wastewater generated from the open lots generally drains to the south and west, with a portion of the northeast pens draining to the north"?

Do you recall ever writing that?

A. I believe that is in a cover letter for our DNR permit application.

Q. But you do recall writing that?

A. I do recall seeing that, yes.

Q. You don't recall writing it?

A. I am not sure whether I wrote the letter or the other engineer on that, listed on there, I believe Scott Boyle.

Q. Okay.

A. He may have physically typed that letter. But I did sign that letter.

Q. So you remember signing a letter with that statement in it?

A. Yes.

Q. And I take it since you signed that letter you believe that letter--that statement to be true at the time?

A. Yes.

Q. And you would agree, would you not, that if rain fell on this site, drainage would likely occur in those spots where you just mentioned in your

letter?

A. Yes.

Q. And, in fact, you came up with plans, didn't you, for holding runoff from Mr. Vos' feedlot, did you not?

A. Yes.

Q. Yeah. And you testified earlier that there were--you looked--there were two different types of scenarios you were looking at; one was an alternative technology and one was a conventional?

A. Yes.

Q. Yeah. And I believe you said Mr. Vos ultimately decided to go with the conventional?

A. Yes.

Q. Yeah. And you designed that--and you ultimately designed a conventional holding system for his runoff, didn't you?

A. Yes.

Q. Yeah. And you sized that to hold a 25-year, 24-hour storm event, didn't you?

A. Yes.

Q. Yeah. And you also placed three holding ponds to hold that waste on his facility in that design, didn't you?

A. I believe there were three holding ponds,

yes--

Q. Yes.

A. --in the design.

Q. And is it safe to say that these three holding ponds corresponded to the three discharge points on the site?

A. No.

Q. Okay. Would it be safe to say they corresponded to the three low points on the site?

A. No.

Q. Okay. We'll come back to that in a second. Let's look at-- Do you have a folder in front of you with Complainant's Exhibit 23, which I believe you testified about earlier?

THE ADMINISTRATIVE LAW JUDGE: And just when you have it, Mr. Woerner, just tell us when you have that in front of you, okay?

That's Complainant's Exhibit 23, counsel?

MR. RYAN: Yes, Your Honor.

THE WITNESS: Yes, I have it.

BY MR. RYAN:

Q. Would you please turn to Attachment 4, page 1 of 16.

MR. RYAN: And just so the record is clear and Mr. Woerner understands what we're looking at,

we're looking at an inspection report from EPA dated May--

THE WITNESS: Could you--

MR. RYAN: --May 31st, 2006.

THE WITNESS: Could you repeat the page number, please?

MR. RYAN: Yes. It would be Attachment 4, which is handwritten at the top of the page, and it comes after page 27 of 27 of Attachment 3. It's a color aerial photograph.

THE ADMINISTRATIVE LAW JUDGE: Well, I'm not sure-- Let's go off the record for a minute.

(Discussion off the record.)

BY MR. RYAN:

Q. So, Mr. Woerner, we're looking at Attachment 3 of Complainant's Exhibit 23. It's an aerial photograph of the Lowell Vos feedlot, and at the bottom of the page it says, "Page 1 of 2." Do you see that?

A. Yes.

Q. And, as I stated before, there's been prior testimony in this proceeding that this was an EPA inspection report. Have you seen this document before, this EPA inspection report, prior to today's testimony?

A. Exhibit 23 being the whole report?

Q. Yes. Have you seen this report before today's testimony?

A. I remember seeing parts of it. I didn't scan through all of it just now, but--

Q. Okay. Well, looking at Attachment 3, and--

THE ADMINISTRATIVE LAW JUDGE: Let me just stop. Why don't you make it easy on yourself. Instead of having to look at it sideways, turn it around so it's easy for you, okay?

THE WITNESS: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: It will help you out, perhaps.

BY MR. RYAN:

Q. Looking at Attachment 3, do you see the prominent red arrows showing what I'll represent to you as flow coming off the south side of the feedlot and channelizing to the west? Do you see that?

A. Yes.

Q. And is that--would you say that those flow patterns are consistent with your statement in your December 2nd, 2005, letter, that "Currently manure and process wastewater generated from the open pen--open lots generally drains to the south"?

