made some curves to look at -- you know, as the  
18 concentration of perchlorate increases with fluidized  
19 beds, it's relatively flat, and then -- but it's a very  
20 steep curve with the ion exchange resin. And this was  
21 with the PWA-2.

22 So it looks like right now is that our -- the  
23 break-even is about a hundred parts per billion, if --  
24 at this point. Now, if you were starting from scratch,  
25 we know that concentrations decrease with time. You

1 would want to run through some calculations on, you  
2 know, it's cheaper to put in ion exchange than it is a  
3 fluidized bed system.

4 But definitely, once you were above certain  
5 levels, just the frequency by which you have to change  
6 out these resins makes it very expensive. And the  
7 resins are expensive. Okay. I mean, it's not that bad  
8 when you change out once a year. But if we were to  
9 change it out every week, every month, \$500,000 a bed  
10 really is expensive.

11 So I think, you know, what we're finding is  
12 that -- I think that, you know, fluidized bed still  
13 makes sense for the high concentration perchlorate  
14 sites. It makes less sense when you get -- I think once  
15 you get around 200 parts per billion, you think that's  
16 going to be sustained, the ion exchange starts to make a  
17 lot more sense.

18 MR. HAYWARD: Okay. So you're saying they're a \$121  
19 an acre foot fluidized bed, you know, versus \$155, \$60  
20 for the resin. So, Steve, you made the right call after  
21 all then?

22 MR. SLATEN: But, you know, if we do another plan  
23 on-site along the fence line, it's probably going to be  
24 a little ion exchange plant because our levels are so  
25 much lower down there.

1 MS. ARTEAGA: Does your analysis take into account  
2 all your staff time?

3 MS. FELLOWS: I was just thinking about that.

4 MR. FIELDS: This is -- this is -- the analysis was  
5 done just on the cost to operate the system.

6 MR. SLATEN: Yeah. If we tried to include the  
7 attorneys' time, this would look all different.

8 MR. FIELDS: You know, we could -- we could include  
9 an operator. I think we would still have an operator  
10 on-site with an ion exchange system.

11 MR. SORSHER: The fluidized bed costs, does that  
12 include operator oversight of the treatment plant?

13 MR. FIELDS: This was just the cost for the --

14 MR. SORSHER: Capital cost and electricity and  
15 supplies, things like that.

16 MR. FIELDS: You know, when you're trying to  
17 compare -- I think what I  
18 took out of this is that curve is so steep for the  
19 perchlorate selective resins. And, in fact, we couldn't  
20 get U.S. Filter to get -- to run a curve for us above  
21 240 PPB. They said it just doesn't make sense. We  
22 don't want to show anything above 200 PPB. So, you  
23 know, we're still at 750 after, you know, six months.

24 MR. TAKARA: You know what, this chart doesn't show  
25 the secondary benefits of the fluidized bed helping

1 remove some of our nitrates --

2 MR. SLATEN: That's true.

3 MR. TAKARA: -- although your nitrates, I'm not sure

4 if it's relatively high in your area, but it still --

5 still helps.

6 MR. FIELDS: The other thing that it doesn't reflect

7 is one of the EPA criteria for a CERCLA removal action

8 is permanence of your -- and reduction in volume of your

9 chemicals. And we actually destroyed the perchlorate

10 with fluidized bed. And with ion exchange, we could

11 destroy it, but then you have to ship it to Kansas or

12 someplace, someplace that's approved to incinerate

13 CERCLA waste, which they're not locally.

14 So there's, you know -- right now, locally,

15 they would be put into a landfill, and so then it's just

16 the chemicals are still there until they have to be

17 addressed again.

18 MR. SORSHER: But Bob's resin, this resin is being

19 incinerated, isn't it? No?

20 MR. HAYWARD: It's being incinerated. And I think

21 NASA just requested a copy of U.S. Filter's permit to

22 dispose of that resin.

23 The transportation protocol, the chain of

24 custody, and actual -- they want a receipt as to the

25 final designation and destruction of that resin for

1 liability purposes. But I'm sure it's incinerated

2 someplace.

