
INTERVIEW OF:

STEVEN DAVID

TAKEN NOVEMBER 19, 1997 AT 1:00 P.M.

MILO BALLINGRUD
EAGLE REPORTING SERVICES
2104 Glenhurst Road
Minneapolis, Minnesota 55416
(612) 920-3109

INTERVIEW OF STEVEN DAVID, taken pursuant to agreement of and between parties at, Koch Industries, Inc., P.O. Box 64596, St. Paul, Minnesota, at approximately 1:00 p.m. on Wednesday, November 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

Present from Koch Industries:

JAMES K. VOYLES, Attorney at Law

Present from the law firm Green Espel:

LARRY ESPEL, Attorney at Law

SUSAN K. WIENS, Attorney at Law

I N D E X

BY MR. BERGER:

Q. First a little intro part we've been saying to all the staff that we're interviewing. Steve, as you know, the Minnesota Pollution Control Agency is conducting a civil investigation that is focusing in on Koch Refinery operations and on a number of pollution, environmental related issues that came to our attention in April of this year. We are seeking your cooperation in obtaining information related to those issues.

At this time we want to ask you some questions, and we want you to know this is totally voluntary on your part, you are not obligated to answer these questions if you do not want to. This information may be used in administrative, civil or criminal enforcement action against Koch Refining Company. This investigation, I want to emphasize, is not looking at any individual person here at Koch Refining, this is a look at the overall Koch Refining operation. Any questions about that?

A. Not at this time.

BY MS. HAYES:

Q. Steve, will you state for us your -- give us an idea of what your position entails, what the

responsibilities are, who you manage and, you know, how long you've been here. I don't think your position has changed since you started here, has it?

A. Well, I've been associated with Koch Refining Company or Koch Industries for a period of about 16 years.

Q. Oh, okay. Go ahead then.

A. I worked through the process engineering department, spent some time in our corporate headquarters doing various activities, then came back here again in process engineering to manage some special projects. I became affiliated with the environmental engineering department in '91 and then became manager for the department in '92. During that time -- maybe you can restate your question so I don't miss anything.

Q. No, that's fine.

MR. KRIENS: When did you come back to the refinery here?

THE WITNESS: It was sometime at the end of '89. I don't know the official transfer date, but essentially we moved into our house in the December of '89.

BY MS. HAYES:

Q. And what was your capacity again?
A. I was doing special projects for process engineering folks at that time.
Q. And then you got into --
A. Then May of '91, this is recollection, May of '91 I became assistant manager to the environmental engineering department. Then in May of '92 I was named manager for the department.
Q. And will you tell us what your responsibilities are in that capacity?
A. Responsibilities are to evaluate the -- understand the regulatory requirements for the plant and develop positions that would make us meet compliance and stay in compliance, hire folks that obviously help do that, select, develop, coach those people to be able to follow along those same lines to make sure that we remain in compliance with the requirements as stated.
Q. Okay. Who are the people that you manage?
A. The environmental engineering department, our -- I guess from that standpoint, my staff.
Q. Okay, thank you. I'm going to start, and I would like to talk to you about the issue of the

manholes where the overflow happens from the oily water to the non-oily water sewer near tank 500. That's been the primary area from what I understand. I think that there was an investigation sort of throughout the plant on other areas, and I'm not sure if we've gotten the conclusive results of that, something we talked about in a meeting late in the summer I believe.

Don, do you know whether we ever got those surveys or the results of those surveys on the other areas where there's overflows?

MR. KRIENS: No.

BY MS. HAYES:

Q. I didn't think that we had, but anyway, that's something that I think is in the works and I think Karen is in charge of that.

My question to you is how long have you been aware of the problem of the manhole overflows?

A. How long have I been --

Q. Aware of that the problem.

A. I became immediately aware during the investigation at that time. I understood that we are overflowing that particular manhole.

That was not something I knew or had direct contact that it was that specific overflow that occurred. I had back -- I don't recall the date, but there was some discussion regarding if that hole were to overflow, it was not associated with any particular event, but if we overflowed that manhole, would that be considered a waste or is that just water.

Q. You're saying prior to our inspection in April?

A. Prior to your inspection.

Q. You were involved in a meeting, is that what you're saying, Steve?

A. I don't recall if it was meeting or what. It was a discussion of some sort.

BY MR. KRIENS:

Q. You mean whether it would be considered a hazardous waste or --

A. Would it be a hazardous waste or was it just a water overflow, because of the content, was it just essentially storm water.

Q. Well, the overflow was processed waste water though, not storm water, you're talking about.

MS. HAYES: Yeah, it goes from the oily to the non-oily.

THE WITNESS: Restate your question.

BY MR. KRIENS:

Q. The overflow or the source of the sewer that overflows is composed of oily waste water, processed waste waters from different areas.

A. As it comes up from the coker ponds it was not my understanding it entered into an oily water sewer and then came out. As we discussed it -- what I'm recalling again, my recollection, as we discussed it, it was -- the determination was the coker pond water, which was essentially water and coke fines, that that constituted waste. We tried to understand that. We did not look into whether it was an oily water sewer issue or not.

Q. Did it constitute a hazardous waste you mean?

A. Right.

Q. Versus a normal waste or waste water?

A. Just a water overflow that would potentially cause contamination.

Q. Well, waste water overflow actually, right.

A. Well, that I guess we'll have to discuss.

Q. Let's nail it down, because that sewer is an oily water sewer where processed waste water and oily waste water goes in there, not just storm water.

MR. ESPEL: Well, just to make sure that we're talking about the same thing at the same time, I think there was a question that was put about when did he become aware of overflows, I think he talked about that, then there was the question that he mentioned. I recall some discussion before that. Now I think you are kind of asking about what the situation really is, which doesn't necessarily define what he was talking about before or what he saw in April. I think we have to sort out which time frame we're asking about at which time so we don't confuse if we're talking about what he knew at one point or what the situation is. That isn't necessarily the same thing. It might be, but I just want us to be clear on what you're asking.

MS. HAYES: Thank you for trying to clarify that. I think --

MR. ESPEL: You can ask all three questions, I'm not trying to prevent you from that, I just want to know which question you're asking at which time, that's all.

BY MR. KRIENS:

Q. Do you want to go back to your question? I'm sort of lost on that. I guess what we're

asking, we were specific to that tank 500 overflow area, the oily water sewer to the clean water sewer. The sewer, and that's what I was specifically pointing out, that the oily water sewer was an oily water sewer and not storm water that overflowed. Is that your interpretation as well?

A. It's factual to say that manhole cover by tank 500 is an oily water sewer. There's also a clean water sewer next to it.

BY MS. HAYES:

Q. Here's a picture of it actually. This would be the oily, this is where it comes up and this is where it goes into the clean water (indicating). And this is from the documents that you furnished to us. The number is 3073. I think Joe Butzer drew that diagram. So that's what we're talking about, we're talking about -- and also, when I first started asking the question I was asking you -- I was making general comments about the problems throughout the plant, so I think that's where we got apart. Now we're talking specifically about tank 500 and that problem.

And so now I want to go back to asking

you, you said that you recall a discussion about overflows and if that would happen what would that constitute in terms of waste, isn't that what you said, Steve?

A. Correct.

Q. Okay. And so was that specific to tank 500 or not?

A. No, not at that time. When I became aware of this situation occurred right near the time of the inspection or within a week when we talked to the operators that were bringing those issues up. I think that was after they had brought those up with you. They brought those questions to us after they had brought them up with the MPCA staff.

Q. You mean before our inspection or after?

A. Yes.

MR. KRIENS: Brought what up? The fact that these overflows were occurring?

THE WITNESS: Well, that was one of their concerns, yes.

MS. HAYES: Was that before or after our inspection?

THE WITNESS: I think that was just prior, literally days prior to.

BY MR. KRIENS:

Q. I'm not following you. Are you saying that Koch staff brought this issue up to us?

A. I'm only talking about me.

Q. I didn't follow that.

A. My understanding of this particular area here was not specific at all. I had no specific knowledge of that until two of the operators down at the waste water treatment plant, who I understood also went to the Minnesota Pollution Control Agency with these concerns, when they called us and say gee, we went to the agency, I went down and tried to talk to them and tried to understand what their issues are. That was one of their concerns.

Q. I see.

A. So it was literally a day or two before.

Q. So you're talking about the complainant which called us about -- this is one of the issues they bought up. All right.

BY MS. HAYES:

Q. And then when that was brought to your attention was it made clear to you that it was going to the clean water sewer?

A. I did not get an opportunity to go out and look

at that area specifically, so I did not know the logistics of that, no.

Q. I guess given the capacity that you are in as the environmental manager, the question that I have is, you know, the logs that you furnished to us, they go back to -- these are the waste water logs I'm talking about. They go back to the beginning of '94. It's my understanding, in fact, that's as far back as they go. I think that's correct, isn't it?

A. That I don't know.

Q. Okay. Anyway though, there's documentation beginning in '94, right at the beginning of '94, that this was a problem way back in January of '94. And we have documentation on these logs of about -- I'm just estimating, but I think it's right around 50 events of this type where there's an overflow. It's stated in the log. For example on 1/13/94 the operator states the problem with water coming out of the ground and running into the NOWS at the coker is not solved, it's doing it again. This goes back to the beginning of '94. I guess the question we have is how is it that you weren't aware of this? I mean, I believe that you weren't aware

of it, but I'm just wondering how is it you have waste water -- you have a waste water area that even if you're not managing it, you know, you're somewhat responsible for what's going on out there in terms of environmental laws and the permit and all of that. How is it there was a breakdown that you wouldn't have been made aware of them? That's just baffling to us.

A. I think it would be pure speculation on my part as to when I was and I wasn't. That is not part of my role to read those particular logs. That's really the reason why I wasn't. We do have systems in place to try to evaluate our performance in all areas, and that goes from air, water and waste, to try to understand those things. We do evaluate those.

Looking at the MPDS system itself, we do audits of our laboratory. You guys get all that information. We do inspections, hazardous waste inspections once a week literally walking around checking things plus the quarterly stuff that we do with the agency. We also do checks on our air, we have a lot of those. We don't scour every little piece of paper. We also have, hopefully, selected the right people to run and

operate our units. And we have systems in place so that if concerns come up, whether they're operationally, whether they're safety or whether they're environmentally, that there is a path or an appeal process of which to take those items that might be of concern. If you've got a question operationally that you think is going to be environmentally or safety related you can begin asking questions up the ladder. If it hits my desk it will be acted upon. If I don't answer it to somebody's satisfaction, it literally ends with a gentleman in Wichita by the name of Ben Burgess, who is our corporate compliance officer. He will get to the bottom of it, and he will even investigate on a confidential basis if people don't want their names to be involved. He has a 1-800 number, and that's completely confidential.

My question is why, I'm somewhat baffled like you, why did the operators not bring this to our attention? I am not aware of that.

Q. Can you explain how that pathway would work from operator to you, if it would have ever gotten from operator to you?

A. If the operator were to have a concern he

could -- there would be a couple of different pathways. They could go to their supervisor or they could go to an environmental engineer that would be assigned in that area and generally ask questions. If they don't get a response or they don't understand it or whatever, they can appeal up again from the environmental engineer to their direct supervisor or me, if that's who it is. If I don't give them an answer we also have other folks that would be available. There's several different paths, again, all ending with our corporate compliance officer, 1-800 -- I don't know the number, but I could say 1-800 call Ben. It's posted and it's available.

BY MR. KRIENS:

Q. You understand our issue and primary concern with this problem is that it occurred very often over a long period of time, and it wasn't just the operators, the waste water operators, that were aware of it, other people at the refinery were aware of it. We'll show you the memo (indicating), the January 13th one. The issue of greatest concern from an environmental perspective is that this water basically was discharged untreated to the river because when

it overflows from the oily to the clean water sewer that goes to B5 circumventing the active biological or chemical treatment that is provided through the waste water treatment plant, goes to the polishing pond, so any pollutants in there are untreated. There are some pollutants that are monitored, although that's a very limited number in the permit. It doesn't include benzene and other constituents that could have been in there, and probably were in there. So basically it's going out to the river untreated, and that's really our primary issue with this activity.

A. I know you and I have -- obviously we try and understand, in fact I've asked you that question, what constitutes treatment, and I know that's one of the things that we'll have to figure out, does treatment only occur in one spot, where does it occur in the plant, that is something we have to come to a conclusion on in the future, what does that really mean from our standpoint.

Q. We came to a conclusion from our perspective that to treat benzene, to treat pH compounds, to treat oil and grease compounds, related

compounds, pollutants of that nature, that going into a holding pond certainly doesn't constitute treatment by any measure or engineering standard. So it wouldn't include treatment of that type of waste water.

But I think the other issue we wanted to bring up was it wasn't just operators. There was another company memorandum, Joe Butzer in an incident report of January 13 brought this issue up. This was a continuous longstanding problem and something needed to be done about it.

MS. HAYES: It's not here in my list, but it states B crew on my round noticed oil in the NOWS, checked B5, discovered oil and notified shifties. Two possible causes, manhole by tank 500 was overflowing into clean sewer and then there's something else there. That's one -- that's another notification that came from B crew. I don't know who constitutes B crew in that situation, but --

MR. VOYLES: January 13th of which year?

MR. KRIENS: '96. There's a memo that corresponds to that other discussion.

MS. HAYES: Joe Butzer you mean?

MR. KRIENS: Yeah.

MS. WIENS: Not a memorandum, you mean a log?

THE WITNESS: It's an incident report that is done.

BY MR. KRIENS:

Q. Okay. The question we have is was there any communication in place between the operations department and the environmental department to take care of this type of problem, and why did it take so long? In fact, it didn't really get taken care of until we were out there in April.

MS. HAYES: And when we interviewed Joe about this, not to put Joe on the spot, that's not the point, but Joe said about the memo he wrote, the first one that I gave you, he said you can see in my tone that I'm frustrated about it. I mean, I don't know if that's exact, I'm paraphrasing, but it was close to something like that. So we just need to ask.

MS. WIENS: And I think, since there's not a date on it, so to put it in context, I think it was a time when B5 -- when they had that cleanup on B5 the one time. I think we heard people say there was some kind of

significant spill on B5, and that was, I think, what Joe said is when this was generated.

MS. HAYES: Yes, that sounds right to me, uh-huh, late '95, early '96, was that it?

MS. WIENS: I think we were trying to determine was it early '95 or was it early '96.

THE WITNESS: I don't think I have an answer for you as to why this wouldn't have come up. It was sent through systems and it fell through the cracks one way or another. Again, we do have systems in place to try and catch these things and try to improve it.

Don has been involved in a lot of the things that we have done with the MCDS program over the years, and we've recently come on with -- was it in '96 when -- I can't remember how long.

MS. HAYES: '96.

THE WITNESS: '96. When you look at the stuff we've done with the lab and the treatments system overall, there's a lot of that that's done. We've also recently, obviously, looked at our infrastructure throughout the plant and said we are going to improve that.

And that's part of a survey that you were saying you hadn't -- I'm pretty sure you haven't received it because I don't think it's completed yet, but that is being done and it will be understood and it will be completed. We're really looking at that hard. Why this was not brought up, I don't know.

BY MS. HAYES:

Q. Okay. I wanted to bring up the issue, this is around the January 13, '96, the B5 -- I think it was an overflow, I think there was an overflow involved on this. Right now I'm not absolutely clear about this, but the document number is 3978 and the date is January 16, 1996. And it's a memo from Heather on the cause of the -- in this case the major leak in 16E5, that's an exchanger for the slop system, that resulted in significant oil spills to the NOWS. It looks like this is in your writing (indicating). You say please follow up on the boom deployment issue I think is what you state there.

A. (Views document) What was the question?

Q. I'm just wondering how it is that you got this.

A. Obviously Heather provided me a copy. I don't know who it was indicated to, but one way or

another this copy came to me. There was something in the incident, and I don't recall except that there was a question about the boom, why the boom wasn't deployed correctly or whatever. My question back to Heather was please follow up with boom deployment, do we need to train or retrain folks on how it is done. And then in an incident investigation, operations was in charge of the incident investigation to make sure that these incidents don't reoccur throughout. So when an environmental incident does occur we provide our input as much as possible, they then follow through and correct those situations.

Q. Was this related to an overflow at B5?

A. It says here there was a major leak in 16E5 that resulted in a significant oil spill to the non-oily water sewer. The oil did reach B5 lagoon. It did not talk about an overflow at B5, it talks about just being an oil -- some oil. It may have been a sheen, it may have been more than that, I don't know from here, but it says oil did reach B5 lagoon and was contained by the booms and flow diversions. It was then removed. So it does not talk about an overflow

here.

MR. KRIENS: I don't believe it was an overflow.

THE WITNESS: My guess is that it was probably some oil that had gotten on B5.

MS. HAYES: Actually I think it was in '97 that you had one of the major overflows from B5, early '97 rather than '96.

MR. KRIENS: That one I think was a fairly -- as I recall when we talked to Schlomka and others that it was a fairly substantial amount of oil that got there as a result of this. And it was backed off but didn't result in an overflow, that I know of anyway. And I think that is what -- as I recall when we talked to Butzer, that is what precipitated his memorandum on this general issue of the oily water to clean water sewer and caused him to discuss this problem with tank 500.

BY MS. HAYES:

Q. So his memo must be around January of '96 I think, because -- but I guess what I'm wondering was there -- were there booms there and they just weren't being used properly? Was that your understanding?

A. I don't believe we have any booms or ever used booms on an normal basis on B5. We have the oil separation channels that's in place and if something gets out of there and gets on the pond then you would put a boom in and drag it to one side where you could contain it and then vac truck that off. We don't -- as you have seen with your inspections, we do not normally keep booms out there because there should be no oil out there.

Q. Yeah. Did you then follow up with Heather on this?

A. I don't recall that I -- I don't recall on that issue whether there was a response back or not.

Q. Okay. When were you first made aware of the B5 overflows?

A. Which?

Q. Well, you've got a couple of them that we've got documentation for. There was one at the end of '95 because we've got a memo from -- I'm sorry, '96, because there's a memo that wasn't dated from Karen Hall that was discussing that around the -- it comes up around the hydrant spraying. I can find that memo. And there's a log or a memo that -- probably it's a operator log, from

5/8/96, where an operator is stating that he's heard that the NOWS basin is overflowing. I guess we can't be certain that's B5. And then there's an overflow of B5 on 1/15/97 and then one on 2/12/97 and one on 3/25/97.

MR. KRIENS: And apparently one in December of '96 as well.

BY MS. HAYES:

Q. Yeah, that's the one I'm talking about, the one from Karen Hall. That comes from a memo that kind of in passing mentiors that last week she heard the B5 had been overflowing. And then back to the question, when were you first made aware of that issue, Steve?

A. I don't recall any specific events on those. I would have to go back and look at the logs to try and refresh my memory. I don't recall right now specific events. If you've got some stuff for me to look at I might be able to.

Q. This is a memo from Karen, indicating). She said that she did this probably Monday the 6th of January, '97, the number is 3812, she doesn't have a date on it. And underlined here there's discussion about B5 overflowing the week before. That's one issue, that's one time.

A. (Views document) My guess is when I got back in the office I was probably informed of the incident, but prior to that -- in fact, the letter talks about they did not call me at home, they thought I was out of town, which I wasn't, I was home sick with the flu, so according to the memo -- I don't remember the specific incident, but I'm sure when I got back in the office we discussed it.

Q. Here's a couple of logs that discuss this, it's from 5/8/96, the number is 371. Go ahead and look at those.

A. (Views documents.)

MS. WIENS: We talked to Todd Aalto about this one, do you remember? And he didn't say it was a B5 overflow.

THE WITNESS: I'm not sure of the definition of non-oily water sewer basins here, and I would probably have to go back and find out whether that is or is not an overflow. That I don't know.

MS. WIENS: Do you recall what basin that was from?

MR. KRIENS: I thought it was B5 basin, but I don't recall specifically.

THE WITNESS: Was that the date of Karen's memo?

MS. WIENS: 1/16 I think.

BY MS. HAYES:

Q. I asked her and she said she thought she authored it about January 6 of '97.

A. Okay. I don't have any specific knowledge on this event on the 15th, but it's in the log (indicating)

Q. Well, as I recall when we were out here in April when we asked about that the environmental department didn't acknowledge that they knew of overflows from the B5. That's my recollection. I mean, I'm talking about we asked you and Karen and I think Heather when we were near there, we asked about it, and I don't think that you or any of the other people from environmental acknowledged that there had been overflows there.

A. I don't recall the specific question, what was asked back then, but if you're asking the question now, obviously for Heather, I would say Heather knew from this memo here and here. It says Heather, we should increase flows. So I'm assuming Heather probably knew B5 was

overflowing or had overflowed. And I thought we had also talked about RQs at that time. And this was in January, because that was the time frame in which we were trying to understand was this a reportable quantity or would not be a reportable quantity based on the ammonia.

MR. KRIENS: You mean of a spill or on an overflow?

THE WITNESS: Due to an overflow. Because of the amount of ammonia being in the water itself.

BY MS. HAYES:

Q. Let me go back for a second because the way that we actually determined there was an overflow was by looking at the ground. I don't think that we got any -- and then we took samples of that area, Steve, and ammonia is not the issue there.

A. We also -- well, the other thing, we need to go back and look in the files. Speaking with some of the folks that have been around here historically, we have cleaned those basins out, and this is my understanding with PCA's approval, where they put -- the material was --

MR. KRIENS: I doubt it.

THE WITNESS: I said this was my

understanding, because this was historical, long before I got there. Where that material went was along the sides -- the west side of that basin and on the north side of that basin. My understanding is that was all negotiated and done prior. We would have to go back in the files and look.

BY MS. HAYES:

Q. We are going to go back to that because that's another issue we wanted to talk about with you today. Maybe I -- I'm not sure that I should bring that up right now because I'm not prepared with the memo, but I believe there's a memo from Heather in our documents that says the practice of taking sludge and applying it -- is it north of the B5?

MR. KRIENS: From the neutralization basin and disposing of it north of B5 must be discontinued. I think that was written in '96. Because actually that's disposal of hazardous wastes out at that area from those basins. Normally it wouldn't be a hazardous waste if the basins were used for their intended purpose, but because of the frequent overflows of processed waste water into them, the solids that

accumulate in there then becomes hazardous waste according to the rules.

MS. WIENS: Which neutralization basin are you referring to?

MR. KRIENS: The neutralization basin is the tank that's ahead of the -- it's before the non-oily water basin B5. It's a small basin before that.

MS. WIENS: Is that what they call 19?

MR. KRIENS: No.

THE WITNESS: You're referring to the neutralization basin as the channel on the area north of B5? Is that what you're reference is to?

BY MR. KRIENS:

Q. No. As I understand it there's another basin, and I don't have the drawing, that is used for pH adjustment primarily ahead of B5 or ahead of that sewer.

A. We would have to look. I'm not that familiar with the flows down there, but there are neutralization basins that are just north of the API separators, and they do use those for pH adjustment, but I'm not -- I don't know the

flows well enough to state whether that was commingled with any other waters than the water coming from the boiler house. I would have to look.

Q. We can look at that.

A. Based on that it would strictly be the boiler house, and it would be de-mineralization of the well waters.

Q. If it was that, yeah.

A. And therefore it would not be a hazardous waste.

Q. In that case, no. What we're referring to, going back, and maybe we need to address that later and find out what that means, but when we're talking about the overflows from the B5 north basin, when we were there in April we discovered -- because there was a rather obvious ravine where this water had overflowed and washed out, I mean, we could see an area I estimated 400 feet by a couple hundred feet where it had ponded up. So there is obviously some pretty large spills or overflows from that pond. And we collected upper sediment from that area and found fairly significant contamination, which indicates that there was some water there certainly other than storm water that caused

that contamination.

MS. HAYES: And beyond concerns about ammonia, we were -- we found significant levels of organics.

BY MR. KRIENS:

Q. We didn't receive notification of these spills that we're aware of.

MS. WIENS: The B5 ones?

BY MR. KRIENS:

Q. Of the B5. Do you know why those were not notified?

A. From an RQ -- we looked at the RQ standpoint I know after January to understand that. Based on the ammonia is what triggered that thought process. We were not aware of any RQs that were being exceeded prior to that. I also -- I guess from a standpoint the overflows itself, I'm still not certain that we were aware of those prior to the January ones. We, as in environmental department, would have been aware prior to that point.

Q. Isn't that part of your charge, to find out what's occurring down there, determine what's going on, how it's operating, or is that not part of your department?

A. We have to hire good people and try to train them and tell them what we believe to be in compliance and what out of compliance means. We have to trust a lot of that. We're not here -- I'm not here 24 hours a day, I'm not --

MS. HAYES: Nobody is suggesting that you are.

THE WITNESS: What I'm saying is there are things that, obviously, as operations department we're trying to do the best job we can. We try to give them the best advice we can to keep them essentially -- stay between the lines, don't go outside the lines, that's not what we're supposed to -- we're supposed to stay between the lines. To the best of our ability we transmit that information, to the best of our ability, I mean that for everybody, they try and absorb that information. And that means did we recognize that would have been an issue that you would have taken exception to? At that time I don't think so.

BY MR. KRIENS:

Q. Are you aware of requirement by statute, it's 115061, of the duty to notify and avoid water pollution, that sort of thing?

A. The specific statute I'm not.
Q. Does Koch have any policy then that you will notify the MPCA or others on spills?
A. If we believe we have reportable spills we do notify. And we have done that over and over again.
Q. So my question is do you see that an overflow of water that would be composed of pollutants of that nature, oil and grease, metals and so on that were discovered in those soils coming from that area, do you see that as not reportable or reportable?
A. If we were to recognize it, that it contained that, we would have to make a determination at that time. I don't think we have any prior determinations that it would be or not be. So you have to try to understand what was in there.
Q. Did the company make any attempt then -- I guess perhaps you didn't since you didn't know about it, but if you did -- or did you make an attempt to find out what was in that water that caused that contamination?
A. Prior to the January overflow we did not, to my knowledge, try to identify any of the content of that water. It was -- the assumption was it was

storm water, it was non-oily water sewer water.

BY MS. HAYES:

Q. And when you say we there, are you talking about environmental?

A. At that point it would have to go even beyond environmental. I mean, we would normally try to do some of that determination when asked, but I don't think anybody recognized that this could potentially have been a spill, it could potentially be a reportable based on constituents. If they had it would be called in. Then on-call engineer -- we have an on-call engineer 24 hours a day literally on call that can advise and then report as necessary. So those things do come up. When somebody says gee, I've had a spill, I've spilled six gallons of oil out there, we know that five gallons or less is not reportable because it's an exclusion, if it's above five gallons they call it in. They have already made the determination what the volume might be. If it's above that five gallons, and I don't see anybody trying to take six and say ah, it's only five. They don't do that. If they think it's six, it's six, we get notified, we make the proper notification

and call it in.

BY MS. HAYES:

Q. So what happened in January that made you decide to take a look at what you've got in terms of waste water?

A. We discussed the issue about the overflow of B5, and I don't recall who "we" was, I remember a discussion, but I don't remember who all was involved. We said what about an RQ for ammonia because of the ammonia problems we've been having in the plant. We looked at it, they took an estimate of the amount that had overflowed, and I don't recall whether that was the determination at that point, whether it was above the RQ or below the RQ.

BY MR. KRIENS:

Q. So you're just looking at the federal reportable quantity requirement and not considering the state rules, statutes?

A. We were trying to the best of our ability to understand the state statutes on that also.

MS. HAYES: We feel like you missed 115061, just for the record.

THE WITNESS: You know, I understand Don is stating he believes that there were other

constituents in the water. What I'm stating is at that point in time there was not a recognition that there were other constituents in that water.

MR. KRIENS: Well, maybe I can agree. Perhaps not at that point in time, but had the environmental department and, I guess from what you say today, everybody been aware more fully of the continuous overflows of processed water into the clean water sewer it would have been to me a reasonable presumption or conclusion to be concerned that there could be other things in there. And indeed there was, as we found, or we believe there were at some time.

MS. WIENS: I think you are jumping to the conclusion, that you found something beyond B5 then that had to have come from B5. I think, you know, you jump to that conclusion, but I'm not so sure that's, in fact, the conclusion.

MS. HAYES: It had to do with the way the gully was more right on the north side.

MS. WIENS: I'm just talking about that was, I'm not talking about the fact that it

did or didn't overflow. There could be other reasons why that soil is the way it is and it could have nothing to do with B5.

MR. KRIENS: Perhaps. And if there are other reasons why it was then we would be interested in knowing that as well, but it appeared that it was from that because of the nature of the erosion, and then also we did take samples from the very upper surface of the soils there, the top couple millimeters.

MS. WIENS: I'm not talking about the erosion, I'm talking about the content of the soil. I'm not talking about there isn't any evidence of erosion, I'm just talking about what was there.

MR. KRIENS: Yeah, and that's why we did sample the very top part, and it's certainly not a scientific conclusion that that represents necessarily the contents of what was in the water, but by most measures it generally is the case. But that's a good point, one that we would like to understand and make sure of, too. I think the question we had was in consideration of the number of overflows and the nature of the water that was in there at times, it would have

been a prudent environmental response to have notified the MPCA I think.

MS. WIENS: The number of overflows of what? B5?

MR. KRIENS: Of oily water in to the non-oily water sewer.

BY MS. HAYES:

Q. That could have ended up in B5.

I guess I would just like to get your feel for after you became aware of that problem, Steve. Did it occur to you to ask what was going on that you didn't have freeboard like, for example, in December, January enough so that your pond wouldn't be overflowing? Was that something that came up for you?

A. The freeboard was discussed. I don't recall the time, it was discussed, but we also knew we were having operational problems. We are required by our permit not to discharge water to the river that is in excess of our limits, so in order to try to help the operation as much as possible there was water that was being held and contained to try to get further treatment on it at a later date as required. So yes, we understood the freeboard and we were trying to

manage that as closely as possible.

MR. KRIENS: Does the permit actually say you cannot discharge water in excess of limits in that way.

THE WITNESS: I believe it does. I think it also requires us to store the water.

MS. HAYES: Could we take a break?

(At this time a short break was taken.)

BY MR. BERGER:

Q. Steve, I want to address a couple of issues regarding the oily water sewer from the hazardous waste standpoint. The first one is one that we talked a lot about in these interviews, and it's my understanding that the oily water sewer, the purpose of the oily water sewer is to contain and treat oily water that is generated in this facility. And I know there's a lot of water that's used in your process to make gasoline and the things that you do, and you generate water that's contaminated, like sour water, and it's treated. But what I've seen in a lot of these logs and what has been confirmed through these interviews is that the oily water sewer is also used for the disposal of materials of products, pure things like that

naphtha or methanol or ethanol, gasoline, fuel oil that's generated in a unit in the processing area, and for whatever reason is being released to the oily water sewer.

Most of the reasons we've heard in these interviews have been for maintenance situations where it's not an emergency situation, it's a planned maintenance step, the unit is coming down and there is an amount, we've heard from 10 gallons to 200 or 300 gallons of these materials I've mentioned that are just -- the tap is opened and the materials are released to the oily water sewer. I have a problem with that, and that's an area we have been discussing. I believe that that is an improper use of the oily water sewer and that that is in treatment of a hazardous waste from the generator rule perspective. If you are mixing a hazardous waste with waste water or some other waste you have to have a permit to do that, and that is not in Koch's permit.

I guess initially the question is what is your opinion of that? Do you feel that I'm off base or do you have another version of that or how do you feel about what I just said?

MS. WIENS: Before you answer that, Steve, I do not expect Steve to answer a legal question about what the legal ramifications of what he does or what he doesn't do. We anticipate answering any questions you have about what happened factually, but applying the facts to what the law is, that's not what Steve is here to do. We can do that with you and are happy to do that with you any time, but that's not Steve's role.

MS. HAYES: Can I just comment? Because when Steve was first telling us what his role was he said it's his role to understand the regulations. So in that sense isn't it a fair question to ask him what the interpretation of the regulation is?

THE WITNESS: But I don't do that in a vacuum. That's why I do have counsel available, to help with those opinions. I mean, you folks have the same thing. As an enforcement, you are required to understand the regulations, but yet you've got Chris Hulsebus, your attorney, or you've got Richard Cooley as your attorney. The same things applies on this end, yes, we are charged to try and understand

those things to the best of our ability, but that's why we hire these folks, because they really can dig it apart.

MS. WIENS: We anticipate Steve answering your questions about what happened. We didn't anticipate him answering questions about is what you have done legally okay or permissible or pursuant to your permit. We will answer those questions for you, but not through Steve.

BY MR. BERGER:

Q. I think I understand what you're saying, and let me take a different tact then. I'll show you a couple logs here, Steve, of examples of what I'm talking about. You can read those (indicating).

A. It's document 1269, 2/26 and 27 of '96, waste water treatment plant logs. (Views document) Okay.

Q. (Hands document.)

A. The next log is a waste water treatment plant log designated 163 as the number, 2/21 and 22 of '96. (Views document) Okay.

Q. (Hands document.)

A. No stamp on this one.

Q. That one might have come from another source.

A. So we have a waste water treatment plant log of 8/2/94, but it's not stamped, did not come through -- it probably came through our document production.
Q. Right.
A. (Views document) Okay.
Q. Do you know about those type of releases through the oily water sewer system?
A. Can you restate your question? I'm not sure I understand.
Q. Do you know about those types of materials being released to the oily water sewer system?
A. Is it practice for us to be able to utilize our sewer system to transport hydrocarbon to the waste water treatment plant for separation and recovery? Yes, I would say that is a practice. In fact, I would think that's also found in our MPDS permit, along those same lines.
Q. You say recovery, where is the recovery in that system?
A. The API skimmer would skim that off, and that oil would then be recovered to the slop oil system.
Q. We have been told by a number of Koch personnel that the purpose of the API skimmer is to skim

off oil, and I think they mean the heavy oil, we're not talking about light solvents.

A. From a standpoint -- you look at the specific gravities, first of all oil and water are not mixable necessarily without a lot of surfactants and that kind of thing, as you know. The specific gravity water, which is 1.0, oil pretty much across the board, with the exception of asphalt, has a specific gravity less than water, so it floats on water. That's why the skimming system works. So whenever you have water and gasoline in a mixture, shake it up or whatever, wait for a period of time it will separate, the water on top, the oil on -- the oil, and I'll use oil across the board as everything from light ends and dissolve phase all the way down to essentially a 1.0 interface. When that -- when specific gravity gets greater than 1.0 it would literally head to the bottom. So oil in the area of propanes, butanes, pentanes, gasoline streams, fuel oils, gas oils, which are lube oil type mixes, all have specific gravities less than water, they will float on the water. That's why the API skimmers work. You then crank the skimmers down to the point when you

get the interface, that oil flows into that, is separated off, essentially water free other than maybe a little bit of water which can be separated out again in the tank, the water underflows, think about the underflow and overflow wiers that you have in the system, the water underflows and gets sent off to biological treatment, depending on the phase, it might be the asphalt.

BY MR. KRIENS:

Q. Is that an absolute system, a hundred percent totally effective for that separation? Is there ever some carryover?

A. That's why we have biological basins and dafts and all the rest of that, to remove that dissolve phase.

Q. If you have any type of oil fraction, is there some solubility in water that is not going to separate off in that phase regardless of the specific gravity?

A. This is a fuel -- if there's a case I'm not aware of it. This is a fuels refinery, gasoline works that way, fuel oil works that way, gas oils work that way, asphalt works that way.

Q. But that wasn't the question. You're coming

down the sewer, it's composed of water and oils in mixtures.

A. Right.

Q. Some of these constituents, gasoline, naphtha, benzene, however it is at the time, does have some solubility within water up to its solubility product.

A. Okay.

Q. So it is going to be in the water phase.

A. The water then underflows that skimming system and that goes throughout the waste water treatment plant, through the dissolve flotation into the biological treatment and where those oils are removed. Otherwise, if we could do iy with just gravitational, because essentially all we're talking about is specific gravity here, it's a gravitational separation. We've got skimmers, we've got API, you've got a couple of those points where you've got wide spots in the line, nice low velocities so things can settle out and get you an interface. You then put that through a skimmer, you pull these oils off and send them out. We literally call that dry slop. It's essentially water free. You can put it back into the distillation tower. If it's got

water in it you put it in the distillation tower, the distillation tower gets thick real quick because water expands too rapidly.

So those systems, I mean, those you're going to find in every refinery throughout the U.S. as well as the world. Those are good systems. The oils -- and by oils we're not talking about fuel oils here, we're talking about gasoline, we're talking even butanes and pentanes and maybe even dissolve propanes in there. That's all specific gravity related. The water will sink, the oils will float with the except of asphalt, which usually has a gravity greater than water and it would literally come underneath. Which is some of the problems you have to watch when you deal with asphalt. If you have hot asphalt and you put it on water, the asphalt can cover it and it's trying to keep it down as opposed to the water there, it can cause some steam and that kind of thing happening.

Q. Right. And we understand that mechanical separation process and that it isn't a chemical separation because there is some solubility with these compounds that go on through and the fact

that a flush is there to take them out, although that's not always a hundred percent efficient. Presumably it is a treatment system that is designed to accommodate that type of waste and acclimated, in fact, to do that. We're not disagreeing with you there.

MR. ESPEL: Isn't the system measured, and this is more a question. I think it's true, but I don't know really. I mean, the efficiency of the system, There is an oil and grease test in the affluent which is sort of like a monitor on that, isn't it? Is that what that is for?

MR. KRIENS: It's more of an indicator.

THE WITNESS: You've got a couple, you've got BOD, COD and you've got an oil and grease. All of those are really measures for hydrocarbons.

MR. KRIENS: Well, they're a very rough measure of hydrocarbon. In fact, they're just more of an indicator, a rough indicator, and it's done because they're easy to do and cheap to do and that's the way you do it.

THE WITNESS: They serve us for

understanding the efficiency of the plant, if nothing else. Does that answer your question?

MR. BERGER: Yeah, that helps a lot. I guess that's the best explanation I've gotten of the API separator.

MR. ESPEL: You said sort of like it's only for oil and not for the light ends, and was it helpful to understand the relationship of those, that they're all lighter than water?

MR. BERGER: Yeah, yeah.

THE WITNESS: I think what typically happens, if there's any other oils in the sewer itself, all the oils are going to be mixable together, the water and the oil will not.

BY MR. KRIENS:

Q. What we were really -- I think what we are also trying to get at here was to understand why, in some events at least, some product or waste, not necessarily waste water, but product or waste that could have been recovered via a vacuum truck or tank truck or something like that and taken over to the slop oil recovery system or some recovery system like that, which we understood tank 63 basically is, and disposed of

there instead of dumping down the sewer, by doing that it seems, number one, it's a more efficient way to do it for Koch in terms of recovery of that oil or that material because it's absolute in that case, it isn't emulsified and mixed and you don't rely on the API to do a hundred percent of the recovery. And then second, it isn't dumped down the sewer. So we think it's a better way to manage waste.

If that's available in those cases where they say well, we're going to dump 300, 400 gallons of naphtha, instead of dumping in the sewer we think it's more prudent way to deal with it to recover it and take it directly. Rather than going to the sewer, relying on a system that is not a hundred percent efficient by any means in the recovery of oils to do that.

A. I understand that was a statement, but I would probably expand upon that a little bit from the standpoint that I would probably argue that a little bit. First of all, the sewer system is in place, it sets up, it does go to a hard pipe system. By using a vacuum truck I have a potential of a spill, I have a potential of the truck having a problem, I have a safety problem

potentially. There's a lot of those issues that can occur. The hard pipe system in the sewer system is in place. Obviously that's made you mad.

Q. No, not mad. We're not interested in being mad at anybody, but it's disconcerting because we've talked to others where it seems like that's relatively something easy to do in some cases at least.

A. Why would you want to include -- here's my thought process. When you go through issues about handling and safety, the more steps you do the more complex it gets the more chance for a problem.

Q. Isn't there a safety issue with respect to the volatility, flammability of this material dumping down the sewer? In fact, that does occur.

A. If it's in the oily water sewer those sewers are sealed. They have carbon canisters on them to meet other rules that we've got in place. We have not had sewer fires here, to my knowledge at least, since I've been here, and I'm fairly happy to say that. Those sewers are sealed, they do take that product down to an area that

can safely handle it. That area is also sealed up, it's vented back to the thermal oxidizers to the waster water treatment plant. Those oils are recovered in the dry slop area. I would say -- I would much rather use that system personally than using a vac truck system and run a bunch of vac trucks in and out of here.

Q. Isn't there material brought in via vac truck from spills, from clean out of tanks, from a lot of activities in the normal course of the operations here that is taken to tank 63?

A. You mean have we used vac trucks for various things within the plant? Sure. And you want to minimize such use.

Q. I'm not, you know, interested in trying to tell you how to do it, but it just seems to us that that's used quite often. In the logs we see it's used all the time.

A. It is.

Q. We've talked with other people here and they seem to agree that that would be no problem.

A. I would disagree that that would be a better alternative than using a sewer from the standpoint the sewer is already hard piped, it's in place and I've got the capability of

capturing that oil down at the waste water treatment plant.

Q. When you talk about the sewers, are the sewers all of adequate integrity?

A. That's part of our infrastructure review right now that's going on.

Q. So is there a chance then that some of this materials could get out of the sewer at this time, or was there at any time when it could through boxes or whatever?

A. That would be pure speculation on my part. That's why we're evaluating and reviewing that particular part of the system.

Q. We've talked to some --

A. We've had oily water sewer leaks before and we've reported those when we found them. We're trying to go from top to bottom, north to south, side to side our entire system right now and make sure that it's fine.

Q. Have there been any problems with sewer deterioration?

A. Since? I don't understand the question.

Q. The last couple years. Sewer deterioration, concrete box deterioration, any deterioration at all where the sewer has had to be rehabilitated?

A. Certainly. I mean, we've reported -- in fact, down in one of the units, and I don't recall the unit number now there was some cracks in a concrete box or the floors were a problem. I don't know all the specific details.

Q. Isn't there a box down by the waste water plant itself, in that area?

A. I'm not specifically aware of it. That's why I've got staff. I don't stay on top of every little detail.

Q. I bring it up because when you say that that's a safer alternative it doesn't necessarily equate that to us in that way when it has a deteriorating nature.

A. It all has to be consistent, yes.

Q. When you're talking about making sure that it gets there and that it's recycled back through the API, the important thing then is to make sure that it gets there, and if the sewer is deteriorated in some areas allowing it to go out of the sewer then it's not a very adequate system.

A. At that point (nods head).

BY MR. BERGER:

Q. So if I understand this correctly then, you view

these materials that are released into the oily water sewer as a product being recycled, is that correct?

A. In my opinion that's exactly what it would be.

Q. Okay. How about in the case of the oily water sewer documented at least 50 times overflowing to the non-oily water sewer? You have a separation where these materials are flowing in the waste water and now you have a release of that material to a non-oily water sewer. How do you feel that fits into this situation?

A. State that again.

Q. I'll tell you what I guess I think it is and you tell me. In your scenario where it goes to the API skimmer and is taken off, I can see where you're coming from. I'm not too sure if I agree yet or not, but I understand what you're saying. But what if in this situation where it's overflowing you have this release of materials, you can't now call it a product, you're going have to call it something else because it is not going through your recycling system. If you can't call it a product you have to call it a waste. If you call it a waste you've got to call it a hazardous waste. Now you have a

situation where you are releasing hazardous waste through your non-oily water sewer system. That's a concern.

My understanding of the whole process, the API is way down the line here, the sewer 500 where we've had this overflow situation is way up the line, and you have this material coming down the non-oily water sewer. I guess I don't know if you want to comment on that or not, but that is a concern now.

A. I'm trying to understand the exact question you want me to comment on.

Q. I don't know if it's necessarily a question I guess. I guess I'm just making that statement, that now is a concern.

A. You're correct in the API is quite a ways down. The manhole, are you referring to 500?

Q. Right.

A. Okay, I wanted to be sure we're talking about the same one. It depends on what is coming into that manhole. And coker pond water would come into that manhole. Beyond that I don't know the other exact flows. I know there's people around here that know all the exact flows. Beyond that particular flow I don't know if there was

anything else that came in there as opposed to that one. It was my understanding that one went to another area that then went down to the waste water treatment plant, so it may very well have been just coker pond in there. Again, I don't know if there were anything else, any other streams into that particular manhole.

MR. KRIENS: They are other ones we understand.

THE WITNESS: Okay. We would have to understand these constituents as to whether, okay, it may be designated an oily water sewer, but it may never see -- I could have an oil water sewer that may never see oily water. I'm not saying that's the case, I'm saying I don't know what other flows besides the coker pond water go directly in there. If that one goes in there then jumped over to the main line and then down to the waste water treatment plant was my understanding.

BY MR. KRIENS:

Q. There were other --

A. It went into that manhole?

Q. It goes into that sewer, into that sewer.

A. That manhole then takes a line over to another

one coming in.

Q. Right, picks up another one.

A. There's a whole bunch of other ones that go in, that go down the main line to the waste water treatment. I don't know if there's any other specific things that go directly into that, so when it overflows if that's just coker pond water or is that coker and something else or what is.

Q. It's something else, definitely something else. It had, actually, I think a flow, they could handle a flow up to 700 GPMs, which is over a million gallons, so --

A. I thought that was based on the problem on the main line and where everything came in the main line?

Q. No.

A. That was my understanding. That could be incorrect. We have to get the people, the right people.

Q. We have talked to them, yes, and there's other waste water. I think what we're -- just to go back to the particular concern, or not concern, but just our evaluation of this issue is that at times we saw, you know, that they're dumping

stuff down the sewers like naphtha that didn't seem an appropriate method to deal with it if there are other means to handle it, such as putting it in a truck or dealing with it some other way and recycling it back to the refinery system via tank 63 or whatever. And I understand that is built to accommodate that, all those types of waste, but that's a better way to do it.

A. There's alternatives for doing everything. That for me, I love to debate those and try and understand what is the best alternative, because it may say this is the best one until you get everything. Usually when you sit down and talk you may come up with third one that's best of all.

So I have no problem, I understand where you guys are coming from and I also see that as just being another alternative. We do utilize that alternative, but we also use the alternative of utilizing our sewer to transmit that material down there because it still is a safe and efficient way of getting it down there.

Q. We understand that, and then our corollary issue with that is the issue of the sewer integrity.

A. We'll know that.
Q. Whether it's getting there or not is the other problem we have. And then along with that was the overflows if that material happened to be in the sewer when an overflow occurred, and then you would have to associate with the location of this tank, you know, such as a naphtha or whatever, and whether that sewer was implicated. It may or may not be, but that was just the thought we had on that, too.

MR. BERGER: We'll have to get that information exactly at that manhole, whether that overflow is happening, whether there was or there is other flows coming into that line other than the coker pond.

MR. KRIENS: We do have that information. I don't know if it's necessarily worth pursuing or not, but we wanted to bring that up as a general practice, that we thought there were alternatives, a better alternative.

THE WITNESS: There are alternatives. Are they better? I guess that would be the argument.

MR. BERGER: I don't have anything else on that. Just one more item on the oily

water sewer, non-oily water sewer. This is a waste water treatment plant daily log, Steve, from 4/21 and 22 of '96. It's number 330. Under the comments section it has these two comments, it has the word caustic and then a dash, tank 304 to B5. Poly dumping 500 gallons per minute to NOWS. And then further down it statements poly units done with tank dump, now sending H20 from tank (indicating). Can you give me an interpretation what you think is going on there?

A. I'm not sure what it means. I don't understand what the poly is dumping. It says poly unit done with tank dump. I don't know. I see Todd is in on this, and I don't know if you talked to Todd and asked him what he might have meant.

Q. We have talked to Todd, and this is a report or log that we recently noticed.

A. Sorry, I have no idea.

Q. Can I ask you what you think is going on? Well, I can tell you what I think is going on.

A. Poly is doing something and they informed the waste water treatment plant, but I don't understand what the tank dumps. I'm not aware of a tank poly.

Q. The first sentence is the one I'm most interested in. It appears to me it's discussing a tank dump, tank 304, directly to B5 through the non-oily water system.

A. I don't know what tank 304 is. I don't know all the tank numbers to be honest with you.

Q. In previous interviews the person I believe said tank 304 was a caustic tank.

A. Tank 304 is a caustic tank?

MS. WIENS: He was someone that had never worked in --

MR. BERGER: But it does fit with the first word in the sentence here. That's all I'm saying.

MS. WIENS: I understand, but I just hate to use somebody that didn't know, but that guessed that's what it was.

MS. HAYES: We should probably find out for sure.

MR. KRIENS: When we break at 4:00 or whenever we could ask somebody to look it up. It should be fairly easy to find I would think.

THE WITNESS: I can look up tank 304.

MR. BERGER: Okay. That's all I

have.

(At this time a short break was taken.)

BY MR. KRIENS:

Q. I wanted to ask you first, Steve, about your experience in the process engineering area. Did that include unit operations and that sort of thing?

A. Some, the process engineering side of the operation.

Q. What type of work did it involve or did that include?

A. I'm not sure I understand your question.

Q. I guess what I want to ask about is we talked to Tim Rusch yesterday about various units and efficiencies, what the company's response is and timing of response if a unit like a cracker or a hydro treater or whatever it is becomes inefficient, the efficiency drops significantly, what the normal response of the company is to take care of that issue. So that's the question, if a unit becomes inefficient what's the normal sequence that's followed?

A. Well, from the standpoint overall you have the process engineer tries to go out and troubleshoot what do they think the problem

might be. And as you know, you always try and develop what the scenario is because it's all cause and effect type things. So you try and understand what the scenarios are and try to see what you can do to change that scenario, whatever that mechanism is to rectify it and put it back where it was. How long that takes depends on the situation, depends on what the reference is to. Like you said, if it's a problem in the FCC you may be able to speculate but you may never know. The yield efficiency changes. It may be a formulation or a catalyst and you're just not going to know because you're never going to get that information.

Q. If you had a efficiency drop of 50, 70 percent in the FCC for example, would that be something that would become alarming right away and you would want to take care of that?

A. Yeah, from the standpoint of would it be alarming, it would depend upon the specific operation and if it was affecting or impacting that particular unit greatly.

Q. That's what I mean, if it was, yes.

A. It was, sure, we would be looking at it. Your reference I'm sure is going to the sour water

stripper and looking at that, but from that standpoint there was a lot of eyes looking at that. Why is this separation not producing the quality of water on the downstream that it normally did. What was happening. It just -- as he watched it, we were watching the impact, we understood it, we were asking about it, we still weren't coming up with a reason why that was occurring.

Q. When you say you were asking about it, that was who?

A. I specifically asked once or twice throughout the fall. In fact, it was about the time we had our first violation in many times over the ammonia, we had the un-ionized ammonia and it was like well, what's causing these blips. Well, apparently we were having problems up in the sour water stripper area. What is causing it? Process engineering is looking at it, process engineering is trying to understand what it is that the problem was. They really didn't understand the problem.

Q. When did process engineering begin to evaluate that problem?

A. I don't know the date specifically. Sometime in

the summer of '96 is my understanding we first began looking at it because we were seeing some spikes.

Q. We had tried to understand that from Brian Roos and didn't get a definitive answer at all about when it began, so we're still trying to understand when the company actually began investigating it.

Does it seem reasonable to you that it would take ten months or so to resolve a problem of that nature when it was, you know, considerably inefficient?

A. Some answers are much more obvious as you get down the road than they are when you're in the middle of the situation. All I can say is we have some very well trained people, some very good eyes trying to identify what the problem was, and until we actually took one out of service -- in fact, we had taken one out of service, put it back into service on a turnaround, one of the sour water strippers came down and we did a quick turnaround on it, which is normally all it gets, put it back in service and we still end up with the problem. There was still no diagnosis as to what the issue was. It

was like having a common cold, what caused the cold. We don't know that.

Q. It was determined primarily scaling was the issue, which is a very common problem in --

A. Not for these systems, it was not.

Q. In heat transfer situations.

A. In heat transfer situations I will agree with you, that scaling and that is. We have not historically seen scaling in our sour water strippers. And that's why nobody looked to that particular problem or that particular mechanism as being a cause of the problem, because that was not something we had seen in the past. We had seen complexing due to pH, we had seen organics potentially cause it, checked out all that and that was not the issue, and nobody dawned onto the fact it could have been a scaling issue.

Q. Wouldn't scaling be a fairly common problem in strippers in general?

A. It depends on the surface to which you're stripping.

Q. Well, just talking in general, in a general textbook perspective here. Scaling, would scaling be a common problem with strippers?

A. Again, I would have to go back and look at the constituents of the material that I'm stripping, from that standpoint. I have what is called, quite frankly, in the fluid cracking unit, there's a unit out there called a fuel oil stripper, and what it does is it strips gasoline from the fuel oil stream so it moves it right inside of it. Scaling is not a problem there. So that's why I said I would have to go back and look at the specific material that you're trying to strip and understand what the composition is and then determine would that be a problem or not.

Q. I understand that, but I was just asking in general wouldn't scaling be deemed a relatively common problem that would cause inefficiency in a stripper?

A. I don't know if I can answer the question any better. It would depend on the constituents. You could have scaling on the steam side just as well. You're asking me to say should I have known earlier that scaling was not the problem here. I don't know. I was not the process engineer on that particular stripper. I've been a process engineer before on sour water

strippers, but I was not directly involved in the process troubleshooting of these strippers at this time.

Q. I understand that. I'm not talking about any technical involvement you had with the resolution of that. The question is really why does it take ten months to resolve a problem that is caused by a relatively minor issue, scaling or hardness in this case?

A. And sometimes that is indeed the reason why. It was a minor constituent that led to a problem. One of the analogies sometimes people talk about is the boiled frog syndrome. You throw a frog in hot water and it will immediately jump out. If you put that frog in a pan and turn up the heat slowly that frog will boil, it will never leave. You're sitting here scratching your head.

Q. I could never follow those analogies.

A. Just think of what you get used to if you wear scratchy clothes all day long, you would never know it, but if you go from something nice and soft to something scratchy you would notice it right away. That was one of these issues, that the scale formation it was occurring in the

reboiled area, it was occurring in the tray area. We are actually getting that in the tray area. In fact, I think I had mentioned to you in one meeting we replaced in -- out of one of the strippers I heard we replaced 30 out of the 40 trays because they were fouled with scale. And it occurs over a very long period of time and we never saw it coming.

Q. Right, although it must have been occurring for a long time as well. I mean, it just didn't accumulate to the point where it started, it must have been occurring, it did occur for a long time. I mean, it was occurring for ten months or so.

A. Whatever period of time it was that we had those particular high hardness streams in the strippers is when it occurred. It was not a cause and effect being able to be put in place to understand that that was causing a problem at the sour water strippers.

Q. Okay. I want to talk about the hydrant flushing issue, which we discovered had been occurring during our inspection in April. We initially heard about this from some complainants that indicated that it had occurred on one occasion.

A. You heard it first from us.

Q. We heard about it from you as well January 8 I think when we were notified of that January 4 incident, and then we heard about it later as well. That's why we went and did the inspection.

During our view of all the documents we found that there were, indeed, a number of hydrants discharges to land areas. During an inspection, however, at that time we only knew of the one that you reported to us January 4, that occurred January 4 of '97. When we were at the inspection we asked -- I asked if other discharges had occurred on land via the hydrants, and the environmental staff's response was they didn't know, that the safety department takes care of that. So then we went to the area where the January 4 release or discharge had occurred to the wetland or runoff pond area and asked that the safety people join us there so we could find out how this was done. They did that and we talked to Gary Ista and Chris Rapp at the time, I think, who discussed how the hydrants were used generally. We learned that normally the hydrants are flushed in the fall for

winterization or in the case of safety events or in the normal use of the hydrants in some containment areas, that sort of thing, that it would indeed be unusual --

A. Equipment cooling.

Q. Yes, equipment and that sort, and that a hydrant release to there would be abnormal.

A. Hydrant release to where?

Q. A discharge on January 4th would have been an unusual event.

A. Okay.

Q. And we learned from Heather also when I asked her, and she stated that it was to get rid of water. And the documents state that as well. Then we did discuss it with you and staff in our exit interview as well, and then we learned from Gary Ista that, yes, there were some other ones, he thought five altogether. So in our review of the documents we found a number of these that we have a concern with. I wanted to talk about those specifically. We've talked to other staff prior to you about a lot of this and received varying answers as to why they were discharged. Generally the answer has been that the water levels in the fire water basins were too high

and in danger of overflowing the dikes and that's why it was discharged. Upon further questioning and all that we, of course, learned that the water was high generally because of the practice of stacking, because of the ammonia difficulty at the waste water plant and so on.

When the did the environmental department become aware of this whole issue, this practice of discharging via the hydrant system?

A. We were first brought into the fray, and I don't recall the exact date, and it was something I wasn't aware of until recently that I could even discuss because it was a discussion with counsel. Back around November we were asked to get an opinion on whether we could use fire hydrants at any time and for the purpose of discharge. I reviewed that with counsel, and I guess from there it was my understanding at the time I couldn't discuss that at all without waving privilege. My understanding is now I can tell you the event occurred.

Q. What event are you talking about?

A. That I had discussions with counsel in November, essentially our attorneys in November to discuss the issue, but I can't tell you the content of

that.

Q. So are you saying then that somebody came to you to inquire about whether you could do that or not, is that what you said?

A. Right, right.

Q. Who was that?

A. I don't recall who or how it came out, I can still vividly recall the conversation and the people involved in the conversation with the attorney, but I don't know who first brought that to my attention. I just remember the conversation that we had after that. So I don't know, it could have been any number of people.

Q. So what you're telling us now is that you met or consulted with counsel in November of '96?

A. In November. My understanding at that time was I couldn't say anything about that at all without waiving privilege.

MR. VOYLES: At which time?

THE WITNESS: In November.

MR. VOYLES: You mean in April, don't you?

THE WITNESS: In April, I'm sorry, about the November conversation.

BY MR. KRIENS:

Q. That's what I'm not clear on.
A. So you had asked when we were aware of it, and the problem I was put in -- this was in April you asked when were we aware of it. The problem I was put in at that time was I had conversations with the attorney on this issue, and it was my understanding that if I said anything about that at all that waives privilege, and that's not my call to waive privilege. So I couldn't say when -- I couldn't discuss that we had a conversation in November.
Q. To waive what privilege are you referring to?
A. Attorney-client privilege.
Q. Between your conversation and your attorney?
A. Right. If I even mention the conversation it was my understanding at that time that could be brought in, and that's not my call, that's really another's call beyond me.

MS. HAYES: Is that the same thing, though as -- I just want to be clear, is that the same thing as when you're asked when your awareness of this happened?

THE WITNESS: That was the same time.

MS. HAYES: But, I mean, would it

technically be waving privilege to say that you were aware of this in like November?

THE WITNESS: As I understand it now, no. As I understood it in April that was my understanding, that it would waive privilege by saying that.

BY MR. KRIENS:

Q. So are you -- this is what I want to ask about with respect to just that, on May 8, '97, we had a meeting at the MPCA with yourself, Karen Hall, Heather Faragher, myself and Mary Hayes and Russ Felt. At that time we asked did safety ever discuss the issue for acceptability of flushing, spraying via the hydrants to land areas. Do you recall what your response was then?

A. I don't recall the question and I don't recall the response.

Q. That was the question, and the response was no, it was not discussed prior to January 4, the issue of spraying onto land.

A. If it was safety it may not have been. Again, I don't recall who brought the question to us. I remember the conversation with counsel.

Q. So are you saying then specifically because we phrased it as safety, because that was our

understanding, that was the department that took care of all this stuff, and now we understand it's different than that. But that's why --

A. I'm not sure who brought the question. Again, I tried to answer the question. Your reference was directed toward safety department and I was not aware who brought the question to me.

Q. When we were there in April then, that's how we were told about the incident, you know, it was with respect to January 4, we asked if there were others and we were informed that we don't know, the environmental department didn't know, that safety took care of that. Is that part of this attorney-client privilege or how does that fit in with that?

MR. VOYLES: No, he can answer that.

THE WITNESS: I don't know what the question was when you say -- safety does handle essentially the fire water ponds and the hydrants, so it depends on how -- I don't understand your question.

BY MR. KRIENS:

Q. Why would we be given an answer that states we don't know?

MR. VOYLES: In November when

someone, you don't remember who, asked you about this, were you aware that it occurred?

THE WITNESS: Not at that time. That was a question that was being asked, could we or couldn't we. I don't recall whether it occurred or not because I don't remember the date on which we discussed things.

BY MR. KRIENS:

Q. Let me go back. In April I asked, and when we were by the north fire water pond, if there were other incidents of hydrants flushing to ground areas other than January 4, and indeed there were after that January 4 and there were several before. That was my question. And the answer I received was we don't know.

A. Just left as that?

Q. We don't know, safety takes care of that, that was the answer.

A. So in other words, we should go back and talk to safety and get the real answer.

Q. Yeah, that's what the implication was. And I'm wondering --

A. Did we follow that up?

Q. Did you know at that time if there were other ones and why we were given the we don't know

answer.

A. I don't know what occurred then because I don't know exactly the question.

Q. The question is did you know of these previous ones?

A. Prior to the January one?

Q. Right.

A. I don't recall. Again, I don't recall whether any incident had occurred in November. I recall asking the question is this something we can do.

Q. So you don't know if previous or ones after that occurred, you didn't know about the February ones either, is that right?

A. I didn't say that.

Q. Well, that was the question we asked then. We asked the question were there other incidents of hydrant flushing or discharge to land areas other than January 4, and the answer we received, again, was from the environmental department, we don't know, safety takes care of that. So that was the answer we received.

A. Then there was obviously a -- it was misinformation or whatever. The implication there was let's get safety involved and have them tell us exactly what's happened. I don't

watch those fire hydrants daily, my staff doesn't watch those fire hydrants daily, the safety department does and they understand what goes on with them all the time.

Q. So are you saying that the environmental -- you mentioned that somebody came to you in November, so that implies to me that the issue at least came up.

A. The issue was discussed, I can say that.

MR. VOYLES: Did you know that it had actually been released at that point?

THE WITNESS: Not at that point.

BY MR. KRIENS:

Q. So when we asked the question in, going back to April, we did ask the question were there other incidents of flushing hydrants to ground other than January 4, and did you know then that there were or weren't.

A. You asked the question, you want a specific list. I could not give you a list, the best thing I could give you was a person that would know exactly when and where, and that would be the safety department.

Q. Well, the answer was we don't know. That was the answer.

A. Well, I don't have any information on that to say that. If you understood that's what I said then you misunderstood. Again, what I want to do is get safety involved and let them say who when and where. In fact, that's when we said let's have the conversation in here, let's have everybody, we'll get the right people in to talk about those things. It's hard to talk when you're out at an area that's -- you've got all kinds of people and all kind of distractions going on. That's why we wanted to talk about it in a room, make sure we had all the right people so when you ask the answer here it is, here's the answer. I apologize if you misunderstood that.

Q. I didn't misunderstand it, is that --

MS. WIENS: Was that list put together that day, that list that Gary sent, the same day, the list with all the dates?

BY MR. KRIENS:

Q. Right. I didn't misunderstand the answer, I'm just restating the answer. We don't know, safety takes care of that, that was the answer. So I didn't misunderstand it.

A. If I took your question -- well, I misunderstood

your answer, because you're asking for any and all specific dates, and there's no way I'm going to know every specific date.

Q. No, that wasn't asking for specific dates, that was not the question.

A. But that's what I understood you would want, a complete answer, not a partial one. I want to get you the best answer I can get. The safety department would have been that right source.

Q. Right. I just want to reiterate it, though. That was not asking for specific dates, we were asking if there were any other incidents of hydrant flushing to land other than January 4, and the answer was we don't know, safety takes care of that. So it wasn't asking for anything specific, it was asking if this was done. That was the answer, I didn't misunderstand it.

A. Then I misunderstood your question at the time or I wanted to answer it too completely. Again, safety department would have those dates as to when anything was done with those.

Q. Did you know -- were you aware of hydrant releases in February?

A. Yes, but not the dates.

Q. So when we were investigating that you did know

of the ones in February?

A. But not the dates.

Q. But not the dates, right, but there were others that occurred other than in January?

A. Yes.

Q. We met with Ruth Estes who discussed her recollection of a meeting that was held with Ruth, Heather Faragher, yourself and Brian Roos, and she initially thought that was sometime in the winter of '96-97, and later she believed it was in November of '96. Specifically it was related to this hydrant release January 3 and January 4 of 1996.

MS. WIENS: January 3 and 4 of '96?

BY MR. KRIENS:

Q. I'm sorry, I meant November 3 and 4 of '96. Do you recall that meeting.

A. No, I don't.

Q. Okay. She told us that during that specific meeting the discussion included an evaluation of whether it was better to discharge on land versus violating the permit limit. Apparently the permit daily maximum, she thought was the daily maximum, was in jeopardy of being violated, and the discussion therefore

surrounded this issue of that impending violation and whether this should be released to land. And as I recall from that she didn't remember what the exact resolution was. Do you remember any discussion of that?

A. I don't recall the meeting between the four of us.

Q. She thought it occurred in November and you and Heather and Brian Roos were involved.

A. It may have occurred, but I don't recall it.

Q. Okay. Are you aware of the hydrant discharges during November 3 and 4?

A. I am now.

Q. Do you know about the scheduled Bioassay test on November 4?

A. I know sometime in November we always schedule a Bioassay test, yes.

Q. I'll go through sort of the chronology that I had before and I'll try and do it real quickly on that.

September 21 -- that's the wrong one. On October 24 of '96 Heather wrote a memo to various staff that notifies that the Bioassay would be conducted beginning November 4 of 1996. This is it (indicating). Then we evaluated some

waste water treat plant operating logs, and I'll just kind of briefly summarize those. November 2 a log states that the flow from the S7 sump was cut back to less than three units backing water into B5. Then on November 3 an operating log states that special analytical samples were taken for TSS in ammonia and the results were 110 parts per million and 72 for TSS. Then the log states a copy of Heather's letter was dropped off to the shifties informing them of the toxicity sampling that would begin Monday November 4. Also it states the river flow again was cut back -- the flow to the river was cut back to 1.7 units backing up into B5 again.

Then on November 3 another memorandum from Dave Gardner with special results, and then a notation to limit flow to river to 2 units, and he states I hope those moves prove sufficient in light of tomorrow's annual toxicity testing. Then a November 3 operating log states that safety to open three hydrants in west tank farm on ground to help get rid of water, and water then was opened up during the evening, this was a log that began at 7:00 p.m., discharging water onto the ground via that to

the west tank farm.

We didn't have a notation of that in the information you provided us that day, but this was found via the operating log. And there is a notation in a safety log of November 4 that states flowing water in west tank farm west side of I Street. So this began sometime during the night, 7:00 p.m. going to 7:00 a.m. or thereabouts. At the same time that this was occurring the waste water plant was receiving a very high load of ammonia influent to the system. In fact, it is the second highest ammonia load behind one on December 22 during this year and a half period that Barr Engineering conducted their evaluation of the treatment efficiency for removal of ammonia.

So our concern here is that a Bioassay was beginning Monday morning, November 4, that day in the same period of time ammonia loads was -- very high ammonia loads was going to the waste water plant, and then the hydrants were discharged during the nighttime. We were wondering what that's all about. Do you have any comment on that whole scenario?

A. I'm not aware that those would necessarily be

connected. The Bioassay looks at concentrations and you're asking about flow. I'm not sure there's a direct connection there. Especially -- I mean, the other thing is we've got three days residence time in our polishing ponds.

Q. Well, that's the first thing that came to my mind as well. I wondered why would you do that, you know, and we didn't get an answer from Ruth Estes. The answer that we got in connection with this incident was that it was -- she didn't answer it this way, but she thought this particular one had to do with the meeting that was held, that it was done in order to avoid an exceedance on the discharge.

MS. WIENS: Steve wasn't there, but I was, and I don't remember that answer. I remember a different answer. We can go back and look and see what she said, but I don't remember that being her answer at all.

BY MR. KRIENS:

Q. Well, I'm just kind of going -- we talked about November and she thought the meeting discussing the issue of whether they should discharge via hydrants versus an exceedance of the permit

limit, she thought it occurred during that time frame.

MS. HAYES: We're talking about which would be environmentally beneficial.

MS. WIENS: I remember her talking about the conversation being around this time. I remember her saying that the ponds were high and they were going to overflow, and so that's why she discharged. That's what I remember how she responded to that question. That's a different question than when did the conversations take place, I understand that she said she had conversations around that time frame.

THE WITNESS: Again, it may be coincidental, but from a standpoint of connection, the Bioassay was done on concentration of the pollutants, not -- and really that's the issue, whereas management of the fire water ponds and management of the water system is really the flow side of that. So I'm not sure there's any direct connection other than coincidence at that point.

BY MR. KRIENS:

Q. Is it possible, however, given that, that in

consideration of the fact that the S7 sump on November 3 indicates an ammonia concentration of 110 milligrams per liter, which is quite high, that the polishing pond may have had concentration much lower than that prior to that?

A. Without having that data I don't know.

Q. Well, I think maybe we need to get into that and find that out. And that by deferring or backing it up into B5 you avoided introduction of higher concentration of ammonia water into the polishing pond system.

MS. HAYES: And in particular there's the memo from Dave Gardner on 11/3 that says you're limiting the flow to the river to 2 units and the quote is I hope these moves prove sufficient in light of tomorrow's annual toxicity testing. You know, we have to ask the question when you see that.

THE WITNESS: I'll also ask the question from the standpoint is there a specific date of which we're supposed to operate a Bioassay or run the Bioassay?

BY MR. KRIENS:

Q. The date was scheduled for November 4.

A. Well, I had one scheduled, but --
Q. I know, and it was actually delayed another week and we're curious why it was delayed.
A. Well, my question would be first of all is there a specific time flows should be run?
Q. No, there's no specific time.
A. I don't know why it was delayed. It was delayed, obviously there were reasons for it to be delayed. I would assume there would be very good reasons for it to be delayed.
Q. There is no specific time, but typically the way this operates is we go upon trust that a company will take it at a representative time and won't try to taylor that time to suit the operational situation at hand. You know, like sampling, we want a sample either to get a representative sample versus one that's not representative. So if this is representative of the discharge we would like to find out what's going on at that time rather than waiting for a period of time which it may be better. I don't know if it was, but that's what the whole intent of that is. I see on this actual sheet --

MR. ESPEL: There's a long discussion that follows on that as to what is

the point of toxicity testing and what you do if have a hit. You usually try and figure out why and get rid of it, so what's representative is a logical follow-up. That's a good round table and lawyers and everything else, there's a lot of discussion that could occur on that point.

BY MR. KRIENS:

Q. Yeah. This was marked out on our sheet (indicating), but we have another --

A. On the sheet you received?

Q. On the sheet we received, yeah. But I think it's probably from a marker that just copied it and blacked it out because it was highlighted, and sometimes they do that when you would send it to us. But here's the north polishing pond and the south polishing pond and here's S7. I believe this is ammonia here, I'm not sure though. This might explain something, I don't know. That's at a hundred and these are much lower concentrations (indicating). That's something we would like to find out, determine why that was done, why the water was released during the nighttime before the Bioassay test.

A. I don't have any information for you as to why it was done. Again, from a coincidence

standpoint flow versus concentration, we have had concentrations lower than that that have failed, we've had concentrations higher than that that's passed, so I'm not sure there's a direct correlation there.

MS. WIENS: We have talked to most of the people that were involved in that November, and I think particularly Ruth, and I think she answered all your questions about why she did it and who she talked to about doing it.

MR. KRIENS: Well, I want to ask Steve about it, too. He's the head of the environmental department.

MS. WIENS: Right, I understand, but the implication is that you haven't talked to people. Everyone that was there you've been able to talk to about discussions and when and why.

MR. KRIENS: Yeah, I mean, we've talked to a lot of people about it certainly. I mean, it's the process that we're going through.

THE WITNESS: As you know, you talk about the representative standpoint, you guys do kind of come in on an annual basis, do toxicity and Bioassays yourselves, just call us and come

on in and we set it up.

BY MR. KRIENS:

Q. All right. Here's the clear one, here's the S7 ammonia, which is 100 parts per million (indicating). The level that's in the polishing ponds were 31 and 18 parts per million, which were much lower. So if you're talking about a concentration basis in that case it would definitely affect the polishing pond and the Bioassay test if this water was allowed to go on into the polishing ponds, it would have concentrated the ammonia more certainly. So by diverting it back to the fire water system and discharging it onto land it definitely in my mind --

A. What was the amount diverted?

Q. We don't have that information. We would like to find out. Now, diverted is actually -- you could probably --

A. The Bioassay takes how long? Four days?

Q. Yeah. Well, the testing, yeah, is sampled over that period.

A. It's sampled over a four day period?

Q. Beginning on the first day.

A. And we would have to somehow -- what you're

suggesting is we would have to essentially discharge what, 3,000 gallons per minute all the time?

Q. Well, here's what went on, and I need to finish this because you've brought up this issue about how much was released. Normally you discharge three and a half million a day approximately. We didn't go way back, but beginning on November 2 the flow was cut to less than three units, which is roughly 1.6 million gallons. About 2 million gallons less than the normal flow. Then on November 3 cut the flow to 1.7 units, which is about a million gallons or about two and a half millions gallons less. So if you look at that and look at the concentration levels, S7 at 100 and 110 in this memo, and the polishing ponds at 31 and 18, diverting that water definitely had an impact on the concentration levels in the polishing ponds because they would have been higher had you not diverted that.

MR. ESPEL: Exactly what you're doing now is sort of after the fact reconstruction of some data. I think it would be fair to ask Steve if he had any of these

thoughts in mind or if there was any intentional connection of --

MR. KRIENS: I was. I was, but Steve brought up this -- brought up the point why would they do that because it's a concentration based test. And indeed it is, but this would show that it would impact the concentration.

THE WITNESS: This was not something I evaluated or looked at.

BY MR. KRIENS:

Q. Okay, but I was just responding to your question, that indeed that would have affected the concentration base.

A. I was thinking about the four day time frame and we were stacking water all the way along. I don't think there was a lot of freeboard to start with, so it couldn't have been stacked for very long.

Q. Well, no, but during the day of November 3 and the day before the test, and the day before that, November 2, you backed up water. It didn't go to the pond. It had high concentrations of ammonia, so it did affect the polishing pond concentrations. They would have

increased had they went there.

MR. ESPEL: Don, in terms of your question, I wasn't sure, but when you say backed up, I'm not sure if that stops the flow or --

THE WITNESS: No, it doesn't stop the flow.

MR. ESPEL: So I'm not sure that none of this water --

MR. KRIENS: It does. When they say cut flow they mean the stop flow from S7. Cut flow from S7 to less than three units. S7 is the waste water sump that pumps over to the polishing pond. So when they say cut flow, we determined this before, that means the only place it can go, because otherwise it can't back up into the refinery, the only place it goes is to B5.

MR. ESPEL: But does cut flow mean stop or reduce?

MR. KRIENS: It means reduce flow from the S7. The flow into the refinery --

MR. ESPEL: Reduce what is going to go through, that's what I was thinking.

BY MR. KRIENS:

Q. Right. The flow into the refinery -- into the

waste water plant remains fairly constant, roughly three and a half or whatever, and then the flow out, when they say cut flow from S7, that means they cut the flow from S7 which goes to the polishing pond. When that's done then it's backed up to the north fire water pond or B5. So in this case it did have an impact on the concentration base levels in the polishing ponds because if it would have went there it would have increased the concentration of ammonia in the pond, which definitely would have impacted the test because it's a test that is sensitive to ammonia in terms of the species particularly.

So that was kind of an answer to your response to my question how that could be a concentration issue. In fact, it was the way I read it. Just to follow up, when they say safety to open three hydrants on west tank farm on ground to help get rid of water what that means and who would be making a decision to do that?

A. No, I don't. It's just a note in the log. It says safety is doing that. I mean, obviously there was a decision made, but I don't know what

constitutes all the information into how that decision gets made.

Q. In this case we found out that Ruth Estes was the shift supervisor on duty that weekend and apparently ordered the release and discharge. We talked to her about it, and again, I don't recall exactly what she said in response, but I think she said it was due to the high levels or something like that.

A. She was probably watching freeboard I would speculate on that.

Q. Right. Is there a change of command then that you know of through the operations division or department that she would have to discuss that with, or does she just take that on her own volition?

A. As a shift supervisor she is charged with the responsibility to watch a lot of those items. They're given a lot of authority and a lot of opportunity to make sure things run right.

Q. Do you know why they would drop off a copy of Heather's letter to the shifties advising them of the toxicity sampling and testing that would begin on November 4?

A. Other than typical procedure, we try to keep

everybody informed of what's going on when we've got special testing. I mean, something is coming up we would let people know. If we're going to do stack testing and that, guys, do some stack testing. What we'll find out is people go out and either run a test run on our unit or suddenly change operations all over the map to make a different product in the middle of a stack test run, when we've had air emissions, you know, it was like, you know, we can't do that. You know, keep things steady, normal operation. That's what we want and that's really what the intent of the letter is, steady stated normal operation.

Q. I want to go back briefly so that I get this right. Ruth mentioned there was a meeting, she thought it was in November sometime, where it was discussed that the company should discharge through the hydrant on land versus exceeding the permit limit. You don't recall that meeting?

A. I don't recall that particular meeting at all. Again, the first time that came -- I can recall in my mind was literally on a telephone conversation that occurred with counsel. That's vivid in my mind.

Q. Are you aware in the consent decree there's damages or penalties, monitor penalties for those exceedances which would include the Bioassays test after a period of time?
A. Yes, I am.
Q. All right. Let me talk about the February one. On February 25, 26 and 27 there was a release of waste water via the hydrant system. And we obtained that information from the safety logs, and I think it was around a little over a million gallons discharged according to those logs. And also I want to point out that it's our understanding from discussions with your staff that these are not necessarily inclusive of all these hydrants releases necessarily because records weren't kept for all of these. We found that to be the case because we found instances of the release or discharge from operating logs that weren't in the safety logs.
A. I would have assumed that the safety log would have been complete. But if you saying that it's not --
Q. It's not. On those dates do you know anything about those? This would have been after the January 4 one when I assume you had discussions

concerning discharges.

A. We had had discussions whether that was an allowable practice or not. Again those discussions were part of -- stop me if I get too far, Counsel, but that was part of previous conversations with counsel to make the determination, utilize your legal folks to understand where the line is and how close you could get to the line. We understood that was an acceptable practice, that was discussed and it was used. Again, we watched that very closely to make sure we would not violate a reportable quantity for ammonia and for the other things that would have reportable quantities associated with it.

Q. So are you saying then that these were released or discharged from the hydrants in order to avoid the violation of ammonia limit?

A. No, I'm not saying that.

Q. Are you aware during that month that the monthly average loading was very close to the permitted limit?

A. Yes, it was close. Yes, I'm aware of that.

Q. Has the company calculated to determine if they would have discharged these and perhaps even

ones before that may have affected that to see if the limit would have been exceeded?

A. I don't recall if there was a calculation on those lines or not for those. I don't recall that.

BY MS. HAYES:

Q. Are you saying that it's just a coincidence that you discharged from the hydrants? I mean, it's coincidental to the fact you were close to your limit?

A. This was definitely a water management area. Freeboard was a problem, stacking was a problem because of the problems we had in the waste water treatment plant. I'll make no bones about that. I mean, the facts and day, you watch it.

Q. Isn't it kind of the same thing as saying, you know, that you aren't putting it across the -- across the street to the designated outflow because the levels are so high that you are concerned about that?

A. We're always concerned about permit limits. I mean, that is indeed what we're trying to do here, to make sure we remain in compliance. You've got a situation here that you say gee, if I do nothing else but sit back there with my

arms folded and my feet up and say sure, go ahead and go to the river we're going to have a violation. What we were trying to determine was what was the best solution that kept us in compliance. We looked upon that as a way of remaining in compliance. I'm not just talking about in compliance of permit limits, but in compliance with the environmental issues that we are charged with watching.

BY MR. KRIENS:

Q. So you're saying it was a water management issue?

A. Right. That's why we watch the RQ side of that.

Q. I want to talk about the RQ and environmental compliance. When you say it was stacked and it was a freeboard issue, so what was the problem then? Why was it a freeboard issue at that time?

A. The water levels were high.

Q. From what?

A. Obviously from the operating problems in the plant.

MR. VOYLES: Were there any other events in February to cause water to be high?

THE WITNESS: Some rainstorms in the

middle of January plus snow melt that had occurred at the same time. If you go back and look we had -- they weren't in the magnitude, I don't think, of the ones we had in June of 10 inches, but they were very significant. We also had a very warm January where we had a sudden snow melt, that's why we got rain instead of probably a gazillion inches of snow.

BY MR. KRIENS:

Q. Are you aware of the fact, though, that during that month the water was -- the flow was cut from S7 very often? In other words flow was cut from discharging to the river and was backed up?

A. We were actively trying to manage to stay within our permit constraints. The last thing I wanted to do was see a permit down at the waste water treatment plant, have that blown or any other compliance events occur. That means reportable quantities, because they were going to report them all. If they occur we report them.

Q. Did you report these down here before that?

A. If we would have been over reportable quantity we would have reported those.

Q. Were these analyzed to determine if they were reportable?

A. The one in January I'm sure was not.
Q. How about the one in June of '96, November 16, 17, were those evaluated to determine --
A. They were probably not evaluated. Don't know if we had looked totally at that situation at the time, but with the ammonia level being low I don't think it would have been a problem anyhow.
Q. Were any other constituents analyzed in that waste water?
A. We looked at the reportable quantities for ammonia, phenol, chrome six and mercury.
Q. Any other constituents?
A. At that point, no.
Q. We talked earlier about the continuous --
A. Not that I recall.
Q. -- very frequent oil overflows of the oily water sewer to the clean water sewer which goes to B5.
A. Which was explained to you already.
Q. Right. But often there were other contaminants in there. And this water comprised of source, at least initial source or the very source in fact, of these hydrants releases?
A. Again, did we recognize those as being contaminants? No, we did not.
Q. So these hydrant discharges weren't analyzed for

any constituents then?

A. No.

Q. When you go back to determine a reportable quantity or anything else, the February 25, 26 and 27 hydrant discharges were analyzed, is that correct?

A. We analyzed?

Q. For the parameters you discussed.

A. We knew the amount of the parameters and we had guidelines of which to then make sure that if there were uses of the fire hydrant system for the flushing that we would not exceed the reportable quantities. Again, it was our belief at the time the fire water system was ours to use however we wanted to use.

Q. Were there any other overflows prior to February 25, 26 and 27? I guess we discussed those, there were a lot of overflows that went into that pond. Did the company view this as a preferable environmental option, to discharge and violating a limit, or what was the basic reasoning behind that?

A. The basic was to remain in compliance. The basic intent here is to remain in compliance with all environmental requirements, not just

one, not just a concern, not a permit limit, we've got statutory requirements, we have a lot of things we try to remain in compliance across the board. I don't know how to state that any clearer. That's the reason the RQ issue came up, because we wanted to remain in compliance.

I mean, again, we felt the fire hydrant system was ours, it was ours to do with, the water -- it had all been permitted in part. It was not an issue that we were doing anything else wrong because the fire hydrant system was ours as we understood it. Therefore our thought process is well, it's ours up to a point, don't exceed the reportable quantities because at that point then it has the potential for environmental harm, which the federal regs recognize.

Q. Environmental harm with respect to what?

A. How else would the -- the reportable quantities are in there because it has the potential.

Q. For harming what media? Where?

A. I didn't read the preamble on reportable quantities.

Q. My understanding of reportable quantities in that situation relates to waters. Isn't that

the basis of that?

A. I'm not sure that is. The reportable quantities are there, and the reason they are there is EPA believes that that has the potential to do harm. So we wanted to remain below those so we could assure ourselves we're not going to do any harm to the environment.

Q. Did you evaluate any other contaminants in this other than the ammonia and the chromium and so on?

A. No, not that I recall.

Q. And did anybody else -- you know, who would be involved with that analysis to determine whether that was a suitable environmental option?

MR. ESPEL: Other than counsel?

THE WITNESS: I was going to say, counsel is who --

BY MR. KRIENS:

Q. I'm talking about technical people to determine if that was a good option or not technically.

A. Well, because of the involvement with counsel across the board to try and understand this, I don't know how much further I can go.

MR. VOYLES: Tell him who was involved in the policy decisions other me and

Larry?

BY MR. KRIENS:

Q. I don't need to know the people, but did technical staff have a --

A. Yes, we were part of that, technical and environmental staff were part of that.

Q. What was done with respect to determining whether that was a good approach evaluating that?

MR. ESPEL: I have to limit -- I mean, other than counseling with lawyers. The discussions that happened with lawyers I have to rule out of bounds.

BY MR. KRIENS:

Q. That's fine. Was there any technical evaluation to determine if that was a good environmental option on any of these occasions?

A. It was done at the -- we did a lot of things at the request to try and understand that, but it was all done with counseling.

Q. So you can't share any of those technical evaluations to determine if that was a good option?

A. Help me out here because I don't want to cross over a line.

MR. ESPEL: I'm not sure -- I want to be able to provide information, but I'm not sure there are a lot of other facts that there are to talk about other than what's already been discussed.

BY MR. KRIENS:

Q. Let me throw out a couple. I wanted to finish that because it appears to us that the water was discharged because the limit was in jeopardy of being exceeded. It was very close to the top. The water was -- irregardless of whether it was a decision that was made specifically, the water was stacked, backed up because of the problems there. So if it was released, went out the hydrants instead of going to the discharge, it would have impacted the loading to the river and the limits would have been affected, your calculated monthly average would have been affected. So that's our issue with that.

The other issue is really the environmental appropriateness of discharging waste water that could be composed of other contaminants because of very frequent overflow of processed waste water into that system. And so you're not just looking for ammonia as a

reportable quantity issue, you're looking for problems with these other contaminants. Disposal of waste water on land in the wintertime is just not a good environmental option because you get virtually almost no treatment. Did you look into that, that type of evaluation?

A. Other than the four constituents we talked about, that's what I recall doing.

Q. So you looked into the ammonia treatment alternative, and what did you find with that at that time?

A. Again, guidelines were established based on the concentration of the ammonia in the water so as not to exceed the reportable quantity.

Q. I'm not talking about reportable quantities. I'm talking about --

A. But that was our basis, our reasoning.

Q. Did you look at the ability of ammonia to nitrify in soils in the wintertime or the possibility of traveling down through the soil because of the lack of nitrification?

A. Well, the RQs were established for either air or water, it's not specific, and from the standpoint of nitrification --

Q. That's not the question.
A. If we're talking about frost lines being in place, the frost line is already down four to five feet, so --
Q. I'm not talking about that, I'm talking about the ability of bacteria to nitrify during that time of year.
A. No, we did not evaluate it nor would I think the water would percolate down when the frost line was in place.
Q. The frost line wasn't in place.
A. In January?
Q. Not this past year. The soil, in fact, wasn't frozen during this period of time.
A. I might argue that.
Q. I can tell you definitively that's not the case.
A. You're saying there was no frost line in Minnesota this last winter?
Q. Yeah. So there wasn't a complete analysis of the waste water, but you did analyze the components for possible RQ exceedance?
A. Correct.
Q. You did look at the environmental suitability, is that right, but not the nitrification aspect?
A. Correct.

Q. And whether ammonia would be treated in the soil and removed?
A. Our basis was the reportable quantity. Anything less than that would not constitute a problem.
Q. Was the site evaluated with respect to slope, runoff problems, that sort of things?
A. Not at all. In fact, we were under the impression it was being done in a different area.
Q. That I'm not following.
A. The area that was being -- the area of the discharge was more around where the west storm pond was.
Q. The west tank farm?
A. And the west tank farm.
Q. And that was where it took place?
A. My understanding is it did not. And I don't know the date of which one discharge occurred around that tank, the 133 area, into the runoff pond.
Q. That was the January one. I'm talking about February.

MS. WIENS: You think he's still talking about February?

THE WITNESS: I'm sorry. Okay.

BY MR. KRIENS:

Q. I think February was the west tank farm.

A. We did not evaluate locations, no.

Q. Or sites, slopes, runoff?

A. No.

Q. Soil types, was anything like that evaluated?

A. No.

MR. KRIENS: Let's take a break.

(At this time a short break was taken.)

BY MR. KRIENS:

Q. Steve, I wanted to refer back to this November 3, '96 operating log that Koch submitted to us in the documents. It's document 00825. Why were those actually blacked out so we couldn't read really what that is?

A. I know Greg had another copy, but I do not know why it was blacked out, if they were highlighted or what.

MS. WIENS: I could run and get it.

MR. KRIENS: We have a -- That's what I'm asking. We have a copy that didn't come from you --

MS. WIENS: It might have been highlighted. I mean, I could get it and you could look at it. Maybe it was highlighted

before we copied it, I don't know. If you want I can get it.

THE WITNESS: There's no sheets we went through and blacked, I think it's as we indicated, because of the copy. If there was something that was illegible let us know and we'll make another copy so it is legible.

MR. KRIENS: This is a copy of the log, the original log copy, which is the same as yours, but yours has that blocked out. We're just trying to figure out why.

MS. WIENS: Somebody may have highlighted after that, somebody could have highlighted it. I have them in an office and I could grab them.

BY MR. KRIENS:

Q. That's okay. It's not an important issue. Just a brief question.

When we talked about the hydrant discharges was this discussed with your upper management at any time?

A. No.

Q. Who do you report to?

A. Tim Rusch.

Q. Was he aware of any of this activity, the

hydrant discharges or did you discuss it with him at any time?

A. I never discussed any of that with Tim.

Q. We want to follow up also on an allegation made to us concerning spill reporting, and the allegation is that there was some sort of unwritten policy which people who discovered spills were told to minimize the quantity so it wouldn't exceed the five gallon spill criteria which requires notification. Do you know of anything about that?

A. I am not aware of any unwritten policy to that effect. In fact, if I were aware of that I would get that corrected immediately. That is not the way we do business.

Q. I wanted to mention it was an allegation and I'm just following up on that allegation only. I'm not saying we recognize that at all.

Do you know about a barge dock spill that occurred I think at tanks 200, 201 and 202? These are tanks located down at the barge dock where there was a spill of those tanks and it was cleaned up in some fashion?

A. There were three tanks down by the barge dock. I'll assume for the moment that's -- I don't

know the numbers, but I'm not aware of this spill. Do you know when?

Q. I'll have to pull it out of the log.

MR. BERGER: It's not a log.

BY MR. KRIENS:

Q. Maybe I'll follow up with that later. I have the specific dates on it somewhere here.

With respect to -- we asked Mr. Rusch yesterday about how the environmental department may function in the future to deal with the problems we found, and could you elaborate on that and discuss how that might be changed or what you're going to do about it?

A. From a standpoint of a reorganization, we kind of have tried to evaluate what kind of jobs, what kind of opportunities are we capturing, what ones are we missing or anything along those lines. We do try and understand that, what's the best way of doing that if an incident comes up or how do you transfer information. The best way to do it is first of all have perfect information out to the operators overall. They need to understand what they're required to do, how they can remain in compliance and perform their duties as they're charged. What we found

out is similar to a safety model that we looked at, we looked back prior to 1990, 1991, and our lost time injury rate was six to ten times higher than industry average for refineries. We had a very good safety department, and they were good, but the ownership for safety belongs in the safety department, not in the people's hands. I mean, when somebody says well, that's a safety problem, don't bother me I've got a job to do, safety department will take care of that. That doesn't work.

It was when we suddenly decided everyone needs to be responsible for safety that we were able to achieve drastic improvement. Today we are currently at industry average. Should we celebrate that? Certainly we ought to celebrate it, but it's not good enough. The way we got there was to get everybody involved in safety to understand it's your responsibility. If you see an unsafe act then stop the job, do whatever you do, get it fixed, get it done. It's no longer safety is someone else's responsibility, it's all of our responsibilities.

What we need to do now is try to get that to be ten times less than industry average and

then we'll truly feel we've done something. I mean, we have done a lot in a couple of years, but we really have more. The same thing applies to the environmental model. If we have 15 or six or ten or 20 environmental staff, if we're the ones that are trying to do it and doing it alone and do it in a vacuum it ain't going to get done, and it's not going to get done efficiently. So what we're going to end up with hopefully is about 600 environmental people. They're going to be able to understand what they're responsible for, it's going to be in the hands of the people turning the valves and cleaning up the spills. It's going to be in their lands to understand all this.

Along those same lines though, we're going to have, we as an environmental group are going to continue to exist from the standpoint we need to understand the strategy we need to implement to make sure we get them in place. We have to develop systems around that, we have to do the training of these 600 people to bring them up to speed. There's a lot of them that don't understand what they need to do yet. We felt we had done training, but we may not have

been adequate in that. We have to get them up and then we have to go back and check to see if the training was good and the system we put in place and the strategies we're using are going to be successful. That's what we're planning on doing with our reorganization. We hopefully will become essentially what we want to be, the world class operator in the communities around. The health risk assessment that we did was a big step toward that. We wanted to understand what our emissions had in the way of impact to the public and community. That was the most extensive one in the state and may very well have been the most extensive in the country.

As part of the Title V we're going to continue to update that. No one else in the state has done a risk assessment and continued to update it. That is a step we want to continue to do. We want to look at the infrastructure throughout the plant. Those are the projects we want to pull back and say okay, operations is going to watch the day to day stuff, we're going to make sure we've got our hands on all this other. Directionally that's where we're going. We think we end up not with

just 10 or 15 or 20 people, we end up with 600.

Q. Are you going to reduce the environmental staff number itself?

A. The direct environmental staff is being reduced, but from a standpoint we're going to use contractors to supplement. For example you look at overall some of the things that we do, and we will gear up to do a one-time only report, let's say a regulatory requirement says come in and do a full survey that might take three months. You know, benzene E shaft was a great example. Do we have people on staff that we should gear up to do that report? No, we shouldn't. We should go out and hire a contractor and say come in, we'll manage that with them and understand it. Let them do it and then give us the data so we understand it, in a form we can understand and implement and then we can send them back. That's the kind of stuff where we're going. Major permitting options, should we have a huge staff to do major permitting? We only do major permits two or three times a year. We're probably not going to have someone on staff to do major permitting. We're going to have someone on staff that will be knowledgeable to

the standpoint they understand how it works and what they need to do and what the steps are we need to do, but let outside contractors fill those voids. So that's where we're going.

Q. I just have one other thing real briefly, and that is going back to the hydrant discharge subject again.

In October of 1994 the operating logs, a series of operating logs, state that there was a discharge of hydrant water to get rid of green water. One of the logs state, and I don't want to get them all out right now, but one of the logs state that safety was ordered to get rid of water, get rid of the green water through the hydrants and they sprayed it on land. Do you know anything about that particular incident? We've discussed it with people here, and some people recall the green water problem that was throughout the plant and they tried to deal with it in various ways with respect to treatment through hydrogen peroxide and looking at how it could breakdown through sunlight and that sort of thing. Eventually it was discharged by hydrants. I'll run through it real quick. It was in October of 1994, and the operating log

states the whole plant is green, October 9 of '94, shifties set game plan for green water, shifties talked to Steve David about color, the log discusses the use of sunlight to break color, also a bench test using peroxide at medium concentration to a break color and so on.

October 11 an operating log states high chromium six, hexavalent chromium at S7 lab result. Then it talks about Seventh Street sump spilling over into the coker pond, green water in channel. October 11 and 12, coker pond channel still green. October 12 the log states green dye may be contributing to higher hexachrome readings per Craig. We talked to Craig Daniels about that, and apparently there was a dye, a fluorescein dye, green dye, that peaks out at about the same absorbance or the same wavelength rather, on the ion chromatigraph for that dye and very close to hexachrome. We looked into that, and in fact, that's the case, it does peak out real close. So Craig was correct in that. In fact, it may have been a green dye causing the green water. It seems logical to us that it probably was.

But then October 12 and 13 operating logs

states safety has orders to spray fire hydrants it get rid of green water. Just to finish, do you know anything about that?

A. It has my name mentioned in there, but I'm not recalling an incident three years ago. I remember there was a discussion about interferences briefly, but I can't even recall any specifics on the discussion. If fact, that might have been prior to -- that's back when we were using the old hexachrome test.

Q. Probably was, yes.

A. But I don't recall any specifics. The allegation was essentially they got rid of all the water?

Q. It doesn't say you got rid of all the water. It states in an operating log on October 12 and 13 at 1920, which I guess is 7:20 in the evening, safety has orders to spray fire hydrants to get rid of green water. Told them -- this is in the log, told them to pull from south pond, B5 at normal level now.

A. Sorry.

MR. KRIENS: Okay. I'm finished.

(Whereupon, the interview concluded at 4:50 p.m.)

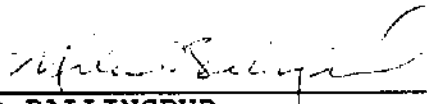
STATE OF MINNESOTA)
) Ss:
COUNTY OF HENNEPIN)

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 STEVE DAVID, 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 21st day of November, 1997.



MILO BALLINGRUD,
Notary Public, Hennepin County, Minnesota
My Commission Expires January 31, 2000.