A. Yes.

Q. And looking at the north side of the pens in Attachment No. 3, page 1 of 2 to Attachment 3 to Exhibit 23, do you see the red arrows that flow from the top of Pen 12 to the unnamed tributary? Do you see those arrows?

A. Yes.

Q. Would those be consistent with your statement in the same December 2nd letter that "a portion of the northwest [sic] pens draining to the north"? Would that be consistent with your statement there?

A. Could you repeat that, please?

Q. Yes. In your December 2nd letter, you say "Currently manure and process wastewater generated from the open lots generally drains to the south and west, with a portion of the northwest [sic] pens draining to the north."

My question to you is are those arrows pointing up from Pen 12 towards the unnamed tributary consistent with that sentence I just read to you from your letter?

A. No.

Q. Okay. Why and how are they not consistent?

A. I believe the letter is referencing Pen 6, the northwest pen draining to the northwest. Pen 12

would be a northeast pen.

MR. McAFEE: Your Honor, I'm sorry to interrupt, but counsel keeps referring to a letter that Mr. Woerner wrote a number of years ago, and it might be advantageous or helpful to the witness if he had a chance to look at that letter.

THE ADMINISTRATIVE LAW JUDGE: Yes. That's an objection, in effect, and I will allow that to occur.

So will you, Counsel Ryan, place that letter in front of-- This is the letter you just handed me a copy of?

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

THE ADMINISTRATIVE LAW JUDGE: But is this not in the exhibits already?

MR. RYAN: No. This was not in our prehearing exchange, Your Honor. I was not planning on putting it into evidence.

THE ADMINISTRATIVE LAW JUDGE: Oh, I thought that he was referring to something that he already had a chance to look at. I'm glad that Mr. McAfee called that to my attention.

Let's go off the record for a minute. I want to make sure this witness has an adequate opportunity to look over this five- or six-page

document.

So we're going to go off the record, and, Mr. Woerner, you look at that, and when you feel you've had a sufficient time to look at that, then Mr. Ryan can resume his questions.

We're off the record.

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: And just let me note on the record that there were several off-the-record discussions regarding a letter that counsel for EPA was questioning Mr. Woerner about. The document that I was provided and the witness was provided was only--was missing at least one page of a two-page letter. The exhibit itself was much longer than that. It's not part of the record exhibit, but the document itself was much longer than that.

But I did give Mr. Woerner the opportunity to look at the second page of that letter.

And you had a chance to look at that second page, sir?

THE WITNESS: No, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: You didn't?

THE WITNESS: It was identified and then other discussions took place.

THE ADMINISTRATIVE LAW JUDGE: Okay. So

we're going to proceed with that note.

Go ahead, Mr. Ryan.

BY MR. RYAN:

Q. Mr. Woerner, you were one of the engineers that helped design the runoff controls for Mr. Vos' facility?

A. Yes.

Q. And those runoff controls, just so we're clear, have not been built, to your knowledge, have they?

A. Correct.

Q. So then the pictures we looked at in Respondent's 9 through, I believe it was, 11, those--the lot would look more or less the same today as it did then?

A. I have--I have not been to the feedlot. I believe I was--I drove by, I did not stop at the feedlot, approximately two years ago on other travels.

Q. So it's--

A. I have not been there in the recent time.

Q. Okay. So, to your knowledge, no--none of the controls that you designed have been built today?

A. Correct.

Q. Now, going back to your memory regarding you

testified earlier on direct examination that you spent--you had quite a bit of back-and-forth between you and Mr. Vos as to what plan was going to be used or implemented and what control structures would finally be designed and then even testified you designed some control structures, and then those plans were submitted to IDNR.

Do you remember all that testimony?

A. Yes.

Q. And when you designed the facility, what did you--did you--had you come to a conclusion that there was a potential for discharge from this facility to this unnamed tributary we've been talking about?

A. When we designed the facility, we designed control structures to handle the potential runoff from the feedlot.

Q. And did you conclude that there was--Elliot Creek was the receiving water of the runoff from this feedlot?

A. That was not part of our design.

Q. But did you reach that conclusion at any time during your design work on this?

A. We--we dealt with Mr. Vos' feedlot and the property near it. The proximity of Elliot Creek and whether or not it was a potential receiving stream of

the runoff was not--did not directly play into our design. We were focusing more on the immediate area around his feedlot.