3 But I don't know -- you know, I don't know

4 personally if there's a secondary market for that resin,

5 if there is any after the perchlorate is burnt off. I

6 don't know. So it's a one-time--- one-shot deal, and

7 it's gone.

8 MR. FIELDS: Uh-huh.

9 There's CERCLA rules. They're called the

10 off-site rules. And it requires a facility to have it

11 approved. So a lot of the places that you may work with

12 where they would incinerate the resin that aren't

13 associated with CERCLA operable unit, they don't have to

14 have that EPA approval for the facility. But sites that

15 have a CERCLA operable, you have to have that permit,

16 and there's -- like the Covina, I think, plant, where

17 they've done that, doesn't have the CERCLA EPA approval.

18 MR. SORSHER: Would it just go as regular hazardous

19 waste?

20 MR. RIPPERDA: It's closely related to that, but

21 there's one little section of the regulations, takes up

22 about two pages, where something from a Superfund site

23 that goes off the site for disposal or treatment needs

24 to have special -- it's not a hazardous waste

25 facility -- and usually, it is a hazardous waste

1 facility, but it has to have a little extra  
2 certification that it can accept Superfund waste --  
3 cleanup waste from a Superfund site.

4 Any facility that's permitted for hazardous  
5 waste obviously fulfills all the requirements for this,  
6 but they just have to have done a little paperwork  
7 exercise to get that -- that approval.

8 MR. FIELDS: The difficulty is that the facility has  
9 to go through a public review period, and then the  
10 communities don't want to think that they're having  
11 Superfund waste coming into their community. And not  
12 that the resin from Bob's system is any different from  
13 the resin from Fontana, whatever, but it's just  
14 perception.

15 MR. SORSHER: I understand.

16 MR. SLATEN: What's the next slide? Okay. So  
17 that's finishing -- we finished up, I think, with OU-1.

18 The OU-2 update is we've been operating at  
19 screen A of VEO3. We're doing one screen at a time to  
20 see if we could enhance recovery of the vapor, any vapor  
21 phase organics.

22 And so then we will be screen B now through  
23 September 9th. Now, what we're seeing is very  
24 diminished returns, tiny bit of carbon tet, and also of  
25 TCE. So it's looking like -- what we're trying to prove

1 is that we're getting close to being done.

2 Is this the only slide on --

3 MR. FIELDS: You can just -- from screen A, you can

4 just see that we're not getting very much mass removal

5 and significantly below the VSLs, which are vapor

6 screening levels established by the Regional Board.

7 Same for TCE.

8 MR. SLATEN: Next.

9 So what do we want to do? Continue to operate

10 through early September, and then stop the operation.

11 Monitor -- continue vapor monitoring for the next year.

12 But what we're going to propose to do is that we manage

13 any residual VOCs as part of the groundwater remedy.

14 The OU-2 has been very successful. We've

15 removed hundreds of pounds of organics from the soil

16 vapor as we've watched the levels go down. I think the

17 actual implementation of the remedy and the verification

18 of that through monitoring is shown that we've achieved

19 the objective setup and the record of decision.

20 So we'll talk about that in the second quarter

21 tech memo; right? Is that -- no, that's different. I'm

22 sorry.

23 MR. FIELDS: Yeah. That's different.

24 MR. SLATEN: Okay. How are we going to document

25 this? How do we communicate this in writing next?

1 MR. FIELDS: It will be some sort of summary report.

2 MR. SLATEN: Okay. So we'll be working on putting  
3 together a summary report for this, to propose shutting  
4 down the system.

5 I can save several hundred thousand dollars a  
6 year to apply to other more effective remedies, shutting  
7 down, closing out this decision.

8 MR. RIPPERDA: Yeah. So to actually stop pumping,  
9 you can do that with basically a tech memo to the  
10 Regional Board, the DTSC, and with results you have and  
11 your proposal, and then, though the remedy's still  
12 active, but you're going to be monitoring a portion of  
13 it, you know, or rebound analysis, you know, support it  
14 that way. So you're not stopping the remedy. You're  
15 just now going into a rebound analysis phase.

