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INTERVIEW OF:

HEATHER FARAGHER

TAKEN DECEMBER 19, 1997 AT 11:10 A.M.

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COPY

MILO BALLINGRUD  
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INTERVIEW OF HEATHER FARAGHER, taken pursuant to agreement of and between parties at, Koch Industries, Inc., P.O. Box 64596, St. Paul, Minnesota, at approximately 11:10 a.m. on Friday, December 19, 1997 before Milo Ballingrud, Notary Public, County of Hennepin, State of Minnesota.

APPEARANCES:

Present from the Minnesota Pollution Control Agency:

DON L. KRIENS, P.E.

MARY L. HAYES

GREGORY BERGER

RICH COOLEY

Present from the Green Espel Law Firm:

SUSAN K. WIENS, Attorney at Law

## I N D E X

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1 BY MR. BERGER:

2 Q. Heather, I have a little introduction we're  
3 doing for all these interviews.

4 As you are probably well aware, the  
5 Minnesota Pollution Control Agency is conducting  
6 a civil investigation that is focusing on Koch  
7 Refining operations and on a variety of  
8 environmental pollution related situations  
9 regarding those operations. And this is from  
10 our April of 1997 inspection. We are seeking  
11 your cooperation in obtaining some information  
12 about these situations. We want you to know at  
13 this time you do not have to answer the  
14 questions, this is totally voluntary on your  
15 part. Information obtained in this  
16 investigation may be used in an administrative,  
17 civil or criminal enforcement action against  
18 Koch Refining. I want to emphasize again this  
19 investigation is of Koch Refining, the company,  
20 and not any individuals at this time. Any  
21 questions about that?

22 A. No.

23 EXAMINATION

24 BY MS. HAYES:

25 Q. Heather, would you give us a brief synopsis of

1           your work history here at Koch? Tell us how  
2           long you've been here and give us an idea of  
3           your responsibilities and who you reported to  
4           during the time you've been here.

5       A.   Okay. I started in January of 1995 as an  
6           environmental engineer. At that time I reported  
7           to Tony Foreman. He is no longer -- he's at  
8           Corpus Christi, he's not at Pine Bend. My job  
9           initially, and even still now, was that I was  
10          responsible for mostly the waste water treat  
11          plant in two capacities, one as an environmental  
12          engineer being responsible for the DURs,  
13          permits, regulatory issues with the waste water  
14          treatment plant, and also as a process engineer  
15          for the waste water treatment plant to help with  
16          optimization, troubleshooting, that kind of  
17          thing.

18                 After Tony left Steve David was my  
19          supervisor for a period of a couple months until  
20          Karen Hall was named the assistant manager in  
21          Tony's place. Now Karen Hall is my supervisor.

22                         MS. HAYES:     Okay, thanks.

23       BY MR. KRIENS:

24       Q.   Do you know when you shifted from Tony Foreman  
25          to Karen Hall?

1 A. Tony left in the fall of '96 or '95.

2 MS. HAYES: He wasn't here when I  
3 did --

4 THE WITNESS: Oh, it was the fall of  
5 '95. And then Karen was named like January of  
6 '96, January or February time frame. I'm not  
7 positive, but roughly the fall and winter.  
8 There's a couple months where Steve was taking  
9 over for Tony.

10 BY MR. KRIENS:

11 Q. Did you usually report to Karen Hall?

12 A. Yes.

13 Q. With respect to operations and situations that  
14 come up for the waste water plant, do you report  
15 directly to her or Steve David?

16 A. Karen technically is my supervisor. When Karen  
17 started as supervisor in that area she didn't  
18 have a lot of water background, her background  
19 was really more air, so if there were issues I  
20 would let her know what was going on and then if  
21 there were questions or problems I would get  
22 Steve's input.

23 Q. In the -- who manages the waste water treat  
24 plant operations?

25 A. In terms of operations, strictly operations, the

1 names are changing with this new organization,  
2 but the production leader at the time -- it was  
3 Eric Thraen for a while and then it was Brian  
4 Roos, and now that's converting over to the FORE  
5 1000 organization with Mark Tessier. So that  
6 person would be the ultimate operations manager  
7 for like the -- for all utilities. And that  
8 includes the waste water treatment plant. And  
9 then there was a waste water treatment plant  
10 supervisor, and that's changed since I've been  
11 here from Larry Klemetson to Rick Legvold to --  
12 there were like four shift people for a while  
13 and then Larry Eckloff. So that's kind of  
14 changed over the course of the last couple  
15 years.

16 And then my responsibility, as the  
17 process engineers do the -- if they have  
18 problems they would get in touch with me. And  
19 also for environmental issues they would get in  
20 touch with the environmental department.

21 Q. Okay. Since January of '95 who would have been  
22 in charge of the waste water plant then? Would  
23 that be Brian Roos?

24 A. In January of '95 it was Eric Thraen. And then  
25 that changed to Brian Roos. I think that was

1           like the late summer, fall of '95 that it got  
2           changed. It was roughly the same time that  
3           Larry Klemetson started, and Rick Legvold, too.  
4           I don't know the exact dates. That would all be  
5           the personnel stuff, but roughly that's my  
6           recollection.

7       Q.    So late summer or fall of '95 Brian Roos took  
8           over the --

9       A.    Yeah, yeah.

10      Q.    That duty.

11      A.    Yeah.

12      Q.    If problems come up there you mentioned that you  
13           may be involved in the correction, and would  
14           Brian Roos also be involved in the correction of  
15           those?

16      A.    Yes. It kind of depends on what the problem is.  
17           I mean, if it's a maintenance problem than Brian  
18           Roos would be the one, you know, that would know  
19           about it, or Rick. Not always Brian, I mean, it  
20           kind of depends on what the issue is. If  
21           there's a large operational problem Brian would  
22           be involved, a capital project Brian would be  
23           involved. If it was just a day-to-day  
24           maintenance problem it would probably be the  
25           supervisor, if it was environmental related or



1 process related I would be involved. So it kind  
2 of depended on the situation.

3 Q. Sure. If there was an issue that came up where  
4 a decision needed to be made about an activity  
5 of how you operate the waste water plant or deal  
6 with a problem or a policy or something like  
7 that nature, who would be involved with that?

8 A. It depends on the severity. If it's a major  
9 issue then of us would probably be involved, me,  
10 Brian, Rick, you know, just using those people  
11 as -- the majority of the time frame I've been  
12 here those would be the people that was in those  
13 jobs. We would all probably get involved if it  
14 was a major process change or if it was a major  
15 troubleshooting issue or if it was a major  
16 policy shift from what had been going on before.  
17 If it was an environment shift, you know,  
18 something like that, probably all of us would be  
19 involved.

20 MS. HAYES: What about Karen Hall or  
21 Steve David, would they be involved, too?

22 THE WITNESS: They would be  
23 involved, depending once again on the severity.  
24 I mean, if it was just a -- you know, the way  
25 the operators did something with the lab I would

1           probably just coordinate it and take care of it.  
2           If it was a maintenance thing Rick or Brian  
3           would probably just take care of it. If it was  
4           a major policy shift, like in environmental  
5           let's say, then Karen or Steve. More often  
6           Steve because, like I said, Karen just didn't  
7           have the expertise in the water area, would get  
8           involved with saying yes, that's good or bad or  
9           right or wrong or whatever.

10       BY MR. KRIENS:

11       Q.   Who did Brian Roos report to?

12       A.   He reported to Tim Rusch.

13       Q.   So in a major policy situation of waste water  
14           operation, would he get input from Tim Rusch on  
15           those?

16       A.   No. Tim had to sign off on major capital  
17           investments, the ASEs or, you know, the request  
18           for capitals, Tim would have to sign off on  
19           that. Especially if it was a major amount of  
20           money. So Tim could be knowledgeable about  
21           that. If there were problems -- I don't really  
22           know how much communication went on between  
23           Brian and Tim, I don't know if they -- you know,  
24           what their communication was, I can't really  
25           say, but I think for the most part, you know,

1 Tim was aware of major problems, but Brian  
2 handled the issues.

3 Q. Tim was aware of major problems?

4 A. As far as I know.

5 Q. With issues that related to environmental?

6 A. I never specifically talked to Tim, that would  
7 come from Steve. I'm not sure what Steve told  
8 him, but as far as I know, I mean, Tim was  
9 involved with discussions about, you know, any  
10 major upsets or problems, Tim would be aware of  
11 it.

12 Q. Maybe I misunderstood, but Brian Roos reports  
13 directly or did report directly to Tim Rusch?

14 A. (Nods head.)

15 Q. What about Jim Jacobson, if he was the head of  
16 operations.

17 A. I'm sorry, you're right, Brian reported to Jim  
18 Jacobson.

19 Q. And then Jacobson would report to Rusch?

20 A. Right. I'm sorry, I forgot about Jake.

21 Q. Would the upper management, and by that I mean  
22 Jim Jacobson and Mr. Rusch, be aware then of  
23 environmental issues, problems related to  
24 compliance and that sort of thing?

25 A. Yeah. Every day there's a 7:00 morning

1 operational meeting and then a 3:00 p.m.  
2 operational meeting. Every time there's an  
3 environmental issue or -- the environmental  
4 on-call engineer goes to both the 7:00 and the  
5 3:00 meeting, and usually Karen, Jeff or Steve  
6 went. Not always, but typically one of the  
7 three of them would go to either one or the  
8 other meetings, and anytime the -- the meeting  
9 always starts off with safety issues,  
10 environmental issues and operational issues.  
11 Anytime there was an environmental issue it was  
12 bought up at that meeting.

13 Q. Who would be present at those meeting?

14 A. Typically it was an environmental person or two,  
15 safety representatives, engineers, all the  
16 production leaders, Tim Rusch or Steve Sanders  
17 or Jake or -- those roles and have changed so  
18 much lately that it's hard to keep track of  
19 who's who anymore.

20 Q. In the time frame of late '96 and early '97, who  
21 would be involved with the management in those  
22 meetings?

23 A. All the unit supervisors, the production leaders  
24 such as Brian Roos, Tim Rusch or Steve Sanders,  
25 Jacobson, all of them. I mean, depending on

1           their schedules they may or may not make all of  
2           them, but typically most of them were there.

3       Q.   Typically most of them were there?

4       A.   Yes.

5       Q.   And, Heather, those were then -- how frequently  
6           were they again?

7       A.   Monday through Friday at 7:00 a.m. and 3:00 p.m.

8       Q.   So fairly often?

9       A.   Every day twice a day, not on weekends.

10      Q.   Let me get to a specific question related to  
11           that. In those meetings was it -- was the issue  
12           of waste water inventory discussed?

13      A.   I don't -- I don't go to all of them, I only go  
14           on the days I'm the on-call engineer, and I can  
15           say that the times that I went when there were  
16           waste water problems, Brian, Rick, myself or one  
17           of the shift supervisors would bring something  
18           up if there was a problem. I don't know what  
19           was brought up, you know other times, but I  
20           know, you know, any major issue that -- if there  
21           was a problem with compliance or a problem with  
22           an upset that would be brought up. And minor  
23           problems weren't brought up, but if there was an  
24           issue where the refinery had an impact and there  
25           were things that other people in the refinery

1           could do to eliminate the problem at the waste  
2           treatment plant, then those things would be  
3           brought up.

4       Q.    Okay.  Specifically in these meetings did you  
5           bring up the issues of the problem with  
6           inventory of waste water, excess waste water and  
7           what to do with it, to Mr. Rusch, Jacobson or  
8           upper management?

9       A.    I don't know.  I'm trying to think back to like  
10          the ones I was at.  I think -- I don't know for  
11          certain, but I think when we were having the  
12          issues in like early '97, the January, February,  
13          March time frame when that all kind of came up,  
14          it was brought up in terms of the policy.  I  
15          don't know for sure how much more was brought up  
16          at those meetings.

17      Q.    How about prior to that, let's say in the fall  
18          of '96, too?

19      A.    No.  It didn't really become an issue until  
20          then, so it wouldn't have been brought up.

21      Q.    Our understanding is there were meetings held in  
22          '96 that --

23      A.    Yeah, but not -- but not at those.

24      Q.    Not at those meetings with --

25      A.    Not at the ones I was at, it was ever brought up

1           then. But, you know, I don't know what else was  
2           brought up at those others.

3       Q.    That you didn't attend?

4       A.    Right.

5       Q.    Would Brian Roos be the most responsible person  
6           to bring those issues up to Mr. Jacobson or  
7           Mr. Rusch at those meetings?

8       A.    That's hard to say. I mean, I would say that  
9           Brian, Rick, myself, Steve, the people that had  
10          the most awareness of what was going on at the  
11          waste water treatment plant. I mean, there were  
12          different things that different people brought  
13          up depending on their knowledge or expertise, so  
14          I wouldn't say it was strictly Brian. And then  
15          the other issue was -- like you're talking about  
16          the level of the ponds and stuff, too, and that  
17          would also be safety's concern because they  
18          manage the levels for the fire thing. So they  
19          might have brought that up.

20                So it's hard to say that Brian  
21                specifically would have been the one that was  
22                responsible for knowing the pond levels because  
23                on a day-to-day basis he probably didn't know  
24                that. That knowledge would come from the safety  
25                department. If there was a problem they

1           probably would have gone to Rick or Brian or me  
2           or Steve. So there's not -- I can't say he's a  
3           hundred percent the one that would be  
4           responsible for that, no.

5       Q.    When we interviewed him he stated that  
6           management, his upper management, was aware of  
7           the waste water inventory problems.

8       A.    Uh-huh.

9       Q.    Do you know what that means?

10      A.    Well, I'm speculating, but I would say that when  
11           we had these issues in January, February and  
12           March --

13      Q.    We were talking collectively at that point on  
14           his interview, but go ahead.

15      A.    Okay. I would say at that time frame management  
16           was aware of it. Before that, you know, I would  
17           get the occasional call saying B5 is high or the  
18           south pond is high, what course do you want to  
19           take, that kind of thing, but in terms of a  
20           day-to-day basis, it wasn't something people  
21           looked at, it was only looked at when there was  
22           a problem.

23      Q.    Just taking about that, they would call you and  
24           say B5 was high or whatever as a result of  
25           whatever occurred, the back up of water or



1           whatever, who made the decision then how to deal  
2           with that problem?

3       A.   That depends. I mean, some of the operators  
4           would see the level was high and would take care  
5           of it on their own. Some of the operators would  
6           call safety and have them take care of it. Some  
7           of the operators would call me and say, you  
8           know, what do you want us to do in this  
9           situation if there were other issues going on at  
10          the same time. It varies depending on what was  
11          going on.

12       Q.   Did operators have authority to tell them how to  
13           deal with the water?

14       A.   Sure.

15       Q.   Would the operators have authority to tell them  
16           to discharge it to land areas themselves?

17       A.   No.

18       Q.   Who would have that type of authority?

19       A.   The safety department. I mean, the people who  
20           actually open the hydrants, anybody in the  
21           safety department who opens the hydrants would  
22           have that authority. And then if they thought  
23           it was an issue management could tell them to do  
24           it.

25       Q.   Who in management would tell them to do it?

- 1       A.    I would say Brian could, the safety department  
2            manager, I guess for the fire system it would be  
3            Gary Ista, Mark Blockenger, some of those guys  
4            would have, you know, the authority to tell  
5            other safety people to do it.  And Steve.
- 6       Q.    Steve who?
- 7       A.    David.
- 8       Q.    Steve David would have authority to tell them  
9            what to do?
- 10      A.    Uh-huh.
- 11      Q.    Do you know if Steve David ever ordered them to  
12            do that, or Brian Roos?
- 13      A.    Let me think.  The first couple times it  
14            happened it was just strictly shift supervisors  
15            and safety.  So shift supervisors would also  
16            have that authority to tell safety to do that.  
17            No, I can't think of a time that Steve David  
18            ever told them to flush hydrants.
- 19      Q.    Did shift supervisors report to Brian Roos?
- 20      A.    No.  Well, some of them did.
- 21      Q.    But not all of them?
- 22      A.    No.  Shift supervisors reported to Jake, Jim  
23            Jacobson.
- 24      Q.    And that's Roos' supervisor?
- 25      A.    That's Roos' supervisor.  But I think Brian had

1 the responsibility for some of their supervision  
2 and performance reviews and that kind of thing,  
3 but not all of them. And I'm not real sure  
4 that's how that all works.

5 Q. So if a shift supervisor made a determination  
6 that they wanted to take some action and dispose  
7 of waste water on land, would they have  
8 contacted Jim Jacobson?

9 A. No.

10 Q. They would just take that on their own?

11 A. Yes.

12 Q. Shift supervisors would?

13 A. Yes. That was the case until January when you  
14 guys got involved with the one that we reported.  
15 When we looked into it we said, you know, please  
16 don't do this until we look into it some more.  
17 At that point people did not do it unless they  
18 were, you know, consulting with Brian or Steve  
19 or me.

20 Q. We'll, get into all that in detail later, but I  
21 wanted to get this relationship understood  
22 first. Now, our understanding is that --

23 A. It's not real clear-cut.

24 Q. -- from previous interviews and discussions with  
25 others that they reported to Brian Roos, at

1           least Ruth Estes did?

2       A.    Right.

3       Q.    And in conversation with other individuals not  
4           current employees, is it -- Brian Roos was often  
5           consulted about that. In fact, he was very  
6           aware of those activities generally.

7       A.    As far as I understand, the first couple times  
8           that the flushing happened nobody was really  
9           involved other than safety and the shift  
10          supervisors. Once it became an issue Brian,  
11          Steve, myself, Rick, Gary Ista and those kind of  
12          people, became very involved in the decision.

13                   MS. HAYES:     And that was after that  
14          incident in January?

15                   THE WITNESS:    Yes.

16       BY MR. KRIENS:

17       Q.    Do you know when that started, when they started  
18           doing that?

19       A.    Doing what?

20       Q.    Getting rid of water via the hydrant system.

21       A.    I know of a time in November. That was the  
22           first time it was brought up that I was aware  
23           of. Then the time in January and then the times  
24           in February and March. Prior to the time in  
25           November I understand it has happened, from

1 looking at stuff that -- but I wasn't aware of  
2 it. I don't know the involvement there.

3 Q. Okay. The earliest ones we have recorded I  
4 believe was June 18, and there was two in a row,  
5 June 18 and June 19 of '96. Our understanding  
6 in discussing it -- well, excuse me. The  
7 earliest one we have is actually in 1994, in  
8 October of 1994. That was the earliest  
9 occurrence that we have where the hydrants were  
10 used to get rid of water. Often it's  
11 characterized get rid of water.

12 The understanding further we have is that  
13 it became a routine practice. Were you aware of  
14 that?

15 A. No.

16 Q. Okay. Let me talk briefly and cover -- well,  
17 let me start with some of this hydrant area.  
18 And this is before you were there, but I wanted  
19 to ask you about it anyway.

20 In October of '94, an operating log from  
21 October 12 and 13 of 1994 states that safety has  
22 orders to spray fire hydrants to get rid of  
23 green water. Prior to this there was a bunch of  
24 green water in the plant. Do you know anything  
25 about that situation?

1       A.    I know whatever was on the log sheet, that is  
2            all.  I mean, I know of the incident you're  
3            talking about.

4       Q.    Do you know where the green water came from?

5       A.    My understanding -- what I've heard is that it  
6            came from the Cottage Grove terminal I believe.  
7            The only thing that I -- the only discussions  
8            I've ever had about this is looking at the log  
9            sheets and stuff.  All that started -- I heard  
10           that it came from Cottage Grove, and then a long  
11           time ago we were having a chromium problem, and  
12           Craig and I started talking about a time that  
13           there were -- there was some green water and it  
14           showed up as chromium.  He was just kind of  
15           talking about that.  Other than that I don't  
16           know anything about it.

17      Q.    We've talked to Craig Daniels about it, too, and  
18            the issue of the chromium, there was high  
19            chromium results at this time in the water, but  
20            there was also this issue that the green water,  
21            which may have come from a dye, could have  
22            interfered with the tests since it came off the  
23            same wavelength on the --

24      A.    Yeah.  That's what Craig was telling me, that  
25            there was an interference issue once upon a

1 time.

2 Q. Right. In fact, we followed up on that and  
3 found that he is correct on that, that there is  
4 a --

5 A. It doesn't surprise me.

6 Q. It doesn't surprise us either, that there was an  
7 interference. I point it out because it looks  
8 like --

9 A. It doesn't surprise me that if Craig said that  
10 it was true.

11 Q. Yeah. I pointed this out because it appears  
12 that as early as -- at least that we know of, as  
13 early as October of '95 there appears to have  
14 been a practice to get rid of water via the  
15 hydrant system beginning even at that time. So  
16 I was wondering if you knew anything further  
17 about it.

18 A. No.

19 Q. Okay. When you learned with this hydrant, the  
20 use of the hydrant system to dispose of waste  
21 water, how did you react to that?

22 A. The first I ever heard about it a question was  
23 asked in a meeting whether or not he could do  
24 that to get rid of water. Well, it was actually  
25 after a meeting. I think Brian, Steve myself

1           and Ruth were still there, and Ruth asked the  
2           question could we do this. I said no, we can't  
3           do that. And Steve said that we should look  
4           into it, maybe we can do that. That was kind of  
5           the end of the discussion. I don't even know  
6           when that was, but it was prior to the November  
7           thing.

8       Q.   Prior to November of 1996?

9       A.   Yeah, yeah. The first time I found out we did  
10          the flushing was with that November 4 issue. I  
11          was a very -- I was very angry about it because  
12          I thought I had told Ruth that we could not do  
13          that until -- I thought I had said no, we  
14          couldn't do that. She understood that Steve  
15          said we could look into it, but I thought the  
16          answer that was out there was we should not do  
17          this until we know a little bit more about it.  
18          So I was a little angry.

19                 And at that point we started doing a  
20          little bit more digging into what we could and  
21          couldn't do.

22       Q.   And so were you quite in opposition to that  
23          practice?

24       A.   Yeah.

25       Q.   Why were you opposed to it?



1       A.    To me, I thought that if we were putting it to  
2            the ground instead of to the river it was going  
3            against our permit in terms of where we could  
4            legally discharge the water.

5                    MS. HAYES:     Did you ever talk to  
6            anybody about -- about the permit  
7            specifications? Did you bring up the permit?  
8            And then beyond that did you consider or did you  
9            ever ask whether you might want to check with us  
10           about that, Heather, since we issued the  
11           permits?

12                   THE WITNESS:    Yes, we had a  
13           discussion about it, and I -- we had a  
14           meeting -- well, I met with Steve David, and he  
15           got Jim Voyles on the phone. And I guess I'm  
16           not really supposed to say a whole lot more  
17           about that discussion.

18       BY MR. KRIENS:

19       Q.    Because?

20       A.    Because it's attorney and client, Jim Voyles is  
21            the lawyer.

22       Q.    All right. That was in what time frame though?

23       A.    That was November 4.

24       Q.    All right. So you opposed that practice?

25       A.    Yep.

1 Q. On the basis that it was not -- go ahead and  
2 finish.

3 A. I didn't think we could do it because I thought  
4 we were discharging to a spot other than where  
5 our permit allowed us to discharge. So I  
6 thought we were bypassing the discharge point by  
7 putting it somewhere else.

8 Q. Was the waste water ever monitored throughout  
9 this period in November or any other time you  
10 know of prior to the January one for any  
11 contaminants?

12 A. In November -- I'm not to sure. I think I got  
13 an estimate of how much water was flushed based  
14 on the discharge of the pump and the time frame  
15 and that kind of thing. I believe I had B5 and  
16 the south fire lagoon, I either tested them for  
17 ammonia or went based on S7 result, I can't  
18 remember which, but I got the ammonia results  
19 based on that and figured out if we had exceeded  
20 an RQ at that time for ammonia.

21 Q. This was for the November one?

22 A. Right.

23 Q. Were any other fluids or contaminants analyzed  
24 other than ammonia?

25 A. I looked at all the different -- all the

1 different things that have RQs, like phenols,  
2 ammonia, mercury, chromium. The things that  
3 have an RQ I looked at. The only ones I tested  
4 for were the ones that were high at S7. I  
5 believe the only thing that was tested for was  
6 ammonia because mercury, phenols, everything  
7 else was very low in the plant at the time.

8 So we tested for ammonia and figured out  
9 an estimate of how much water was discharged,  
10 and I calculated that we didn't exceed an RQ and  
11 therefore the thing wasn't reportable.

12 Q. Was that reported -- you said you tested at S7?

13 A. It's tested daily at S7.

14 Q. Where was the source of water that was disposed  
15 of on land? It came from where?

16 A. It would have come either from B5 or the south  
17 fire lagoon. And those are the two ponds I  
18 think I had tested.

19 Q. You tested and had analytical data for those  
20 ponds?

21 A. I think so. I would have to look. I think we  
22 did test it at those times. I know we did in  
23 January.

24 Q. I think we asked that before and we didn't get  
25 any data for those, or we were --

1       A.    If you had asked -- you asked me for B5 and all  
2             that stuff.  If it wasn't lifted then I didn't,  
3             I just went off S7.

4       Q.    We didn't get that information.  We did in  
5             January, ammonia and the other ones you  
6             mentioned.

7       A.    Yeah, I can't remember if we did or not.  I must  
8             have just gone off of S7 then.

9       Q.    Okay.  Do you know -- it's our understanding  
10            that none of the waste water disposed of on land  
11            was ever analyzed for any contamination prior to  
12            the January one.

13      A.    No.

14      Q.    Including benzene, other pollutants of that  
15            nature, and --

16      A.    The only thing I would have tested for in  
17            November was ammonia.  And if it didn't show up  
18            on the specials I didn't need them for that  
19            time, I just went off S7 data then.

20                   MS. HAYES:    I have another quick  
21            question about November.  You mentioned that you  
22            looked at the reportable quantities, and you  
23            said just prior to that you were concerned about  
24            discharging not because it's not part of -- it's  
25            not part of your designated outflow and that

1           you're concerned about that being a bypass.

2                   THE WITNESS:     Right.

3                   MS. HAYES:     And so you said that  
4           the -- after looking at the analysis there was  
5           no reportable quantity. What about the bypass  
6           provision on the permit, Heather? What about  
7           that part?

8                   THE WITNESS:     That was discussed in  
9           the meeting, and the decision was made that that  
10          wasn't -- that I was wrong.

11                   MS. HAYES:     Okay.

12          BY MR. KRIENS:

13          Q.     Were there any other management people involved  
14           with that evaluation decision other than Steve  
15           David?

16          A.     Steve David, Jim Voyles and Mike Nash were on  
17           the phone. The four of us discussed it and  
18           then -- I'm trying to think what we did after  
19           that. At that point we would have talked to  
20           Brian and let him know what had been decided.

21                   But at that point the way it was left  
22           after that meeting was that Jim was going to do  
23           some more digging into the legalities of it. So  
24           it was kind of like we hadn't given -- at that  
25           point we told Brian what we had decided in that

1 meeting in terms of reporting it and that kind  
2 of thing, but we didn't -- we didn't give him a  
3 definite answer as to whether or not we could or  
4 couldn't do that because at that point legal was  
5 going to explore what it was they could or  
6 couldn't do.

7 Q. So that was right after the November 3rd, 4th  
8 release or discharge?

9 A. Yep.

10 Q. And then I think there was one -- the  
11 January 4th one, did that involve some policy  
12 decision then that you could get rid of the  
13 water? Or was that just another decision based  
14 on operation's need at the time?

15 A. January 4th the decision was made. That was a  
16 call done by the shift supervisors and safety.  
17 The environmental on-call person was called, and  
18 you guys already know that Karen was there. At  
19 that point the policy hadn't been determined  
20 whether or not we could or couldn't. What I had  
21 told Ruth was that we shouldn't do that until we  
22 get a legal answer as to whether or not we could  
23 or couldn't. But it was never clearly stated we  
24 could or could not until after the January  
25 incident.

1 Q. So on the January one, again, they just did it  
2 because they decided to do it. Do you know who  
3 was involved in that decision?

4 A. From what I understand and what I found out  
5 after the fact, that was a Saturday, the shift  
6 supervisors, Ruth was there and I can't remember  
7 who the other shift supervisor was. They  
8 thought they should do that. Gary Ista was  
9 involved, Karen Hall was in the shift  
10 supervisor's office when she heard about it, Tim  
11 Rusch was also in the supervisor's office. Ruth  
12 had called Brian Adams, who was the on-call  
13 engineer at the time, and from what I understand  
14 Brian said well, I don't know anything about  
15 this, does Heather? She had said yes, Heather  
16 doesn't have a problem with this, and so he said  
17 okay or whatever. He just kind of deferred to  
18 my judgment.

19 Q. And you did have a problem with it?

20 A. I did have a problem with it. So I'm not sure  
21 where that came from. Those are the people that  
22 were involved, and safety and the waste water  
23 treatment plant operators would have carried  
24 through with the pumps and that kind of thing.

25 Q. Was Gary Ista then involved in the decision with

1           conducting the discharge?

2       A.   As far as I understood from Gary. I don't know  
3           if he was here that day or if he had been  
4           involved, but when I talked to him about it he  
5           said he had understood from shift supervisors  
6           and from safety that environmental had said it  
7           was okay. I don't know if he was here that day  
8           or not.

9       Q.   Gary Ista understood it was okay?

10      A.   Yeah.

11      Q.   In Karen's memo on that incident she states that  
12           11:30 a.m. on Saturday she stopped in the  
13           shifties office with Gary Ista and Tim Rusch to  
14           discuss the order issue.

15      A.   Yeah, so Gary was there that day.

16      Q.   And I believe the hydrant release was already  
17           occurring, because it began in the nighttime and  
18           this is the morning.

19      A.   The release was from Saturday at 2:00 p.m. until  
20           Sunday at 2:00, so it wouldn't have started yet.

21      Q.   I'm sorry, you're right. It was Saturday night  
22           through Sunday morning.

23      A.   So they hadn't started it yet.

24      Q.   All right. So she stopped into the shifties  
25           office with Gary Ista and Tim Rusch discussing



1           the order issue. Her memos states in the course  
2           of speaking to the shifties Ruth Estes and Steve  
3           Foster were on shift, I mentioned we had  
4           overflowed the concrete basin on the north end  
5           of B5 the previous week and that all the rain  
6           and melt water would probably not make that  
7           situation any better.

8                       Were Gary Ista and Tim Rusch then aware,  
9           as I guess it states in her memo, of this  
10          potential release or discharge pending?

11       A.    I don't know.

12       Q.    Ruth denied we had overflowed B5 stating that  
13           the concrete basin was the highest point in the  
14           basin, overflow is a physical impossibility, which,  
15           of course, is not true. It should be level with  
16           everything else or nearly so. I told her --  
17           Ruth is stating I told her that Heather had been  
18           down there and steps had been taken to stop the  
19           overflow. I'll jumping ahead in this memo.

20                       Ruth said maybe we should stop  
21           discharging fire water now then. That's why I  
22           got confused on the time of this. I asked her  
23           what she meant, and she said that they were  
24           currently discharging fire water onto the ground  
25           near the west tank farm in order to control the

1           huge amount of water in the plant.

2           A.   Probably because shift supervisors would tell  
3           safety to go do this and it takes safety a while  
4           to set that up.  So Ruth probably said go set  
5           this up and do this, but by the time safety got  
6           to it and got everything going it was probably  
7           not until later in the day.  So she probably had  
8           started the ball rolling, but they had to get  
9           things lined up and safety lined up and hydrants  
10          lined up and all that.

11          Q.   So you think they began it and --

12          A.   My guess is she had told them to go ahead to do  
13          this, to start it, and safety didn't start it  
14          until 2:00 p.m. because they have get people and  
15          get things coordinated.

16          Q.   Okay.  What I'm confused about here is that she  
17          said they were currently discharging fire water  
18          onto the ground near the west tank farm in order  
19          to control the huge amount of water in the  
20          plant, which is --

21          A.   My guess is that she told them to set it up.

22          Q.   And they weren't?

23          A.   No, it just takes them a while.  She probably  
24          thought -- you know, she had told them at 11:00,  
25          she might have thought they had already started

1           and it just took them a while to get it going  
2           and she might not have been aware of that.

3       Q.   What further confuses me on it is that her  
4           notation here says -- her memo says the west  
5           tank farm, and the January 4 incident occurred  
6           on that wetland area.

7       A.   Yeah, but that's right by the west tank farm.

8       Q.   It is?

9       A.   Yeah. This is the west tank farm over here, and  
10          the flushing was like right here (indicating).

11      Q.   This seems like a ways though.

12      A.   Well, she -- the only thing I can think of is  
13          she told them to go here and they -- and then  
14          they said can I put them here instead. I don't  
15          know. As far as I know there was no water  
16          discharge at the west tank farm that day. I  
17          mean, everything that I found out from Monday on  
18          was the discharge was 2:00 p.m. to 2:00 p.m.  
19          into that pond or that low area over there and  
20          it didn't go to the west tank farm.

21      Q.   Was water discharged to the west tank farm on  
22          other occasions then?

23      A.   On other occasions. I think that's -- isn't  
24          that where it went in November?

25      Q.   I think so.

1       A.    I would have to look.

2       Q.    It was a bit confusing because she says they  
3               were currently discharging fire water on the  
4               ground near the west tank farm.  On the other  
5               occasions they did say west tank farm, but the  
6               January 4 one, that information doesn't say west  
7               tank farm.  So I'm wondering if there was  
8               another one occurring earlier in the day on  
9               Saturday at the west tank farm and then they  
10              hooked up another monitor at the -- where they  
11              went into the wetland area through the night?

12      A.    As far as everything I was told it was that one  
13              area from 2:00 to 2:00 p.m.  If they went to the  
14              west tank farm you would have to ask safety or  
15              Ruth because I don't -- I was never told that  
16              they did that.

17      Q.    Okay.  Karen in her memo says my first response  
18              was gee, I wish you wouldn't do that, but since  
19              we didn't have a solid answer, and then in  
20              parentheses, and may, in fact, never have one,  
21              about discharge of fire water, I backed up and  
22              declined to tell Ruth to stop it then.

23                      And further down she says at that time I  
24              didn't understand that the water being  
25              discharged was from B5 and may have partially

1           been affluent that's high in ammonia. Maybe  
2           this helps to clarify. Instead, since Ruth had  
3           said the water was being discharged to the  
4           ground at the west tank farm, I made the  
5           incorrect assumption that it was being  
6           discharged from the south fire water pond. I'm  
7           confused on that.

8       A.   At this point Karen really -- Karen knew that I  
9           had been talking to Steve and Jim about this,  
10          but she really didn't know a whole lot of the  
11          facts. You know, at this point it was Steve,  
12          Jim and I and not Karen. So the day she was  
13          there she didn't have a lot of knowledge other  
14          than the fact that I was mad about it.

15       Q.   When she states that she stopped into the  
16           shifties office with Gary Ista and Tom Rusch, is  
17           there an office the shifties have?

18       A.   Yeah.

19       Q.   And so in that office, here she states that Ista  
20           and Tim Rusch were there.

21       A.   Uh-huh.

22       Q.   And at the same time she goes on to say -- they  
23           were talking about an odor issue, and in the  
24           course of speaking to the shifties she mentioned  
25           the overflow and then further they got into this

1 discussion about the hydrant discharge.

2 A. Uh-huh.

3 Q. Do you know then if Gary Ista and Tim Rusch were

4 there at that meeting?

5 A. No.

6 Q. You don't know?

7 A. No.

8 Q. They weren't there or you don't know?

9 A. I don't know. I mean, I know -- I mean, I've

10 read that memo and I know that I've talk to

11 people since then, to Ruth, Karen, to Brian

12 Adams, to Gary about the events of that day, but

13 I don't know the specifics. I don't know why

14 Tim and Gary were there in the first place. It

15 sounds like it was an odor thing.

16 Q. All right.

17 A. They were all here for something other than that

18 issue and then that issue came up.

19 Q. That came up in the discussion in that meeting

20 apparently?

21 A. Yeah. Shift supervisors have an office that's

22 kind of like the -- it's not like my office,

23 it's kind of the operation central like where

24 people would go if there's issues or problems or

25 want to ask what's going on in the refinery, and

1           that would be where Gary and Tim would go to get  
2           information, or Karen or anybody else that's  
3           here.

4       Q.   In a meeting like that would Mr. Ista or Rusch  
5           have had authority then to say don't discharge  
6           onto land areas?

7       A.   Tim and Karen would have had that authority,  
8           yes.

9       Q.   Do you know why Karen didn't do that?

10      A.   I don't think she knew it was wrong.

11      Q.   All right. I want to talk about this November  
12           one, the November of 1996 Bioassay.

13                   MS. HAYES:     Don, let's have lunch  
14           first. Do you want to?

15                   (At this time a lunch break was taken.)

16      BY MR. KRIENS:

17      Q.   Heather, we want to talk about the November of  
18           1996 hydrant discharge. Do you recall writing  
19           this memo from October 24? It's number 02079.

20      A.   (Views document) Yep.

21      Q.   What was the purpose of that memo?

22      A.   Every year when we're going to do toxicity  
23           testing I let the operators know, I let anybody  
24           who -- like Rusch is on here because he helped  
25           me do the samples. I let Karen and Steve know,

1 I let Brian know. And usually I just let the  
2 operators know that if anything happens to the  
3 carbon system to let me know about it so that I  
4 can document it. But I usually do let them know  
5 when we're going to do it.

6 Q. Okay. And in this case the collection was to  
7 begin on November 4?

8 A. Yeah.

9 Q. And that would have been Monday?

10 A. Yeah.

11 Q. And then you just tell them to make sure things  
12 are working properly and so on?

13 A. Yeah. I usually just let them know and then  
14 I -- most of the time I -- I let them know it's  
15 going to be done and then let them know if the  
16 carbon system isn't working that I need to know  
17 about it because if we have a problem with the  
18 toxicity testing I want to know that for the  
19 documentation or whatever.

20 Q. Is this the normal procedure, to let people know  
21 beforehand that you're going to do it and just  
22 do what you said, make sure things are working  
23 properly and for any unusual things to inform  
24 you?

25 A. Yep.



1 Q. On this occasion Russ Edmonds, did you state  
2 that he was involved with this, too, obtaining  
3 the samples?

4 A. No. The last -- Russ helped me this year and  
5 last year and I think somebody else helped me  
6 the year before. It's just a matter of picking  
7 up the samples and then getting them shipped.  
8 And then we have to go out in the river and go  
9 upstream, so somebody goes in the boat with me  
10 to get the river water sample.

11 Q. The background water?

12 A. Yeah.

13 Q. Okay. And that was written October 24 just to  
14 let them know, which seems to be a typical  
15 prudent thing to have done.

16 A. Right. And then we moved it to the next week,  
17 and I didn't tell them that.

18 Q. Right. At this same time on November 2, and  
19 actually prior to that, the waste water plant  
20 was receiving a lot of loads of high ammonia,  
21 and I'll briefly paraphrase some of the  
22 operating logs.

23 The November 2 log states that specials  
24 were sent to the lab for TSS and that the S7 was  
25 cut to less than three units stacking water into

1 B5. Does that mean water then that is being  
2 converted to B5 from S7, not going to the  
3 polishing pond?

4 A. Yeah.

5 Q. Why would that have been done?

6 A. If the S7 results were high for ammonia or any  
7 other parameter and it was over -- S7 is how  
8 much water is going to the polishing ponds, and  
9 with a certain delay it usually corresponds to  
10 how much water it going in the final affluent.  
11 If S7, if they get a result that's way over  
12 target they'll usually back off the flow from S7  
13 and polishing ponds and put it into B5 until we  
14 can do a re-test or figure out what the problem  
15 is.

16 Q. And at this time wasn't there a lot of high  
17 ammonia going to the system?

18 A. Yeah. Is that what it says, ammonia?

19 Q. This on -- it does say ammonia later, but that  
20 one will have to be TSS.

21 What is the equivalent flow in MGD for  
22 one unit? My understanding is it's around .55  
23 or point --

24 A. It's 400 gallons per minute for one unit I  
25 believe.

- 1 Q. So that would be about .6?
- 2 A. That sounds about right.
- 3 Q. So three units would be equivalent to about 1.8
- 4 million gallons a day?
- 5 A. Uh-huh.
- 6 Q. What would be the normal flow out of S7?
- 7 A. We usually run at the final affluent around
- 8 4 million gallons. So S7 probably is pretty
- 9 close to that.
- 10 Q. So it was cut by --
- 11 A. Half at least. It varies, but four is about the
- 12 average.
- 13 Q. A couple million gallons anyway that day.
- 14 A. Yeah.
- 15 Q. Then on November 3 it states there were more
- 16 specials on S7 to the lab for TSS and ammonia,
- 17 the TSS was 72, the ammonia was 110. And here
- 18 they say they cut the river flow to 1.7 units,
- 19 which would be equivalent to about a million
- 20 gallons or so. So the flow then would have been
- 21 cut by about 3 million gallons?
- 22 A. Yeah.
- 23 Q. So about 3 million gallons less that day. They
- 24 note in the logs that they dropped off a copy of
- 25 Heather's letter, your memorandum or e-mail, to

1           the shifties for toxicity sampling and testing  
2           starting Monday, November 4.

3       A.    Uh-huh.

4       Q.    Then there's some further testing November 3 it  
5           talks about. Then there's also a memo from Dave  
6           Gardner regarding the specials results. What  
7           was Dave Gardner's position at that time, do you  
8           know?

9       A.    He would have been -- In November? He went from  
10          an operator to a shift supervisor, but I don't  
11          know when.

12      Q.    Okay. This is the memorandum that's -- it's  
13          number 2100 and it's dated November 3 at 7:30  
14          p.m. at night. This talks about --

15      A.    He would have been a shift -- it says I called  
16          the units and had them cut wash rates. He would  
17          a been a shift supervisor at the time then.

18                   MS. HAYES:    Yeah, he was according  
19          to my notes.

20      BY MR. KRIENS:

21      Q.    And he states that the plan, based on the 110  
22          parts per million is to limit flow to the river  
23          to two units.

24      A.    Uh-huh.

25      Q.    Three units would put us at the limit for

1           monthly average and 6.5 would put us over the  
2           daily max. Then he talks about I hope these  
3           moves prove sufficient in light of tomorrow's  
4           annual toxicity testing. Were these then  
5           activities that they were under taking to reduce  
6           the potential to have a toxic result on the test  
7           do you think?

8       A.    I can't answer for Dave, but, I mean, the flow  
9           rate -- the flow rate wouldn't change the  
10          toxicity results. And ammonia for toxicity is  
11          done a different way at the lab.

12       Q.   Why would it change the result?

13       A.    The flow rate?

14       Q.    Right.

15       A.    Because you still have to use the same amount of  
16          sample for toxicity. So if the -- I mean,  
17          concentration would be what would affect  
18          toxicity rates, and the velocity of sample that  
19          they need for toxicity. The flow wouldn't have  
20          anything to do with the toxicity testing. I  
21          don't know how much Dave knows about toxicity  
22          testing.

23       Q.    Well, the flow would have affected the toxicity  
24          testing if -- is it true then it would affect  
25          it -- I mean, the sample was irrelevant in this

- 1 case depending on what you sample.
- 2 A. Right.
- 3 Q. You're taking a certain sample volume into a
- 4 basin or an affluent.
- 5 A. Right.
- 6 Q. So that's always the same, and it's irrelevant
- 7 what else is going on. The important thing
- 8 there would be the polishing pond ammonia
- 9 concentration, is that right?
- 10 A. Right. If the ammonia is high, the way that our
- 11 permit reads and the way that we do the testing
- 12 for toxicity is under CO2 head space. So
- 13 ammonia -- if ammonia is high, if it's over five
- 14 parts per million in the sample they do another
- 15 CO2 head space, and that controls the un-ionized
- 16 ammonia, which would be the toxic portion, so --
- 17 Q. That's true, but the total ammonias,
- 18 nevertheless, will be affected because of the
- 19 concentration and the equilibrium that's set up
- 20 between un-ionized and molecular. Well, rather
- 21 molecular and ionized will --
- 22 A. Right.
- 23 Q. -- affect the un-ionized portion irrespective of
- 24 your head space, because your total ammonia --
- 25 A. But they also control the pH.

1 Q. Right, they do, but nevertheless, any certain  
2 pH, the distribution between the molecular and  
3 the ionized will be a certain relationship at a  
4 certain pH, but as you increase that un-ionized  
5 fraction, because of the total ammonia, it will  
6 certainly affect both species --

7 A. Right.

8 Q. -- in the equation.

9 MS. WIENS: Do you want to ask her a  
10 question other than --

11 MR. KRIENS: I'm trying to.

12 MS. WIENS: I understand what you're  
13 saying, but I want you to ask her a question  
14 other than stating your knowledge of how things  
15 work. If you want ask her how she understands  
16 things, that may be different than yours.

17 MR. KRIENS: I'm getting to that.  
18 And it might be, but I wanted to clarify that  
19 understanding so we're both on the right page  
20 with respect to how this impacts the test. I  
21 think that's important to do.

22 BY MR. KRIENS:

23 Q. So when you have a total ammonia concentration  
24 in a certain pond you're measuring say, if you  
25 have ammonia at 20 parts per million that will

- 1           set up a certain equilibrium concentration with  
2           an un-ionized at any pH.
- 3       A.    Right.
- 4       Q.    Let's say at a certain pH. And then if you have  
5           another concentration of ammonia at a hundred  
6           parts per million or 110 or whatever it is, that  
7           will set up a relationship with the un-ionized  
8           as well.
- 9       A.    Right.
- 10      Q.    The proportion will be the same at any certain  
11           pH, but the amount, the concentration of  
12           un-ionized, will be greater at the greater  
13           ammonia concentration. I mean, it has to be.
- 14      A.    My understanding is, though, that the way that  
15           the toxicity test is done is that it's  
16           controlled for toxicity from un-ionized ammonia,  
17           so that's not a factor in the toxicity testing.
- 18      Q.    Actually it is. It is a factor because you'll  
19           have -- even though it will be controlled at a  
20           head space of a certain pH, but the un-ionized  
21           will be greater at any certain pH if you have --
- 22      A.    Right, right.
- 23      Q.    If you have a certain mass there that's higher  
24           to begin with.
- 25      A.    Right. But if we -- we control the -- because



1           we had that instance for un-ionized ammonia for  
2           September of that year, we looked at what the  
3           ammonia level would be, what the pH would need  
4           to be and what the temperature would need to be  
5           to stay under that. So we always -- now we  
6           control for pH to make sure even at a hundred  
7           parts per million ammonia we're not going to  
8           exceed the limit for un-ionized.

9           Q.    Yeah, I know.

10          A.    And the toxicity test would be done at that pH  
11                because they set it to the pH of whatever our  
12                receiving stream is and hold it there. So the  
13                ammonia shouldn't have -- I understand what  
14                you're saying, I mean, un-ionized ammonia will  
15                have an effect on toxicity if it's not  
16                controlled, but the lab controls it so that  
17                there isn't that effect.

18          Q.    But what I'm saying is any given pH, if you have  
19                a pH of let's say eight, the un-ionized fraction  
20                will be greater when the initial ammonia  
21                concentration is higher.

22          A.    Right.

23          Q.    So if you have an ammonia concentration at which  
24                you controlled a specific pH, that was sent to  
25                the lab, that will be different than an

1 un-ionized ammonia at that same pH when you  
2 would have more ammonia in the system.

3 A. Right.

4 Q. So the un-ionized ammonia concentration would  
5 have to be bigger.

6 A. Right, if we didn't control the pH.

7 Q. Well, you are controlling the pH up to -- at a  
8 certain point, but I'm saying if you take both  
9 points here and getting an equivalency here that  
10 the un-ionized fraction at the higher total  
11 ammonia is going to be higher, it has to be.

12 A. Unless your pH is lower.

13 Q. Right, but there's a limit to how far you can go  
14 with that.

15 A. Right.

16 Q. And then there's also the issue that total  
17 ammonia in itself, irrespective of un-ionized  
18 has its own toxicity to organisms. So there's  
19 that part of it, too. So regardless of what the  
20 un-ionized fraction is in the equilibrium toward  
21 the pH temperature, the total ammonia itself has  
22 a toxic affect as well.

23 So what I want to get to with this is  
24 that when we look at this diversion of water  
25 when you have diverted on one day it looks like

- 1           a couple million and the other day maybe  
2           3 million gallons that would have normally went  
3           to the polishing ponds --
- 4       A.    In November?
- 5       Q.    Right.
- 6       A.    That's how much we flushed?
- 7       Q.    I don't know, is it?
- 8       A.    I don't know. That's what I -- when you said  
9           2 million and 3 million I thought that seems  
10          high.
- 11       Q.    I'm just saying you diverted that to B5.
- 12       A.    Oh, I see, okay. So that's not how much we  
13          flushed, that's how much we diverted from the  
14          polishing ponds. Okay, I got you.
- 15       Q.    So if that had went to the polishing ponds at  
16          the much higher ammonia, 110, the polishing  
17          ponds' concentration were much lower.
- 18       A.    Uh-huh.
- 19       Q.    At 31 and 18, so 24 parts per million or so,  
20          about four times, five times lower or  
21          thereabouts.
- 22       A.    Based on the S7 number.
- 23       Q.    Based on the S7 number, right.
- 24       A.    Okay.
- 25       Q.    And S7 varied. I think there was some data that

- 1           said it was 170 parts per million. It jumped  
2           around it looks like. Sometimes it looks like  
3           it was higher. At that same time period you  
4           had -- the plant had the second highest ammonia  
5           daily load of this whole year and a half or so  
6           period that's under evaluation.
- 7       A.    In November (nods head).
- 8       Q.    Right, November 3 and 4. So my question is if  
9           that water would have went to the polishing  
10          ponds would that have increased the  
11          concentration of ammonia in the polishing ponds?
- 12      A.    Yeah.
- 13      Q.    And then would it have increased it in the  
14          affluent as well?
- 15      A.    Yeah.
- 16      Q.    And that's what you test on the ammonia toxicity  
17          test, is that right?
- 18      A.    The composite, yeah. The composite sample is  
19          what we test, yeah, for toxicity.
- 20      Q.    Is that done over four days or two days?
- 21      A.    There's three different organisms. The fathead  
22          minnow is four day test and the other two  
23          organisms are 48 hour tests.
- 24      Q.    So the ceriodaphnia?
- 25      A.    And the ceriodaphnia dubia.

- 1 Q. They're two days and the minnow is a four day  
2 composite?
- 3 A. Right.
- 4 Q. And those are taken and sent to the lab out in  
5 Colorado?
- 6 A. Right.
- 7 Q. Do you know if at the same time on November 3 in  
8 the evening, beginning in the evening, they  
9 discharged waste water to the west tank farm?  
10 This is according to Ruth Estes.
- 11 A. Yeah.
- 12 Q. Via the hydrant system. Do you know why that  
13 was done, why they discharged that water?
- 14 A. On the 3rd?
- 15 Q. Right. It began Sunday evening through the test  
16 and continued into the morning on the 4th.
- 17 A. They did it because they had high levels in the  
18 pond and didn't want to discharge it to the  
19 river.
- 20 Q. High levels of what?
- 21 A. Of water in the ponds, in B5 and the south fire  
22 lagoon. And because of the ammonia levels they  
23 didn't want to discharge that water to the  
24 polishing pond.
- 25 Q. So they discharged it to land because the volume

- 1           was high and the ammonia was high and they  
2           didn't want to discharge it to the pond?
- 3       A.    Yep.
- 4       Q.    Why wouldn't they have wanted to discharge the  
5           ammonia to the pond?
- 6       A.    Well, it --
- 7       Q.    When it was real high like that.
- 8       A.    My guess is they didn't want to exceed the limit  
9           for the ammonia going to the river.
- 10      Q.    Okay. Did they do it also to circumvent the  
11           testing that you're aware of?
- 12      A.    The toxicity testing?
- 13      Q.    Right.
- 14      A.    No. I don't know that for sure, but the  
15           people -- the people who made that decision, I  
16           don't even know if they knew how toxicity  
17           testing was done, so I don't know that they  
18           would have known that it would make any  
19           difference. I can't answer that for sure. I  
20           mean, the people who were involved that night  
21           and did the flushing would have to answer that.
- 22      Q.    Were these people that did the flushing also  
23           advised that the test was going to occur?
- 24      A.    Not by me.
- 25      Q.    Who would --

1 A. Like a shift supervisor.

2 Q. Who would that have been? Was that Ruth Estes?

3 A. That would have been like Ruth Estes. If I want  
4 to notify the shift supervisors of anything I  
5 notify all of them because they work shifts,  
6 rotating shifts. It would have been somebody  
7 like Ruth, Dave, Lee, whatever. There's like 12  
8 of them, and I would have notified all of them.  
9 You know, I don't usually notify shift  
10 supervisors of toxicity testing.

11 Q. So they were advised by the waste water  
12 treatment plant themselves that -- the waste  
13 water operator's log states drop off a copy of  
14 Heather's letter to the shifties concerning  
15 toxicity sampling and testing starting Monday,  
16 November 4. Does that mean that they were  
17 advised by the waste water plant?

18 A. Yes.

19 MS. WIENS: Do you know that  
20 happened?

21 THE WITNESS: No, I didn't know  
22 that, but if the log sheet says it did then I'm  
23 sure it did.

24 BY MR. KRIENS:

25 Q. Okay. So do you know then if they did this to

1           circumvent the testing or is that something you  
2           don't know or aren't aware of?

3       A.   My guess would be they didn't have the knowledge  
4           of toxicity testing to make that decision. My  
5           guess would be they did it for pond levels and  
6           the ammonia specifically.

7       Q.   In order to avoid exceeding the limit?

8       A.   To get rid of water that was in the pond.

9       Q.   Yeah, but you said that they wanted to avoid  
10           putting high ammonia to the pond, so then would  
11           that be to avoid exceeding the permit limitation  
12           as well?

13      A.   Yeah.

14      Q.   When Ruth -- Ruth has told us in her interview  
15           that there was a meeting, and I think you  
16           mentioned this meeting already, in November with  
17           her, yourself, Steve David and Brian Roos at  
18           which the propriety I guess is how I would  
19           characterize it, of discharging waste water via  
20           the hydrants was discussed. She thought it had  
21           to do with avoiding exceeding a monthly limit at  
22           some period in time. Do you remember that  
23           meeting when that was brought up?

24      A.   The only time I remember bringing it up was -- I  
25           don't even know what -- it wasn't specifically



1           for that reason, it was a meeting that we had  
2           and then after the meeting, like I said, it was  
3           Steve, myself, Brian and Ruth, and she just  
4           asked the question if that was something we  
5           could do. All I can remember is me saying no  
6           and Steve saying he would look into it. That  
7           was the extent of the conversation as far as I  
8           remember.

9           Q.   For the November one?

10          A.   That meeting actually took place before  
11               November, but I don't remember the exact date.

12          Q.   The November one that you referred to earlier  
13               had to do with you coming in, if I recall, you  
14               found out they had done this, and correct me if  
15               I'm wrong, you were angry about it I think you  
16               said and you were opposed to it and inquired  
17               about it?

18          A.   Yes, yes.

19          Q.   What else went on when you came in and found  
20               that they had discharged waste water via the  
21               hydrant in terms of the Bioassay test?

22          A.   I don't remember the two being connected.

23          Q.   Well, that's what I'm asking. When you came in  
24               on Monday, November 4 apparently the Bioassay  
25               testing was not conducted, the sampling.

1       A.    Right.

2       Q.    Do you know why it was deferred?  I think it was  
3             deferred until the 10th or so.

4       A.    Yeah.  I thought about it, and I don't -- I  
5             mean, I take care of doing -- of setting up the  
6             testing, and if had been moved I would have  
7             moved it.  I take care of the sampling.  I  
8             remember coming in on Monday and talking about  
9             the flushing issue, I remember sending out that  
10            e-mail and I'm not sure exactly why I moved it.  
11            I know it was moved and I don't know if it was  
12            because of the flushing.

13                    In order to do the toxicity sampling we  
14            use the same composite as we use for the test  
15            that Craig runs in the MPBS lab.  If the flow  
16            had been turned down and we didn't have enough  
17            sample I might have changed it a week because we  
18            didn't have enough sample that day.  It's a flow  
19            proportion sample that collects in there, so if  
20            it's a low flow volume, Craig needs to have a  
21            minimum volume in order to run his test, and  
22            then I have to have a liter sample to send to  
23            the toxicity lab.  So that might have been the  
24            reason.

25       Q.    That would have been the flow from the polishing

1 ponds?

2 A. Yeah. I don't know what it was that day.

3 Q. Pretty typical, 3.76.

4 A. Yeah, so that wouldn't have been the reason. I  
5 might have thought with the flushing we should  
6 change it. I don't know. This particular year  
7 the lab called me and asked me if we could  
8 change it for their schedule, so we changed it  
9 by their schedule.

10 MS. HAYES: '97 you mean?

11 THE WITNESS: '97, uh-huh. I don't  
12 know. And I actually went back and looked in my  
13 toxicity notes, that file, and I don't have  
14 anything written down. I know that particular  
15 week we had the issue with ammonia. Like I  
16 said, I -- my understanding is that ammonia is  
17 controlled at the toxicity lab and doesn't  
18 become a factor in the toxicity testing, so I  
19 wouldn't have stopped it specifically for the  
20 ammonia, but I might have stopped it because we  
21 were up to our eyeballs in fighting that fire  
22 and didn't have time to go to the river or  
23 whatever. I don't remember.

24 BY MR. KRIENS:

25 Q. Okay. Ammonia has a definite impact on the

1 toxicity test. It's very acute and toxic to  
2 organisms, so it definitely impacts the test.

3 A. Yeah.

4 Q. We have allowed that head space because -- the  
5 reason we have allowed the head space test, I  
6 need to clarify that, is because in some cases  
7 we have needed to find out if there were other  
8 toxicants. If ammonia was toxic that would  
9 shadow any other affects, so we've allowed the  
10 head space test. If and as long as ammonia was  
11 below a level at which it could be toxic. So it  
12 does have a very significant affect on testing.  
13 I don't want to go back into that equilibrium  
14 stuff again.

15 A. Yeah, sure.

16 Q. Is there any day planner or anything like that  
17 where you keep a log of decisions of that sort  
18 or activities?

19 A. I have a Franklin planner, a day planner that I  
20 keep and I write down stuff, and I did look in  
21 that and I don't have any notes on that either.

22 Q. All right. So when did the Bioassay actually  
23 begin then?

24 A. I think it was the following week. I would have  
25 to look.

- 1 Q. I think it was the 10th and the 11th.
- 2 A. It was in November, but I would have to look for  
3 the dates.
- 4 Q. I believe it was the 11th or the 10th, so it  
5 would have been the next Sunday, or six to seven  
6 days later.
- 7 A. Yeah.
- 8 Q. So the sample would have been taken on the 10th  
9 and they acquired it on the 11th, 24 hours?
- 10 A. Yep.
- 11 Q. All right. If the ammonia that was diverted,  
12 the water that was diverted, not necessarily the  
13 water that was discharged, although we don't  
14 know the ammonia concentration of that, that was  
15 discharged in the hydrant, because nobody  
16 analyzed it. If that water -- and it appears to  
17 be several million gallons, six or better  
18 probably, had been discharged to the pond system  
19 where it should have went, would that -- as I  
20 asked before, is it the case that would have  
21 increased the ammonia concentration of the pond?
- 22 A. Yeah.
- 23 Q. So is it possible then on the 6th as well that  
24 the ammonia concentration could still be  
25 elevated?

- 1       A.    On the 6th?
- 2       Q.    Yeah.  I mean, you had a certain ammonia  
3               concentration at that time, I think around 20  
4               parts per million.
- 5       A.    Right.  In the final affluent it was 20 parts  
6               per million?
- 7       Q.    Right, thereabouts during the test period.
- 8       A.    Okay.
- 9       Q.    If that water was not diverted, those several  
10              million gallons, would that have also been high,  
11              higher during the test period that actually did  
12              occur?
- 13      A.    It depends.  The residence time in the polishing  
14              ponds is about three days at normal flows, so if  
15              the polishing pond -- if all of -- if a hundred  
16              parts per million ammonia had gone to the  
17              polishing pond and had stayed a hundred parts  
18              per million, it could have lasted in there for  
19              weeks or days.  If it was just a slug or  
20              something that went through, we fixed the  
21              problem and it went down, then it would have  
22              been only seen for two days.
- 23      Q.    In this case it wasn't a slug because it had  
24              been building up on November 2, November 3 there  
25              was high ammonia and November 4 again it was

1           very high ammonia because there was a very high  
2           load to the system, to the influent.

3       A.    Uh-huh.

4       Q.    So would that have continued then?  If all that  
5           water went where it was supposed to go, would  
6           that have continued to remain elevated then for  
7           some time?

8       A.    If the ammonia stayed elevated, yes.

9       Q.    So I guess my question is did that affect the  
10           representativeness then of the actual test that  
11           was taken?

12      A.    For ammonia?

13      Q.    For the toxicity, the pollutants that were in  
14           the waste stream that were taken for the test,  
15           the toxicity.

16                   MS. WIENS:     Do you understand what  
17           he's asking?

18      BY MR. KRIENS:

19      Q.    In other words, had the water not been diverted  
20           and went through it's normal course to the  
21           polishing ponds, it would have increased the  
22           ammonia concentration of the pond and perhaps  
23           the other constituents that were elevated as  
24           well.

25      A.    I would have to go back and look at their

1 numbers, but for the numbers that were in the  
2 polishing pond for ammonia, did those stay high  
3 for the whole entire week? Because if they were  
4 high for the whole week --

5 Q. They were high during these few days at least.

6 A. Okay. If they were only high for a few days and  
7 that -- if we had put that water to the  
8 polishing pond and then fixed the ammonia  
9 problem, in a week that water would have been  
10 long gone. So by the time we did the toxicity  
11 testing, if the ammonia problem had been  
12 controlled before that, like a week before, then  
13 the water would have been representative of what  
14 was actually going through the plant at that  
15 time. If the ammonia stayed high for that whole  
16 period and we continued to divert it, then what  
17 would have been at the affluent would have been  
18 a little different. I would have to look at the  
19 numbers to be able to say what was going on that  
20 week.

21 Q. Yeah, but isn't it the case, irrespective of  
22 that, that it's kind of an accumulative affect  
23 anyway, so that if you didn't put water there  
24 that should have went there it's still going to  
25 have an impact on the representativeness of that



1           because it never got there? Do you see what I  
2           mean?

3       A.    It depends on if you're talk about like -- in  
4           November if you're talking about flushing the  
5           water into the ground, I mean, that water is  
6           gone and won't be in the system anymore. But  
7           that would --

8       Q.    So that would have affected the  
9           representativeness?

10      A.    Yes. But the water diverted to B5 or the south  
11           fire lagoon, eventually that water ends up going  
12           back to final affluent.

13      Q.    Eventually.

14      A.    As long as it's not flushed. So that water may  
15           be diluted in like B5 before it's put back into  
16           the system, but it still would be representative  
17           of what's happening in the water at that time.

18      Q.    However, it depends how long that water was held  
19           up in those ponds.

20      A.    Right.

21      Q.    And whether it was released in a timely -- or  
22           whether it was held up longer than necessary and  
23           whether it would -- it's totally dependent on  
24           how long it was held up whether it would affect  
25           the tests or not.

- 1       A.    Right.
- 2       Q.    Would you agree then that the discharge via the  
3            hydrant, that water, since it's gone, would  
4            indeed have affected the representativeness  
5            because it was not ever put in the system?
- 6       A.    If that water that was flushed was high in some  
7            component that didn't go to the polishing ponds,  
8            the final affluent would have been changed in  
9            characteristics by that water.  But the water  
10          that's held -- if we just put it into B5 and  
11          hold it, then the water that is going to the  
12          river is representative even though it might be  
13          changed by the fact that we diluted it in that  
14          pond.
- 15      Q.    Right, and it would have been diluted in the  
16            pond as well.
- 17      A.    Right.  But the water being discharged still  
18            would contain that water and would be  
19            representative of the affluent.  The stuff  
20            that's flushed could change the characteristic,  
21            yes.
- 22      Q.    Yeah.  Since it never got there it had to have  
23            affected it.
- 24      A.    Right.
- 25      Q.    Just to follow up on that, here's a letter from

1 November 5, which is the day after -- memorandum  
2 rather, this is from Karl Hamre to you and the  
3 subject is ammonia incident, and he states that  
4 at 0100 hours we sent another sample, these  
5 results were API 200, S7 170. He's speaking  
6 about ammonia, I assume, because he's talking --  
7 because it says ammonia incident. So would 170  
8 at S7 be a high concentration as well?

9 A. Yes.

10 Q. And he states there, so charge was cut to two  
11 units. Do you know what that means?

12 A. Yeah. Charge would be the flow to S7. They're  
13 talking about the charge rates, the flow rate  
14 from S7 to the polishing ponds.

15 Q. So does that mean S7 was diverted again to B5?

16 A. Yep, yep.

17 Q. By three million or whatever on the 5th?

18 A. Yep.

19 Q. Thank you. Twelve days later there was another  
20 hydrant discharge to the ground, and this was  
21 taken in part from the safety log.

22 A. In November?

23 Q. Yeah, November 16. And this says flowing  
24 hydrant west tank farm, discharged to the  
25 ground. Do you know anything about that

1 particular one?

2 A. No, I hadn't heard of one on the 16th.

3 Q. Okay. Do you know in this case, and I think I  
4 might have asked before, would the operations  
5 department or Brian Roos have been advised about  
6 the nighttime discharge?

7 A. On November 16?

8 Q. November 3, I'm back to that one.

9 A. On November 3, that was like a Sunday, and my  
10 guess would be they didn't call Brian Roos, no.  
11 I mean, they wouldn't call him on a Sunday for  
12 something that they thought was routine or  
13 something they thought was not a problem.

14 Q. So do you mean the hydrant discharges were  
15 routine, that was a routine thing they wouldn't  
16 call about?

17 A. I can't say it was routine, but if they -- if  
18 they didn't think it was an issue they wouldn't  
19 have called Brian. If they thought that they  
20 could handle it between the shift supervisors  
21 and safety they would have just done it  
22 themselves. I shouldn't say routine, you know,  
23 that's probably the wrong word. If they didn't  
24 think it was a major issue they wouldn't have  
25 called someone like Brian at home.

1 Q. We spoke with a former operator about this  
2 subject, and this person stated that he was told  
3 by Ruth Estes that safety was ordered to open  
4 the hydrants to get rid of water, and -- or he  
5 was called by Ruth Estes, rather, and was told  
6 that safety was going to open hydrants to get  
7 rid of water. Do you know who would have --  
8 would that be Ruth Estes that ordered --

9 A. It says supervisors would have told safety to do  
10 that, yes.

11 Q. And he stated at this point it was getting  
12 routine to get rid of water because of the high  
13 ammonia because they wouldn't be able to meet  
14 limits, it was routine to get rid of water by  
15 using the hydrants.

16 Does that mean because it's routine then  
17 that he wouldn't -- I'm not trying to stick you  
18 with that, but just how does that fit in with  
19 the shift supervisors contact with operations?  
20 Or was this something they established  
21 beforehand and that this was just a mode of  
22 operation to take care of this problem?

23 A. Shift supervisors on nights and off hours or  
24 whatever have the authority to make those kinds  
25 of decisions and would have done that on their

1 own.

2 Q. Initially I presume that this would not be a  
3 routine or normal activity, even though it was  
4 done in 1994, and apparently was practiced at  
5 some point before '96.

6 A. At that time in November that it happened --

7 MS. WIENS: Which time?

8 THE WITNESS: The 3rd, the  
9 November 3 incident. Like I said, the only  
10 conversation that I was aware of was the one  
11 with Steve and Brian and I and Ruth. I don't  
12 know about where Ruth's mind was that night, but  
13 my guess would be that she thought nobody had  
14 told her no so this was okay to do and she  
15 didn't need to get approval from Brian or Steve  
16 or whoever to do this, it was a non-issue  
17 because she hadn't heard differently.

18 BY MR. KRIENS:

19 Q. So would it be -- would this be something that  
20 Ruth Estes would believe not to be an unusual  
21 thing and so she could just go ahead on her own?

22 A. She might have thought it was an unusual thing,  
23 but because she had asked the question and had  
24 gotten no feedback saying don't do that she  
25 probably -- I mean, I can't speak for Ruth, but

1 she probably thought that since nobody got back  
2 and said no, you can't do this that it was an  
3 okay way to do it.

4 Q. Meaning nobody got back to her from what, some  
5 questions she had asked?

6 A. From that meeting that -- from the questions she  
7 had asked earlier.

8 Q. Do you know if this practice had been used --  
9 apparently Ruth Estes stated to this former  
10 employee that the west tank farm had been used  
11 for years to get rid of water.

12 A. The first time I was aware that we flush  
13 hydrants was in November.

14 Q. Of '96?

15 A. Right. The next time that I was aware we did it  
16 was January 4 of '97.

17 Q. Okay. Do you -- I brought up earlier the green  
18 water flushing in 1994, and you don't know  
19 anything about that one?

20 A. No.

21 Q. You heard about it?

22 A. Just a thing that Craig had told me about, the  
23 green water chromium interference issue.

24 Q. All right. Do you know what -- as far as  
25 reading of the toxicity test results in November

1 of '96 that there was some toxicity that was  
2 observed, do you know what caused that or do you  
3 have any ideas about that?

4 A. Two of them were a hundred percent and one of  
5 them was like 70, right?

6 Q. Thirty percent toxicity, yes.

7 A. Okay. I don't know specifically. I remember  
8 looking back to see what -- you know, I compared  
9 previous results to those -- to that year's  
10 results and all the different test parameters.  
11 You've probably -- there's probably a memo that  
12 you've got regarding that, about the  
13 comparisons.

14 Q. Uh-huh.

15 A. I don't even remember what I wrote. I think I  
16 wrote that I didn't find anything specific. I  
17 know I -- I remember looking at everything and  
18 comparing it and trying to figure out what that  
19 could have been caused by, and I don't think  
20 there was anything obvious. I don't think that  
21 we attributed it to any specific cause. I would  
22 have to look at that memo to know for sure.

23 Q. Let's see if I have it (views documents).

24 A. It was like two pages long.

25 Q. Well, let me ask you about the flows. I notice



1           in the discharge monitoring reports submitted to  
2           the PCA the flow is -- the OSWTP flow is  
3           limited. Where is that flow measured?

4       A.   The OSWTP flow is -- I'm trying to remember  
5           which is which. That's the internal flow of the  
6           waste water treatment plant, and I believe that  
7           is calculated from the daf totalizers. There's  
8           two totalizers in the daf. Either that or it's  
9           from S7. I would have to go back and look.

10      Q.   I don't think it's S7 because the data is  
11           inconsistent, if it is, from my reading, but it  
12           might be.

13      A.   The only places we have totalizers are the coker  
14           ponds, and that one is on there but it's  
15           separate, there's the daf totalizers, there's S7  
16           and there's the final affluent. So it either  
17           has to be the daf totalizers or S7. I would  
18           have to go back and look specifically to see  
19           which one it is.

20      Q.   Yeah, and I've asked Mr. David for that. So  
21           either the daf totalizer or S7?

22      A.   Uh-huh.

23      Q.   Okay. So S7 receives the affluent from the  
24           waste water treatment plant, so that would be  
25           kind of like the final clarifiers?

- 1       A.    Right.
- 2       Q.    That goes to S7?
- 3       A.    Right.
- 4       Q.    B5 normally flows to S7?
- 5       A.    Yes.
- 6       Q.    And then S7 can also flow back this way?
- 7       A.    Right.
- 8       Q.    Using that same line, right?
- 9       A.    Yep.
- 10      Q.    And then, of course, the discharge from S7 is
- 11            pumped to the polishing pond?
- 12      A.    Right.
- 13      Q.    So the OSWTP is either the flow at the daf units
- 14            or at S7?
- 15      A.    Yes.
- 16      Q.    Okay. That helps a lot. Is this flow ever
- 17            measured, the B5 flow, in itself?
- 18      A.    No. Well, you're talking about the flow going
- 19            to B5?
- 20      Q.    The flow out of B5.
- 21      A.    Yeah, okay. No.
- 22      Q.    Okay. And then the --
- 23      A.    You could calculate that based on the flow
- 24            through the daf and the flow through S7, and
- 25            figure the difference is what's coming out of

1 B5.

2 Q. Well, that would be -- yeah, if indeed the OSWTP  
3 was measured at daf. If it's measured at S7 you  
4 couldn't.

5 A. Right, right, from that -- from that number.  
6 But we do have that daf number in terms of -- I  
7 mean, you could figure that out.

8 Q. You do have the daf number?

9 A. Yeah, I have that on a spread sheet.

10 Q. All right. So if the OSWTP was measured here  
11 you would additionally have a daf number?

12 A. Right.

13 Q. Okay. And then the polishing pond is measured  
14 here (indicating)?

15 A. Right.

16 Q. With the meter and so on, okay. How is the  
17 polishing pond flow regulated in terms of -- I  
18 mean, there's a weir here with a control  
19 structure, is that right? How does that work?

20 A. If you look at the polishing ponds, this is the  
21 north polishing pond and this is the south, and  
22 flow is pumped into the north polishing pond.  
23 Right here there's a control box, there's a weir  
24 in here that you can adjust flow into the south  
25 polishing pond (indicating). And then here

1           there's another weir where you can control flow  
2           into the flume. So you could adjust -- and this  
3           then is S7. So you can control the flow going  
4           to this flume by the amount being pumped from S7  
5           to the north and south polishing ponds, and then  
6           you can also vary the rate in either one of the  
7           weirs.

8                       This weir is typically never touched  
9           (indicating). We did when we -- we finally --  
10          we did vary that level when we added the alum  
11          when we isolated the ponds, but typically they  
12          do it here if they're going to adjust the level  
13          of the weir. Typically they don't, they leave  
14          it at a set point and then control it with S7.  
15          But if there's a problem and we need to store  
16          water for whatever reason, then they would raise  
17          the weir there to raise the level in the pond.

18       Q.   All right, thanks. So if you had an OSWTP flow  
19           on November 4 of one million gallons a day, that  
20           would mean you would be much reduced in flow out  
21           of here than typical because usually this would  
22           be -- if it's at S7 it should be around four  
23           million a day or something?

24       A.   Yeah.

25       Q.   Okay. So it would be three million down or so.

1       A.   Typically about -- if this average is four  
2           million gallons this is about 3.2 and this is  
3           about .8 because there is some of the clean  
4           water going in here (indicating). So the  
5           typical flow is .8 to here and 3.2 through the  
6           plant.

7       Q.   All right.

8                   MS. HAYES:     Could we take a break  
9           for a minute?

10                   MR. KRIENS:    Sure.

11                   (At this time a short break was taken.)

12       BY MS. HAYES:

13       Q.   Heather, I'll go next. I want to talk to you a  
14           little bit about the tank 500 overflow and the  
15           oily water sewer going into the non-oily water  
16           sewer and that discussion that we've had.

17       A.   Uh-huh.

18       Q.   And then related to that is overflows of B5.  
19           Let me see, I think what I would like to do is  
20           show you this memo that you and Larry Beyers  
21           authored from January 21, it's on the 1/13/96  
22           incident and the number is 61.

23                   It looks like you found or people were  
24           doing a walk-through and found an odor by B5  
25           slop cooler. Does that sound familiar to you?

1       A.    I think that's where they found the spill to be  
2             from that was getting to B5.  
3       Q.    You called it a near miss.  
4       A.    Yeah.  I know more of the details about B5.  
5             Larry was kind of -- Larry knew the unit.  
6       Q.    Okay.  So you were co-authoring that.  
7       A.    Yeah.  
8       Q.    It looks like you're discussing where it came  
9             from and that it ended up on the B5.  
10      A.    Right.  
11      Q.    And you also did a memo on January 16 that was a  
12             follow up on that.  
13      A.    Okay.  
14      Q.    And you state that the oil did reach the B5  
15             lagoon, was contained by oil booms and flow  
16             diversions.  
17      A.    That was from when?  
18      Q.    This is from January 13, so this was before.  
19      A.    This was before, okay.  
20      Q.    I didn't mention a number, is there a number on  
21             there?  
22      A.    02978.  
23      Q.    Okay.  Here's a waste water operator log number  
24             49 from January 17, '96, and they're talking  
25             about oil on the B5 (indicating).

1 A. Okay.

2 Q. And then just to follow up on this, on these  
3 issues, I've got logs that are not around that  
4 same time frame, but I've got logs over periods  
5 of time like January, February and March of '97  
6 where there's discussion of B5 overflows.

7 A. Uh-huh.

8 Q. And I'm just wondering, was there an overflow  
9 associated with that oil on that -- on the pond  
10 at that time?

11 A. From what I remember with this incident there  
12 was a lot of oil that got to B5, floating oil  
13 that got there through the non-oily water sewer.  
14 And the issue here was that we had to contain  
15 that oil on B5 and clean it up so it wouldn't  
16 get to the polishing ponds and go out with the  
17 affluent. I do not -- I do not believe at this  
18 time there was any B5 overflow, there was -- not  
19 that I'm aware of. I mean, the issue there was  
20 putting out booms and containing the spill. I  
21 don't remember any B5 overflow for this.

22 Q. Okay. I'll back up. I've just pulled out a  
23 couple of logs of the operators from talking  
24 about B5 overflowing, and these are from '97,  
25 but in '96, on May 3 and 4 of '96, the operator,

1           Dennoso, noted oily water in the storm water  
2           basin. Then on 5/8/96 he noticed that the NOWS  
3           basin was overflowing. So I'm just wondering  
4           about a connection with that and if you can tell  
5           me anything about that. As you know, when we  
6           were out here in April, Heather, we could see  
7           evidence of an overflow from B5. Overflows  
8           probably.

9           A. Right.

10          Q. And then we did the testing of the soil and we  
11           found the soil to be contaminated. You saw the  
12           same --

13          A. Right.

14          Q. -- problems with the soil. I guess what I'm  
15           asking is what do you know about this, what do  
16           you know about the problem of contamination of  
17           the B5? I mean, I think it's been pretty  
18           clearly established that you were having a  
19           problem with oily water getting into the  
20           non-oily water from probably various sources.  
21           Tank 500 would probably be one of them, 16-5  
22           slop tank would be another.

23          A. Uh-huh. This particular incident would be  
24           with -- this is kind of an extreme one, the  
25           January incident where Larry and I wrote this,



1           this memo. This is a substantial amount of  
2           amount of oil that got to B5, and it was from  
3           the 16-E5 and it got to a sewer that we didn't  
4           know was there, and it got there because of --  
5           what was it? Yeah, there was a split in a tube.  
6           So this was kind of an extreme thing and I  
7           don't -- it's not really --

8       Q.   Related to that?

9       A.   Related to the other thing.

10      Q.   But you can see how it looks like they could be  
11           sort of similar problems?

12      A.   Yeah. This one from 5/3, oily water to storm  
13           water basin, you know, I don't know how much you  
14           guys have heard about our sewers, but there  
15           are -- there are areas in the refinery,  
16           especially in the old part of the refinery,  
17           where the oily water sewers and the non-oily  
18           water sewers are one and the same, and they go  
19           to the coker ponds, to Seventh Street or Sixth  
20           Street and then go to the waste water treatment  
21           plant. So in those areas there is opportunity  
22           for oily water to get into the storm water  
23           basins.

24                           FURTHER EXAMINATION

25       BY MR. KRIENS:

1 Q. You mean the oily water normally would have went  
2 into the storm water system, into the B5?

3 A. No, no. The oily -- the old part of the  
4 refinery has sewers that take storm water into  
5 oily water sewers, and there are some washdown  
6 areas that might be going into storm water  
7 sewers. But those sewers tie into Seventh  
8 Street or Sixth Street. But Seventh Street and  
9 Sixth Street overflow to the coker ponds. So  
10 there are some cross sewers with oils, storm  
11 water, that kind of thing. But most of it ends  
12 up in Seventh Street, Sixth Street, coker ponds.

13 Q. So some of those sewers right now have  
14 connections to the clean water sewer, is that  
15 right?

16 A. Yes, but they all go to Seventh Street, Sixth  
17 Street and the coker pond.

18 Q. Do any of those discharge --

19 A. Not directly to B5.

20 Q. To the clean water system to the storm ponds?

21 A. No, no. There's nothing -- the south fire  
22 lagoon receives water from the clean fuels area,  
23 storm water sewers, and those are segregated  
24 from the oily water sewer. And then the B5 --  
25 the B5 pond receives water from -- some of the

1 storm water from some of the areas out by that  
2 way and then the boiler house clean water sewer.

3 Q. Right, which is cooling or boiler blowdown,  
4 relatively clean water?

5 A. Right. Just high salt clean water, yeah. But  
6 there are -- there are opportunities for oily  
7 water to get into the storm water. This one  
8 says oily water to storm water basins, and I  
9 don't remember this particular incident.

10 MR. KRIENS: Okay.

11 BY MS. HAYES:

12 Q. I guess what I was trying to show you was that  
13 just a couple days later you had an overflow of  
14 B5. It went from May 3 to --

15 A. Oh, okay. I thought you meant from this. May 3  
16 to May 8, yeah.

17 MS. WIENS: Do you know if the storm  
18 water basin -- is that B5?

19 THE WITNESS: It could have been B5  
20 or it could have been the south fire lagoon. So  
21 it could have been either one, and I'm not sure.

22 MR. KRIENS: What was the date on  
23 that one again?

24 THE WITNESS: That's May 3rd.

25 MS. HAYES: The 3rd and 4th.

1 THE WITNESS: And this one says that  
2 the NOWS basin were overflowing.

3 BY MS. HAYES:

4 Q. What does that mean?

5 A. The NOWS basins are the neutralization basins  
6 next to the API. So if those were overflowing I  
7 would have it to go back and look, but if there  
8 was like a big rain event or something that day  
9 that sewer can get overloaded and so can that  
10 neutralization basin. Those are just -- they're  
11 just open at the top, so, you know, that  
12 might -- it might have just been a storm event.  
13 I don't know really know. And if there's a  
14 heavy storm event and B5 is full, then the --  
15 the way B5 over flows, it's not -- you've been  
16 back there, you know the inlet channel and you  
17 know the pond, the pond doesn't back up into the  
18 inlet channel, it's the incoming water into the  
19 inlet channel overflowing the back side of it.

20 MR. KRIENS: So it would be more of  
21 the water that's introduced at the time the high  
22 flow was occurring?

23 THE WITNESS: Right. So it's either  
24 going to be storm water events --

25 MR. KRIENS: Could it be overflow

1           problems with processed water?

2                   THE WITNESS:     It could be if there's  
3           a connection.  I'm not aware of any connections  
4           right now other than that January one.

5                   MR. KRIENS:     Well, there's a  
6           connection at tank 500 where it overflows  
7           continuously.

8                   THE WITNESS:     Right, right.

9                   MR. KRIENS:     I mean, not  
10          continuously, but it's been a continuous  
11          problem, very frequent.

12                   THE WITNESS:     Yeah, there's that  
13          one, that's the overflow.  That was actually  
14          coming out of the sewer and going into another  
15          sewer.

16                   MR. KRIENS:     Right, into the clean  
17          water sewer.

18                   THE WITNESS:     Yeah.  And then -- or  
19          if the RO system -- you know, if they're  
20          backwashing or something, you know, they're  
21          increasing that amount of water.

22          BY MS. HAYES:

23          Q.     So a NOWS basin to you means the neutralization?

24          A.     Yeah.

25          Q.     Because I know we've had operators say they're

1 not sure, that it could be, I'm sure that they  
2 said it could be a storm pond, too.

3 A. Yeah. The Nows basins -- I'm thinking they're  
4 talking about the neutralization channels, yeah.

5

6 FURTHER EXAMINATION

7 BY MR. KRIENS:

8 Q. A large area of the channel or -- is it a tank?

9 A. No, it's just a channel.

10 Q. Okay. Isn't there a neutralization tank?

11 A. It looks just like an API. There's a  
12 neutralization pit in one of the units.

13 Q. Looking at this, here we have --

14 A. Yeah, I drew that, so I hope so.

15 Q. Here we have neutralization basins.

16 A. Yeah, or the Nows basins.

17 Q. That's what you mean?

18 A. Yeah, this is what I'm talking about.

19 Q. So how big are they?

20 A. You've seen our APIs, right?

21 Q. Yeah.

22 A. It's right next to the APIs, it's about the same  
23 size. They used to use it years ago for pH  
24 control of the stuff coming from the boiler  
25 house when it was low pH or high pH, I can't

1           remember which. They don't use it for that  
2           anymore, it's just storm water. But it's just  
3           an open channel.

4       Q.   Yeah. I mean, you can't dispose of process down  
5           the clean sewer anyway.

6       A.   No, no.

7       Q.   So it's basically a tank or a --

8       A.   Yeah, but it's open on the top. It's not  
9           sealed.

10      Q.   Right, that's what I mean, an open tank.

11      A.   It's rectangular, like a U-shape rectangle, open  
12           at the top and probably 50 feet long by 20 feet  
13           across (indicating).

14      Q.   Okay. That's kind of what we were thinking.

15                           FURTHER EXAMINATION

16      BY MS. HAYES:

17      Q.   I guess where I was going with all this was  
18           there's -- you know, I have many incidents and I  
19           just -- we've talked about this over the time  
20           we've been doing these interviews, where we have  
21           logged tank 500 overflows, and I wanted to know  
22           what the difference was in that first memo that  
23           I showed you.

24      A.   The January one?

25      Q.   Right.

1 A. That was a specific isolated kind of incident.

2 Q. Okay. But in the log where the tank 500  
3 overflow happens, I mean, it goes back to  
4 January of '94, and it's all the way to up, you  
5 know, our inspection in April. And there's  
6 probably about 40 or so incidents in these logs.

7 And in talking to some of the operators I  
8 get the idea maybe it hasn't been documented  
9 every single time it happens because it became  
10 such a routine thing. Then we have the  
11 overflows, and here's the logs on overflows,  
12 January, February and March of this year  
13 (indicating). In either of those cases,  
14 Heather, you were notified it says on the log.  
15 Do you recall?

16 A. That I was notified about B5 overflow?

17 Q. Right. In most cases do you take a walk out  
18 there and take a look at what's going on or in  
19 other cases when you might have been notified of  
20 this?

21 A. When B5 overflowed and they notified me usually  
22 I would go out there and look at it and then  
23 figure out what we needed to do in order to stop  
24 the overflow. Typically what we would do is  
25 transfer -- depending on the situation, we would



1           have a couple of options. If it increased the  
2           flow from S7, move it out to the river, we could  
3           transfer water from B5 to the south fire lagoon  
4           if there was room in the south fire lagoon, or  
5           we could stop the flows coming to B5. But that  
6           usually wasn't much of an option. I think in  
7           most cases we would increase S7 or transfer  
8           water.

9       Q.    Okay. Did you ever have occasion to go out and  
10           see an overflow with an oily sheen on the top of  
11           it?

12       A.   The couple of times that I looked at B5  
13           overflowing and I didn't see any oil, no.

14       Q.    Did you ever hear of any of that, where there  
15           was oil on the pond when it was overflowing?

16       A.    No. I know I've been told that B5 was  
17           overflowing, but I don't remember a time when  
18           they said the oil was overflowing, no.

19       Q.    Okay. Did you ever talk to anybody or consider  
20           the issue of notification of overflows?

21       A.    With B5 we talked about it in terms of what we  
22           needed to do with that in terms of an overflow.  
23           We decided it wasn't a bypass and that it -- you  
24           only reported it if you thought it was an RQ  
25           issue.

1 Q. Have you ever heard of statute 115061, duty to  
2 notify, recover -- report, recover and prevent  
3 recurrence, you haven't heard of that?

4 A. No.

5 Q. There is that statute, and we maintain that  
6 there's many events out here where Koch was in  
7 violation of that statute by not reporting.

8 A. That's what happened over --

9 Q. Yeah, right, like overflows on the pond and that  
10 sort of thing. I just wanted to make you aware  
11 of that and know what your position was on that.

12 A. Okay.

13 Q. So you did discuss whether it needed to happen  
14 and --

15 A. Yes, unless there was an RQ issue.

16 FURTHER EXAMINATION

17 BY MR. KRIENS:

18 Q. So is that the only criteria that is used to  
19 determine whether you notify the PCA, the RQ?

20 A. Yes.

21 Q. That's how Koch does it?

22 A. For the B5 overflows?

23 Q. For anything.

24 A. The B5 overflows specifically were if we had an  
25 RQ exceeding -- tank 500 would be different.

1 Tank 500, if it was spilled to the ground, if  
2 the on-call person was notified and tank 500 had  
3 overflowed then you would have to look at the  
4 amount of oil, because there would be oil in  
5 that probably from the coker ponds. And if  
6 there was an issue with any of the other  
7 contaminants. But that's -- that would be  
8 notified under the five gallons of oil, the RQs  
9 or the hazardous waste rules.

10 Q. Were those constituents analyzed in that tank --  
11 every time tank 500 overflowed to determine  
12 those quantities?

13 A. I don't know that. I was never on-call when  
14 that overflowed that I remember.

15 Q. Do you know if Koch has any data on that to  
16 support that evaluation? I mean, you're saying  
17 that would depend on RQs, and we're wondering if  
18 that was ever analyzed.

19 A. The only thing I would say is that if -- we  
20 could go back and look at the on-call logs and  
21 see if people had notified it and why. My guess  
22 would be that they notified it for the five  
23 gallon oil criteria.

24 Q. So how would you determine the five gallon oil  
25 thing?

1       A.    They would go out and measure the volume of  
2            liquid that had spilled onto the ground and then  
3            calculate a percentage or look to see if there  
4            was an oil sheen or look to see if there was oil  
5            and estimate it.

6       Q.    Is that something the environmental department  
7            would be aware of?  Would they notify you about  
8            those events?

9       A.    If tank 500 overflowed onto the ground the  
10            on-call engineer should have been notified.

11                    MS. HAYES:    Were you notified,  
12            Heather?  Because when we were out here in April  
13            we --

14                    MR. KRIENS:    Did you ever get  
15            notification of it?

16                    THE WITNESS:    I don't think so.

17                    MS. HAYES:    We asked the question  
18            and nobody seems to know the answer about --

19                    MR. KRIENS:    Nobody knew what it  
20            was.

21                    MS. HAYES:    Yeah, and also didn't  
22            know the state of the other sewer, which after,  
23            you know, going back and collecting ourselves,  
24            even that night we thought about it and said  
25            well, no, it has to be a clean sewer.  After

1           talking to people we now know that this has been  
2           going on since -- I mean, this dates back, all  
3           the way back, to when it was logged and probably  
4           it's been going on even longer than that.

5                   THE WITNESS:     When you guys were  
6           here during the investigation I didn't remember  
7           anything about tank 500. After you guys were  
8           here I went back and looked at my notes, and I  
9           found one note on a drawing that said this  
10          manhole overflowed. So at some point I must  
11          have been told that that overflowed, because I  
12          did a have a note on one of my drawings that it  
13          did. But other than that, I don't remember  
14          anything about it. I never was really involved  
15          in that particular issue.

16                   MR. KRIENS:     There's frequent  
17          notations in the operator logs, and our  
18          understanding from talking with the operators is  
19          that it was brought up to Brian Roos and  
20          management of that continuing problem.

21                   THE WITNESS:     Uh-huh, after you guys  
22          were here that's what I understand. It's not  
23          something that I was really involved with until  
24          the repair of it, and then I got more involved.

25                   FURTHER EXAMINATION

1 BY MS. HAYES:

2 Q. How do you explain that the environmental  
3 department didn't know about tank 500? That's  
4 been real baffling to us. I mean, can you give  
5 me any insight in that?

6 A. I don't know that nobody knew about it. I can't  
7 answer it.

8 Q. Nobody that was standing there knew about it  
9 that day. And pretty much almost the whole  
10 environmental department that was related to any  
11 of the stuff we were looking at was there as far  
12 I know.

13 A. If tank 500 had overflowed the shift supervisor  
14 should have called the environmental on-call  
15 engineer. The on-call engineer, whoever it is,  
16 since we rotate every so many weeks, you know,  
17 they have might have gotten a call and one  
18 person might have handled one spill but not --  
19 you know, we don't keep track of every single  
20 one from every single place. They are doing  
21 that now, tracking them to see if there's  
22 anything routine or whatever. So isolated  
23 incidents people might have known about it. In  
24 terms of why Brian or Rick or operators didn't  
25 tell us, they might not have thought it was a

1 big issue because it was going to another sewer  
2 or because -- I don't know.

3 MR. KRIENS: It apparently was an  
4 issue to some people that had written memos  
5 about it and said it was recurring, it was a  
6 continuous problem.

7 BY MS. HAYES:

8 Q. Right. Joe Butzer talked about it at length and  
9 diagramed out the problem and wanted to get  
10 action.

11 A. Yeah.

12 Q. So I was asking what you think the reason is  
13 that this could have gotten by you when it --

14 A. I don't know.

15 Q. When it looks like such a huge miss to me.

16 A. I know the memo you're talking about with Joe  
17 Butzer because it was in one of my files, so I  
18 must have gotten it and read it. I must have  
19 thought it was a hazardous waste issue and not a  
20 water issue. So I didn't -- I mean, I didn't do  
21 anything with it. I don't know why other people  
22 didn't.

23 MR. KRIENS: Is that the case when  
24 we were at that inspection, the people we were  
25 with from the environmental department didn't

1 know that that was an overflow point from oily  
2 to clean water sewers?

3 THE WITNESS: I don't know. I  
4 didn't know that.

5 MS. HAYES: Did you guys talk about  
6 it after though? Did you ever have a discussion  
7 about it after?

8 THE WITNESS: We talked about how we  
9 were going to fix it.

10 BY MS. HAYES:

11 Q. But you didn't talk about whether people were  
12 aware of that going to the clean water sewer.

13 A. I knew after the investigation that Rick and  
14 Brian were aware of it. I think Karen had told  
15 me that she was aware there was a problem out  
16 there, but that was it. I mean, at the point  
17 after the investigation I looked back at my  
18 notes to see what I knew. I had Joe's thing, I  
19 had the one sentence I had on a drawing, and  
20 then moved to fix it. That was really more my  
21 involvement.

22 Q. Heather, back to the overflows of the B5 and the  
23 soil samples that we took in April. I asked you  
24 if you ever saw oil on the B5 and you said you  
25 haven't seen it or heard about it other than



1           maybe that January incident or whatever.

2       A.    Yeah.

3       Q.    How do you explain the contamination of the soil  
4           north of B5? What would your assessment of that  
5           be?

6       A.    Well, that was -- I remember -- what was that,  
7           chromium and pH was it?

8                   MR. KRIENS:     Right, pH compounds,  
9           COC compounds, some metals, mercury, chromium,  
10          zinc I believe, those classes of compounds.

11       BY MS. HAYES:

12       Q.    Do you have a guess as to the origin of that  
13           contamination based on your experience here or  
14           what you've heard or --

15       A.    The B5 overflows, the ones that I've seen have  
16           been in the last year, maybe last year and a  
17           half, two years, and the ones that I've seen  
18           have been, like I said, high levels in the ponds  
19           and stuff overflowing in the back. And it's  
20           been -- I haven't gone and looked at every  
21           single one of them, but the ones that I've seen  
22           have been relatively clear water, you know,  
23           nothing that I've noticed -- you know, it might  
24           have some solids or chunks of stuff something  
25           that way, but no, I don't know. I mean --

1 Q. Has that ever been used as a disposal area for  
2 like sludges from the neutralization basin?

3 A. It hasn't since I've been here. Probably right  
4 after I started Doug Nowicki was kind of the  
5 waste -- the hazardous waste disposal guy and  
6 they were going to clean out the neutralization  
7 basins.

8 Q. When was that?

9 A. It was probably shortly after I started, maybe  
10 within a year. I don't remember the exact date.  
11 Doug came and asked me if we could get rid of  
12 neutralization sludge behind B5, and I said no  
13 and he said that they always had in the past.

14 There isn't anything back there and there  
15 hasn't been since I started, but that was -- I  
16 have, you know, been told there has been that  
17 sludge that used to be back there. And Doug  
18 told me at that point they had it analyzed at  
19 one point and it didn't come back as a hazardous  
20 waste. I told him he still couldn't put it back  
21 there because it would be like industrial waste  
22 or -- you know, so they disposed of that as an  
23 industrial waste when they cleaned it out. But  
24 they only clean those things out like every two,  
25 three, four -- I don't even know how often, but

1 not very often. It's years when they clean  
2 them.

3 MR. KRIENS: Have they been cleaned  
4 out since you started?

5 THE WITNESS: I think they cleaned  
6 them out this past -- they had talked about  
7 cleaning them out this past fall. I don't know  
8 if that ever happened or not.

9 BY MS. HAYES:

10 Q. That would have precipitated the -- this memo  
11 that you wrote on April 8, 1996, number 1909,  
12 where you say the neutralization -- from this  
13 point forward the neutralization basin sludge  
14 can't be discharged, is that what precipitated  
15 that, was that the discussion you had with him  
16 about the --

17 A. Yeah, with Doug.

18 Q. Okay. On the bottom you talk about sampling.

19 A. Uh-huh.

20 Q. Were there -- are there test results we might be  
21 able to see as a result of that?

22 A. I wouldn't have those. Doug Nowicki would have  
23 those or Leslie Skelly. I can ask to get them.

24 Q. Okay. And you don't know about anything since  
25 you have been here?

1       A.    Uh-uh.  I wrote here the material north of B5  
2            will be removed at some later date.  I don't  
3            think there's anything back there anymore.  I  
4            thought that was all cleaned up.  As far as I  
5            know right now everything that's been -- that  
6            was back there has been gone.  I thought it's  
7            been gone for years.

8                   MR. KRIENS:     Would it have been gone  
9            before we were there in April do you think?

10                   THE WITNESS:    Yeah.  I thought it  
11            was -- I don't remember it from when I started,  
12            but it looks like there was some from this.

13       BY MS. HAYES:

14       Q.    So we don't have an answer on the contamination  
15            in the soil there?

16       A.    No.  I don't remember where that came from.  I  
17            mean, I wouldn't think it came from the B5  
18            overflows only because I don't think there's a  
19            lot of processed water back there, and the water  
20            that goes from S7 into that pond doesn't go back  
21            there.  I mean, that's not how it overflows.

22                   MR. KRIENS:     But the water that went  
23            in there goes in there into the inlet, that  
24            could come --

25                   THE WITNESS:    The water that comes

1           into the inlet could overflow and go into B5,  
2           but the stuff that goes from S7 into B5 proper  
3           can't go -- because of the elevations and  
4           everything, can't go back there.

5                   MR. KRIENS:     I understand that, but  
6           if water -- if it would have been a high flow at  
7           the inlet from an overflow of tank 500 or some  
8           source, that could have been the source of water  
9           overflow in that area?

10                   THE WITNESS:    Yeah, yeah.

11                           EXAMINATION

12           BY MR. BERGER:

13           Q.    Let me follow up on the neutralization basins.

14                   Heather, are you aware that based on the  
15           overflows from the oily water sewer to the  
16           non-oily water sewer and other contaminants  
17           getting into the NOWS, that that basin sludge  
18           might be a listed hazardous, F037.

19           A.    For the back panel B5?

20           Q.    No, the neutralization sludge.

21                   MR. KRIENS:     Or the back channel of  
22           B5, too.

23           BY MR. BERGER:

24           Q.    Yeah, both.

25           A.    I know that the -- there's like water conveyance

1 system sludges listed as hazardous waste.

2 Q. That come in contact with process in the flows,  
3 yes.

4 A. I never thought about it in terms of the  
5 neutralization basins or the B5 inlet, no. I  
6 mean, I've thought about it in terms of --  
7 because I do some of the on-call stuff and have  
8 to report spills, I've looked at issues of waste  
9 water treatment plant sludges and stuff and how  
10 it has to be classified if there's a spill, so I  
11 know that different sludges that go to waste  
12 water treatments plants and processors and  
13 sewers and that kind of thing can be listed as  
14 hazardous waste. But like I said, I didn't  
15 think about it for those two.

16 Q. Okay. Seeing that we're talking about the NOWS,  
17 I'll continue.

18 Heather, I have a memo that you put  
19 together on August -- it's dated August 23 of  
20 '96. It's from you and to anyone who needs  
21 information about the NPDES permit. Do you  
22 recall that memo?

23 A. That was before I went to Bolivia and I thought  
24 I was going to die on my trip.

25 Q. The cover page of this memo is document number

1           2945. On the second page you list permit  
2           requirements for the NPDES permit, and about the  
3           sixth or seventh down you talk about the NOWS.  
4           You state the NOWS can only accept the  
5           discharges listed, all process waters must go to  
6           the OWS. At this time cooling tower blowdown  
7           cannot go to the NOWS, the water that enters the  
8           NOWS will eventually be discharged along with  
9           the waste water treatment plant affluent at Koch  
10          final affluent. The combined flow is sampled  
11          for compliance. Do not allow anything without  
12          proper review to be discharge to the NOWS. If  
13          there's still another problem with pollutants in  
14          the NOWS it can be diverted through the waste  
15          water treatment plant or the water may be able  
16          to be treated. Do you recall that?

17        A.    Yep.

18        Q.    Okay. What I want to show you now is a number  
19              of waste water treatment plant logs -- well,  
20              first off, my first question is you say in the  
21              first sentence there, that only wastes that are  
22              listed can be discharged or something similar to  
23              that. What are those?

24        A.    The NOWS can only accept the discharge listed?

25        Q.    Right. What are those?

1       A.   It's on our permit, it's on like first page.  It  
2       says cooling tower blowdown, steam generation  
3       water, storm waters.  I would have to look at  
4       the permit, but it's on like the first or second  
5       page of the permit.  Oh, it's page three,  
6       paragraph four, section A.

7       Q.   Okay.  I want to show you a number of daily logs  
8       that indicate there are waste materials being  
9       disposed to the NOWS.  It appears to be mostly  
10      low pH or high pH water, or actually acids or  
11      caustics, straight acids or caustics.

12                I'll just show you a couple of these  
13      because they're all about the same.  The first  
14      one is dated 3/15/95, it's number 4999.  It  
15      states boiler house will be sending low pH water  
16      down the NOWS.  Another one from 3/16/95, and  
17      this may be the same -- it could be the same  
18      waste, I don't know, because it's only one day  
19      later or a few hours later, I'm not sure.

20                This one states boiler house drained  
21      acids to NOWS to make repair on V65.  Another  
22      one from 7/17 of '96, number 573, states C.H.  
23      called, bleed open sending acid to NOWS for  
24      approximately four hours.  (Views documents) I  
25      can't find it now, but I do have a written list



1 of it.

2 This one is dated 1/19/95 and it's number  
3 4847 and it states Fulton called, said they  
4 dumped five to ten gallons of raw acid down  
5 NOWS. That seems to me to be contrary to what  
6 you said in that permit. Do you have any  
7 explanation of what's going on there? Is that  
8 something that shouldn't be allowed in your  
9 opinion?

10 A. I guess my opinion would be since the -- since  
11 this water -- if it's acid or caustic and it's  
12 going to the B5, my opinion would be that since  
13 it's going to go through S7 and go through the  
14 final affluent and we have pH limit, we can add  
15 acid or caustic at S7 to neutralize it. So I  
16 would say we can treat it and have the ability  
17 to do so. I guess I wouldn't have thought it  
18 was a big deal.

19 MR. KRIENS: Do you think it's an  
20 appropriate way to get rid of strong acids and  
21 basis that might do two things, corrode the  
22 sewer line out and cause problems that way, and  
23 secondly can contain heavy metal?

24 THE WITNESS: I don't know if it  
25 would contain heavy metals. You know, I don't

1 know if this -- what this acid -- is it all  
2 acids? It looks like it. I don't know what the  
3 acid is from, so I don't know it has metals or  
4 anything in it.

5 MR. KRIENS: Well, certain acids and  
6 bases do contain metals, depending on their  
7 quality.

8 THE WITNESS: Right. If someone had  
9 told me they were doing this I would tell them  
10 to put it through the process water sewer. I  
11 don't remember specifically being asked about  
12 these. I guess if I had looked at them I  
13 wouldn't have thought it was a big deal because  
14 we have the ability to neutralize them. I guess  
15 that's all I can say about them really.

16 BY MR. BERGER:

17 Q. I have some other logs here, too, that have to  
18 do more with releases from tanks.

19 The first one here is dated 4/21/96 and  
20 it's number 330. It states caustics and then  
21 dash tank 304 and then an arrow to C5. Then it  
22 states poly dumping 500 gallons per minute to  
23 NOWS. And then the second one here is from  
24 7/12/96 and it's number 560. It states 27 unit  
25 sending to storm sewer soda ash mixed from

1 vessel for approximately two hours (indicating).

2 Were you aware or are you aware of  
3 caustic tanks being released to the Nows?

4 A. No.

5 Q. How about the soda ash materials?

6 A. No, I don't remember these.

7 Q. Do you think that's a problem with regard to the  
8 NPDES permit then?

9 A. Like I said, you know, the high pH low pH stuff,  
10 if somebody had asked me about these I probably  
11 wouldn't have thought it was much of an issue  
12 because before it goes out the final affluent is  
13 neutralized in terms of the final pH. So I  
14 wouldn't have thought the pH thing would be an  
15 issue.

16 MR. KRIENS: Caustic tank 304 to B5,  
17 is that just strictly caustics or is that some  
18 other material?

19 THE WITNESS: I don't know what that  
20 means actually. I'm not sure which tank is 304.  
21 I don't know how tank 304 goes to B5.

22 MR. KRIENS: Do you know if poly  
23 would be dumping 500 gallons per minute, which  
24 is a high flow, to the Nows?

25 THE WITNESS: No. I don't know the

1 units in the refinery very well.

2 MR. KRIENS: Would it be clean  
3 water? Is there any cooling water there?

4 THE WITNESS: I don't know.

5 MR. KRIENS: Do you think that's an  
6 acceptable environmental practice, to dump  
7 caustic down the clean water sewer?

8 THE WITNESS: Like I said, in terms  
9 of pH control, we can control pH.

10 BY MR. BERGER:

11 Q. But that's not normally where it's done, is it?

12 A. No. If somebody had asked me, you know, where  
13 should I put this, I would have told them to put  
14 it in the process sewer or to -- you know,  
15 sometimes they will bring it to the waste water  
16 treatment plant specifically and we'll put it in  
17 at the front end or something like that. I  
18 wouldn't have told them to put it into the clean  
19 water sewer or the non-oily water sewer.

20 Q. Do you know if they have the ability at the  
21 boiler house to put that waste in the oily water  
22 sewer right there?

23 A. I don't know the unit that well at the boiler  
24 house. I think they have an oily water sewer  
25 and a clean water sewer.

1 Q. That's my understanding.

2 A. That's mine, too, but I don't know it that well.

3 MR. KRIENS: Do you know what that  
4 means, Heather, when they say poly unit done  
5 with tank dump and now sending water from tank  
6 (indicating)?

7 A. No. Like I said, I just don't know the units  
8 that well.

9 MR. BERGER: I don't have anything  
10 further about that.

11 MR. KRIENS: I need a couple minutes  
12 break to make a call.

13 (At this time a short break was taken.)

14 FURTHER EXAMINATION

15 BY MR. KRIENS:

16 Q. Heather, these are all of the recorded events  
17 that we know of when hydrants were used to  
18 dispose of waste water (indicating). It's  
19 beginning June of '96 through March. And our  
20 understanding is that not all of them were  
21 recorded, and that is according to Karen Hall  
22 and the safety department, they didn't record  
23 all of them. But these are the ones that were  
24 recorded and that were noted either in the  
25 operator logs or the safety logs. And I want to

1 talk to you about this period of time in  
2 February of '96 -- in '97 I mean. In that month  
3 we have recorded entries for February 25, 26 and  
4 27 where the hydrants were discharged either at  
5 the west tank farm or the south flare area.

6 We're trying to understand additionally  
7 if there were additional hydrant releases,  
8 because the flow numbers don't add up very well.  
9 I wanted to talk that over with you.

10 During that month was there a problem in  
11 water inventory, having too much water  
12 inventory?

13 A. In February, yes.

14 Q. What does that mean? Was there too much to  
15 dispose of or what was the problem?

16 A. We had high levels in all of our ponds pretty  
17 much -- well, probably, December, January  
18 February and March. Corresponding to the time  
19 frame when we had other problems with the sour  
20 water strippers and the high ammonia rates. We  
21 were backing water into the ponds and not going  
22 to the polishing ponds and to the final affluent  
23 because of high ammonia numbers.

24 Q. Okay.

25 A. I know also in January -- the last two -- we

1           also had some issues with, you know, a lot of  
2           snow and that kind of thing in that same kind of  
3           time frame. We had a lot of storm water last  
4           year, too, so that didn't help the problem any.  
5           I know we did have high levels pretty much  
6           corresponding from fall until March.

7        Q.   And that was because of the need to back up the  
8           water because of the high ammonia  
9           concentrations?

10       A.   Right.

11       Q.   Given that, I'm trying to understand why the  
12           polishing pond flow in February in particular  
13           was so much lower than the other months. It's  
14           3.3 million-gallons per day on the average,  
15           which is considerably lower than other months  
16           during that period (indicating). Do you know  
17           why that would be?

18       A.   I would have to go back and look at what the daf  
19           flow rate was.

20       Q.   The daf flow rate would be the influent flow?

21       A.   It would be the flow through the waste water  
22           treatment plant itself. I could look at that  
23           and see if for some reason we had lower than  
24           normal plant flows. That could correspond -- I  
25           would also have to look at the refinery logs and

1           see if we had any turnarounds or outages, that  
2           kind of thing. I would have to see if we did  
3           the hydro testing that month. I would have to  
4           go back and do some research before I could say  
5           for sure. I don't know why they would be lower  
6           in February.

7       Q.    It doesn't make any sense to me. Would the  
8           influent flow then, are you saying, relate to  
9           this possibly lower flow?

10      A.    If the flow through the plant was low, yeah.

11      Q.    I think I have that actually. This is the  
12           influent flow to the waste water treatment plant  
13           measured at the rapid mix tank (indicating).

14      A.    Okay, yeah.

15      Q.    And in February it actually was high, relatively  
16           high relative to the others. It was 3.05 MGD in  
17           February of '97, which is one of the higher  
18           months for flow.

19      A.    Then that doesn't make a whole lot of sense.

20      Q.    It doesn't, and I'm wondering where the water  
21           went.

22      A.    So you have polishing pond monthly -- okay, so  
23           this is the affluent, this is the rapid mix, and  
24           then you have OSWPG flow. That must be S7 then.

25      Q.    Or that may be -- yes, it must be S7, that's



- 1 true.
- 2 A. It would have to be.
- 3 Q. That's what I wanted to determine, right.
- 4 A. So this one is actually higher (indicating).
- 5 Q. Yeah.
- 6 A. We did have some problems with the totalizer for  
7 one of the dafs, but I'm thinking that was last  
8 year.
- 9 Q. Yeah, I saw that, too. I didn't see a notation  
10 for that.
- 11 A. Yeah. I think that was last year that was  
12 actually a problem. I think by this time frame  
13 it was fixed. This flow here --
- 14 Q. It's still high, the influent.
- 15 A. So the influent flow is higher, sort of the  
16 average there, the polishing pond flow is  
17 higher.
- 18 Q. The influent flow is actually a little above  
19 average, the mean is 2.85 and it's at 3, so it's  
20 up there.
- 21 A. Okay, yeah, it's up. The polishing pond flow is  
22 higher.
- 23 Q. Well, it's higher than that, but still low  
24 relative to the others (indicating).
- 25 A. Yeah.

1       Q.    It's low relative to the influent flow  
2               certainly. As you notice, these other peaks,  
3               the polishing pond flow is proportionally much  
4               higher than the influent flow and the OSTP flow.

5       A.    Yeah. The only thing I would say about maybe  
6               December, January and February is there's a lack  
7               of contribution from storm water, you know, in  
8               terms of final affluent flow. That would be  
9               why -- you know, I would think these months, the  
10              summer months it would be higher if there's a  
11              lot of rain.

12      Q.    Right. We've heard from Koch interviews,  
13              though, there was such a high contribution at  
14              times with snow melt and --

15      A.    Yeah. I know in January they had some higher  
16              than average temperatures at that time.

17      Q.    Yet it isn't reflected in the data. I'm trying  
18              to understand this discrepancy. It seems to me  
19              like there's a fair amount of water that's  
20              unaccounted for here, particularly in February.

21                      The question that I have is are there  
22              other hydrant releases, a discharge of waste  
23              water on land, occurring in February that would  
24              account for that missing water?

25      A.    I would have to look at my notes. I know there

1           were discharges in February. There's three of  
2           them here, and I don't remember if there were  
3           more than that.

4       Q.    Do you have notes on that?

5       A.    I have -- yeah, yeah. The other thing could be  
6           like B5 overflows. If there were any in that  
7           time frame that could contribute.

8       Q.    Yeah, it could. It looks to me like there's  
9           really a lot of water missing. Do you have  
10          notes on the hydrant discharges?

11      A.    I would have my notes, yeah.

12      Q.    Where are those?

13      A.    I have -- I have a file that's just a water  
14          discharge file, hydrant flushing file, you know,  
15          with the policies and that kind of stuff. I  
16          might have some notes in there, and then my  
17          Franklin planner.

18      Q.    Do you have those available here?

19      A.    Yes.

20      Q.    Could we take a look at those?

21                   MS. WIENS:    Yeah, we can take a look  
22          at them.

23                   MR. KRIENS:    We'll go through this,  
24          and if we could look at them today briefly that  
25          would be good.

1 MS. WIENS: You want the Franklin  
2 planner for the month of February?

3 MR. KRIENS: Well, actually if you  
4 could give them to us for November, December,  
5 January and February that would be preferable.

6 MS. WIENS: You can look at them  
7 today, but not take them with you and then we  
8 can get them copied.

9 BY MR. KRIENS:

10 Q. That's fine. We're wondering if there were  
11 other hydrant releases in February that would  
12 account for this water discrepancy.

13 A. The hydrant releases that occurred in February,  
14 I know that there were a couple where I was  
15 called and asked to figure out, you know, how  
16 much they could discharge in terms of RQs and  
17 stuff, so I would have those notes.

18 Q. Okay. I would like looking at those.

19 Here's another chart, Heather which shows  
20 the production levels in barrels per day,  
21 actually hundred thousand barrels per day, and  
22 the OSWTP flow, which is the S7 flow I guess.  
23 It's charted out, and I've determined a slope  
24 for these, for the production and OSWTP flows,  
25 and found that the slopes are almost the same,

1           which is probably expected since you would  
2           have --

3       A.   This is production versus OSWTP flow?

4       Q.   Right. I would think it would be somewhat  
5           anticipated, that it would not be unusual. The  
6           slopes are very similar.

7                   In every month you find that the OSWTP  
8           flow, the relationship here, that that peak is  
9           greater than the production peak. Of course it  
10          varies, but I didn't have in this chart the  
11          production peaks for these because they were  
12          missing from our files temporarily. We do have  
13          them (indicating). Except for February of '97,  
14          where the production level on this chart exceeds  
15          the OSWTP flow, where it has an inverse  
16          relationship. When the -- if the OSWTP is S7  
17          then, which apparently it has to be from these  
18          other documents, does that mean then if the flow  
19          is lower than anticipated, does that mean it was  
20          diverted to B5?

21       A.   That could be one thing, yes. I'm trying to  
22           think what else.

23       Q.   Actually these months, December, January and  
24           February in particular, you don't have a real  
25           distinct difference in production versus

1 treatment plant flow, and in February you  
2 actually have the inverse. I'm just trying to  
3 find out if that can explain -- if the diversion  
4 and discharge through the hydrants explains this  
5 water balance discrepancy.

6 A. It could.

7 Q. Maybe we could look at the planner.

8 A. It could be that -- I was looking at these for a  
9 weather correlation, but it doesn't look like --  
10 I mean, January, February and March it looks  
11 like there was a lot less, and it looks like it  
12 was less affluent flow, but then back here it's  
13 not the same (indicating).

14 Q. It's not the same relationship, no.

15 A. I would have to think about that, but yeah, it  
16 could.

17 Q. Do you know why the flow was increased on the  
18 weekend at times versus the weekdays, the  
19 discharge via the polishing pond? The flow, the  
20 discharge to the river was increased on weekends  
21 as opposed to weekdays.

22 MS. WIENS: Is that your  
23 understanding?

24 THE WITNESS: What?

25 MS. WIENS: That the weekend flow

1 rates were increased. He's making a statement  
2 and I'm just wondering if that --

3 THE WITNESS: I know of one weekend  
4 we specifically turned up the flow rates. The  
5 question as asked could we do that and we said  
6 yes. I would have to look at -- I mean, I know  
7 that particular weekend, and it was either in  
8 February or March, I don't remember which one,  
9 but we specifically made a decision that we  
10 could turn up the flow on the weekend, that  
11 there wasn't an issue in doing that as long as  
12 we didn't exceed a permit limit.

13 BY MR. KRIENS:

14 Q. Was the affluent monitored on that weekend?

15 A. No. We don't monitor any of our programs other  
16 than pH on Saturday and Sundays, but we monitor  
17 S7. So we would adjust flow rates to make sure  
18 that nothing exceeded that.

19 Q. But was the affluent itself monitored?

20 A. No.

21 Q. So how would you know if it would exceed or not  
22 exceed a limitation?

23 A. I don't know if -- there are times that we  
24 measure the numbers in the north and south  
25 polishing ponds, if there's high level or

1 something, and if we think that we're going to  
2 have -- if we have to adjust flow rates based on  
3 S7 data because we think we're getting high for  
4 permit parameter, we also monitor the north and  
5 south polishing pond to make sure we understand  
6 what direction the numbers are going in and  
7 where we're at with the flow. We may have taken  
8 samples at that point for north and south  
9 polishing ponds.

10 Q. I didn't find hardly any monitoring on the  
11 weekends for ammonia or for anything.

12 A. For specials? I would have to look.

13 Q. Well, for any -- I didn't find any that was  
14 submitted to us.

15 A. Did you ask for that?

16 Q. Well, it's required via the permit anyway.

17 A. No, we don't supply that data to you guys. We  
18 pass storm in the south polishing pond quite a  
19 bit, and that's not data that we give to you  
20 guys in terms of the MPESDMR.

21 Q. I know, but if you monitor the affluent at a  
22 frequency --

23 A. Yeah, yeah, we did that.

24 Q. And I haven't seen any information in there on  
25 the weekends.



1       A.   No.  The north and south ponds we would have,  
2           but not the final affluent.

3       Q.   Okay.  That was my question then, how would you  
4           know whether you would exceed or not exceed  
5           the --

6       A.   From measuring the south polishing pond.

7       Q.   But that isn't -- that wasn't the discharge  
8           water in the flume itself.

9       A.   It is.  I mean, if you look at that map of where  
10          the south polishing pond is, if you measure the  
11          south polishing pond water from here versus the  
12          affluent composite, this is a grab, this is the  
13          composite.  It's basically, you know, at the  
14          pond right before discharge to the flume.  So it  
15          gives us a rough idea what's going to be in the  
16          composite.

17      Q.   Where do you normally measure the affluent at?

18      A.   In the composite at the flume.

19      Q.   Why wouldn't you just measure it on the weekend  
20          in the same fashion?

21      A.   We do now since you guys asked us to.

22      Q.   Why wouldn't you have done that then?

23      A.   Because we didn't have to report it.

24      Q.   So was the issue you didn't want to have to  
25          report it?

1       A.   No, the issue is in order to stay within  
2           operational compliance we test upstream, so  
3           that -- we don't test the affluent because -- we  
4           test upstream to make sure we have time to  
5           respond to any issues that could be in affluent.  
6           I mean, there's no sense in setting up a  
7           composite or grab samples of the affluent that  
8           you have to report if you can do it upstream and  
9           save yourself the problem of having a  
10          noncompliance event.

11       Q.   But you just said you didn't do it on the  
12           affluent because you didn't want to have to  
13           report it, so why wouldn't you want to have to  
14           report it?

15       A.   Well, I guess, I mean, just as a routine  
16           practice we monitor the plant operation and make  
17           adjustments based on that and run the affluent  
18           samples based on that. The other thing is that  
19           on the weekend Craig is not here, so the people  
20           that would be running affluent samples would be  
21           the operations lab, and they don't use the NPDES  
22           lab guideline, they don't do the QA, they don't  
23           do the QC, so if you get into an issue where a  
24           lab is running a test of your affluent that  
25           doesn't meet those parameters and you're

1 reporting those values, you could get into a  
2 compliance argument saying we did or didn't have  
3 a violation based on lab results.

4 Q. I understand that, but why wouldn't you want to  
5 have to report that to us?

6 A. For the north and south polishing ponds?

7 Q. No. I asked previously and I didn't get quite  
8 the answer to it, why you wouldn't have  
9 monitored in the affluent itself, and your  
10 answer was because we didn't want to have to  
11 report it. Why is that the case?

12 A. If you -- if you take grab samples upstream of  
13 your final affluent and figure out there's a  
14 problem you have to time to correct the problem.  
15 If you take a grab sample of something that your  
16 permit says is a composite sample for  
17 compliance, you run the risk of reporting a  
18 possible noncompliance number that might not be  
19 a compliance number if you have the composite.  
20 Do you follow that?

21 Q. No, I don't understand it at all. Why wouldn't  
22 you just actually take it in the normal place  
23 that it's already set up to sample for? It's  
24 already in place, it's easy and accessible, so  
25 why wouldn't you take it there instead of in

1           this other place? You said so we wouldn't have  
2           to report it, so what's the issue there?

3       A.    You run -- if you run -- if you take a sample at  
4           the point of having to report it in your MPDS  
5           permit you run the risk of having a bad sample,  
6           a grab sample that's not in compliance, a sample  
7           with no QAQC parameters. You run the risk of  
8           being noncompliant when you might, in fact, not  
9           be noncompliant.

10       Q.   Noncompliant because of what?

11       A.    Because you have a lab that's running it that is  
12           not set up to do the testing the same way as  
13           like our environmental lab is. They don't run  
14           QAQC, and if you have a grab sample for  
15           something that's supposed to be a 24 hour  
16           composite, the state could come back and say the  
17           grab sample is not compliant when actually the  
18           composite sample is.

19       Q.    Yeah, but why wouldn't you take a composite  
20           sample, though?

21       A.    Well, we do.

22       Q.    On the weekends I mean. You could store ammonia  
23           for a couple days until your lab is back in  
24           operation, so why wouldn't you have done that?

25       A.    Because we usually just ran grab samples to see

1           where we were at. But we ran them in the pond.

2       Q.    But why wouldn't you actually take a sample to  
3           determine where you were at? You said that was  
4           because you didn't want to have to report it, so  
5           I'm trying to understand.

6       A.    We take grab samples to see where we we're at  
7           that time, and if we took a 24 hour composite,  
8           that's 24 hours less time to actually respond.

9       Q.    Well, anyway, I guess I --

10      A.    We don't as a common practice run samples at the  
11           final affluent above our permit limits.

12      Q.    But I guess I -- so is it correct, is the  
13           correct answer was that you didn't run it on the  
14           affluent because you didn't have to report it?

15                   MS. WIENS:     She has answered that  
16           questions about three times now.

17                   MR. KRIENS:     Yeah, and I did ask for  
18           a clarification and I didn't get an answer.

19                   MS. WIENS:     She has answered your  
20           question the best that she can.

21      BY MR. KRIENS:

22      Q.    Do you know why the flow on the weekends was  
23           18 percent higher in February versus the weekday  
24           flow? There were a few other months here,  
25           March, January and November, which were

1 relatively high as well during this period, but  
2 February sticks out, that the weekend flow was a  
3 lot higher.

4 A. I know one weekend, and like I said, I don't  
5 know remember if it was February or March, that  
6 we did make the decision that we could turn up  
7 the flow.

8 Q. In February or March?

9 A. Right, either one, I don't remember.

10 Q. And why did you turn up the flow?

11 A. Because we had a lot of water that we had to get  
12 rid of and we talked about -- you know, we  
13 talked about could we do this, you know, and the  
14 answer was, yeah, we could.

15 Q. What was the discussion about when you say we  
16 could do this?

17 A. We talked about -- the issue came up on a Friday  
18 about turning back up the flow from S7 because  
19 it had been down for ammonia. One of the  
20 operators said I'm not going to turn that up  
21 because it's a weekend and we don't test that.  
22 So I came back and we had a discussion. There  
23 was a whole group of us, Brian, Rick, Steve,  
24 Jim, myself.

25 Q. Jim who?

1       A.   Voyles. We talked about whether or not we could  
2           increase the flow on the weekends, was that  
3           any -- did that pose any problems. Like I said,  
4           this one particular operator said I'm not going  
5           to turn it up.

6       Q.   Who was that operator?

7       A.   Terry Stormoen.

8       Q.   Okay.

9       A.   So we came back up to discuss it, and basically  
10          the discussion was yes, we can turn it up, but  
11          we can't turn up the flow beyond what would  
12          exceed a daily maximum for the permit.

13      Q.   And you did that based on some polishing pond  
14          flows, but the affluent itself was not  
15          monitored?

16      A.   We did it based on -- yeah, polishing pond data.

17      Q.   Was the affluent monitored at all?

18      A.   No.

19      Q.   Okay. Now, we understand other operators were  
20          concerned with that, too. We talked with one  
21          this morning, Eugene Pickerign, and we found  
22          that he had some ethical problems with that, and  
23          another former operator had ethical problems  
24          with that too and would not agree to do that.  
25          Do you have any --

1       A.    They weren't even -- I don't even know that they  
2            were even there that weekend.  They might have  
3            been, I don't know.

4       Q.    Did you have any concerns in that regard?

5       A.    I guess my concern would have been -- I mean,  
6            they were told to do it.  Terry came to me and  
7            said look, you know, is this right or wrong.  I  
8            said don't know, I'll find out.  So my concerns  
9            were that the issue that was brought up to me as  
10           the environmental person, and so I got the  
11           people involved to make that decision.

12      Q.    Was there any calculation done to determine how  
13            that would impact the monthly ammonia average?

14      A.    Yeah.

15      Q.    To see if you could stay below it by doing that?

16      A.    Yeah, I did that.

17                   MS. HAYES:     So you did the  
18            calculation and factored it in.

19                   THE WITNESS:   (Nods head.)

20                   MS. HAYES:     But you didn't end up  
21            reporting that?

22                   THE WITNESS:   No, no.  I did the  
23            calculations to figure out -- you know,  
24            everybody agreed that even though we didn't have  
25            to test the affluent on the weekend, we couldn't



1           exceed the daily maximum for the permit limit.

2                   MS. HAYES:     Based on your  
3           calculation to the polishing pond, right?

4                   THE WITNESS:    Right.   Because we had  
5           such high numbers we also looked at the monthly  
6           flows to figure out whether or not we could turn  
7           it up based on the monthly average and the daily  
8           maximum.

9       BY MR. KRIENS:

10      Q.    Okay.   Would the monthly discharge reported  
11           number for ammonia that is in our DMR then be  
12           accurate given the fact that it was increased on  
13           the weekends and not computed?

14      A.    Yeah.   I mean, I guess --

15      Q.    The question is would it be inaccurate then?

16      A.    No.   The DMR says you have to test ammonia five  
17           days a week, and that's what we did.

18      Q.    So it's based on that.   However, at other times  
19           you increased the flow getting rid of more water  
20           on the weekends?

21      A.    That particular, that one weekend, I know of  
22           that.

23                   FURTHER EXAMINATION

24       BY MS. HAYES:

25      Q.    What's your understanding of the reason for a

1 five day a week analysis? Did you ever  
2 understand why that -- why you had the  
3 flexibility not to monitor on the weekends?

4 A. I guess most places I've worked the reason you  
5 don't have to monitor on the weekend is because  
6 labs aren't typically set up for a weekend, and  
7 the assumption is the concentration is  
8 relatively the same five days as it would be  
9 seven days.

10 I guess the assumption is made that the  
11 permit limits are still in effect on the  
12 weekends and that if you get to a point where  
13 you're going to have a problem you look at it or  
14 whatever, but that you don't have to test all  
15 the time because it might not be -- you have to  
16 test a certain amount of times to make sure you  
17 have a representative sample of what's going  
18 through the system, but that doesn't necessarily  
19 mean you have to have that every single day.

20 Q. But when you are in a situation where you're  
21 bumping up against ammonia and you're getting  
22 really close to the limit, does it occur to you  
23 that was possibly pushing the flexibility of  
24 that weekend thing?

25 A. I looked at it in terms of -- I calculated out

1           the numbers to make sure that we wouldn't have  
2           an exceedance, either monthly or daily, based on  
3           what was in the south polishing pond. The south  
4           polishing pond samples are basically grab  
5           samples of what's going to be in the affluent.  
6           I calculate it out what the flows should be to  
7           make sure we stayed below both our monthly  
8           average and daily maximum. In my mind if we  
9           were below those it wasn't an issue.

10        Q.   Did you -- when you talked about the issue of  
11           getting real near the limit and stacking water  
12           and all of that, did you ever have any  
13           discussions with anybody about stacking water or  
14           diverting water to save Koch from being  
15           penalized under the consent decree for an  
16           affluent violation? Was there ever a discussion  
17           relating to that? You mentioned earlier, you  
18           know, you had to pay on that one.

19                       MS. WIENS:     Stacking water and  
20           flushing?

21        BY MS. HAYES:

22        Q.   I'm talking about anything that was done at any  
23           time, whether it would be discharging on the  
24           weekends or, you know, anyplace where you don't  
25           have to account for that water in terms of

1 accounting to us or the EPA.

2 A. Say that again.

3 Q. I asked the question whether based on the  
4 practices that Koch got involved in because you  
5 had water, you had a lot of water, and there was  
6 the practice of discharging it on the weekends,  
7 so there's that issue. There's the practice of  
8 spraying it from the hydrants and there is the  
9 overflows.

10 A. Right.

11 Q. Was there ever a discussion about the practice  
12 of any of that stacking water, anything that  
13 would keep it from going through the affluent  
14 where you had to account for it, where it had to  
15 be sampled, and that was -- you know, that it  
16 would save you from being penalized under the  
17 consent decree?

18 A. Every discussion we ever had about like the  
19 stacking water, yeah, if we -- I mean, if we  
20 stacked water it was because we either wanted  
21 water for the fire system or because we thought  
22 that there was going to be a problem with the  
23 affluent because of S7 results. So we would  
24 stack water and then discharge it when the flow  
25 allowed us to discharge it. And I have made

1           calculations based on S7, north pond and south  
2           pond samples how much flow we could discharge so  
3           that we would not have an exceedance, yes. Is  
4           that what you're asking? I mean, we would  
5           adjust the flow according to sample results for  
6           like in this case ammonia.

7           Q. I guess where I was going with that is whether  
8           there was any discussion about -- I mean, you're  
9           saying you were managing the water that way, and  
10          I think what we're looking at is it looks like  
11          some of the stuff is sort of a clandestine kind  
12          of activity, that whether it was spoken or not  
13          spoken it may have saved at times, especially  
14          when you're getting rid of water that never --  
15          or if you are discharging more on the weekend  
16          that you don't have to account for, that could  
17          appear to be something that you're doing to save  
18          yourself from penalties under the consent  
19          decree.

20          A. Right.

21          Q. Any combination of those things. I can  
22          appreciate what you just said about the  
23          calculations on the weekends, but you've also  
24          said you aren't always around to make  
25          determinations of about that kind of stuff. I'm

1           wondering if you're aware of discussions about,  
2           you know, what are all the possibilities that  
3           can take place to save yourself from the  
4           penalties under the consent decree?

5       A.   The only discussion that I've had, and I sent  
6           out e-mails and memos about it, is to the  
7           operators discussing what we need to be doing  
8           with flows in terms of permit limits. And the  
9           operators have specifically been shown how to  
10          calculate out S7 parameters and flows to meet  
11          permit limit compliance. So that's been  
12          discussed.

13                 Some of the operators are real good about  
14           that stuff and so they will just turn down the  
15           flow, you know, to nothing rather than figure  
16           out exactly where they can be, other operators  
17           will figure out, okay, you have a hundred parts  
18           per million ammonia, that means we can have four  
19           million gallons at the river and no more than  
20           that. So yeah, there's been discussions as to  
21           how much exactly we can discharge and how much  
22           we need to stack. In terms of have I ever  
23           talked to anybody about this is how much water  
24           we need to flush out of the system to get rid of  
25           to avoid a penalty from the consent order, no.

1 Q. Have you ever talked to management about  
2 different ways of managing so that you don't  
3 have to avoid a penalty under the consent  
4 decree, managing water?

5 A. I guess we've talked about stacking water, you  
6 know, putting it into B5, putting it into the  
7 south fire lagoon. When all this came up in  
8 November we talked about what we could do with  
9 flushing, you know, what was legal and what  
10 wasn't, and then what could go to the river.

11 Q. When you were talking about flushing water it  
12 never occurred to you that -- you never made the  
13 connection between flushing and getting rid of  
14 water and --

15 A. Yeah.

16 Q. And the consent decree?

17 A. (No immediate response.)

18 MR. KRIENS: Did you factor in that  
19 you wouldn't have to make a payment in the  
20 consent order by flushing water out the  
21 hydrants?

22 THE WITNESS: I guess -- I mean, the  
23 consent order states specifically what we have  
24 to pay for a fine. In my mind I guess the issue  
25 wasn't so much what we had to pay as not having

1 an exceedance.

2 FURTHER EXAMINATION

3 BY MR. KRIENS:

4 Q. But was it brought up that it was an issue, the  
5 consent order, payment of penalties, during  
6 those discussions?

7 A. No.

8 MS. HAYES: Or a violation of the  
9 consent order, anything like that?

10 THE WITNESS: No. The thing that  
11 was discussed was having a violation of our  
12 NPDES permit limit. I mean, I guess it goes  
13 more to the permit limit than to a specific  
14 fine.

15 BY MR. KRIENS:

16 Q. Was the company prepared to do anything they  
17 wanted too, including flushing, in order to  
18 avoid a violation?

19 A. Yeah. I mean, I guess my answer would be yes.  
20 People thought -- the discussions have been that  
21 people thought it would be better to flush  
22 ammonia to the ground than to let it go to the  
23 river in terms of one, not having a violation,  
24 and two, being -- in terms of environmental --  
25 what's the word I'm looking for?



1 Q. Impact?

2 A. Environmental impact, right. The answer would  
3 be that it's better to put it to the ground than  
4 the river.

5 Q. In that connection of environmental impact, was  
6 there any analysis of the waste water for  
7 contaminants potentially included in that water  
8 during these times before January? I think we  
9 asked that before, but --

10 A. No. I mean, the big issue in 1996 was ammonia,  
11 and so when we talked about it in November we  
12 talked most specifically about ammonia. Then  
13 when we thought about the RQ issue we looked up  
14 what would be the other RQ parameters that we  
15 would need to consider. But the other RQ  
16 parameters are, you know, mercury is a thousand  
17 pounds or -- I don't know what it is, but the  
18 thought of getting it is -- you know, we can't  
19 even reach it.

20 Q. But in consideration of the frequent overflows  
21 and the continued problem of overflows at tank  
22 500 process waters to the clean water sewer to  
23 B5, contamination of water, would it have been  
24 prudent to have analyzed other contaminants as  
25 well given that problem?

- 1       A.   We didn't -- when we were looking at it in  
2           November and January we were looking at it just  
3           from an MPDS point of view and an RQ point of  
4           view. We didn't even consider the process  
5           water. I mean, the tank 500 stuff didn't come  
6           up until you guys came here.
- 7       Q.   Because you weren't aware of it at that time?
- 8       A.   Yes. I mean, we were specifically looking at  
9           what was backing into B5 from S7, which was  
10          ammonia. I mean, that's what we were focused  
11          on, what we were looking at.
- 12      Q.   But even ammonia was not analyzed prior to  
13          January?
- 14      A.   At times, but for different reasons.
- 15      Q.   Well, the hydrant flushing, Steve David has told  
16          us that it was not analyzed prior to January of  
17          '97, is that correct?
- 18      A.   (Nods head) B5 was analyzed at times for  
19          ammonia, for the ammonia problem, but not  
20          specifically for flushing, no.
- 21      Q.   For discharge via the hydrant, is that right?
- 22      A.   Yes.
- 23      Q.   Did you do any other environmental assessment to  
24          determine the environmental impact of these  
25          hydrant releases? Such as determination of

1           soils, ground waters, slopes, impact on other  
2           surface waters, was any analysis done like that?

3       A.    We discussed in a meeting the water, the state  
4           ground water impact stuff.

5       Q.    Was any analysis or evaluation done?

6       A.    No.

7                   MS. WIENS:    Well, to the extent the  
8           conversations are with your lawyer, and I'm not  
9           sure who was there, but if Jim was there then  
10          don't talk about what you talked about with Jim.  
11          You can say what you did.

12       BY MR. KRIENS:

13       Q.    Did you discuss in your environmental department  
14           then, aside from the attorney, or conduct any  
15           environmental assessments to determine whether  
16           that was a prudent thing to do? Did you do any  
17           soil analysis, depth to ground water?

18       A.    We didn't do any soil analysis nor the depth to  
19           ground water. We looked at that in terms of  
20           impact to the waters of the state, and the final  
21           determination was made that we wouldn't have an  
22           impact on the waters of the state unless an RQ  
23           was exceeded.

24       Q.    How would that be, that you wouldn't have an  
25           impact.

- 1       A.    I don't know, I don't know.  You would have to  
2           ask Jim about that one.
- 3       Q.    I'm not talking about the legal part.  
4           Technically how do you think you may not have  
5           had an impact on the waters?
- 6       A.    I don't know.
- 7       Q.    Not knowing what the ammonia concentration is  
8           and not knowing what other contaminants are how  
9           can you make that conclusion?
- 10      A.    That discussion took place after January.
- 11      Q.    So before that no assessment was done?
- 12      A.    No.
- 13      Q.    Okay.  Are you aware of the fact that generally  
14           when waste water with nutrients such as ammonia  
15           do not receive any treatment during the  
16           wintertime because of the cold temperature that  
17           usually it just goes downward in the soil?
- 18      A.    You told me that in a conversation we had in  
19           January.
- 20      Q.    Typically waste water is not allowed to be  
21           applied in the winter and it's very rare that it  
22           is.
- 23      A.    Yep, you told me that after the January stuff.
- 24      Q.    Did the company do any assessment or look into  
25           that practice at all prior to January?

1 A. I told our lawyers and they looked into that.

2 Q. At what point in time did you tell them?

3 A. After you told me.

4 Q. Prior to that did they conduct --

5 A. No.

6 Q. Okay.

7 MS. HAYES: Did you ever talk to  
8 anybody about -- this might be the same question  
9 I asked before, but I'm not sure. Did you ever  
10 talk about notification on that? Remember when  
11 we had the discussion in January, Heather, and  
12 you first talked to Don and then you talked to  
13 me and then you talked to Don and me?

14 THE WITNESS: Uh-huh.

15 MS. HAYES: And all three of those  
16 discussions we were pretty emphatic about  
17 wanting notification in the future?

18 THE WITNESS: Yep.

19 MS. HAYES: Did you ever discuss  
20 that with anybody?

21 THE WITNESS: Yep. I told Steve  
22 David, Karen, our legal department, Brian. I  
23 actually sent out an e-mail that we couldn't  
24 flush until further notice. That's when the  
25 policy was determined.

1 MS. HAYES: And you were told you  
2 couldn't make a notification to us? Because  
3 there was another hydrant discharge, you know,  
4 in February after that, and in March.

5 THE WITNESS: Right. I was told we  
6 didn't need to make notification to you guys.

7 BY MR. KRIENS:

8 Q. Were you told also not to notify us?

9 A. I guess what I was told was that we didn't need  
10 to, that there was no need to do it. I mean, I  
11 guess the answer is I was told don't do it  
12 because you don't need to, yeah.

13 Q. Heather, given your environmental experience and  
14 your background in environmental work, and I  
15 know you've worked at other places than Koch,  
16 and the fact that no monitoring was done on that  
17 hydrant release, that there's potentially other  
18 contaminants there, likely were other --

19 A. Which hydrant release?

20 Q. Any of these.

21 A. The ones after January we did test the water  
22 before we flushed it.

23 Q. You tested for ammonia?

24 A. Ammonia, uh-huh.

25 Q. But you didn't test for any other contaminants

1           like benzene, BSE's, pH's or anything like that?

2       A.   Only the ones that we thought would be an RQ  
3           issue.

4       Q.   Right. And the problem we have with that is  
5           that there were still a lot of tank 500 process  
6           overflows into that system.

7       A.   At the time we weren't thinking about tank 500,  
8           we weren't thinking about any process overflows  
9           into the system. We didn't start thinking about  
10          that until after you guys were here in April.

11      Q.   Given your environmental experience, do you  
12          think that was a very acceptable practice?

13      A.   To flush the hydrants?

14      Q.   Flushing hydrants without analyzing the waste  
15          water, without conducting impact analysis?

16      A.   No, I didn't think we should be flushing  
17          hydrants at all.

18      Q.   Okay. Some operators have told us that they  
19          were encouraged not to enter data on the  
20          operating logs that pertained to these hydrant  
21          discharges, and some of them disagreed with that  
22          and entered it anyway. Do you know about that  
23          situation?

24      A.   I don't know that operators were told not to  
25          enter that. I wasn't aware of that. I was

1           aware that some of the operators didn't like it.  
2           Some of the operators came to me, even after the  
3           November one, and said they didn't like this,  
4           what's going on. And I told them I didn't like  
5           it either and we were looking into it.

6                       MS. WIENS:     They didn't like what?

7                       THE WITNESS:   They didn't like the  
8           fact of the flushing. And even after the  
9           decision was made that it was legal, a lot of  
10          them were still upset because they didn't think  
11          it was ethical. That discussion took place a  
12          lot, you know.

13       BY MR. KRIENS:

14       Q.   By hydro flushings you mean use of hydrants to  
15           discharge waste water?

16       A.   Yep. I mean, people don't care about fighting  
17           fires and the winterization, you know, the other  
18           stuff that's come up, it's just when they do it  
19           to get rid of water, like you said.

20                       FURTHER EXAMINATION

21       BY MS. HAYES:

22       Q.   I have a quick question. We also have heard  
23           that people didn't like the idea of the extra  
24           flow on the weekends. You did the calculations  
25           and you were around, and did you ever ask



1           anybody to do that? Like in your absence did  
2           you ever -- was there any policy that was ever  
3           put out there that said if you're going to  
4           escalate discharge during the weekends when you  
5           don't have to monitor that at a minimum there  
6           should be calculations that are conducted so  
7           you'll know you're not exceeding the daily max  
8           or the monthly average?

9           A.    The only weekend I calculated that number was  
10           that one in February or March. I didn't do it  
11           for any other weekend.

12                    The directions to the operators has  
13           always been to increase or decrease flows from  
14           S7 or -- they always look at S7, not  
15           particularly at the final affluent flow, but  
16           they look at S7 in terms of what they're sending  
17           over. And the operators were shown how to  
18           calculate based on S7 numbers, and then they  
19           would increase or decrease accordingly. And  
20           even on the weekends. I mean, weekdays,  
21           weekends they would calculate where they were at  
22           in terms of the permit with S7 parameters.

23           Q.    Were they instructed to do that on weekends?

24           A.    Yes, every day.

25           Q.    I know about the other days, but were they

1 instructed to do it on the weekends, too?

2 A. Were they instructed to turn up the flows on the  
3 weekend?

4 Q. No. Were they instructed to calculate what that  
5 would mean in terms of what your permit  
6 limitation was?

7 A. Yes, yes.

8 Q. On the weekends?

9 A. Yes. The operators were responsible to make  
10 sure that the flow going over was consistent  
11 with permit parameters. And if they saw an  
12 increase or a decrease in S7 parameters they  
13 were supposed to increase or decrease the flow  
14 according to those calculations, yes.

15 FURTHER EXAMINATION

16 BY MR. KRIENS:

17 Q. At S7, right?

18 A. Yeah. And if the number got so hot, you know,  
19 like 170 ammonia, they would usually call shift  
20 supervisors or the environmental on-call person  
21 or whatever, even me at home, you know, and say  
22 what do we do, that these numbers are crazy.  
23 That was the point, you know, they would get  
24 other people involved. But on a regular basis  
25 they made those calls day in and day out.

1 Q. Heather, when we did our inspection here in  
2 April we were -- we asked a lot of questions  
3 about a lot of things that went on. During that  
4 inspection we asked environmental staff if there  
5 were other hydrant releases other than the  
6 January one, and that was the only one we knew  
7 about because you had reported it to us. And  
8 the answer we received was we don't know, safety  
9 takes care of that. Do you know why that was  
10 answered in that fashion.

11 A. No. When you guys were here, you know, we were  
12 told to answer whatever question you asked  
13 specifically.

14 Q. Given the fact that everybody knew of all these  
15 releases that occurred prior to January as well,  
16 do you know why we were not informed at that  
17 time when we asked about those?

18 A. No.

19 Q. Were you instructed not to tell us anything?

20 A. No. I was instructed not to give you any  
21 information you didn't ask for.

22 Q. Were you then instructed not to volunteer any  
23 information?

24 A. Yes.

25 Q. Who instructed you not to volunteer any

1 information?

2 A. Who was here that day? Steve David and Mike  
3 Nash.

4 Q. Okay. So when we were given the answer of I  
5 don't know or we don't know in reference to the  
6 hydrant releases, the staff actually did know  
7 about those releases, is that correct?

8 A. If somebody had asked me have you flushed  
9 hydrants before now I would have said yes. I  
10 don't know what the exact question was and I  
11 don't know what people knew at that time.

12 Q. I did ask the question like that, and the answer  
13 I received -- I asked if there were any other  
14 hydrant discharges other than the one that  
15 occurred January 4 of '97, and the answer I  
16 received is I don't know, safety takes care of  
17 that.

18 A. Did I answer that?

19 Q. Yeah, you did.

20 A. Well, I knew about the one in November, so I  
21 don't know why I would have answered that way.

22 Q. Did you answer it that way because you were  
23 instructed not to volunteer that information?

24 A. I was told to answer whatever the specific  
25 question was you guys asked. You know, if you

1           guys asked a yes or no question I would give you  
2           a yes or no answer. If there was a question  
3           that was -- I wasn't going to volunteer any  
4           other information other than the question that  
5           you asked.

6       Q.   And you were instructed not to volunteer any?

7       A.   Yeah (nods head).

8       Q.   In a meeting we had at the MPCA on May 27 we  
9           asked -- I'm sorry, it as on May 8, '97. We  
10          asked the same question then, and this was  
11          sometime after our inspection, if there were  
12          other hydrant releases at any other time. We  
13          asked Steve David and Karen Hall that question.  
14          Their answer was that it was -- we asked the  
15          question if there were other ones, and they said  
16          they didn't know. We asked if there was ever a  
17          meeting to discuss this issue, and they stated  
18          it was not discussed prior to January 4 of '97.  
19          Would that have been a correct statement?

20      A.   No.

21      Q.   So it was discussed prior to that?

22      A.   Yep.

23      Q.   Also their answer was that they learned of the  
24          hydrant flushing in January of '97. Would that  
25          have been correct also?

1 A. No.

2 Q. Then in a meeting on May 27, '97 attended by  
3 Steve David, Karen Hall, yourself and Brian  
4 Roos, we asked a similar question as to whether  
5 there had been by discussion on this issue  
6 before January of '97, and they said no, there  
7 was no discussion before January of '97. Would  
8 that have been correct?

9 A. No.

10 MS. WIENS: Were you there at that  
11 meeting?

12 THE WITNESS: Yes.

13 BY MR. KRIENS:

14 Q. That meeting was also attended by Brian Roos.  
15 At that meeting or meetings, the May 8 and the  
16 May 27 meetings, were you instructed also not to  
17 volunteer information?

18 A. No. I mean, just a general -- like I said, a  
19 general -- what I was told in general for all of  
20 these meetings, any inspection, was to answer  
21 the questions that were asked of me.

22 Q. Was it followed up with not to volunteer  
23 information?

24 A. Yes.

25 MS. HAYES: Heather, did you know

1           that we were coming in April before we came?  
2           You guys must have known that because you were  
3           having a meeting about it prior to our arrival.  
4           We didn't announce it.

5                   THE WITNESS:     Somebody told us.   I  
6           mean, Steve told us you were coming, and he knew  
7           from the PCA.   I mean, we knew before you guys  
8           showed up that day that you were coming that  
9           day.   I think we were told the day before or  
10          something.   I don't think we were given a lot of  
11          notice, but Steve knew.   I don't know if Matthew  
12          told him or who told him.

13                   MR. BERGER:     Somebody told Steve  
14          from our agency?

15                   THE WITNESS:     That was my  
16          understanding.   I also -- I mean, I know the  
17          people who -- you know, like the operators that  
18          told you guys all these different things about  
19          the investigation also told us that -- they told  
20          Rick Legvold, who got Steve David and Tim Rusch  
21          involved that night what had happened, and they  
22          knew that you guys had been informed of all of  
23          these different allegations.   Maybe that's how  
24          we knew.   Well, we knew specifically that you  
25          guys were coming in that day though.

1                   MR. KRIENS:     Do you know of any  
2                   unwritten policy where employees are encouraged  
3                   to under report spills under the five gallon  
4                   petroleum limit?

5                   THE WITNESS:     No.

6                   MR. KRIENS:     I think I'm done.

7                   FURTHER EXAMINATION

8                   BY MR. BERGER:

9                   Q.    I just have a couple things, Heather.  Would you  
10                   tell me first, this is kind of like a theologic  
11                   question I guess, would you tell me how Lake  
12                   Askeland formed?

13                  A.    Lake Askeland is the area north of the south  
14                   fire lagoon by -- what direction is that?  It's  
15                   west of Eighth Street, the lower wash pad.  Some  
16                   people call it south fire lagoon, Lake Askeland,  
17                   but most people call that area that's not  
18                   specifically a lined pond Lake Askeland.

19                  Q.    That's what I'm referring to, yes.

20                  A.    I wanted to make sure.  Lake Askeland is a low  
21                   spot and forms from coker pond runoff and storm  
22                   water, and on occasion the lower wash pad  
23                   overflows either due to a plugged line or Eighth  
24                   Street sump not being on or whatever, so those  
25                   three ways.



- 1 Q. So the Eighth Street sump overflowing? How does  
2 that work?
- 3 A. I think it's more that the lower wash pad  
4 overflows than it is the Eighth Street sump.  
5 I'm not positive about that though. If water --  
6 if Eighth Street sump isn't on and water is  
7 dumped at the lower lagoon, the water will  
8 overflow and go to Lake Askeland. I'm not sure  
9 if the Eighth Street sump technically overflows.
- 10 Q. That's a possibility though?
- 11 A. It is.
- 12 Q. If there was a malfunction in the pump there?
- 13 A. Right. It's more likely that the lower wash pad  
14 drain would overflow because water is not going  
15 to the Eighth Street sump.
- 16 Q. All right.
- 17 A. That's more my understanding, but I could be  
18 wrong because I'm not down there.
- 19 Q. And then you said runoff from the coker pond?
- 20 A. The coker piles, the coke piles.
- 21 Q. All right. Are you aware of a situation where  
22 coker pond water was run through a hose to that  
23 area?
- 24 A. Yes.
- 25 Q. One time or are you aware of more times than

1           that?

2           A.   There was more times than that.  They ran -- the  
3               coker pond levels were getting high and they ran  
4               hoses that ran -- at Lake Askeland there is some  
5               pavement under there with a drain there that  
6               goes to the -- I don't know if it's a drain or a  
7               pump, I don't remember.  Like I said, I'm not  
8               the expert down there.

9                       There's a way that the water goes from  
10              that area to the Eighth Street sump to get to  
11              the waste water treatment plant, so they had set  
12              up some hose to go -- they went kind of around  
13              the coke piles to the backside and then were  
14              going to that area.

15          Q.   And the Eighth Street sump, is that considered  
16               part of the oily water sewer system?

17          A.   Yes.

18          Q.   That dumps into the oily water sewer system or  
19               pumps?

20          A.   The Eighth Street sump goes to the Seventh  
21               Street sump, which goes to the waste water  
22               treatment plant.

23          Q.   And that's part of the overall oily water sewer  
24               system?

25          A.   Yes.

1 Q. All right. That's all I need to know about  
2 that. With regards to the west storm pond, are  
3 you aware of the west storm pond actually going  
4 down, losing water by itself?

5 A. Yes. That became an issue this past summer.  
6 One of the operators told us that it looked like  
7 the level in there was decreasing. We got the  
8 water level drained down and found there's a lot  
9 of little -- it's not big wide open things, but  
10 there's a lot of cracks.

11 MR. KRIENS: Is that asphalt?

12 THE WITNESS: Yes. There were a lot  
13 of cracks in that pond. So this summer I got  
14 them fixed.

15 BY MR. BERGER:

16 Q. Okay. So what was happening? Was water leaking  
17 out through those cracks?

18 A. Probably.

19 MR. KRIENS: Which pond was that?

20 MR. BERGER: The west storm pond.

21 THE WITNESS: I mean, the cracks  
22 were fairly small, so I can't imagine that it  
23 was a huge amount of water, but there were a lot  
24 of them.

25 MR. KRIENS: So it must have been

1           enough water that it was observable?

2                   THE WITNESS:     Yes.

3       BY MR. BERGER:

4       Q.    There was a time, and I don't know, you might  
5           still be doing this, when coker pond water was  
6           run through a hose to the west storm pond sump.

7       A.    Right.

8       Q.    And the sump would take it out to the waste  
9           water treatment plant?

10      A.    Right.

11      Q.    We know of a number of times when this west  
12           storm pond sump overflowed, there was a  
13           malfunction. You are aware of those situations?

14      A.    I know of two.

15      Q.    You know of two times that happened?

16      A.    Yeah. One was a couple days before you guys  
17           came to do your investigation and one was after  
18           that.

19      Q.    Do you recall when we were standing down there  
20           on April 9 and talking about that situation we  
21           asked the question had this happened at other  
22           times, and I believe the answer was no. Do you  
23           know why we were told that at the time?

24      A.    Yeah. I do remember that time very well  
25           actually. That particular incident, the

1 question was asked -- I don't remember the exact  
2 question, but the question was basically has the  
3 sump ever overflowed or something like that. I  
4 think the answer given was yes or -- I can't  
5 remember the specific question, but the way that  
6 it was answered was a yes or no question. I  
7 specifically asked somebody if we should tell  
8 them the thing had overflowed on Monday, and  
9 they said no, that's not what was asked.

10 MR. KRIENS: Who did you ask?

11 THE WITNESS: Steve David.

12 MR. KRIENS: And he said no, not to?

13 THE WITNESS: He said if that wasn't  
14 what they asked only answer the question that  
15 they asked.

16 MS. HAYES: I walked away from there  
17 after that discussion believing it had not  
18 overflowed, so -- I'm not sure what the question  
19 and answer was, but that was certainly -- I was  
20 lead to believe -- in fact, I really questioned  
21 the answer because of the way there was oil on  
22 the -- well, we all did.

23 THE WITNESS: I remember that  
24 because I was bothered by that.

25 MR. KRIENS: Bothered by your

1           inability to tell us?

2                   THE WITNESS:     (Nods head.)

3                   MR. KRIENS:     In a right?

4                   THE WITNESS:     Yeah.   Steve and I had  
5           a fairly lengthy discussion about it.

6   BY MR. BERGER:

7   Q.   I want to switch to the other end of the  
8       facility for a second, to the lower lagoon.

9                   MR. KRIENS:     Let me interject  
10       something.  We noticed that problem you were  
11       having during that inspection, it was apparent  
12       you were having difficulty with your inability  
13       to be open with us.

14  BY MR. BERGER:

15  Q.   Back to the lower lagoon.  Through our  
16       discussions we have learned a lot about the  
17       lower lagoon and that it does receive hydro test  
18       water.  I think you're aware of that.  We also  
19       learned there is an outlet there for water from  
20       the FCC area.  I believe it's storm water.  Are  
21       you aware of that?

22  A.   Yes.

23  Q.   Okay.  I have a log here, and unfortunately  
24       there's no date, but it's number 495.  I suppose  
25       we could place it eventually if we needed to.

1                   The log states shift supervisor LBK  
2                   directed SSI to shut down pump at LL, lower  
3                   lagoon, to what I believe is B5 and I think you  
4                   agree, because of environmental concerns with  
5                   water in LL not being treated before going to  
6                   river (indicating).

7                   Are you aware of that specific instance  
8                   and what the concern is there?

9           A.    No. I don't remember this specific time. That  
10                wouldn't be where the lower lagoon water goes  
11                to, it goes to 7A and B, so this might have been  
12                a specific time that they had -- the lower  
13                lagoon goes to -- the pump setup goes to 7A and  
14                B and doesn't go to B5. I don't know when this  
15                would have been, but if it was going to B5 it  
16                would have been some type of special connection.

17          Q.    It doesn't make sense to you as you know the  
18                system and as it's set up?

19          A.    No.

20          BY MR. KRIENS:

21          Q.    Do they ever take a pump down to pump out the  
22                lower lagoon?

23          A.    I thought the lower lagoon was pumped to B5. I  
24                think it was when you guys came one of the  
25                operators said it goes to 7A and B. I thought

1           there had been times we had done this, but then  
2           I was told I was wrong.

3       Q.   Is there a restriction on the flow that can go  
4           from the lower lagoon to 7A and B?

5       A.   Yeah, the line is like only a three inch line.  
6           You can't get a lot of flow through there. I  
7           don't know that specific incident there though.

8       BY MR. BERGER:

9       Q.   So you are not aware of the lower lagoon  
10          receiving water that is contaminated or  
11          untreated?

12      A.   I know the lower lagoon has a storm water  
13          connection. The times that I've gotten involved  
14          I was asked once upon a time if they could use  
15          cooling tower water to backflush the exchanger  
16          in one of the units, and I looked at where the  
17          sewer went and the only sewer available was the  
18          non-oily water sewer that went to the lower  
19          lagoon. I told them they couldn't do it.

20                So that was a specific process thing they  
21          were looking at doing and we said no, you can't.  
22          After you guys were here I found out where they  
23          set up the hydro test to go. I didn't know that  
24          before that. What I thought was in the lower  
25          lagoon was storm water until you guys were here.



1 Q. Prior to our meeting we had that I attended,  
2 which I think was back in October, I think one  
3 of the things that you agreed to do was test  
4 your hydrostatic testing water for contaminants.

5 A. Yes.

6 Q. That was never done prior, had never been done  
7 in the past?

8 A. No.

9 Q. Okay. That's all I have on that. This shift to  
10 the API separator, would you tell me what you  
11 know about the 36-inch bypass leak and how that  
12 was discovered and when it was fixed?

13 A. Uh-huh. I'm trying to remember all the --  
14 there's a couple of -- there was one line that  
15 was squished and then there was a leak in the  
16 one line, and I can't remember what the sequence  
17 of events were. The 36 inch line, was that when  
18 the crane almost fell into the hole?

19 Q. I believe so, yes.

20 A. Okay. There was a crane out there working on a  
21 different pipe rack and the crane legs fell into  
22 a caved in hole. They actually had to backfill  
23 it to get the crane out of there. And so then  
24 they dug up the soil and found a leak in that 36  
25 inch line. They looked at what we were going to

1 do with it, you know, and I helped a little bit  
2 in terms of what our options were. Our process  
3 engineer did the repiping work. Eric and Cody  
4 took over for the clean up and stuff and I  
5 wasn't involved.

6 Q. For reference on what you're saying here I have  
7 a daily log dated 4/10/96 and it's number 303  
8 (indicating). This states crane fell in  
9 sinkhole southeast of API. This is the part I  
10 don't understand. It says 16 yards to fill  
11 hole.

12 A. Yeah.

13 Q. So it's like you said, they had to fill the hole  
14 to --

15 A. The crane was immobile hanging there and they  
16 had to fill the hole to get the crane out, yeah.

17 Q. Was that the first sinkhole that developed in  
18 that area? Do you know of one prior to that?

19 A. I had never seen any. I think the operators --  
20 somebody told me once upon a time that there  
21 were some further down, like down by the -- more  
22 toward the WEMCOs and 7A and B. I don't know  
23 the details on that though, I never saw them,  
24 but I was told they had seen them there before.

25 Q. How much before this incident with the crane?

1       A.    I don't know.

2       Q.    Okay, that's it on that.  One more quick thing  
3             to talk about.  This is an area that we have  
4             talked to a few people about, and it has to do  
5             with off site shipments coming to Koch here.

6                     Can you tell me your knowledge of the  
7             shipments that come here from off site, from  
8             terminals, and what those waste materials are or  
9             what you would call them?

10      A.    The first time that I really knew about it was  
11             something about Eric having to get waste  
12             manifests that came here that the state said  
13             couldn't come here without being manifested.  He  
14             had to backtrack and manifest it.  I don't know  
15             much about that, you would have to ask him, but  
16             I was aware that they got something called  
17             transmix from off site terminals or whatever  
18             that goes into our slop system.  Then after that  
19             investigation we started to -- if we got a -- I  
20             know the KSAU across the street had cleaned up  
21             like some -- anyway they take this stuff to our  
22             waste water treatment plant.  After this  
23             investigation started we started looking at all  
24             that stuff coming from off site, so my  
25             involvement is really post April.  Now if we

1           have to bring in something from off site I call  
2           Don or Mary. If it's slop oil or hazardous  
3           waste Eric or Doug takes care of it, the waste  
4           water stuff. If it doesn't have recoverable oil  
5           in it and it's just water they want to run  
6           through the waste water treatment plant, now  
7           I've been calling them. That's about all I  
8           know.

9           Q.   You mentioned hazardous waste, and is that  
10           hazardous waste coming on site, material  
11           classified as hazardous waste?

12          A.   I know there was the one time that the shipments  
13           were received that Eric had to go back and  
14           manifest stuff according to what the state  
15           wanted, but I don't know the details of that.

16          Q.   The material came on a hazardous waste manifest?

17          A.   It didn't initially and then the state requested  
18           that he do that. I know there was that  
19           incident.

20          Q.   Was that material from Otto Avenue?

21          A.   I don't know. It was either Otto Avenue or  
22           Cottage Grove.

23          Q.   What is Otto Avenue?

24          A.   It's in St. Paul, an old terminal or storage  
25           site that they've destroyed or -- what's the

1 word, demolished, shut it down.

2 Q. All right. So in general -- and I've heard it  
3 described as heels, have you ever heard that  
4 term?

5 A. No.

6 Q. Bottom heels or something like that, transmix,  
7 all this material comes on site and goes into  
8 your slop oil system or slop system?

9 A. Yeah.

10 Q. And eventually that's fed back into your process  
11 here, correct?

12 A. Right.

13 Q. So do you look at it then as a -- how do you  
14 view that material?

15 A. The way that I've always been told is that if  
16 the material is more than 10 percent oil that  
17 it's considered recoverable product and can go  
18 into our slop oil soil. Doug and Eric Askeland  
19 take care of off site shipments coming onto the  
20 site, that kind of stuff, and I don't know a lot  
21 of details. If it's less than 10 percent  
22 recoverable oil then they consider it waste  
23 water and I would get involved in terms of can  
24 we treat it in the waste water treatment plant.  
25 In the past we thought we could if it was from

1 KSAU or one of our terminals, then it was  
2 thought by our permit application it wasn't a  
3 specific waste water component. Even though  
4 it's waste water and maybe oil and similar to  
5 what we treat, it isn't specifically on our  
6 permit of something we treat, so then we started  
7 getting approval treating anything from off site  
8 in terms of waste water treatment plant.

9 Q. Is there a concern with any of these wastes  
10 coming on site with high benzene?

11 A. I would think so, but I don't know.

12 Q. I have a log here that talks about that and says  
13 environmental contacted us to sign manifest for  
14 pipeline trucks to unload high benzene material  
15 at tank 63.

16 A. I mean, if it's a refinery oil process --

17 Q. It's going to have high benzene?

18 A. It well could.

19 MR. BERGER: That's all I have.

20 BY MS. HAYES:

21 Q. I have one more question. Heather, have you  
22 been involved at all in the initiative to look  
23 at the sewers and the deterioration problem?

24 A. Only a little bit. After the investigation I  
25 got involved with the tank 500 manhole sewer

1 repair issue. Then because of my maternity  
2 leave, Karen and other people really started  
3 taking that project because I was going to be  
4 gone. I know very little. I really haven't  
5 been involved.

6 Q. Did you hear anything about that initiative in  
7 terms of when you were around when Mary Lee  
8 brought up the issue of the sewers? Did you  
9 hear anything about that meeting? It was one we  
10 heard of from an interview we did.

11 A. I knew -- you know, the couple sewer boxes in  
12 the waste water treatment where one thing.

13 Q. Right.

14 A. And the tank 500 one that -- well, at Koch  
15 they're looking at the sewers as a refinery wide  
16 issue. That's kind of what I know.

17 Q. You didn't hear anything about the meeting that  
18 took place with Mary Lee?

19 A. Tell me more details.

20 Q. It was my understanding they brought the issue  
21 up and that it was like sort of an off limits  
22 discussion, and the allegation was she was fired  
23 after that, that it was a can of worms not to  
24 the open. You weren't involved in that?

25 A. No.

1 BY MR. KRIENS:

2 Q. Do you know where Mary Lee is at?

3 A. Yes, I do. She is a friend of mine.

4 Q. Can you tell me where she is?

5 A. Yes.

6 Q. Where is that?

7 A. She is in Chicago. I don't have her address  
8 with me, but she works for Nalco. I have her  
9 phone number, but not off the top of my head.

10 Q. Okay. I have one question here that has to do  
11 with disposal of cooling tower chemicals. This  
12 would be chromium chemicals.

13 On February 7 of 1996 there's a memo here  
14 from you to a bunch of people including Brian  
15 Roos and waste water operators and so on. This  
16 states that Pete was asked if we could handle  
17 the cooling tower chemical hexachrome -- that  
18 they need to get rid of it by March 7, for  
19 regulatory reasons they would like to turn up  
20 the unit for the cooling tower to get rid of it,  
21 that it's the easiest and cheapest way.  
22 However, it's a permit amount parameter and they  
23 would hate to ponder what the chemical was doing  
24 to us. Then it talks about the API sample on  
25 Thursday and Friday, February 8 and 9, taking it



1 to the lab for testing. Then further down it  
2 says starting next week Pete would like to ramp  
3 up, check a sample for hexachrome and if we see  
4 an upward trend to cut back on it and let you  
5 know there was a problem. Do you recall that?

6 A. Yep.

7 Q. Was that how that was accomplished then,  
8 monitoring it and disposing it?

9 A. What I remember is Pete told me how much we  
10 needed to get rid of and the time frame. I did  
11 calculations and told him we wouldn't be able to  
12 get rid of it in that amount of time and with  
13 that volume and our flows. I remember we did  
14 get rid of it as like a hazardous waste, I think  
15 we drummed it up and got rid of it that way. I  
16 don't remember if we actually -- I might have  
17 ramped up the usage a little bit, but I don't  
18 remember what the test results were. I would  
19 have to look back at that.

20 Q. Where would those results be?

21 A. Well, it was February of '96, so the system  
22 wouldn't have it anymore. Craig probably ran  
23 those because -- we might have some results in  
24 the lab or something.

25 Q. Would those have been noted that there was a

1 special test to track this?

2 A. It would have been specials, yes.

3 Q. Can we find that information?

4 A. Sure.

5 MS. WIENS: This is around the  
6 February time period of '96?

7 MR. KRIENS: Right. It would have  
8 been after February 7. Well, I guess it looks  
9 like beginning February 8 and 9.

10 THE WITNESS: The only -- I mean, I  
11 say it might be around to find if -- the system  
12 kicks out data after four months, so we would  
13 have to go back to Craig's analytical results.  
14 He should have them though.

15 BY MR. KRIENS:

16 Q. Did you say you might have some information in  
17 your planner?

18 A. I'm just thinking, you know, I might have the  
19 numbers in a file or something. Craig probably  
20 has them, too.

21 Q. Craig would probably be the best source?

22 A. Yes.

23 Q. Do you think it was that you started to do that  
24 and it didn't work out and --

25 A. I don't remember. I remember talking to Pete

1           about it and I remember saying we just don't  
2           have the time to get rid of that volume because  
3           of your permit limits. I don't -- I know the  
4           e-mail you're talking about and I thought we  
5           could do that, but, I mean, if we had a process  
6           chemical we would rather get rid of it by using  
7           it, but we -- I'm sure Pete did turn it up and  
8           we tested for it, but I don't know if I did more  
9           calculations and said we can't do it. I don't  
10          remember that. I would have to look back at the  
11          numbers.

12         Q.     Maybe we could get --

13         A.     We didn't end up getting rid of it that way  
14                though.

15         Q.     Okay. There is a possibility that you began to  
16                and then decided you couldn't?

17         A.     Yeah, yeah.

18         Q.     And terminated that?

19         A.     Yeah.

20                         MS. WIENS:     Do you want me to find  
21                        that?

22                         MR. KRIENS:     Sure. It sounds like  
23                        Craig Daniels would have the best information.

24                         THE WITNESS:     I'm sure Craig ran the  
25                        test and not the operations lab.

1 BY MR. KRIENS:

2 Q. You have the date it was increased?

3 A. I would have anytime we gave a sample.

4 Q. The special sample?

5 A. Right.

6 Q. Did you stop and decide to get rid of it as  
7 hazardous after he would have stopped with the  
8 sample?

9 A. Right. He may or may not have this. He may  
10 have destroyed it before this.

11 Q. I understand. If you don't have it the  
12 conclusion probably is you decided to get rid of  
13 all of it as hazardous waste.

14 A. Right.

15 MR. KRIENS: That's all.

16 (Whereupon, the interview concluded at  
17 4:20 p.m.)

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STATE OF MINNESOTA)               Ss:  
                        )  
COUNTY OF HENNEPIN)

BE IT KNOWN, that I, MILO BALLINGRUD, Court Reporter, a Notary Public in and for the County of Hennepin, State of Minnesota, certify that the foregoing is a true record of the interview of HEATHER FARAGHER, and reduced to writing in accordance with my stenographic notes made at said time and place.

I further certify that I am not a relative or employee or attorney or counsel of any of the parties or a relative or employee of such attorney or counsel;

That I am not financially interested in the action and have no contract with the parties, attorneys, or persons with an interest in the action that affects or has a substantial tendency to affect my impartiality;

IN WITNESS WHEREOF, I have hereunto set my hand  
on this 5th day of January, 1998.

MILO BALLINGRUD,  
Notary Public, Hennepin County, Minnesota  
My Commission Expires January 31, 2000.