Q. Okay. That wasn't my question. My question to you was did you ever conclude that Elliot Creek was a receiving water for runoff from Mr. Vos' feedlot--

A. During our design--

Q. --at any time?

A. We were made aware of Elliot Creek approximately one year ago when I was in Des Moines meeting with Mr. Vos, Mr. McAfee, and the EPA. Prior to that, we did not--we did not look at Elliot Creek.

Q. Okay. I still don't think you've answered my question. My question was at any time did you reach the conclusion that Elliot Creek was the receiving water for the runoff from Mr. Vos' feedlot, yes or no?

A. Yes.

Q. Okay. And did you reach that conclusion prior to that meeting you just referred to a year ago with EPA?

A. I don't-- Yes.

Q. Okay. When did you reach that conclusion?

A. During-- I don't recall the exact time.

Q. Approximately.

A. Following our design, between the design and the meeting with the EPA, I was made aware of Elliot Creek and the fact that an alleged discharge had taken place to Elliot Creek or an unnamed tributary of Elliot Creek ultimately reaching Elliot Creek.

Q. Okay. Now, is it your understanding that the unnamed tributary which flows approximately to the west of Mr. Vos' property flows into Elliot Creek?

A. Yes.

Q. And that Elliot Creek flows further downstream and connects up with larger downstream waters?

A. I believe that's correct, yes.

Q. And when you-- You testified earlier on direct that you had--you offered an opinion as to whether the modeling would be sufficient to show a violation of the Clean Water Act, so you must have some knowledge of what the Clean Water Act requirements are; is that correct?

A. With respect to--

Q. Feedlots.

A. --feedlot runoff? Yes.

Q. And the Clean Water Act-- Well, tell me

what you understand about what the Clean Water Act says about runoff of feedlots in general.

A. In general, runoff from feedlots going into--I don't know the--I can't quote the direct terminology--waters of the--waters of the U.S. is prohibited.

Q. And so as an engineer, when you're designing feedlot controls for compliance with the Clean Water Act, it would be important, would it not, to know where the nearest surface water was, the nearest water of the United States?

A. Yes.

Q. And it would be important, would it not, to design to ensure that the runoff from the feedlot did not reach waters of the United States except as in compliance with applicable permit?

A. Yes.

Q. And so it's safe to say, isn't it, that you made some kind of analysis here, didn't you, on Mr. Vos' feedlot as to the likelihood of discharges from his feedlot getting into a water of the United States?

A. In our design we looked at his feedlot, the drainage area of the feedlot, and where that water went with respect to our proposed structures--

Q. Okay.

A. --and sized those structures to handle that runoff in accordance with Iowa DNR regulations at that time.

Q. So you sized it to make sure that the water that fell on it or snow melt that originated on it would stay on it, not leave; is that correct?

A. We designed it, in my opinion, to Iowa DNR standards that were in place at the time our design was being reviewed.

Q. Okay. And was that design ultimately approved?

A. Yes.

MR. RYAN: May we go off the record for just a moment, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes.

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: Back on the record.

BY MR. RYAN:

Q. Mr. Woerner, just looking at Complainant's 50, which is the large plan diagram, I believe, for the Lowell Vos feedlot-- Do you have that in front of you?

A. Yes.

Q. And do you recognize--
A. Excuse me. Yes.
Q. Do you recognize this document?
A. Yes.
Q. Can you tell us what it is?
A. It appears to be the proposed site layout that was provided to the Iowa DNR as part of his application.
Q. Now, I'll represent to you there are some markings on this which were placed there by another witness, and I won't be talking about those. Those markings you see towards the middle of the photograph--middle of the plan and going south, those were put on by a witness here in this case, and we won't discuss those now.

Looking at this diagram, now, is this the plan that you discussed a moment ago, before our most recent break, that you said complied with applicable IDNR standards at the time?
A. I believe that is the same document, yes.
Q. And you would agree, would you not, that this document shows constructed berming substantially along the south side of the feedlot?
A. It shows proposed berming.
Q. Thank you. And you would agree, would you

not, that it also shows proposed berming along the northeast side of the lot?

A. Yes.

Q. And also proposed berming along the northwest--or the north side of the lot, north, northwest?

A. Yes.

Q. And is it your--it's your understanding, is it not, that none of this constructed berming is actually in place now?

A. That is correct.

Q. And it also shows three holding ponds, and these holding ponds were designed to hold the runoff coming off of this facility, correct?