16 And if the rebound analysis is good enough --  
17 the Regional Board certainly oversees this more than any  
18 of the other agencies. So if it meets their criteria,  
19 then you do a close-out report. There is a specific  
20 format for that.

21 And then once the regulatory agencies accept  
22 your close-out report, then you're essentially done with  
23 OU-2, except for some kind of long-term monitoring  
24 schedule.

25 MR. SLATEN: Okay. Yep.

1       Okay. On to the groundwater monitoring. We  
2 submitted a tech memo July 21st, second quarter  
3 information, and we're working on sampling the third  
4 quarter still right now.

5       MS. FELLOWS: Can I have the OU-2 for a second? Is  
6 there any kind of public meeting required?

7       MR. RIPPERDA: No.

8       MR. SLATEN: Next.

9       MR. SORSHER: On the groundwater, I would just like  
10 to thank Steve and Keith for the format of the latest  
11 report. It's very nice. And in the sense that they --  
12 you guys listened to what I asked for last time in the  
13 way it was presented, the grouping of the wells, and the  
14 new cross sections that that show. It was very  
15 gratifying. Thank you.

16       MR. SLATEN: Thank you for the feedback.

17       Next.

18       Keith, why don't you do this slide.

19       MR. FIELDS: This is just a follow-up on -- we  
20 mentioned this during the last telecom, but there was a  
21 request by DHS to look at one, two, three TCP, some  
22 nitrosamines, especially with some of the newer  
23 nitrosamines having identified action levels NDPA and  
24 PDEA.

25       So we went back through the results from the

1 comprehensive monitoring events performed by CHM2Hill  
2 as part of the 97-005 process in late 2002 and early  
3 2003 and identified three wells where at least one  
4 screen, there was a detection of these com- -- one of  
5 these compounds. And it was for TCP, it was MW-12 and  
6 18. And then for NDPA, there was one detection above  
7 the notification level in screen 3.

8       So as part of the current monitoring effort,  
9 this month and -- or July and early August, we're  
10 collecting samples from all the screens from MW-3, 12,  
11 and 18, and monitoring and analyzing those samples for  
12 either TCP or NDPA.

13       So just a follow-up on a request by DHS.

14       MR. SORSHER: Right. I think there was one  
15 sample -- I'm not sure when it was -- MW-3, there was,  
16 like, 125 parts per trillion of -- I think it was the NDPA at one  
17 point, and that actually -- because that was so high in  
18 the 97-005, it put that compound into as a chemical, a  
19 concern at the Arroyo well, I think.

20       MR. FIELDS: Yes. This will help us understand, was  
21 that true hit, or do we have -- you know, just to go  
22 back and see where we're at.

23       MR. SORSHER: You know, again, I would just like to  
24 point out again, there was some fairly high levels of, I  
25 think, nitrosamine in some of the soil samples from OU-2

1 RI. I mean, a couple of hundred milligrams per kilogram  
2 at one point. So this stuff was on-site in fairly high  
3 concentrations. I wouldn't be surprised to see traces  
4 of it in the groundwater.

5 MR. SLATEN: This is Merrilee's pretty picture from  
6 back last winter.

7 MS. FELLOWS: Wonder if we'll see it this year.

8 MR. SLATEN: Anybody have anything else?

9 MR. TAKARA: Keith, are you going to show the  
10 Sunset?

11 MR. FIELDS: We have Gary's Sunset. Sorry about  
12 that.

13 MR. TAKARA: In the past, I've been discussing the  
14 levels of the perchlorates from the Sunset wells and our  
15 east side wells. I haven't really had the opportunity  
16 to really show you what those charts look it, and it's  
17 really difficult trying to describe them over the phone.  
18 So I asked Keith to show two slides; one on the Sunset  
19 and the east side.

