

RPM Meeting Minutes
NASA/Jet Propulsion Laboratory
Jet Propulsion Laboratory, Room 180-801
August 23, 1994 @ 10:00 a.m.

Attendees: Organizations represented at the Remedial Project Managers' (RPMs") Meeting included the following:

- U. S. EPA (EPA)/Federal Enforcement Branch, Region 9, San Francisco, CA
- California EPA/Department of Toxic Substances Control (DTSC), Region 3
- NASA/NASA Resident Office, Jet Propulsion Laboratory
- Los Angeles Area California Regional Water Quality Control Board (RWQCB)
- EBASCO Environmental, Contractor to JPL

A list of individuals attending this RPM meeting is attached to these minutes.

OBJECTIVE:

The purpose of the NASA/Jet Propulsion Laboratory meeting held on August 23, 1994 at the Jet Propulsion Laboratory in Pasadena, California, was to discuss the following topics:

- Status of Work Associated with Field Sampling and Analysis Plan for OU-1.
- Status of Work Associated with Field Sampling and Analysis Plan for OU-2
- OU-3 Schedule
- ROD Submittals
- Schedule
- Schedule for Next RPM Meeting
- Status of Previous Meeting Action Items
- Other Topics

APPROVAL OF MINUTES

The minutes were approved as submitted.

1. TOPIC: STATUS OF WORK ASSOCIATED WITH FIELD SAMPLING AND ANALYSIS PLAN FOR OU-1

Buril: We completed our sampling back in June. I don't exactly recall what date it was, but we finished the sampling overall. The samples are in the laboratory, and we are expecting to get results back almost any time. The sampling itself went very well. I don't believe we had much problem in terms of purging the wells. We got all the samples that we had planned. So, we're in pretty good shape on OU-1. We're just in the process of waiting for the laboratory to come back with the analyses.

Cutler: MW-2 did not have enough water to collect a sample, but we did get a sample from MW-14.

Buril: MW-2 is a standpipe well. It was drilled short by the Core of Engineers many years ago. We put number 14 right there also, which is a multiport well. It was designed to allow us to understand whether or not we had a component of flow creating contaminants on that site. We are prepped and basically ready to go with the second event, which is scheduled for the first week of October. So, we're in a holding pattern right now, just waiting for the peak of the dry season this year to be able to come along and take care of things. The dry season generally starts here around May and lasts through the latter part of September and the first part of October. We should be catching the end of the dry season. That's basically it. There is not much more to tell until we get the lab analyses back. Then we can really begin to ponder the world, so to speak.

Swarthout: For the OU-1, according to the new schedule, the draft RI is due in May.

Buril: We're on target on that. **Swarthout:** Do you think you will take another round of samples? **Buril:** It's not planned at this time. **Robles:** Why would there be a need for another round of samples? **Swarthout:** Often times, at bases, if they are going to be doing long-term remediation, the base will develop a base-wide sampling plan. They won't sample every well, but they will take a third of the wells or half of the wells. **Buril:** So, they establish a base monitoring program? **Swarthout:** Yes, but they do it also with the idea of obtaining a long-term data set for the base. I'm not saying you have to do another set of sampling prior to the RI, but I think it's better to take samples every six months and not wait a year. **Robles:** That's going to come up in agenda item number four.

2. TOPIC: STATUS OF WORK ASSOCIATED WITH FIELD SAMPLING AND ANALYSIS PLAN FOR OU-2

Buril: We have been trying to get our drillers scheduled here. They have actually been in the field this week. The drillers backed out on us a couple of times, but we now have the schedule pretty much set. They will be starting field work on Monday. We're mobilizing right now for the actual drilling process, and we're planning to start at the

Eastern edge of the Lab. We'll be starting in this general area (indicates on map). This is where we found the highest density of seepage pits. **Randolph:** From there we'll probably move down the street over the weekend, because we have to pick up a couple of holes that will require us to block off Mariner Road. Then we will be moving to the area southeast of Building 248 and coming across the top of the hill. We will run the site by the Number Three Waste Pit area. We're going to have to jump around on the weekends and do various sites.

