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ALPHA REPORTING CORPORATION  
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MARCH 13, 1990

Mr. Harry A. Bryson  
725 Pellissippi Parkway  
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Knoxville, Tennessee 37933-0879

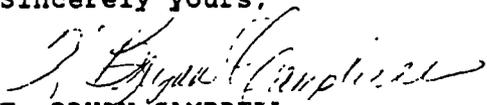
Dear Mr. Bryson:

Enclosed please find the CORRECTED original and one copy of the TRC meeting.

Because of the many corrections that Mr. Moser is requesting, this transcript had to be reprinted in its entirety.

In all fairness to you and myself, I am billing you for the number of pages that had corrections on them, which is 65, as reflected by the bill.

Sincerely yours,

  
T. BRYAN CAMPBELL,  
Certified Shorthand Reporter  
State of Tennessee  
State of Texas

enclosures:

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TECHNICAL REVIEW COMMITTEE  
NAS MEMPHIS

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BE IT REMEMBERED, that the  
above-captioned cause on to be heard on this the  
7th day of February, 1990, beginning at  
approximately 2:00 p.m. at the Naval Air Station,  
Millington, Tennessee, when and where the following  
proceedings were had to wit:

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A P P E A R A N C E S

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CAPTAIN JERRY BAKER, JR.  
GEORGE E. ROBERTSON  
ROBERT W. MOSER  
HARRY A. BRYSON  
SUSANNAH J. PUCKER  
COMMANDER RONALD G. CARPENTER  
LARRY E. FITCHHORN  
TONYA BARKER  
NORMAN C. LACHAPELLE  
SUE HOSMER-MILLICAN  
PAUL PATTERSON  
T. BRYAN CAMPBELL

## P R O C E E D I N G S

\* \* \* \* \*

1  
2  
3 CAPTAIN BAKER: I would like to  
4 welcome everybody here to the naval air station.  
5 This is my first opportunity to sit in on one of  
6 these technical review committees. I understand  
7 that we have had two previous ones, and this is a  
8 remedial follow-up meeting.

9 I would like to -- I was hoping to be  
10 able -- we will introduce Mr. Crow when he comes  
11 around. Let's go ahead and go around the table so  
12 we're all on a first-name basis, probably for my  
13 edification than anybody else because this is all  
14 new to me, and I haven't met or played in this game  
15 before.

16 MR. MOSER: I am Robert Moser. I'm  
17 with the southern division of naval facilities  
18 engineering command, and we support the activity.

19 MR. BRYSON: I'm Harry Bryson. I'm  
20 with ERC/EDGE group, and I am the project manager.

21 MS. PUCKER: I'm Susannah Pucker,  
22 and I'm also with the ERC.

23 MR. ROBERTSON: I'm George  
24 Robertson with NAS Memphis Public Works Engineering.

1

2

MR. FITCHHORN: I'm Larry

3

Fitchhorn. I'm with the U.S. Environmental

4

Protection Agency.

5

MR. LACHAPELLE: I'm Norman

6

LaChapelle. I'm with the Memphis, Shelby County

7

Health Department.

8

MR. PATTERSON: I'm Paul Patterson.

9

I'm with the Tennessee Department of Health and

10

Environment, division of solid waste management.

11

MS. HOSMER-MILLICAN: I'm Sue

12

Hosmer-Millican. I'm with the Public Works

13

Division.

14

COMMANDER CARPENTER: Commander Ron

15

Carpenter, public works officer here at the naval

16

air station.

17

MS. BARKER: I'm Tonya Barker. I'm

18

with the public works division, NAS Memphis.

19

CAPTAIN BAKER: Now, that we got

20

all the introductions out of the way, I would like

21

to turn it over for the technical standpoint to

22

Robert here who will conduct the rest of the

23

meeting.

24

MR. MOSER: Thank you, sir. I

1 would like to keep this meeting informal. This  
2 should be a working meeting, and why we are today  
3 is to come to a collective consensus as to what  
4 work is going to be for these 12 sites that we are  
5 going to look at today. This is CERCLA work.  
6 However, we do know that we do have a RCRA permit  
7 that identifies solid waste management units, and  
8 if you feel like there is something lacking in  
9 these plans along those lines, I would like those  
10 type comments to come forward if you have any.

11 There is one thing I would like to ask of  
12 you. Whenever you go to ask a question or state a  
13 factor or whatever, I would like for you to state  
14 your name so that the reporter can accurately  
15 recall who said what.

16 I assume everybody received a copy of the  
17 minutes of the last meeting. Are there any  
18 questions concerning those minutes? If not, then  
19 let's move on. Before we get to the work plans, I  
20 have one item here that is the sign-up sheet for  
21 the technical review committee. We have a change  
22 of captains, and we would like to have everybody  
23 sign the ammendment. I think you all received a  
24 preliminary copy. It just basically says we are

1 amending the sign-up sheet.

2 For those that are -- that do not have  
3 the authority or are not being given that authority  
4 to sign, we will hand deliver the local agencies  
5 this document for their signature, and we will mail  
6 out-of-town parties the original for their  
7 signature and subsequent return of this document.  
8 This is just a formality.

9 (Brief Pause.)

10 MR. MOSER: Okay, we have sent all  
11 of you copies, multi-volume copies of information  
12 titled Remedial Investigation Feasibility Study,  
13 RIFS work plans for Sites 1 through 9, the final  
14 draft. Also in final draft are the project plans  
15 for Sites 1 through 9; community relations plans  
16 for 1 through 12, preliminary assessment for Sites  
17 10 through 12, and those are the documents we will  
18 be covering today.

19 What I am going to do now is I am going  
20 to turn it over to Harry. Harry will go over each  
21 site. As he goes over each site, if you have any  
22 comments, by all means let's bring them out here on  
23 the table and get them answered, and what we want  
24 to do is walk away from here with the consensus

1 that these are the work plans so we can go forth  
2 and do this field work that the group collectively  
3 agrees with. Okay, Harry?

4 MR. BRYSON: I don't know how many of  
5 you brought your books. If you did, just open up  
6 to the field sampling part of it, Part 2, Appendix  
7 3, Page 46. That way if you have any questions,  
8 you can refer to it quickly. Okay, SWMU No. 1 is  
9 the fire department drill area. That's the  
10 approach end of Runway 9 that's an inactive runway.  
11 It was used for fire training from 1960 until about  
12 1984. What we are proposing to do is do a sediment  
13 grab sample of runoff from that general area and  
14 see if there's anything that shows up, collect the  
15 soil samples and the subsurface samples and that's  
16 all we propose to do on this. Mr. Fitchhorn would  
17 like to see groundwater monitoring in that area as  
18 well.

19 MR. MOSER: So what we are going to  
20 do is we are going to put in three groundwater  
21 monitoring wells. We're going to try to predict  
22 the gradient based on the information that we have  
23 about the station and put one -- try to put one  
24 upgradient and two downgradient and pull three

1 groundwater samples.

2 MR. PATTERSON: The state would  
3 like to go on the record. I have prepared comments  
4 for Mr. Fitchhorn. We would like to see  
5 groundwater monitoring, too.

6 MR. MOSER: In that same section,  
7 Page 26, is a table that has a list of analyses, if  
8 we want to refer to it to see how the overall --  
9 the initial proposed samples go. Then way back on  
10 Page 116, there's a summary (inaudible). That's in  
11 case you want to refer to it during the discussion.  
12 Does anybody have any other questions about SWMU  
13 No. 1?

14 MR. MOSER: I want to clear up  
15 something while we're here. In SWMU No. 1, we're  
16 proposing one sediment sample. We are proposing to  
17 run target compound lists. That's TCL. I don't  
18 want people to have a misconception that that is  
19 Appendix 9 or Appendix 8. That's a complete set of  
20 parameters themselves.

21 Also, we are planning to run EP tox  
22 metals. Does anybody have any concerns about not  
23 running Appendix 9 or Appendix 8 at these sites?  
24 The target compound list includes most of those

1 constituents. There are a few constituents like  
2 dioxin that are in that analysis that are not shown  
3 in the target compound list.

4 MR. PATTERSON: Does the target  
5 compound list -- would that cover BTX and ---

6 MR. MOSER: It covers Benzene,  
7 Toluene and Xylene, but not as BTX, but as 624 and  
8 625 type parameters and not specifically doing a  
9 BTX. So if Toluene is there, it should pick it up.  
10 If there's Xylene there, it should pick it up, if  
11 my memory is correct. Correct me if I'm wrong.  
12 This is the target compound list as shown. We're  
13 working out of the site management plan -- sample  
14 analysis plan. So nobody has a problem? Is there  
15 any need to run Appendix 9? What I would like to  
16 do is I would like to take the data that we obtain  
17 off of this and be able to use it for the RCRA  
18 SWMU, use it for CERCLA and RCRA. Go ahead, Harry.

19 MR. BRYSON: Just a note on EP tox.  
20 You know, we have seen a number of cases where if  
21 you only test for metals, you get the numbers and  
22 you don't know what the heck to do with them. By  
23 doing this, we're doing totals and we are doing EP  
24 tox so we can say, "Yeah, it's there, but is it a

1 concern?" And EP tox really helps put things in  
2 perspective, and it's helped on the first phase.

3 MR. PATTERSON: Aren't there some  
4 actual levels for metals as opposed to just  
5 strictly going by EP tox?

6 MR. MOSER: That is correct. There  
7 are some actions in the drinking water standards  
8 dealing with total metals versus EP tox. Your  
9 target compound list will include your volatile  
10 organics, your semi-volatiles, base neutral and  
11 extracted. It will include your pesticides, your  
12 PCBs and will also include a list of total metals.  
13 That is what the target compound list covers.  
14 We're just throwing EP toxicity in there to say,  
15 "Okay, we're not only going to look at the total,  
16 but we are going to look to see if they are  
17 leachable."

18 MR. LACHAPELLE: Where are the  
19 heavy metals listed in this manual that are going  
20 to be tested for?

21 MR. MOSER: They are located in the  
22 first section. They would be around Page 35 of  
23 this or --- they're located at Table 3-2, Page 10  
24 of 18 on Page 37.

1 MR. BRYSON: We didn't specifically  
2 look at EP tox because they are defined in the 40  
3 CFR 261, and it's a list of eight which may go to a  
4 list of 11 at some point.

5 MR. LACHAPELLE: Say again the page  
6 number.

7 MR. MOSER: Page 37. Those are the  
8 EP tox limits that we're planning to look for.  
9 This first round of sampling is not all  
10 inconclusive sampling. It is just to go back and  
11 reassure ourselves that yes there is or is not  
12 something out there. If we find something, we are  
13 going to go back and do subsequent investigations.  
14 We are going to find both vertically and horizontal  
15 extent of that contamination at a later date.

16 MR. BRYSON: The EP tox metals,  
17 they are -- eight of these are the EP toxicity  
18 metals, but we will -- on second thought, when we  
19 do this, we can put EP tox as a third table in.

20 MR. PATTERSON: Without -- I don't  
21 want to belabor the point, but when you take the  
22 six subsurface samples, are you going to -- I may  
23 have overlooked it, but I am just curious on how  
24 you are going to select sampling points. Are you

1 going to go grid it off and do a random number or,  
2 you know, how are you going to select the sample  
3 points?

4 MR. MOSER: The way the plan is  
5 presented, they present it as a hit and miss type  
6 approach based on the sites' topo, where you would  
7 most likely find some contamination.

8 MR. BRYSON: Page 53 is the sites'  
9 gramatic on that and it's a fairly small area  
10 there. So like Robert said, it's -- you know, we  
11 will space them out, you know, look for low points  
12 and things if there are any there.

13 MR. MOSER: There is an existing  
14 unit out there now, some iron sitting out there  
15 now. We know where the practice took place. We  
16 know that it slopes off in this general direction  
17 because of the topo we have and the contour shown  
18 here, and there are a little relief there that  
19 presumably the stormwater runoff flowed, and we  
20 plan to take a sediment sample there.

21 But we plan to come in here with two  
22 units, have the B-2 for a background sample that's  
23 upgradient based on the topo, and one at the end of  
24 the runway where runoff is likely to occur. Now,

1 we can put in three groundwater monitoring wells,  
2 and we'll probably have to come over here just to  
3 the side of the runway, put one upgradient and put  
4 two downgradient here. If you like, we can put one  
5 right where B-1 is shown. It is asphalt, and we  
6 are working on asphalt most of the time as far as  
7 we know.

8 MR. PATTERSON: Okay.

9 MR. MOSER: Would you like to see  
10 us use some sort of scientific protocol in  
11 determining the sampling locations either by  
12 statistics or by ---

13 MR. PATTERSON: If it's a  
14 relatively small area, and I guess by looking at  
15 the topography I feel comfortable by doing it. The  
16 site may lend itself to just simply going out there  
17 and looking at it or an initial assessment being  
18 able to do that. I am curious.

19 MR. MOSER: That's what we had in  
20 mind, just looking at it and make a field decision  
21 on that part. When he's looking at it, on the day  
22 they are drilling, it's ---

23 MR. PATTERSON: Okay.

24 MR. FITCHHORN: Just keep in mind

1 he may have to justify his decisions. If it  
2 doesn't end up really lending to that type of  
3 operation, it's going to have to go into a  
4 sophisticated approach because he may be answering  
5 questions later.

6 MR. BRYSON: Well, we could just  
7 simply grade it off. It's so flat there that  
8 that's certainly an option, but my feeling is -- I  
9 guess my problem and Robert's is too is we  
10 generally like to let the guy that's actually  
11 drilling on a small area that's flat look at it.

12 MR. MOSER: What I would like to  
13 see is us just go in there right now and just go  
14 right through the center unit, go out here at the  
15 runway, test in the ditch, test out here, and see,  
16 by looking at the heart of the unit, if there's  
17 anything there. If there's anything there, we are  
18 going to come back in and we're going to have to  
19 grid them to define the extent, and all we are  
20 trying to do now is determine yea or nea. Is it  
21 necessary for us to grid it off at this point in  
22 time?

23 This is an asphalt runway. So when we  
24 start looking at BTX, we are going to have to go a

1 foot or two below grade to try to get away from any  
2 emulsifiers or anything else or leachate from that  
3 asphalt to determine the unit -- what was  
4 contributed by that unit. How does the committee  
5 feel? Is the -- let's back up. Is the approach we  
6 presented here, is it logical or not? You know, if  
7 it's not logical, let's go at it logically.

8 MR. PATTERSON: You're talking  
9 about drilling a hole through the asphalt; correct?

10 MR. MOSER: Correct; and we will  
11 put one of the groundwater monitoring wells there  
12 flush mounted.

13 MR. PATTERSON: What do you propose  
14 -- we're talking about three groundwater monitoring  
15 wells -- one there and ---

16 MR. MOSER: No, sir, that is a  
17 sediment sample. Right now we are not showing any  
18 groundwater monitoring wells.

19 MR. PATTERSON: Where are the three  
20 locations?

21 MR. MOSER: What I propose is put  
22 one back here because that's where we're using as  
23 our background subsurface soil sample. So let's go  
24 ahead and put a monitoring well there. It's

1 upgradient according to the topo, and it should be  
2 upgradient due to the geology. We know everything  
3 is flowing in that direction. Put one right here  
4 in the middle of the site flush mounted, or we can  
5 raise it up about a foot and have a weep hole in  
6 the bottom of it so that the water can run out of  
7 it, a little manhole cover, and then put one down  
8 here -- we can put one right here if you like.

9 MR. PATTERSON: I just wanted to  
10 get an idea of where you were talking about, in  
11 this vicinity.

12 MR. MOSER: If we can do a  
13 triangulation and ---

14 MR. PATTERSON: Larry, do you have  
15 any thought on flush mounting a well?

16 MR. FITCHHORN: I don't really feel  
17 qualified to make a judgement on that one.

18 MR. MOSER: I know there is some  
19 concern about flush mounting but what we can do is  
20 -- I don't want to put anything sticking up out  
21 here that may interfere.

22 CAPTAIN BAKER: That's an inactive  
23 runway.

24 MR. MOSER: So y'all have no

1           problem with a three-foot monitoring well?

2                           COMMANDER CARPENTER:    I don't  
3           think we would want a three-foot monitoring well,  
4           but we don't have a problem with something sticking  
5           up out of the ground.  We would at least be assured  
6           that something wasn't running off.  You don't have  
7           to go completely flush mount, but I think those  
8           inactive runways are hard surfaced.  If you have  
9           anything it would -- there would be vehicle traffic  
10          possibly in that area, so you would have to be  
11          aware of that.  Whatever you have sticking out  
12          there, you would have to have proper reflectors.  
13          We would be better off with something low about the  
14          height -- no higher than a runway type light or a  
15          cable that a vehicle could roll over and protect it  
16          so that it would at least run off and could have  
17          access.

18                           MR. MOSER:  What I have done in  
19          other locations is I brought the well head --  
20          that's a poor drawing -- I brought the well head up  
21          into a little mounted area and had a little manhole  
22          cover and put a little PVC pipe here so that any  
23          water that gets in here will run out.  It will not  
24          hold water.  We have generally set those things

1 about a foot high, and we can put enough grout or  
2 concrete around it to make a roll area and ---

3 MR. PATTERSON: That seems  
4 satisfactory. I was just looking for surface flush  
5 mounted, and some assurance that you wouldn't get  
6 infiltration. That would probably be fine.

7 MR. BRYSON: What we have done is  
8 lot of the work where we are putting wells in  
9 around the -- a traffic area is we will mound up --  
10 maybe that high over about a two foot area, and  
11 then put a -- you know, a traffic -- a supporting  
12 head on there with a pull down cover with a rubber  
13 gasket, and we just hold those suckers down and  
14 water doesn't get in them. No matter; it won't  
15 hurt them. That's just another idea.

16 MR. PATTERSON: That's fine.

17 MR. BRYSON: We're building those  
18 things where it will support traffic and have run  
19 into them.

20 MR. MOSER: So we're going to put  
21 in three groundwater monitoring wells. We're going  
22 put in one at B-2, B-1 and S-1 are shown, or may  
23 just come slightly over S-1. I don't know how deep  
24 of a channel that is. I don't want to put it in

1 the middle of a channel per se. We know that in  
2 general the groundwater flows in a southerly  
3 direction. Would it be better to move it a little  
4 bit further away as to have a little better  
5 trianglization or just keep it here as S-1?

6 MR. PATTERSON: I don't have a feel  
7 for that, you know, right now ---

8 MR. MOSER: But it is concurrent  
9 that we will put in three groundwater -- we'll do  
10 the three borings that are shown plus the sediment  
11 sample. We will run a target compound list, which  
12 will include your volatile organics, semi-volatile  
13 organics, which is also your base neutral and  
14 extracts, your pesticides, PCBs and your list of  
15 metals. Is it necessary to run BTX per se?

16 MR. PATTERSON: Probably not if you  
17 are going to do that target list and tie it in.  
18 It's going to show up there. The target list will  
19 include like Benzene; right?

20 MR. MOSER: Right; Xylene, Toluene.  
21 Generally, it's going to be between 50 and five  
22 parts per billion is the detection limit.

23 MR. PATTERSON: Okay, that's fine.

24 MR. MOSER: Okay, and we will take

1 five subsurface samples which will be tested for  
2 BTX, PCBs and pesticides and EP toxicity and one  
3 subsurface sample will be tested for the target  
4 compound list. We will pick one downgradient for  
5 that target compound list.

6 MR. PATTERSON: What type of  
7 analysis or analytical procedures were you going to  
8 do on doing the BTX?

9 MR. MOSER: It would be 8,020 SW.  
10 That is the ---

11 MR. PATTERSON: Well, is that the  
12 total extractable ---

13 MR. BRYSON: Okay, is this part of  
14 the TCL or is this a separate analysis?

15 MR. MOSER: Separate analysis.

16 MR. BRYSON: It's a -- well, doing  
17 that separately, actually what we had in the  
18 analysis which was 8250 which is good -- is the  
19 method which covers those for a lot of other  
20 compounds. 8220 is aromatic volatiles which is  
21 Benzene type compounds.

22 MR. PATTERSON: So you are going to  
23 use 8020?

24 MR. BRYSON: If it's BTX only.

1 MR. PATTERSON: The reason I ask  
2 that, I know there has been some confusion of what  
3 type of analytical procedures people have been  
4 using on BTX.

5 MR. BRYSON: Some laboratories use  
6 what they call modified 8020 where they calibrate  
7 with a -- with the original type material that was  
8 at the site. But we are going to do it separate by  
9 the method.

10 MR. PATTERSON: Good.

11 MR. MOSER: The site is also  
12 proposed to have one sediment sample per target  
13 compound list and one sediment sample for EP  
14 toxicity, one surface soil sample for target  
15 compound list and one surface soil sample for EP  
16 toxicity. These will all be grab samples. So we  
17 will reflect the three groundwater monitoring wells  
18 in the final report. Any other questions or  
19 concerns about this particular site?

20 MR. BRYSON: If there's no more  
21 questions on Site 1, we will move on to Site 2.  
22 SWMU No. 2 is the south side landfill. We looked  
23 at it at the last TRC. For those of you who  
24 weren't here, that's down by the south gate which

1 is just east of there. You drive down an unpaved  
2 road, and there's an old demolition site in that  
3 area. You can see some concrete sitting out there  
4 by the road as you drive down there.

5 It's being -- it's growing up now in the  
6 trees, and as far as anybody knows, there's never  
7 been no hazardous materials down there. As I said,  
8 there's chunks of concrete, the tie beams or  
9 whatever sticking up through the surface.

10 MR. MOSER: Excuse me, Harry. Site  
11 No. 2 is the old landfill for the base.

12 MR. BRYSON: I'm sorry. I had it  
13 confused. Yeah, this is the solid waste landfill.  
14 Let me correct myself. What you can see down there  
15 is old demolition waste. You can't see all the  
16 trash that was put in there originally. You can  
17 see rusty cans about half buried in the surface.  
18 That's about it.

19 MR. MOSER: We know just about  
20 everything base generated went to this landfill.  
21 We have done initial testing, and we have put in  
22 five groundwater monitoring wells at this  
23 particular site. We have tested it. We found  
24 metals present but not any metals to exceed the

1 drinking water criteria.

2 We plan to go back into the existing five  
3 groundwater monitor wells and perge them for depth  
4 to make sure they are valid -- still valid wells.  
5 We plan to pull groundwater samples from each of  
6 the wells. We are going to test one of the  
7 downgradient wells for the target compound list.  
8 The other four wells, we are going to test for  
9 semi-volatile organics, phenols, PCB and  
10 pesticides. The last time we only tested them for  
11 volatile organics. We didn't test them for  
12 semi-volatile organics. Is it necessary to test  
13 for metals?

14 MR. LACHAPELLE: This was used for  
15 a base landfill for the last 20 years?

16 MR. MOSER: Correct.

17 MR. LACHAPELLE: I would think some  
18 of the batteries and some of the other regular  
19 parts were landfilled in that area.

20 MR. MOSER: Correct.

21 MR. LACHAPELLE: I would like to  
22 see a heavy metals testing.

23 MR. MOSER: Certainly. We were  
24 planning to take a target compound list and run it

1 on one of the downgradient wells for everything,  
2 and since we did not find any metals previously,  
3 that's the reason why we were showing the rationale  
4 we did. But we will include total metals because  
5 that's groundwater which will essentially be your  
6 extracts. Filtered or unfiltered?

7 MR. PATTERSON: Unfiltered.

8 MR. MOSER: Suspended, then.

9 MR. PATTERSON: Did you give any  
10 consideration to TOC?

11 MR. MOSER: The LX?

12 MR. PATTERSON: Yes.

13 MR. MOSER: No.

14 MR. PATTERSON: That's one of the,  
15 I guess, key test we do when we are trying to  
16 assess a site is TOC. That's one of the things  
17 that we noticed, and I'm kind of curious that it  
18 didn't show up.

19 MR. BRYSON: We have done TOC on  
20 sites in the past, but we know -- when you are  
21 doing this many, it doesn't give you a ---

22 MR. PATTERSON: If you are going to  
23 do a significant enough of an organic analysis,  
24 that will just kind of stand out.

1 MR. BRYSON: There so much  
2 vegetation in there, you know, there's no way of  
3 telling what is from the landfill and what is from  
4 the decayed vegetation that's growing now.

5 MR. PATTERSON: We are talking  
6 about groundwater sampling -- that decaying  
7 vegetation is going to affect groundwater sampling?

8 MR. BRYSON: Yeah, you will get  
9 organic carbon that might pull down through it.  
10 How much, it's anybody's guess.

11 MR. PATTERSON: I'll think about  
12 that.

13 MR. BRYSON: We just haven't been  
14 able to do a lot on TOC unless we are doing it for  
15 one of the few range of analyses. When we are  
16 doing the TOC numbers, it's doing -- nobody knows  
17 what to do with it once you get the numbers.

18 MR. MOSER: I thought you said TCL.

19 MR. LACHAPELLE: I have one more  
20 question. Other than your parameter -- on this is  
21 Page 36, you left off the Corps ---

22 MR. BRYSON: No, we just made a  
23 mistake, I suppose. We will have to go back and  
24 check.

1 MR. LACHAPELLE: It's not in this  
2 manual.

3 MS. PUCKER: No, I went ahead and  
4 added it after we sent this out.

5 MR. MOSER: That was just a ---

6 MR. LACHAPELLE: So there's  
7 something in addition to this?

8 MS. PUCKER: Just on my review -- a  
9 further review, I noticed that it wasn't in there,  
10 but it will be in the final.

11 MR. BRYSON: We will go by the  
12 SW-846 and make sure we've got all this in here.

13 MR. MOSER: On surface water, we  
14 plan to pull one surface water sample. Is there  
15 any need to run a surface water sample? Surface  
16 water sample that we are going to pull was the  
17 water flowing through the ditch. We had both  
18 run-on and runoff from the site. I don't know how  
19 much or what the surface water would tell us if we  
20 find something. I would say let's go with two  
21 sediment samples, one upstream and one downstream  
22 of the site.

23 MR. PATTERSON: Is the site  
24 leaching?

1 MR. MOSER: There is no surfactant  
2 that we have observed to date coming out of that  
3 landfill. We will walk the bank and look for that.  
4 If we find surfactant, we will take a sample of  
5 that.

6 MR. PATTERSON: I don't know how  
7 much surface water sample is going to tell you  
8 about it.

9 MR. MOSER: I propose just deleting  
10 that surface water sample and then just put in two  
11 sediment samples, one upstream and downstream of  
12 the site, which we can look at what the sediments  
13 are prior to the site and what the sediments are  
14 after the water transports it across the site in  
15 any potential.

16 I would recommend that we use the  
17 semi-volatiles because any volatiles may or may not  
18 be hung up in that sludge. It will probably not be  
19 there. We will test for your cyanide, your  
20 phenols. Being an agricultural area, I guess we  
21 need to test for pesticides and PCBs so we can  
22 determine what the contribution to that is.

23 MR. PATTERSON: And in doing so,  
24 when you start determining concentration

1 pesticides, you are certainly going to have one  
2 upgradient because you are going to find some.

3 MR. MOSER: Correct.

4 MR. PATTERSON: And then go  
5 downgradient to see if there's any increase because  
6 you will find some out there.

7 MR. MOSER: Correct. And, of  
8 course, we'll run metals. We can run total metals  
9 or EP tox or both.

10 MR. PATTERSON: On the ---

11 MR. MOSER: Sediment.

12 MR. PATTERSON: Both. If you are  
13 going to do totals, then all you have to do is do  
14 an extract on them. I'd say give us both numbers.

15 MR. MOSER: Is it necessary to run  
16 a target compound list on any of the sediments? I  
17 don't think because we have covered everything with  
18 semi-volatiles, cyanide, phenols, PCB and metals.  
19 The only thing we left off were the volatiles.  
20 That's the only thing that won't be showed on the  
21 target compound list.

22 On soil surface, we are proposing to take  
23 three soil surface samples. There is going to be  
24 Boring B-1 -- that's surface soil. Where are you

1 going to take surface soil -- B-1, B-2 and B-3.  
2 B-1 being a background, we plan to run  
3 semi-volatiles, cyanide, phenols, pesticides and  
4 PCB. Is it necessary to run at the surface soils?

5 MR. PATTERSON: PCBs?

6 MR. MOSER: Just go ahead and run  
7 it?

8 MR. PATTERSON: Yeah, I would think  
9 so.

10 MR. MOSER: We will do both metals,  
11 and on one of the downgradients, we will run a  
12 target compound list for both of the soils. From  
13 each of the three borings, we will take two  
14 subsurface samples. We will run the same  
15 parameters, semi-volatiles, cyanide, phenols, both  
16 metals and one target compound list on the  
17 downgradient. Downgradient will either be B-3 or  
18 B-2.

19 MR. PATTERSON: Downgradient --  
20 groundwater downgradient or topographically?

21 MR. MOSER: It turns out to be  
22 both. The shallow groundwater follows the same  
23 direction as the topo in all the information we  
24 have received, and we are only talking about the

1 shallow groundwater and tacking into that. We  
2 don't plan to go unless we find something. Do you  
3 have anything to add, Harry?

4 MR. BRYSON: No.

5 MR. MOSER: Does anybody have  
6 anything else to add?

7 MR. PATTERSON: On this SWMU?

8 MR. MOSER: Yes.

9 MR. PATTERSON: Yes. I have a  
10 couple of questions. I don't know if this is true  
11 or not. It said that the contents of the landfill  
12 cells will be characterized. I was ---

13 MR. MOSER: It's stated in here  
14 that -- I don't pose that we open that landfill up  
15 and look at the contents unless you would like to  
16 do that.

17 MR. PATTERSON: I am just curious.  
18 How are they going to characterize it?

19 MR. MOSER: The way most people  
20 characterize landfills is take a backhoe and go in  
21 there and start excavating, sit out beside it and  
22 catalogue the waste. When they get through a  
23 certain depth, they push it back in the hole just  
24 to prove ---

1 MR. PATTERSON: What's that going  
2 to accomplish? I mean how much can you tell about  
3 it?

4 MR. MOSER: All characterization  
5 does is just reverify what -- you know, if  
6 everybody is willing to believe the documentation  
7 that we have presented before, there is no point in  
8 doing that.

9 MR. BRYSON: What it can do and is  
10 typically used for is to see if there's any -- just  
11 kind of spot checking to see if there's anything in  
12 there that shouldn't be or was not known.

13 MR. LACHAPELLE: Was there any  
14 ordnance buried in that landfill?

15 MR. MOSER: None to my knowledge  
16 and none ---

17 MR. ROBERTSON: None that we know  
18 of.

19 MR. PATTERSON: I just really --  
20 the value of doing that, I can't follow that. The  
21 stuff has been there 20 years, and I think if we  
22 just assume and just randomly dig and look at what  
23 you pull up -- at this point, I don't see what it  
24 will accomplish. It might make a bigger mess.

1 That's my experience when you start digging in  
2 those sites. You make a bigger mess than what you  
3 expect to, and I just don't know what the value of  
4 the information might be. You might dig up an old  
5 newspaper or an old paint can.

6 MR. MOSER: That's about all we  
7 expect to find.

8 MR. PATTERSON: I think efforts  
9 could be a lot more fruitful, in my opinion, in  
10 other areas.

11 MR. FITCHHORN: Yeah, my reaction  
12 when I read that was, "Why." If you have a good  
13 sampling program, you are going to get a lot of  
14 information in the operation of digging of that  
15 landfill. I don't see any reason for doing it,  
16 either.

17 MR. MOSER: Okay. Then we will  
18 delete that part from the final document.

19 MR. PATTERSON: I have another one  
20 to bring up.

21 MR. MOSER: Certainly.

22 MR. PATTERSON: I think on Page 43  
23 -- now, that's the page number on mine at the  
24 office, and I guess it should be same, but from

1 this manual here ---

2 MR. MOSER: The work plan?

3 MR. PATTERSON: Yes. Contaminant  
4 source location -- I don't -- again, I am just kind  
5 of curious. What does that mean? Right up here at  
6 the top, the following features of south side  
7 landfill characteristics would be subject to the  
8 initial evaluation. Contaminant source location.  
9 I just didn't understand it, and I just wanted  
10 to ---

11 MR. BRYSON: In this case, it would  
12 just be the base -- the naval air station. That  
13 was the source of the original material. That's  
14 just something to put in the -- to complete the  
15 paperwork.

16 MR. PATTERSON: Okay, what about  
17 integrity of the landfill? What are we -- how are  
18 you going to approach that?

19 MR. BRYSON: In this case, it would  
20 be a general statement on the integrity of the  
21 landfill that it was an unlined that typically  
22 operated which was -- what we call an open dump  
23 with some cover ---

24 MR. PATTERSON: Have you done

1 any ---

2 MR. BRYSON: --- but not as  
3 landfills are required to be operated today.

4 MR. PATTERSON: Do we have any  
5 permeability data on the bottom of the cut or what  
6 we would consider to be the bottom of the cut?

7 MR. MOSER: George, do you want to  
8 answer that?

9 MR. ROBERTSON: There's not many  
10 records on it.

11 MR. BRYSON: I would seriously  
12 doubt it. Just guessing, it would take a record  
13 search to see if there was any.

14 MR. PATTERSON: If you put any  
15 monitoring wells, I was wondering if you could  
16 maybe pull us a split spoon of permeability?

17 MR. BRYSON: I don't see any  
18 problems with that.

19 MR. MOSER: I have no problems with  
20 doing that. We did permeability on some Shelby  
21 tubes and come up with samples in the verification  
22 study. I can't recall right off the top of my head  
23 if this is one of the sites or not that Shelby tube  
24 permeability was run on. I have no problem with

1 doing that at all.

2 I think in addition to what is shown  
3 here, we should run permeability at least on the  
4 north side and south side. We should run -- look  
5 at grain size, the amount of fines, the cations and  
6 exchange and all this when we look at these sites.  
7 We should look at both the north and south. I  
8 think the soils and the geology is pretty much the  
9 same, but I would only propose -- let's just pull  
10 one here at the south side and one at the north  
11 side unless you want one at each site.

12 MR. PATTERSON: What, permeability?

13 MR. MOSER: Yeah, permeability and  
14 relative permeability and look at the cations  
15 exchange, the total organic content of the soil.

16 MR. PATTERSON: I would probably be  
17 satisfied with just the permeability, and I would  
18 probably -- I wouldn't try to interpolate from the  
19 north side to the south side. From just what work  
20 we have done in this area -- I don't if you can do  
21 that. I thought it might be wise to at least have  
22 something on the record about permeability.

23 MR. BRYSON: The permeability test  
24 -- we are talking about EP 9100. Let's make sure

1 we are talking about the same thing.

2 MR. PATTERSON: Basically, the one  
3 we use as the standard established by the Corps and  
4 that may parallel that number. I'm not sure. It's  
5 the one we use in evaluating the sites.

6 MR. MOSER: Okay, what we will do  
7 is one satisfactory from this area and one in the  
8 north end or -- yeah, that would get your concern  
9 -- would that get your concern? Now, the permit  
10 says that the RFI, speaking of a different document  
11 requires all this information. Is it necessary  
12 that we get that information for each site?

13 MR. FITCHHORN: That is our wish,  
14 yes, except for some of the sites where you  
15 subtract the collective ditches. We are talking  
16 about the individual sites, particularly  
17 uncontrolled for decades, and there's no point in  
18 saying, "Well, okay we've got these wastes that  
19 went into the landfill, and what is the potential  
20 of the wastes going down into the groundwater when  
21 you don't know anything about anything between the  
22 waste and the groundwater.

23 Now, you do have, in your sampling and  
24 analysis plan, a nice list of field work to be

1 conducted by the geologist. If that works and you  
2 get those projects -- for example, on Page 58 in  
3 the sampling and analysis plan, it covers quite a  
4 few parameters that should be the relative  
5 permeability. If you get that information, we will  
6 be quite pleased.

7 MR. MOSER: That's what we are  
8 shooting for for each site.

9 MR. MOSER: This list on Page 58,  
10 that's an environmental engineer's dream list.

11 MR. FITCHHORN: I noticed that this  
12 list or a similar list was presented for each of  
13 the non-ditch SWMUs, each of the SWMUs where you  
14 had a specific small location and that's wonderful.  
15 That's great.

16 MR. BRYSON: The thing is, this is  
17 going to -- it has a dollar value attached to.  
18 Robert is going to have to make a decision on what  
19 they can do to stay in, budget wise.

20 MR. MOSER: As of right now, I plan  
21 to go after all these parameters shown here on Page  
22 58 for each of the sites that are non-ditch.

23 MR. PATTERSON: That looks good.

24 MR. MOSER: We have people out in

1 the field -- all we're talking about is a few  
2 parameters here -- that a lot of them are  
3 traditional geologist, soil-type parameters. It  
4 would be easily obtained at a reasonable cost, too,  
5 by a lot of people out in the field. Any more  
6 questions concerning Site 2?

7 Okay, let me recap it right quickly. We  
8 are going to monitor the existing groundwater  
9 monitoring wells. There are five of them. We are  
10 going to do semi-volatiles, phenols, PCBs,  
11 pesticides and suspended metals for the wells, and  
12 one of the downgradient wells, we will do a target  
13 compound list and shoot rainbows and see what  
14 appears.

15 Delete surface water samples. We will  
16 pull two sediment samples, one upstream and one  
17 downstream. We'll do semivolatiles, cyanide,  
18 phenols, PCB, pesticides, metals, both total and EP  
19 tox. Soil surface will be taken at the three  
20 borings shown on the map, one which is upgradient  
21 and two which are downgradient.

22 Subsequently, two additional soil samples  
23 will be gathered. There will be cyanides, phenols,  
24 pesticides, PCBs, metals, both total and EP tox,

1 one from the surface and one from the subsurface  
2 and downgradient will be tested for the target  
3 compound list. With that, we will go on to SWMU  
4 No. 3, the N-121 plating shop.

5 MR. BRYSON: The N-121 plating  
6 shop, the SWMU No. 3 is the dry well that was used  
7 to catch waste from the shop. The building is  
8 located on the north side. I suppose everybody  
9 here is familiar with that. The plating shop used  
10 cadmium, chromium, cooper, different plating  
11 materials and cation based material discharged to  
12 the dry well at estimated 900 gallons per day  
13 during the period of operation, and plating waste  
14 went in there. Table 3-5 is our initially proposed  
15 list of analyses to run for different samples  
16 there.

17 MR. MOSER: And the table does have  
18 some flaws in it in the aspect that Groundwater  
19 Monitoring Well No. 1 is not shown. We plan to put  
20 in an additional groundwater monitoring well. Page  
21 69 shows the location of that being to the west of  
22 the dry well, which is downgradient as far as the  
23 ditch flow is concerned, that way we will have  
24 three groundwater monitoring wells. There will be

1 three groundwater samples pulled. It will be  
2 tested for cyanides, total metals and be tested for  
3 -- well, that's it, total metals.

4 One sediment sample would be pulled.  
5 That sediment sample will be going down the ditch  
6 bank where potential runoff would occur. That may  
7 be on the south side of Casablanca Street rather  
8 than on the north side as shown. We will have to  
9 take a look -- the geologist will have to look when  
10 he goes to pull that sample. That sample will be  
11 tested for EP toxicity.

12 Table 3-5 shows for target compound list,  
13 also. I would not recommend doing a target  
14 compound list because it is -- it would be a  
15 sediment -- surface soil type sample and the  
16 chances of finding any volatile organics are slim  
17 to none, and all we're looking at are cyanides and  
18 metals. I would propose let's go back to cyanides  
19 and total metals.

20 On soil surface, there will actually be  
21 none of those because we're going to be taking  
22 samples away from an area where there's a  
23 likelihood of run-on from this. We plan to do soil  
24 borings -- soil surface sampling. What we are

1 proposing to do -- whether it clearly reflects in  
2 this particular set of plans -- is we propose where  
3 B-4 is located, go in with the backhoe and excavate  
4 that sump and get rid of the rocks and surrounding  
5 foot or foot and a half of soil, and then put in  
6 our Boring B-4 and take our samples. Now, of  
7 course, if we reach the groundwater, we are going  
8 to put in a groundwater monitoring well if the soil  
9 reaches that point.

10 MR. PATTERSON: How deep is the  
11 sump?

12 MR. MOSER: Twleve or 14 feet?

13 MR. BRYSON: It's ten by ten by  
14 six. It's six feet deep. Do you have any better  
15 information on that?

16 MR. MOSER: No, I don't.

17 MR. PATTERSON: When you say you  
18 are going to get rid of what is in there, what are  
19 we going to do with it?

20 MR. MOSER: We are going to treat  
21 it as a hazardous waste and dispose of it as  
22 hazardous waste. We know it's hot from our  
23 previous analysis. Let's get rid of the source,  
24 and we can attack the resident, what is left, with

1 this program.

2 We are proposing to do four soil borings  
3 as shown on Page 69 there. We plan to take two  
4 samples from each of the borings. I propose  
5 running eight cyanides, eight total metals and  
6 eight EP tox metals and doing away with the target  
7 compound list.

8 We're dealing with plating waste. We  
9 also plan to do wipe sampling on the interior of  
10 the building for cyanides and metals. We are doing  
11 this is because what we would like to do is  
12 demolish that building. I have sent this work  
13 plan, in addition to these, looking for concurrence  
14 of the sampling of the interior of the building,  
15 particularly so we can go ahead and test that  
16 building and turn that information over to our  
17 contract -- our design group to design the  
18 demolition of this building. Based on that  
19 testing, it will determine how that building will  
20 be disposed of. That's what we plan to do at this  
21 site.

22 COMMANDER CARPENTER: In your  
23 paragraph on 64 about soil sampling and you talk  
24 about being drummed or properly being disposed of,

1           you say on the NAS grounds. We're not going to  
2           dispose of this on the base, are we?

3                       MR. MOSER: We will not be  
4           disposing of the material itself from that sump,  
5           but our well cutting will be drummed, and until we  
6           get our analysis back and make a determination of  
7           whether or not we are dealing with hazardous waste  
8           or some other special waste or no hazardous waste  
9           at all, we are just going to drum it and turn it  
10          over to the station. I'll have to work with you  
11          for the material inside that sump.

12                      COMMANDER CARPENTER: So we will  
13          dispose of any hazardous material off base as a  
14          hazardous landfill?

15                      MR. MOSER: Correct.

16                      COMMANDER CARPENTER: I guess  
17          that's -- that doesn't specify that very well in  
18          that area.

19                      MR. BRYSON: This is -- we will  
20          change the wording on this. We have another  
21          section in the plan, I believe, that deals with  
22          managing those types of waste.

23                      COMMANDER CARPENTER: Just refer  
24          to that section.

1 MR. BRYSON: We will straighten  
2 that out. I don't like the way that reads myself.  
3 We did have a long discussion back in the fall,  
4 Robert and I and some people here on base, about  
5 it.

6 COMMANDER CARPENTER: We can hold  
7 it in the storm cellar and all that.

8 MR. BRYSON: What we are talking  
9 about -- that's the way this should be until we  
10 determine what the status of it is and then we will  
11 dispose of it accordingly.

12 MR. MOSER: To recap right quickly,  
13 we are going to put in an additional groundwater  
14 monitoring well. We're going to test the two  
15 existing wells. We are going to do a sediment  
16 sample. We are going to do subsurface samples of  
17 four locations, one of the locations being in the  
18 middle of the sump after we remove the rocks and  
19 surrounding foot or foot and a half of soil, and  
20 we're going to do four wipe samples in the interior  
21 of the building at this particular site. Any other  
22 comments? We are going to be looking at cyanides  
23 and metals. Okay, if there are no other comments,  
24 we will go to SWMU No. 4.

1 MR. BRYSON: SWMU No. 4 is the  
2 N-121 plating shop storm sewer drainage ditch which  
3 is a continuation from the Site 3, the dry well.  
4 We have broken it up in separate areas because of  
5 the spacial difference and the fact that the ditch  
6 flows off towards the southwest kind of following  
7 the road system, and on Page 73 is the drawing  
8 showing the ditch.

9 MR. MOSER: Paul, you have received  
10 information. EPA has received the information  
11 concerning the testing we have done in the storm  
12 sewer. We have tested the ditch before. We have  
13 found a little bit of metals. We have tested  
14 recently and did not find anything, but we are  
15 still going to go back and test it.

16 What we are proposing to do is take four  
17 sediment samples at locations shown, S-1, S-2, S-3,  
18 S-4. We plan to test them for BTX -- BTEX --  
19 simply because of some of the operations upstream,  
20 potential runoff from some of the other operations  
21 that may have occurred where vehicles were parked  
22 or whatever. We are going to go ahead and take a  
23 look for those constituents. We are going to look  
24 at what is associated with plating operations,

1 cyanide and metals, and that includes EP toxicity  
2 metals for one of the samples, and we plan to look  
3 at pesticides and PCBs. Instead of Table 3-6  
4 showing three, I suggest we run it on all four of  
5 the sediment samples. Is it necessary to run a  
6 target compound list on this ditch? We're going to  
7 be running BTX, cyanide, pesticides, PCB, both  
8 total and EP tox metals.

9 MR. PATTERSON: Does the ditch  
10 drain -- I guess I'm just -- when you asked if the  
11 -- about the necessity for running the target  
12 compound list, does that drain, basically, the  
13 whole base?

14 MR. MOSER: It drains a large  
15 portion of that north area -- industrial area  
16 there. There is a ditch that comes off the end of  
17 the runway and ties in near where the three is  
18 shown. So we want to -- we can run a -- I mean,  
19 the target compound list is going to test for VOCs.  
20 I don't think ---

21 MR. PATTERSON: I don't think you  
22 are going to have much of a hit on that.

23 MR. BRYSON: Not anything  
24 associated with past operation anyway.

1 MR. FITCHHORN: Besides, you are  
2 talking about draining a large part of the  
3 industrial area with the ditch there. We are going  
4 to require investigation of those ditches  
5 specifically anyway, and what you get in this  
6 particular sampling, it is not necessarily going to  
7 tell you where it came from, and what we will want  
8 on those industrial ditches, we will give you that  
9 information, and it doesn't seem to be necessary to  
10 do a TCL on this ditch.

11 MR. MOSER: All right, then, we  
12 will let it stand. We will delete TCL. SWMU No.  
13 5, the fire fighting training area.

14 MR. BRYSON: Okay, the fire  
15 fighting training area is currently in use. As a  
16 matter of fact we saw some flames and smoke over  
17 there this morning. It's in use today. It's the  
18 north side of the complex. Just go about 150 or  
19 200 feet behind the north of the site of the base  
20 service station. You can just about see it from  
21 the road if you look. From the information on Page  
22 76, it has been in operation since '49. Some  
23 additional facilities were built in '77 to contain  
24 material, and the operation now shouldn't

1 contribute to additional contamination. Am I  
2 correct on that?

3 MR. MOSER: Under normal  
4 conditions, it should not.

5 MR. BRYSON: And ---

6 MR. PATTERSON: What was that  
7 statement you just made, now, about ---

8 MR. MOSER: Under normal  
9 conditions, it should not contribute as far as  
10 releasing jet fuel to the surrounding -- outside  
11 the concrete wall other than by volatilization or  
12 by ---

13 MR. PATTERSON: Well, now, they've  
14 had some problems over there ---

15 MR. MOSER: With the water  
16 separator.

17 MR. PATTERSON: Yeah.

18 MR. MOSER: Correct. You might --  
19 that's -- they may have had some releases from  
20 that. Talking with Larry Fitchhorn today, we are  
21 going to put in three groundwater monitoring wells  
22 in this area. It is not shown in this work plan,  
23 but I think it would be prudent to go ahead at this  
24 point in time. So we plan to put three groundwater

1 monitoring wells, hopefully one upgradient. I'm  
2 not sure which way the water will flow here, but if  
3 it keeps in the direction that it flows elsewhere,  
4 upgradient will be to the north. Downgradient will  
5 be to the south. However, the drainage ditches are  
6 to the north on this particular site.

7 So what we are going to do is we are  
8 going to propose putting one in the area close to  
9 where B-9 is shown -- Boring B-9, it's in the  
10 northern most portion -- make that a groundwater  
11 monitoring well, and then in the area of B-4 and  
12 B-7 -- B-4 and B-7, they are not going to be the  
13 standard three foot height. We are going to do  
14 like we did out at Site 1, make it mounted only a  
15 few feet high because the firemen will be dragging  
16 their hoses around, and we don't want anything to  
17 impede their hoses.

18 Also keeping them that low, the heat  
19 should not interfere with our PVC. If we get too  
20 close to this, we won't have much of a well head  
21 left. I have reservations about putting borings  
22 down through these concrete fire mats simply  
23 because of the fact of getting good grout seal back  
24 on that.

1 MR. PATTERSON: My observations out  
2 there indicated -- have indicated that when you  
3 were having trouble with those water separators,  
4 there were considerable amount of releases around  
5 that. Do you think -- I think that's a very  
6 possible release site right there. I mean, do you  
7 think we need to characterize that anymore?

8 MR. MOSER: Did y'all ever put a  
9 groundwater monitoring well out there?

10 MR. ROBERTSON: Yes.

11 MR. MOSER: So you have one sitting  
12 out there by it?

13 MR. PATTERSON: I believe we had  
14 talked about it.

15 MR. MOSER: We can sample that one.  
16 Tonya?

17 MS. BARKER: We just got through  
18 with our underground storage tank, installing the  
19 monitoring wells. We call them observation wells  
20 because they are the small two inch. But we  
21 installed seven around both the east and west ends  
22 of this.

23 MR. MOSER: Oh, you've got seven  
24 around there now?

1 MS. BARKER: Right. We put them in  
2 this month. So we've got seven where the tanks are  
3 located. Over here, we've got four on this side,  
4 and then where the other tank is over here, we've  
5 got three around that one, and then we've got one  
6 close to the oil/water separator. So we've got  
7 several. And the one by the oil/water separator is  
8 the one you're talking about. It's a four-inch  
9 well.

10 COMMANDER CARPENTER: And we just  
11 finished the project for the curbing around the  
12 oil/water separator. So there's -- before, it was  
13 just a flat surface. Now, we have the curb that's  
14 built around and flips out around that oil/water  
15 separator, also. We finished that project.

16 MR. MOSER: I just asked Harry if  
17 they were valid wells as far as meeting our  
18 criteria of assuring a good quality well in order  
19 to get a good quality groundwater sampling. What  
20 we will do is we'll review the data that you have,  
21 but we will pull samples from each of the wells if  
22 they are valid wells. If we don't consider them  
23 valid wells for this program, then we will go in  
24 and put in additional wells by that oil/water

1 separator. You say there are seven wells out  
2 there?

3 MS. BARKER: Yes.

4 MR. MOSER: So what we will do is  
5 we will -- in the addition to their seven, we will  
6 go ahead and add three around the mats for sure.  
7 So we will start getting a lot of data from this.  
8 Those three, I feel sure that they are to my  
9 protocol. We will evaluate the one by the  
10 oil/water separator and if it meets our protocol,  
11 then we will use it, pull a sample, but if not,  
12 I'll put one on the side of the fourth well there;  
13 okay?

14 MR. PATTERSON: Okay.

15 MR. MOSER: And we will test these  
16 for your volatiles, your semi-volatiles, pesticides  
17 PCBs and your metals. Is it necessary to do a  
18 target compound list on one of them? We'll go  
19 ahead and run a target compound list on one that we  
20 determine downgradient. That way we will shoot in  
21 the rainbow.

22 MR. PATTERSON: What about -- in  
23 that barrage of testing, what about TPH?

24 MR. MOSER: Well, we will pick up

1 most of your hydrocarbons under this process, but  
2 if -- it will just tell us if we spike. This -- in  
3 our test here, we will just look at the specific  
4 compounds. We will be looking at the specific  
5 compounds rather than going after hydrocarbons per  
6 se, and we will be setting ARARs on the specific  
7 compounds rather than say total hydrocarbons. Now,  
8 if y'all would like to see total hydrocarbons, that  
9 may ---

10 MR. BRYSON: I think what Paul is  
11 getting to is that the state of Tennessee rules  
12 govern -- see, Paul, regarding clean up of UST  
13 spills and related things. That's one of the  
14 things they require is TPH.

15 MR. MOSER: Fine. If that's an  
16 ARAR, we'll put it in. That's good enough. We  
17 show borings -- we show a total of nine borings.  
18 There, we plan to run BTX. I guess we will run  
19 total hydrocarbons on that as well.

20 MS. PUCKER: Two of those borings  
21 we will take out because they are in the fire mats,  
22 and you didn't want to ---

23 MR. MOSER: I prefer not going in  
24 the fire mats. We can go down and try to drill

1 sideways. How does the committee feel? How does  
2 the station feel?

3 COMMANDER CARPENTER: I prefer  
4 you not go through the fire mats. We have to keep  
5 reworking those cells anyway. We have a lot of  
6 spalling from the heat. So it is a problem for us.

7 MR. MOSER: I hate to ruin the  
8 constructual integrity of those fire mats.

9 MR. BRYSON: So, Robert, you want  
10 to put those somewhere else or just delete them?

11 MR. MOSER: I would like to go in  
12 beside it and see if we can do a drill sideways. I  
13 don't necessarily want you to delete them.

14 MR. PATTERSON: Why don't you try  
15 to do that.

16 MR. MOSER: See if we can go  
17 sideways. I sure would hate to put a hole in that  
18 mat.

19 MR. BRYSON: Okay, do you have any  
20 feeling of where you want to intercept the center  
21 line of those mats, then, how deep?

22 MR. BRYSON: That will be something  
23 that we will have to make the right rig for slant  
24 drilling.

1 MR. MOSER: What we will do, Harry  
2 -- what Harry is asking is generally when you have  
3 contamination, you have the surface, and as  
4 contamination goes down, it generally spans out,  
5 and what he's asking is -- here's the edge of the  
6 fire mat here and the edge of the fire mat there.  
7 They have to know what angle you want to drill at.  
8 Essentially, they are wanting to know what that  
9 depth is there. I guess what we are going to have  
10 to do is take a look at the soil type and try to  
11 make a determination, look at the mat.

12 MR. BRYSON: My feeling is we need  
13 to look at what groundwater elevation is to try to  
14 hit just above that, you know, to get the best  
15 data. Most of what we're going to see, if  
16 anything, is floaters, which means if that's as  
17 high as I recall it is there, it's going to be a  
18 trick. It's going to be low-angle drilling.

19 MR. MOSER: Let's finish up the  
20 soil boring. Surface soil samples from each of the  
21 nine borings, we plan to run total recoverable  
22 hydrocarbons, BTX, pesticides, PCBs, metals, both  
23 total and EP tox. We have total -- target compound  
24 list shown. I propose we do away with that since

1 this is a surface soil sample.

2 We do plan to pull two subsurface soil  
3 samples from each of the nine borings, a total of  
4 18 samples. On those, we will run total  
5 recoverable hydrocarbons, BTX, PCB, pesticides,  
6 both types of metals, and we will run a target  
7 compound list on one of the samples. Of course, we  
8 will be using the HNU to make a determination of  
9 where those samples will be pulled or some similar  
10 type of device. They will all be pulled above the  
11 water table or just at it. Is that agreeable with  
12 everybody? Is it necessary to run the  
13 semi-volatiles at this time or the volatiles? What  
14 they've had predominantly at that fire fighting  
15 training ring has been jet fuel. That's all we  
16 really expect to find. Looking at it from the RCRA  
17 ARAR, there, Larry ---

18 MR. FITCHHORN: The problem is the  
19 past practice you had of burning waste fuels. You  
20 burn the whole conglomeration of things you check  
21 before. So you are likely to have -- you might  
22 possibly have a lot more than just that.

23 MR. MOSER: So we will throw in the  
24 volatiles and semi-volatiles which includes your

1 base neutral and extracts in there, and we will do  
2 that for the subsurface samples. We're already  
3 going to do that for the groundwater samples. All  
4 right, any other questions we have concerning that?

5 Sediment samples, of course, we are going  
6 to pull four across there. We will test sediment  
7 samples just like we did. On surface soil samples,  
8 we will delete the target compound list. We will  
9 be -- this ditch that you see running at the north  
10 end of the property is the same ditch -- in other  
11 words, we are going to be pulling samples out of  
12 SWMU 4. But the samples that we are proposing are  
13 in the tributary ditches that received the runoff  
14 from this site. We don't -- we only plan to test  
15 those tributaries and not the actual major ditch  
16 itself since we are testing it already in Site No.  
17 4.

18 Before I move on, does anybody have any  
19 concerns about the three two by eight by one pits  
20 located to the north of the east fire mat? Would  
21 you guys like to see any sampling done around  
22 those? Those were little pits used for hand-held  
23 fire extinguisher exercises. They did hold fuel  
24 way back when.

1 MR. LACHAPELLE: Are they concrete  
2 pits?

3 MR. MOSER: They are concrete pits.

4 MR. LACHAPELLE: And used JP-4?

5 MR. MOSER: I would assume they  
6 did. I would just have to go with what the reports  
7 say, to the best of my knowledge. George?

8 MR. ROBERTSON: I don't know.

9 MR. LACHAPELLE: If they used these  
10 pits for the last ten years, I would say we should  
11 monitor these.

12 MR. MOSER: These three pits have  
13 not been used in a number years. They are  
14 essentially almost grown over. All you see is a  
15 little bit of concrete out there. So putting one  
16 soil boring down by it ---

17 MR. LACHAPELLE: Just rule it out.

18 MR. MOSER: Okay, we will put one  
19 additional and make the total number of soil  
20 borings ten. Okay, SWMU Number 6?

21 MR. BRYSON: Okay, Page 84, SWMU  
22 No. 6 is the N-121 plating shop storm sewer ditch.  
23 That was used from 1955 until '81. It caught the  
24 electrolyte spills dripping from the acid discharge

1 four drains inside the building. For reference,  
2 the -- SWMU No. 7, the next one is the associated  
3 dry well for that one. Four drains from SWMU 7  
4 connect to the (inaudible) storm water have the  
5 mixture of the neutral acid discharge, and we will  
6 look at light contaminants being the asset in the  
7 metal constituents of the batteries, lead, cadmium,  
8 sulphuric, which were the kind of batteries that  
9 were used at different times.

10 On Page 87 -- or 89, rather, is the  
11 depiction of that. Are there any questions on  
12 that? The proposed analyses, what we propose, is  
13 Page 85 and would be discussing ---

14 MR. PATTERSON: Building 126  
15 battery shop, storm sewer and ditch -- I mean, I  
16 just turned over to Page 86, and at the top of the  
17 page under soil sampling, I may be looking at  
18 something wrong but ---

19 MR. MOSER: No, I don't have the  
20 picture he has in my document. It's actually Page  
21 89. The two got reversed in my copy. I've got 89  
22 before 88.

23 MR. PATTERSON: I guess what I was  
24 really wondering is if the -- just explain it to me

1 -- no soil samples will be collected at SWMU No. 6?

2 MR. BRYSON: We are doing sediments  
3 in this to see if anything showed up in the  
4 sediment.

5 MR. MOSER: What we have -- correct  
6 me if I am wrong, Harry -- we had a sink where the  
7 electrolyte was washed down ---

8 MR. BRYSON: Discharged to the sink  
9 and then ---

10 MR. MOSER: --- into the ditch, and  
11 we're going in and testing the ditch for your  
12 metals, assuming that if it discharged metals, that  
13 it would hopefully be tied to the organic of the  
14 soil.

15 MR. PATTERSON: You are calling --  
16 you are making a difference between sediment and  
17 soil. You will be doing sediment sampling?

18 MR. MOSER: That's correct.

19 MR. LACHAPELLE: How deep is your  
20 sediment?

21 MR. MOSER: It's generally within  
22 the first six to eight inches.

23 MR. LACHAPELLE: Why would you want  
24 not to take soil samples from the ditch since you

1 are dealing with leads? I think you would probably  
2 find ---

3 MR. MOSER: The biggest reason is  
4 you get a high erosion in these ditches around  
5 here.

6 MR. LACHAPELLE: Is it a dry ditch  
7 or is there water in it?

8 MR. MOSER: Most of the ditches  
9 I've see around here have water in them most of the  
10 time during the year. If we find something, we  
11 will go back in and look further. A lot of these  
12 ditches, they're -- you know, they are -- that's  
13 just the way sampling is generally done in ditches.  
14 You generally take a sediment sample and check to  
15 see if that is -- if it's positive, then you go  
16 back and look further.

17 MR. LACHAPELLE: I was just  
18 concerned about children playing in the ditch and  
19 it contaminated with lead in the soil. We had a  
20 case of that in the city.

21 MR. BRYSON: There's not any kids  
22 around there.

23 MR. LACHAPELLE: That's out of  
24 bounds for dependents?

1 MR. BRYSON: They are all over here  
2 on the east side or south side. There might be a  
3 few up there. There's some houses up there, but  
4 not anywhere near this area.

5 MR. LACHAPELLE: So it's a  
6 restricted area.

7 COMMANDER CARPENTER: That area is  
8 basically a restricted area. There's the fire  
9 fighting school and then we have a fuel farm around  
10 there. You hit joggers on the asphalt surface  
11 going out there and back, but it's a restricted  
12 area. That flat out there is leased -- is what the  
13 farmers use as far as farming the flat surface. So  
14 that's not an area where you would find dependents  
15 or people out there playing or utilizing it at all.

16 MR. MOSER: That is a good  
17 question. Every sampling protocol I've ever seen,  
18 you test the sediment first. If you have showing  
19 in the sediment, you come back and look at it. I  
20 would not expect to find anything simply because of  
21 the erodability of the soils here. If I find  
22 something, I am going to find it further down the  
23 ditch at a spot where it's at a culvert and falls  
24 out unless the culvert has a high scour around it.

1                   So what we are proposing there is taking  
2                   three sediment samples. I propose deleting the  
3                   target compound list from the sediment. I propose  
4                   doing three BTX, three cyanide, three phenols,  
5                   three PCB pesticides, three metals, both EP tox and  
6                   total. Is it necessary to do semi-volatiles?

7                   MR. LACHAPELLE: I don't think so.

8                   MR. MOSER: Larry?

9                   MR. FITCHHORN: I really couldn't  
10                  see why.

11                  MR. MOSER: Okay, satisfied? Let's  
12                  move on to SWMU No. 7.

13                  MR. BRYSON: SWMU No. 7 is the  
14                  plating shop dry well that was associated with the  
15                  potential runoff into the SWMU Number 6 that we  
16                  just discussed. This gravel dry well operated from  
17                  '55 to '78, waste tank concentrated nickel,  
18                  cadmium, chromium, cyanide based plating solutions  
19                  as well as rinse water from the operations. The  
20                  gravel field dry well was a ten by ten by six foot,  
21                  and that percolated the ground, and there has been  
22                  some previous sampling in this area. Page 91 is  
23                  our initially proposed summary of analyses, and the  
24                  site itself is depicted on Page 97. Any questions?

1 MR. MOSER: There currently exists  
2 a monitoring well down through the center of this  
3 particular dry well. We plan to handle this dry  
4 well just over at N-121, Site No. 3. We plan to go  
5 in there and excavate and remove the rock from the  
6 soil. By doing this, we will disturb the existing  
7 monitoring well, but we will make sure that we have  
8 a good grout fill so that we will not interfere  
9 with the groundwater.

10 We plan to put in three new monitoring  
11 wells around this particular site, take groundwater  
12 samples as well as subsurface soil samples.  
13 Looking at Table 3-9, I propose that we test for  
14 Cyanide, three, metals, three, both for suspended  
15 and EP -- well, just suspended, and delete the  
16 target compound list, because we are dealing with a  
17 plating shop. I propose -- the surface soil there  
18 is sort of misleading in the fact that the site  
19 itself is a concrete apron. It will actually be --  
20 the surface soil sample at that point in time will  
21 be a sample -- there's no point in doing it just  
22 below the concrete because we are going to be  
23 taking those outside the realm. So we'll delete  
24 the surface soil samples.

1 I propose that the three groundwater  
2 monitoring wells -- the borings that are used for  
3 those, we'll take two samples each plus take  
4 samples after we remove the dry well, two samples  
5 for that area. We'll test for -- eight of them for  
6 cyanide, eight of them for metals, delete the  
7 target compound list and test for eight EP toxicity  
8 of the soil and call it a day on that. Any other  
9 questions? Okay, Site 8.

10 MR. BRYSON: Okay, Site 8 is the  
11 cemetery disposal area, and it's up on the north  
12 side beyond the runway. It's a five-acre landfill  
13 area used for solid and hazardous waste disposal  
14 from '55 to '80. It's depicted on Page 106. Our  
15 initially proposed list of analyses is Page 99,  
16 Table 3-10. There has been some sampling done in  
17 that area, fairly limited sampling. It showed  
18 elevated chromium levels. I believe there has been  
19 some reported odors around that site. Any  
20 questions on it?

21 MR. LACHAPELLE: Who are doing the  
22 complaints, the occupants?

23 MR. BRYSON: No complaints. Just  
24 people walking around the area.

1 MR. LACHAPELLE: People are out  
2 walking around there?

3 MR. BRYSON: The environmental  
4 people.

5 MR. MOSER: There are three  
6 existing groundwater monitoring wells in that area.  
7 We plan to go in and test those three wells. We  
8 plan to look at VOCs, semi-volatiles, cyanide,  
9 phenols. We should include pesticides and PCBs and  
10 metals and one downgradient, and we'll test for a  
11 target compound list. We found elevated chromium  
12 previously. It was 0.07, and 0.05 is the drinking  
13 water standard, parts per million.

14 MR. LACHAPELLE: That's critical.

15 MR. MOSER: Yes, it is. We will  
16 walk around the site. If we see any surfactant or  
17 any leachate, we will take a sample of that and run  
18 the gamut on it. We plan to do additional borings  
19 as shown. We plan to do three borings at this  
20 particular site. We will -- on surface soil, we'll  
21 run semi-volatiles, cyanides, phenols, pesticides,  
22 PCBs and metals around one downgradient -- we will  
23 delete the target compound list simply because it's  
24 a surface soil and it's not likely that we will

1 find a volatile organic.

2 Subsurface soil, we will run two samples  
3 from each of the three borings in the subsurface.  
4 We will test it for VOCs, semi-volatiles, cyanides,  
5 phenols, pesticides, metals, and on one  
6 downgradient, we will test for a target compound  
7 list. In addition to that, we will be doing some  
8 soil or gas around the site looking predominantly  
9 for methane. Any questions? We will not be doing  
10 any excavation in this site. Site 9.

11 MR. BRYSON: Site No. 9 is the  
12 sewage lagoons. They're located outside the south  
13 gate, just beyond the big creek drainage canal.  
14 There is depiction of the sites on Page 114, and  
15 the inset drawing shows where the site is related  
16 to the base here. It was used from '69 to '78. It  
17 was part of the wastewater treatment system for  
18 Navy Memphis. The wastewater treatment facility  
19 has been demolished and the sewage goes to the city  
20 now.

21 The large lagoon is about 625 feet square  
22 and about 141,000 square feet across. We looked at  
23 that one last year. We went down and took a look  
24 at it. Table 3-11 on the next page shows our

1 proposed list to do on that one. We are doing some  
2 sludge sampling from the bottom of it. Any  
3 specific questions on that one?

4 MR. PATTERSON: Is there water  
5 still in the lagoons?

6 MR. MOSER: Yeah.

7 MR. PATTERSON: How many samples  
8 are you going to take?

9 MR. BRYSON: Of which kind?

10 MR. PATTERSON: Sludge samples.

11 MR. BRYSON: We're looking at  
12 eight.

13 MR. PATTERSON: Eight samples. And  
14 how large are the lagoons?

15 MR. BRYSON: One of them is 141,000  
16 square feet, and the other one is about 400,000  
17 square feet.

18 MR. MOSER: We have tested this one  
19 previously, and did not find anything. We're going  
20 to go back with a bigger scan. Last time, we are  
21 just looking for metals, and I think last time we  
22 only looked for EP tox rather than looking for  
23 totals, if my memory serves me correctly. I think  
24 we did EP tox and then looked only for -- I think

1 that's all we looked for.

2 This time we are proposing to go in and  
3 look for semi-volatiles, cyanides, phenols,  
4 pesticides, PCBs and both EP tox and total metals.  
5 Sludge here has a target compound list. I propose  
6 keeping that in simply because it is sludge or  
7 potential for sludge. The beds appeared -- after  
8 our previous sampling -- the sludge was removed.

9 So I am just saying in all probability,  
10 there's not going to be any volatiles there, but  
11 I'm just going to go ahead and run a target  
12 compound list since it has been submerged under  
13 water.

14 That's just -- unless y'all think I  
15 shouldn't. We are planning to put three  
16 groundwater monitoring wells around this facility.  
17 I propose that we test for volatiles and  
18 semi-volatiles, your pesticides, PCBs and your  
19 metals and run a target compound list on one of the  
20 downgradient wells deleting the phenols.

21 MR. BRYSON: Okay, Page 114 shows  
22 where the proposed groundwater monitoring wells are  
23 and the sludge location.

24 MR. MOSER: We will also be taking

1 three sediment samples from the ditch for  
2 semi-volatiles, cyanides, PCBs, pesticides and your  
3 metals, deleting the target compound list.

4 MR. PATTERSON: Where was the  
5 influence -- where is the point of influence on  
6 this lagoon?

7 MR. BRYSON: This is north up here.  
8 South is back this direction.

9 MR. MOSER: After you go to the  
10 back gate.

11 MR. PATTERSON: I was just  
12 wondering if eight samples is a reasonable number  
13 to try to characterize that. That's my thoughts.

14 MR. MOSER: I'm not trying to fully  
15 characterize the site at this time. I am just  
16 trying to go back and check the figures that we  
17 have had before to see if -- just the hit and miss  
18 type approach. What type of numbers are you  
19 looking for? Are you looking for us to sit down  
20 and come up with a more scientific sampling grid  
21 method or random numbers or whatever.

22 MR. PATTERSON: That would be my  
23 suggestion.

24 MR. MOSER: What we will then do is

1 we will break it up. What type of grid system  
2 would you like to see done? Let's see, I guess we  
3 have to do suspensions on that to determine how  
4 many grids we are going to have.

5 MR. BRYSON: The number of samples  
6 we essentially kept out -- the big one, the four  
7 smaller ones and spread them out along the length  
8 of it, just assuming the way the material flowed  
9 down there, that would give us as good an idea as  
10 anything. If we went plotting out a grid, we would  
11 need to know a total number of samples we would  
12 need to pull. So it would be a little bit more  
13 involved.

14 MR. PATTERSON: Well, I don't have  
15 a -- you know, off the top of my head -- a number  
16 of samples. I was just looking at something rather  
17 than throwing five points out in that lagoon,  
18 something, I guess, a little more scientific.

19 MR. FITCHORN: I am not familiar  
20 with the approaches that are used in the sampling  
21 to determine the number of points and just -- which  
22 approach you want to take, random sampling or what.  
23 Also, to me, intuitively, it seems too few samples  
24 to characterize or to even verify the presence of

1 those waste over an area that's 540,000 square  
2 feet. So I feel also that we need more samples,  
3 but I honestly can't give you a number either. So  
4 it would be best to propose it to us and then we  
5 would have people who could then look at that and  
6 say, "Yeah, that's good or no that's bad," because  
7 that's what they do all the time.

8 MR. MOSER: How about this, then:  
9 Let's just concur on what needs to be sampled for,  
10 and then I will have Harry go back to his office,  
11 come up with a scheme, and then I'll provide it  
12 back to you guys for your comments; okay? Unless  
13 you are ready to make that assumption now.

14 MR. BRYSON: No. What I need  
15 George, is something to show me where the material  
16 came in and how the two lagoons were connected and  
17 where the outflow was and an idea on the daily flow  
18 rates and their average daily flow rates.

19 MR. ROBERTSON: I'm not sure I  
20 have that.

21 MR. BRYSON: We can do an estimate  
22 based on population.

23 COMMANDER CARPENTER: Could the  
24 agency provide us with an approximate number of

1 samples they would like for this large of an area.  
2 Random sampling, no matter how you do it, you  
3 generate numbers and you poke holes in or go get  
4 samples. Can you check with your people that are  
5 familiar with these type of sites and maybe get  
6 some sort of an estimate back, to save a little  
7 time on our planning. We would be happy to  
8 accomodate whatever your experts say. It sounds  
9 like we need some help from you to determine the  
10 number of samples we need for this large of an area  
11 from your people. Can the agency provide that?

12 MR. FITCHHORN: Yes, we can. We  
13 will have to contact our people in Athens. They  
14 are the ones that deal with the samples.

15 COMMANDER .CARPENTER: These are  
16 people we need to satisfy so we can get going ---

17 MR. FITCHHORN: A note of caution.  
18 We often feel like we have run into a little bit of  
19 quicksand when we contact the people in Athens  
20 because they are getting the sampling plans from  
21 all over the region, and their turn around time is  
22 often less than desirable for us. So it could take  
23 us a little bit of time, and y'all would have to be  
24 patient while we try to get this information. But

1           yes, I can get it. I mean, I can call him up and  
2           say, "Look. This is what we have. This is the  
3           information we would like to get from you."

4                           COMMANDER CARPENTER:    What I would  
5           say is we would come up with a method to determine  
6           how we would select places. You work on how many  
7           places we have to select using our method. How  
8           does that sound?

9                           MR. FITCHHORN:    That sounds fine.

10                          MR. BRYSON:    Now, most of the  
11           exposure that I have had to the statistical  
12           sampling or whatever has been based on landfills  
13           where you have no idea (inaudible), but you knew  
14           that it was very likely nonuniform. But here,  
15           you've got a situation where you've got material  
16           flowing in dispursing, some falling out and you are  
17           not going to have quite that random dispursal. You  
18           should have a fairly uniform dispursal, I would  
19           think, as far as material in the sludge through  
20           there. You know, there might be some dead spots  
21           around the corner, and there might have been a  
22           little -- well, I'm sure it was designed to not  
23           shortcircuit when it was put in, but that's going  
24           to take some careful consideration with that

1 sampling program so we can set it up on that.

2 MR. PATTERSON: You may get some  
3 help from the RFI guidance document. If you have  
4 access to those ---

5 MR. BRYSON: I have the latest one.

6 MR. PATTERSON: They should help  
7 you in this.

8 MR. MOSER: But, again, this is not  
9 the type of thing that most of the sampling --  
10 scientific sampling that were set up to handle.  
11 This is just a random distribution going in and not  
12 knowing where stuff was dumped, but knowing it was  
13 dumped in the dump where stuff -- where the  
14 material flowed in, and, you know, biodegradation.  
15 So it's -- you need to carefully consider what we  
16 are doing and make sure we are not using  
17 inappropriate methodology.

18 MR. FITCHORN: I would be inclined  
19 that it would probably shortcircuit the first day  
20 it started to operate since that has been a lagoon  
21 (inaudible).

22 MR. MOSER: I, again, want to  
23 remind everybody that we are going in just doing  
24 verification of this phase. If we hit, then we are

1 going to go further.

2 MR. FITCHORN: I just want to make  
3 one comment. You are not going to characterize if  
4 your verification doesn't show anything. That's  
5 why we want the verification, and then if nothing  
6 shows up, then we say, "Fine." We can feel  
7 comfortable in not going through a characterization  
8 study. But if we do an approach that's too much of  
9 a hit and miss and we don't find anything and  
10 decide not to characterize it, we may be missing  
11 something significant.

12 MR. MOSER: Point well taken.  
13 Okay, let's just look at the types of constituents  
14 we will be looking for. Groundwater, we have  
15 already stated. Sediment we have already stated.  
16 For the sludge, we are going to be sampling for  
17 semi-volatiles, cyanides, phenols, PCB pesticides,  
18 heavy metals, both total and EP tox. We are going  
19 to be taking one total for a target compound list.  
20 I shouldn't have said numbers. I should have just  
21 said constituents there. The numbers will be  
22 determined at a later date by this committee.

23 Is everybody in agreement of what is  
24 proposed other than the number of samples to be

1 taken at the sludge? We plan to take three  
2 sediment samples, one upstream, one in the middle  
3 and one downstream. The middle one being closed to  
4 where the outfall is or will be. It will be  
5 determined in the field. It is approximately in  
6 front of the little lagoon.

7 MR. PATTERSON: What type of  
8 samples are we talking about?

9 MR. MOSER: We will be talking  
10 about running on sediments, your semi-volatiles,  
11 cyanides, deleting the phenols but testing for  
12 pesticides and PCBs and for both metals and  
13 deleting the target compound list. The only thing  
14 different between the sediment and the sludge  
15 samples will be the phenols unless y'all feel like  
16 we need go ahead and test for that while we are in  
17 there.

18 MR. PATTERSON: I thought you said  
19 the sludge had been removed.

20 MR. MOSER: The sludge has been  
21 removed. We are just using that as a term to call  
22 the bottom of the -- since there is water in the  
23 pond. We could call it sediment samples in the  
24 pits, but just to distinguish between sediment in

1 the ditch and sediment in the ponds, we just used  
2 the word sludge. If that's confusing, we will be  
3 glad to change the language to reflect sediment.

4 MR. PATTERSON: If I knew the  
5 sludge had been removed ---

6 MR. ROBERTSON: Are you asking if  
7 we went in there and escavated?

8 MR. MOSER: That was my  
9 understanding. Is that not true?

10 MR. ROBERTSON: Not to my  
11 knowledge. I think they are just using it ---

12 MR. MOSER: Okay, if that's the  
13 case, then that's a correct number. I apologize  
14 for that mistake.

15 MR. ROBERTSON: Is that your  
16 understanding?

17 MR. MOSER: I was under the  
18 impression that they went in there and removed the  
19 sludge.

20 MR. ROBERTSON: I don't think so.

21 MR. MOSER: We will go on the  
22 assumption that it's still there. Thank you,  
23 George.

24 That gets us through the nine sites. The

1 sediment -- is it necessary to test for the phenols  
2 if we are going to be testing for the  
3 semi-volatiles of the ditch? That particular ditch  
4 is the same ditch that we will be testing on Site  
5 No. 2, just upstream from this site.

6 I would like to backtrack to Site No. 1.  
7 On Site No. 1, I failed to discuss the soil gas.  
8 We plan to do a soil gas at -- not number one.  
9 Site No. 2; excuse me. That's the outside  
10 landfill. We plan to do soil gas for methane. I  
11 failed to bring that up when we were discussing  
12 that particular site. Any other comments  
13 concerning the field work on these nine sites?

14 MR. PATTERSON: I'd like to offer a  
15 couple of things. In the sample plan, a reference  
16 was made to field filtering.

17 MR. BRYSON: Okay, do you want  
18 unfiltered samples for everything?

19 MR. PATTERSON: I think if you do  
20 filtered that we need -- I think we need to see  
21 both filtered and nonfiltered results. You can go  
22 on and filter, but I want to see nonfiltered, too.  
23 The sampling equipment, I didn't -- I may have  
24 overlooked this, but when we were talking about

1 decon procedures, I didn't see a final rinse with  
2 isopropyl alcohol. I guess in our decon procedures  
3 as well as some of the guidance that EPA has,  
4 that's kind of a standard operating procedures  
5 unless I just totally misinterpreted it in someway.  
6 I didn't see it in there.

7 MR. BRYSON: Okay, I'll check on  
8 that. Is this a EPA Region 4 SOP.

9 MR. PATTERSON: I'm not sure if  
10 it's Region 4. It's just a ---

11 MR. BRYSON: If it's not in there,  
12 it's just an oversight. We are using the EPA  
13 Region 4 SOP.

14 MR. PATTERSON: If you get back and  
15 you have some questions on where to find that, you  
16 can call me at my office. I can refer you to it.

17 MR. BRYSON: I have it in my office  
18 as well. If we don't have it in there, it was just  
19 an accidental omission. We were writing it based  
20 on that SOP.

21 MR. MOSER: And will you be giving  
22 us copies of your comments?

23 MR. PATTERSON: Yeah.

24 MR. MOSER: Do you have any other

1 questions?

2           Okay, at this time I would like to  
3 respond to Shelby County -- Norman's comments.  
4 Comment A is on Volume 1, which is the work plan.  
5 His comment is, "A total of 59 sites are listed for  
6 work under the contract, although only 12 are  
7 included in the remedial investigation feasibility  
8 study. Please clarify."

9           That is correct. There are actually 60  
10 sites which are listed in the solid waste  
11 ammendment RCRA Part B permit which has been issued  
12 by EPA and the state of Tennessee. We will be  
13 looking at those sites. The first 12 of those  
14 particular sites happen to be the CERCLA sites. By  
15 law, we have to comply with both programs, and  
16 these documents only address those 12 sites.

17           What we would like to see is a happy  
18 marriage of those additional sites into a RCRA set  
19 of documents converting these CERCLA documents into  
20 RCRA documents by any additions that we need to  
21 make in order to make them a good set of RCRA  
22 documents and to have whatever sampling that we  
23 perform under CERCLA be also applicable to RCRA.

24           RCRA is our governing ARAR for this

1 particular activity because the activity is not  
2 going to be listed on the national priorities list  
3 from all the information that we have. I don't  
4 expect it to ever be listed on the national  
5 priorities list.

6 Therefore, RCRA is our governing ARAR  
7 with the addition of the state or any other local  
8 regulations that may apply. So what we will  
9 probably see -- Larry and I have talked today about  
10 the RCRA issues. He has been in contact with the  
11 state of Tennessee. Shortly, there will be some  
12 comments from them approving document title with  
13 RCRA facility assessment which identifies all 60  
14 sites.

15 That will give us some time to prepare a  
16 set of work plans to perform work on a majority of  
17 those sites of some sort, and it depends on when we  
18 get that letter and when we get this funded and how  
19 these two will marriage.

20 MR. FITCHHORN: As a further point  
21 of clarification, looking at it through the RCRA  
22 side of the issue, there are forty of those sites  
23 that will be addressed at one way or another under  
24 RCRA, and 20 of them have determined posed no

1 threat and need no further action. Now, this, I  
2 must emphasize, is a tentative decision on our part  
3 subject to the concurrence by the state of  
4 Tennessee. But we are working on it. It's not  
5 that only 12 units have been looked at and the  
6 other 48 are being ignored.

7 MR. MOSER: Is that clear enough?

8 MR. LACHAPELLE: Thank you.

9 MR. MOSER: You have four  
10 additional questions all pertaining to Volume 2,  
11 which are the project management plans. Comment 1:  
12 "Well drilling permits must be attained from the  
13 Memphis and Shelby County Health Department." We,  
14 of course will.

15 Comment 2: "Chlordane and analyte has  
16 been omitted from the list." We have already  
17 discussed that. We plan to do that.

18 Comment 3: "Mercury and analyte has been  
19 omitted from the list of metals."

20 MR. BRYSON: Yeah, that was an  
21 oversight. Mercury is not in that, and we didn't  
22 catch that. We will have to add mercury. That's  
23 method 7741, and we will probably put the method.

24 MR. MOSER: Comment 4, "A

1 considerable JP-4 in water waste fields were  
2 sprayed around in the fire drill area from the '60s  
3 until '70s. Would it be reasonable to test the  
4 groundwater and site soil samples to demonstrate  
5 characteristics of waste contamination," and we are  
6 going to go ahead and incorporate that. Those are  
7 all good comments. Is there any other comments  
8 concerning these documents? We have a few more  
9 documents to go over right quick.

10 MR. FITCHHORN: I wanted to mention  
11 one thing. The documents have not as yet been  
12 reviewed by our environmental services division.  
13 They are going to be concerned primarily with the  
14 specific sampling procedures that are being done,  
15 and we will have to have input from them before we  
16 can say, "Okay, we are totally satisfied," because  
17 we, in the permitting section, deal with issues  
18 other than that, and I'm really not qualified to  
19 make decisions on the adequacy of either of the two  
20 documents in your sampling and analysis plan. So  
21 we will have to have that reviewed. If time  
22 permits, we want to have our groundwater people  
23 look at the land as well to look at the  
24 groundwater. In the meanwhile, I would like to ask

1           you one question. What kind of well casings are  
2           you going to be using?

3                           MR. MOSER: We are proposing PVC.

4                           MR. FITCHHORN: Okay, you are going  
5           to have a problem getting EPA approval on that. I  
6           have here comments on a RFI work plan from the  
7           other facility, and the environmental services  
8           division specifically pointed that out, that EPA's  
9           policy is they want stainless casings, and it's  
10          going to be a well specific decision on whether PVC  
11          will be accepted or not. That is something that is  
12          totally out of our hands in my organization here,  
13          and I just want you to know that that could be a  
14          critical point in getting the sampling people to  
15          approve the plan.

16                          MR. BRYSON: Do you know what the  
17          main consideration is in that? Do they have a flat  
18          policy?

19                          MR. FITCHHORN: I could only give  
20          an educated guess based on the comment of the  
21          interference with organics. So if you are not  
22          sampling for organics, the use of PVC should not be  
23          a problem, and the statement here that the  
24          confidence levels in the use of PVC increase with

1 decreased concentrations of organics. But it's a  
2 standard practice -- this is another military  
3 facility -- the standard practice of a military  
4 facility is to use PVC, and that's why I was afraid  
5 you were going to tell me what you did tell me.

6 MR. BRYSON: That will be a  
7 significant cost factor.

8 MR. MOSER: The way we have looked  
9 at it in our other activities being navy DOD, in  
10 doing verification studies, we use PVC. If we are  
11 going to do long-term monitoring, we go back and  
12 replace those with stainless steel. Just as long  
13 as we are going out here to find a hook and a  
14 promise, we use PVC. At such point where we're  
15 going to need that well for long-term monitoring,  
16 we then put in stainless steel, or if we are going  
17 to need that well to determine how clean is clean  
18 type scenarios, we go with stainless steel.

19 MR. FITCHHORN: As this particular  
20 comment states, we will consider justification on a  
21 well specific basis. So it's not like we are  
22 saying absolutely no you cannot. Also hybrid wells  
23 are acceptable as well with the stainless below and  
24 the PVC above. That's another option. That's

1 quoted here. Now, I don't, myself, know enough  
2 about the situation to say which approach you  
3 should do. Probably what I would do if I were you  
4 is say exactly what you just told me. Point out  
5 what the purpose of these wells are.

6 MR. BRYSON: I would think with  
7 regard to using the hybrid casing, the groundwater  
8 level is so high, that wouldn't -- that would be  
9 more of an aggravation than anything else. You  
10 would want to go with one or the other so you  
11 wouldn't have to mix them so you wouldn't have to  
12 have different materials in trying to match them  
13 up.

14 MR. MOSER: Larry, I have sent you  
15 additional copies of these plans for your technical  
16 people to look at and approve. As everybody knows  
17 in this room, we recently have gone around with  
18 Region 4 concerning our QA program. The navy has  
19 their own QA program where they approve their  
20 laboratory. We have a QA protocol manual which has  
21 been accepted by EPA headquarters which has been  
22 presented to all the EPA regions, and it parallels  
23 pretty much EPA's standard operating procedures,  
24 but we have recently been questioned on all of our

1 activities on all of this work. So just to let  
2 everybody know, the navy is going to try to resolve  
3 that with the Region 4. Does the state have any  
4 concerns about quality assurance quality control?  
5 The laboratory we're using, Pioneer Labs is -- is  
6 there a certification in the state of Tennessee?

7 MR. PATTERSON: Not for sampling.

8 MR. BRYSON: We have it for the UST  
9 program.

10 MR. MOSER: The laboratory that we  
11 plan to use has been approve by the navy system,  
12 Pioneer Labs down in Florida, and we only use navy  
13 approved labs for this type of work so we can  
14 relate what we find here to what we find out in  
15 California or ten buck two.or wherever. That's all  
16 I have to say. Larry, do you have additional  
17 comments?

18 MR. FITCHHORN: No.

19 MR. MOSER: There are a few other  
20 documents that I just want to breeze through right  
21 quickly. The community relations plan, does  
22 anybody have any comments concerning the community  
23 relations plans. That's pretty much -- we'll work  
24 on a document for Sue just to help her out in her

1 business but we provided you all a copy, too.

2 MR. MOSER: Sue, do you want to  
3 talk to me about it later? Is there anything ---

4 MS. HOSMER-MILLICAN: There's no  
5 problem. Everything is going real smooth. It's  
6 been out in the public, and there's been no calls  
7 and no questions.

8 MR. MOSER: Sites 10, 11 and 12, we  
9 are proposing no further action. Larry Fitchhorn  
10 has informed me that under the solid waste  
11 management investigation, he's recommending -- he's  
12 concurring with our recommendation for no further  
13 action on these three sites. I assume y'all concur  
14 as well.

15 By no means is this the write off. We  
16 plan to do an additional document to these  
17 identifying where all the information concerning  
18 this document has come from, and we are going to  
19 prepare what is called a record of decision for  
20 public notice and subsequent signature by the  
21 captain, the state and the EPA and, of course, with  
22 CERCLA protocol.

23 That is essentially all I have on those  
24 documents. Is there any questions concerning

1 anything?

2 Okay, we provided -- this is mainly  
3 addressing the state and the EPA -- we have  
4 provided you guys with Site 59 and Site 3  
5 separately. What we would like to do is get  
6 concurrence that we can go in there and test these  
7 structures and get that information to our design  
8 group for the demolition of this structure.

9 By no means does this means that we are  
10 just going to write these sites off. We want to  
11 just get enough data to demolish these two  
12 buildings.

13 Site 59 is the pesticide building --  
14 former pesticide building, and Site 3 is the old  
15 plating shop, and we just want to go in and test  
16 those buildings. We provided you with the work  
17 plan. If it's okay with you, we will go out and do  
18 the testing within the next 30 to 45 days  
19 hopefully, and we will provide everybody a copy of  
20 that data, and we will provide it to the design so  
21 they will know how to -- what type of work  
22 protection and disposal.

23 But we will do additional testing at the  
24 site. Just because we demolished a building

1 doesn't mean we got rid of contamination.

2 MR. FITCHHORN: I would appreciate  
3 it if you could make it closer to 45 days than the  
4 30. Give me a chance to look at them. I have not  
5 looked at those plans yet. I have been the only  
6 one reviewing NAS documents, and there have been  
7 documents in copious amounts here, and I have not  
8 looked at either one of those. I would like to  
9 look at those and have an opportunity to make some  
10 comments.

11 MR. MOSER: Site 3 came right out  
12 of the draft documents here verbatim. Site 59, you  
13 have not seen before.

14 MR. FITCHHORN: That will simplify  
15 it.

16 MR. MOSER: Okay, so the major  
17 outstanding issue is the number of samples or the  
18 type of sampling, random or the number of samples,  
19 to be taken at Site 9. What we will do is we're  
20 going to wait for EPA to give us some direction  
21 concerning their feelings on our QA before we  
22 finalize plans. There is no point in us charging  
23 out there to do this work and only to be told that  
24 we need to go back and put stainless steel or

1           whatever.

2                         We need to be sure we get that  
3           concurrence. We want to make sure we are going to  
4           be able to use the data for the RCRA. When will we  
5           have the final documents? As soon as we clear up  
6           these issues. When will we do the field work?  
7           Hopefully as soon as possible.

8                         I appreciate everybody's review. I thank  
9           everybody's cooperation, and I think committee here  
10          is doing what it's established to do, and that's to  
11          look out after the environment as well as the  
12          public health and the citizens of Shelby County and  
13          the city of Millington as well as the air station.  
14          Any other questions?

15                        MR. LACHAPELLE: I have one  
16          comment. I just want to congratulate Sue here for  
17          handling the press, especially the Commercial  
18          Appeal. They called me and I checked it out with  
19          Sue and Sue gave me the okay for the press to  
20          review the manuals. I think we've got some good  
21          positive coverage for the navy here.

22                        MR. MOSER: We did. I've got a  
23          copy of the article. It's a very positive article.  
24          I am in the process of putting together the

1 administrative record which is all these documents  
2 you see here, and once we finalize this document  
3 here, I will present that administrative record to  
4 this committee and to the activity with hopefully  
5 Sue putting it to the public and the library so all  
6 of this information will be available to the  
7 public. That's required under CERCLA and ---

8 COMMANDER CARPENTER: We might  
9 want to get out a press release that we did have a  
10 meeting; we got together with the agency; we  
11 discussed this plan, that everybody is working  
12 towards the common goal for everyone. If you would  
13 all concur with that, we could get a press release  
14 out because they did say that sometime they could  
15 put that out that we are talking about it.

16 MR. MOSER: Thank you, gentlemen,  
17 for your time.

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MEETING ADJOURNED

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## 1 COURT REPORTER'S CERTIFICATE

2 STATE OF TENNESSEE:

3 COUNTY OF SHELBY:

4 I, T. BRYAN CAMPBELL, Court Reporter and  
5 Notary Public, Shelby County, Tennessee, CERTIFY:6 The foregoing proceedings were taken by  
7 me at the time and place stated in the foregoing  
8 styled cause with the appearances as noted.9 Being a Court Reporter, I then reported  
10 the proceedings in Stenotype, and the foregoing  
11 pages contain a full, true and correct transcript  
12 of my said Stenotype notes then and there taken.13 I am not in the employ of and am not  
14 related to any of the parties or their counsel, and  
15 I have no interest in the matter involved.16 WITNESS MY SIGNATURE, this, the 12th day  
17 of February, 1990.18  
19   
20 T. BRYAN CAMPBELL,  
21 Court Reporter and  
22 Notary Public at Large

23 My Commission Expires:

24 August 2, 1993