20 The only well that we weren't able to --  
21 actually, two wells we weren't able to sample on the  
22 Sunset side were Coplin and Villa. We have currently  
23 mechanical problems with both wells. So we're unable  
24 to -- we discontinued Villa's sampling back in, oh, I  
25 guess the summer of '04 because of that well problem.

1 And we think we have a broken shaft on Coplin, so we're  
2 not able to continue monitoring that as well.

3 What we think is with Coplin, it's going to  
4 show a decrease in the perchlorate, following similar  
5 trends to both Sunset, Bangham, and Garfield.

6 I can't say any more than what the chart shows.

7 Want to show the next side?

8 The east side has relatively been flatlined.

9 We do have some problems with some of our other wells,  
10 but outside of that one time, Montevista, spiking up  
11 into the sevens, Montevista has been relatively low, and  
12 that well is online.

13 MR. SORSHER: Will we be able to get copies of this  
14 at our meeting tomorrow?

15 MR. TAKARA: Copies of?

16 MR. SORSHER: These.

17 MR. TAKARA: Oh, okay. Sure.

18 MR. SLATEN: So when you flatline at four, does that  
19 mean it's detected at four, or was not --

20 MR. TAKARA: No. Nondetected. We just show it  
21 as four.

22 MR. SORSHER: And we are meeting with Pasadena and  
23 their consultant tomorrow to talk about the Sunset  
24 treatment.

25 MR. TAKARA: Uh-huh. So be gentle.

1 MS. FELLOWS: Is that the plant where you're going  
2 to spend your new congressional money?  
3 MR. TAKARA: Actually, we just got news of that just  
4 this week. We were approved, and I'm using approved  
5 loosely, because I'm not sure exactly to what level  
6 we're approved in. We were approved with \$2.5 million  
7 from Prop 50 for the Sunset, and we also were -- I guess  
8 there's an appropriation by --  
9 MS. KARAKANOVA: Adam Schiff?  
10 MR. TAKARA: -- Adam Schiff .  
11 MS. KARAKANOVA: This is the congress four years  
12 ago --  
13 MR. TAKARA: Oh, okay.  
14 MS. KARAKANOVA: -- (inaudible).  
15 MR. TAKARA: Alan, weren't you -- didn't you --  
16 MS. KARAKANOVA: Jeff is involved in the  
17 Proposition --  
18 MR. TAKARA: Approved it, yeah. Okay.  
19 MS. KARAKANOVA: We'll talk to him tomorrow.  
20 MR. TAKARA: So we're glad.  
21 MR. SORSHER: Jeff will be there tomorrow.  
22 MR. TAKARA: Use some of that money to help with  
23 building this treatment plant.  
24 MR. SLATEN: Okay. Well, if nobody has anything  
25 else to add, I guess we're done.

1 Thank you, everyone.  
2 MR. SORSHER: The next meeting is September 7th  
3 still?  
4 MR. SLATEN: Does that look right on the calendar?  
5 I don't have a calendar.  
6 MR. RIPPERDA: Yeah. That's a Wednesday.  
7 MR. SLATEN: Let's tentatively say that now. Here in a week  
8 or two I'll start sending out notices.  
9 MR. FIELDS: Oh, this is a telecom?  
10 MR. SLATEN: Yeah.  
11 MR. TAKARA: That should be an interesting one.

12 (At 10:44 a.m., the proceedings were  
13 concluded.)

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1 STATE OF CALIFORNIA )

2 COUNTY OF LOS ANGELES )

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4 I, ANN BONNETTE-SMITH, C.S.R. No. 6108, do hereby  
5 certify:

6 That said proceedings were taken before me at the  
7 time and place therein set forth and was taken down by  
8 me in shorthand and transcribed into computer-generated  
9 text under my direction and supervision; and I hereby  
10 certify the foregoing transcript of my shorthand notes  
11 so taken.

12 I further certify that I am neither counsel for  
13 nor related to any party to said action nor in any way  
14 interested in the outcome thereof.

15 IN WITNESS WHEREOF, I have hereunto subscribed my  
16 name this 20th day of August, 2005.

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ANN BONNETTE-SMITH

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