A. Yes.

Q. And, now, isn't it true that if these berms and holding ponds weren't there when rain occurred this--the rain runoff would leave the facility, wouldn't it? It wouldn't be held on the facility without these berms and ponds?

A. The potential exists, yes.

Q. Okay. So what's the--generally speaking, how many million gallons do we have in storage here?

A. I--I do not recall, I'm sorry, how many gallons there are in these structures.

Q. These structures look fairly large relative to the size of the facility. Is this a fairly standard conventional design for runoff controls?

A. The approach we took to sizing the structures, yes. This--

Q. And--

A. --is a fairly standard approach.

Q. And you would agree, would you not, that this part of Iowa where Mr. Vos' feedlot is receives a significant amount of rainfall, doesn't it?

A. It depends on your definition of "significant."

Q. It rains there enough to have to build big ponds to hold runoff in general, doesn't it?

A. Yes.

Q. And, in fact, they can get pretty big rainstorms in that part of Iowa in the summer, can't they?

A. I--I don't know the historical weather patterns.

Q. And, generally speaking, you're familiar with the weather in this part of Iowa, aren't you?

A. Yes.

Q. And it's not uncommon to get over an inch of rain in a day in the summer, is it?

A. At times it is possible, yes.

Q. Now, you would agree, would you not, based on the-- And I believe you stated that this--the contour lines we see on this Exhibit 50 were put there by--were contour lines that your engineering company came up with, right?

A. They were based on data that we collected, as well as data that the Iowa NRCS collected from their survey. We did draft this--

Q. Okay. And--

A. --topographic map.

Q. --you would agree, would you not, that it shows, taking away the construction--the proposed construction, you'd agree, would you not, that it shows a low point on the south side of the facility that continues out to the west?

A. Yes.

Q. Have you ever walked from the south side of Mr. Vos' facility out to the unnamed tributary? Have you ever walked that before?

A. No, sir.

Q. Have you ever looked at any of the aerial photography for that site, other than Complainant's Exhibit 23, Attachment 3, which we just talked about?

A. Yes.

Q. And are you familiar with--from the aerial photography that there is a preferential drain path off to the south and west from Mr. Vos' feedlot?

A. Yes.

Q. Now, I'm done with Complainant's Exhibit 50 for the time, if you would like to take that from in front of you. You can just place it there on top. I'll put it away later.

Looking at Complainant's Exhibit 23, it was the one we were looking at before, the inspection report. Do you have that in front of you, Exhibit 23?

A. Yes.

Q. And could you please turn to Attachment 4, which would be the one right after the previous attachment we looked at last time. It's the same aerial photograph that we saw before, but there are ground-level photographs following it. "Attachment 4" is written at the top of the page.

Do you see that?

A. Yes.

THE ADMINISTRATIVE LAW JUDGE: And does that say on the bottom of the page, "Page 1 of 16"?

MR. RYAN: It does, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: No. I'm

asking the witness.

THE WITNESS: Yes, it does, Your Honor.

BY MR. RYAN:

Q. Well, first of all, looking at the page 1 of 16, do you recall-- You didn't take the pictures in Respondent's 18, but can you tell me--excuse me--in Respondent's 11. You testified you didn't take these pictures, someone in your office took them, in Respondent's 11 and 12, for example?

A. Yes.

Q. But you were able to identify where they are?

A. Yes.

Q. Okay. Looking at-- We're going to look at two exhibits at once now. Let's look at Respondent's Exhibit 11, okay, and then also Complainant's 23.

Now, you see on Complainant's 23, Attachment 4, there are a number of little numbers with arrows pointing on them on the south side. You see 4, 3, 5, 6, 7, 8? You see that?

A. Yes.

Q. And I'll represent to you that those are where the inspector took the photos that follow this page. Looking at Respondent's 11, can you tell me approximately where, on this aerial photograph on

Attachment 4, that picture was taken?

A. Along the south side of either Pens 1, 2, 3, or 5.

Q. Okay. So you're not certain exactly where, it's just somewhere in that general area?

A. It is-- That's correct. I am not certain exactly which--which pen it was below..

Q. Okay. You can put R-11 away. Let's look at Complainant's 23. Let's turn to page--of Attachment 4, let's please turn to page 6 of 16.

Do you see that? It's a photograph of a fence line with some crops in the foreground and a cow's head on the extreme left. Do you see that?

A. Yes.

Q. And you would agree, would you not, that there's no berming present in that photograph?

A. Yes.

Q. And you would agree, would you not, from the previous testimony that--trying to identify where our 11 was taken, that this is Photograph 5, was taken in approximately the same area, looking back to the legend on page 1 of 16 of Attachment 4?

A. It was taken on the--the south side of those pens.

Q. Okay.

A. Yes.

Q. So this Photo No. 5 in Complainant's Exhibit 23, Attachment 4, was taken in approximately the same area as Respondent's 11--or 10?

A. Taken on the same side of the facility, yes.

Q. Okay. And you would agree that Complainant's Exhibit 23, Photo 5 does not show any berming?

A. Photo on page 6 of 16 you're referring?

Q. Yes.

A. Yes.

Q. And you would agree there's no vegetative strip there?

A. Yes.

Q. And you would agree that there's really nothing there to prevent runoff from occurring off that part of the feedlot?

A. Yes.

Q. Would you agree that that--that feature we see in the--approximately in the middle of the page is an erosional feature, looking at page 6 of 16 of Attachment 4?

A. Yes.

Q. And it was caused by running water?

A. Yes.

Q. Page 7 of 16, the next page, Photo No. 6, would you also agree that feature we're looking at in that photograph is an erosional feature?

A. Yes.

Q. And it was caused by running water?

A. Yes.

Q. But you've never actually been on the south side of Mr. Vos' feedlot and walked any of these features down to the unnamed tributary?

A. To the unnamed tributary west of the feedlot, no, I have not walked that direction.

Q. Have you, with your own eyes, seen any erosional features similar to the ones we see here in Photo No. 5 at the Lowell Vos facility exiting the facility?

A. Yes.

Q. Okay. And could you describe those for me, please?

A. During our initial visit in July of 2004, we did walk the perimeter of the feedlot with Mr. Vos, and at that time we walked along the south side. The areas identified in the recent pictures are comparable to some of the spots that we saw out there.

Q. So when you say the recent pictures, you're

referring to these pictures we just looked at in Attachment 4 to Exhibit 23?

A. Yes. The pictures of erosion in the cornfield. However, at that time the corn was significant--or the--I don't recall if it was corn or beans, but it was taller stand of vegetation than--than what is--was present in the pictures from our May '05 visit.

Q. You talked-- I'm going to switch gears here a little bit. You talked earlier during your testimony about--you talked quite a bit about the whole funding process for NRCS to fund Mr. Vos' construction project. Do you recall that?

A. Yes.

Q. Now, so that's--that's taxpayer money being used to build something for Mr. Vos; is that correct?

A. Yes.

Q. So Mr. Vos wasn't--this plan that we just talked about in Complainant's Exhibit 50, the big one, was that paid for by the taxpayers?

A. Yes.

Q. We talked then--we spent some time talking about also the Iowa Plan or-- I say "we." You and Mr. McAfee had a series of questions about the Iowa Plan and you spent some time talking about

Complainant's Exhibit--Complainant's Exhibit 22. Do you recall that?

This was the April 28th, 2005, letter. And if you would like to turn to it, please do.

A. Yes, I remember that.

Q. And there was that bold language in the middle of the page--this is the letter to Mr. Vos, and I believe you testified you'd seen this letter--"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."

A. Yes. I see that.

Q. Okay. And did you ever call up IDNR and say, "I'm working with Mr. Vos. We can't get it to you on time," or anything like that? Did you ever call them up and say, "Please don't pull the trigger"?

A. I have been in contact with the Iowa DNR informing them, keeping them up to date as to the progress on the project.

Q. But that's not my question. You were aware of this letter soon after it was written, correct?

A. I do not recall when I received the letter, but I believe it was within a couple of weeks.

Q. Okay. So at the time--roughly at the time this 30-day clock was ticking, it's referenced in April 28th letter, you were aware of this 30-day clock ticking?

A. Yes.

Q. And you knew that if Mr. Vos didn't get his plans in at the end of that 30 days, according to this boldface language, he would be out of the plan, correct?

A. Yes.

Q. And did you ever call IDNR and say, "Please give us more time. We can't make this deadline. It's not possible"?

A. I do not recall.

Q. Did Mr. Vos, to your knowledge, ever make that phone call to IDNR?

A. I--I do not recall if he did or not. I'm not aware.

Q. Would it surprise you if I told you we had two witnesses from IDNR yesterday testify that Mr. Vos was considered out of the Iowa Plan as a result of this deadline in this letter?

A. Pardon me?

Q. Would it surprise you if I told you that two witnesses from IDNR yesterday testified that Mr. Vos

was considered out of the Iowa Plan as a result of this language in this April 28th letter?

A. No.

Q. What you were doing was you were acting as the engineer for Mr. Vos to get his controls constructed, right?

A. The engineer to provide the design for the controls that would ultimately be constructed, yes.

Q. And you had--your interaction with IDNR was to get those plans approved, correct?

A. Once we provided them, yes.

Q. So in terms of what you were doing is you were working with NRCS to help obtain the funding to fund your preparation of these plans for Mr. Vos and then getting them submitted to IDNR for approval; is that fair?

A. We were not responsible for obtaining funding from the NRCS?

Q. But you were working with NRCS, weren't you?

A. Yes. They were our client.

Q. And NRCS did, in fact, fund this? They did, in fact, ultimately fund this with taxpayer dollars for Mr. Vos to build these facilities or at least--

A. For the design, yes.

Q. So when you were doing that, when you were

working with NRCS and IDNR, the Iowa Plan really didn't play a role in what you were doing, did it?

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

Q. I mean nothing about the Iowa Plan really affected your getting--your drawing up these plans for Mr. Vos and getting them approved, did it? I mean the amnesty program, for example.

A. We were working for Mr. Vos--

Q. Right.

A. --to get them done to his satisfaction and then provide them to the Iowa DNR.

Q. But the existence or nonexistence of this amnesty program didn't really affect how you drew up your plans or how you got your funding or how you moved it forward, did it?

A. I'm not sure I can answer that yes or no.

Q. But you stated on direct examination that--I'm paraphrasing here, because I have to work off my notes, and please correct me if I'm wrong--if Mr. Vos had received the permit on time-- We went through the--you discussed how you submitted the permit application for the construction of this project to IDNR and then they later approved it but it took some time to get that approval, and I believe you testified if Mr. Vos had received that permit on

time he could have constructed before the end of the five-year period in the Iowa Plan.

Do you recall that testimony?

A. Yes.

Q. Now, you submitted the plans to IDNR in December of '05, correct?

A. Yes.

Q. And they had a 60-day window to approve them at the time?

A. I believe there was a 60-day window.

Q. Okay. And so if they had approved them within 60 days, theoretically, that would have been, if you submitted in December, let's assume just December 1st, then it would have been January, February before the approval would have come, correct?

A. It would have been by March 1st.

Q. Okay. But you couldn't have actually constructed it by March 1st, could you have?

A. No.

Q. So even if they had approved them within 60 days, you couldn't have got these facilities constructed before the end of the Iowa Plan, could you?

A. My-- I don't recall the exact date that the

Iowa Plan expired.

Q. I'll represent to you it was May 1st--excuse me--April 1st, 2006. Assuming that's the date--

THE ADMINISTRATIVE LAW JUDGE: '06?

MR. RYAN: '06.

BY MR. RYAN:

Q. If you had submitted the plans in December of '05, had them approved within 60 days, could you have constructed these facilities in the winter, in February, in time to meet the April 1st deadline for the end of the Iowa Plan?

A. I do not know. I do not recall the conditions that--the weather conditions--

Q. Okay.

A. --that spring directly, but on a project like this a few weeks worth of dirt work could have built structures for this facility.

Q. You would agree that February is not spring in northwest Iowa, wouldn't you?

A. Typically it is not, yes.

Q. And you testified earlier that you couldn't work in the fall because it would just--it would mess things up for you trying to work next spring?

A. The potential was there.

Q. Yeah. And that same potential would exist

if you tried to break ground in frozen dirt in February, wouldn't it?

A. Yes.

THE ADMINISTRATIVE LAW JUDGE: Just to make the record clear, Mr. Ryan, as I noted what you were saying, and you can tell me if that's not what you intended to ask or whether I--the record will show, but I thought you were working under the assumption in the most recent questions to Mr. Woerner that if there was approval in February '05, and then you told me, I think, a minute ago that the Iowa Plan expired in April of '06, so we're talking about 14 months, aren't we? If your question was whether they could do it in 14 months--

MR. RYAN: No, Your Honor. If I said that, I misspoke. I believe the testimony was that the plan was submitted in December of '05. Sixty days would be February of '06, approximately.

THE ADMINISTRATIVE LAW JUDGE: Okay.

MR. RYAN: And then the plan expired on April 1st of '06.

THE ADMINISTRATIVE LAW JUDGE: I'm sorry. Okay.

MR. RYAN: And if I misspoke, I apologize.

THE ADMINISTRATIVE LAW JUDGE: Okay.

BY MR. RYAN:

Q. Now, during the pendency of this permit application there was no relief from the Clean Water Act requirements, was there?

MR. McAFEE: Objection; calls for a legal conclusion.

THE ADMINISTRATIVE LAW JUDGE: Sustained.

MR. RYAN: I believe Mr. Woerner testified earlier on direct that he did not believe the use of this model was appropriate for proving violations of the Clean Water Act, and he testified on cross that he has an understanding of what the requirements of the Clean Water Act are for feedlots. I believe he can testify as to whether or not this facility had an ongoing obligation to comply with Clean Water Act.

THE ADMINISTRATIVE LAW JUDGE: I think I ruled.

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

BY MR. RYAN:

Q. Do you have an understanding, as you sit here today, whether feedlots are allowed to discharge to waters of the United States without an NPDES permit?

A. Do I have an understanding?

Q. Uh-huh.

A. Yes.

Q. And what is that understanding?

A. Understanding is that facilities are not allowed to do that.

Q. Okay. And when you were working on the plans for Mr. Vos' feedlot, there was nothing to stop him from--from going out and putting up berms or some kind of structures to prevent runoff from entering the nearby tributary, was there?

A. I don't know if there was anything preventing him from doing that.

Q. Okay. Now, do you know whether or not Mr. Vos had an NPDES permit in 1991?

A. No.

Q. So you have no knowledge of that?

A. I am aware that he had an engineer, had spoken to an engineer, but I'm not aware of the specifics of what happened at that time. The engineer wasn't with our office, and I was not with an engineering company at that time.

Q. So do you have some knowledge of Mr. Vos' status under the Clean Water Act from the early nineties?

A. No. Not that I recall.

MR. RYAN: Your Honor, if I may have just a

minute, I think I can wrap up quickly.

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

(Discussion off the record.)

BY MR. RYAN:

Q. Mr. Woerner, regarding the NRCS funding for Mr. Vos' facility for the engineering work, did--was it--was there any reason Mr. Vos couldn't have funded this himself?

A. I don't think I can answer that for him.

Q. Well, I mean, aside from the fact whether he can afford it or not, and that's not what I'm asking you--let's assume for sake of argument he had enough money--could he have just gone forward himself without NRCS funding?

A. I would assume, yes.

Q. And he could have hired a firm like yours to say, "Please build this for me," or, "Please design this for me"?

A. Yes.

Q. And you said there was a period of time when Mr. Vos was trying to decide whether he wanted to go with the alternative technology or the conventional technology. Would you say there was some time where he was mulling that over?

A. Yes.

Q. And that was right about the time of the April 2005 letter from IDNR?

A. Yes.

Q. Okay. So isn't it safe to say that part of the--based on your testimony this morning, that part of the delay in moving this along was Mr. Vos needed to decide what to do? Wouldn't you agree with that statement?

A. Part of the delay?

Q. Yes.

A. Yes.

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

THE ADMINISTRATIVE LAW JUDGE: Do you need a few minutes, Mr. McAfee, or--

MR. McAFEE: No.

THE ADMINISTRATIVE LAW JUDGE: Okay. Great.

MR. RYAN: Could we go off the record for one second while we--

THE ADMINISTRATIVE LAW JUDGE: Sure.

MR. RYAN: I don't want to be walking in front of Mr. McAfee while he's questioning.

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

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: We'll go back on the record with redirect from Mr. McAfee.

REDIRECT EXAMINATION

BY MR. McAFEE:

Q. Mr. Woerner, I just want to revisit this issue of the Iowa Plan and completing construction by a certain date. Regarding the questions Mr. Ryan was asking you, as I understood it and as stated by Mr. Ryan, I believe the Iowa Plan, the five-year date, as he stated, ended April 1. Is that your understanding?

A. That's my understanding. That's what he said, yes.

Q. Yes. And if Mr. Vos would have received his permit within the 60 days, it would have been no later than 60 days from December-- I believe the record shows December 5th, 2005.

A. Yes.

Q. And for sake of our discussion here today, that would be approximately what date?

A. February 5th.

Q. Okay. And you, in fact, talked to-- Excuse me.

Did you have a contact with DNR about that

time?

A. Yes.

Q. And I believe you testified you were fully aware of when the Iowa Plan ended, and wasn't that--or was that a reason for your call?

A. That was one of the reasons, yes.

Q. And if my math is correct, doesn't that leave-- If it would have been issued when it should have been, how many months would he have had to complete construction prior to April 1?

A. If we had received the approval on February 5th of 2006, that would have given him just short of two months prior to April 1, 2006.

Q. And what's your experience with the month of March in your area of practice that-- I'll ask can construction in a normal year, if there is one, can significant construction activities for a system like Mr. Vos' occur during the month of March?

A. Yes.

MR. McAFEE: No further questions, Your Honor.

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

THE ADMINISTRATIVE LAW JUDGE: Okay. Mr. Woerner, thank you for your testimony. You're

excused.

(Witness excused.)

THE ADMINISTRATIVE LAW JUDGE: Did you want to say something, Mr. McAfee?

MR. McAFEE: No, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Thank you. So we're going to pick up at 2 o'clock. See you all at 2. We'll go off the record.

(Recess at 12:54 p.m., until 2:00 p.m.)

AFTERNOON SESSION (2:00 p.m.)

THE ADMINISTRATIVE LAW JUDGE: Good afternoon. We're ready to proceed, Mr. McAfee, with your next witness.

MR. McAFEE: Yes, Your Honor. Respondent calls Gerald Hentges, H-e-n-- Well, we'll have him.

THE ADMINISTRATIVE LAW JUDGE: Good afternoon.

MR. HENTGES: Good afternoon.

GERALD HENTGES,

called as a witness by counsel for the Respondent, being first duly sworn by the Certified Shorthand Reporter, was examined and testified as follows:

THE ADMINISTRATIVE LAW JUDGE: Okay. Just with the convention we use is a person first states their name, and then if you would spell your last name slowly so the court reporter gets it correct.

THE WITNESS: Yes. My name's Gerald Hentges, H-e-n-t-g-e-s.

THE ADMINISTRATIVE LAW JUDGE: Thank you. Okay. Mr. McAfee, whenever you're ready.

MR. McAFEE: Thank you.

DIRECT EXAMINATION

BY MR. McAFEE:

Q. Mr. Hentges, would you please tell us your

address.

A. I live at 9792 Colby Avenue in Clive, Iowa, 50325.

Q. And could you give us the address of your place of employment, if you would, please?

A. It's 600 Southwest Seventh Street, Des Moines, Iowa, 50--

Q. And-- I'm sorry. Go ahead.

A. 50309.

Q. And who are you employed by?

A. Terracon Consultants, Incorporated.

Q. Mr. Hentges, let's start with your background, your educational background. Where did you go to college?

A. I received a bachelor's degree in hydrology from the University of Arizona.

Q. And did you do any other post-graduate or any post-graduate work?

A. Yes. I did one year of post-graduate work at the University of Arizona in hydrology.

Q. What did you do after your college and post-graduate studies?

A. I worked for consulting firms. I first went to work for E.A. Hickok & Associates in Minneapolis, Minnesota. Later transferred to Des Moines. Hickok

& Associates was purchased by Montgomery Watson. And I started at Hickok in 1993--excuse me--1983, and I took employment at Terracon in 1989, where I've been ever since.

Q. What is your current position at Terracon?

A. I am a senior project manager and senior associate.

Q. What does that-- Well, you say senior project manager. Is that-- What is your title besides senior project manager? Do you have a title?

A. Senior hydrologist.

Q. Could you tell us, briefly, what your job duties entail as a senior hydrologist?

A. