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convenes the

SIXTH MEETING

CAMP LEJEUNE COMMUNITY ASSISTANCE

PANEL (CAP) MEETING

AUGUST 8, 2007

The verbatim transcript of the Meeting of the Camp Lejeune Community Assistance Panel held at the ATSDR, 1825 Century Boulevard, Atlanta, Georgia, on August 8, 2007.

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TRANSCRIPT LEGEND

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-- "*" denotes a spelling based on phonetics, without reference available.

-- “^” represents inaudible or unintelligible speech or speaker failure, usually failure to use a microphone or multiple speakers speaking simultaneously.

P A R T I C I P A N T S

(alphabetically)

BOVE, FRANK, ATSDR
BRIDGES, SANDRA, CAP, CLNC
BYRON, JEFF, COMMUNITY MEMBER
CLAPP, RICHARD, SCD, MPH, PROFESSOR (VIA TELEPHONE)
DYER, TERRY, COMMUNITY MEMBER
ENSMINGER, JERRY, COMMUNITY MEMBER
MARTIN, DAVE, COMMUNITY MEMBER
MCCALL, DENITA, COMMUNITY MEMBER
RUCKART, PERRI, ATSDR
STALLARD, CHRISTOPHER, CDC, FACILITATOR
TOWNSEND, TOM (VIA TELEPHONE)

P R O C E E D I N G S

(9:00 a.m.)

WELCOME AND ANNOUNCEMENTS

MR. STALLARD: Welcome back. What is this meeting? This is like our fifth in two years? Is that about right?

MS. DYER: Fifth or sixth.

MR. STALLARD: Fifth or sixth in two years. And how do you know?

MS. DYER: Too many. I think we had three in person last year, one on the phone and one already this year, and this is our sixth.

MR. STALLARD: The reason I ask that question is because I want to affirm what the purpose of this, what the CAP is, because I think it's important. We've seen some developments in the past few months with our Congressional hearing and some movement and heightened level of interest. And so I thought it was important for us to remember what our purpose together is.

So along those lines I printed out the purpose of the CAP is to determine the feasibility of future scientific studies. And

so as you can see from the agenda for today, we're going to get quite a bit of information from Frank and Morris about the studies that have been done on the water modeling and this new -- what is it, fluoro^ topic? So we have a lot of ground to cover today as well.

I wanted to go over some ground rules. We do this as you know at every meeting, and we can self-govern ourselves, and I just want to manage group behavior to the best of our ability given that this topic and issue can be an emotional one for community members and CAP members.

So the ground rules that I have -- and I'm open certainly -- for those of you, we're going to go through and do introductions in just a moment so we know who's on the phone and who's in the room. But beforehand I want to go over some ground rules that we have had in the past, and I would invite you to offer any additional ones that might not be up here that you think should be.

One speaker at a time, no personal attacks, please turn your cell phones and Blackberries on stun or silent, vibrate or

whatever is your preference. Respect for the speaker. Give the speaker space to express what their issue is; what their concern is, and I'll do my best to help the speaker stay on target and focused and get to the point.

The audience is here. I want to remind you the audience is here to listen. This is an open meeting, and as such it's open to anybody who basically wants to walk in and sign in. We have a sparsely attended meeting today from an audience perspective. They are here to listen, and they may be -- we know many of the members that are in the audience. There are some familiar faces here.

They may be called upon, those that we know, who have an interest and have some relationship to the CAP. They may be called upon to respond to a question that is relevant to our purpose. They may also decline that. There's no obligation on the audience to participate.

Let me just go over some administrivia here. Please place your lunch orders. Dick and Tom, I hope you enjoy your home cooking. I'm sure that -- Perri didn't tell me, but I'm

sure there's always an issue of getting vouchers submitted on time and appropriately to get paid. Am I correct? Let's welcome Perri back. This is her second day back, and she's been consumed with her son, Cooper Reid, who she has a picture to share with everybody.

CAP member transitions, you will notice that Dr. Fisher and Dr. Rennix are not here today. They are not present. They are not on the phone. They are no longer going to be with the CAP as I understand. That's the extent of my knowledge on that issue. If anyone has anything else, you can ask that later at an appropriate time.

On the agenda, it's unfortunate that we found out that there are difficulties in our ability to feed a live feed when there's something else going on in the agency. So this morning it's going to be a tape, and I believe it's being seen live throughout the HHS network. However, it's not being projected beyond that. That will start this afternoon. And so for those of you who would like to speak in the open afternoon session, that will be your time, okay?

So let's quickly go around the room so that we're identified for the court reporter who is present. Tom, would you kind of introduce yourself?

MR. TOWNSEND (by Telephone): This is Tom Townsend, Moscow, Idaho, a cool 50 degrees here, awaiting the movement of the CAP. Good morning.

MR. STALLARD: Dick, Dick Clapp, Dr. Clapp?

(no response)

MR. STALLARD: Dr. Clapp was on the phone. He may be back.

DR. BOVE: Frank Bove, Division of Health Studies, ATSDR.

MS. BRIDGES: Sandra Bridges with the CAP.

MR. ENSMINGER: Jerry Ensminger, CAP member.

MR. BYRON: Jeff Byron, CAP member.

MR. MARTIN: David Martin, CAP member.

MS. DYER: Terry Dyer, CAP member.

MS. McCALL: Denita McCall, CAP member.

MS. RUCKART: Perri Ruckart, ATSDR.

MR. STALLARD: Okay, I'm going to go back to ground rules. Is there anything else to add to it that we didn't have? I can think of one thing. Speak into the microphones when

speaking. Anything else on ground rules?

(no response)

MR. STALLARD: No? This is your chance. Give me a nod, a head or something. Anything else?

(no response)

MR. STALLARD: No? Okay.

You've seen the agenda for what we're going to cover today. Has everyone had an opportunity to see the agenda and to contribute?

(no response)

MR. STALLARD: Okay. I see a few heads nodding to give me some acknowledgement.

MR. BYRON: Pardon me, this is Jeff Byron, and I have the action items for March. I don't have an agenda.

MR. STALLARD: Okay, agendas were in the handout on the table. Does everyone have an agenda?

CAP MEMBER ISSUES

What I would like to do is to get a sense of what you would like to achieve in today's meeting.

MR. ENSMINGER: I want to see these

feasibility studies get kicked off.

MR. STALLARD: See the feasibility --

MS. RUCKART: Assessments.

MR. ENSMINGER: Feasibility assessments.

MR. STALLARD: Assessments kicked off, move forward.

MR. ENSMINGER: Yeah, implemented.

MR. STALLARD: Thank you, Jerry.

Anybody else?

MS. DYER: What I'd like to see?

MR. STALLARD: Yes, what would you like to see out of today's meeting? What would you like to achieve?

MR. BYRON: Well, I'm hoping that we have some statistics on that cancer incidence and death rate. That states where, and that's to kick off the feasibility study that I'm hoping that we have some actual figures today because it's been two years that this CAP's been formed. And it's time to move along.

MR. STALLARD: And statistics on the cancer incidence and --

MR. BYRON: And death rate.

MR. STALLARD: -- and death rate.

MR. STALLARD: Anyone else?

MR. TOWNSEND (by Telephone): Tom here.

MR. STALLARD: Hi, Tom.

MR. TOWNSEND (by Telephone): I'd like to just see some forward movement on a lot of things. I want to hear the comments of Frank and Morris on their ongoing projects they're into right now. But I'm interested in going forward and have articulated in my statement that Denita will read for me in the afternoon. Thank you.

MR. STALLARD: Thank you, Tom.

MR. BYRON: Jeff Byron again. I'd also like to delineate from what we glean today which study should go forward first or if both should go forward at the same time, and I'm in reference to the adults and also the children who were exposed prior to moving on the base.

MR. STALLARD: So Jeff, is this a priority setting?

MR. BYRON: I'd like to see a priority setting on which study is first or if both are going forward at the same time, that's fine by me. I don't have a preference, but I would like to know. And one reason I bring that up is that technically it's all an adult study.

My daughter was born in 1985 right before I left the Marine Corps, and she's 22 now. So no matter who you're studying, they're all adults.

But the question now is broken down to -- and everybody's important. I'm not trying to minimize anyone here, but is it going to be a more productive study to look at the children who were developing in their first months and a couple years of age or is it, or will we glean more from the adults who've already developed, or will we -- you know, that's kind of where I'm at there. Or is both going to give us the answers we want? I think it's important that both get done though. They have to be done.

MR. STALLARD: Thank you, Jeff. Anything else?

MR. MARTIN: David Martin, I'd like to know if there's going to be a replacement for Dr. Fisher and also if we're going to have a Department of Defense representative on the panel any longer.

MR. TOWNSEND (by Telephone): Is there already a representative from NEHC, Mary Lou

Simmons there?

MR. BYRON: Is Ms. Simmons here? I don't know everybody's name. I'm sorry.

MR. ENSMINGER: While we're on this subject, I do have a question.

MR. STALLARD: Say your name when you speak.

MR. ENSMINGER: Jerry Ensminger, yeah. NEHC. Under what authority did Dr. Rennix resign? Was it his choice or was it the Command position?

MS. SIMMONS: It was both. It was his decision and the Command supported him.

MR. MARTIN: Did the Command encourage him? I'm sorry, David Martin.

MS. SIMMONS: No, they didn't encourage him at all. The Command supported his decision.

MR. ENSMINGER: Well, whenever he points out that this has become a political issue, and Tom Townsend has pointed this out as well, we didn't make this a political issue. If you remember back in 1997, the Navy Environmental Health Centers are the ones, and the Marine Corps, that pushed this up to the Secretary of the Navy's Office. You all started this. So for Dr. Rennix to declare this, his

resignation from this CAP because it's becoming a political football or a political issue, that's bull. That's what NEHC was developed for, in reality.

MS. DYER: So you are saying that his resignation was totally him, a hundred percent?

MS. SIMMONS: Yes.

MS. DYER: Was it a volunteer position to begin with?

MS. SIMMONS: As I recall, and I'm sure you could go back and look at the minutes at the previous meetings, but he was invited by, I think, you all to participate --

MR. ENSMINGER: No, we invited members of DoD to be placed on the CAP. That was you all's decision. And Mike Tencate and Dr. Rennix showed up at the next meeting as members of this CAP.

MS. SIMMONS: Again, I don't have perfect recollection, but my recollection is because of his training and experiences in epidemiology that research in the military community, it was thought by at least some members of the CAP that he would be a valuable

addition. And I can certainly be, stand corrected, but I think we should refer back to the minutes.

MR. ENSMINGER: And wasn't that why the Navy Environmental Health Center was created is to be a liaison between Naval and Marine Corps installations and ATSDR?

MS. SIMMONS: That's one of our many reasons --

MR. ENSMINGER: Well, since when is somebody in the military organization allowed to just arbitrarily resign? I never heard of this.

MR. STALLARD: Okay, so we have an issue about the --

MS. McCALL: Well, is he going to be replaced?

MR. STALLARD: That's the question. That's the question that Dave has placed that's on the board in terms of trying to get an answer. Is this a voluntary role to be a member of this CAP or is it frankly in response to a request from the CAP to DoD to provide any representative to sit on the CAP? So we need to clarify under what rationale DoD was sitting with this CAP. We need to clarify

that and either ask for a replacement to be identified, correct?

MS. DYER: Didn't Major Tom get a letter telling him, giving a name of someone that was replacing him?

MR. ENSMINGER: No, it was just they had a representative which is the lady I was just speaking with --

MR. TOWNSEND (by Telephone): Tom here. I sent two faxes to NEHC. I asked them if Dr. Rennix was speaking for himself or for NEHC on his resignation, and then followed up by a second question whether or not a replacement for Dr. Rennix would be available for the CAP meeting since time was running out. I was informed yesterday by Captain Fallon^ (ph) that Mary Lou was there. And I read that as a directed replacement. The question of whether or not Dr. Rennix resigned under his own, the reason, rationale for his disappearance from the CAP was left on the table.

I have no idea, but I understand that we have a full-fledged representative because they pointed out very clearly that the mission of the NEHC was, in fact, liaison between the

Bureau of Medicine and Surgery, Department of the Navy and ATSDR. And we are an official subset of ATSDR so that's where it comes to this morning as far as I'm concerned.

MR. ENSMINGER: Hey, Tom, her name's Mary Ann.

MR. TOWNSEND (by Telephone): Mary Ann, I'm sorry. I'm terrible on names anymore.

MS. DYER: So should we have invited Mary Ann to sit on the CAP?

MR. TOWNSEND (by Telephone): I assume that she's going to be sitting on the CAP?

MS. DYER: Mary Ann, would you like to volunteer to sit on the CAP?

MS. SIMMONS: I don't have the technical background. I'm not an epidemiologist. My position is risk communication, and I'm an industrial hygienist by training. I don't think I'd add one thing. If you want somebody from NEHC, I will bring that back to my Command suite, to perhaps send a letter to my Command suite, and they can make that decision. But I personally would not add anything to the scientific discussion.

MR. ENSMINGER: Well, you know -- this is

Jerry Ensminger.

MR. STALLARD: Wait a minute. I need the microphone if Mary Anne is going to --

MR. ENSMINGER: That's all right. I'm done after this.

This very event, right here, is a prime example of the disregard that DoD departments have for this situation and about what happened to our families. That you allow your people to just resign off of something that's an official body who have input into this very situation, and you just allow him to walk away because it's becoming political.

MS. DYER: Jerry, I think we need to get a letter together stating the things --

MR. ENSMINGER: I've got a letter, I've got a letter coming together. It's just once again.

MR. BYRON: Yeah, this is Jeff Byron, and the issue needs to be resolved. I reviewed the GAO report a couple months ago. As far as transparency and truthfulness between us all, I was very shocked to see that there was 548 or 545 children as a comparison study to our children in our group of individuals that have

been recognized in the study.

As far as transparency goes, I would think that being a CAP member for two years would have, you know, justified that I'd be knowledgeable of that prior to reading that report. And whatever the circumstances behind it are -- doesn't lend itself to transparency not to know about that group.

I personally have a disagreement with that, and I'll voice that this afternoon. But if you want transparency, you have to tell the CAP members that are involved, issues that involve the CAPs, you have to tell them exactly what is going on.

MR. STALLARD: Jeff, help me capture that. This is specifically related to --

MR. BYRON: Specifically related to the cohort group that's being compared to the children in the in utero study.

MR. ENSMINGER: It's a control group.

MR. BYRON: Control group. I'm not knowledgeable about that many individuals or even any --

DR. BOVE: Chris, I'm going to talk about the case-control sampling to try to clear up

some time this afternoon.

MR. BYRON: I think it's shocking that I found out this in this report which is flawed severely, and I'm very upset with Headquarters Marine Corps for providing information to GAO that was flawed. And I think that was intentional. And we will probably be pursuing some action in that matter later outside this CAP.

MR. STALLARD: Okay, thank you, Jeff.

So what we have here is an awfully gray area in terms of what constitutes participation in membership on this CAP, and is it voluntary or is it in response to the willingness to participate from various different agencies. That's the question.

Yes, Jerry?

MR. ENSMINGER: Jerry Ensminger. There's another issue that we need to resolve while we've got some people here from Headquarters Marine Corps as well, and on the 210,000 some-odd people that we're going to look at for the death index and the cancer incidence rate for these feasibility assessments. I want to discuss RUCs, MCCs and Command chronologies

and the identification of the units that were at Hadnot Point and the ones that weren't. I know in Second Marine Division that only eight Marines in second tracts, Second Recon, were the only three units in Second Marine Division that were not billeted at Hadnot Point. The rest of the Second Marine Division was there.

DR. BOVE: By the way, I'm going to mention and present this issue of the 210,000. That's part of this later this morning.

MR. ENSMINGER: Now, FSSG used to be known as FSR, forced^ troops. Forced^ troops, FSR, then it became Second FSSG, and 95 percent of them were billeted at Hadnot Point.

MR. STALLARD: Okay, so help me understand that. Your issue is that there's, you're not sure that those that have been identified --

MR. ENSMINGER: Headquarters Marine Corps from my discussions with Dr. Bove is saying that there's no way they could identify what units were housed at contaminated, that had contaminated water. And that is bull.

DR. BOVE: If I could say one thing here. We'll talk about this in the presentation. It's not clear to me that they said they won't

do it. My understanding is that they said they didn't have the ability to do it. And the question is how we can work out a situation, maybe getting Jerry together with the Marine Corps to try to figure out how we could do it. But that will come up when I talk about the possible study directions later this morning.

MR. BYRON: This is Jeff Byron again. I'd like to jump back real quick to DoD participation. In light of the past month to month and a half that issues surrounding Camp Lejeune concerning beta particle radiation and Strontium-90 testing and vapor soil intrusion into our homes --

MR. MARTIN: Black mold.

MR. BYRON: When did DoD know all of this, 20 years ago? And a representative comes onto this panel and doesn't let us know that there's nuclear testing going on out at the rifle range and the surrounding area --

MR. ENSMINGER: No, that was at ^.

MR. BYRON: Jerry actually knows more than me about this because he's reviewed the documents closer. New River Air Station, it's

a cesspool. I was there for three and a half years working as a radar supervisor. When I left work, I went home to base housing. When does it end? That's my question to the people in the back of this room. When are you going to divulge what you know? Why are you still holding back on Freedom of Information documents that we are requesting instead of citing national security? Is it a national security issue because you can't remember where you put the stuff, and you're afraid terrorists will get it?

MR. STALLARD: Okay, so --

MR. BYRON: Transparency and the truth, that's all we're asking for. This is our lives you've destroyed, and you destroyed my daughters' lives. You're destroying my grandson's life. He has to have two operations, hypospadia is one and possibly cleft palate surgery. I'm getting inflamed here. I'm sick of wasting my time with people that won't give me the truth. I really don't care whether you participate because you're not forthcoming with the information anyway.

Not only that, when we asked for DoD

representation, a lawyer shows up with him. I was against that right off the bat, and this guy has the nerve to bring up legal, he says that we're bringing up legal issues and then --

MR. ENSMINGER: No, political.

MR. BYRON: No, that's the Lieutenant Colonel.

MR. ENSMINGER: Oh, yeah.

MR. BYRON: And then we get back from Washington because we're not getting the results, we're not getting the truth, and some other hack wants to come back and say it's a political issue? I'll be honest with you; I've never pronounced their names in here correctly intentionally because they have shown me no respect. They've shown my family no respect, and this has gone on for my family for 25 years. And this can go on for the rest of my life.

My grandchild has been affected. I'm going to see this through. You're not getting rid of me. I'm making that clear right now. If I live in a box, I'm taking you guys to the mat. So come up with the truth or get out of

this room.

MS BRIDGES: There's been a lot of people. I agree thoroughly with Jeff. And there's been a lot of young people that have grown up to be alcoholics, drug addicts that we don't know anything about. It was caused because they're doing the easiest thing. They lack the chromosomes that they originally had or their parents had. It completely altered them, and they did the easiest thing that they could do or that they wanted to do. And we never hear about these people as adults. What about the service members that were honorably discharged for what reasons? For what reasons were all these masses of service people discharged in the '70s?

MS. McCALL: Medically.

MS. BRIDGES: Medically, right. For what reasons, MS? Because they had trouble walking or because they had spurs or spina bifida? What were all those things caused from? Can you tell us reasons why these people that were massively discharged, and honorably discharged and they're now collecting disability and have never been in the hospital in 30 years? They

were honorably discharged with a good disability and all the benefits and have never been to the doctor, never been, or if they had to go to the doctor they went to their own choice, and they've never been in a hospital since.

MR. STALLARD: So your question, Sandra, is are these people being accounted for in terms of why were they discharged en masse?

MS. BRIDGES: Right.

MR. STALLARD: Is that on our radar screen some place?

MS. DYER: Chris, this is Terry Dyer. The one thing that I keep coming back to is we've been meeting for two years now, and if I'm wrong, I'm wrong. But it doesn't seem like we've accomplished a whole lot. We keep coming back and talking about the same things.

MS. BRIDGES: Same things.

MS. DYER: We don't even have -- I mean, here it says ATSDR will complete the feasibility assessment, the future studies, by June 2007. Are we going to do them or not? Let's just, it needs to be a black or white. It needs to be yes or no.

I feel like we've gotten more accomplished by going to Washington than we've ever gotten accomplished in this room. And it is a political issue, and I think that we should make it a bigger political issue because nothing is happening here. They're not doing anything that they wouldn't have done anyway. These water modelings were ordered. They had to do them. The only thing that hasn't been ordered by them is a study of the children and adults. So I'm tired of coming here.

I'm tired of the money that's being spent to come here. I'm tired of time away from my family. I'm tired of not knowing from day-to-day if I'm going to live or die in the next whenever because certain things are coming up in me, and I'm wasting time here. And I don't want to waste this time here. I want to be with my family.

So I think that you guys need to decide if you're going to do it or not. Say yes or no today so that we need to know, do we need to keep coming back here or do we need to go to Washington and do whatever we have to do

there?

MR. BYRON: Well, that we're going to do it anyway.

MS. McCALL: We are going to do it.

MR. BYRON: And I'm not stopping in Washington. I am going to demand genetic testing. I am asking Congress for genetic testing because I believe a scientific study, even though you are using the latest technologies for water modeling, you're only looking at the land. How about the people? A billion dollars to be spent on a clean up for Camp Lejeune, and you can't come up with the money to test the children that are identified already and do a complete genetic make up to see what are the comparisons?

If there isn't any, that's fine. If there's no connection, that's fine with me. But you know what? The human genome project has only been complete for how long, five, six years, ten years? Well, I'm finding things that are being found, that are being requested that we look at in the study. Well, I'm finding them in my family. And I have done some testing.

MS. DYER: I don't understand why when we go to Washington, and when we had the Congressional hearing, there are members of Congress that stood up there and asked the same questions that we've been asking. So we're not idiots here. We can see it, and they're asking when -- what, Jerry?

MR. ENSMINGER: I just want to interject something.

MS. DYER: Go ahead.

MR. ENSMINGER: This is Jerry Ensminger. What you've mentioned about time and time again coming here. We keep running over the same things. I'm going to defend ATSDR for a minute here because I know that last August after one of our CAP meetings when we discussed the feasibility assessments, that the information that we needed, ATSDR went forward with it and requested it from the Marine Corps and the Department of the Navy, albeit, incorrectly requested it.

And I told Dr. Bove when I found out that they had requested it via either e-mail or verbally, I said not only no, hell, no. These people will not do anything for you

unless you put it on paper and make it official. So in October they sent a letter, an official letter, which they tried to dance around and say that was not a request. That's bull because the closing statement said if you have any questions about this request, please contact Dr. Bove or Perri Ruckart. So for somebody at Headquarters Marine Corps to say that was not a request, that's bull.

But anyhow, the letter went through Headquarters Marine Corps to a Major General Flock in October of last year. Come January 10th, ATSDR still didn't have any of that that they requested. Nothing. I wrote a letter and faxed it on the 10th of January -- right here it is -- to the Commandant of the Marine Corps saying, hey, enough is enough, General. Let's go. You just took the reigns, took over the reigns of the Marine Corps, damn it, let's do something. Let's live up to our motto.

And strangely enough I got a response back from ATSDR dated the 15th of February. And all the actions, or a bunch of the actions that took place by the Marine Corps to provide ATSDR with the information they requested took

place on the 11th of January, the day after I faxed my letter up there. Now, I'm glad to see at least that the Commandant of the Marine Corps, the new one, is doing something anyhow. So whenever we put our anger out, we've got to look at everything that's been transpiring and how long it's been taking to get some of these initiatives completed. It's not their fault.

MS. McCALL: I understand that, but I agree with you; I understand that. But the fact is it's been two years that we've been meeting, and I still don't even know if we have decided whether it's feasible that a study can be taking place. Is it? Is it feasible?

DR. BOVE: Well, that's what --

MR. STALLARD: Can we answer that question today do you think?

DR. BOVE: Yes.

MR. STALLARD: Okay, good.

MR. BYRON: This is Jeff Byron again. I'd like to say that I think the reason we're going to answer that question today is because we were in Washington. Things aren't moving, and I think that we've reached a turning point, and Frank had expounded in a

conversation with me earlier that he had some information so --

MR. ENSMINGER: It's not only that we were in Washington, it's people have been writing letters --

MR. BYRON: Yes, exactly.

MR. ENSMINGER: -- and every one of us, everybody on this CAP right here, anybody else that's involved in this thing, don't make phone calls. Send letters. Write that letter out and send it, and then you have a record. And then put cc's on there. Put your congressmen, your senators on there and say, hey, this is what's happening. This is what's not happening. And everybody needs to get involved in this thing. That's the only way you hold their feet to the fire.

MR. TOWNSEND (by Telephone): Chris.

MR. STALLARD: Yes, Tom.

MR. TOWNSEND (by Telephone): Tom Townsend. I'm quite impressed with the comments of my fellow CAP members. I have a couple things come to mind. I don't know who from Headquarters Marine Corps is in the audience, but after a break or something like that, I'd

like to know. I guess people write their names down there that are there, I think. Do they not?

MR. STALLARD: Not in the audience. Oh, yeah, they do. They sign in; that's correct, yes.

MR. TOWNSEND (by Telephone): I'd like to know who these people are because I have no problem in calling in to the Marine Corps and asking questions that they can answer. And I totally agree with writing questions and Jeff is understandably upset about the adverse effects on his daughters. I would point out to our esteemed Marine Corps attendees that I lost a son 40 years ago to this crap at Camp Lejeune. I didn't find out about it until the year 2000. In the year 2000, I put in 1,200 FOIA's, maybe the same FOIA's that many people -- And every once in a while some guy in Bermuda gives me a document that everybody else threw away.

I lost my wife last year through what the MDs say is a traceable result of contamination 40 years ago from living at Paradise Point in field grade quarters. And I

feel that sometimes that ATSDR moves too slowly. I will bring that up in my written comments in the afternoon.

But the only way I am, I was so incredibly outraged at Dr. Rennix's comment about politicalization (sic), I wrote the commanding officer at NEHC and said what the hell are you talking about considering the crap that you have done over the years. It went to the Armed Forces Epidemiological Board and tried to write the in utero studies. There's a lot of studies. I don't even know what the hell is going on with the in utero study today. It's been going on for ten years, and I still don't know what the hell's going on.

But I am impressed with the, not with the anger, but with the intensity of the emotion of the CAP members. And if you can impart this intensity of your feeling to your elected officials, that's what makes the damn Marine Corps move on. Because the Marine Corps is a lethargic slug at this point. The Surgeon General of the Navy can't even come to a Congressional hearing without a subpoena.

That's a hell of a note for a commissioned officer to have. Anyway, I'm glad this CAP meeting is getting off to a rousing start. The good thing is I'm folding my laundry.

MR. STALLARD: All right, thank you, Tom.

MR. BYRON: This is Jeff again, and I do want to make one comment. I really want to know why you guys are here in the back of the room, the DoD. Are you here because you have an interest in this health study so to benefit people in the end? Or are you here because you want to know what is on our mind so that you can go back to JAG and say this is what Mr. Byron's saying. This is what Ms. Dyer's saying. This is what Mr. Ensminger's saying. Is that why you're here?

MR. STALLARD: I'm going to --

MR. BYRON: Why are you here?

MR. STALLARD: Jeff, I'm going to take that question. That's sort of a personalization, if you will. I have given a lot of leeway in terms of emoting, expressing that frustration, the anger, all those things that we're all feeling in terms of the progress being made.

We're going to segue here. So I think

it's important because if we didn't express, we wouldn't be able to listen to the things that have been accomplished since the last meeting.

MS. DYER: Taking the personal stuff out of it, can they still answer the question?

MR. STALLARD: I will ask if anybody's willing to do that if they're directed to be here or if they're here because they took a day of annual leave, and this is the best thing they could think to do. We'll figure that out.

MR. BYRON: And I want to say that I'm personally not mad at you, any of you personally. You didn't do this to my family. You're here for whatever reason you're here for. I am not personally mad at you. I am just mad at the situation.

MR. STALLARD: That's understandable. Is that the plural you like the German ^?

RECAP OF MARCH 2007 MEETING

Okay, we're going to have to move on right now to Perri who's going to provide us an update hitting the high points, and then we'll move on, all right?

MS. RUCKART: Just a few things just to kind of reiterate our discussion so we can move on, just to remind everybody where we left off at our 2007 meeting, March 2007 meeting, and give an update where possible.

At that meeting it was discussed that the CAP members would request a letter from the Commandant of the Marine Corps stating that they will fully cooperate with the CAP to release needed information in support of a study. I don't have an update. I don't think that has happened.

We had said that we would publish the water modeling reports for Tarawa Terrace in --

MS. DYER: Can you hold on for just a minute? Can we ask -- as she hits these, instead of going through them one-by-one, can we address them and get the answer automatically? Like she just said CAP members requested a letter from the Commandant of the Marine Corps. Where's the letter?

MR. STALLARD: So there is no letter.

MS. DYER: That's what we need to know. We need to know did you bring one with you?

Where is it? Every time she says something instead of reading through the whole thing.

MS. RUCKART: I have responses that I'm going to be giving. I just haven't gotten that resolved. But I will be. My point is saying the update.

MS. DYER: Is there someone in this room that knows where the letter is?

MR. STALLARD: I don't know. The letter was requested, and the point is that --

DR. BOVE: Let me say this. There've been a couple of letters. I'm trying to remember now. Because when we were trying to get the Naval Health Research Center data, there are a couple of letters back and forth of Rennix and other military people. I can't remember, but if you're asking for one letter that said this, no --

MR. ENSMINGER: You'll never get it.

DR. BOVE: If you're saying, but if we're talking about letters back and forth to get some of the data I was asking for, that certainly happened. So there is no one letter.

MS. DYER: Well, Frank, this is a specific

thing right here, will fully cooperate with the CAP to release needed information, and they will support a study of the CAP.

DR. BOVE: Right, that hasn't happened.

MS. DYER: So that's a no, so we need to --

MS. RUCKART: That's an open item unresolved yet.

MR. STALLARD: I think the question though that Terry's getting to is there's an open item. So what? Who's going to do what next to make something happen?

DR. BOVE: How do you want to handle this?

MR. STALLARD: Yeah, that's the question. How do we want to handle this?

MS. DYER: If we have a representative here from the Commandant of the Marine Corps, then they should be able to answer why he's not willing to write this letter.

MR. ENSMINGER: The attorneys that are present here can tell you why they won't write that letter.

MS. DYER: Well, we need an answer because that's something that's in here.

MR. STALLARD: All right, so do we have that, we don't have the answer --

DR. BOVE: One option is for the next time that ATSDR has a call with DoD we can mention this that the CAP wants this, and we'd like a letter. Is that something, is that the way you want to handle it?

MR. BYRON: Yes.

MR. ENSMINGER: Yeah.

DR. BOVE: Okay.

MS. DYER: I don't know why the ATSDR has to ask that when there are members of the Marine Corps here.

DR. BOVE: Well, I'm asking you, I'm asking you how you want to handle it. That's all. Do it in a formal --

MR. BYRON: Written form so that it's formal, exactly how Jerry said.

MS. DYER: Okay, that's fine.

MR. BYRON: There has to be a document behind it that says we requested it, or they'll just say, well, we don't remember.

MR. ENSMINGER: That may be valid. They may not have remembered.

MS. RUCKART: The CAP members should request that. I don't think this is something that ATSDR can request because this is something

that the community members wanted. So I think that you all should do that formal request.

MR. ENSMINGER: I'll take that as an action item.

MR. BYRON: Thank you, Jerry.

MS. RUCKART: Okay, so ATSDR is going to publish the water modeling reports for Tarawa Terrace in June 2007. The executive summary was posted in June. Chapter A covering Summary of Findings was actually posted today, and I believe Morris handed out hard copies here for everyone. The website providing simulated levels of the finished water at the treatment plant for each month of contamination during the period of interest was made available for Tarawa Terrace in June 2007.

After the meeting it was suggested that we add a link to this web application so that visitors to the site could register their names and indicate if they want to be contacted for future studies. We got a lot of calls into our 1-800 number at CDC Info following posting of this information on the website. So this information is actually

being collected by the CDC Info staff.

MR. BYRON: Okay, real quick, on number three there, the website providing simulated levels in finished water. I've looked at ours and on the simulation one of the models is barely below the high end of the limit where it runs off the page. But the other simulation is right off the end or at off the end.

MS. RUCKART: I'm not sure what you're --

MR. BYRON: I'm not sure I understand it. At lunch we'll get on the computer and pull it up from 1982 to '85 where I lived, and you'll see that the blue line, right off the page. So where did that end?

MS. RUCKART: Yeah, I don't know where --

MR. BYRON: For that modeling?

MS. RUCKART: We can look at that, and Morris --

MR. BYRON: Well, I know why it only ends at 200. It only ends at 200 because those were the basic SNARLS for, that was the limit set by SNARLS at the time was 200 for short term is what I believe.

Am I correct or incorrect on that,

Jerry?

MR. ENSMINGER: I'll have to look that up.

MR. BYRON: But we should look at that at lunch time.

MS. RUCKART: I'd have to look with Morris because I really don't know what you're referring to, but we'll have to get it up there.

MR. BYRON: According to where I live.

MR. MASLIA: I'd like to make a comment. The presentation -- just to clarify all finished water that anyone was exposed to at Tarawa Terrace, I'm only speaking about Tarawa Terrace, stopped in February of 1987 because that's when they shut down the treatment plant. No water was provided from Tarawa Terrace wells after February --

MR. BYRON: Okay, but what I'm talking about is when I look month-to-month at where I lived. You had two models you were conducting, correct?

MR. MASLIA: There were two models, right.

MR. BYRON: Two models or two methodologies.

MR. MASLIA: Right.

MR. BYRON: The methodology that you have in

blue -- I can't remember it because it's been a couple months since I looked it up. I'm a very busy individual with many other things other than this -- right off the scale. So where did it end? Okay? And then the other model was right at the end of the scale. That's why I'm asking.

MR. MASLIA: We can go to the website --

MR. BYRON: And that was every month, and I lived there for three and a half years.

MR. STALLARD: So when we bring it up during the presentation, you can ask any questions then.

MR. BYRON: Thank you.

MR. STALLARD: Who's speaking, please?

MR. TOWNSEND (by Telephone): Tom.

MR. STALLARD: All right, Tom.

MR. TOWNSEND (by Telephone): I misunderstood what the question that was written apparently by ATSDR that was never responded to. Was that a correct interpretation of that exchange?

MR. STALLARD: No, my understanding is that it was a CAP-developed letter, a request, that had not been responded to.

MR. TOWNSEND (by Telephone): By ATSDR.

MR. STALLARD: No, by the Commandant.

MS. DYER: CAP members requested a letter from the Commandant. So we did ask for it. We just haven't gotten it, Tom. Jerry's going to write a formal one and ask him.

MR. TOWNSEND (by Telephone): The only way you get any answers out of the military departments is to write them a letter. If they don't answer within three weeks, write them another one. And you keep on writing and raising the stakes, and pushing the rank of the addressee one more notch. And finally they will answer because they'll be embarrassed.

MS. RUCKART: Let me skip down a couple here on our action items because this item actually goes with what we're talking about now. The CAP members requested a response from the Marine Corps via Mike White -- he was present at the last meeting -- on the status of their efforts on the notification issue. That's also an open item so, Jerry, you probably want to address that as well when you do the other letter.

MR. ENSMINGER: That's being handled.

MS. RUCKART: ATSDR will work with our office of communication staff on how former residents of Camp Lejeune can interpret the exposure data. We have worked with our staff and that's being handled via the CDC Info. People are there prepared to answer questions that they get, and our media relations staff did publicize the availability of the Tarawa Terrace reports on the website providing the simulated levels.

MR. BYRON: Pardon me. This is Jeff again. What media outlet did you use because I didn't see it on TV. I didn't see it in the newspaper.

MS. RUCKART: They do press releases.

MR. BYRON: Where? Around the whole country or just here in Atlanta?

MS. RUCKART: Not just in Atlanta --

MR. BYRON: I mean, that's what the Marine Corps says to me. I've seen their press release. I've seen the responses and their inter-facility memos to press releases. They're not interested. Maybe they are now, and I'm not saying that you aren't, I'm just

saying, you know, there needs to be clarity. What media outlets did you use?

DR. BOVE: We did a press release to all the media outlets we always do. It's a standard procedure so it goes out to --

MR. BYRON: Which are?

DR. BOVE: I don't have them --

MR. BYRON: Okay, is it NBC News, FOX?

MS. RUCKART: It's the usual --

DR. BOVE: It's the usual, it's all of them. But what I wanted to add besides is that there are plenty of newspaper articles that were written. We were interviewed by reporters so that the word got out actually. It was all over the country. So I think that our press release, I'm not sure our press release did that, but whether your actions or the hearings did that, but the word got out.

MS. RUCKART: And we know that because we've gotten thousands of calls to the CDC Info, so it's --

MR. BYRON: You can look on your website and see how many people.

DR. BOVE: Yeah, I haven't done that.

MR. BYRON: I'd like to kind of know what

response or if you can give me that later or you can send it to me later by e-mail.

MS. RUCKART: I wouldn't have that information. We'd have to get with our IT staff and see how --

MR. BYRON: It's important to know that we got the response that we want through these studies. We have to know.

MS. RUCKART: Frank does have an e-mail from CDC Info, tracking the calls that they've responded to.

DR. BOVE: And e-mails. They had about, close to 1,500 e-mails and phone calls.

MS. DYER: When you all send something out in the media, can you make sure that we get that in an e-mail so that we're getting the stuff that's going out?

DR. BOVE: Press release?

MS. DYER: Yes.

DR. BOVE: Yeah.

MR. ENSMINGER: That's not unreasonable.

MS. DYER: We're asking that all CAP members, any time anything goes out to the media, the ATSDR, that we would get --

DR. BOVE: Yeah, we'll send you, we'll give

you the, yeah.

MS. McCALL: At the hearings we received a piece of paper and it said ATSDR press release. And I have a copy of it.

DR. BOVE: But I don't normally do that so I'll do that from now on.

MR. STALLARD: So I captured that all CAP members should be copied on the press releases.

MS. DYER: Yes.

MR. STALLARD: Is that what we're saying?

MS. DYER: Yes.

MR. STALLARD: And CDC Info, you would like to have some information on the number of phone calls received and things about the --

DR. BOVE: Yes, yeah, the number of hits I don't know.

MR. STALLARD: And number of hits.

MR. BYRON: Yes, I'd like to know how many hits on the website for the water modeling.

MS. RUCKART: We can request that.

MR. STALLARD: And who's going to do that? That's going to be --

MS. RUCKART: One of us will request that from our IT group.

MR. BYRON: By the way -- this is Jeff Byron again -- after the hearing, three families identified themselves in my home town that they had never heard of Camp Lejeune's issue, just that they were there and had health effects. So we did have an impact, and this is having an impact.

MR. MARTIN: Chris, this is Dave Martin again. Could you expand that final one there regarding press releases and put any information presented to the public regarding Camp Lejeune water contamination issues?

MR. STALLARD: Okay, I got it.

MS. RUCKART: It was mentioned at the last CAP meeting if BTEX was sampled for Tarawa Terrace, and Morris will address this later this morning.

It was suggested that the Camp Lejeune High School alumni association be contacted to get more information on dependents and civilians who worked at the base. That specific action has not happened, but we do have some information that Frank will go into later today about what he got back from the DoD Education Activity. And along with that

Frank will discuss the condition of the microfilm reels containing the transcripts from his visit with the DoD EA.

We talked a lot at the last meeting about the process of receiving the NHRC data. And I think we've touched on this, we have received data from them since the last meeting, and we'll discuss that later today when we talk about the feasibility assessments and what's possible.

It was suggested at the last meeting that we research the literature to see what causes of death are associated with TCE and PCE. That's been done, again, to be part of the afternoon and later this morning discussion.

We requested from DMDC a demographic breakdown of the Marines and Navy personnel in their database who were stationed at Camp Lejeune and also the number of civilians who worked on the base after 1972 and their demographics because those are the years that are available. Again, that has been received and will be part of our later discussion.

And then at the last meeting we had

hoped that we'd be able to complete the feasibility assessment by June 2007 and share that with the group. As you know there have been a lot of set backs in getting the data so we've not be able to have it by June 2007. It is in process and to be discussed later today. So there is movement there.

It was suggested that we compare the mortality among Camp Lejeune Marines to all other Marines not stationed in Camp Lejeune instead of the national rates. So that suggestion is something that will come up when we discuss the feasibility of future studies.

At the last meeting Chris Rennix recommended following that with NHRC to see if it's possible to do a disease incidence study using the NHRC data for Marines who were stationed at Camp Lejeune during 1980 to 1985. That's approximately 100,000 people, and we'll discuss that possibility later today.

Also, the issue was brought up whether we could get more ATSDR personnel to work on Camp Lejeune projects. We're lucky to have the personnel that we have working on these projects. We do have someone in our audience

today. She's doing a rotation with our group, and she has been assisting us with Camp Lejeune, so that's Lauren. So we're trying by various different means to get more personnel. I think --

MR. BYRON: We will help you in Washington with that.

MS. RUCKART: So what can I say, you know, these are decisions way above us, but we have been just trying to get whatever help that we can get. And we have some help so we're grateful for that.

MR. ENSMINGER: I have a question on that. This is Jerry Ensminger. I have a question on that issue. Skimming over this kind of stuff doesn't get anything accomplished. Has your budget been shot to hell or what? I mean --

MS. RUCKART: We have several open positions in our group right now. A lot of people have left over the course of several years, and we've not been able to back fill them. Our whole division, I think, was able to get two positions filled. Now that's our whole division. We, our level is smaller than a division. So they have asked our higher ups

to fill the positions, and they were told they could fill two. So the whole, larger group gets two positions. We are not able to get anyone.

MR. ENSMINGER: Why?

MS. RUCKART: Well, there's a group of about -- I don't know, is it about 50 to 70 people in our division? Something like that. And a lot of people have left over the years, not just from Camp Lejeune project, and not just from our smaller group which is called a branch.

So when positions are allocated down to our level, they're told you can fill so many positions. You have X many open, but you can only fill so many. And we were told you could only fill two. And that's not just two for our branch or even our project, that's two for this whole larger group of like 60 or so people.

MR. ENSMINGER: Now, the two that they're telling you that you can fill, how many did you have open initially? Five? Four? What?

MS. RUCKART: More than that. I really don't know because it's not just our group.

MR. ENSMINGER: But then they come back down and tell you you can only fill two. Where are these other billets, slots going?

MS. RUCKART: Some of them are in the other groups. We have one in the Office --

MS. DYER: How many people do you have working on Camp Lejeune? Two, right?

MS. RUCKART: Frank and myself work on it, and then we have Carolyn. She assists with some programmatic issues. We have Morris and his group over at DHAC. Now we've gotten some assistance from Lauren who's going to be helping us on communication-related issues, but --

MS. DYER: There are ten people working on Camp Lejeune?

MS. McCALL: Six.

MS. RUCKART: We don't do it by people. It's sort of like the percentage of your time, so I mean, I don't actually have the full number --

MR. BYRON: If you held a meeting at eleven o'clock this morning, and you said everybody working on Camp Lejeune be in this building, this office, right now --

MS. McCALL: How many people would come?

MR. BYRON: -- how many people would fill these chairs?

MS. RUCKART: I can't sit here and name them all. I don't really -- there's people in Nikki's group who work on budgetary things. I mean, there's a lot of different –

DR. BOVE: If you're asking how many are working on the current study, doing the water modeling and doing the epi analysis, it would be Perri and me in the Division of Health Studies and Morris' group, and Lauren just joined.

MS. DYER: But how can you get anything done with that number of people?

DR. BOVE: That's a good question, but that's what we –

MR. ENSMINGER: Well, no, no, my bigger question is these whole group of boat spaces that you used to have, and they come down and only give you two people. Where the hell did all the rest of these boat spaces go? Where did they go?

MS. RUCKART: They're lost.

DR. BOVE: They're not filled. They're not

going to be filled.

MS. RUCKART: They're lost.

MR. ENSMINGER: To who?

DR. BOVE: It's called attrition.

MR. ENSMINGER: Yeah, but I mean was it, were they completely cut out of your table of organization or --

MS. RUCKART: I think so. I think so.

DR. BOVE: I think these are questions that --

MR. STALLARD: Yeah, let me move something along here. You don't have a TDA. We don't operate that way in this agency. So there was not a five positions allocated to Camp Lejeune, and that was what was authorized and required. They don't operate that way in this HHS. We're talking apples and oranges. What happened is it gets all rolled up and whatever the top leadership determines is the highest priority or whatever, the limited resources are allocated to that. And evidently, Camp Lejeune doesn't have it, so that's, the question is –

MS. DYER: How do we get it?

MR. STALLARD: -- for us to figure out is

when these feasibility studies are going to be kicked off and things are moving forward, what is the staffing requirements going to be on ATSDR? That's what we need to figure out.

MS. RUCKART: I wanted to mention one thing though. So when all these calls started coming in for CDC Info, what's the situation on the website, normally, prior to a few months ago, Frank and I would handle the phone calls and e-mails that came in. So that would take us away from our other duties.

And it was very, it was my understanding -- because I wasn't here -- but it was very overwhelming and just Frank by himself could not handle this. And impossible, I mean, I don't even think Frank and myself could have handled it had I been here. So arrangements were made to have these questions go to CDC Info. So, you know, we are trying to figure out measures so that we can devote more of our time to the work that we're currently doing and something that could be handled by someone else would be handled by someone else.

MS. DYER: But I know that we have asked

this question before. I mean, this has been brought up before, do you all need more people. How do we do it? And it's about time that we find some more people to start working this issue. That's why it's not getting done.

MS. McCALL: Well, Perri said that they allocate a percentage of their time, and so maybe that's the question. How much time has been allocated to, has been devoted to this situation? I mean, I know you're working on other projects. He's working on other projects. Is there a certain amount of time that has been mandated to work on this, on Camp Lejeune?

MS. RUCKART: We have a budget person in the room, and if you're able to discuss this?

NIKKI BLYE: Well, the way it works is when we're putting our budget proposal before DoD, we're looking at a percentage of time for both DHS, all of DHS personnel, but it does sort of roll up to a FTE, which is what we call a full-time equivalent. And I think they have a total of 2.25 FTEs devoted to Camp Lejeune.

MS. McCALL: Is the percentage of how much time allotted?

NIKKI BLYE: It just rolls up to that total amount.

MR. ENSMINGER: In money.

MS. RUCKART: So we have 2.25 people because that's spread out over Frank and myself and Carolyn who helps us on programmatic issues.

MR. BYRON: This is Jeff Byron. Do you mean that 2.25 people have 40 hour work weeks? So you guys put, so you're putting the equivalent of 80 --

MS. RUCKART: Two and a quarter people.

MR. BYRON: -- 90, a hundred hours per week.

DR. BOVE: Okay, that's my understanding.

MR. STALLARD: Okay, so what is the issue? If this issue is that this is going to pick up more or take on a higher level of activity and emphasis, what are the staffing requirements in order to do so? Is that the --

MS. DYER: Who do we go to to get more help? Who? Who is it that we have to ask? I mean, it is a political issue. We've got to go back to Washington to get help for this now because no one here can answer it. I mean, this is ridiculous.

MR. ENSMINGER: Not can, they don't want to.

I mean, I know why they could do it. I have a great suggestion is they take a couple spaces from the Department of Health Assessments and Consultations who don't do crap anyhow, and put --

MS. DYER: Bring them over.

MR. STALLARD: Now, let's not disparage the professional efforts of those who are not in the room to represent themselves.

MS. DYER: It's the same with everything else.

MR. MARTIN: 2.25 hours of a 2,080-hour work year is 46.8 hours for the entire year that they're going to devote to Camp Lejeune. This is Dave Martin again, and I'll just make a statement I was going to save for this afternoon.

MR. STALLARD: You can state it again this afternoon, but go ahead.

MR. MARTIN: My honest personal opinion for whatever that's worth to whoever paid whatever they did for it is I think a lot of this is a farce. I think a lot of it's a smokescreen. I've made comments and talking to people in the community, and the comments, they kind of

laughed off before, well, it's just that everybody's waiting for everybody to die off and it will go away.

I think one thing I'd like to know when this meeting is finished today is if the Marine Corps came in this room today and said, folks, you know what, we're sorry. The water was contaminated. Your families were poisoned. Yeah, that caused kidney disease and that killed your mother, caused cervical cancer, and it killed your sister.

Is that going to make me happy? I mean, am I just going to say, okay, at least they apologized. They admit it. They apologize and put everything out on the table. Yeah, we snuck in in the shadow of darkness and turned the wells back on because we were running short of water. You know, we didn't know what it would do --

MS. DYER: But we did it.

