UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7

In the Matter of:	:	
	:	
LOWELL VOS	:	Docket No. CWA 07-2007-0078
d/b/a LOWELL VOS FEEDLOT	:	
WOODBURY COUNTY, IOWA	:	VOLUME VI

Fourth Floor Courtroom
United States Courthouse
123 East Walnut Street
Des Moines, Iowa
Monday, September 22, 2008

The above-entitled matter came on for hearing at 9:30 a.m.

BEFORE: WILLIAM B. MORAN, Administrative Law Judge

ORIGINAL

THERESA KENKEL - CERTIFIED SHORTHAND REPORTER

APPEARANCES:

For the Complainant:

J. DANIEL BREEDLOVE, ESQ.
Assistant Regional Counsel
Region 7
Environmental Protection Agency
901 North Fifth Street
Kansas City, Kansas 66101

MARK A. RYAN, ESQ.
Assistant Regional Counsel
Environmental Protection Agency
Idaho Operations Office
Region 10
1435 North Orchard Street
Boise, Idaho 83706

For the Respondent:

ELDON McAFEE, ESQ.
Beving, Swanson & Forrest, P.C.
321 East Walnut Street
Suite 200
Des Moines, Iowa 50309-2048

I N D E X

E X H I B I T S

P R O C E E D I N G S

THE ADMINISTRATIVE LAW JUDGE: Good morning. Today is September 22nd, and, frankly, I forget whether we were on redirect or whether Mr. Ryan had completed his cross. You're still on cross?

MR. RYAN: Yes, I am, Your Honor.

GERALD HENTGES,

called as a witness by the Respondent, having been previously first duly sworn by the Administrative Law Judge, was further examined and testified as follows:

CROSS-EXAMINATION (Resumed)

BY MR. RYAN:

Q. Good morning, Mr. Hentges. I hope you had a good weekend.

A. Yes. Thank you.

Q. Now, in your curriculum vitae, or your resume, whichever you would call it, which was attached to your expert report, which is Respondent's Exhibit 8, I see that you--and I believe you testified generally to this effect at the beginning of your testimony--that you are--that you spent a lot of your time working on things such as pesticide spill studies and mining and drilling; is that correct?

A. Yes, sir.

Q. I see no--and is it safe to say this curriculum vitae represents the bulk of your work?

A. No, sir, it's--I mean, in almost 30 years now, it's not quite possible to get everything into a two-page resume.

Q. But it generally reflects the bulk of your work?

A. It does reflect a lot of what I've done.

Q. I see no reference to ag issues on this curriculum vitae; is that correct?

A. There may not be.

Q. And I see no references to feedlots?

A. I believe you're correct.

Q. Now, you would agree, would you not, that Iowa--you live here in Iowa; correct?

A. Yes.

Q. You would agree, would you not, that Iowa is generally an agricultural state?

A. Yes.

Q. It's one of the biggest industries here, if not the biggest?

A. Yes.

Q. And you would agree, would you not, that agricultural activities extend from one corner of the state to the other?

A. Yes.
Q. And that, for example, corn is planted widely throughout the state?
A. Yes.
Q. And soybeans?
A. That's correct.
Q. And other crops?
A. I would agree.
Q. And that--would it surprise you if one of the prior witnesses in this case, a Mr. Hayes, stated something to the effect that most streams in Iowa run through agricultural areas?
A. No, that would not surprise me.
Q. And would that account for such things as elevated ammonia levels in those streams?
A. Yes.
Q. Now, you stated on your direct examination that in your opinion average background ammonia levels in Iowa were one to six milligrams per liter; is that correct?
A. Yes.
Q. And is that published anywhere, that figure?
A. It may be.
Q. But you don't know?
A. No.

Q. I'm going to hand you what I've marked for identification as Complainant's Exhibit 57. I've written C-57 in the upper right-hand corner of that document.

MR. RYAN: For the record, this is a document I printed off of the Iowa DNR website last night. It is a six-page document. And on the first page above a picture it says "Agencies, Industry, Sportsmen and Landowners Come Together For Unique Wetland Development."

BY MR. RYAN:

Q. Do you see that?

A. Yes, I see that.

Q. Will you please turn with me to page 2 of this document. And I would direct your attention to right in the middle of that page 2 where the sentence starts "Lower Rock Creek." Do you see that? It's right in the middle of the page. It says, "Lower Rock Creek sampling indicated." Do you see that sentence?

A. Yes.

Q. Could you read that sentence for me, please.

A. "Lower Rock Creek sampling indicated that the stream was carrying 2 milligrams of ammonia per liter of water when 0.1 milligrams per liter was

common for most Iowa streams."

Q. You would agree, would you not, that the IDNR considers 0.1 milligrams per liter to be the typical background for Iowa streams?

A. I would agree that Bob Sheets feels that way. I don't know what he's basing that on, likely his measurements.

Q. During your direct examination you spent some time talking about the photographs that the EPA put into evidence, the ones you reviewed, and you talked about what you considered to be the inconsistencies in those photographs. Do you recall that testimony?

A. Yes.

Q. You would agree, would you not, that photographs don't always show everything that exists in what they're trying to depict?

A. Yes.

Q. You would agree, would you not, that the person taking the photograph--the person who's there witnessing whatever the photograph is of generally sees more than the photograph shows? Wouldn't you agree with that general statement?

A. I would agree with that general statement.

Q. You agree you weren't there when those

photographs were taken?

A. Yes.

Q. And you would agree that, for example, a photograph can't depict snow melt?

A. Yes.

Q. You agree when you're photographing the site, you don't photograph everything, do you?

A. No.

Q. So it's possible for a photographer, an inspector, for example, to take a series of photographs that won't necessarily show 100 percent of what that inspector saw; isn't that possible?

A. Yes, that's possible.

Q. And isn't that likely?

A. Yes, it's likely that he wouldn't show 100 percent.

Q. So when we look at those photographs, and you said, for example, on--with respect to Exhibit 28, photograph 3--excuse me--photograph 6--feel free to pull it out, if you'd like.

THE ADMINISTRATIVE LAW JUDGE: This is Complainant's Exhibit 23--

MR. RYAN: I'm sorry. 28, Exhibit 28. I misspoke. It's 28, photograph 6.

THE ADMINISTRATIVE LAW JUDGE: And just tell

us, Mr. Hentges, when you found that.

THE WITNESS: Yes, I found it.

THE ADMINISTRATIVE LAW JUDGE: Okay. Thank you.

BY MR. RYAN:

Q. When you were testifying regarding photograph 6, you'd just previously testified regarding photograph 5?

A. Yes.

Q. And I believe you stated you couldn't tell what was in the middle?

THE ADMINISTRATIVE LAW JUDGE: You couldn't tell what, sir?

MR. RYAN: What was in the middle.

A. Yes.

BY MR. RYAN:

Q. So you would agree, would you not, that the photograph--the person who was standing there would have known what was in the middle? Would you agree with that statement?

A. Yes.

Q. And if he testified here in open court what he saw, that would be a better explanation than what these pictures necessarily show?

A. Yes.

Q. Later, with respect to the March 11th, 2008, photographs, you were asked the question--I may be paraphrasing here slightly so please correct me if I'm wrong--you were asked whether you saw any evidence of a pollutant reaching the unnamed tributary in those photographs. Do you recall that?

A. Yes.

Q. And you said no. What is your--what do you define as a pollutant?

A. Well, pollutants have a wide variety of definitions. I assumed that in this particular case the pollutant under discussion was manure.

Q. So you were looking only for manure?

A. Yes, manure, or signs of manure.

Q. So when you were asked the question if you saw any evidence of pollutants in the unnamed tributary, you were only looking for manure?

A. Yes.

Q. Now, would you agree that fecal coliform would be a pollutant?

THE ADMINISTRATIVE LAW JUDGE: You have to speak up.

MR. RYAN: I'm sorry, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Would you agree that what?

BY MR. RYAN:

Q. Fecal coliform is a pollutant?

A. Yes.

Q. Can you see fecal coliform with the naked eye?

A. No.

Q. Would you agree phosphorus is a pollutant?

A. Yes.

Q. And can you see phosphorus with the naked eye?

A. No.

Q. How about the same for nitrogen?

A. Yes.

Q. Nitrogen is a pollutant?

A. Yes.

Q. Can you see that with your naked eye?

A. No.

Q. In fact, can you see most dissolved pollutants, dissolved in water, with the naked eye?

A. No, you cannot see most.

Q. If there is no water there--dissolved pollutants would be carried away with the water; is that correct?

A. Yes.

Q. If you're looking at a dry channel, it's

really impossible to say if there was any dissolved pollutants that had been in that channel at the time you're looking at it; isn't that correct?

A. Yes.

Q. Now, on Exhibit 24, which we--excuse me. That's the wrong number. Excuse me one second.

THE ADMINISTRATIVE LAW JUDGE: You have to--let's go off the record.

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: Let's go back on the record.

MR. RYAN: If I may have one second, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Sure.

BY MR. RYAN:

Q. Mr. Hentges, would you please turn to Exhibit 42.

THE ADMINISTRATIVE LAW JUDGE: I think that's going to be in another volume.

THE WITNESS: Yes.

THE ADMINISTRATIVE LAW JUDGE: Yes.

BY MR. RYAN:

Q. Do you have Exhibit 42?

A. Yes, I have.

MR. RYAN: For the record, 42 are the color

photographs on July 1st, 2008.

THE ADMINISTRATIVE LAW JUDGE: Not my Exhibit 42.

MR. RYAN: Is yours the one, Your Honor, that's marked March 11th, 2008?

THE ADMINISTRATIVE LAW JUDGE: Yes.

MR. RYAN: You'll recall that was an incorrect marking on the one set of exhibits that were corrected later.

THE ADMINISTRATIVE LAW JUDGE: Mine were not corrected.

MR. RYAN: We can take a break now and correct it for you quickly, or--we had a discussion of this on Friday. I believe the record will reflect these were taken on July 1st.

THE ADMINISTRATIVE LAW JUDGE: The numbers and pictures are the same, just the date--

MR. RYAN: Yes.

BY MR. RYAN:

Q. What is the date on the pictures on your copy of Exhibit 42?

A. They all appear to be July 1st, 2008. Yes, July 1st, 2008.

MR. RYAN: Your Honor, may we go off the record for one second?

THE ADMINISTRATIVE LAW JUDGE: Sure. We're off the record.

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: Let's go back on the record.

BY MR. RYAN:

Q. Mr. Hentges, could you please turn to Exhibit No.--excuse me--photo No. 5 in Exhibit 42. I believe you testified regarding this wet spot here?

A. Yes.

Q. And, once again, you would agree you were not there at the time this photograph was taken?

A. Yes.

Q. And you were not there to smell anything emanating from this wet spot?

A. Yes.

Q. And you testified that you did not see manure there. Do you recall that testimony?

A. Yes.

Q. Now, you also testified that when you visited the site approximately a week or two ago, that you did not walk down this flow path during your site visit; is that correct?

A. That's correct, I did not.

Q. And you were also asked on direct

examination by counsel whether anything would definitively prove what this wet spot was, and I believe you testified that a sample would. Do you recall that?

A. Yes.

Q. But you didn't walk down here and take any samples yourself, did you?

A. No.

Q. Let's please turn to the same exhibit, let's please turn to photo No. 11. That would be Exhibit 42, photo No. 11. Do you have that in front of you?

A. Yes.

Q. And I believe you testified that this flow path that we're looking at here in this whole series of photographs in Exhibit 42 was larger this year because of higher precipitation. Do you recall that testimony?

A. Yes.

Q. So by using the term "larger," you're implying that it was present before, aren't you?

A. Yes, there was evidence of a flow path.

Q. In years past?

A. Yes.

Q. Now, looking at the--what I'll call a drop-off right--to the right of the two people in the

picture--and please correct me if I'm using the wrong term. For purposes of identification there's a little face there, and there appears to be some concrete blocks down below. You testified that kind of cutting would be caused by the heavy rains that were experienced in northwest Iowa this year; isn't that correct?

A. Yes.

Q. Now, you've never actually physically been to this spot, have you?

A. No.

Q. And you don't know whether there was any kind of head-cutting going on at this spot prior to this picture being taken, do you?

A. No.

Q. So it's possible, isn't it, that there was some head-cutting going on here for many years past?

A. It's possible.

Q. Now, switching gears a bit, you talked quite a bit about calibration, and how, in your opinion, based upon your review of the literature regarding the APEX model, the calibration was necessary. Do you recall that testimony?

A. Yes.

Q. Now, you haven't reviewed all of the

literature on APEX, have you?

A. No.

Q. Nor on EPIC?

A. No.

Q. And APEX is based on EPIC; correct?

A. That's my understanding.

Q. And looking at your curriculum vitae, or your resume, you mention here that you worked with many--several computer models; isn't that correct?

A. Yes.

Q. Among them TR-20, TR-55, TR-60?

A. Yes.

Q. And do you use these on a regular basis in your work?

A. "Regular basis" is somewhat subjective, but I use them a lot.

Q. And you depend on them?

A. Yes.

Q. And you find them trustworthy?

A. Yes.

Q. And you mention here the SCS Curve Method. Isn't it a fact that the SCS Curve Method is a part of the APEX model?

A. Yes.

Q. And you don't calibrate, field calibrate all

of your models when you run them, do you?

A. No.

Q. But you rely on them?

A. Yes.

Q. You talked about the appropriate confidence interval of 95 percent. Do you recall that?

A. Yes.

Q. And then you juxtaposed with the plus or minus 50 percent accuracy Ms. Doty references in the end of her report. Do you recall that?

A. Yes.

Q. Now, aren't those really two different things?

A. Yes, I believe they are.

Q. So the confidence interval--and correct me if I'm wrong--the confidence interval is an analysis of a data set to see whether any particular data point in that set is consistent with the rest of the data; isn't that correct?

A. Yes.

Q. So to use a real world example, a hypothetical, if we had 100 data points, and each data point, say, was at a range of 30 milligrams per liter to 50 milligrams per liter, and then you had a 101st data point come in, it was 75 milligrams per

liter, doesn't the 95 percent confidence interval really look at whether that 101st data point is consistent with those other data points in the 30 to 50 milligrams per liter range? Isn't that what the 95 percent confidence interval analysis is?

A. Yes.

Q. So you would agree, would you not, that when Ms. Doty looked at the literature, and the literature talked about a plus or minus 50 percent accuracy rate for looking at sediment transport, that's a completely different analysis than the 95 percent confidence interval, isn't it?

A. I'm sorry. Could you repeat the question?

Q. Let me rephrase it. Why don't we turn to Ms. Doty's report, which is Exhibit 43. Do you have it in front of you?

A. Yes, I do.

Q. Could you please turn to page 10.

A. Yes.

Q. At the bottom of page 10, under Section 3.6, "Accuracy of the Predictions"--do you see that?

A. Yes.

Q. In that section Ms. Doty talks about test plots and erosion rates from test plots. Do you see that? I take that back. I'm sorry. I misstated.

There is no mention of test plots. Let me rephrase my question. I apologize.

The section that Ms. Doty references here is looking at how accurate the models can be in predicting a run-off from a real world field, for example. Isn't that what she's talking about there?

THE ADMINISTRATIVE LAW JUDGE: Let me just say, this is a complex paragraph, so before you answer Mr. Ryan's question, I want to be sure that you don't feel rushed and you have an opportunity to read that, okay? So you take as much time as you need because it is--there's a lot of information in that paragraph. When you've had that chance, then you can tell me, and then Mr. Ryan can ask the question again.

THE WITNESS: I've finished.

THE ADMINISTRATIVE LAW JUDGE: Okay. Now, Mr. Ryan, go ahead and ask your question.

BY MR. RYAN:

Q. Now, you would agree that soil erosion occurs differently in different soil types; correct?

A. Yes.

Q. And even within the same soil type it doesn't always occur the same way every time, does it?

A. That's correct.

Q. So if a scientist were to set up four test plots and measure, put the same amount of precipitation on all four test plots, same soils, you would have some variability in how much sediment came off of each of the four test plots, wouldn't you?

A. Yes.

Q. Isn't that what this author is talking about here that Ms. Doty quotes in Section 3.6 of her report?

A. It appears that's what she's talking about.

Q. So when Ms. Doty talks about the accuracy rate, she's not talking about what data point fits within the 95th confidence interval, is she?

A. Perhaps not, but it's somewhat confusing exactly what she's talking about. She talks about APEX simulation results.

Q. So you're not sure?

A. There were a lot of simulation results from APEX presented in the table besides just soil erosion.

Q. Again, my question to you was, when Ms. Doty talks about the plus or minus 50 percent accuracy rate in this section, she's not talking about the 95th percent confidence interval, is she?

A. It does not appear she is.

Q. So let's look at Table No. 2 in Exhibit 43, which is Ms. Doty's report, which is on that same page, and do you see in the--under the--the main box in Table 2 under "Total Quantities Reaching Unnamed Tributary-Elliot Creek," second column, do you see where it says, "Wshed manure yield"? Do you see that column?

A. Yes.

Q. And would you agree that "Wshed" stands for watershed?

A. Yes.

Q. And at the bottom of that column under totals it says 2,410?

A. Yes.

Q. Don't you agree that's in tons?

A. Yes.

Q. So Ms. Doty concluded over the period 2002 to 2006, that Mr. Vos' feedlot discharged 2,410 tons of manure to the unnamed tributary?

A. I would agree that's what she's saying, yes.

Q. You would agree, would you not, if--to use her words, she's using a conservative estimate of plus or minus 50 percent, that that number could be low by 50 percent, or it could be high by 50 percent;

isn't that correct?

A. I agree that that's what she's saying.

Q. So if she's high by 50 percent, the number would be 1,205 tons?

A. Yes.

Q. And if she were low by 50 percent, the actual number would be 3,615 tons?

A. Yes, approximately.

Q. And isn't it from--isn't it just as likely that it's 3,615 tons as it is 1,205 tons if you're looking at plus or minus 50 percent accuracy?

A. Yes, I agree that's what she's saying.

Q. Now let's look at Table No. 3, which is the next page, page 11 of Exhibit 43.

A. Yes.

Q. And we're looking at the plus or minus 50 percent accuracy of these numbers that she's generated from this watershed. You would agree, would you not, that under any column, none of those numbers go to zero if you take--reduce them by 50 percent? Would you not agree with that?

A. Well, no. On September 11th, 2003, there is a zero in one of the outputs.

Q. Okay. Other than--

A. I'm unaware of her, like, tolerance.

Q. Let's look at February 18th, 2002.

A. Yes.

Q. And you spent some time talking about what you considered to be an anomalous number of 3.01 pounds per acre of soluble N; do you recall that?

A. Yes.

Q. And you would agree if that number was high by 50 percent, it would be approximately 1.5 pounds per acre?

A. Yes, but that still seems awfully high.

Q. That wasn't my question. You agree, by a matter of simple math, if it was high by 50 percent, it would be 1.5 pounds per acre?

A. Yes.

Q. If it was low by 50 percent, it would be low by 1.5 pounds per acre?

A. Yes.

Q. And you would, looking down that column, for example, for soluble N, other than the zero which we see on September 11th, all of those numbers, even if you reduce them by 50 percent, are still a positive number, aren't they?

A. Well, yes. There are other zeros in the table, but--

Q. Setting aside the zeros, I agree.

A. A positive number reduced by 50 percent is still a positive number.

Q. Right. So just as a matter of math, some--again, I'm not asking you to agree with her analysis, but if her analysis is correct, if you reduce any of these numbers by 50 percent, there's still a discharge of that that she identifies; is that correct?

A. Yes, I agree they're still positive numbers.

Q. Now, let's go back to that February 18th date that you talked about--and I believe you also made similar comments about March 15th--where on February 18th there was three pounds per acre, roughly, of nitrogen, and then on March 15th it shows 2.19 pounds. Those are both cold winter months, aren't they?

A. Yes.

Q. And the ground is typically frozen in the winter?

A. Yes.

Q. And you would expect to see more runoff occur on frozen ground than you would on dry ground, wouldn't you, generally speaking?

A. Yes.

Q. And does this--you would agree that under

the APEX model, since you reviewed the literature, the APEX model takes into consideration nutrient uptake, doesn't it, by plants?

A. Yes.

Q. So you have--in the middle of the summer, for example, you have a tall stand of corn growing, that corn is going to be soaking up water; right?

A. Yes.

Q. Soaking up nutrients in that water?

A. Yes.

Q. If no plants are present, only dormant plants are present, no growing plants, those plants won't be taking up any of the nitrogen, will they?

A. No.

Q. So if you have a runoff event in the winter on frozen ground with nothing growing to take up the nitrogen, you would expect higher nitrogen runoff, wouldn't you? Or it's possible, isn't it?

A. It's possible.

Q. Now, in the literature, your review of the literature, you stated nothing indicated that it was appropriate for the APEX model to be used to prove the kinds of discharges we're talking about in this case. Do you recall that testimony? And if I'm misstating you, please correct me.

A. I don't believe I stated that--in my review that the APEX model couldn't accurately predict these outputs. I saw several instances where it did, in my opinion, accurately predict it based on their calibration methods.

Q. Let me ask this: Did you see anything in the literature that indicated to you that the APEX model could not be used to prove a violation of the Clean Water Act?

A. No.

Q. So as far as you know, no one has actually studied that issue, have they?

A. I did not see reference to it.

Q. Now, regarding calibration in the literature, I believe the Gassman study, which is Complainant's Exhibit 55--and we talked about it at some length the other day. Do you recall that study?

A. Yes.

Q. And I believe the Gassman study seems to look at a number of different efforts under the APEX model; wouldn't you agree?

A. Yes.

Q. So some people ran it in different parts of, I believe, the world, at least in different parts of the United States, under different conditions; isn't

that correct?

A. Yes.

Q. And Gassman is reviewing those efforts?

A. Yes.

Q. And each one of those efforts was slightly different?

A. Yes.

Q. Different soil conditions, different weather conditions?

A. Yes.

Q. Different geography, and some people calibrated and some people didn't?

A. Yes.

Q. So what Gassman concluded--and I believe we talked about this at the outset of your cross-examination--that the--I'm quoting here from page 29 of Gassman, "The results of many studies described here"--

THE ADMINISTRATIVE LAW JUDGE: What exhibit number is this again?

MR. RYAN: I'm sorry, Your Honor. This would be Complainant 55.

MR. McAFEE: Excuse me, counsel. For some reason I have 56 written on mine. Now, I wrote it there, so--

MR. RYAN: I apologize, Your Honor. It is 56. I have the wrong number.

THE ADMINISTRATIVE LAW JUDGE: Okay. Thank you. Complainant's Exhibit 56. Do you have that exhibit?

THE WITNESS: Yes, sir.

THE ADMINISTRATIVE LAW JUDGE: And he's directing you to a particular page.

MR. RYAN: Page 29. Just so I can clear the record--

THE ADMINISTRATIVE LAW JUDGE: 29?

MR. RYAN: 29, yes. Just so I can clear the record, just so we're clear, Complainant's Exhibit 56 is a paper entitled "Historical Development and Applications of the EPIC and APEX models."

BY MR. RYAN:

Q. Is that what you have in front of you, Mr. Hentges?

A. Yes.

Q. Thank you. Referring you to page 29 under the conclusions section, in approximately the lower middle part of that paragraph, the author states, "The applications reviewed also reveal that EPIC and APEX are most effective at simulating the long-term impacts of different cropping systems and management

practices, and that the models are less accurate at replicating the effects of single climatic events on erosion and other losses or interannual variability between crop yields and pollutant losses." Do you see that sentence?

A. Yes.

Q. Given that the author is looking at various applications of the model under various scenarios, you will agree this author didn't reach the conclusion that calibration is necessary in all cases, he reached the conclusion that it would enhance the results; isn't that correct?

A. I agree that that was this author's conclusion.

Q. And you cite--you make reference in your two-page expert report to literature review. But as we discussed before, you provide the citations. Can you provide us with any citations of any of the literature you reviewed that supports the statement that calibration is necessary to rely on the APEX model?

A. No, I'm sorry, I didn't come prepared to provide citations.

MR. RYAN: I have no further questions, Your Honor. Thank you very much.

THE ADMINISTRATIVE LAW JUDGE: Okay. We'll have redirect. Before redirect begins, I just have one question right now for Mr. Hentges.

Mr. Ryan has made several references during the course of his cross-examination to the fact that your expert report is two pages. And, of course, the implication of that is a two-page expert report is not something--the implications, a report like that is not something that should be given much deference. And so what I would like you to do, if you can, is tell me whether you felt that your report was sufficient in length to describe your position, and why that was, or whether a lengthier report was necessary. Can you answer that for me?

THE WITNESS: Yes, sir. My report is more of a summary of what I had seen in the literature, and compared it to how the model prepared for the EPA was conducted. I'll be the first to admit my report is rather far-sweeping with a wide brush. But my general opinion was that there wasn't enough information about the model inputs and the outputs in the EPA report. In other words, enough information wasn't present for me to critically review that. I did see concerns, the largest one being that the literature was showing this model is used, and in

some studies extensively calibrated, and provides accurate predictions based on measured field values.

I didn't see that here, so I didn't spend a lot of time pointing that out or repeating it. Rather, more of a general opinion of what I had done, reviewed, and based on my experience with modelling.

THE ADMINISTRATIVE LAW JUDGE: Okay. Thank you.

Mr. McAfee, are you ready?

MR. McAFEE: Could I have just a couple of minutes, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Sure. What do you need? Five?

MR. McAFEE: Maybe not quite that long.

THE ADMINISTRATIVE LAW JUDGE: Sure. There were a lot of questions asked. Mr. Ryan asked questions for about 40 minutes, so we'll go off the record for a moment.

MR. McAFEE: Okay. Thank you.

(Short recess.)

THE ADMINISTRATIVE LAW JUDGE: We'll go on the record.

MR. McAFEE: Your Honor, before I get started on redirect, Mr. Ryan wants to make sure we clear up the record by getting an exhibit admitted.

MR. RYAN: Your Honor, before I finished my cross-examination, I failed to move into evidence Exhibit--Complainant's Exhibit 57.

THE ADMINISTRATIVE LAW JUDGE: That's true. I thought you didn't want to admit it, that's why I didn't bring it to your attention, but you do.

MR. RYAN: I apologize. I move at this time to admit Exhibit 57.

THE ADMINISTRATIVE LAW JUDGE: Any objection?

MR. McAFEE: Your Honor, I've had very little time to look at this. I do not--it's from the internet, and so publicly available. Maybe this isn't a proper objection--or statement. If it's not, Your Honor, please tell me, but I would not object to this exhibit if we were given the opportunity in our post-hearing brief to present any other information there is on this subject matter that is available--equally available as this one is.

THE ADMINISTRATIVE LAW JUDGE: Mr. Ryan, you want to speak to this before I rule?

MR. RYAN: Yes, Your Honor. This is an evidentiary hearing. The evidence should come in with the witnesses. If we're going to be opening up the entire internet to cite in our briefs, why have

experts to discuss what that information means? This document was used to impeach the witness. He had a chance to discuss it and tell us what he thought about it.

I would, in fact, be opposed to bringing in additional factual information off the internet in our post-hearing briefs without a witness having the opportunity to talk about them.

THE ADMINISTRATIVE LAW JUDGE: Okay. For the limited--I'm allowing the exhibit because it's for the limited purpose of showing that at least in one person's opinion, without any notation as to the authority, this Mr. Sheets--there was one sentence which I highlighted on my copy where he, Mr. Sheets, makes the assertion that .1 milligram per liter or less was common for most Iowa streams. That's fair because Mr. Hentges did speak to that issue, and it's fair for Mr. Ryan to attack the credibility for that, and he's done it based on this very limited assertion by one individual without citation as to the authority of it. So that's the way I view it.

But the--if it was an objection, it's denied. And I also agree that, you know, absent some--not the incident, but if there is some authoritative source and the parties can stipulate to

that post-hearing, as to what the actual ammonia level is in Iowa streams--but even there, when you think about it, you know, "most Iowa streams," that might be going down a road that's not very fruitful. Anyway that's my ruling, it's proper for cross-examination. It's admitted, CX-57.

(Complainant's Exhibit 57 was received in evidence.)

THE ADMINISTRATIVE LAW JUDGE: I now note I have a couple of loose exhibits. I'm hoping Amy, or whoever your aide is, puts them in a binder when they ship it back to me so I have all the exhibits. If I'm missing anything, like I've done in other hearings that I've presided on, I'll call counsel in a conference call and there will be something worked out if something like that happens.

MR. RYAN: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: With that, are you ready now, Mr. McAfee?

MR. McAFEE: Yes, I am, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay.

REDIRECT EXAMINATION

BY MR. McAFEE:

Q. Mr. Hentges, I want to start with, I guess it would be, a very preliminary matter that came up

on your cross-examination and that was regarding the proper county. I want to make sure the record is clear.

MR. McAFEE: I'm not trying to do too much of a narrative here, Your Honor.

BY MR. McAFEE:

Q. But, Mr. Hentges, I believe you testified that your report initially had Ida County on it, and that was changed to Woodbury; is that correct?

A. Yes.

Q. And I just asked the--ask you to turn to the exhibits. Not the green book. Those are Respondent's. But turn to Complainant's Exhibits 1--any of those three binders, and look at the cover sheet on the cover. What county does that say?

A. That says Ida County.

Q. Okay. And, Mr. Hentges, are you now aware that we are in Woodbury County as far as where Mr. Vos' feedlot is located?

A. Yes.

Q. Mr. Ryan asked you about photos you had reviewed, and I believe this was probably my error in your direct examination. Did you review any photos that were actually contained in the report of Ms. Doty's?

A. Yes, I recall looking at those photos, but they appeared--as I recall, they existed in other exhibits, and my recollection is I'd already seen all of those photos.

Q. Okay. Well, let's turn to Complainant's Exhibit 43, which is Ms. Doty's report.

A. Yes.

Q. And would you please turn to page 27 of that report?

A. Yes.

Q. Are these the photos you were speaking of in your testimony in answer to my question?

A. Yes.

Q. Now, the record shows that Exhibit 43--Exhibit 43 is Ms. Doty's second report. Is that your understanding?

A. Yes.

Q. I believe I combined two things there. Let me clear that up. I started to state that the record shows that Exhibit 43 is her second report, and is that also your understanding, since you haven't been here, for the benefit of the record?

A. Yes, that's my understanding, this is--Exhibit 43 is her second report.

Q. And do you recall--and we can take a look if

we need to in the record--do you recall if these photos were part of her first report that you reviewed?

A. Yes.

Q. As far as you know, these are the same photos?

A. As far as I know, they are the same.

Q. And you testified extensively about--I guess "extensively" is my word--about the other photos that were provided to you through the document exchange between the parties here. I just wanted to go through these photos. First of all, could you tell us on page 27, what is the date on that photo?

A. The date is May 31st, 2006.

Q. And as you recall, were these photos then taken before or after the other photos we discussed during your direct examination?

A. Before, I believe.

Q. You've already stated you've had a chance to review these photos. Could we please turn to photo 3?

THE ADMINISTRATIVE LAW JUDGE: That would be on page 29?

MR. McAFEE: Yes, Your Honor, page 29.

A. Yes.

BY MR. McAFEE:

Q. Can you describe this photo and give us your analysis of the photo?

A. Well, the caption of the photo indicates it's a runoff path flowing toward a terrace, southwest corner of pen 5 of the feedlot. And my analysis, in particular, was that it appears that it's planted through. It's an erosional rill. It was, you know, potentially, a seasonal erosional structure.

THE ADMINISTRATIVE LAW JUDGE: Would you have the witness define a rill? I've heard it in another case, I just want it on the record.

MR. McAFEE: Sure.

BY MR. McAFEE:

Q. Mr. Hentges, can you explain what you mean when you use the term rill? And I believe that is r-i-l-l; is that correct?

A. Yes. The term rill is generally used to describe an erosional feature that occurs during rapid runoff events. It's generally a small erosional feature that is not necessarily permanent or long-term.

Q. Would you please turn to page 31.

A. Yes.

Q. And tell us what you see in that photo.

A. Well, again I see an erosional feature, a little more defined than the previous, yet I note that the cropping, therefore the plowing and planting of this row crop, is apparently going right through it indicating to me that it's either new or temporary or not a permanent feature.

Q. Mr. Hentges, would you please just leaf through the remainder of the photos, and if you see anything that is different from the testimony you've just given regarding these--what these photos depict, would you please tell us?

A. Yes, I looked through the remainder of them, and I just see similar type erosional features, and similar type cropping and planting patterns.

Q. Are the features or the--let me restate that.

Is what you see in these photos what you, in your experience, you might see in any Iowa cornfield?

A. Yes.

Q. Given the date of--and what date is on the photos again?

A. March 31st, 2006.

Q. Mr. Hentges, could you please look at that date again?

A. Oh, I'm sorry. May 31st, 2006.

Q. And does the date have a significance, of course, as far as the height of the corn?

A. Yes. It appears to be earlier in the season--earlier in the season, and the crops are young.

Q. Okay. I now want to turn to several of the questions you were asked this morning by Mr. Ryan, and one of those pertained to background levels, I believe was your testimony, that he asked you about for the field test kit sample taken by Mr. Prier with the Iowa DNR on June 25th, 2003. Do you remember Mr. Ryan's question to you this morning, or questions?

A. Yes.

Q. Would it help you to take a look at that exhibit again that refers to what--that shows Mr. Prier's sample? That is Exhibit 15, I believe, Complainant's Exhibit 15, I believe that's it. I need to double-check that.

A. Yes, I have Complainant's Exhibit 15.

Q. And take a look at, as we discussed on direct examination on Friday, the--where someone has written in the level that was tested at the bridge southwest of the facility for milligrams per liter of

ammonia.

A. Yes.

Q. And what is that number again?

A. 3.0 milligrams per liter.

Q. And, again, is it your understanding that this was done with what's called a field test kit?

A. Yes.

Q. And I believe you testified to that on Friday, so I don't need to go back to that, but regarding the background levels, you've been presented with a document this morning, and it's been admitted as an exhibit. Do you believe that is a correct characterization of background levels in Iowa streams for milligrams per liter of ammonia on a date such as June 25th, 2003, when Mr. Prier took his sample?

A. No, I do not believe that's representative.

Q. And could you explain to us why?

A. Well, in areas where agriculture is intensive, and a great deal of row crops is planted, generally nutrients are put down in the field, nitrogen is one. It can be converted to ammonia in the soil, and my experience is generally around agricultural facilities, as well as general crop ground drainage to streams, that ammonia, background

ammonia levels are higher than this in Iowa in the early summer.

Q. And by early-- What is the significance of early summer?

A. Well, late spring, early summer, after planting, after the application of nutrients to row crop fields.

Q. And, again, the fact that a field test kit sample is used to obtain the 3.0 milligrams per liter, what effect does that have on your analysis?

A. Well, as I stated earlier, field sampling kits are good tools to measure indicators, but a laboratory analysis would really need to be conducted to determine how much ammonia was actually present.

Q. Okay. Thank you. You may have testified to this on Friday, and I just can't recall, but what were you basing your--you stated your analysis that-- I believe it was 1.0 to 6 for background--milligrams per liter ammonia were background levels, and what were you basing that on?

A. Well, I base that on my experience, my general knowledge, several projects where we've looked at ammonia in surface and groundwater around animal feeding operations, as well as studies, almost to the very dimension relative to wastewater treatment

plants, discharges after a spill, and I've looked up the number enough I know in the Midwest you see variable ammonia. At times it can be very low, but during agricultural cropping, and in most agricultural watersheds, the 1 to 6 is kind of the background we see.

Q. Okay. Thank you. Mr. Ryan also asked you about your testimony regarding--and I'll characterize it this way, and I hope I'm close to being as accurate as possible--pollutants and manure and what you could see and what you couldn't see in some of these photos. And I believe you testified that you would not be able to see fecal coliform; is that correct?

A. That's correct.

Q. You would not be able to see phosphorus?

A. That's correct.

Q. And you would not be able to see nitrogen?

A. That's correct.

Q. So how would you determine if those substances were present in water?

A. The only way to determine would be to collect a laboratory quality sample and submit it for analysis.

Q. Mr. Ryan also asked you several questions

about calibration of models, and what the literature says, et cetera. And I believe he asked you if you used several models, as indicated by your CV, including TR-55 and several others; is that correct?

A. Yes.

Q. And I believe you testified that you don't--well, do you calibrate them when you use them?

A. No, not always.

Q. And I think Mr. Ryan asked you, "But you still rely on them?" Was that your testimony?

A. Yes.

Q. Could you explain to the Court for what purpose you're using those models, and why you wouldn't calibrate them?

A. Well, in particular, the surface runoff models say to provide the design for a preliminary structure. Things about surface water hydrology are well-understood and well-documented in the literature, and there's been years of studies. The SCS Curve Number method is a good example. It's the basis of many of these runoff models, and what it provides is an indication of how stream water flow will vary with precipitation over different land forms.

Quite often we're tasked to, say, design a

small stream structure within certain tolerances, a design storm which would be the maximum amount of water we'd expect the structure to withstand is used, then the models are run. And the results are generally determined to be accurate given some safety factors.

And so for small watershed analysis and structures, and perhaps I should qualify and say, if we're designing an outlet structure for a small wetland on the order of a four-foot high berm, in order to understand the hydraulics and the flow from that area, we'll run these models, and there's really not a need to go out and collect extensive runoff data for that type of project.

Also we'll use models and not calibrate them when we're trying to get an indication, a planning tool. However, we do calibrate models extensively when we're trying to make accurate predictions, and, in particular, when there is chemical fate and transport involved.

Q. Related to calibration for--I believe you testified on direct about what you would like to see for numbers--I'll use that term in this case--to use this model for the purpose that Ms. Doty intended. What would you like to see before you could, I'll ask

you, gain any confidence, in your opinion?

A. Well, yes, I think the--a comparison of the predictions of chemical fate and transport, most notably nitrogen and phosphorus, a comparison of those predictions versus the actual measured values over the period modelled.

And with that information on a graph you can immediately see how well the model is predicting what's actually measured in the field; and particularly in a runoff model you would want to make sure that represented periods of low runoff and flow, as well as periods of high runoff and flow.

Q. If I'm understanding this correctly, and I may not be, but if I'm understanding this correctly, what you're saying is you in effect need some information that would show that pollutants had reached--from the Lowell Vos Feedlot had reached--

MR. RYAN: Objection. Leading.

THE ADMINISTRATIVE LAW JUDGE: I'll allow the question. He's asking--he can say it's not his understanding.

Ask your question, counsel.

BY MR. McAFEE:

Q. Again, if I understand you correctly, the type of calibration information you're talking about,

would that be information that would show a discharge of a pollutant from the Lowell Vos Feedlot to the unnamed tributary?

A. Most likely it would show that it was occurring and negate the need to even conduct modelling.

Q. So the information--well, that information to calibrate are you saying would in effect then be the information that would show a discharge?

A. Yes.

Q. I think I understood you to say that would be information over a period of time gained at various--under various types of environmental conditions to calibrate the model?

A. Yes.

Q. You also had a discussion in Respondent's--in Mr. Ryan's questions this morning about the confidence interval versus the accuracy rate, if I understood that correctly. Could you explain that to us and tell us what, again, what you looked at. And you used the 95 percent term, I believe, in your testimony.

A. Yes. What's standard in the calibration of models that simulate natural process--processes is to compare the predicted values with measured values in

the field to determine the accuracy of the model and plot those on a graph. They should have an almost one-to-one correspondence, or else additional input parameters in the model need to be varied to begin to achieve that.

And the 95 percent confidence interval is a standard which means, essentially, plus or minus 10 percent of the prediction should be accurate relative to the measured values.

Q. So are you testifying that--if you turn to page--I'm sorry. I should have had you do that before I started asking my question--Complainant's Exhibit 43, which is the--Ms. Doty's report--

A. Yes, I have it.

Q. --page 10, which is Section 3.6--or page 10 is where Section 3.6 is found, and that's what I believe Mr. Ryan was asking you questions about regarding this confidence interval and accuracy rate, et cetera. I just want to make sure I understand and everyone understands your testimony. Does confidence interval have any relation to what's being discussed here in this paragraph?

A. Well, it appears that a confidence interval associated with 50 percent would be a very wide range and generally not indicative of a calibration

process. So more of a planning or land use management process.

Q. Looking at Ms. Doty's report, Section 3.6, and taking her report as it is worded with a plus or minus 50 percent accuracy prediction, how do you characterize that as to what you can determine from the model and her predictions?

A. Well, it indicates to me that she obviously didn't go through a calibration process, did not have field data to compare; therefore, the accuracy plus and minus confidence interval is expanded quite large.

Q. Let's turn the page to page--excuse me. It's page 11 of Complainant's Exhibit 43. It's Table 3. I believe Mr. Ryan asked you about the plus or minus 50 percent accuracy prediction and how it would apply here, and I'm just--I'm probably asking you the obvious, but we can focus on how it could reduce these numbers by 50 percent, but, of course, how would it apply if these numbers are increased by 50 percent, or vice versa?

THE ADMINISTRATIVE LAW JUDGE: Do you understand his question?

THE WITNESS: No. I'm sorry.

MR. McAFEE: You may not. I'm not sure if I

understood my question, Your Honor. May I start over?

THE ADMINISTRATIVE LAW JUDGE: Yes.

BY MR. McAFEE:

Q. I believe I said that backwards. I just want--a plus or minus 50 percent, obviously by the term "plus or minus," does it apply both ways?

A. Yes.

Q. So these numbers, you know, we tend to--whoever is asking the question, we focus on the part that applies best to us, but it applies both ways, and it just--does it relate to how we can trust these numbers?

A. Yes, and I have very little confidence, actually, in a model that's going to have such a wide variability. Essentially what I would glean from that is you may see some trends, and you may be able to make some general statements regarding the process that's been modelled, but that's about it.

Q. Mr. Ryan also asked you about these high numbers that you testified to on direct examination, and the term "high" is mine, but I believe you testified to that, specifically February 18th, 2002, and March 15, 2003. Mr. Ryan asked you how runoff, you know, from frozen ground versus what I would

characterize as thawed ground would affect this. Could you give us your analysis of these numbers in relation to the frozen ground issue?

A. Yes, but these numbers just seem high relative to the natural process being modelled. I understand that the ground's frozen, or just beginning to thaw, that there isn't a lot of the plants present that take up these nutrients, but they just seem out of bounds. They just seem very high, and they're indicating that a process is happening, that soluble phosphorus and nitrogen is running off it in a period when there is likely very little runoff, and it's simply because of the temperature and the other meteorological conditions I saw in the data supplied.

Q. I guess that led me to my next question. From the table presented here in Table 3, do we, in fact, know if the ground is frozen on these days?

A. No.

Q. Sometimes on these days can the ground--"these days" being these dates in March and in February. In an Iowa winter, sometimes on those dates can the ground not be frozen?

A. Yes, it is possible.

Q. He also asked you about how nutrient uptake

by plants could affect these--I'll use the term "these numbers," and I believe he was referring to the fact that there would be no nutrient uptake at that time of year. Anything to add about your analysis on that?

A. Well, it's true that the nutrient uptake would not be occurring. That's generally a component, at least in the APEX model, and models like APEX, where that component is coming out of the soil anyway after being absorbed into the soil. So it's not as directly comparable to runoff.

I feel the--the fact that the manure is a little different also this time of year in the sense of there's snow on the ground, the manure's frozen, what is collected and stockpiled is compacted, and just a lot of the aspects of how the APEX model deals with manure and its breakdown of nutrients and the combination and recombination of these chemicals isn't well-evaluated in the winter, and I saw that in the literature, statements to that effect. So it gives me concern to see such high values at these--in these winter and early spring periods.

Q. I believe in your last answer you mentioned stockpiling; is that correct?

A. Yes.

Q. How does stockpiling affect, in your opinion, looking at runoff from Lowell Vos' feedlot?

A. Well, it concentrates the manure in one area, generally a higher--based on what I saw at Mr. Vos' feedlot, it was a higher area where the material was collected and stored until it was land applied. But it has a smaller area, it's compacted, the water isn't interacting with it as much as if it was spread evenly over the feed yard.

Q. Now I want to kind of go back to maybe a more general discussion to finish up the examination here. There's been a lot of discussion both in your direct and in your cross-examination by Mr. Ryan about what has been termed in testimony before in this proceeding as defined drainage pathways. And I guess my question is, do these pathways by themselves tell you enough to determine if a pollutant from the Lowell Vos Feedlot has reached the unnamed tributary of Elliot Creek?

A. No, they have not.

Q. Can you tell us why?

A. Well, essentially, service water pathways for drainage in the earlier pictures, you know, appeared to be less defined than they were in the later pictures, and they likely exist in

the--generally in the same place. But over time they can move around just based on slope and grading, land management techniques relative to the type of plowing, chisel plowing versus other plowing.

Early on, the early photographs made me feel that they were not likely permanent erosional features. I think the later photographs reflecting the higher rainfall we've had show that at least in certain years they could be more prominently--more prominent structures on the landscape.

But, in general, there's a lot of overland flow, not just simply a channel leading from the feedlot to the creek, but rather water from terraces that backs up and flows down, water from other crop zones in the sub-basin. So, no, I didn't see any direct evidence that manure was moving down these gullies and rills.

Q. Would the same go for what's also been termed in this proceeding as, say, discharge points from the feedlot? Your discussion of defined drainage ways, would that also apply to what's been testified to as discharge points from the feedlot, and what that tells you about whether a pollutant from the feedlot reached the unnamed tributary of Elliot Creek?

A. Yes. It appeared to me that they were variable. They were slightly different when I was at the site a few weeks ago than they were when these photographs and data were collected.

So I guess what I'm saying, in my opinion, those discharge points are also a bit variable over time.

Q. Mr. Prier with the Iowa DNR testified that when he--and you've looked at the exhibit that was the--his report, his on-site inspection report of June 25th, 2003. He testified--it's not on the report, but he testified in this proceeding that he observed a brown-colored runoff into Elliot Creek. And he, in his testimony, attributed that--excuse me. He testified that that was going into the unnamed tributary of Elliot Creek. And in his testimony he attributed that to the Lowell Vos Feedlot. Is there--in your opinion, could that be from anything else?

MR. RYAN: Objection. It lacks foundation. He hasn't described the full testimony of Mr. Prier, or the context, or exactly what Mr. Prier--

THE ADMINISTRATIVE LAW JUDGE: No. I overrule the objection.

A. Well, my understanding of the situation was a DNR inspector observed water discharging into the

unnamed tributary and it had a brown color, and yet I think any runoff that you would see out of these cornfields is going to pick up sediment, and it would, indeed, as long as it was flowing, would indeed have a component of the soil. And the soil being brown out there, I guess to me is inconclusive as to whether the material he's characterizing as brown is sediment or some sort of pollution.

BY MR. McAFEE:

Q. Mr. Prier testified he was 75 yards away when he observed that--

THE ADMINISTRATIVE LAW JUDGE: Seventy-five yard away from--according to your question, 75 yards away from where?

MR. McAFEE: Thank you, Your Honor.

BY MR. McAFEE:

Q. When Mr. Prier testified, he testified that his observation point to the--what he was observing as runoff was 75 yards away. How does that factor into your analysis?

A. I think that's quite a distance and would make it more difficult to determine whether the color of the water was due to the sediment it was transporting, or some other cause.

THE ADMINISTRATIVE LAW JUDGE: Just to

lay--I do remember when I asked that question, but then I remembered--and the record will show it. I remember now what he was talking about, and there were some other issues involved in that as well, some other rulings that were made. So, don't worry, anything I forget, believe me, I do study the transcript quite diligently, so go ahead.

MR. McAFEE: I don't have any further questions, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: While we're getting ready for Mr. Ryan, let's go off the record for a second.

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: Let's go back on the record.

RECROSS EXAMINATION

BY MR. RYAN:

Q. Mr. Hentges, you just testified you thought it would be hard to tell whether a brown liquid coming off of a feedlot were sediment or--contained sediment or contained manure. Is that a fair characterization of your testimony?

A. Yes.

Q. And would it change your testimony in any way if you were told that Mr. Prier identified that

discharge coming off of the holding pond that's below the--to the west side of Mr. Vos' feedlot?

A. No, it would not. I would think that water would still have an opportunity to pick up sediment.

Q. Doesn't that holding pond contain runoff directly from the feedlot?

A. Yes.

Q. And doesn't that runoff from the feedlot contain manure?

A. I saw no evidence that it did. The little structures hold back the water and it will settle out solids. Based on my review of Mr. Vos' structure, it collects water from other areas as well as the feedlot.

Q. The feedlot runs into the sediment pond, doesn't it?

A. Yes.

Q. At least part of the feedlot runs into the sediment pond, and the feedlot contains manure, doesn't it?

A. Yes.

Q. And the feedlot contains other dissolved pollutants, such as phosphorus and nitrogen and fecal, doesn't it?

A. Yes.

Q. Those things run into that pond?

A. My understanding is that's the purpose of the pond.

Q. And then Mr. Prier testified that that pond was running over. So isn't it likely that that runoff Mr. Prier saw contained things other than sediment?

A. I would have to say no, not likely, but certainly an analysis would tell you.

Q. You talked about the comparison with regard to Ms. Doty's report, you talked about the comparison of predictions of chemical fate and transport, and you said you would have liked to have seen some kind of comparison to actual data collected in the field; do you recall that?

A. Yes.

Q. Are you aware Ms. Doty ran a crop yield verification on her APEX run?

A. I did not see that in her report.

Q. So you're not aware that she testified in--here in this proceeding that when she compared her model to the actual crop yields reported in the literature for that part of Iowa, that they were within 1 percent of each other?

A. No, I wasn't aware of that.

Q. And would that give you any additional confidence if she had in fact compared her output to known results for--known data for the area?

A. No, it would not. They're very different, crop yield versus chemical recombination and then transport.

Q. You would agree that the crop yield is based on chemical fate and transport; isn't it?

A. My understanding is yes, part of the model is based on that.

Q. You said--again, correct me if I misunderstood your testimony--that calibration, I believe you said, would negate the need to conduct the model. Did I understand that correctly?

A. Yes.

Q. So are you saying if, for example, EPA collected some actual water samples that were running off the facility, there was no modelling that would be required; is that your testimony?

A. That's correct.

Q. So for a five-year period, then, doesn't that mean the EPA would have to actually be camped out at Mr. Vos' facility every single day for five years in order to know what is running off?

THE ADMINISTRATIVE LAW JUDGE: The last part

of that question, you did that mumbling again. It's an important question. You trail off, and I want to hear every word you say. Would you like to have the court reporter read it back?

MR. RYAN: Could you read it back, please?

THE ADMINISTRATIVE LAW JUDGE: But don't read it the way Mr. Ryan did, don't trail off, okay? I want to hear this question.

(Question read by the reporter.)

A. No, it wouldn't.

BY MR. RYAN:

Q. How would the EPA know what is running off that site on a daily basis without being at the facility every single day for the last five years?

A. Well, it's not necessary to know on a daily basis, simply at various different levels of flow in different seasons. I'd have to look at the model documentation more closely, but I'm assuming you need sampling analysis at several points, three or four, maybe five; you need some soils analysis as well as water, and you would need to collect it over different periods of the year. I think during rainfall is critical, but it certainly wouldn't require camping out.

Q. So you would take that data and you would

model it?

A. Yes.

Q. So, in fact, what you're saying, with calibration you would still need to model it, wouldn't you?

A. Well, I think my point is if you're collecting these samples and indeed the facility is providing pollution to the creek, you would have your answer as to whether it's happening, and modelling would not be required.

Q. I don't think we're--I understand your answer. Let me ask another question.

If you collect a small sample of data, as you suggested, we still wouldn't know on a daily basis for the last five years whether there was a discharge on any given date, would we?

A. No.

Q. So unless--and, again, to repeat my question, unless the EPA were camped out at Mr. Vos' facility every single day for the last five years, we wouldn't know on each--on each given day whether there was a discharge, would we?

A. That's correct, you would not know on each given day.

Q. So the only way, absent EPA setting up a

lab, a QAQC lab, to collect lab-verified data on a daily basis from Mr. Vos' facility for the last five years, the only other way to know is to model it, isn't it?

A. That's correct.

Q. Thank you. Now, you would agree that snow melts when it gets above 32 degrees, wouldn't you?

A. Yes.

Q. And you would agree that if it melts, it will run off?

A. Yes, or soak into the ground.

Q. But generally speaking, water runs downhill, doesn't it?

A. Yes.

Q. And Mr. Vos' feedlot is at the top of a hill, isn't it?

A. Yes.

Q. And there's an unnamed tributary downhill of Mr. Vos' facility, isn't there?

A. Yes.

Q. So when snow melts, it will generally run off in a downhill direction, won't it?

A. Yes.

Q. And if there is manure in the snow, the manure will melt above 32 degrees also, won't it?

A. Yes, I believe so.

Q. And any pollutants that are contained in that manure will also melt, won't they, or become suspended in liquid, won't they?

A. Yes.

Q. And that water running off from that melting snow would carry those pollutants with it, wouldn't it?

A. Yes.

Q. Now, on the stockpiling issue, are you aware that Ms. Doty assumed in her modelling that no stockpiling occurred? Are you aware of that?

A. No.

Q. I'll represent to you that she testified to that effect here in court, and she testified that when she modelled it, she assumed, during scraping, all of the manure was removed from the watershed. Now, wouldn't that result in her model underestimating the amount of manure exposed to the atmosphere for possible runoff?

A. It could. I mean, I don't mean to portray myself as being intimately familiar with how Mr. Vos handles his manure, I only know that he does clean yards.

Q. Let me restate my question. If he cleans

his yards and it remains in the pens in a stockpile, it's still within the watershed, isn't it?

A. Yes.

Q. And if Ms. Doty assumed it was not within the watershed, and, therefore, not available for runoff, she would have underestimated the amount of manure exposed to the atmosphere for possible runoff, wouldn't she have?

A. I'm not so sure that's true. My understanding of her model was that she spread it out evenly over areas, even perhaps during periods of time when cattle weren't present in those areas. It's more subjective. If it's compacted in a corner, is it more exposed? It's still there, yes, but it may not be more exposed as the model simulated it as.

Q. Are you aware that there's a scraping function in APEX?

A. Yes.

Q. Are you aware whether Ms. Doty used the scraping function?

A. Her report indicated she did at once every two weeks.

Q. And are you aware that she testified when she used the scraping function, she instructed the model to remove the manure from the watershed?

A. No. I'm not aware of many details of Ms. Doty's testimony.

Q. If she used the scraping function, she instructed the model to remove the manure from the watershed and not stockpile it, as we now know is happening, wouldn't that result in her model underestimating the amount of manure exposed to the atmosphere?

A. Well, it could. Again, I don't think it's black and white. Her model spreads the manure out over the pens evenly, and the stockpiled manure would be concentrated. It would be exposed to less air, atmosphere, rainfall. I'm not sure I can say without running the model both ways whether that's a true statement or not.

Q. Isn't it true that stockpiling would result in more manure being inside the pen at any one time than not stockpiling?

A. If you mean not taking it away, yes.

Q. Isn't it true that more manure within a pen, whether it's stockpiled or not, would result in more manure being exposed to the atmosphere?

A. Yes.

Q. Let's look at the attachments to Complainant's Exhibit 43, those photographs we

discussed from Ms. Doty's report. Do you have Complainant's Exhibit 43 in front of you?

A. Yes. Appendix A, Photo 1, page 27.

Q. Let's turn--I believe you testified about photo No. 5. Let's look at photo No. 5.

THE ADMINISTRATIVE LAW JUDGE: That's on page 31, counsel?

MR. RYAN: Yes. Thank you, Your Honor.

BY MR. RYAN:

Q. Page 31 of Exhibit 43.

A. Yes.

Q. Now, you would agree, would you not, there's an erosional feature coming off of the feedlot in that picture?

A. Yes.

Q. That erosional feature was caused by flowing water?

A. Yes; likely.

Q. And that erosional feature was created after the crops were planted; wouldn't you agree?

A. Yes, it appears that way.

Q. So the tractor came through, made the rows. And then after the rows were created, water cut down through them?

A. Yes.

Q. And looking at photo No. 4, would you say the same thing is true for photo No. 4, it was created after the crops were planted?

A. Yes.

Q. And the same thing for photo No. 3?

A. Yes.

Q. And would you say the same thing applies to all of the photos attached to Ms. Doty's report, that the erosional features were formed after the crops were planted?

A. Yes.

Q. So isn't it true that, as we discussed, water flows downhill; each year Mr. Vos appears to replow his fields to plant corn, and each year the water is going to flow downhill and cut through, as we see in these photographs, cut through, follow the path of least resistance downhill? Isn't that true?

A. Yes.

Q. And you were asked on redirect whether these erosional features, which are evident over a course of years in a series of different photos, whether they tell you whether manure got to the unnamed tributary. Do you recall that question?

A. Yes.

Q. You said no.

A. That's correct.

Q. But, again, isn't it possible that pollutants, other than solid manure, travel down these paths?

A. Yes, it's possible.

Q. And isn't it true that--it's not only possible, but isn't it likely that water coming off during a heavy rain storm, coming off of this site, off of Mr. Vos' feedlot, would reach the unnamed tributary?

A. Yes, it's likely that water would reach the unnamed tributary.

Q. And it's--if there were dissolved pollutants entrained in that water, they would reach the tributary as well?

A. Yes, they would.

MR. RYAN: I have no further questions, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. My turn for a couple of questions, and then I'll, of course, allow you redirect, Counsel McAfee, if you care to do that, okay?

MR. McAFEE: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: I know you're writing. That's hard to do. You heard what I said,

I hope?

MR. McAFEE: Yes.

THE ADMINISTRATIVE LAW JUDGE: Mr. Hentges, I'm going to paint with a broad brush my question, and please don't at all feel that because the question is coming from me, that you can't dispute any of my assumptions. If I'm saying something that's wrong, I don't want you to hesitate to say, "No, that's not my understanding, that's incorrect," or whatever.

THE WITNESS: Yes.

THE ADMINISTRATIVE LAW JUDGE: I'm no different from the other people asking questions. But it's my understanding that--again, painting with a broad brush--that your basic position is that modelling--the modelling that was used in this case is insufficient, from your expert opinion, to show that pollutants from the Vos Feedlot reached the unnamed tributary; that those--in your view the modelling by itself isn't sufficient to show that? Is that correct?

THE WITNESS: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. And so it's your further position that sampling would have validated or confirmed the model's predictions; is

that true?

THE WITNESS: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: And Mr. Ryan actually asked some questions that--in his recross that I was about to ask, which is that Ms. Doty--and if I'm incorrectly characterizing this, you can bring this to my attention during the briefs. But I remember, my recollection is she talked about how burdensome it would be in order to have valid results, that, as Mr. Ryan put it, the agency, the EPA, would have to be encamped on the site for a period of five years every day in order to deal with the period of time that EPA is alleging that these pollutants from the Lloyd Vos Feedlot--Lowell Vos, excuse me, reached the unnamed tributary.

Now, I'll let you know that in a previous decision that I issued, I have said that it would be unreasonable to expect that the agency has to go to that extent in order to prove that pollutants go from one point to another, it would be unreasonable to expect the agency to be there encamped every single day of the year over years or months.

So my question is, with that predicate there, while testing/sampling would not demonstrate what happened on any other day other than the date of

sampling, is it true that the sampling would at least tell you, on that given day, what was in water traveling from the feedlot to the unnamed tributary? Is that too much?

THE WITNESS: No, I--it would, sampling would tell you.

THE ADMINISTRATIVE LAW JUDGE: At least tell you on that day?

THE WITNESS: On that day. Now--

THE ADMINISTRATIVE LAW JUDGE: Is it your understanding--go ahead. You said now. Go ahead.

THE WITNESS: And I know collecting the data to calibrate these models is never easy, and we attempt to minimize it. It's not true that they would have to be out there every day. Rather, a series of sampling events are planned at specific times based on varying climatic conditions. Both water and sediment samples would be collected. The analysis would be primarily the nutrients, and once that information was put into the model, compared with the predictions, and the calibration process that--various inputs to the coefficient indices, direct inputs into the model are entered, you can eventually calibrate the model and, you know, perhaps it would only be three to four sampling events. It

kind of depends on the experience of the person doing it.

It would require a significant amount of data, perhaps four to five to six sample locations. It would require soil and water samples, and a minimum of probably three times. You know, scientists like data. Four or five or six times would be better, but it's not impossible with that data to show that your model can accurately predict storm water runoff, nutrient runoff, sediment yield on any date.

THE ADMINISTRATIVE LAW JUDGE: Okay. Did that finish your answer?

THE WITNESS: Yes.

THE ADMINISTRATIVE LAW JUDGE: I don't want to cut you off. Going back, divorce for a moment your thoughts about the model. Is it still true that if there was testing of the water done on any given day, that that would tell you--appropriate testing--whether pollutants were in the water on that given day?

THE WITNESS: Yes, sir.

THE ADMINISTRATIVE LAW JUDGE: And then just help me out with this: If one--first of all, is it your understanding that any such testing was done in

this case?

THE WITNESS: It's my understanding it was not.

THE ADMINISTRATIVE LAW JUDGE: Not. Okay. Then tell me this: If I'm--if we think of the Lowell Vos Feedlot and its perimeters, and then we see rills, or depending on what we want to call it, erosional patterns, or whatever, where liquid would travel from the Lowell Vos Feedlot, at what location would be the wisest location, from your perspective, to conduct this sampling, which would only tell you about that day, and that time of the day? But would it be at the point closest to where these, let's say, rills or erosional patterns reach the unnamed tributary? Would that be the best location, right at that junction? Or would you have several tests along the line from the Vos Feedlot to the point of the unnamed tributary?

If you were doing this, what would you want to do? One location as close to the unnamed tributary where these erosional patterns meet that tributary, or other locations as well? We're only talking about on a given day.

THE WITNESS: Yes, you're right, the key, critical point is where that tributary--where that

flow feature, flow path, meets the tributary. And so that's key, that's very important. But a line of sampling in an upstream direction would be appropriate because what you're trying to model is a nutrient, a material that will--first of all, it doesn't necessarily just all flush out. It moves to certain points based upon the amount of rainfall and runoff. There is additional convolution of additional water that runs into the drainage feature that was not at the feedlot.

So as this material moves through the field, it only--only in a quick, fast, large storm on saturated ground would necessarily pollutants make it all the way to the tributary in one day.

Your model essentially has to move it through the system, but--hopefully I understood your question correctly--but where the water and sediment entered the unnamed tributary would be the key point, would be the point you're focusing on.

THE ADMINISTRATIVE LAW JUDGE: That's apart from any modelling. We're doing water tests on one given day that tells us about that moment in time on that day. You're telling me you agree the best place would be just before the junction of where this water traveling from the Lowell Vos Feedlot first meets

with, or just before it meets the unnamed tributary, that would be the wisest location to tell you if pollutants were entering the unnamed tributary?

THE WITNESS: Yes, sir.

THE ADMINISTRATIVE LAW JUDGE: Okay. Mr. McAfee?

Thank you.

FURTHER REDIRECT EXAMINATION

BY MR. McAFEE:

Q. Mr. Hentges, Mr. Ryan asked you a question--a series of questions about this camping out, and--versus being able to model. That's the way I'll characterize it. And I believe he asked you a question, something like the only way to know over the last five years would be to model it, and I believe you answered yes to that question. What type of modelling process are you talking about when you answered that question?

A. Well, the standard modelling process. I guess--as I recall, the question was how can you tell on any given day? A model is the way to do that. It's calibrated over a variety of conditions, for a variety of parameters, in this case both soil and runoff, as well as chemical parameters, nutrients in the manure.

Once you have accurate predictions, matching observed values, now you can go back to the rainfall record and look at any point in the past. There are some problems going forward with rainfall because we don't know exactly what it's going to be, but you can do average values, or given storms that exist in the data. We create those scenarios, and on any given day you can tell if you have a calibrated model.

Q. Was that done in this case?

A. No, it was not.

Q. I believe Mr. Ryan also asked you about dissolved pollutants in runoff, and whether it would reach the unnamed tributary, and I believe the Court has asked you some of those questions. Again--and I don't mean to replow that ground, no pun intended, but I just want to make sure the record is clear. What do you need to know if a pollutant has reached the unnamed tributary? What do you need to have?

A. A sample that was collected and analyzed in the laboratory.

MR. McAFEE: Thank you. No further questions.

THE ADMINISTRATIVE LAW JUDGE: Any additional questioning, Mr. Ryan?

MR. RYAN: Yes, Your Honor, as a follow-up

to your questions, if I may.

THE ADMINISTRATIVE LAW JUDGE: Sure.

FURTHER RECROSS EXAMINATION

BY MR. RYAN:

Q. You talk about a scientist always wants more data, and you said you would say, perhaps, to calibrate this model at Mr. Vos' you would need three to four sampling events, and I believe you said three to five sampling plots. Did I get that right?

A. Yes, but I believe I also said I'm shooting from the hip. I'd kind of have to think that through. But that's the approximate level of effort.

Q. So these sampling plots for the runoff coefficients from Mr. Vos' farm field, for example, you would have to go onto his property and set these up?

A. Yes.

Q. So EPA would need to have--go back to Mr. Vos' property three to four times on his property in his farm field and set up test plots to collect this data?

A. Not necessarily test plots, just collect samples. Certainly there are some points where runoff measurement, along with erosional features, could be set up to get a good estimate. Certainly the unnamed tributary, you could get an accurate

value of flow, but not necessarily plots. Just samples, the chemical quality, the exchange coefficient, the volume and concentration of different nutrients in the soil, as well as the water.

Q. This would require access to Mr. Vos' property?

A. Yes.

Q. Now, you said only--I believe you said only a big storm event would result in a discharge of water continuing down to the unnamed tributary. Did I get that right?

A. Yes.

Q. Now, you would agree, would you not, that runoff occurs more readily in saturated soils?

A. Yes.

Q. It occurs more readily in frozen soils--or over frozen soils?

A. Yes.

Q. So if you have a dry condition and a big gully washer comes through, a big rain event, that's the event you were talking about that would get down to the unnamed tributary?

A. Yes. I thought I mentioned on saturated ground, but, yes.

Q. If you had daily rain over an extended period of time, but not a big rain, that water has to go somewhere, doesn't it?

A. Yes.

Q. And that water will run off?

A. It will run off, and it will infiltrate.

Q. So you have to know what the saturation conditions are in addition to how much precipitation is coming down, don't you?

A. Yes.

Q. It's possible to have runoff from Mr. Vos' feedlot down to the unnamed tributary if it's highly saturated conditions, isn't it?

A. Yes.

MR. RYAN: I have no further questions, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Anything else, Mr. McAfee?

MR. McAFEE: No, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. Mr. Hentges, thank you for your testimony.

THE WITNESS: You're welcome.

(Witness excused.)

THE ADMINISTRATIVE LAW JUDGE: Do we want, counsel, a five-minute break while you get ready for

your next witness? Yes? Let's take a five minute break.

MR. RYAN: Works for me, Your Honor. Thank you.

MR. McAFEE: Thank you.

(Short recess.)

THE ADMINISTRATIVE LAW JUDGE: We'll go on the record.

Who is your witness?

MR. McAFEE: Your Honor, Respondent calls Evan Vermeer.

THE ADMINISTRATIVE LAW JUDGE: Okay. Come up here, Mr. Vermeer. Good morning. I'm Judge Moran.

Raise your right hand, please.

EVAN VERMEER,

called as a witness by the Respondent, being first duly sworn by the Administrative Law Judge, was examined and testified as follows:

THE ADMINISTRATIVE LAW JUDGE: Okay. Have a seat, and would you, Mr. Vermeer, would you spell your name slowly for us.

THE WITNESS: V-e-r-m-e-e-r.

THE ADMINISTRATIVE LAW JUDGE: Okay. First name is what?

THE WITNESS: Evan, E-v-a-n.

THE ADMINISTRATIVE LAW JUDGE: Go ahead, Mr. McAfee.

MR. McAFEE: Thank you, Your Honor.

DIRECT EXAMINATION

BY MR. McAFEE:

Q. Mr. Vermeer, could you tell us where you currently live?

A. I live in Sioux Center, Iowa.

Q. What is your current employment?

A. I work as a feedlot consultant with a feedlot consulting group headquartered in Longmont, Colorado.

Q. What did you do prior to--first of all, how long have you been in that position?

A. Since December 1st of '06.

Q. And what did you--what did you do prior to taking that position?

A. I worked at the Iowa Cattlemen's Association for about three-and-a-half years.

Q. So what year did you start at the Iowa Cattlemen's Association?

A. I started May of 2003 and worked until November of 2006.

Q. And Sioux Center is a ways away from Ames,

Iowa, where the Iowa Cattlemen's Association is located.

A. Yeah. 200 miles on the nose.

Q. Okay. Did your job require you to be at the association, or were you out in the field?

A. I was hired to spend more time in the field than in the office, and so I was not asked--well, I was asked really to stay living where I was at for two reasons: Western Iowa, being the heaviest cattle population area of the state; and, secondly, I believe when Joel hired me, he said, "If you move here, you get in the office, you get stuck in the office, and we need contact in the country." So...

Q. And when you referred to Joel, are you referring to--who are you referring to?

A. Joel Brinkmeyer, who was the executive vice-president of the Iowa Cattlemen's Association at that time.

Q. Mr. Vermeer, let's get right into the issues that are involved in this proceeding, and what were you hired to do and to work with at the Iowa Cattlemen's Association?

A. I was hired, as I said, to spend time in the country working with producers and whatever pertinent issues were present at the time, as well as develop

new programs for the Cattlemen's Association that were needed by the producers, and some would be even revenue-producing for the association.

Q. Was one of your duties working with producers registered in the Iowa Plan?

A. Yes. Carol Balvanz was at the Cattlemen's Association at that time and in charge of the environmental effort, but she was in the office at all times. So, naturally, with my traveling in the country, I was doing the field work. Phone calls would come in, I would do some on-site visits with producers at their request, that type thing.

Q. As part of your duties related to the Iowa Plan, did you meet Lowell Vos?

A. Yes, I did.

Q. And how did you meet him?

A. He--I was on the site at his place as he was--called the office and was wondering--or asking about the different options for him out there. He and a lot of other feedlots were probably feeding between a thousand and two thousand cattle at the time, and the decision, first of all, you know, "Do I pursue the NPDES permit, meaning I want to feed more than--or have more than a thousand animal units on my place?" So that's the first decision you have to

make, is "Do I want to pursue that, or do I want to drop under a thousand animal units and not have to do the NPDES?"

And then, secondly, "If I pursue that"--we had discussions about what steps he would have to take to do that. At the time we were beginning to talk a little bit about the alternative technology route, and I felt, I think, after the second visit, that he was a potential candidate for that experimental program as well. Just making him aware of what was out there.

Q. Do you remember when you first met with him?

A. It would have been, I want to say, fall of '04, but I'd have--I mean, I had a couple of visits out there, but it was in that time frame, in summer/fall of '04.

Q. As you can recall?

A. As I can recall.

Q. Now, you started with the Cattlemen's Association in May of '03?

A. Yes.

Q. Okay. When you were working with Lowell Vos, did you have contact with his engineer?

A. No. Usually when producers made the decision which route to take, and they hired an

engineer, then--all we did was try to keep them aware of what was going on and steps they would have to take. And once they made the move to hire an engineer, then we weren't involved at all anymore.

Q. And you were working with Lowell prior to his engineer--well, let me back up.

Are you aware that Lowell had an engineer at some point?

A. Yes.

Q. And who was that engineer?

A. I think he first contacted NRCS, which several producers did across the state.

Q. And were you working with him at the time he was--or had you met with him at the time he had met with NRCS?

A. Yes. That was all kind of running through that same time period. NRCS was part of the development of the alternative technology system, and so it was kind of a natural, if you were thinking about that at all, to maybe go talk to an NRCS engineer.

Q. And previous testimony in this case has indicated--Brad Woerner testified, and I believe you mentioned that Lowell started working with Brad Woerner?

A. Yes.

Q. And Mr. Woerner testified that he first met with Lowell Vos in July of 2004. So does that mean that you were working with Lowell prior to that date, then?

A. Yeah. I know I was at Lowell's before he'd hired Brad Woerner. What that time frame was--I have some old calendars at home yet, but we met when he was talking to NRCS, and we talked primarily about the alternative technology system when I met him.

When he moved to hire Brad Woerner, he made a decision to go with the standard systems, as I guess I'd call it, and he knew where he was going, and after that I backed out of it.

Q. When you were working with Lowell and he was taking a look at the alternative technology systems, was that process moving--how was that process moving, as far as for all feedlot producers?

A. That process was not moving very quickly, and the rules, actually, for the alternative technology I don't think were finalized until something like September of '05. So it was a situation, and probably was part of Lowell's decision to move on with the standard system saying, "Hey, I don't think I can wait for the alternative technology

rules to come along," even though he probably would have been a prime candidate for that system.

Q. What other issues were feedlot producers, I guess, including Lowell Vos, facing in trying to get their work done under the Iowa Plan?

A. Well, there was--we knew that the Iowa Plan was to end in March of '06, and I'd say by '04 we knew that things were not moving along quickly enough. The producers that signed up were told not to do anything until they were inspected, had their inspection by the Iowa DNR. And those inspections actually lasted--and there were quite a few of them in the medium and low risk lots done in the fall of '03 and on into the spring and early summer of '04. So we're, you know, several years into the plan before the first inspection was done.

And after that, the timetable--you know, that's what triggered the start of the timetable. So then they had a decision to make, as Lowell did. Then you have to have engineering done, and then you have to submit the permit, and on and on.

Q. Were producers running into any issues with obtaining engineering services?

A. Engineers, obviously there were a number of lots that had their final--or had their inspection

in, say, August '03 into the spring of '04, quite a number of them, so that puts them all on the same start timetable for submitting permits.

So I'm sure there were a number of permits that were all being worked on, and there were about four engineering firms that were doing most of the work, they were the experienced ones, and, yeah, they were heavily loaded. NRCS was heavily loaded, and so there was a back-up array at the engineering firm, and everybody was kind of, I guess--the timetable was laid out. Everybody was working up against the deadline of the timetables for naming an engineer and submitting a plan, and those were all laid out by DNR, the timetables, but most everybody was working up against that simply because of the backlog at that point in time.

Q. The record shows, and I think you're aware of it, that Lowell Vos had his on-site inspection or on-site assessment done in June of '03. Did this--how was he affected by, you know, inspections done later and NRCS' backlog, et cetera?

A. Everybody was backlogged, including, you know, once a permit even made it to the DNR. We knew at the Cattlemen's Association by '05, later '05, that there was going to be a lot of feedlots that

would not be completed with their construction by the deadline of the Iowa Plan in March of '06, we knew that was going to happen. There was not only an engineering delay, there was also construction people delay, dirt movers, and so forth, hard to get contractors. And so the other thing that we looked at was how long it was taking to get permits processed.

So in October of '05, I surveyed the five major engineering--biggest--the five firms that were doing the most engineering work and asked them for their timetables and how they were operating, and basically looked at the day the plan was submitted to the DNR, and the date we got it back from the DNR because there was--we had timetables to meet. The engineer knew--the feedlot knew how long he had to hire an engineer to get him going, the engineer knew how long he had to take. If we met those timetables, then what happened?

I surveyed probably 60 to 80 permit applications, and the average time it took to receive a permit application back from the DNR was 185 or 186 days, six months. So that was another delay.

So you're adding an engineer delay, a possible--you know, "When can I get a contractor"

delay. The producer had no idea when the permit was going to come back from the DNR. So there were producers who booked and lined up contractors for three to six months down the road but had to cancel them because the permit wasn't back yet. So there was kind of a whole series of delays there.

Q. When you'd assembled this information, was this communicated to DNR and EPA?

A. Yes, it was. It was actually put together primarily for the EPA, and it was submitted to the DNR and EPA, and actually resulted in a face-to-face meeting with the EPA officials shortly before the end of the Iowa Plan.

Q. Now I'd like to turn to another aspect of the Iowa Plan, and that regards termination. I'd like to have you turn to Exhibit 22, Complainant's Exhibit 22.

MR. McAFEE: May I approach, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes, you may.

BY MR. McAFEE:

Q. Mr. Vermeer, could you tell us what Exhibit 22 is? And take your time to take a look at it, please.

A. It's a letter addressed to Mr. Vos from the--from Edmund Tormey, Legal Services Bureau of

Iowa DNR.

Q. Is it entitled--could you read--please read the title of the letter.

A. "Failure to Meet Submittal Deadline for Final Engineering Plan - Notice of Violation/Imminent Termination of Participation in Iowa Plan."

Q. There's some bold language in the middle of the second paragraph. Could you read that for us, please, Mr. Vermeer?

A. "If your final engineering plan is not submitted within 30 days of your receipt of this letter your facility will no longer be a participant in the Iowa Plan."

Q. In reading this, is it your understanding that that is what imminent meant?

A. Yes.

Q. Now, you worked with a lot of other-- First of all, were you aware of this at the time Mr. Vos--

A. Yes.

Q. Tell me about that.

A. Most of that communication was flowing into our office. Many of the producers that were working with these situations, Carol or myself got faxed copies, and so forth, and Carol always tried to keep me informed of what was going on. She would have

received this by fax copy, and we passed it around. So, yeah, we knew this was happening.

This, and other stuff like this, is what led us, finally, in October--led me to put together the whole survey of what was happening, and why we weren't going to get done by the end of the Iowa Plan. We knew that the EPA was looking at that deadline as well, and we just wanted to tell the EPA it's physically impossible for us to get done by March of '06.

Q. And when you use the term "us," who are you--

A. The industry. I represent the cattle industry; the feedlots.

Q. Were you aware of other producers who received termination notices from the Iowa DNR?

A. There were others. One specifically I remember that did, yes.

Q. Could you tell us about the one specific one you remember?

A. The one specific one is Scott Lorison who got a letter in January of '05 who stated he was no longer a participant in the Iowa Plan.

Q. And as you recall, did that notice use the word "imminent"?

A. No, not to my recollection. It basically said in there, "You are no longer a participant." I believe that's the language. It was, "You are no longer a participant. You're out."

Q. You would have received a copy of this at the time it happened?

A. Yes.

Q. Have you had a chance to review that letter again?

A. Yes, I have.

Q. Who signed that letter?

A. Jeff Prier.

Q. What happened after this producer received this final termination? Do you remember?

A. Yes. He had an on-site inspection. I believe Steve did that in April of that year, and it was followed within a few weeks, probably in June, by a violation and fine notice.

Q. And that was from whom?

A. From the EPA.

Q. Okay.

THE ADMINISTRATIVE LAW JUDGE: Okay. When you refer to Steve, he's referring to what individual?

THE WITNESS: Steve Pollard. Excuse me.

THE ADMINISTRATIVE LAW JUDGE: Thank you.

MR. McAFEE: Thank you.

BY MR. McAFEE:

Q. I want to turn to another area of the Iowa Plan--well, maybe I should back up just a minute and make sure that your testimony is clear in the record. This other producer, this Mr. Lorison that you worked with, again, I want to make sure that that producer, to your knowledge, did they--did he receive a notice of imminent termination?

A. He received a notice of termination. It was done. I believe the language was, "You are no longer a participant."

Q. Okay. Now I'd like to move on to--

MR. BREEDLOVE: Objection, Your Honor. Can we be provided this letter? We've been testifying extensively to something we haven't had exchanged--

THE ADMINISTRATIVE LAW JUDGE: Your objection is a little late, so it's overruled.

BY MR. McAFEE:

Q. Mr. Vermeer, I'd now like to turn to another aspect under the Iowa Plan, and there's been testimony in this proceeding that, of course, you are not--you were not here for, but there was testimony regarding whether producers, such as Mr. Vos, could

install temporary structures while they were waiting for their permit to build the permanent structures. Did you work with producers on that issue?

A. Yes, we did.

Q. And what is your recollection?

A. My recollection is that prior to discussion of what we called the Feedlot Bail House File 805, which passed in 2005 here in Iowa, prior to that bill discussion, producers were told they could do nothing, no construction, nothing, until they had a permit to construct, no temporary structures. And, in fact, there were quite a few feedlots that had structures that had been designed in the nineties by NRCS that the DNR, upon--when they did their inspection, deemed not satisfactory and actually pushed out--told them to take it down, take down dams, and so forth, that were actually blocking runoff at the time that had been designed by NRCS, as well as some structures that producers had done to stop runoff, and they were told by DNR to take them out. So we could do--we could build nothing new temporary, and we were actually, in some cases, instructed to take out temporary structures.

Q. In this case are you aware that Mr. Vos had a structure that was not designed according--by an

engineer?

A. Yes.

Q. And was he instructed to take that out?

A. I don't remember. I can't say for sure on that. It would not be uncommon because there were several that were, but the thought process--the DNR did not want solids and liquids catching in one basin. And through the eighties and nineties, a lot of berms had been built to stop runoff. They call that black water, high ammonia water, and they did not want that collecting. They had producers--even though it was protecting, it was stopping runoff, they asked producers to push them out and let the runoff go.

Q. You're not testifying as to whether that happened in Lowell Vos' case?

A. No, I'm not.

Q. The final issue I wanted to talk about with you is related to that, and it has come up in this proceeding as to whether solids settling could be constructed prior to receiving a permit. First of all, maybe we ought to just briefly tell the Court what solid settling is, and that's a term I use.

A. Yes.

Q. Go ahead.

A. That is a requirement for all feedlot runoff control systems. And basically what it does is it slows the water flow from the feedlot down to one foot every--one foot per second, two seconds--there's an engineering term for that. It slows it down to that speed so that 80-some to 90-some percent of the solids actually drop out before a liquid is released. So that's what's referred to as solid settling. So we'd get solids, and then we'd get settled feedlot effluent that's left.

Q. What's your understanding and your recollection as to whether producers could install such--something like solid settlement, or sometimes called a sediment basin?

A. Well, by the time we got to 2005 and we knew the timetable was getting really tough to meet the deadline of the March '06 Iowa Plan, which is why the industry really worked on the House File 805 and got some rules put in place and some requirements, so we could keep moving, the industry was just continually pushing to keep moving to meet the deadline, prior to that, as I said, we were told that we could build nothing.

When those rules were put in place, then we were told in--and that took effect July 1 of '05, but

it passed, obviously, the legislature prior to that, in the spring of '05. At our discussions, primarily with Mr. Tinker, DNR, we were told that we could build clean water diversion and we could build solid settling basins without having a permit. We could do nothing below the solid settling basin. We could-- very strong language, "Do not move any dirt that would be part of a water holding basin, or any other runoff control structure," but we could do solid settling.

The requirement--well, the thing that made everybody a little nervous about that was we were also told, again by Mr. Tinker, "Go ahead and build that solid settling. But if your permit comes back and the solid settling is different or revised, or our engineers think it wasn't adequate versus what your engineer built, then you're going to have to tear it down and build it again." So that was also a factor that slowed some producers down. The DNR said, "You may build the solid settling, but if we don't approve it, you're going to start again."

That's not a cheap structure to do. Some waited for the permit to come, some did not. Some did start.

Q. Mr. Vermeer, you mentioned what you call a

clean water diversion. What do you mean by that?

A. That would be water that enters a feedlot from above. In other words, it's runoff from cropland and grassland and housing area, whatever, your living area, and it's called clean water because it has not yet entered a feedlot. What we do as a part of our plans is berm and reroute that water so that doesn't go into the feedlot and add more contaminated water to what's already coming off of a feedlot.

Q. Would a feedlot on a hilltop need that?

A. No, probably not.

MR. McAFEE: I don't have any further questions, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. Cross-examination? Before you do that, I just want to ask one question. This is just to fill in a gap.

The individual you referred to, Mr. Vermeer, that got a notice similar to the notice that Counsel McAfee referred you to that Mr. Vos got, but that notice to this other individual--you'll have to remind me of his name.

THE WITNESS: Scott Lorison.

THE ADMINISTRATIVE LAW JUDGE: Lorison. That one didn't say imminent termination, it just

said, "You're out of the plan"?

THE WITNESS: That's exactly right.

THE ADMINISTRATIVE LAW JUDGE: My question is, is that in fact what happened, or was he--did they ignore their own letter? Was he from that point in time out and stayed out?

THE WITNESS: Yes, he was, because he was followed up with an on-site visit in April and fine in June, which he paid.

THE ADMINISTRATIVE LAW JUDGE: I wanted to make sure I knew--there was some reason for me to ask that question, and I'll just leave it at that.

Are you ready for cross?

MR. BREEDLOVE: Yes, Your Honor, I am.

THE ADMINISTRATIVE LAW JUDGE: I'm sorry. Go ahead.

CROSS-EXAMINATION

BY MR. BREEDLOVE:

Q. I'm Dan Breedlove with the Environmental Protection Agency. I appreciate you coming in today.

You spoke quite a bit about the big picture, a lot of facilities across Iowa, and I'd like us to focus a little bit on Mr. Vos' facility, if we can.

A. Okay.

Q. In particular, are you very familiar with

Mr. Vos' compliance history?

A. I don't know what you call "very familiar." Maybe you should explain that.

Q. Okay. I'll ask you some specific questions. Are you aware that Mr. Vos had an NPDES permit back in 1991?

A. Yes, I remember that he told me there was a permit back then.

Q. Okay. Now, Mr. Vos registered for the Iowa program--Iowa Plan in April of 2001; is that correct?

A. I believe that's right, yes.

Q. And his in-house assessment was done in October of 2001; is that correct?

A. I can't speak to that. I don't know for sure.

Q. Do you know if Mr. Vos' facility was assigned a medium priority?

A. I remember him saying it was medium priority, yes.

Q. According to his Iowa Plan, his on-site assessment should have been performed in 2003 and 2004; is that correct?

A. I don't remember a specific date as to when that was supposed to have been done. I do remember that all the high risk would be done first, you know,

starting in '02, and then the mediums, and lows following.

Q. Is it safe to say a medium facility, his facility, would receive on-site assessment after the high priorities?

A. Right.

Q. Are you aware that the on-site assessment was performed in June of 2003?

A. Not specifically. I knew it happened in that time frame, yes.

Q. Now, it's been testified to, and would you agree that Mr. Vos was one of the earlier medium priority facilities to receive their on-site assessment?

A. As I testified earlier, the time frame was summer to fall '03 into '04 when most of them were--a heavy group of them was done. He may have been the first of that heavy group, but it was in that time frame.

Q. So as a medium priority facility, if his on-site assessment was done in 2003, that would be relatively early among medium priority facilities; is that correct?

A. You can define "relative." You're in a time period there of six to nine months when a whole bunch

were done, and he's still in that time period.

Q. Correct me if I'm wrong, but you testified many were done in the fall of 2004?

A. No. No. I said summer to fall of '03 into the spring of '04. That was the heavy time frame.

Q. So many of the medium priority facilities did receive their on-site assessment almost a year after Mr. Vos received his?

A. I would say most of the mediums were probably done about the same time his were, and the lows would be the last, if the DNR was following the pattern.

Those that signed up and those that committed to be over a thousand head and wanted to follow--at least look at the NPDES route, those were, to my knowledge, pretty much wrapped up, even the low risks, in the summer of '04, summer and fall of '04, but that would be after the mediums.

Q. Mr. Vos received his on-site assessment approximately a year or so after--before those numbers you just talked about?

A. Before they went to the low risk, yeah. They grouped the mediums, they grouped the lows. I don't think there was a pattern to location. It was a matter of people, and that sort of thing, so, yeah.

Q. So part of the on-site assessment, was that to establish a date by which an engineer--

A. Yes.

Q. Let me finish, please--an engineer's name was to be provided to DNR; is that correct?

A. Right.

Q. Also to establish a date for which a plan of action would be provided?

A. Yes.

Q. So was there a standard deadline in which to provide the engineer's name to IDNR, 45 days?

A. I believe that's right, 45 days from the time of inspection to provide the engineer's name.

Q. Six months to provide a plan of action?

A. Yes. After that 45-day period, six months.

Q. Now, speaking specifically to Mr. Vos' compliance with the Iowa Plan, meeting the deadlines and time lines set up, if Mr. Vos received his on-site assessment in June of 2003, then his engineer's deadline would be August 22, 2003; is that correct?

A. Forty-five days after the visit.

Q. So his plan of action would be due six months after the on-site assessment, February of 2004? Does that sound correct?

A. Yes.

Q. Now, are you aware that on February 23rd, 2004, IDNR issued a notice of violation to Mr. Vos for not providing engineer's name, nor providing a plan of action?

A. No, I was not aware of that.

Q. Now, in April 2007 (sic), were you aware that Mr. Vos was also provided a notice that he provided an incomplete on-site assessment from IDNR?

MR. McAFEE: Your Honor, I object.

What was the date you just stated?

MR. BREEDLOVE: February 23rd Mr. Vos received a notice of violation for failure to submit a plan of action and failure to provide the engineer's name.

MR. McAFEE: I apologize, but I thought I heard the date of April 2007. I want to make sure the record is clear.

MR. BREEDLOVE: If I said that, I apologize as well.

THE ADMINISTRATIVE LAW JUDGE: Restate the question and we'll all pay attention to the date.

BY MR. BREEDLOVE:

Q. Mr. Vermeer, are you aware on April 27th, 2004, IDNR issued Mr. Vos a notice informing him that

he had submitted an incomplete plan of action?

A. I don't remember for sure. We talked about some things when I was out there, but I can't say yes or no to that question.

Q. Did Mr. Vos inform you that he had also--that this IDNR letter also told him he had 14 days to submit the plan of action or they would seek legal penalties?

A. I don't remember that.

Q. Are you aware of the date that Mr. Vos did submit his plan of action?

A. I believe that was December of '05.

Q. Well, just for a second--we're talking about the plan of action now. Does it sound appropriate that June 10th, 2004, was the date he submitted his plan of action?

A. Yes, that could be.

Q. Okay. That was, according to my math, that appears to be 43 days after he'd been issued a letter from IDNR saying he had 14 days to comply. Does that sound appropriate?

A. I don't know about the letter. I can't speak to that.

Q. So the plan of action, when the plan of action was submitted, did it contain deadlines by

which the producer determined when he would have his final plan submitted?

A. Normally, yes.

Q. And then IDNR would incorporate those deadlines submitted by the facility?

A. They would incorporate them, but not necessarily follow them.

Q. Who is "they"? Would that be the feedlot?

A. The IDNR. I mean, the DNR, we had no--we had no predictability as to how long a permit--when I did that permit survey, permits were issued 60 to 600 days after application, with an average of 180-some. So there was no predictability to get--

Q. Now--

THE ADMINISTRATIVE LAW JUDGE: You have to let him finish his answer. You asked the question. I told you at the beginning of this proceeding the witness has to answer the question, but then may elaborate.

MR. BREEDLOVE: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Can you remember your thought, sir?

A. If you submitted everything on the timetable, if you met every timetable that was required on the feedlot side, we had no feel at all