Buril: Then we'll be installing the rest of the vapor wells at the same time. The first sampling of those will be around January, two months after we finish. **Swarthout:** So, how long is the drilling supposed to last? **Randolph:** Right now, it's planned to last into mid-October. **Buril:** So, we're hoping that all the borings and such should be complete by November. It may be sooner than that. We then have the two-month waiting period. We will begin sampling the wells that have already waited for a period of time. We will start those Day 1, for example, and by the time we end the sampling runs, we will have completed the waiting period for the last series of wells. So, we will have actually gotten a good snapshot in time of all wells that have waited. Any questions?

3. TOPIC: OU-3 SCHEDULE

Robles: You have a handout showing the proposed schedule and the events that happened. But we have a little problem with this. **Buril:** Because in part, of some of the delays that occurred in trying to understand what was going to happen in the OU-1 and OU-2 scope changes. We weren't sure whether it was going to have an impact on OU-3. It did have some impact, but it was not the sole causal factor. What we have now is a scenario where we are hoping to get into the field, at the very earliest, the first week of October. We would not have wells available to sample until the probably the first part of December. Please take a look at your hydrograph. We were hoping to begin sampling back in the late October/late November time frame. You are then at the very end of the dry season. When you get into December, we're definitely in a fairly good upswing in the first year. While it's more moderate in the second year, it's very definitely on the upswing.

Buril (cont'd): What we are concerned with is that we would not be getting good dry season data. The way that we've proposed the schedule now is to postpone the dry season sampling until what we consider to be the beginning of the next dry season, which would be next May. Now, if you look at the trends on the hydrograph you see that things begin to bottom out between the two peaks that are shown around the May time frame. That appears to be the beginning of what we could reasonably say is the dry season, and we would take our dry season sampling then. As for the wet season sampling, we are looking at starting that back in February. Take a look at the hydrograph on the right, and also to some degree the one on the left. You can see that the peaks occur in the time frame of February and March, and we are proposing that we sample from February 1 through March 7. We would be covering the peak of the wet season.

Robles: Indications are that this is going to be a wet year.

Buril: Yes, we could have a heck of a wet season this year. It is sizing up very similarly to what we had two years ago. So, what we are looking at, then, is that the remedial investigation report would be provided to you in the same time frame as OU-2, which is scheduled for September 29. We don't want to go any farther past that because of the implications for the total schedule, so we would propose that OU-3 be due the same day as OU-2.

Robles: That would mean two documents to review at the same time. **Niou:** Are both documents due back in one month?

Buril: You have sixty days. **Swarthout:** I don't see a problem on getting both documents back to you in 60 days. So, the sampling is five-week sampling? **Buril:** That's right. It takes about a week for each well and there are 5 wells. **Swarthout:** And these are multipoint wells? **Buril:** They are multipoint wells, and it just takes time to get enough sample volume to be able to do all of the analyses. **Swarthout:** So, right now OU-3 and OU-1 are on the same schedule? **Buril:** We're proposing that OU-2 and OU-3 are on the same schedule. Nakashima enters.

Buril: (to Nakashima) We went back through the OU-3 schedule, and there were some concerns about impact to the OU-3 schedule due to scope changes to OU-1 and OU-2. We couldn't identify it at that particular time. It turned out that there was some impact to the schedule from the scope changes, but is not the only factor that created the problem. We had some internal delays, as well. Looking at everything added up, it turns out that we won't be able to get out into the field until the first week of October. As a result, we will not have wells capable of being sampled until the December time frame. This was supposed to have been a dry-season event. If you take a look at the hydrograph, you can see that when you get into the December time frame, you're very much—at least on the peak on the left—you're very definitely taking a sharp jump up. The peak on the right is not as pronounced, but it is definitely moving up, as well. It is obvious to us that we are out of the dry season at that particular time. And, so, rather than take data and try to make it represent the dry season, it's our suggestion that we postpone the dry season and wait until February, when we would have the first sampling event for operable unit 1. And if you look at the dates for the February-to-March time frame, we're very close to the peak of the water rise.

If you follow the trends, going down, the May-to-June time frame, which is when we propose that we do the sampling for the dry season, you see that we are beginning to bottom out on the drop. We think that would be a much better representation of the dry season event, and therefore we propose that we go ahead and postpone the dry season sampling in order to get good data there. The upshot of this is that the RI and FS reports would be delayed. The RI would come at the same time as Unit 3 is scheduled now. That would be September 29. So, we're looking at having those two OU's come in at the same time. Another point I would like to mention is that when it comes time to deal with a remedial action for units 1 and 3, there is still a concern that I have with regard to the adjudication of the basin and how we work through that issue. Brian, you indicated that it does not require an ARAR, and I would agree with that, but we are forced to deal with that issue in some fashion. Gayle you were going to check with Hank on that issue.

Madyun: Hank called you and discussed that. I didn't follow-up past that point.

Buril: I will have to check on that. I don't recall talking to Hank. What it comes down to, as far as we can tell, is that the adjudication issue will have to be addressed through the remediation process. And actually, it puts something into place for OU-1. Because of the nature of the site, in terms of area—it's actually a fairly compact site—an impact at OU-1 for remedial action is going to have some influence on OU-3 as well. I think the time frame for OU-1 FS, if we deal with the adjudication issues, we would then have a groundwork set for OU-3, and we would be able to move forward with both operable units. I think that leads into a point that Pete wanted to talk about, regarding OU-3 schedule.

Swarthout: We will definitely need to be talking to the people within the basin on what is going to be happening with remediation, when the time comes. I'm just not aware of any adjudication issues, and I don't think something like that is going to be an ARAR. It may impact what we do, but I don't think that it will meet the very strict rules about what an ARAR is. **Buril:** I agree, but I think it will have an impact on the degree of pumping at the site. It may have a fairly severe impact on some of the local water company wells. **Madyun:** Why don't I plan on getting together with Hank by next week, and maybe we can have a conference call.

Robles: The biggest fear I have over adjudication is that what we take out of the Raymond Basin will be taken out of the total allotment for a water distributor. And then all hell breaks loose. **Buril:** Those are real concerns. The Raymond Basin has been extremely cooperative in working with us to resolve any of the adjudication issues that we feel need to be addressed during the remediation process. And, in fact, they are more than willing to take the water from us in some fashion. **Robles:** The Record of Decision may find that we can't remediate to a certain level without removing a certain amount of water. For example, if we say we need to take "X" amount of water out, and they say "no, you can only take half of that," then we have been impacted in our cleanup process. Those are the kinds of issues that I am very concerned about.

Swarthout: Does the Raymond Basin own the water? **Buril:** Basically, that's what it comes down to. They have the exclusive rights to pump water from the Raymond Basin. They work with the California Water Resources Board to manage the resource as a whole. The Raymond Basin is divided into three or four sub-basins. We are in the Monk Hills Sub-basin. That is one of the most productive in the Raymond Basin. The Board is comprised of all of the purveyors of water who pump from the basin, and they basically manage this resource as an entity. They have individual quotas laid out, and they are allowed to pump up to those quotas. They have to pay premiums if they go over their quotas. It's a very intricate management process. **Niou:** Can you put water back into their system? **Buril:** This is one of the things that the Raymond Basin has indicated is that the net zero loss would be viewed as no problem. There you have an open door, if you will. It's just a matter of what remediation strategy we choose that will allow us to go through that door, and what it will take to get to that point. Injection sounds like a reasonable thing, in that your net loss will be zero. But whether you can inject as quickly as you can extract, and what impact that has on the water, the configuration, and so forth, we don't know.

Swarthout: We need to start talking about ARARs.

Melchior: I would suggest that as the topic for our next RPM meeting.

Buril: What would be a reasonable time frame in which we could assemble our individual thoughts? **Swarthout:** Also, prior to the meeting, I think it would be good for each of the regulatory agencies to identify with the ARARs. **Buril:** That way we could have a dialogue already developed. **Robles:** I don't see where the ARARs are an issue from the NASA standpoint. More importantly there is a whole subculture of ARARs, like the local community, that has a much greater impact. **Buril:** The Raymond Basin can do things through legal channels to slow us down or stop us. **Swarthout:** What would they be doing? **Buril:** Let's take the worst possible scenario. Let's say we tell them that we have to pump 1,000 or 1,500 gallons a minute to develop a sufficient amount of influence to remediate the site, and they come back and say "Like heck, you will". They could go to court and get an injunction. So, I think it's agreed that we have to address the adjudication of the basin in some fashion in the ARARs.

Swarthout: When we start talking about ARARs, there is a lot of lingo that goes along. An ARAR is something that has been promulgated and is widely applied. **Buril:** Let's take that down to a local level. The air pollution control districts, at the county level or the district level—what about those? **Swarthout:** Those would be ARARs. **Nakashima:** That's only if they're based on the state's regulations. **Robles:** What happens if a local group decides that the air quality standards need to be more stringent? **Nakashima:** Then EPA can overrule that and say that it's a TPC and is not an ARAR. **Swarthout:** The state board has the state board resolutions, and they give the authority to the individual boards to implement those resolutions. It would be the same with the air districts. The air districts may pass it off to the counties, cities, etc. In other words, as long as there are state laws that have been promulgated, codifying public notice, public comment, etc. There's a certain criteria for things that are ARARs.

Madyun: We have a basin plan in effect that has to be looked at. I think what we're talking about here is just communicating with people. **Swarthout:** Right. Those things are very important to do, but they may not be ARARs as legally defined. **Robles:** This is the problem facing federal agencies. The legal definition of ARARs is codifying, promulgating, etc., but the local community may say that "you are not meeting our needs". They start getting injunctions, which makes the process so slow that it is unreasonable and impossible to schedule. That's the concern. We have to have our community relations planned. More importantly, in looking at our ARARs, we have to make sure that we are considering the local community. **Swarthout:** Right. We should definitely communicate with the local community and make sure that we address their needs. **Robles:** Take the example of the local community does not agree with the state ARARs in certain respects. That is the time to bring them in and tell them, work with them, show them why you are doing what you are doing. Once they understand your difficulty, they usually will back off.

Swarthout: I think it is important to be open with the community from the very beginning, because if you give the perception that you're trying to pull something behind

their backs they will never believe anything you say. **Robles:** So, at the next meeting we will consider the ARARs? **Buril:** Okay, in order to develop that list and be able to speak among ourselves prior to that time, I think we're talking at least the November time frame. **Melchior:** Meeting every three months is mandatory. **Buril:** November would be close. We would be in full swing on virtually everything on the site that we need to talk about. The third week of November is Thanksgiving, so it will probably be during the first two weeks in November.

Discussion: Decision to meet on Wednesday, November 2, 1994.

Swarthout: Will try to bring the EPA attorney. **Madyun:** Will send a representative as she will be on vacation. **Melchior:** We need to propose an alternative schedule for OU-3. **Buril:** Yes, this is a formal request, and I would like to see comments back to the agencies regarding that request. **Swarthout:** I'd just like to get a letter. **Buril:** That's not a problem at all. **Melchior:** Would we have to do a modification to the FFA for those milestones? **Buril:** It will just be a modification of the schedule. The content of the FFA does not change.

4. TOPIC: ROD SUBMITTALS - SCHEDULE

Robles: It is my understanding that each operable unit is going to develop a Record of Decision separately. That is unusual. I am proposing that we continue working on developing A ROD for each operable unit, but that combine them for a comprehensive record of decision. There needs to be a cohesive, comprehensive, and intertwining record of decision, to make sure that we do not impact one operable unit decision with another. What I'm proposing is that the record of decisions for each of the operable units be made attachments to a comprehensive ROD, which will discuss the interactions and interfaces among the operating units. I am proposing this so that a listing of feasibility technologies in one operable unit can be played off another one, so that we can have a comprehensive and positive remediation effort. **Buril:** In addition, it allows a better opportunity for working with the public, from the standpoint that the public is going to be able to understand the intertwining of the RODs completely if the information is presented to them in a comprehensive fashion, rather than as three separate documents.

Robles: When you go out for public comments, you do not want to have more than one document. It's too confusing to the public. I've never seen it done to have three separate RODs. You should always have only one ROD for the whole site. The only exception would be if the operable units are so far apart that they are hydrologically separate from one another. These three sites are not in that category—they are not hydrologically separate. **Buril:** I don't want to state that we are not going to do three RODs, because we are planning to do that. But the document that is presented to the public will be a comprehensive document that incorporates all three RODs. **Swarthout:** Most bases that I know of have operable units, and that is done for a variety of reasons. I don't see a problem. You can do one ROD, or you can do three RODs. Usually you do operable unit RODs and then a base-wide ROD. I don't think that the public would be confused by multiple RODs. But it is O.K. to do one base-wide ROD. **Robles:** The reason I asked for

one ROD is that most often when you go to an environmental organization they refuse to look at a ROD unless it is for the whole site. They want to see the whole vision, not just a pieces of it. They feel that you may be trying to pull something over their eyes. Thus, we have found that the best way is to present the whole thing, so that they can look at it and say "yes, this makes sense," or "no, this doesn't". Even though these organizations may perceive what is going on, they don't want to feel that they are getting half a story.

Swarthout: My only reservation is that if you have two OUs ready to go to ROD, and the third not for six months or so, do you want to hold up until the third unit is ready? What I have here is that you want draft OU-1 ROD in February 1996, draft OU-2 ROD in June 1996, and, currently, draft OU-3 ROD in December 1995. So, they are all within six months apart. I don't see it as too big a deal. **Buril:** Is that the original schedule?

Swarthout: No, this is the one you gave me. If things change down the line, or there are schedule delays, we may have to address those changes at that time, but I think that for any of this it is not necessary to do the work for the units separately. **Robles:** I see the benefit of doing RODs for operable units separately from the standpoint of how does it work for that site. But then we also have to sit back and ask how it all goes together. **Buril:** View it from a systems approach. **Robles:** The biggest thing is that when you send it out for comments from the public its better to have a comprehensive ROD. They may have some suggestions to speed up the process. **Buril:** Then I think what we need to do is generate this letter regarding the OU-3 schedule, and then we need to get together. I will get together with the JPL subcontractors, and we will look at what it takes in terms of the schedule to generate the comprehensive ROD for public review. **Swarthout:** So, you're talking about producing one document for the comprehensive ROD.

Robles: That document will have three appendices to it. **Swarthout:** JPL will produce it, and we will all sign it. In theory, EPA has the say on selection of the ARARs and approval of the methods. **Swarthout:** The other thing I wanted to ask about is about the fact sheets. Did they go out? **Buril:** Yes, they did. **Swarthout:** Did you get any response? **Buril:** Yes, we have received a few calls. Most of them have been just general questions, asking for more details about a given specific site, etc. Judy actually fielded these calls. **Judy:** One call involved a teacher at a nearby school. She was concerned about what JPL would be doing to prevent children from wandering onto the site. We also got some calls from people with other problems that were not related to the site. We just referred them to the proper agencies. (Further discussion of calls received.)

Swarthout: Are you still planning on going door-to-door in some of the areas? **Buril:** Yes. At present, we are moving our locations twenty feet this way or that, because of utilities, etc. We have access agreements in place for three of the sites, and the traffic control plan is the only thing that is needed on the fourth site. The only site that we're having trouble with is MW-20, and that's because we're asking to drill on a church parking lot. The pastor is a very difficult fellow to get to, because he's very busy. We have not seen any indication that is going to be a problem, however.

Swarthout: Did you meet with any local officials? **Buril:** We asked to meet. We called the Altadena City Council Chairman, the Pasadena City Manager, and the La Canada City Manager. All three of them declined to meet with us at this particular time. However,

we told them that we would be very much interested in meeting with them at their convenience in the future. They said "fine" and "don't call us, we'll call you". We did send them a letter which was an advance copy of what we sent out to their constituencies. This was to give them a heads-up on what will be happening. We said that if they had any questions, they could call us. That was the fact sheet. The cities of La Canada and Pasadena are very intimately tied to JPL in a number of ways outside the Superfund, so they get information through those channels, as well. I have met personally with the environmental coordinator for Pasadena, and we talked at length on the Superfund project, as well as some other things that are going on between JPL and the Hahamongna Project. They get a lot of information through those types of contacts with us.

Robles: When we start looking at the ARARs, we need to start looking at who we want to send the Record of Decision to. I've got a list of about 25 environmental groups. You guys need to think about where you want to send these documents. There's a state clearing house. **Swarthout:** Usually, you just send the proposed plan out. You don't really send the ROD. You send the plan to everyone you send the Fact Sheet to. **Buril:** I wouldn't want to send out twenty thousand copies of the plan. Wouldn't we send a notice, instead? **Swarthout:** Yes, you send out a notice that the plan is available for review. **Swarthout:** The proposed plan should not be too long. Three or four pages at most is usual. It's supposed to be a public document. I thought you were going to send it to the same people to whom you sent your fact sheet. It should say that in the NCP. The proposed plan is your public document that summarizes everything you've done. **Buril:** Would there be any problem with just notifying them that the proposed plan is done and available at such-and-such a location? **Swarthout:** I think there is. The Proposed Plan is the one document that is supposed to be your community relation document. **Robles:** It's a condensed record of decision. **Buril:** It's a logistics consideration, primarily, as to how we set ourselves up with a proposed plan mailing or a notification mailing.

Swarthout: You plan to have a public meeting, right? **Buril:** Oh, yes. **Swarthout:** Generally, you send out your proposed plan, you have a thirty-day call-in period, and within that thirty-day call-in period you have your public meeting. So, you take all of the comments you receive from your mailing and your public meeting, and you put them into a responsiveness summary and attach that to the ROD. I'll look and see what's required. **Buril:** Please do, because it's a logistical concern that we will have to address. I had not anticipated sending out twenty thousand copies of a ten- or fifteen-page document. That's a major cost concern. **Swarthout:** The Proposed Plan should be written in the same type of language as that in which the Fact Sheet is written. Plain, nontechnical language. And it should be a very short document. For a base-wide plan, it could go up to ten pages.

5. TOPIC: SCHEDULE FOR NEXT RPM MEETING

(Covered earlier.)

6. STATUS OF PREVIOUS MEETING ACTION ITEMS

- NTU guidelines from RWQCB.

Buril: Gail and I have talked about this. The Regional Board did not have any firm, written standard for turbidity but basically said to get turbidity as low as reasonably possible. **Nakashima:** We do have regulations on turbidity that call for 5 NTUs. But I talked to our people at headquarters. They said that if you can get everything stabilized and you still have high turbidity then you can sample when the dissolved oxygen content is stable. **Melchior:** We're not talking about high turbidity. We're more in the low to mid "teens".

- Impact of turbidity on analytical results.

Nakashima: When you have a lot of clays, there can be a problem, but since you don't have that problem here... **Buril:** In other words, what you're saying about our site is that as long as turbidity is in the "teens" there is no problem. **Nakashima:** That's right.

- Agencies' comments on Fact Sheet #4.

Buril: This is taken care of.

- Hank Yacoub added to Fact Sheet #4.

Buril: We did this.

- Input from Nakashima regarding soil vapor maps.

Nakashima: I have not had time to work on this.

- Effects of Raymond Basin Adjudication on project.

Buril: (to Madyun) Based on what you said earlier, you're going to be getting with Hank and then getting back to us on this. **Madyun:** Yes.

- EPA legal information from Swarthout.

Swarthout: I asked Karen about the adjudication issue, and she is going to look into it. I'll see if she can come for the next meeting.

- Agencies' responses to OU-1 change letter.

Buril: I'd like the agencies to double check to see that response letters went out. It's somewhat of a moot point, since the installation of the wells is nearly complete, but we would like to close the loop on that.

- Next RPM meeting.

Buril: We sit here today, so this one is closed.

- Swarthout response to schedule request letter.

Swarthout: I need to get you that letter.

7. OTHER TOPICS

Buril: Under "other business" we have for you the outline for the ecological risk assessments. We ask that you take this to your eco-tox experts and have them go through it. This was developed by EBASCO in conjunction with JPL and NASA.

Robles: What we want to do is start preparing ourselves, all of us, for this record of decision. One of the biggest things is the ecological risk assessment. It's going to be the driver for the technologies. This is very important, because we need sanity in this. I have seen at other bases that the cleanup was driven mainly by one species, like a rabbit. In such cases, you can wrap around the axel, and clean up for rabbits, so that rabbits can survive. That goes out for public comment. On the one hand they laugh, but on the other hand they begin to ask "what are you doing with taxpayer money" I want you all to look at the outline I've prepared. It's very detailed. Somehow, we need to come to a consensus, because I believe that the eco-tox is going to be the fact that is going to be the driver, not the human risks. This is very important. I'm not saying that the environmental situation at a site is so delicate that the Eco-fox is the prime driver, it should not be followed. But there has to be some sanity. I've seen some craziness out there. I've seen where you're cleaning up a site to non-detect, in order to save one animal that is not endangered, so the Eco-tox can become a real problem. This is one of my biggest concerns. That's why we have to look at the ARARs. I'm trying to prepare you. This could be the linch-pin that stops us.

Robles: With the Federal Government, it comes down to dollars and cents. What is the life-cycle benefit of cleaning up to certain levels to save a species if the cost is prohibitive? If you have mitigated the human risk factors in remediating a site but you still have ecological issues, when do you stop with your cost analysis? When do you say, "now, this is enough."? That makes a big impact on the final decision. This is something you need to start thinking about. You need to formulate your opinions, you need to talk to your agencies and find out how they feel about this. It's important because your agencies' names are going to be on the dotted line, and you are going to have to suffer the slings and arrows of public opinion.

Swarthout: Are you anticipating any particular animal being a problem here? **Buril:** We have animals here, but none that are endangered. **Robles:** We have deer coming through here, raccoons, even mountain lions. They come through here because we have a good water source. And when the Arroyo Seco is made into a lake, you will see these animals come across the site. We are really concerned that there may be some human-animal interaction. **Buril:** We have already had that. Just last week, outside this building, we saw a very large mountain lion moving up the side of the hill. **Robles:** The ecological risk assessment is a very important force in the decisions made later. I hate to say it, but it may

come down to dollars and cents. What do we do, and how much is it going to cost?

Swarthout: The issue really comes down to the question "Is there a pathway for the animals on the site, and does that pathway offer significant exposure". I talked with Dan Stralka, and I think he's pretty reasonable. **Robles:** The point is that you can get to a certain level, and then it becomes cost-prohibitive to go beyond that level. The question is whether there is a proportional risk to another species besides humans. Beyond a certain point, the Federal Government will not pay for it. In that case, what are the agencies going to stand on? **Buril:** It comes down to cost-benefit analysis. **Robles:** There are groups out there that do not care about cost-benefit analysis. **Buril:** In a sense, we are keepers of the public trust. In working through this, we have to make sure that we can defend whatever we do.

Buril: On another matter, can we expect to get a response back on the draft outline within thirty days? **Robles:** This is a template, and we need to know if this template has everything that should be in it. There is some stuff in here—for instance page 2A-3, Temporal and Spatial Distribution of Contaminants—that involves three-dimensional modeling. This is heavy stuff. It's real science. The question is whether this is good enough for you guys. **Swarthout:** I think it's very important, both on the human side and the ecological assessment side, that we keep in communication with each other. If EBASCO has any questions about how they are doing something, they should call Dan, or me. We're always willing to set meetings up, to set conference calls up, to review drafts, etc.

Buril: On another topic, I don't know if any of you have had a chance to drive by the Devil's Gate Dam, but if you look down inside from the top of the dam, you will see a tremendous amount of excavation going on. They are currently building a lake, going from a semi-permanent fixture to the Hahamongna project. This is on the site-side of the dam, and they are taking out a quarter of a million cubic yards of sediment to build this thing. They have done this under the auspices of flood control and maintenance requirements as opposed to development of a new park. While I don't question that in concept, the question I am beginning to ask again is what the impact that operation—developing and then generating the lake—as well as the plan for a permanent flowing water feature all the way down the Arroyo, will have on remediation of the site. I have met with the City of Pasadena and expressed the concerns we have, and they are very willing to work with us, but I want to make sure that the agencies know that this is happening right now.

Buril (cont'd): This could be an extremely difficult and compounding factor to deal with. As we get to the ROD completion, the park will also be completed. Conditions may change, and possibly there will have to be an iterative process to try to understand exactly what needs to be done as conditions change. **Swarthout:** Is this going to be a lake for swimming, etc.? **Buril:** I'd have to look at the management plan. It's supposed to be returned to "natural habitat/nature interaction." **Nakashima:** That will have to be addressed in the ecological risk assessment. **Swarthout:** It has the potential where you're supposed to get a pathway from the groundwater under the Arroyo. **Nakashima:** You would have to include the extent of the Arroyo Seco. **Buril:** It runs from the JPL bridge near the East Gate to the Dam—in other words, less than a mile.

Swarthout: So, who would we contact if we wanted to get a copy of that

management plan? **Buril:** The person's name is Charles Thomas. He is the environmental coordinator for the City of Pasadena and is the temporary head of a group that has been formed to run the development of the park. The park name comes from the name of a tribe of Indians that was indigenous to the San Gabriel Valley two hundred years ago. They actually camped in the Arroyo Seco, though well upstream of where we are today.

Buril: Well, that's everything we have. Does anybody have anything else?

Swarthout: I was wondering if it would be possible, when you get the results back from the first round of sampling, for you to provide us with a copy? I think it would be a good idea if we could see the data prior to actually getting RIs. I don't necessarily think we need a formal report, but I'd like to be presented with the data. **Robles:** It's good for them to get validated data along the way. If they submit it before the formal report, you can put your comments on it. **Buril:** It's certainly possible. That is part of the FFA. **Swarthout:** Speaking of data validation, how are you going to do it? **Buril:** JPL is contracting with an outside firm, separate from EBASCO, and we will have them go through our QA plan, etc.

Novelly: We just have the new action items from this meeting. First, Gail is going to get back to Chuck next week after she talks to Hank about adjudication. **Buril:** I will tell you that I am gone after Tuesday. **Novelly:** We need to get back to Brian on whether we are going to conduct a regular monitoring program. The next RPM meeting is scheduled for Wednesday, November 2 and will cover ARARs. Gail will send a representative, and Brian is going to try to bring Karen. Prior to that meeting, the agencies are going to develop and compare their ARAR list. On our side, we need to send a letter requesting the OU-3 schedule change and generate a schedule for the comprehensive ROD. The agencies are to get back to us within thirty days on the eco-tox issue.

Robles: Also think about bringing to the meeting next time a listing of organizations outside that might impact the process. We have the normal clearing house, but there is always some organization out there. Let me give my opinion on this. I call them affectionately "rabid environmental organizations," but I use them as devil's advocates. They are very important. They are very necessary. If our documents can survive their scrutiny, then they will survive anything. I view them as an asset, not as a liability, because they are very much in tune with the way the public is thinking, with technologies, and with the issues in the local area.

Buril: Meeting adjourned.