MR. MARTIN: -- but we did it. The damage was already done. Or maybe the water just tasted bad, and it wouldn't have had the effect. We never realized this would come to this 40 years later and a million people sick

and dying from this contamination.

So I think it all comes down to what everything comes down to in the world today is how much is it going to take to shut these people up. How much money are we going to have to throw at it to make all this go away?

MR. BYRON: This is Jeff Byron. There's no answer to that because of these health conditions we're continually on guard.

MR. MARTIN: Constantly, ongoing, but we keep dragging our feet and having meeting after meeting after meeting, and I do see progress. And thank you ATSDR for all you've done. Thank you all you volunteers and people in the CAP, and the people that have worked on this ten years before I even knew about it.

But we keep spinning our wheels and every single day somebody's getting sick and dying and waking up and wondering what the hell is wrong with me. Fortunately, last month I took my brother who had major surgery for colon cancer two years ago when I found out about this, took him to my mother's grave in Newport, Rhode Island, and looked down there and said, Mom, I know why now.

So it's anger. It's frustration. It's the bull that Jerry talks about that shows in the staffing, the notifications, the phone calls, the media releases that shows me that this has a very low priority on somebody's list, the funding, the lack of, the internet broadcast. You know, things happen. Things could be better placed. They don't all have to affect the Camp Lejeune water contamination meetings, and that is frustrating as hell to me.

You're right. I think we've made a lot of progress here and the ATSDR's hands are tied in certain matters. I think we do need to go to Washington, D.C. again, stand on the Commandant's door and request that these claims start being settled. Some of them are outrageous. People put 40, 50, 60 million dollars down. I don't want to bankrupt the country. I don't want to talk bad about the United States Marine Corps. My father dedicated his life and his family's life to the United States Marine Corps. There's very few left to give up.

MR. BYRON: Jeff Byron once again, and I

understand people have claims out, and they have concerns. And some individuals for the claims that they may have made, the only recourse because they've lost a loved one is monetary in nature. That's the only thing that can be offered. I have to be honest with you. Money's not my cause for being here. This claim, I have claims, but my real cause for being here is for help. I'm looking for healthcare for my family.

MR. MARTIN: Exactly, many people –-

MR. BYRON: All the money in the world will not resolve your financial issues if it's beyond what they would give you, but healthcare is another matter.

MR. STALLARD: Okay, great, thank you for your statements. Can we continue on with the recap, please, at this point?

DR. BOVE: All right, Perri had to leave. I think the last point was -–

MS. DYER: The very last one.

DR. BOVE: It's about notification again. Didn't we just talk about that? But Jerry said something about that's being taken care of.

MS. DYER: Well, that's been taken care of. Elizabeth Dole, several others have done that.

DR. BOVE: So that's going to be covered that way. The personnel issues are tough. They're tough not only for Lejeune but for other projects, too. I don't know how to deal with it other than maybe the Congress has to put some more money into our budget. That would help. We'll talk about the future studies and the implications for personnel this afternoon, too.

MR. STALLARD: It's time for our break. It's 10:15. Please come back at 10:30. Morris will start off, I believe, with the water modeling.

DR. BOVE: Hold on for one second. Do you all need a break?

MR. ENSMINGER: Yes, I do.

MR. STALLARD: Can we make it five minutes though, instead of --

DR. BOVE: Because we're really running late. We're way behind.

MR. STALLARD: Ten minutes, and you need to get your lunch money and choice, please.

(Whereupon, a break was taken from 10:15

a.m. to 10:25 a.m.)

MR. STALLARD: We can get started now. Dr. Clapp is back on the phone. He had a fire drill apparently and so he's back with us and has been listening intently. And so when he can, he'll certainly interject his thoughts. Right?

DR. CLAPP (by Telephone): That's right. It was not really a drill but actually was something that they brought the fire department here for, but it was minor, and they let us back in the building.

MR. STALLARD: Folks, I'm going to shift a little bit because I want you to like me, and I want to have a good evaluation, and we need to stay focused.

So on the one hand I think that it's important that we allow the frustration and anger and emotion to be expressed, yet we also want to continue moving forward with some concrete issues that are on the agenda. So I'm going to try to keep us focused in that direction.

Morris, are you ready to go?

(no audible response)

So I ask for you all to work with me on that and help keep us focused. You'll have an opportunity after lunch at one o'clock to express your heart briefly. And in the meantime, we're going to stay on track.

Morris?

WATER/SOIL VAPOR MODELING UPDATE FOR TARAWA TERRACE

MR. MASLIA: This morning I'm going to present a couple presentations. The first one will be, obviously, the final results from Tarawa Terrace, and I'm giving out copies of the final report. That is not the final hard copy. It's actually being drawn off the presses this morning as we speak and should be here tomorrow.

But if you haven't gotten a copy of that extra, we'll, of course, mail out the final copies. The final hard copy will also contain the three-set DVD and the large-scale map. And those are all on the website which I'll point out, too, a little bit later on, the report and the map. The DVDs, because of the size of them, of the data, you have to just put in a request and we'll mail them.

Both the authors and co-authors by

organization you can see, I wanted to point out. I asked a couple of our co-authors to come here this morning, and we got Dr. Aral in the back in the black shirt there. Dr. Aral is the Director of Multimedia Environmental Simulations Lab at Georgia Tech. And they have applied and developed some of the more complex models, the multi-species and multi-phase flow models as well as doing some of the well scheduling analyses for us that's incorporated in Chapter A.

We also have Rene Suarez who started with us full time last, it's been over a year just about -- he's in the back -- there, worked on modeling and probability analyses for us.

We've got Amy Krueger who's at Oak Ridge, the ORISE program, been with us for a year. And then also Jason Sautner who has done a lot of the water distribution system modeling and analyses as well.

So we have had a lot of people working on the water modeling aspect of the project, and they will continue for the Hadnot Point area. We've got some others that are not

here, and you can see them on your list and on your handout. And they, of course, are listed as authors on the report. Just an acknowledgement for organizations providing information, data and information.

The report that you can see, the front cover; this is the report, and each report contains a three-set or three-pack DVD that will be in the back pocket. And I wanted to just pull up the DVD for a second here and show you if you put the DVD in -- let me see if I can find it here.

When you put in the DVD, you'll get the DVD number one in this three set. You can search any of the DVDs. It's got a search engine in it. You can scroll down past the disclaimers. One will come out and tell you where the data comes from.

There's information, and you can do a search. If you put in DVD One, you can put in key words or key numbers or whatever, and it will search through the entire three set of DVDs and tell you what documents are there which contain those actual words that you're looking for. That was, I think, part of the

request that we had been asked to provide a couple years ago, be able to do that. And so that is now, with each report, we have some copies, like I said if they just want to order copies, they can.

Getting back to our presentation, and this is just a repeat of what the overall epidemiologic study is about. And, of course, to get estimates of exposure, we turn to water modeling to do that. Just to recall, the water modeling had three goals. First, to determine the arrival of contaminants at wells. And this is for, these goals are also for Hadnot Point as well, not just Tarawa Terrace, for the overall study.

The distribution of contaminants by housing location, and then determining the reliability or the confidence that we have in the water modeling results so that can give some level of confidence to the epidemiological study. And, of course, Chapter A report summarizes all of that for Tarawa Terrace.

I wanted to go over just some generalized timeframes that we’re dealing with

here. The epidemiologic study goes from ’68 to ’85. That was determined by a study of epidemiologists. The drinking water at Tarawa Terrace based on our knowledge now, using modeling and data, we determined from ’52 through ’87. I’m summarizing in terms of the years here.

Exposure to contaminated drinking water that was above the current MCL of five parts per billion specifically to the PCE at Tarawa Terrace was determined to be from ’57 through ’87. And the historical reconstruction period, because of requirements of modeling, had to go from ’51 to 1994. And so those are the results that are reported in Chapter A. They’re on the web, on the datasets that are in the back of the report as well.

We basically used two types -- and I’m generalizing here, not trying to get too technical -- what we call groundwater models. MODFLOW, MT3DMS, those are developed by the U.S. Geological Survey, and it’s for groundwater flow, transient as well as transport of a single constituent, PCE. The

input datasets are provided on the third DVD for these models. If anyone wants to run them, you can pull the codes down.

The second code, which is much more complex and was brought about because of our need to see what amount of the PCE was volatilizing off the water or off the saturated zone. ^ all the water going into the soil as well as also to look at the degradation byproducts. That model was developed by our colleagues at Georgia Tech, TechFlow MP model, and the report gives you a link to their website.

But we do have the results of that, and that's, that's the second set of results in the table in the report on the website where you have PCE, TCE, DCE and VC, that comes out of the TechFlow model.

MR. BYRON: Thank you.

MR. MASLIA: The final results, I'm going to show our results, go through some selective results. This is the entire area that was modeled. And for example, in January '58, the arrows refer to the directions of groundwater flow. This is model layer one. Our model,

our MODFLOW 96 and ^ single specie model has seven layers in it, and this is layer one or the source layer. And I'm going to show results after this, just this sub-area right here where the contamination. This is the site of ABC One-Hour Cleaners. So that's the area in reference.

This is the simulated PCE concentration in model layer 1 in January of 1958. The outer -- I don't know if you can see, they're a light green -- is one to five parts per billion. The blue is five to 50, and so on. Move on to January of '68, and you can also see the blue lines or the water levels in the ^. You can see the influence of pumping on them and the PCE as well as pumping as well. So it's pulling it down, pulling the direction of the PCE movement going east to more of a south and east.

'Eighty-four, by December of '84, and that's probably the period of maximum groundwater pumpage in the area, you see these wells pumping TT-52. You can see the water levels being influenced by that: 67, 31, 54. These maps show solely the wells that were

actually operating at the time. I want to make that clear. And, of course, you can see the zone being pulled, the first layer, towards that area, more and more south, southwest direction, as well as still being pulled in this easterly direction. And there's the ABC Cleaners right there.

And then finally in '94, again, I state this in the report. None of the wells are pumping. They're placed here just for reference location, but this is the PCE distribution by December or during December in 1994.

The graph here that shows both water supply wells, and more importantly, the finished water, that's this blue line here, and that's the water that was delivered to housing locations in Tarawa Terrace. Coming up here again we said that November '57 based on the MT3DMS model was the point in time when finished water exceeded five micrograms per liter which is the current MCL. And then of course all the wells and the treatment plant were shut down during February of 1987.

So to summarize Tarawa Terrace

simulations using a single constituent, PCE dissolved in groundwater. We've got some maximum values here. We've got the average, this is the average exceeding the five parts per billion. And then at the water treatment plant, again, this is what the epidemiologists think in terms of exposure, and a maximum value of 283 -- or 183, excuse me, 183 micrograms per liter, and an average of 70. And at the end I'll summarize. I've got some, and the report has comparisons with measured values to these. And at the end I've got a summary that shows that comparison. But they are compared here on the graph as well.

We then went into the degradation byproducts, and we just chose the well 26 here for illustrative purposes, but in the Chapter G report, which is currently being edited and made ready for the printer, it'll have well 23, well 25, well 26 and some other supply wells. And then on the right-hand side you've got the treatment plant.

What I want you to notice is that the solid line on top, both here and the water treatment plant, is what came out of the

single constituent or the MT3DMS model. PCE is just a single constituent. There's the dotted line here is the PCE based on the multi-species, multi-phase simulation.

You can see they're very close. The real difference being is that in the multi-phase, multi-species model you've got PCE volatilizing to the unsaturated zone and to the soil. So you're accounting for a more complete mass. Whereas, with the MT3DMS, you're lumping everything into the saturated zone. So that would be the difference. They're very close.

Now we come to the subject that has heard much discussion in the last few weeks. And as part of the simulation and using multi-phase, multi-specie ^ MP, we come up with solutions at the unsaturated zone or the zone above the water table. That's because that model goes from land surface all the way down.

So whereas the first model lumped everything into one layer, it's got seven additional layers above the water table corresponding to the first model's layer one, and so it looks at the soil sort of as well.

And in doing that we came up with, this is a map showing the soil at right about ten feet of distribution of PCE in the vapor phase. And you can see it then encroached by ‘84 and to the Tarawa Terrace Elementary School and some of the housing area.

MR. ENSMINGER: Now this was by ’84?

MR. MASLIA: This is December of ’84, during December. The TechFlow model uses the same time increments as the MT3DMS. We’re doing one month simulations. We’re representing as far as like February, would have 28 or 29 days. But the results are representative of any day in that month. That’s as refined as we can get it based on data and information.

MS. DYER: Morris, is that TT-1 Elementary School or TT-2 Elementary School?

MR. MASLIA: TT-1.

These pages are directly in the report. I think this is Figure 20 in the report.

This is not very clear. I had to reduce the resolution to get it on --

MS. DYER: TT-2 has been destroyed, but it was there for years. Has that land been

checked? Was the land and everything at TT-2 Elementary School, was that checked?

MR. MASLIA: You mean in the current, the current sampling?

MS. DYER: Both.

MR. MASLIA: I couldn't speak about the current sampling. I don't know if TT-2 was checked or not.

DR. BOVE: Because the plume doesn't hit that area.

MR. MASLIA: I don't think it does.

DR. BOVE: That's what I'm saying. I don't think it --

MR. MASLIA: This is the further extent of the plume. The outer line is one-to-five micrograms per liter so it would be below that. Anything else is zero or in the decimal places of micrograms.

And then by '94, of course, what you see by '94 is some of the wells down here, of course, are no longer pumping. None of the wells are actually pumping in 1994. The plume is moving due to natural attenuation taking place there.

So are there any questions on the

vapor phase issue at this point? It's important, let me just point out. It's important to remember the vapor results which we show here came about basically during the multi-species and doing a more complete accounting of the mass.

We did not go in, for example, and look at the ground cover. For example, to go out and calibrate more fully in terms of vapor rather than PCE dissolved in groundwater, we would have to go out and determine, say, that these buildings were built on a slab. This is bare ground where there's grass here and put that into the model because you have different coefficients that would be affected by that.

So this is just a, I'll say a first run-through. It's calibrated because it had a very finely tuned calibrated PCE dissolved in groundwater model, and that's the driver for this. If that's not calibrated, this is not going to be ^. But again, we had no field measurements of soil vapor. And again, we stopped in '94.

MR. ENSMINGER: Now I'll ask a question. Do you have a copy of the final remediation plan

for the ABC Dry Cleaners' site?

MR. MASLIA: I don't know if the term, what's meant by the term final in terms of the EPA. What we have as of now that we got in the last couple weeks is we've got a, I believe it's a 1994 or '98 report that proposes what the remediation plan was supposed to be.

MR. ENSMINGER: That was in '94 ROD.

MR. MASLIA: 'Ninety-four ROD. And then we have, and it says for example, their target was to pump a hundred gallons a minute and so on. They're supposed to do a model and things like that. And then we've also got a 2002 --

MR. ENSMINGER: Two thousand three.

MR. MASLIA: -- three update.

MR. ENSMINGER: A five-year review.

MR. MASLIA: Five-year review. And then we have a 2005, I think it's a 2005 report. Those are the three reports we have.

MR. ENSMINGER: Well then the North Carolina Department of Environment and Natural Resources did the five-year review report.

MR. MASLIA: That's correct.

MR. ENSMINGER: All of these possibilities

were pointed out in that five-year review of the movement of this plume. When did the EPA start remediating this plume in earnest? Now, I saw where they had contractors suing each other in the five-year review plan because the discharge of the water that they were pumping had too high levels of nickel and then something else that they were discharging in the northeast creek. It took the right-of-way down around the railroad tracks for the discharge lines for the remediation.

So we went from ‘94’s ROD to basically 2003, and there was no remediation taking place for, what, nine years? So somebody’s telling me that -- this is for you Environmental people here -- for nine years somebody’s telling me that thing didn’t move, that plume? Where are the monitoring wells for the EPA? Where are the monitoring wells the EPA put in the housing area? Do you have a map of them? I mean, it’s on base property. Do you know where they’re at? How deep are they? Are they seven feet? Are they 50-some feet into the Castle-Hayne aquifer? How far down are they? How far have they gone down

into the housing areas to monitor the movement of the plumes?

These are questions that I'm asking. These are questions that I've got posed to Region Four right now. I want to know. Damn it. This is for the protection of those kids that are living in that housing area. And these bumbling idiots have not done anything as far as I know, but I'm not counting on them. I'm counting on you and me to look out for these kids, the kids that currently live there.

MR. STALLARD: Okay, so specifically, the question is in the modeling did we take into account what happened between --

MR. ENSMINGER: No, we didn't. I mean, what we're looking for now are the documents that -- we've got two different entities working on this plume. You've got EPA Region Four --

MR. MASLIA: What Jerry is asking is, he wants details on the plan and the application of the remediation plan by, I guess, EPA Region Four, that's out of our jurisdiction.

MR. ENSMINGER: But the final ROD, the latest one I can find is '94. We know from

the 2003 five-year review report that that site did not start getting remediated, the plume did not start getting remediated until 2003. So how far did that thing move? Where are the monitoring wells that capture the information as to how far that plume moved down under these houses? Does anybody have that? Does the base have it? Does the Marine Corps have it?

MR. WILLIAMS: We had similar questions in 2005. You've probably seen it. I mean, we --

MR. ENSMINGER: Yeah, I've seen it.

MR. WILLIAMS: -- and that was the answer we got. The answer we got you've seen. We have similar questions to the ones you're asking.

Now, Morris may be able to, I don't know if you ever loaded any coordinates from those three different maps we sent you.

MR. MASLIA: We pulled -- there's an S-5 somewhere right over there. Again, the coordinates we've been able to pull, we had to use paper copies. The answer from Region Four, and I talked to them last week, was to their knowledge none of the recovery or monitor wells were ever surveyed in.

MR. ENSMINGER: I see these letters from North Carolina and these reports, and you guys are asking them questions. Who's held these people's feet to the fire? Who? I mean, this is Marine Corps' property. I mean, whatever happened to Luis Flores (ph) who was supposedly in charge of this thing? Nobody can find him any more. He's disappeared. He don't want to address anything. Who is holding, who's looking out for the protection of these kids? I want to see where the monitoring wells are. You guys ought to have that, don't you think?

MR. WILLIAMS: Good question. We have some maps, and we provided those to --

MR. ENSMINGER: Yeah, but I mean, who's, Scott, who's holding their feet to the fire? Kelly? Who? Make them present it. Make them go down there. Make them put these wells in. Make them pull these samples and determine whether or not this stuff is underneath these houses now. How far did it go?

MR. WILLIAMS: We have asked them for a briefing in the future. They're going to give us a comprehensive brief onsite.

MR. BYRON: This is Jeff. Did you put that in writing? You guys need to do the same thing we're talking about here in the CAP. Put everything in writing. If you don't get an answer by tomorrow, call again. If you don't get an answer by noon, you call again. If you don't get an answer by five, you just keep hounding them until you get the answers you need.

MS. DYER: And when --

MR. WILLIAMS: Our letter was in writing. We got a response in writing.

MR. ENSMINGER: Yeah, I saw that, yeah.

MR. WILLIAMS: We have asked for them to come down and give us a brief and that was verbally as far as I know.

MR. ENSMINGER: My dealing with these people here in the last several weeks, this Campbell guy and the other one, the Nolan, these people, they can't even tell me who the hell's in charge of this site now, the site manager.

MR. STALLARD: Who are these people?

MR. ENSMINGER: EPA Region Four.

MR. ENSMINGER: I mean, and if their latest remediation plan is the '94 ROD, which would

be ROD 1, that's for groundwater remediation. ROD 2 was for the soil remediation. I mean, we know that they didn't even start pumping water in earnest out of that, those remediation wells until 2003, nine years.

I mean, these are the questions I got. And, I mean, I'm trying to help determine what the heck these people are, EPA Region Four is doing myself. And I've got some people up on Capitol Hill that are asking these same questions. But you all got to get up, I mean, it's your property, I mean, and you've got to deal with these, with Region Four because they're ultimately the ones that have got to answer these questions.

And I'm just asking you who are you holding, who are you holding accountable for what's going on underneath your property? Because this site is their responsibility.

MR. STALLARD: So just for my understanding here is that the Marine Corps at post we don't know who is the person responsible for interacting with Region Four EPA. And we don't know what's going on between --

MR. ENSMINGER: Well, there's supposed to be

interaction between the base Environmental Management Department and Region Four for the clean up of the contamination caused by ABC Dry Cleaners. Now, the fact that it's migrated onto the base or under the, on the base property, that is, although it's the responsibility of EPA Region Four for the clean up of it, the Marine Corps should be holding these people's feet to the fire because it's our people.

MR. STALLARD: And it's not clear to anyone in the room that --

MR. ENSMINGER: Yeah, I mean, nobody can tell me where the monitoring wells are down in the housing areas, and how deep they are; where they're located to capture whether or not that plume is where the model says it is. They haven't got the faintest idea.

MR. MASLIA: Jerry, we did; we did; I did request the construction data on the monitoring wells. They are first, actually prior to the first ^ EPA ^, and I actually made a telephone request to the contractor or the consultant who did the last report. And I have been told by the EPA Region Four, John

Nolan, that they have given us all the information they have. I don't know if the EPA doesn't have it or lost it or what, but I have been given all the information that EPA Region Four had.

MS. DYER: Morris, can I ask you another question?

MR. MASLIA: Sure.

MS. DYER: On page five, where you can see --

MR. MASLIA: Page five of the --

MS. DYER: -- ABC Cleaners, where it's located --

MR. MASLIA: --^.

MS. DYER: -- you can see where ABC Cleaners is located?

MR. MASLIA: Yes.

MS. DYER: Above that is not base, and on either side of that it's not TT. That's a civilian housing area. There's a Holiday local home park back there, and there's some other housing areas back there. I'm having people contact me from there that are sick. So is the base doing anything to contact these people that live in that area to notify them?

MR. ENSMINGER: But it wasn't the base that caused this plume.

MS. DYER: Okay, so then --

MR. ENSMINGER: Region Four, EPA.

MS. DYER: -- it would be up to who, EPA, to contact them that they could possibly be sick due to this?

MR. MASLIA: I wouldn't have an answer one way or the other. I just had --

MR. BYRON: This is Jeff Byron. And also employment records for the individuals that worked in those businesses along the 17 because --

MS. DYER: You've got businesses running all up and down there.

MR. BYRON: All along there.

MS. DYER: All along there, and that mobile home park has been there for years and years and years.

MR. BYRON: I mean, has anybody even told the former employees of ABC Dry Cleaners what's going on here?

MS. DYER: Well, they understand now. You got cancer.

MR. BYRON: Well, I'm talking about

employees that may not be owners. The owner himself has a reason not to tell his employees because he's liable. There's all kinds of businesses along 17 there where that plume's at. I was going to ask the question. Terry's already answered it. Is there housing up there?

MS. DYER: Yes.

MR. BYRON: There's housing behind here?

MS. DYER: Yep.

MR. ENSMINGER: That's Bryn Mawr. Isn't it Bryn Mawr Housing?

MR. BYRON: So then we've left out a whole population of people possibly.

MR. MASLIA: The question though is are you talking about the PCE in groundwater?

MR. BYRON: We're talking about the PCE in groundwater and the soil --

MR. MASLIA: We need to be careful here because, again, the PCE in groundwater caused exposure to the folks at Tarawa Terrace because it was provided to the treatment plant. They did not drink from the wells. Again, in the other areas, let's say up here or whatever, they may have gotten their water

supply from --

MR. BYRON: From somewhere else.

MR. MASLIA: ^ way off the map there, and so that would not impact. I just caution you and --

MS. DYER: Well then, what about the plume and the vapor exposion (sic) then?

MR. MASLIA: What?

MS. DYER: What about the plume and the vapor intrusion then? Would that have affected them?

MR. MASLIA: Again, we stop at ’94, and it would just be a potential that --

DR. BOVE: No, no, the answer to the question was what he said earlier was that when we do this vapor modeling, we’re not really doing vapor modeling. We’re not taking into account the soil characteristics and then what’s happening on the surface. If you really want to do a vapor model, you’d have to do that. And even then you’d still have to go and do some tests indoor to see if actually the model was getting in. And even if you do a vapor model, a sophisticated one, there are characteristics of each building that would

make or break the infiltration.

So what we've done is simply, as Morris was saying, trying to account for all the contamination in groundwater so we have an accurate reading of what people are drinking. So the purpose was not to model soil vapor at all but to make sure that we had a good accounting of what people were drinking.

The fact that we do estimate that some of the contaminants leave the groundwater and get into the soil, at least right above the water table, is interesting and needs to be followed up. And the Marine Corps has put a sampling effort into it, and I'm sure there's going to be a lot more done -- well, I'm not so sure, but that's --

MR. ENSMINGER: Region Four has sent a mobile testing unit up there, right, Scott? They just started that?

DR. BOVE: So there's water sampling being done.

MR. BYRON: This is Jeff again. Thank you, that was a good answer and a good explanation.

DR. BOVE: Morris, the BTEX issue needs to be --

MR. MASLIA: Yeah, I'm gonna get through with this and then come back.

These are some values that are in the report just comparing vapor phase and groundwater. You can see the bulk of any exposure would be from groundwater obviously compared to --

MR. STALLARD: Tom, did you have a question?

MR. TOWNSEND (by Telephone): I had a question basically for Morris, or a comment for Morris and Frank.

I think that making initial contacts with people whether they be EPA or Marine Corps are fine, but if you're looking for something, you've got to put it in writing. And I fax everything and if I have a record of confirmation, and I insist on replies in writing. And people tell me things and then nothing happens, when I started to put things in writing, then you have a record of what the hell's going on.

MR. STALLARD: All right, thanks, Tom, I think we have that for the theme of today. We're all getting that between agencies we communicate in writing.

MR. MASLIA: Although, Tom, I can assure you talking to EPA in person, they pay attention. They more than pay attention. They've got all the way up to Washington.

MR. TOWNSEND (by Telephone): When you write, when you talk, it's one thing, and follow it up in writing then it sticks.

MR. MASLIA: Anyway, so the point here is, again, is going to have the majority and the foremost of exposure was still from PCE was all from groundwater.

MR. MARTIN: Excuse me. This is Dave. Earlier, Perri, when we were going over the follow-up items, you said that this was, Morris had released this today. Is that, has this been released to the media or just released in this meeting?

MR. MASLIA: It's on our website. It was determined by people above me that there would be no press release with this.

MR. MARTIN: So are these maps on the website or are they being published?

MR. MASLIA: Yes, yes, yes, the whole report. That's part of, I think you got the spiral bound version just because the hard

copy's not, it'll be here tomorrow I think.

MS. DYER: What was the reasoning given for --

MR. ENSMINGER: No, who, who, who made the decision?

MS. DYER: -- who made the decision and what was the reasoning?

MR. MASLIA: I don't know who made the decision. I was asked like when we released the executive summary, there was a press release that was approved by HHS for release. And that's on the website. The press release is on the website I think as of a couple of days ago.

DR. BOVE: Well, I think that the issue is this. It wasn't newsworthy because the information's already out there. There's been press stories about the soil vapor issue, and really there's no new information in this report that hasn't already been out there. What new information will come from the sample results, for example, when they're released by EPA or whoever releases them, and that would be newsworthy.

But this report itself, the

information's already been out there. They thought it wasn't newsworthy in that sense. The executive summary's been out there, and the soil vapor information hit the papers across the country again a couple of weeks ago so that's why. No, no, I mean, we could do one. I don't think the press would pick it up because it's not really new information.

But you know, that was basically the thinking behind it. Also, every press release we've put out has to go all the way up the chain to HHS and back which takes a couple of days to deal with so there's that issue, too. But the main reason is we didn't think it was press-worthy, at least the Press Office didn't think it was. I think that's probably true.

MR. MASLIA: Summary of Findings, and this is taken from both the abstract and the summary in the report. So we've got the duration of exceedance of ^ MCL for PCE. We've got maximum value simulated at well is 853. We've got a measured value of 1,580. That's well, well within our calibration target of plus or minus a half order of magnitude.

And the water treatment plant which is where people were exposed to we've got a duration of 346 months, November of '57 through February of '87 when the treatment plant shut down. You have a maximum value of 183. These results are from the, the values are from the MT3DMS model, and a maximum measured value of 215. Again, showing you that the model calibrations are very finely calibrated, right on target.

In terms of degradation byproducts does refer to those graphs that were in the report, basically a range of 1 to 100 micrograms per liter for the different values of TCE, DCE and vinyl chloride. And we have measured concentrations of TCE of 57, which fits in that range, and a measured concentration of 1,2 trans-DCE of 92 which is again within that range. So those are your measured versus your simulated.

In terms of degradation byproducts at the treatment plant, we simulated a range of two to 15 micrograms per liter. We had a measured value of eight which is in that range for TCE and a measured value of 12, again, was

in the simulated range of 1,2 trans-DCE. Again, the degradation byproducts come from the TechFlow model that Georgia Tech developed. And these values, the simulated, are in the table that's in, I think it's Appendix C of the report and on the website.

In terms of reliability, again, we needed to address, we used one pumping scheme as our calibrated scheme, but the question came up, we didn't have day-to-day operations at the wells. So could this be a variable in terms of what we found out was through another modeling tool developed by Georgia Tech for us, was that it could have been as early of December of '56 but no later than December of 1960. That's exceeding the five micrograms for PCE. So it is a narrow range as to when it first exceeded.

And we basically had a very high level, 95 percent probability that the first exceedance was within October '57 through August '58. That was from the Monte Carlo analyses that were being done. And the probabilistic analysis came back with the same result that we did just doing the single value

of November ’57. That’s the mean date of first exceedance at the water treatment plant of PCE.

And the final exposure ended after February of ’87 when the water treatment plant shut down. And based on the vapor results, there was a potential through December of ’94, and we stopped because that’s when our modeling ended is in December of ’94.

The website, and I believe this is live now, this is the same link that you have for the executive summary, so I’m going to see hopefully -- okay, there you go, we’re live. It’s up now. Now here is the Chapter A report there, and if you pull that, you’ll get the PDF of the entire Chapter A report.

There’s a large map that goes with it of the entire base called Plate A. That comes in the back of the report. That’s not in the spiral bound notebooks due to duplication efforts and the breaking down the other day, Murphy’s Law, but it will be in the printed copies which I expect will arrive any day.

And three, if you want additional sets besides the five that will go with the report,

we printed up an additional 200 copies of the three DVD set, and if you send an e-mail to there, anyone can order just the DVD, three set DVD, containing. And just so everyone understands, the three DVD set contains publicly released documents, CLW documents, certified administrative record files, other data sources that we have found or information sources, maybe research reports that we have found.

It does not include all the references that you will see referenced in Chapter A or the master reference list included because some of those are journal articles and books. Those are copyrighted. You would have to go to the author or the publisher to get permission to or buy them. We cannot legally release those.

However, there is a master reference list, I think 50 or 60 pages long that contains all the references that are cited in all the chapters in the report on this DVD as well as things like doing with ABC Cleaners there's some early investigation reports and things like that, and you can search by key

word.

I would caution you, we have these DVDs because of the size of the information. And as such, it's a DVD and depending on the speed of your computer, it may take longer. The easiest way is to copy the three DVD set -- it's about 12 or 13 gig -- onto your hard drive and the search will go a lot faster.

Going back to that. That was released there. That's released now. The remaining chapters are either, most of them are in press, meaning they're being prepared for publication and will be coming out as the, no, they will be put on the website as they're done.

And just to address the BTEX issue, y'all asked us last time. The BTEX issue is discussed in some detail in the Chapter E report, which is titled "Occurrence of Contaminants". That has been cleared and approved by the Agency. If you want to see it, we have a room upstairs. We can look at it. We can't release it to anybody, but it's in the process of being prepared for publication.

But we do have some tables in here with BTEX values, and they're Table, in this report it's Table 9. Table 9 gives BTEX and benzene and toluene. And it goes through wells, monitored wells, other monitoring wells. It gives the dates of the samples and BTEX, benzene and toluene values in here.

And that is, in fact, our opinion, one of the issues that has come up as, for example, is why, for example, that supply well TT-23, the simulation values may show a higher concentration than may have been measured in '91.

And the reason is, and part of the reason may be is that the benzene compounds may have induced more biodegradation around the well water which is not representative of the aquifer material in general. So it will speed up, and therefore, you'll get a lower concentration of PCE in the well water because of the benzene near there. That's just one reason, but there is a table in Chapter E. Chapter E specifically talks about wells TT-23, -25 and -26 and the occurrence of contaminants at those supply wells and has a

table for BTEX.

MR. ENSMINGER: Did you track the source? Is that source in that report?

MR. MASLIA: I don't know if we tracked the source. We discussed whatever information and sources we had, and we did not speculate from where it may have come from. The model --

MR. ENSMINGER: We knew those SSTs were up there by the railroad track, and they were being used for waste oil products. And there were some large spills around that area right there. That site was remediated by a firm out of Raleigh. And there was also a steam plant that was up there that had been demolished who had serious, they were using the waste oil to create steam. Do you realize that, Scott?

MR. WILLIAMS: No, I missed the beginning of what you were saying. I was reading my Blackberry. Are you talking about the propane tanks?

MR. ENSMINGER: Yeah, the ones that were being used for waste oil.

MR. WILLIAMS: I haven't seen that. I was unaware of that. I've heard the issue brought up before.

MR. ENSMINGER: There was also a steam plant just adjacent to those tanks that they were using that waste oil to generate steam.

MR. MASLIA: What I'd like to do, we do discuss, in fact, on the DVDs here there's a whole list of underground storage tank reports.

MR. ENSMINGER: No, they used to have those little 250 gallon tanks buried all over the base with kerosene and heating oil, half buried.

WATER MODELING AT HADNOT POINT

MR. MASLIA: What I'd like to do is conclude with where we are on Hadnot Point and the Holcomb Boulevard area. As I said the Tarawa Terrace modeling and such is completed, and we're just in the process of releasing the report as it becomes final for all intents and purposes. We have had a couple people working on Hadnot Point. Bob Faye's not here. He made the decision he better keep working on Hadnot Point.

So I'm going to go through a list of about seven different areas that we've been working on. This has a disclaimer, and you

don’t have a copy of it because I just put it together last night. If there’s a need to get a hard copy of this presentation, I’ll be ^ through Clearance, and then we can get it to you. So just let us know what you want.

Basically, there are seven tasks before we can actually design a model, a model grid in the Hadnot Point area. And these are the seven same steps you went through in Tarawa Terrace. I’ll tell you, there’s far more orders of magnitude, more information at Hadnot Point, but basically I’ll go through each one of these and tell you the percentage that they’re done.

Step A would be construction of the model grid and the actual model using these data. So well locations, we completed discussions back and forth with Camp Lejeune a hundred percent of the historical and current supply wells locating them with the correct coordinates, or agreed upon coordinates, and any differences have been reconciled.

Monitor wells are a different story. There are anywhere from 500, maybe close to 1,000 different monitor wells. Anytime you

have a remediation activity going on, they may put a monitor well down so we're trying to account for that. We're going through a real investigation report, the industrial area, things of that nature, and that's about ten percent complete.

MR. ENSMINGER: I have a question. It really scares me when I see about one hundred for the, what does that mean, about one hundred?

MR. MASLIA: I haven't seen, I've got the database in my office. It could be 112. I don't know how many.

MR. WILLIAMS: A hundred and fifteen ^.

MR. MASLIA: You have to recall in Tarawa Terrace we had 12 --

MR. ENSMINGER: I know. I know, but --

MR. MASLIA: -- so thereabout a hundred.

MR. STALLARD: Is your concern the lack of specificity?

MR. MASLIA: Jerry, I'm just going to pull the database up. I was just rounding for presentation purposes. But we do have a database constructed with the coordinates and the exact number of wells.

With the monitor wells we're not finished with that so it has to remain on the map. So we don't know at this point.

Geohydrologic framework, that's what helps to determine how many layers the model's going to have and things like that where the top of certain units are, where the top of the Castle-Hayne, where the top of the Tarawa Terrace aquifer is in the Hadnot Point-Holcomb Boulevard area. And some of that you'll see, by the way, in Chapter B, which I'm reviewing to go to the printer with the Tarawa Terrace report because that geohydrologic framework expands greater than just the Tarawa Terrace area. And that's about 80 percent complete.

We kicked off units at 71 wells. There are about 400 bore holes, and again, that's about ten percent complete. And again, this information is needed specifically to get a good frame of transport simulation, good calibration.

Hydraulic characteristics, that's the information that determines hydraulic conductivity which relates to the movement of water and contaminants through the aquifers.

And we review aquifer tests. We've reviewed a total of 169 of them, and we're about 90 percent complete. There are a variety of methods to use.

Water levels, again, they're divided into supply wells and monitor wells. The supply wells are nearly complete. Each of these also have a database that we created with them and all that. Amy's been working with Bob Faye on that. The monitor wells, of course, are more problematic because we got so many more monitor wells.

Well construction data on the supply wells, we've completed that. And again on the monitor wells we're in the process of doing data entry. Part of the construction data is knowing what zones they're tapping, looking at the geologic logs, interpreting them.

And the water quality, we've completed a hundred percent. We're looking at VOCs, TCE, PCE, BTEX and pesticides and that's completed.

Well capacity, again, that information is critical as to the supply wells, when the wells came on; if they were shut down for

maintenance periods, things of that nature.

So that's where we are with Hadnot Point and Holcomb Boulevard. My guesstimate is we've probably got another month to month and a half or so to complete all our databases prior to starting to look at how we're actually going to model it. I will tell you it's going to be far, far more challenging than Tarawa Terrace and that was challenging in itself.

MR. ENSMINGER: Now, how many point sources are you going with?

MR. MASLIA: I believe we discussed this last time. We're going to look at three typical. In other words we're going to look at a BTEX source, a TCE source and a PCE source. Because of the so, so many sources. I mean, anytime something's spilled on the ground it's in theory a source. But to get, so the epidemiology can conclude, run the analysis on the current study, we're going to limit it at this point.

Now I don't know if you come back to me in three months or four months let's say, it may change. I don't know. But at this

point, as we said, I think was the last, or the meeting before, I wasn't at the last meeting. To have some target or some goal to judge our progress by, we're going to go with three typical sources that are found at Hadnot Point, and that would be the BTEX compounds, a PCE source and a TCE source.

And one of the issues that we have to deal with which I'll tell you is not resolved at this point is at Tarawa Terrace we had through deposition of the owner, through some good groundwater work, a pretty good idea or a narrow enough timeframe as to when activities took place at the dry cleaner, when the contamination started. It was one source, and we knew where it was located, and we could go from there.

At Hadnot Point that's not the case. There are tens or hundreds of possible sources. So even if we identify three that we're going to go after, the three that we mentioned, we still have to determine the chronology of them. We may have to go to some extraordinary means of looking at what we have from monitor information water quality, work

backwards in time to see which would be the best location, best scenario under which the sources were spilled onto the ground. And that's why it's a much more complicated analysis.

MR. ENSMINGER: I'd be very interested in seeing what you come up with there because Lot 201 and 203, which were responsible for a lot of the contamination out along the Piney Green Road, there was a VOC disposal area out there where they were just dumping, I mean just dumping it. Now the highest contaminated well out there was well 651. We know that 651 wasn't constructed until the early '70s.

But how long prior to the construction of well 651 had DRUMO, which is the Defense Reutilization Management Office, how long had they been in operation in Lot 201 and 203 prior to the construction of well 651? I mean, you know, these are, I mean, I still can't believe these geniuses went out there and selected a well site at the back corner of the disposal yard.

MR. STALLARD: Is that it for your presentation?

MR. MASLIA: That's it for my presentation.

MR. STALLARD: To me what you've done, and what you have in terms of complexity, just so we understand it, is this something that's available on the market and done regularly, or is this --

MR. MASLIA: It's not done regularly, believe me. It's a state-of-the-art, very specialized, customized, even the models were developed by Georgia Tech. They're in the business of building models. We went to them and asked them to develop it specifically for Tarawa Terrace. The whole ^ issue and all that came out because of that. That was not a planned activity per se, but came out just because of our need and the request by both the CAP and our looking at degradation byproducts.

Analyses of these type things sometimes evolve, and that's why I'm cautioning on for Hadnot Point is I can't honestly stand here and tell you the analyses will be identical to Tarawa Terrace. I mean, with all the information, and there's a lot more information at Hadnot Point. One of the

first things that we come out is just a data report, so we can take a look at what's all there now.

I will tell you this. There may not be, the Tarawa Terrace, the model ^ 27,000 cells in the model. We don't have enough computers that are large enough to put that fine resolution all over Hadnot Point so that's why we're selecting three areas to do that. Again, that's the first challenge right there is the sheer computational space available.

So it's daunting from that standpoint is we're still trying to find our way. We sort of set a standard with Tarawa Terrace and proved that it worked, proved that our approach in our opinion, and the opinion of colleague reviewers, external peer reviewers, was, in fact, justified, produced scientifically justifiable results.

But, no, to answer your question, this is not, you just can't go to, you know, software company X,Y,Z and order this, but what you can do is, and I've said this, the public domain ^ a USGS MT3DMS and MODFLOW, and

you can pull those down. You can take the info datasets that we provide and duplicate our results. That's really, if anyone wants to try to duplicate our single TCE, PCE flow and transport results you can do that.

I would caution that you need to know what you're doing in modeling, but that's the purpose. That's the scientific verification of our results. It should be able to be duplicated. That's the reason we put those ^ files on there, and you'll get running those files the same tabular results that we have published on the web for --

MR. ENSMINGER: Morris, I do have one question about the, back at the Tarawa Terrace. There was, from everything that I've looked at, a confining layer of clay that extended from underneath ABC Dry Cleaners to a point, and then it just depleted, and then it dropped off. Is that right?

MR. MASLIA: There is one on this map in Chapter B, the geohydrologic section is going right through ABC going east-west, north-south, and you'll see that map in there.

MR. ENSMINGER: And you have the confining,

that clay layer?

MR. MASLIA: There is a low clay layer in there. That would be in the Chapter B report, which I'm reviewing right now. And so I'd say within the next month that will probably be published.

MR. STALLARD: We're about actually 35 minutes behind schedule, but we've made up some time. Thank you, Morris. Is there, what are the expectations for the rest of that Hadnot Point and Holcomb Boulevard in terms of progress on those areas that you identified that they're still working on? What can the CAP expect, a short answer.

MR. MASLIA: A short answer, that well within the next, as I said, six weeks or so, we would be able to hopefully have an initial idea of where and how we're going to model it in terms of groundwater flow. That's probably as far as I can go at this point. They have not finished on that data now. But within that timeframe, by that time, early fall, we would have an idea as to the boundary for the flow model. We've got to get the flow models before we can do any --

MR. ENSMINGER: Well, when are you going to have the sources of contamination that you're going to model?

MR. MASLIA: That would be when we're designing the boundaries, the extent of the model. We have to have that. That's part of this data analysis. We have to have that. That's not how it's represented in the model. That's the actual data that we pulled from the reports. We have to have that before we go ahead and start modeling.

MR. STALLARD: All right, Frank's up.

Thank you, Morris.

DISCUSSION ABOUT FEASIBILITY ASSESSMENT OF FUTURE STUDIES

Now we're getting close to something that was on the achieved list this morning was the feasibility studies.

DR. BOVE: I will send this to Tom.

MR. TOWNSEND (by Telephone): Thank you.

DR. BOVE: Sorry, Tom.

The first part of this thing I just want to get straight is some ideas about what we mean by control because that's been raised. During the first --

MS. DYER: Frank, can you repeat what you're

saying?

DR. BOVE: Can you hear me?

MS. DYER: No.

DR. BOVE: Is this on?

MR. STALLARD: Yeah, it is on. I think there was competing dialogue. That's the issue. Go ahead.

DR. BOVE: So we'll just live with this for now until we figure out how to get the bottom part off.

During the first CAP meeting, Perri went through the case-control study, mentioned the controls, mentioned the cases. But because the notion of case-control sampling is kind of foreign, not only to you but to most researchers, it's something that epidemiologists do that in other research, science of research, is not normally done. So I want to go over this so you'll understand once and for all.

And part of the problem is this, the control is used in two different ways, at least two different ways. In an experiment or a clinical trial, the term controls means the unexposed. Or in a clinical trial when

they're trying to test the new drugs, the controls are the people who get the sugar pill, or placebo it's called. That's not how we mean it when we say case-control sample. That's a totally different notion, but unfortunately we use the same word so that gets people confused.

So when we use it in a case-control study, we don't mean that the controls are not exposed. That's not what it means. It's unfortunate we use this term in this context, but that's what we do.

(general discussion)

DR. BOVE: So you can look over your notes then. I'm sorry about that. Maybe I should have put it on Morris' laptop.

But in a case-control study, the controls are not those who are unexposed because some of those are going to be exposed. In fact, we want some of the controls to be exposed because it's important that they be. I'll explain why in a minute.

So I'm going to go through a quick example. Suppose you have a town of 20,000 people. And we know how many people are

exposed. We know 10,000 are exposed, and we know 10,000 are unexposed, right? Simple. And among the exposed you have 100 people who have lung cancer; among the unexposed we have 50 with lung cancer. So if you have that situation, you compare the two groups, we get what we call rate ratio, right? Simple thing, just the exposed group 100 people have lung cancer in it.

There are 10,000 people in the exposed group. You divide that by the unexposed group. There are 50 people with the disease, and there are 10,000 in that group. So there's twice as many diseased in the exposed group versus unexposed.

This kind of thing is what we'd like to have. We have a numerator and denominator for both groups, right? So there's four pieces of information, two numerators, that's how many cases there are; and two denominators, that's how many people who are in the population. Half of them in this case are exposed and half aren't. And stop me if you're getting confused. This points out there's four different numbers. We need

information on all four of these.

Now suppose we don't know how many people are exposed in that population. I don't know that half were exposed and half were unexposed. I don't know how many are exposed. I don't know how many are unexposed. That's the first thing.

We don't know which of the cases were exposed either, and we're trying. All we know is we know is the total number of cases in this population, and we know the total number of people in that population. But we don't know who's exposed, and who isn't. So with those four pieces of information, those four, two numerators and two denominators, we don't know what to put in those. We don't have numbers for that. So what do we do?

Also, suppose that we not only want to know if they're exposed to TCE, but we also want to find out if they're exposed to other things, ^, occupational exposures. Do they smoke? Lung cancer? If they smoke you want to know about that. We want to know about other things. Normally, the only way you're going to get information like that is if you

actually interview them.

So the first strategy, of course, is interview all 20,000 and ask them all these questions. If you've got a lot of money, a lot of time, that's what you would do. But it's costly, time consuming and inefficient. You don't have to do this to get all four of those numbers we want.

In the first study that we did at Camp Lejeune, because everything was computerized, we didn't have to interview anybody, we could get information on everybody. It was no issue. But in the current study where we're trying to get a lot of information, we're trying to find out where people, the whole residential history, the occupational history of the mother. We're trying to get a lot of information. The only way to get that is through a full interview.

So we have a choice. We interview all 20,000 or we can do something more efficient. And that's what the case-control sample is all about. So remember those four numbers: the number of cases exposed, the number of cases unexposed, number of people who are exposed,

number of people unexposed. Those four things you need for a rate ratio. So what we do is we interview all the cases. We have the two numerators, we have that information now. We interview all of the cases.

And what do we do with the denominators? There's 20,000 people in those denominators, 10,000 here, 10,000 here. You do a Harris and Roper and Gallup, you do what they do. You take a sample. So instead of interviewing everyone in town, we take a small sample of those who don't have lung cancer. Actually, you could also just take a random sample of everybody in town, but that oftentimes is not done.

What is done is you take a sample of people who don't have the disease, and that is your control series. And that control series will tell you then what percentage, it'll estimate what percentage of the people in that town are exposed to TCE and which aren't. And by interviewing them, you'll also be able to get this other information, too, which again you can say is sort of representative of what the town's doing. So you have a sense of how

many people smoke by taking a random sample of it, a small sample. So that's what the control series is all about.

So they're called controls, and again, it's an unfortunate use of the term because it can get people confused. It gets epidemiologists confused. So there you are, but what we mean in this case, it's a sampling method. What we mean is it's going to give us an estimate of how many people, what percentage of people in the town are exposed, and what percent aren't.

It's also going to give us estimates of how many people smoke or any other question we asked about in the control series. Just like the Gallup guys when they try to get an idea of what the town thinks by taking a small sample and using that sample as a way of figuring out what the town thinks about a particular issue. It's the same approach. So that's what the control series is all about. So there will be exposed controls. There should be unless no one's exposed or unexposed in the town. Your controls will have exposed controls. There'll be unexposed controls.

So let's try to clear that up on that issue. Any questions about that? There are whole courses on this. I'm trying to get across as simple, as simply as I can. It's a very efficient method. It works very well when you have small numbers of cases. If it's a common disease, then this isn't an efficient approach either, but it's very efficient when you have a small number of disease. And that's what we have with birth defects and those cancers, but not to say heart disease. Heart disease, you wouldn't use this approach.

MR. TOWNSEND (by Telephone): Tom here. Why does ATSDR continue to insist that there's a small range of adverse effects? You guys seem to look at it through the wrong end of the telescope. You're thinking so damn small. There are lots of things that are going on at Camp Lejeune adverse effects, unusual effects that you guys don't even seem to look at.

DR. BOVE: That's not what I'm saying, Tom. I'm saying that these diseases are rare. I didn't say anything about how often they're seen at Camp Lejeune or in the population. I didn't say anything of the sort. All I said

was that this case-control sampling method is very useful when diseases are quite rare, and I said birth defects are rare. They don't happen in large numbers. Heart disease, on the other hand, isn't rare. That's all I'm saying, okay? I'm not saying anything about the Camp Lejeune population at all right now. I'm making a general statement about these kinds of diseases.

MS. RUCKART: Tom, the other thing is, Tom, we're talking about specific diseases by themselves so individual birth defects and individual types of cancers, not everything combined which may be if you took everyone that had any type of adverse health defect or bad outcome and put them together that could be a large group, but if you're going to look at just the number of a specific type of cancer, like prostate cancer or a specific birth defect, those, like Frank was saying, are rare, not the larger pool of everyone that has some bad outcome.

DR. BOVE: There's one other issue that's been raised. Jeff has raised it, for example. And that is -- and I think Jerry's raised it,

and others have raised it, too. And that is there is so much going on at this base. There's radiation; there's trihalomethanes maybe in the river. There's whatever, all kinds of stuff going into the soil, vapors, so that everyone seems to be exposed.

Should there be a comparison made somewhere else of unexposed to compare the two? And it's a legit question, and the way we've been looking at this question from the get-go, and we did the same thing with the previous study, is when we say exposed, we're specifically talking about people getting drinking water that's contaminated to their homes. And the unexposed, we're saying people who do not get contaminated drinking water to their homes.

And we're assuming that all these people get all kinds of exposures. They go to the dry cleaners. They go to the hospital. They pump gas. You name it. But they're probably similar in that regard. What's different about these two groups is one is getting drinking water contaminated in their homes and one is not. And that's the

comparison we're making. So that's why we're sticking with the population at Camp Lejeune and comparing those who were getting the contaminated drinking water to their homes versus those who were not.

MR. TOWNSEND (by Telephone): It's Tom again --

DR. BOVE: Let me finish. One more thing, Tom.

And then in addition to that simple comparison, looking at levels of exposure that's based on what they're getting in their drinking water in their homes.

Go ahead, Tom.

MR. TOWNSEND (by Telephone): ^ for the infants, I mean there were about 12,500 more children born at Onslow Memorial Hospital than them that live on base that were excluded, but they were exposed as well.

DR. BOVE: We're just focusing on those, in this study, we're focusing on those whose pregnancies occurred on the base that we are aware of. That's how this study was designed. The previous study was you had to be born on the base. And we based it on the housing

records that that provides the information on who was exposed and who wasn't.

MR. TOWNSEND (by Telephone): There were a lot of people that didn't live on the base that came on the base all the time and had exposure to the Hadnot Point drinking water.

DR. BOVE: I think we went over this before with you, Tom. The way the study was designed was you had to have your pregnancy while you were living on base, and that's how this study's designed. Now you can make inferences from that population to anybody who's exposed, not only at Camp Lejeune but in Woburn or anywhere else where these contaminants might occur.

MR. TOWNSEND (by Telephone): You can't compare Woburn and Camp Lejeune for God's sakes.

DR. BOVE: Sure I can.

MR. TOWNSEND (by Telephone): Twelve families for God's sakes?

DR. BOVE: Tom, the point I'm trying to make is simply that if you're exposed to a hundred parts per billion PCE anywhere in the country, anywhere, the results of Camp Lejeune for

those people who are exposed to that are relevant to you. That's all I'm saying. Okay?

MR. TOWNSEND (by Telephone): Okay.

MR. BYRON: This is Jeff Byron. I know we have this control group and they're exposed. Actually, everybody's exposed if you were at Camp Lejeune, and we've spoken about that. Like we said there's so many issues coming up. We're talking about the unexposed group, just, you know, we use that term, the unexposed group, even though it's not an unexposed group.

DR. BOVE: The way I'm using the term now, okay, the way I'm using the term is you've got contaminated drinking water to your home, that's exposed. And unexposed is you did not get contaminated water --

MR. BYRON: Yeah, but how do you factor in all of the, you know, you have like 75 different sites with various types of pollutants that are contaminating Camp Lejeune. Are we taking these factors for you, okay, they didn't have contaminated drinking water going to their home. Okay. But I walk

into New River Air Station, and I'm exposed to radiation for three and a half years. How are you going to keep that person out of that group and his health defects?

DR. BOVE: You don't.

MR. BYRON: How does that not mitigate the results? How does it not --

DR. BOVE: You make assumptions just like any other research. You're making assumptions that the people here were getting contaminated drinking water, and the people here who were not, are still going all around the base. And so they're similar in all those other exposures. The only difference is that they're getting contaminated drinking water in their home and these aren't. And that's the assumption you make.

Now we do have an interview so if some of them worked, we can take that into account. We can take other exposures, smoking, into account, hobbies to some extent into account. But this is true of all studies --

MR. BYRON: You take any radiation into account?

DR. BOVE: -- this is why --

MR. BYRON: I know you can take into the glue they might inhale while they're making a model plane or does it take in the radiation into account? I mean, are you?

DR. BOVE: No.

MR. BYRON: No.

DR. BOVE: Because first of all we don't know what the exposure ^.

MS. DYER: We don't need to get into that.

MR. BYRON: I'm not trying to bring up other issues. I'm just saying so much contamination --

DR. BOVE: That's right because that's what makes these studies --

MR. BYRON: -- and we're just lay people. I'm a simple guy. I'm just a dad, you know.

DR. BOVE: Let me answer the question. Some of these studies are very difficult to do. There's a lot of noise, and what you're talking about would be considered noise. That's why it's hard to see an effect. That's why when you do these studies and you don't see an effect, it does not mean that there is no effect really. It just means maybe that there was too much noise to see it. And

that's the ^ of this kind of research. It's a crude tool.

MR. BYRON: That's also why I bring up genetic testing.

MR. STALLARD: Five minutes.

DR. BOVE: I talked to you about genetic testing. Unless everyone else wants to discuss that, I don't want to get into that.

MR. BYRON: I'll just make a comment, and we don't have to discuss it. I'll just make my comments.

DR. BOVE: So we have five minutes?

MR. STALLARD: Yeah, what do you want to do for five minutes?

DR. BOVE: Well, I can just do this real quickly. One of the things that was brought up was to try to find out everything we can find out about TCE and PCE in terms of health effects. And I did go to the New York state, New York state has a report on soil vapor which goes through the latest information they have on TCE effects. And then, of course, there's the NAS report that came out last year. And so just briefly, we all know that TCE ^ go through that slide because that's

just a statement from -- next slide.

Some people wondered how long TCE stays in the body. I've gotten phone calls about that. It doesn't stay in the body very long. Trichloroethylene, probably in a week you can't, you won't be able to detect it in the body.

MS. DYER: I read somewhere in the literature that it goes into your fat. It stays in your fat.

DR. BOVE: ^, no.

MS. DYER: So does it do its damage while it's in there and then leaves? We need to make that clear. It does its damage while it's in there.

MS. BRIDGES: And changes the genes?

DR. BOVE: Well, that's a good question. Does it change the genes? And the answer is we don't know. There's been --

MS. BRIDGES: And we know it, our genes are passed to our children. Our grandchildren --

DR. BOVE: I'm telling you about TCE now, trichloroethylene. We don't know. There's inconclusive evidence. There's one study that seems to think that it might do that kind of

damage to genes, and there are other studies that say, that show it doesn't. So I'm ^ this out. This is something that NAS ultimately will revisit. Just keep that in mind. There is some evidence, but there's also conflicting evidence. That's what we know.

MR. BYRON: This is Jeff Byron again. That lasts in the biological half-life urinary excretions, when it says urinary excretions, are we talking like urinary tract infections or does that --

DR. BOVE: No --

MS. DYER: Urinary --

MR. BYRON: Just getting rid of it.

MS. DYER: Right.

DR. BOVE: One way chemicals ^ remove these through the urine, okay?

There's another whole way of metabolism I didn't put up here there's some concern about its ^. That's a whole other pathway, but it actually stays in the body in even a shorter time than this, than 52 hours up to a week. That's the longest. No, actually I mentioned it. This pathway up here, the dichlorovinylcysteine, a mutagen

that is also associated with kidney toxicity. That's one pathway that doesn't stay in the body as long as the second pathway, where trichloroacetic acid, this is longer in the body, but it doesn't last that long.

MR. ENSMINGER: Frank, what's this dichlorovinylcysteine?

DR. BOVE: Right, there's two pathways. I think Jeff Fisher ^ about this. There's two ways of metabolizing, and the primary one is the P-450 that goes with trichloroacetic acid. But the second pathway produces the dichlorovinylcysteine. This one is, they're worried in particular about kidney toxicity, and I've also been concerned about it as a possible cause of leukemia, too. That's still up in the air. We don't know. But there's two pathways, and this one, these metabolites stay in the body much longer time than this one. ^ about it.

Next slide.

MR. STALLARD: There is no next slide. You're going to lose you I think.

DR. BOVE: All right. I'll come back and get this. Is this stuff you want to hear?

(affirmative responses)

DR. BOVE: Okay.

MR. STALLARD: So we're going to be back in one hour. We're going to start promptly at one.

(Whereupon, a lunch break was taken from 12:00 p.m. until 1:00 p.m.)

STATEMENTS FROM CAP MEMBERS

CONTINUE DISCUSSION OF FUTURE STUDIES

MR. STALLARD: It's one o'clock. We're streaming live from what I understand. So for all those on the great beyond. Who do we have? Do we have Tom back on the line?

(no response)

MR. STALLARD: Not yet. Dr. Clapp, are you on the line?

DR. CLAPP (by Telephone): Yup, I'm here.

MR. STALLARD: So we're going to pick up where we left off 59 and a half minutes ago, and that is with Frank continuing on, giving us a description in terms of the feasibility study, ways to study, et cetera.

DR. BOVE: We talked about the metabolism of TCE. I just want to quickly go through this because we're running out of time, but this is

also, I think, on our website what we know about TCE in drinking water based on the Woburn study, my study in New Jersey, the studies in New Jersey, and that's it.

And the birth defects, similarly, we also have a Tucson study of heart defects but basically what information's coming from that study had to some extent Woburn. So really there's not much information; that's why we wanted to do the study that we're doing.

So these are the outcomes that we know about. We have some evidence ^. And then we have a long list of health outcomes for a study in workers. This was in ^ analysis in cancers at least. And TCE in workers also has neurologic effects that are picked up in these kind of tests like attention span or reflex or things of that sort, a bunch of neurological testing they can do. And you can pick it up among workers pretty soon after exposure. But at the time ^ some ^ detect this stuff on your ^ depending on how heavy the exposure was. And then there are non-cancer kidney and liver diseases that come up in some of the worker cohorts.

So that's TCE. That's what we know, that's pretty much what's in the NAS report. That's up in New York state ^, and what you can get if you go to their website. I don't if I ^ New York State TCE, you'll find it.

MS. DYER: Frank, you're saying that TCE is a known carcinogenic?

DR. BOVE: That's what, basically the same with PCE and TCE according to the --

MS. McCALL: -- reasonably anticipated.

DR. BOVE: -- National Toxicology Program, it's recently anticipated to be a human carcinogen. That's strong enough for me.

MS. DYER: Yeah, because I have in here, it says legislation has forced, the chemical was classified as a carcinogenic in Europe carrying an R-45 risk base. So in Europe it has been classified as a known carcinogenic.

DR. BOVE: Yeah, and this is, as I said, this is the language they're using here. I'm just quoting it. But I think that's strong enough. I think that was strong enough for the NAS to say something. There's still a dispute about that, but I don't, reasonable people would probably call it a carcinogen.

MS. DYER: Reasonable people would call it carcinogenic?

DR. BOVE: I've ^. At that point, yeah.

PCE's a little different. One thing that's similar to TCE is one way it metabolizes and gets out of your body is through the urine, and it produces the same thing trichloroacetic acid. By the way, this chemical is also found in drinking water when there are trihalomethanes present. Chloroform is the major contaminant of the trihalomethanes. In its bromo form which is happening at New River, its tribromoacetic acid which may actually be worse off for adverse reproductive outcomes so I would have to take it into account in this study. Get more data on that and make sure I take that into account.

Most of the PCE is exhaled unchanged. That's different than TCE. It drains back out, not right away but pretty soon after it's ^, within even an hour or so. So PCE is different in that way. None of these things stay in the body very long. And for adult cancers again there's another New Jersey

study, and there's a Cape Cod drinking water study, and these are the cancers that were associated with PCE. It's all in your notes. And I think this should be on our website or some version.

And then we have the Camp Lejeune study that we were going to re-analyze and found a small increase for gestational rate. We'll see if that may get stronger in the reanalysis. And in the northern New Jersey study, the oral cleft finding was kind of fuzzy. Depending on how you looked at it there wasn't, so I don't put a lot of weight on it, but it's there, how I interpret my own study. Some people don't think it's there at all, but I think it's there.

Worker studies are mostly dry cleaners. It gives the list again. Not that different from TCE, there's some differences. And again, lung cancer, liver and kidney diseases.

So that I hope answers the question that was raised at the last CAP meeting about let us know. This is what we've got. In anesthetic doses of TCE, TCE at one point was

used as an anesthesia, and another ^ it was used to decaffeinate coffee, one of the crazy things.

But if you get an anesthetic dose of TCE it could affect your heart. That's a very high level. That's higher than workers. That's enough to knock you out. Other than that it's not clear that causes any other inference^ than ones I've pointed out on the board. Well, that's what we're hoping NAS will revisit, look at TCE and PCE in their deliberations and come up with a definitive list. I think it's needed.

MR. STALLARD: Frank, when you say that's what we're hoping NAS, what's that mean? Are they looking at it, and if so --

DR. BOVE: NAS has mandated a separate panel they're setting up as far as I know. And they're going to look at Camp Lejeune. They're going to look at TCE and PCE and the health effects that are known from that. So let's see what comes out of that. This whole presentation is my ideas. Not the agency's^ ideas. I have a disclaimer on every slide. ^. I just want to get that across.

The reason I'm doing that is I don't want to wait to have to go through the internal discussion before I present this to you. I wanted you to respond to it, to like it, then move forward. But ^ as well as DoD and everyone else. But I want to get you in as close to the ground for this as possible. So that's what I'm trying to do. So I want you to, if you have any problems with my presenting or questions this is the time to do it.

MR. BYRON: Real quick, Frank, is there other birth defects that, I mean I notice you got cleft palate. Maybe I missed something, PCE, the adverse health outcomes, exposures to PCE in drinking water and the small gestation. Are there other --

DR. BOVE: The only study that's looked at PCE in drinking water and birth defects and small for gestational age is mine.

MS. DYER: So you're saying that there are more illnesses that these chemicals cause. You're just not listing them all?

DR. BOVE: No, these are the ones we know.

MS. DYER: So there are some that you don't

know about possibly?

DR. BOVE: These are the ones that there's been studies done and there've been associations. It doesn't mean they caused these things either. It's just that we've seen associations with these. This is what I found from the literature, my ^. Others have a similar list. As I said, NAS may come up with a different list, and that would be great if they come up with a more definitive list.

But this is from my going through the literature. It's not that different from other lists either. This is what we know at this point. ATSDR hasn't done a tox profile update on TCE or PCE. EPA hasn't released its TCE risk assessment. So at this point I'm hoping NAS weighs in and comes up with a better list than what I just put out, but this is what I know. This is what I know after looking at New York state material, the NAS report, what I know from the ^ literature, my own studies.

I think we talked about this last time. The DMDC identified 210,222 to be exact Marines and Navy personnel during the period

June ’75 to 12/85 that were stationed at Lejeune at any time during that period matched on their RUC and UIC –

MR. ENSMINGER: MCC.

DR. BOVE: -- and MCC. I don’t really know what those abbreviations are. Perri can tell you what they mean, but they’re unit codes. And this is the breakdown. This is their ages today. This is not their age back in ’75 to ’85. I want you to get a sense of what the group looks like now.

MR. ENSMINGER: Okay, I was going to say gee whiz ––

DR. BOVE: Actually, Perri said that, and I scratched my head and I said ––

MR. ENSMINGER: Is this the Iraqi Army or is this ours?

DR. BOVE: No, this is -- right.

This is their ages today. I do this because I want to find, I want to have some idea of how many cancers I’d expect. How many deaths I’d expect in this group. So that’s why I’m doing this because it’s informative. If there are a number of people in the advanced stages so we want to get, and deaths

to study here. So I think, you'll see later, I think this is a good cohort to study. I think it's feasible.

But it breaks down to 198 (sic) Marines and 11,417 Navy personnel. This is the cohort I want to focus on. There's also civilians. I'll talk about them in a minute. We can also bring them into this cohort, too. Right now I just want to focus on the Navy and the Marines.

There are only about four percent of the total group were women. So this ^ repercussions we're looking at end points such as cervical cancer and ovarian cancer because they're too few, but we look at breast cancer. I'll show you that in a minute. But I'll explain all that again later.

And this is just some other information. This is the information that, I don't have the raw data. This is information that DMDC sent me on this cohort. When we do the study, we'll have the raw data. And so more information. A lot of them have been in the service for longer than two years. So there is a nice distribution there, too, I

think. They're not just people who are first timers, one ^.

And then I just thought it would be interesting to see where they lived at the time they were enlisted. They were ^ in the Marines. And here's how that breaks down. Most of the Marines were single, less than 30 percent had a dependent. And then there's the race/ethnicity breakdown on that. So we get to the punch lines there.

To get these expected numbers I had to assume, think of this as a town, not as a cohort. That's 210,000 people in town and that age distribution is what they look like. If I really want to do this right, I'd have to have raw data for one thing, and the rest of the calculations. When we do this study, we'll do that, but these numbers are pretty close, so I just wanted to say that.

In this column, this isn't actually the important column. This tells us what is the lowest excess we could detect with 80 percent power. And then 80 percent power is sort of a standard thing in statistics to use to determine whether a study is going to have

enough power to see something. That's basically what I'm saying. I'm not going to get into all the details ^ talked about at another time or over the phone or over a couple of beers or something.

But this is what it looks like and most of them are around 2.0 so that's not bad. This is for the mortality. And looking at lung cancer, there's ^ lung cancer ^ we're doing pretty good. Breast cancer we don't do very well. This is four times we have this where that's the lowest excess that we could detect with a mortality study. That's not good. What you like to be is somewhere between 1.5 and 2, that's okay. So that's what the mortality study looks like with the numbers we have and the age distribution we have.

If we look at cancer incidence. I'm not going to go through how I want to do these studies. The cancer incidence study's going to be much more difficult, much more costly. I'm going to have to take a lot more time, but I think it's a better study. But we'll do both because I think mortality is important,

too.

Cancer incidence we do a lot better in particularly for some of the diseases that we're really interested in like kidney cancer because that's related to TCE. I'll put the two up together. Maybe that's what I'll do. Let me just go to the next slide to see the difference between a mortality and incidence study.

For kidney cancer the best thing, with 80 percent power we can detect an SMR of 2.2, but with an incidence study we can get down to 1.5. That's much better. For non-Hodgkins lymphoma, NHL, we go from 1.9 to 1.4. So a real advantage of going through the extra work, and we can ^, whereas, we couldn't with the mortality study.

And prostate cancer, I'm not convinced it's caused by any of these contaminants we've seen in some of the occupational data. It's harder to look at prostate cancer from a mortality standpoint, but you'll have so many prostate cancers expected in this group just because they follow the national average that you can detect a difference of 1.1 actually.

So that's why you have no problem. You've got a lot of prostate cancers that you can study.

So that's the difference between the two. That's why some people think that the cancer incidence study would be too much work, that you can answer some of the basic questions for the mortality study. But I think this shows there are real advantages -- for some.

For some it doesn't make any difference. Esophageal cancer, highly fatal, doesn't make much, colorectal's not going to make that big a difference. We think some of the key ones like non-Hodgkins lymphoma, bladder and kidney it does make a big difference. So that's one less you, it's probably going to be a battle within my agency, too, so you can go to the extra effort to do cancer incidence or not. And this is the argument I'm going to make.

Civilians, now we only had 8,000 or so civilians identified during this period, 12/72 to 12/85. I looked at their occupations. Most of them -- well, I shouldn't say most -- a large percentage are clerical and other kind

of jobs of that sort. I looked at cooks, and there were very few, 40 or 50 I think. I have the breakdown here if you want to see it. There are a lot of motor vehicle people and that's the breakdown of occupations.

And I'm not sure what to do with the civilian work population, to include them or not. If you try to evaluate them separately, there's a very small number. So I have to think about it, you know, we can think about it, talk about it. This is their age breakdown. They tend to be older than the cohort. There will be in essence more cancers and deaths because they're older than the same number in the other cohort because it's a small number of people so there won't be that many to cite. Here's their years of service. A lot of them more than ten years of service.

So for the 210 or so, the cohort of Navy and Marine personnel. This is some of the information I can get from DMDC on them, and all I need for the National, for the mortality study is their name, their social security number and date of birth. So we'll have that. That's all going to be there. I

need to find out who died and died of what. But there's other information, too, that might be of use as well even in an analysis.

So a mortality study --

MR. BYRON: I want to get the exact number. You keep saying two hundred and some --

MS. DYER: 210,222.

DR. BOVE: 210,222. I'll forget it again. I just need their name, date of birth and social security numbers, and those can be sent to the National Death Index. And for the National Death Index they've got the cause of death code, the state of death, and the death certificate number so I can go actually get a physical copy of the death certificate from the state as well as the date of death.

The National Death Index the last time I looked last year cost 21 cents per person per year searched. So multiply 21 cents times 210,000 and then multiply again by, say, five or ten years. That's what we're talking about here. Now it's not a cheap study, but it actually shouldn't take too long to do once we get all the clearances and everything.

Comparison will be with the National

Mortality Rates, at least first off. Now there was some mention last time about another comparison group, an occupational comparison group. I don't know that one exists. There have been occupational studies, but I don't know of any database of occupational people with mortality rates that could be used as a comparison group.

So the National is the first thing. It's what we usually do in these studies anyway. If we can determine from the unit -- this is where Jerry comes in -- in the Marine Corps. If we can determine where they were stationed on base this would be nice.

Then we can go get, compare internal comparison and compare people who had contaminated water with those who didn't and compare levels based on when they were there they were exposed to different levels of contaminants. And that would be really nice if we can do that, and so I'll put it there because I think that would be a big advance.

If you want to add another cohort like Pendleton or some other base, you just have to double the cost on the effort. So that's --

I'm not going to propose that, but I don't know if that would fly with everybody, but that is another possibility. But what I think we can certainly do is compare the National rates as a good comparison. And if we can get an idea of where they were on base and what water they were drinking, we can do the internal comparison, and that is a good study. So that's that study.

And then we could attach to this if we're interested, this is, you know, an add on. It's a little bit more work. We can focus on a particular cause of death. We're looking, at the previous slide when I say mortality study, we're looking at all causes. Some of the causes we're not interested in, but we may be interested in kidney mortality, in cancer, other kidney diseases, liver mortality, cancer of the liver.

There may be some causes of mortality we would want to focus on. And that's where we would do a case-control sample. Remember when I talked about case-control sample earlier, right? In this case the cases would be the particular cause of death you're

interested in. The controls would be a sample of the diseases in this, the deaths that were ^. They don't think they were associated with exposure ^.

MS. RUCKART: Frank, so would you say all causes unintentional then? That all causes of death that are unintentional, injuries --

DR. BOVE: Yeah, yeah, yeah, all right, accidental, accidental deaths. Well, let me talk about that. That's something that can be discussed at a later date, exactly what controls we would want. That's sort of the general idea.

And doing this would then allow you, we'd have to interview next of kin because the person's dead, so that's a drawback. But we ^ using next of kin information. And then we can get other information because people have said, well, maybe it's occupational. It's maybe not drinking water, and maybe it's smoking. But here's where we could get some of that information and try to answer those kinds of questions. So you can always attach a case-control sample to this. It will require more work, but I don't think it's an

exorbitant amount of work.

The cancer incidence study is another story altogether. We don't have a cancer registry that covers this cohort. But there are datasets available. Am I losing everybody? Are you all here?

So we know the ones who are dead. We know what they died of so we'll set them aside, and for those who are still alive, we need to still find out whether they've got a cancer or not. So the approach I'm suggesting at this point is sending all 210,000 names, security numbers and date of births to a locator firm. Locator firms are potentially $25 a person, so that's the first big expense. My feeling about this is that eventually they're going to have to be notified anyway about Camp Lejeune.

So I was thinking that we can figure out a way to kill two birds with one stone to locate them and get a current address. Then we send these people the letter with a questionnaire. The questionnaire could be web-based, too. So they can either fill it out in paper or they could go to a website and

fill it out.

And the questionnaire would ask them if they'd been diagnosed by a health provider for a cancer, and we'd ask for additional information on the type of cancer, date of diagnosis. And then we'd also have a checklist of other diseases that they can check off that were diagnosed by a health provider and lined space so they could put stuff that they're interested in.

We'd also ask them while we have them, I guess while we have them filling out the questionnaire, to get information on their dependants who might have resided on base. So it's a way of getting that information, too, and then there'll be a better ^ of their medical records to confirm their diagnosis. So that's one approach.

MR. TOWNSEND (by Telephone): I have a question for you on that very subject. Why is you get the idea that when they did the in utero study and had ^ talking to the wife. Why didn't they ask about the wife's health and the siblings' health at the same time?

DR. BOVE: Because the study was focused on

that, that's why.

MR. TOWNSEND (by Telephone): That's what I'm saying. You guys looked in the wrong end of the damn telescope. You focus so damn small. You had the people on the line. I have their questionnaires ^. You could have asked the same damn questions of the siblings and the mother. You didn't do it.

DR. BOVE: Right. We didn't do it.

MR. TOWNSEND (by Telephone): Right, so we're, now we're finding the right path?

DR. BOVE: That's what I'm suggesting.

MR. TOWNSEND (by Telephone): Well, it's pretty late, but it's better late than never, I guess.

DR. BOVE: Again, we were focused in the kidney study on birth outcomes, and that's what we did. Whether it was justified or not is water under the bridge. We've done it already. We stopped. So let's move on.

MS. RUCKART: Well, Tom, that great effort only included about 12,000 people. This larger effort includes hundreds of thousands so we'd have to do this larger effort anyway.

DR. BOVE: Point well taken. We could have

done something else, but we didn't. We didn't do it because we were focused, but you're going to criticize and that's fine.

At the same time we we're getting information through the questionnaires, we're going to try to use a number of databases to try to find the cancers in this group. So there's a VA Cancer Registry. There's also a DoD Automated Central Tumor Registry. And it's too bad that Dr. Rennix is not here because he could probably chime in on these things. And then there's CHAMPS which I'll talk about later.

But we'll use these because they're automated. We'll send names to these and try to get information from these databases. But I don't think that's going to be enough, and so this is another big job is to use their current address and send a name and social security number to that state's cancer registry and see if it's there.

So there's a number of ways we're going to try to ascertain cases then. We're going to ask people to self report, and then we're going to confirm them by getting their

medical records, right? We would then go to these other automated databases that the Defense Department has and the VA has and see what they can do for us. And then after that's done, we'll have to do the hard route and go to every state.

Before I'm asked, for cases in this group that's what you have to do. Now this is a hard study, a long, involved study, and so the question is is it worth it. That's the question I'm going to have to, and we're going to have to battle with if you think it's a good idea. And so I showed you, at least statistically, it's a good idea. So the question is really whether you can get these databases and we have the money and resources to do it, and people are willing to do it. So that's really the issue, not the statistical issue.

And then we would do the same thing we did with the mortality study, compare the cancer rates to national rates, and here it's called SEER. And then again, if we can find out where the people were on base or their unit codes, do an internal comparison.

Now everyone understand what I'm saying so far?

MS. McCALL: Yes.

DR. BOVE: Any comments so far? Well, let me just finish this up. And then just like the mortality study, you can always do a case-control sample if there are particular cancers that we're interested in. Say we're interested in breast cancer, and we want to focus in on that. We take all the breast cancer, take a random sample of -- in this case we don't have to take a random sample of other cancers.

We can take a random sample of that whole population, 210, and then do phone interviews and look at risk factors for breast cancer that might be a confounder or whatever. But you can always piggyback this on to, this is not an expensive part of the study. Once you have all the cases in hand, I mean, it's not cheap, but it's cheap compared to how much you'd have to spend --

MR. MARTIN: You mentioned getting their medical records. Would that include getting the records from St. Louis, the --

DR. BOVE: What I would do is this. If they told you they were diagnosed with a cancer in, if they self report and they say I lived in Michigan. I got diagnosed there. I would go to that cancer registry and get the record. If the cancer registry doesn't go back far enough, then that's going to be an issue we'll have to figure out. Many cancer registries go way back to '79, some are more recent. So we'll have to cross that bridge hoping that there might be some record in the DoD database that might help in that case.

MS. DYER: But a lot of these you are going to have to, I mean, you're going to have to cross it fairly soon if you're going to do these medical records because there are so many of them missing that, you know, they've been burned; they've been buried; they've been destroyed, whatever --

DR. BOVE: Well, that's why I'm using --

MS. DYER: Are you going to take their word for it. I mean, is there going to be a point where you can just take people's word because there's --

DR. BOVE: I don't think that will be

necessary because I think between the cancer registries and the automated databases that the military has and that the cancers would have, there's a latency period so a lot of those cancers are going to be happening more recently than far back in time that we shouldn't have a problem. But I think like this though I'm going to have to tackle, but I don't think it's going to be a major problem.

MR. MARTIN: And we're looking only specifically for different forms of cancer at this point. Is that correct?

DR. BOVE: The mortality study looks at anything that causes mortality. The cancer incidence study looks at cancer. The reason I didn't go into the other causes of mortalities I wanted to line up the two types of ways of looking at cancer mortality. This is to show you how advantageous it is to look at incidence. So that's that.

Now, before I go into the Naval Health Research Center data, do you have any questions about anything I've said so far?

DR. CLAPP (by Telephone): This is Dick Clapp. I think I was the first to bring up

the idea of another worker group as opposed to the general population. I just thought it was Carl Steeplan^ that was setting up when he was still at NIOSH. Did that never happen?

DR. BOVE: As far as I know -- I went to the life table analysis website. They're coming out with a web base, but we're still using the DOSFRS^, but they don't have anything there other than National. But if you find out, Dick, let me know.

DR. CLAPP (by Telephone): Okay, I will.

DR. BOVE: I couldn't find anything.

DR. CLAPP (by Telephone): Okay, I'll talk to somebody I know that works there.

DR. BOVE: No, I don't know if that ever happened.

Any other questions?

(no response)

DR. BOVE: All right. The last time we met Chris Rennix mentioned using the Naval Health Research Center as a cohort, and a lot of you thought that was a good idea. I didn't at the time. I wanted to have more discussion with him, but I never had a chance to do that. But I do think there's something you can do with

this database, and that is to look at a few of the pieces that you can only look maybe in this database. And that is focusing in particular on liver and kidney diseases, not cancers, because there's not enough cancers in this database. But there are, I think, enough pieces of renal hypertension, liver necrosis and non-alcohol liver disease -- again, these aren't terrific, but this data is not that hard. There's a lot of information in this database. It wouldn't be hard to do this stuff. I'm not going to give you the actual numbers. This is just --

MS. DYER: Frank, what is renal hypertension?

DR. BOVE: What?

MS. DYER: What is renal hypertension?

DR. BOVE: It's a kidney disease and beyond that I'll have to beg off. I'll have to get you more information on that.

MS. DYER: We just didn't know what it was.

DR. BOVE: Yeah, these are diseases that I found in looking in the literature on solvents and workers, not just TCE, not just plain solvents. Because a lot of times if you study

workers who work with solvents, they work with all kinds of solvents. They're not just working with TCE. They're working with all kinds of stuff. And so those studies, they can't distinguish whether it's a disease caused by TCE or another solvent. So I said, well, it didn't matter to me. If there's some evidence that a solvent is related to it, I want to include it for consideration.

MR. ENSMINGER: Go back to your DMDC identified cohort and years of active duty service. This recommendation from the Navy Health Research Center, they capture active duty occurrences of these diseases only.

DR. BOVE: Right.

MR. ENSMINGER: Going back here to this thing right here, 85 percent of the people that join the service leave after four years. So what use is that going to be, I mean, and then you look at the latency period for these ailments, it's not going to show up in any of their records.

DR. BOVE: Well, all right, it is limited. I agree with you, but when they gave me the database there were, they identified a little

over a million Marines in the database, 126,000 that were stationed at Lejeune during this period, 1980 to 2000. No, I mean before ’85. I’m sorry, 126,000 stationed at Camp Lejeune before 1985, and they’re following these people over time. And the ones that stayed inactive are the ones being followed, that’s right.

So it’s limited, but it’s the only way to get at these diseases other than mortality. And so I thought it’s not that difficult -- this is further down the line. This is not the main thing. My main proposal is just what you’ve heard already.

I’m just saying I think we can use this database, too. And this is the only way I think we can use it, not the way Dr. Rennix was talking about, but this way. And it would be to look at particular diseases. We’d be looking at those three there and then kidney diseases in general.

With kidney diseases, there are a whole lot of them in this database. I might have to whittle it down a little bit, but you can actually do pretty good. This is an odds

ratio, but it's similar to SMR, the same idea. So that's the best I can do with this database with all the caveats. Still, at least some of these people are exposed, and you can do a study here. You can do a study. It's nowhere near as good as this other stuff, but I don't want to necessarily rule it out.

But this is all I think we can do with that database. I don't think much of it only because, I mean, I would think a whole lot of it if the exposures happened yesterday or in the last ten years. It's a great database, but because their exposures happened so long ago, it's not so good. And again, we would be able to get the current address and we ^ so that's how that would ^. So that's that.

Now I want to talk about some other populations which I'm not sure what to do with them, not because I don't want to study them, but because the data is not terrific. And the first one are high school graduates. And I went to Fort Benning where they're stored. That's not where they originally stored them. They've obviously been stored on base and the humidity at Camp Lejeune did not do well with

these cartridges.

These cartridges have a metal core, many of them, and the metal core's corroded. So what that means is that you can't hand move them. You can't automatically spin them like a cassette. You have to use a pencil and do this so that the thing doesn't break. Some of them you couldn't do that even that way because some of them had a very strong chemical odor. They're deteriorated.

So all the ones that are in those kinds of cartridges, they're deteriorating as we speak, that is, as I speak. So condition today or next month or next year it's just going to be worse. So with that in mind -- I didn't look all the way through the tape, I just looked at the first few records of these tapes. I was afraid to break the tape. I did break a few leaders.

And one tape did break in trying to move it by the pencil so I didn't want to do any more damage. This is the problem also for the personnel using these tapes when they have to use them. They have their own, they've broken them themselves. So it's the kind of

situation it is. The later years, as you get closer to ’85, they’re on plastic reels, and those are in good shape.

So you can see from the handout that for the high school graduates you have parents’ names, student names, address, date of birth, gender, and I saw some of the students actually had a social security number. I don’t expect a lot of them to have it, but the ones I saw, a few of them did in their transcripts. That’s interesting. That’s good information.

But the data cartridges up to ’71, I don’t see how you could use them. Now maybe there’s some expert that could take them apart and find some way to use them. They’re in such bad shape you either can’t read them, roll them, and the one I did see that was in that period that I could -- well, I couldn’t read the transcript at all. It was really fuzzy. So I don’t think we can do anything with the data before that. Other years that can’t be used because of damaged cartridges. You’ll see the ’72, ’73, ’78, ’79. And there’s one ’71-’72 that might be usable, but

I was afraid to use it. I was afraid I was going to break it.

MS. DYER: You're talking about the students at Camp Lejeune High School.

DR. BOVE: Yeah, graduating class.

MS. DYER: Right, why do you need, the alumni has records on all of them on the different years. You don't have to go to the school.

DR. BOVE: I have yet to see any data or any description of the data from the alumni. So I don't know what they have. If you know what they have, I would like to see it. I haven't seen any information.

MS. DYER: Okay. We've got it back to the '50s.

DR. BOVE: The question is what they have. I mean, do they just have the person's name? Do they have the parents' names? Do they have an address? I mean, we need for information. That's why I'm going to this database because it does have that information. That's not all we need, but at least it's a start. Date of birth is very important. The senior year class ranges from 78 to 132. And so I figure

for the ones that I think we can recover up until 1984. And for some reason I did look at the ’85 class and the ’86 class and ^, but I’m sure they’re in fine condition, too.

But we have something on 1,140 students. That’s not a lot, but that’s what we have. If there is another group of tapes of students in the lower grades who didn’t graduate, and they call it an inactive record. I’m not sure why they call it inactive. And then the years prior to ’74 we can’t use them. Same problem, they’re unusable. And then there’s a few years, one or two years in addition that can’t be read.

But you can read them from fall ’74 to spring ’78 and fall ’79 on. I don’t know how many students that is because I didn’t get a reading from these records as to how big the class size. So there’s a lot of classes mixed up in these records. So I don’t know how many students we’re talking about. You’d have to go through the whole reel for each of these years to determine that, and I didn’t do that because, again, I didn’t have the time to do that. The other thing is I was afraid they

would break.

MS. RUCKART: What I'm wondering is would some of these students be duplicates, for example, if they graduated in '76, but in '75 would they be considered inactive? So there might be some duplication.

DR. BOVE: I don't know how many are in these inactive ones anyway. Again, I didn't go through them. I just wanted to see if we could use them at all. That was the purpose, how bad. I was told that these reels were in very bad condition. I wanted to see for myself, and they were, many of them. And they've been stored so that the humidity got to them. You could smell the developer, the film chemicals, you could smell them, and so they're deteriorating. Now these are the ones within that old cartridge in the earlier years. So that's all I have to say about that.

So I don't know what to do with the, I don't see a study right now using the student population given what I just went over. But I think we do have a study with the 210,000, and it might be worthwhile to look at the, at the

Naval Health Research data, too, for just those two or three liver diseases.

MR. STALLARD: Let me see if, any questions?

(no response)

MR. STALLARD: It looks like what Frank is saying here is that there's the mortality study, which is rather straightforward, but there's more juice to squeeze perhaps in terms of the cancer incidence study. And he emphasized that the question to answer is, is it worth it.

And so I'd like to kind of define that right now. I assume from that question that it means what are the pros, and what are the cons essentially because from a statistical standpoint you said it is worth it, correct, based on the data that is available?

DR. BOVE: (no audible response)

MR. STALLARD: So can you help us understand then, Frank, what makes it worth it or would a pro and a con approach be an effective way to define if it's a --

DR. BOVE: What I've heard, and I'm not going to mention any names, who said what, but what I've heard is that, again, a mortality

study makes sense and that that can answer your questions before you go full blown into a cancer incidence study that will require a lot of time, effort and money. That's one thing I've heard.

If you remember what the Science Panel said in their report, they said a mortality study definitely --

MR. TOWNSEND (by Telephone): Could you talk into the microphone?

DR. BOVE: Sorry, Tom.

The mortality study would definitely be something to look at. The cancer incidence study -- is this on?

MR. STALLARD: Can you hear him, Tom?

MR. TOWNSEND (by Telephone): No.

DR. BOVE: Is this on?

(affirmative responses)

DR. BOVE: What the scientific panel mentioned was they definitely were encouraging us to look at mortality. With cancer incidence they said we should look into the feasibility, but they were a little more cautious about that in their report, and I can see why. Originally I was thinking that we

would look at maybe ten states and use the cancer registries in those ten states to try to minimize the effort.

But I think that that, it would minimize the effort, but I don't think it would minimize it enough to justify doing that instead of trying to find all the cancers in that cohort. So for a cancer incidence study I think you have to go the full way I just mentioned.

And as I said the fringe benefit would be to get more, when you send people this questionnaire, it gives them a chance to tell you more about the issues that they're dealing with, and there may be something there that we might want to look at in a future study as well. If we get some information on their dependents, and they would be notified as to what's going on at the base at the same time. So I thought there were a couple of birds we could kill at one mailing.

So I thought that might help justify it. But there's no question about it. It's a big effort. It's costly. It involves all those states. I don't think anything like

it's been tried before as far as I'm aware. Maybe Dick has an idea of where it's been done before, but I can't think of any situation that would compare to it. And so that's what I'm suggesting is something that's a big effort.

MR. STALLARD: So a pro for that would be more info garnered from dependents and other diseases, for instance, is something that you said is positive for that.

Was there a voice on the phone?

MR. TOWNSEND (by Telephone): Yes, Tom here.

MR. STALLARD: Go ahead, Tom.

MR. TOWNSEND (by Telephone): Frank, are you talking about the 210,000 people identified through the roster, the ^, or is this a civilian population as well?

DR. BOVE: Just the 210,000.

MR. TOWNSEND (by Telephone): And you might in the survey ask about their dependents?

DR. BOVE: Right, I'll send you the presentation. I just finished it yesterday, and I didn't have a chance to send it out. I barely had a chance to put the disclaimers on the bottom of each slide. So, one of the pros

of doing cancer incidence versus mortality is what I put up there is that you have a better chance of being able to find excesses that are not large.

And you cannot look at breast cancer. By the way, even with cancer incidence data, because the population of women in this cohort is small, you expect less than one case of cancer of the cervix, uterine or ovarian so you couldn't look at those no matter what you did. It's just too small a group.

MR. TOWNSEND (by Telephone): I know. I know. Maybe I'm getting deaf in my old age, but if you're asking a service man and his wife has ovarian cancer, why can't he respond?

DR. BOVE: We're looking at those, the cohort is, again, it's 210,000. That's the cohort. We're going to find out the disease rate among those 210,000.

MR. TOWNSEND (by Telephone): And they're going to report also on their --

DR. BOVE: Yeah, we may use that at a future date, but that's not part of what I'm talking about now.

MR. TOWNSEND (by Telephone): One of the few

^ Marines and Navy people can report uterine cancer ^ married to a non-Marine you might get a different bloody answer.

DR. BOVE: Tom, it doesn't make any sense to do that. If you want to look at those cancers, cervical cancer, uterine cancer, there are several cancers -- anyway, I --

MR. ENSMINGER: When the notification issue takes place, everybody that was at Camp Lejeune can report their health conditions at that time. We're looking at these people that have been identified by the DMDC right now.

DR. BOVE: Right, I mean, Tom, this doesn't rule out other studies in the future, too. I'm just trying to use one cohort here that I think is useful, that makes sense to use. They probably were on the base during the right period of time. We could probably certainly get their mortality situation rather easily so to speak. And it's really the cancer incidence study that will require a lot of work.

I wanted to add that questionnaire there, if we're going to contact them at all, I thought it wouldn't be a bad idea to add

something so that they could put down other diseases and give them an opportunity. I think that they want that opportunity, and that's fine. Whether I do anything with that information or not, I don't know. I'm not going to try to address that now, because that again is another effort.

MR. TOWNSEND (by Telephone): Whether you do anything with it or not, it would be sort of nice since you're approaching the families, as a family or a group, then you might as well ask them questions about the whole mob at one time. If you do anything with it, but it might give you a clue to, if 5,000 women, non-Marine wives answer yes, they have uterine or breast cancer, why the hell don't you, then you could do something with it.

DR. BOVE: That's exactly why I'm putting that in the questionnaire, just for that reason.

MS. DYER: Frank, can I ask you a question?

MR. STALLARD: Speak into the microphone.

MS. DYER: Woburn, how many people were studied?

DR. BOVE: That was a case-control sample in

the second study, and there were only 19 cancers, 19 leukemias and 34 or 38 controls, something around there. The first study --

DR. CLAPP (by Telephone): It was 60 percent of the town. It was 60 percent of 35,000 people was the size of the first survey.

DR. BOVE: Yeah, so they were interviewed by graduate students of my school and also by community people. There was a questionnaire, and they got a whole range of childhood disorders, right? Not more than that. I don't think they asked for anything else. And they also looked at leukemia, and leukemia they were able, they had verified cases.

For all the other end points it was just self reported with no verification. That part of the study wasn't -- well, the whole study was a tack, but it was easier to tack the self reported, so it was harder to tack the leukemia cases because those were confirmed. That's how that worked.

I thought the first study was pretty good. I had some problems with it. The second study's I think much better. It's focused on leukemia, and that's for the

strongest findings.

MS. DYER: Okay, the reason I'm asking, I was wondering what the percentage or what number of people were studied. What I'm getting at is if you've got a group of people, and you take the civilians that lived or worked on base and compare them to the civilians that lived off base and worked in the same kind of environment, why can't that be a cohort? And then you wouldn't have this large number that you have ^. The majority, the civilians that lived and worked on base are still living in that area. They wouldn't be nearly as hard to get hold of, and that would give you --

DR. BOVE: Well, there's 8,000 during that time period that were identified.

MR. ENSMINGER: They didn't live on base.

MS. DYER: Who didn't live on base?

MR. ENSMINGER: You did.

MS. DYER: I'm not the only one that lived on base. I had ten families, 15 families that lived right around us that were civilians. So there's a large number of people that lived on base that were civilians, and I'm just trying

to get it, a group that we could study that would be easier, that would be quicker, that's still in the area.

DR. BOVE: Okay, back up. We have 8,000 civilians identified by the DMDC, and that would include people who lived on base, too. That's all the civilians they had in that database. Now that's too small a number to look at most of these end points. So even if you had a comparison group of an equal size -- and where would you get that comparison group?

MS. DYER: In Jacksonville.

DR. BOVE: But how would you identify them?

MS. DYER: What do you mean how would you, if they're teachers; if they are cooks and they work in an elementary school, if they did the same types of jobs that were being done on base, but they did them off base, that's two different, that's two different groups.

DR. BOVE: Anyone want to weigh in on this one?

MS. DYER: Well, why don't you weigh in on it. I mean --

DR. BOVE: The reason --

DR. CLAPP (by Telephone): You know,

epidemiologic studies it's interesting to think about, you know, the way that various similar people get exposed. By comparison I don't think you could identify a cohort ^ enough group of people to compare them in an epidemiologic sense. It wouldn't pass the review process or be publishable, that kind of thing.

DR. BOVE: I mean, I don't know how you would get --

MS. DYER: I don't care if it's publishable. I --

DR. CLAPP (by Telephone): Well, you ^ have ATSDR to do something that's not, you know, pass scientific muster. It's just not going to spend all that money doing that. So while we can speculate, we've got to stick with things that are actually going to make it through the review process.

MR. ENSMINGER: Out of the 8,000 civilian employees that were on Camp Lejeune, only a small portion of those people lived on the base. The rest of them lived off. So the major portion of them weren't having 24 hour a day, seven day a week exposures like you and

your family or the other people who lived on base. But that's just a handful of people that lived there. The rest of them lived off base and had their own homes out in the county.

DR. BOVE: I mean, these people are exposed when they're working there if they're drinking the --

MR. ENSMINGER: Yes.

DR. BOVE: That's not the reason why I don't want to study. The reason I don't think it's feasible to study them is because it's just small numbers of them. You saw what happened with 8,000 women. You could look at breast cancer, breast cancer incidence, not even breast cancer mortality, breast cancer incidence. Breast incidence, a lot of women get breast cancer. Think of what you'd be able to do with 8,000 occupational workers, and they have all kinds of different jobs, most of them being clerical -- not most of them, but a large percentage of them being clerical. I just think it's difficult. In other words the other cohort, the large cohort, makes a lot of sense to me. This

one's a little harder. I don't want to rule it out, okay? I didn't know what to do with those people. That's why I kept them separate, and we can discuss it. I thought a lot more of them would be cooks or do other things on base that would get them a lot of exposure. When I looked at the occupational list, there are tons of occupations, and a lot of them seemed to be more clerical than not.

MS. DYER: Custodians and --

DR. BOVE: Yeah, custodians and all kinds of -- it's a couple of pages long. I can show you, but there aren't high percentages of any of these categories except for clerical workers. It's about 15 percent or 20 percent. I haven't had the chance to get the exact figure, but I have the list here actually with me. But I just don't know what to do with them.

I feel the same way about the students. Again, I'd like to study them. I don't know if it's feasible to study them. I think it is feasible to do the other things, although I'm sure there'll be people within my agency and at other agencies who will contest

us on this.

MS. DYER: If your study is students, what kind of number are you looking at for needing to be a usable study, what's the number you need?

DR. BOVE: What I showed up earlier was SMRs, you know, you'd like to have an SMR under three at least. You don't like to have too small numbers because it's going to be hard to find something if there is something there. And then you've wasted a lot of time, and you'll get inconclusive results. So you want to have enough numbers so that you can find, you have enough cases to study.

MS. DYER: So you're talking from 1952 to 1987.

DR. BOVE: We're not talking that far back because we don't have data going that far back. Unless you can come up with, unless you know of alumni that can give us --

MS. DYER: That's what I'm saying.

DR. BOVE: Right, but remember, what I need, what I need for any of these databases not only their name, I need their date of birth, that would be helpful. Their social security

number would be great, but name and date of birth I could work with. It would also be good to have a parent's address, although with the housing records we might be able to work that. We still have that computerized housing record database, although we may have to go back to the base and fill in the ones that are still missing.

MS. DYER: And if we can get that, what number are you looking for of people to study?

MS. RUCKART: I would like to respond. So when Frank presented the slides on page ten in your handout, he's saying that of the DMDC identified cohort, which we know is 210,000 people, we would expect these number of cases for the various cancers. Now if we're talking about children that graduated from the high school, there's a page later on that says how many per year were in the graduating classes. Let's say approximately 100. So you would need so many years' worth of data to even approach the 200,000 here to get these numbers. So if 200,000 give you these numbers, think about how much less are going to be expected if you only have 50,000

graduates or 20,000 graduates. These numbers become much smaller and the SMR that we can detect becomes much larger, and then Frank said we needed to be at least three or lower. But it's going to be very, very high. So I don't see --

MS. DYER: So we don't even need to try that then?

DR. BOVE: No, I wouldn't say that. I don't want to rule anything out yet. If the alumni has this data, I would like to know. We haven't been able to, what's the situation with them. We can't really get to the -- what's the problem?

MS. RUCKART: I just recall that I looked on the alumni website before I went on leave, and there wasn't anything on the website. We'd have to -- because, you know, I guess members register, but we can't see that as a public user. So I guess we'd have to make some contact, but then I've been on leave and there's been a lot of other things going on. We can maybe look at that again.

But the other thing I want to mention is whatever we find in this group, if we do a

study, mortality or cancer incidence and we see something in this Marine population, you could apply that conclusion to other people that lived on base, right?

So just because we're not specifically studying the dependents, if we say, oh, we did a study of the 210,000 Marines, and we saw there was an excess of, let's just say for example, kidney disease, you could make the same case that anyone who had exposures at work, dependents, civilian workers, whatever, would also see an increased risk in the kidney disease.

So I think that we shouldn't get so bogged down on who we're going to study as long as we have large enough numbers to study a population that is well defined and have good information about. We can always apply the conclusions to any other group that were exposed.

MR. STALLARD: Would that include the 80 percent of people who only served three or four years? You would be able to extrapolate --

DR. BOVE: Sure. Actually, we can

extrapolate from occupational cohorts in risk assessments all the time. So as I said to Tom -- I think I said it was Tom Townsend -- if you exposed 100 parts per billion PCE in Peoria or at Camp Lejeune, you know, we can make the same statements about either one. I mean, they are human beings and there's a variation on how we're susceptible, but I mean, that's how science, the fact that I found stuff in New Jersey is relevant. And we're actually using it to talk about what we should do at Camp Lejeune. You don't have to study all of Camp Lejeune.

MR. STALLARD: All right, so let's take some clarity and definitiveness. You are saying you have proposed, these are your own ideas. I detect -- correct me if I'm wrong -- that there may be some resistance or pushback or something?

DR. BOVE: From my own division, from others in the Agency until we sit down and have a talk. This is really right off the presses. I was on vacation last week, and I got back and finally pulled this together, and I'm back for this meeting.

MR. STALLARD: So obstacle or potential pushback, is that correct?

(no response)

MR. STALLARD: Potential pushback will be overcome through education.

DR. BOVE: Discussion, basically I want to get a sense of where you are at. I mean, if you think that this is a plan that you'd like to see go forward, then I'll take it forward.

MS. DYER: We've been wanting a study since the moment we got here, so, yes, we want you to go forward.

DR. BOVE: Would you like these ideas in particular?

MR. ENSMINGER: Yes.

MS. DYER: Yes.

MR. STALLARD: Let's go around and take a poll.

Sandra, are you in favor of this being pursued?

MR. ENSMINGER: Absolutely.

MR. MARTIN: I'm in favor.

MR. STALLARD: Jeff?

MR. BYRON: Yes.

MS. DYER: Absolutely.

MR. STALLARD: Dave, Terry, Denita?

MS. McCALL Yes.

DR. BOVE: Tom?

MR. STALLARD: Tom, are you in favor of pursing this avenue of study?

MR. TOWNSEND (by Telephone): I'd be at risk if I wasn't.

DR. BOVE: And Dick, I want to pass by ideas with you in the future, too, about this, but what are your feelings at this point?

DR. CLAPP (by Telephone): Are we talking about this high school graduate group?

DR. BOVE: No, we're talking about the 210 -- I'm going to send you the overheads from this. I just finished it actually last night or yesterday afternoon. The 210,000, the mortality and cancer incidence?

DR. CLAPP (by Telephone): Yeah, yeah, definitely.

DR. BOVE: And the Naval Health Research data, we'll put that as a possibility, too, but I'm not going to push that as hard at this point.

MS. DYER: If he's getting feedback from the people above him or there's going to be

arguments or whatever's going to happen in these meetings, is there something that we can do as a CAP? I mean, are your superiors going to come back and say we're not doing this study, Frank. I don't care what you say. Is that going to happen possibly?

DR. BOVE: I guess anything's possible.

MS. DYER: So do we need to go to Congress again to make them do that?

DR. BOVE: Let's assume that you're on record as saying you support the idea. That has some weight.

MR. STALLARD: Unanimously.

DR. BOVE: Let's see. We may have to fine tinker this thing. There may be ways of doing the cancer incidence thing than I'm proposing. So we may do the same thing but in a better way. I'm open for other suggestions from other epidemiologists as to how to do this better.

MS. DYER: In the Congressional hearings some of those members actually came right out and said why aren't you studying the children and adults. So we've also already got backing on the Hill that they want this study to go

forward so that needs to be --

DR. BOVE: Well, the Science Panel also that we had said so, too. So, yes, the question's more of not whether you do one I think. The question is what exactly you want to do. Is this the best way to do it? Are there alternative ways to do something similar for the same thing? That may be where the negotiations go, and that's, and again, we lost Jeff Fisher. I'd like to get another epidemiologist here. I'd like to float this idea out to other epidemiologists. I want Dick's reaction throughout if he can do it. And then the epidemiologists within my agency because I don't, you know, I like to seek out advice.

MR. BYRON: This is Jeff Byron. Can we make sure that we don't lose that point about a new epidemiologist? And we also want to propose a -- not a replacement, well, I'd say it's a replacement to Dr. Rennix as a --

DR. BOVE: Sure.

MR. BYRON: -- before we leave here today.

DR. BOVE: Before we leave, why don't we, I mean, at this point I have nothing more to

say.

MS. DYER: I have one quick question. It's on benzene, and I just, I don't know if you can answer it, but I'm hoping someone can. What is chromosome aberrations?

DR. BOVE: Well, they're, just what it says, they're flexible chromosomes, changes. It could be all kinds of different, it depends on what they put into that definition. It could be deletions. It could be all kinds of things that affect the chromosomes. And benzene, and any benzene ring-type chemical I would think, too, has the potential to do that as far as I understand it.

Dick, do you have anything to say about this one?

DR. CLAPP (by Telephone): I'm sorry. I was on mute. It doesn't have to be a benzene-ring chemical. You know, there are lots of substances and physical, like radiation, that can --

DR. BOVE: Yeah, radiation.

DR. CLAPP (by Telephone): -- damage the chromosome.

MS. DYER: Well, I was just asking because

this is one of the, what are the health effects of benzene. And in the long term says has the potential to cause the following effects from a lifetime exposure from levels above MCL: chromosome aberrations and cancer.

MR. BYRON: And in Taber's Encyclopedia Medical Dictionary it also states that benzene causes aplastic anemia. I will tie that into my statement later.

MR. STALLARD: We're going to have to move quickly along here because David's leaving at 2:30 promptly, and there's a couple things that we need to address.

I'm going to try to get to first sort of just flesh out a little bit more about what we can expect that Frank has to do so we have a better understanding when we leave here. So Frank is going to more formally document and propose the study. This is going beyond a feasibility study into a study.

MR. ENSMINGER: Assessment.

DR. BOVE: Wait, wait, wait, let me suggest something. I'm going to finish a feasibility report, and this is going to be what's in it with a lot of other material as well. And

I'll try and finish that up in the next two months. But in the meantime, I've already floated this idea to some people in the Agency, and I want to move that forward.

MS. DYER: Two months to write that feasibility up?

DR. BOVE: Yeah, it probably would take that long.

MR. MARTIN: For the next meeting.

DR. BOVE: We'll be definitely done before that.

MS. DYER: That's just the feasibility. That's not even, yes, we're going to do the study, and this is what the study's going to consist of.

DR. BOVE: What I'm trying to say is this, okay? At the same time I'm writing this thing, I'm going to push this idea forward, but I do want to put some additional material that supported in a report. That's all. The report takes a little longer to write. I say two months because every month in the last four months something has happened around Camp Lejeune, and I've been pulled away from my work. So I'm assuming that something else is

going to come up, soil vapor or something, and the same thing's going to happen again. Or a Congressional hearing or something, so to be realistic I said two months. It may take me much shorter than that, but just to be. Okay, that's all. I'm not going to let that hold up the process of discussing these ideas within my agency and with the Marine Corps.

MR. STALLARD: Yeah, I think what we're all trying to get at, and I understand, is manage our expectations so that at the next meeting when we come back, it's like so did you get an answer yet for your proposal. So it's up to us to understand what Frank is going to be going through. So what we need is some level of timeline.

I think the CAP would like to know, okay, the proposal is submitted; it's approved; it goes through this stuff; it goes through that stuff. So that we're looking at what would be the expectations for the next time and what would be discussed and where are we at in the timeline of advancing this study, proposal.

MS. DYER: When's the study going to start?

DR. BOVE: When's the study going to start?

MS. DYER: Yes.

MR. BYRON: Well, that's what she's getting at --

DR. BOVE: I know what she's getting at. That's a harder question because --

MS. DYER: We've been here two years asking --

DR. BOVE: I know. I know.

MR. BYRON: Two months to write it. How many months to get it through the review?

MS. DYER: Two months --

MS. RUCKART: But he's talking about just the feasibility assessment report. We've talked on other occasions about all the steps that are needed to do a study so the first thing will be a study protocol. And that has to come before we can contact anybody or --

MR. ENSMINGER: Not just for these assessments.

MS. RUCKART: We're talking about a study. No, no, we want to do the study.

DR. BOVE: The feasibility assessment requires, as I said, it should be done in two months. It should be done earlier than that.

MR. ENSMINGER: Well then, we will have the results then?

DR. BOVE: No, no, what I put up on here is going to be written up formally with all kinds of background information motivating the study.

MR. BYRON: In two months it won't even be approved yet, right?

MS. RUCKART: See, there's a couple of things getting confused. One thing is this effort is to assess what is possible. What we could do. We call that the feasibility assessment. Then once we decide what we want to do, what study we want to do, we go down the path of starting the study.

We've talked on several occasions about the timelines required for that, and if you recall, we have to then write a formal study protocol. And once we start that process it is about nine months to a year before we can actually start the study. Remember we have our IRB approval.

We have OMB approval. We have our peer reviewers. We have Agency clearance. We have all these things. So the first thing is

this report to talk about what we'd like to do, what's possible given the data that we've seen from these DoD entities. Then --

MR. ENSMINGER: Wait a minute. Why do we need an IRB if this is not a --

MS. RUCKART: The next step to actually do a study once we say, okay, great, this feasibility assessment has shown us we want to move forward with the mortality study and cancer incidence study. These are our two top priorities right now. Then we go down that road of the protocol, getting the approval from IRB, OMB.

So there's two things. This feasibility assessment is like a, it's not even step one. It's like step zero --

MR. ENSMINGER: Why does OMB got to get involved in this?

MS. RUCKART: -- you know, before starting a study it's not --

MR. ENSMINGER: The money's not coming from OMB.

MS. RUCKART: To contact more than nine people you have to have OMB approval, and it's just a requirement that we have here. So if

we're trying just to get --

MR. ENSMINGER: So the paperwork we can --

MS. DYER: So if we're trying just to get some kind of a general idea for everybody in this room. If we do a study of the children and adults that were poisoned out there, how many years is it going to take y'all to get an answer?

MS. RUCKART: Well, we can start --

MS. DYER: Possibly ten?

MS. RUCKART: I'd say, let's say it could take about two months to do a feasibility assessment. Let's say that puts us in October. Let's say in October we start going down the path of doing the protocol, nine months from then to a year we could start a study. That would be this time next year let's say approximately, summer 2008, that we could start a study. And then studies take, of this type, what, one to two years?

DR. BOVE: Well, it depends. A mortality study may not take that long.

MS. DYER: I mean, look how long the in utero has taken.

DR. BOVE: The in utero study took a long

time for a couple of different reasons. One, we had to find the cases of these particular persons. The only way to do that was a survey. Second, we had to do all this water modeling. The water modeling will be done. We won't be doing a survey of that sort, at least for the mortality stuff. The cancer incidence study, we're doing mailed questionnaires, a little different but those will take time. But that's why. The in utero study took a long time because of the difficulties of doing that study because there was no birth defect registry or cancer registry to use. That's the definitive -- and the water modeling's now holding us up. That's what's holding us up now. So that's why that study took a long time.

MS. DYER: Okay, honestly, if the water modeling's done and everything's done, and you've got the in utero study done, and we're going to start this other one, from your mouth, honestly, your government agency, would it be better for us as a group to go to a teaching hospital or major university and get them to do the study? Will it be done quicker

than dealing with you?

DR. BOVE: You could do that because you want an independent entity doing the study, and there's reasons to do that. I'm not going to argue against that.

MS. DYER: The time would be the same amount of time?

DR. BOVE: Yeah.

MS. RUCKART: Because they would need to go through IRB as well. They are, you know, not a government agency. They won't be subject to OMB approval. But they'll still need to do an IRB and then they have to access our water modeling results, and there'd be some kind of learning curve there. So you wouldn't gain that much efficiency by having another group do it.

DR. BOVE: But you would gain the fact that it was an independent entity doing it. That's what you could gain if that was important to Congress or to you or whatever.

MR. STALLARD: So there. Does that help manage the expectation of the work we're still facing?

MR. TOWNSEND (by Telephone): Chris?

MR. STALLARD: Yes.

MR. TOWNSEND (by Telephone): I'd like to make a comment on this ^ and confirmation. You know, most of the people involved in the study were Marines, Marines and Marine dependents. And in Viet Nam you could make an initial assessment and get a confirmation study and get the damn thing done and an operation done in a week. It didn't take for bloody ever to get something going.

I mean, we were all Marine related, and you don't screw around. You get an assessment of what the hell the enemy's doing. You make a plan, and you have an operation where people move out and do what the hell they're supposed to be doing.

I just can't tolerate. I'm 76 years old. I want to see something happen before something happens to me. And this dicking around with pre-studies and initial studies and sub-zeros coming up to one to two is ridiculous as far as I'm concerned. It's ridiculous.

MS. DYER: Thank you, Tom.

MR. STALLARD: Thank you, Tom --

MS. DYER: May I make a suggestion? He's leaving --

MR. STALLARD: -- for a point taken.

Yeah, and I would like for --

MR. MARTIN: And I'll be brief. There again earlier I let a lot of the air out of my balloon earlier in making my statement and meant no personal offense to anybody, but it is, and I agree with Tom in his statement there.

I stated earlier that I feel that there's a lot of smokescreens up, that a lot of the things, the hoops that we've been jumping through and going over for the last two years, I mean, we're still to the very best scenario guesstimate at this point three years from having a health study conducted by the people at Camp Lejeune.

This is something that has been going on that they were initially aware of in 1980. And my frustration comes from if the health study was finished, if it was completed and sitting in front of us right now, what do we do at this point? The answer to all our questions, the cause of cancer, the cause, you

know, kidney disease, heart disease, leukemias, people were sick and dying and unemployed and unable to get health coverage as they are doing at this very moment, and what are we going to do now that we have all this information in front of us?

I think the plan needs to come, the ATSDR needs to pursue the scientific information in this matter so they can help people further down the road. Every day they close a military base, and every day you see more reports of different chemicals and toxins and illnesses and diseases that are coming up from this stuff. But right now the people that have been dealing with this for over 50 years are still in stages where they can get help.

They mentioned health coverage or health benefits or something. I personally don't want to go to a Naval hospital. I saw what it did to my mother. We had a medicine cabinet full of drugs. God only knows what they were, but hypertension was one of the things. That was the only thing she was treated for the entire time was high blood

pressure, and she died of kidney disease after being a case study of ten people in this nation that was on a chemo-home dialysis treatment program. And they sent me three pieces of paper for her entire medical record. I remember being 12 years old and carrying that around Camp Lejeune Naval Hospital. It was the size of the S encyclopedia.

That's another thing that I would like to approach. The medical records, when you do start looking for them in St. Louis I don't know a better way to say it, but there needs to be some type of documentation insofar as what records they can and they cannot produce. I don't know if the word went out, but it is ridiculous.

Medical records that this government was responsible for maintaining, entrusted with private medical documentation on people that served this country, and to manage those records in the form that I've seen just in my personal case is ridiculous. If I managed my records for my business that I'm required to keep for the government of this nation, and I sent them what I received, they would lock me

up in a heartbeat. So that needs to be noted somewhere in the record kept.

I think it all comes down to money. There are people that have filed claims ten years ago that are still sitting on the books. If they want to get people medical treatment, they need to come up with, to find a way that once they do receive medical treatment, that they're able to retain their own doctors and their own services.

And I would just state as an example with my brother. His insurance company has recently changed the way they do things, and every doctor that performed his surgery is no longer on their list of acceptable doctors. When he contacted the insurance company and asked them about that, he was advised that he would have to find new doctors.

We're not talking about somebody that had a tooth pulled here, and to use his words, is they gutted him like a fish. And now he's got to go find somebody that knows nothing about his history or what was done when they went in there and say I need a new doctor because my insurance isn't going to pay.

MS. DYER: And how much is the ^?

MR. MARTIN: It's estimated at $40 million is what he's having surgery at this point.

So as I said earlier to the ATSDR, thank you for what you are doing. I know your limitations in the matter. Volunteers, the people on the CAP, the Mr. Ensmingers and the Terry Dyers and people who have worked on this for ten years, I thank you very much.

But I don't think this is going to get what we need. I think we need to organize, and we need to get people with the notifications, whatever possible, we get that information out and get as big a standing in Washington, D.C. as we can possibly get. And that's the only way we're going to get anything to move forward with it. Tom, your lifetime and possibly mine, sir, so I thank you very much.

MR. ENSMINGER: This is Jerry Ensminger. I want to bring up one issue before anybody has to leave. I take it that Headquarters Marine Corps and the Navy Environmental Health Center are not going to place anybody on the Panel, correct?

UNIDENTIFIED SPEAKER: No, we just got the information that you got. I think the letter from Dr. Rennix was dated --

MR. ENSMINGER: No, I'm talking about the future. You're not going to have anybody up here sitting with us.

UNIDENTIFIED SPEAKER: We just received the letter, and we need to see it and consider it. I don't know.

MR. ENSMINGER: What about Headquarters Marine Corps? I mean --

MR. STALLARD: What's the process? We've got to --

MS. DYER: We don't need to hear it like that any more. What we would like to do is we would like another CAP member, Michael Gross. So we would like to nominate him today to be able to come and be on the CAP. So I nominate Michael Gross to be a member of the CAP. We are asking for him.

Does anybody second?

MR. ENSMINGER: Yes.

MS. DYER: Can we all vote?

(affirmative response)

MS. DYER: Thank you. We'd like Michael

Gross on the CAP.

MR. ENSMINGER: Tom?

MR. TOWNSEND (by Telephone): Fine.

MS. BRIDGES: That was quick.

DR. CLAPP (by Telephone): Dick Clapp, I don't know who this is, but I abstain, I guess, in something like that. I have to apologize. I have to go off now to another meeting. I would just like to say I would like to stay on the CAP and be of help to anybody that I can, and work on the design of these studies. So keep it up.

MS. DYER: Thank you.

MR. ENSMINGER: Hey, Dr. Clapp?

DR. CLAPP (by Telephone): Yes.

MR. ENSMINGER: Jerry Ensminger here. Do you know anything on a Dan Wartenberg?

DR. CLAPP (by Telephone): Sure, I know Dan quite well.

MR. ENSMINGER: Has he contacted you about this?

DR. CLAPP (by Telephone): No, not recently, I'm supposed to be on a call with him in another day or two actually.

MR. ENSMINGER: Well, he called me, and I

talked to him. And he was going to check with the National Academy of Sciences, and he was supposed to get back to me, and he never did. So how about asking him about his involvement with this CAP?

DR. CLAPP (by Telephone): Okay, I will.

MR. STALLARD: And Dave, before you go I just need to tell everybody that it's end of year. You must submit your vouchers yesterday.

MR. MARTIN: I did have one thing, and I would like to make a request that the Department of Defense do provide someone that can sit on this Panel or be available to answer our questions. I think, and again my personal opinion, I feel that at one point initially we had asked that someone be here so that they didn't have to go back and get permission as far as being able to provide a direct answer in the meeting. And I would suggest that they highly consider putting somebody back on this Panel.

MR. ENSMINGER: Even the people that they put on here weren't being able to answer our questions. They were still message holders.

I mean --

MR. STALLARD: Let's take the lesson we learned for today which is put it in writing. And so if we need to request that DoD officially designate a person to be a member, and I would suggest that in this letter you define what membership means.

MS. DYER: Being able to answer.

MR. STALLARD: So who properly will take that action to request that someone be identified to sit on --

MR. ENSMINGER: I can do that to add to my other letter.

MR. STALLARD: Okay, great, thank you. So there, we've applied what we've learned already.

WRAP UP AND NEXT STEPS

All right, Dave's leaving. This is our opportunity to allow people, because we changed the agenda somewhat, to have breaks in the presentation. This is where we have an opportunity to hear from you, and then we need to as a group talk about next steps. Dave, do you have anything to offer in terms of next meeting before you leave?

MR. MARTIN: Just let me know the dates.

MS. RUCKART: Please, I want to mention something before people start leaving. We're scheduled to move from this location to a different location right near here, but that's in October. So theoretically around the time that we're going to meet again. Now that location, it would not be as conducive to a meeting as this one.

It's not near hotels, and I'm not sure yet about the facilities in terms of setting it up so people can view us over the web. So we need to keep that in mind. So the next meeting most likely will not be here in this building, and we'll have to see about where's the best place to have it so we can accommodate all of our needs as far as streaming it on the web and --

MR. ENSMINGER: Where is this place?

MS. RUCKART: It's near here but --

DR. BOVE: It's Chamblee.

MS. RUCKART: Buford Highway.

DR. BOVE: We're all moving to Chamblee, and I don't know --

MR. ENSMINGER: CDC, they're building --

DR. BOVE: Yeah, CDC is sort of consolidating, and we, I think the building's not finished yet as far as I know, or is practically finished, but we're supposed to move some time between now and November. We're supposed to move in September. You can even see the dates moving. It's a moving target. I don't know what the capabilities of that building are actually, so that's stuff we will have to find out, that's all. So we just --

MR. ENSMINGER: New construction?

DR. BOVE: Yeah, it's new construction, yeah. So it's a new building. I don't know what, there may be facilities on the first floor, but we'll have to see. But there's no hotels nearby.

MS. RUCKART: There's not hotels and getting into that location's going to be more difficult. Like here you just walk up; you walk in the door. There it's, you need to stop at the Visitor's Center, and then --

DR. BOVE: We'll have to work something out.

MS. RUCKART: We have to see where we can meet, but I just want you to realize it may

not be here so keep that in the back of your mind.

MR. ENSMINGER: Well, let's have it at the pool at the Marriott.

DR. BOVE: We'll have to explore where the next meeting is and the capabilities and all that.

MR. STALLARD: And we're going to simplify it so that if it isn't too difficult we'll just go in the new place if that's available, but we'll figure something else out.

DR. BOVE: We'll figure something out.

MR. STALLARD: Who's next?

MS. BRIDGES: Can I say something?

MR. STALLARD: You may.

MS. BRIDGES: Can we do anything as far as getting our chromosomes checked or see what damage has been done or --

MR. STALLARD: So the question is genetic testing, right?

MS. BRIDGES: Yeah, yeah.

MR. STALLARD: We're going to take that as an open-ended question. I think there are others who have the same one at the moment.

MR. BYRON: I want to bring this up. Most

of you know my family's history, right? My daughter Rachel is part of the study. And my oldest daughter was diagnosed with aplastic anemia. Six months after I left the Marine Corps, and my youngest daughter, Rachel, being part of the study, she was never diagnosed with an actual disease. She was, they told us all of her symptoms, so we never really did know what she actually had.

So my wife has done hundreds of hours of research online and has been able to determine what my daughter's diagnosis should have been, and it has been confirmed through genetic testing that I had to pay for. Actually, I was going to have to pay for it, but once I had the test done, and she was confirmed to have what is called 22qll.2 Deletion Syndrome, Ohio Medicaid kicked right in and picked up the tab of the testing and is also now providing healthcare. And there's a 50 percent chance that that genetic disorder is passed on to her children. And sure enough, her son also has it.

And what I have here, it's called several different names, Velo-Cardio-Facial

Syndrome is one of them. The DiGeorge Syndrome, I don't know if it's exactly the same, but it's related. There's also Robin sequence, Potter sequence, just to name a couple.

What I have in front of me is from the Velo-Cardio-Facial Syndrome Education Foundation. I believe this actual document is a little older because it shows future meetings of the Foundation 2002 Hampton, England. So this is probably prior to 2002.

And as you all know, DNA testing and chromosome testing has advanced quite a bit in the last 30 years. In 1968 when my daughter and my family returned to Cincinnati, Ohio, we were told to see specialists for Rachel's multiple issues. And they did chromosome testing and came back with that. So 22 years later we've done some more testing, and it has been confirmed that she has 22q11.2 Deletion Syndrome like I said.

And under there there's 181 different anomalies that occur in this. And they give the headers of craniofacial or oral findings and the very first one is overt, submucous or

occult submucous cleft palate. My daughter has a submucous cleft palate and had surgery for that. It goes on to talk about facial issues. It says enamel hypoplastia.

Hypoplastia means underdeveloped and not only does my youngest daughter, as I've told you I've had to spend thousands of dollars to cap her teeth because they were rotting out at 22 years of age. By the way, I have all mine, and they all look good in the front. I have some caps in the back just from decay. And now my oldest daughter is also facing the same problem with the enamel on her teeth. There's a white ring all the way around all of her teeth, so I'm going to end up paying for that, too.

And then that's not really what I'm getting at is the financial end. What I'm getting at is the medical technology that's out there to verify some illnesses that either may be part of this group or may not be. Small eyes, my daughter has as far as eye findings, and I notice there's some eye findings here. Hearing findings, she has small ears and has ear tags or pits, the

brachial^ dimples that I spoke about. They're in there. Cardiac and vascular findings, VSD, ASD is in there. There's like 15 different things just under cardiac.

Under neurological, cerebral hypoplasia (sic), like I said hypoplasia means underdeveloped, degenerous (sic), degenerous means not there. My understanding as a lay person is that anencephaly is missing the cerebral portion of your brain. So everything that appears to be being looked at with maybe the exception of one or two items for the children's in utero study that's going on at this time is in this 22q.

And I'm not saying that everybody that's in the study has 22q. I've seen other documents today of one in 5,000 people, one in 4,000 people. This document says one in 2,000 people. So my daughter's been identified as one in 57 for this study. How many were with anencephaly? Can anybody tell me?

MR. MARTIN: Yeah, I can tell you exactly, just give me a second. I could tell you in a second.

MR. BYRON: I think whatever the number is

the point being is it's right here under 22q. Now the test was going to cost $240 just for the ^ test, just to look at the 22nd chromosome.

My personal pain is if you want a credible scientific study, which this study is supposed to be, to identify possible adverse health effects to people who have been contaminated by the water at Camp Lejeune, then I believe that the latest scientific and medical procedures and applications should be applied. And I have asked members of Congress to mandate ATSDR to do genetic testing because I believe it's warranted.

I know others disagree with me, but I've got 25 years of history of medical issues with my family. And my wife has done countless hours of research on this, and we believe there's a connection. I have handouts on this document. I can provide more for people later, but it's my opinion that there's more to be discovered than just doing studies that may say, like I said, may say that you have adverse health effects. This may be one method of identifying that you do have them.

My daughter's been identified. My grandson has now been identified. Hypospadias is in here. That has to do with your genitalia. He has to have surgery on his penis. He probably will also have to have surgery on cleft palate is what they suspect. That's not been determined fully yet.

I just think there's more to be gleaned from the medical technology out there, and I want the latest things applied. I want genetic testing. I think that if there's 30 children with cerebral hypoplasia (sic), I think it's warranted. We could go on further and discuss cleft palates, spina bifida. They're all here.

MR. STALLARD: They all were identified in the in utero study as well?

MR. BYRON: Spina bifida?

MR. STALLARD: I know spina bifida was and --

MS. DYER: Cleft palate.

MR. BYRON: Cleft palate.

MR. STALLARD: -- cleft palate was.

MR. BYRON: There's heart anomalies in here, tortuous. Let me read the one to you.

Lymphoma, I didn't see lymphoma in here. Cancer, these are birth defects. From what I can tell these are not cancers. I don't know if chromosome deletion causes a cancer, but it definitely causes a birth defect, and my daughter has multiple birth defects.

And like I said, those people that just -- even in the field of genetics, they tell me it's random. Well, it may be random, but let me read to you about aplastic anemia, what it says on page 98. This is the Taber's Encyclopedia Medical Dictionary which a friend of mine's wife does the medical records for physicians around the area, and she was kind enough to let me use this.

MS. DYER: Well, we just read a minute ago that benzene caused chromosome so --

MR. BYRON: Anemia is a reduction in the blood count. We know that. Aplastic, this is what it says about aplastic, and it goes, "anemia caused by aplasia of the bone marrow or its destruction by chemical agents." I believe we qualify. "Benzene, arsenic, nitrogen, mustard and physical factors, x-ray and other sources of ionization."

And it says, “Idiopathic form may occur.” That’s what they call my daughter prior to learning about Camp Lejeune, that idiopathic aplastic anemia. That means they don’t know what caused it. We do now, chemical exposure.

The whole point is that these scientists and the geneticists are looking very narrow minded. When you put 25 years of health history and not to mention the seven years of medical histories I’ve heard of all the victims that are calling me and have talked to me through my website and e-mails, then you see a bigger picture. You could see the whole picture.

And my personal pain is genetic testing must be done to make this a credible study to add to the technology, advanced technology of water modeling. I don’t want to hear maybe it caused your kids’ issues. I want to hear it did or it didn’t. I know it did because I’ve done the research.

And really I’m not going to beat this horse to death because there’s other people that want to talk, and I would like to thank

ATSDR for what they've done here and also the CAP members. And thank you, Dr. Clapp --

MS. DYER: I'd like to know about Frank because he got a statement in his ^ back to Jeff so that we can --

MR. STALLARD: We'll see when he has an opportunity to speak.

MS. DYER: Okay.

MR. BYRON: Actually, I did pull up a couple of other definitions. I'm going to read spina bifida real quick and then I'll leave it at that because I've already explained hypoplasia and hypoplastic.

Under spina bifida occulta, spina bifida it says, "any spine-like protuberance of the spine." And it says under bifida occulta, "failure of the vertebrae to close without coreneal^ protrusion. I believe you're looking for that in this study. I mean, it goes on and on here. I believe there's a connection. I want testing done. I hope Congress will mandate it. I hope the ATSDR will see that there is connections, and they'll do this for this group. And let's get some definitive answers if this is truly a

scientific study. They've been doing studies since I think the first one on these chemicals in like 1915. And we're still saying we don't know? How could you not know?

MR. STALLARD: Thank you, Jeff.

MR. BYRON: Thank you.

MR. STALLARD: Next. Denita.

MS. McCALL: I have a prepared statement from Tom Townsend, and it reads:

"Camp Lejeune Community Assistance Panel Meeting. The following observations and recommendations regarding member issues are submitted to the CAP for consideration.

"ATSDR should be directed to withdraw in its entirety the now totally discredited public health assessment for Marine Corps Base, Camp Lejeune, of 4 August, 1997. ATSDR has known for some five years that there are gross errors in base data and derived conclusions, yet this disaster of a health study remains virtually unchanged and continues to remain available to the unsuspecting public as representing the true extent of the Camp Lejeune VOC exposure and adverse health effects.

"With corrected, verified site data and completed water distribution calculations that passes objective peer review to include this CAP, it could be issued as corrected-slash-revised public health assessment. Several specific problems with the existing public health assessment come to mind.

Number one: Most residents of Camp Lejeune have never seen the report issued in 1997. My family lived there in 1955 through 1956, and in 1965 through 1967 and was never aware of the contamination nor the public health assessment until the information about the contamination became known as the result of a small note in the Headquarters Marine Corps retiree newsletter. Purely by chance was the door opened.

"Number two: In June 2000 after receiving a copy of the public health assessment, I requested ATSDR to provide copies of 15 references cited in the public health assessment. I have never received those documents and have been notified in writing by ATSDR and the Assistant Secretary for Health and Human Services these documents

were lost on two separate dates.

"ATSDR was questioned in 2000 why, if the Lejeune water quality staff were monitoring TTHM levels in their new finished water, they were unaware of the VOCs in the water supply. They, being both Camp Lejeune, North Carolina and ATSDR.

"Number two: After asking more questions of Lejeune and more material was forthcoming, I obtained water distribution maps for the base which were in color and noted the pressure of the Holcomb Boulevard water treatment plant completed in 1973 of which I was unaware.

"One set received from the Chief of Staff Marine Corps Base in August 2000, depicting Holcomb water treatment distribution area was titled '1968 through 1985 Holcomb Boulevard'. Depicted is a service area of Paradise Point, Midway Park, Berkeley Manor and Watkins Village, which was not corrected until Holcomb went online in '72-slash-'73. The title block on this set was corrected in pen and changed 1968 to 1972.

"Another set of maps off the Camp

Lejeune website had the same incorrect maps in 2000 which were corrected by a printed note that Holcomb did not come online until 1973. On 23 November 2000, I notified Marine Corps Base Chief of Staff and ATSDR of the gross error and recommended corrected maps be issued for the service areas prior to and following the 1973 startup of Holcomb water treatment plant.

These maps were prepared by the GI's office at Camp Lejeune, North Carolina, in 1999, and obviously passed to ATSDR. ATSDR never took action to revise their 1997 public health assessment until July 2007, when a table was withdrawn by internet note.

"B: ATSDR throughout all studies less the modeling of water distribution has carefully kept this area of scientific interest as narrow as possible and seems intent on re-hyphen-searching those adverse effects whose origins are generally well documented already.

"I remain in question today as to where the in utero study is at this point. Perhaps I'm missing something, but surely

there are more affected children with a greater range of adverse effects than have been described.

"C: When is ATSDR going to begin the exposure data compilation for the 210,000 adult Marines that have been exposed to VOCs while stationed at Lejeune and identified by the unit diaries and RUCs?

"D: When does ATSDR intend to integrate the radiological contamination data recently developed in its overall evaluation of Camp Lejeune, North Carolina, contamination issues?

"E: When will ATSDR evaluate the health status of those exposed families, mothers and children, that were not included in the in utero study conducted by NORC? Why the health status of these individuals was not determined at the time of the NORC survey is troubling. The in utero children were at more risk, but mothers' and siblings' data could have been obtained with little additional cost. Another very narrowly focused study in my view.

"F: With the exception of very few

ATSDR projects concerning Lejeune, I believe ATSDR studies all across the military spectrum of vocations have been beset with credibility problems and whitewashing of site severity. This I believe is due to an Agency emphasis on scientific and statistical procedures that are inherently incapable of drawing any reliable conclusions regarding certain environmental health problems.

"Conventional statistical techniques used by ATSDR don't really adapt to hazardous waste sites with high personnel turnover. I do not believe ATSDR is ever going to find a comparative, non-exposed cohort for evaluation of the Lejeune transient population that existed during the massive '60 through '75 Viet Nam troop movements.

"Woburn, Massachusetts, with a dozen cases of exposure and alleged adverse health effects is not the same scenario as Lejeune with a million Americans exposed from 1957 through 1987 to a toxic cocktail of chemicals."

MR. STALLARD: Thank you, Denita.

Thank you, Tom.

Do you have any words of your own to offer?

MS. McCALL: I did, but we're running out of time, and I know Jerry has a statement.

MR. STALLARD: Okay, thank you, Tom. We're going to stop at three. That's when the signal ends, and I think we're going to have to figure out when our next meeting is, and it looks like we're not going to get to the discussion based on these. So we're going to have to communicate via e-mail in order to establish a date.

MS. DYER: So we're looking at October.

MR. STALLARD: We're looking at October most likely, and what we're going to want to know is what are agenda items and when are you available, okay?

MS. BRIDGES: Does everyone here know that they're going to have that University of Wilmington on the 31st?

MS. McCALL: Yes.

MR. STALLARD: All right, go ahead.

MR. ENSMINGER: Just in the same line of discussion about the public health assessment for Camp Lejeune which we all know is a mess.

It's been hammered on time and time and time again. I wrote a letter in April to Dr. Frumkin, the Director of this agency, complaining about their public health assessment for Camp Lejeune, and the fact that it was still an official public document still posted on their official website, and people were still able to go to it and look at it and get incorrect exposure data from it.

I got a response back from Dr. Frumkin on the 4th of May and admitted that not only do they not have the reference material that they made that document from, that some of it was incorrect. Tell me how do you stand up for a document that you are posing as the gospel when you can't even provide the documents you created it from?

What are these people telling me? Trust me; I'm telling you the truth? Any credible agency or anybody that has any credibility at all is not going to ask somebody who, nobody's going to ask me, I'm not going to trust anybody about what they say about something as important as a public health assessment when they don't have the

documents to back it up.

This document is null and void. It should be removed from the website. Not partially, no disclaimer, this thing needs to be taken down.

MS. McCALL: Hear, hear.

MR. ENSMINGER: You know, and I, you know, in the execution of my daily routine I drive through neighborhoods in eastern North Carolina every day, and these neighborhoods are, a lot of them are underprivileged, under-educated, not only underprivileged and under-educated, some of them don't even have a grasp of the English language. And God forbid that if something like that happened at Camp Lejeune what happened to one of these neighborhoods who would be their champion? Who?

Without a Tom Townsend, without a Terry Dyer or a Jeff Byron or the many other people who have been involved in this situation? Who would be the champion of these neighborhoods like I just described? Who? A Public Health Service? Our EPA? Shoot, do you know what would happen to these people's

contamination issues? They'd be dead and buried along with their loved ones if they have to rely on these agencies in the condition that they're in right now, today.

Now, we had the Congressional hearings on the 12th of June. The day after that the Deputy Director of this agency, Dr. Tom Sinks, called Capitol Hill and e-mailed Capitol Hill with an unwritten definition to a BUMED instruction that was totally unsolicited, trying to give an explanation for something that, I mean, this man is the Deputy Director of the agency that's supposed to be looking into the study of the effects of the polluter, and here he is backing up the polluter with unsolicited phone calls to Capitol Hill? That's bias.

That is bias being shown by the Deputy Director of this agency, and I'm supposed to have faith and confidence in the studies that are being done by his subordinates? How do I know he's not influencing this stuff? Or trying to throw a wrench into the cogs of everything that we come up with here? I'm sorry, I do not have any faith in anything

this agency does as long as there are biased people in the leadership positions.

When I was a Marine, I couldn't show bias against any of my people. I didn't do that. It's not a good leadership trait. By the same token if you are a shit bird, you were gone. If you were a good Marine, then you stayed. So the same should go in every one of these agencies. That's all I got.

MR. BYRON: Could I clarify my comment? This is Jeff Byron. I'm not trying to say that everyone has a damaged 22nd chromosome. What I'm saying is that they should do the genetic tests on the in utero children and see what are the common denominators. It may not be the 22nd chromosome. It might be the fifth. I don't know anything about that one. That's all I'm saying.

MR. STALLARD: Terry.

MS. DYER: I don't have anything.

MR. STALLARD: Sandra?

MS. BRIDGES: No. I would like to say I'm sorry I fell asleep, but I didn't sleep last night.

MR. ENSMINGER: One question, when are we

going to find out something about Mike Gross?

MS. DYER: There's nothing to find out. We nominated him. We appointed him. Call him and tell him to come.

DR. BOVE: It's up to you.

MR. ENSMINGER: All right, good.

DR. BOVE: It's your CAP.

MR. BYRON: I have one other question.

MR. STALLARD: Okay.

MR. BYRON: I know this is on the same subject matter --

DR. BOVE: Let's just finish this up. Can you e-mail me or Perri his contact information?

MR. ENSMINGER: I've got it right here. Do you want it?

DR. BOVE: Yeah, give us the -- he knows you nominated him, right?

MR. ENSMINGER: Yes.

MR. BYRON: I'd like to know for the record how the other CAP members feel about genetic testing. That means everybody, whether they're for it or don't have an idea, don't have --

MS. BRIDGES: I'm definitely for it.

MS. DYER: I'm definitely for it. I'm very interested in it. I am up for anything that can help us get to the bottom of this.

MR. ENSMINGER: Well, I am for anything that can be, that can show us a tie-in to this.

MR. BYRON: Scientific methods?

MS. DYER: Yes.

MR. ENSMINGER: Yes.

MR. BYRON: And not pseudo-science.

MR. STALLARD: Then perhaps as a topic for the next meeting -- Frank, you look deep in thought there.

MS. DYER: Frank, do you want to say anything else?

MR. STALLARD: I'm going to give him that opportunity. Either you can respond to that now, or we can put it as an agenda item, what are the ramifications of genetic testing, and --

DR. BOVE: We were just trying to figure out when it makes sense to have roughly another meeting, and that's what we were --

MS. DYER: What are your thoughts on genetic testing? We'd just like to get an idea. Do you think it's funny science or --

DR. BOVE: Let me ask you this before we do that though. When do you think another meeting would make sense?

MR. ENSMINGER: My view, and that goes right back to just what I got done saying. How many people are going to stick their fingers in these proposals and try to --

DR. BOVE: I don't know the answer. We'll have to see.

MR. ENSMINGER: I mean, that's going to show up right after you write up your proposals.

MS. DYER: So how much time do you need to write it up and get an answer because --

DR. BOVE: I think certainly in three months we could be, that puts us right in the time that we're moving now, but I don't know if we're moving. I know we're moving; I don't know when. So it's August now, so that would be November. Let's hope November before Thanksgiving obviously as a possible time, and then I'll have a better sense of what's happening with this move and all that. And I'll also have a better sense of what's going on with the proposal, all right? Does that make sense?

MS. DYER: Can we base it on what your response that you get from these people is?

DR. BOVE: Yeah, that, and again, this building issue. I'm hoping that they'll postpone the move again and maybe have it after December.

MR. TOWNSEND (by Telephone): Chris?

MR. STALLARD: Yes.

MR. TOWNSEND (by Telephone): Tom here. Frank's microphone's not working. I'm in favor of it, and I assume we'll go back ^ people that are deceased will be checked, and those of us that are still alive can be genetically tested as well to ^.

MR. BYRON: This is Jeff Byron. I would say why not if there's a connection made with the children that are already in the study. I mean, some of the anomalies for 22q can come from a parent.

DR. BOVE: Can I say something about this? This is a deletion that's been studied for quite awhile, and most of those with this deletion have a conotruncal heart defect. Between anywhere from 60 to 85 percent of this deletion have a conotruncal heart defect. A

conotruncal heart defect is tetralogy of Fallot. It's a transposition of the great vessels, and two other very rare --

MR. TOWNSEND (by Telephone): ^ --

DR. BOVE: All right, let me finish. Tom, Tom, let me finish before you say anything.

When we looked at the results from the survey, it was obvious that we were missing a whole lot of conotruncal heart defects. We found one-third of what we even expected. This is not the population where you're going to find a high number of, or maybe even any other than kids, deletion because this is not the population where you see this deletion.

A cleft palate, about nine percent of those with the deletion have cleft palate. Cleft ^ do. Spina bifida about three percent, anencephaly there's no evidence, and leukemia there's none. So this is not the population that you'd even want to look at this deletion from. We would never be able to get any IRB approval anyway, not only CDC's, but any IRB approval to do that deletion in this case-control study.

MR. ENSMINGER: You guys --

DR. BOVE: Second problem is this.

Now you talked.

The second problem is you cannot do genetic testing as a fishing expedition. No IRB would let you do that either, and that's what that would be here.

Third, you need a focus for your genetic testing because there's a whole lot of things you can look at. I mean, there's probably infinite things to look at in terms of which chromosome and what part of the chromosome and so on. If you don't have any idea of what you're doing beforehand, you're not going to find anything.

And there is no evidence, no evidence, and that doesn't mean that it couldn't happen, but it hasn't been studied that TCE, PCE or benzene, for that matter, causes a particular chromosome deletion or a particular chromosome aberration. There is none. There's nothing out there from which to latch onto.

And a lot of people have been studied. Benzene workers have been studied. Solvent workers have been studied. Again, this would be a fishing expedition, and it'd be very

difficult to justify. So these are some of the reasons. There are a lot more reasons, but these are the key reasons I think that genetic testing does not make sense in this population.

MR. STALLARD: Tom, what I want to do, we're at the end. We're not streaming anymore. This is an open meeting. And what I want to do is put it on the agenda that if we need a more comprehensive genetic testing ethics presentation, why it works or doesn't work or it's called for or not, then that would be the appropriate time that we can devote our attention to it rather than just sweeping here at the end of the meeting. Do you all agree that we can propose that for an agenda item?

MR. BYRON: As long as others take blinders off.

MR. STALLARD: Well, if it could be done, --

MR. BYRON: Like I said --

MR. STALLARD: -- how would we do it?

MR. BYRON: it's not all about just 22. It's about genetic testing, not about just one disease.

MR. STALLARD: So, Tom, I would expect that

you will communicate with the CAP members, and let's come up with an agenda item that we'll have to coordinate the appropriate whatever, presentation or discussion on that topic.

MR. TOWNSEND (by Telephone): Considering that two members of my family are dead, one with tetralogy of Fallot, another with liver damage, it could be that the VOC, BTEX and all that other crap, I'm in favor of it. I don't know ahead or what, but, yeah, let's go ahead and bring it up.

MR. STALLARD: Again, I think it's just that balance between the realm of science and how it is approached in this hemisphere, and then other issues that are outside of that. We are asking if it could be done, how would it be done and is it appropriate? And if so, how? So let's get those kinds of answers.

MS. DYER: Real quick, is the CAP members need to on this chromosome stuff or this particular one, we need to look for an epidemiologist between now and next time that believes in chromosome testing, not just ^, but chromosome testing is something we need to do.

MR. BYRON: Well, it's been suggested to me that you get a ^ geneticist.

MS. DYER: All right, then --

MR. BYRON: To talk to. Maybe he doesn't come on the CAP, but we need to talk to him.

MS. DYER: Then that's the kind of stuff we have to --

MR. BYRON: These are called ^.

MS. DYER: Okay, Jeff?

MR. BYRON: Yes.

MR. STALLARD: I don't want to end in this kind of drifting off kind of way. And we have the issue. We're going to put it on the agenda for the next meeting, and we will address it.

MS. DYER: And they're going to let us know about when the next meeting will be.

MR. STALLARD: Right, we're looking at right before Thanksgiving or thereabouts somewhere, okay? Whether we move or not maybe we just need a different venue or something.

All right, folks, thank you. Thank you in the audience for being here.

(Whereupon, the meeting was adjourned at 3:08 p.m.)

CERTIFICATE OF COURT REPORTER

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I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of August 8, 2007; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 9th day of Sept., 2007.

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STEVEN RAY GREEN, CCR

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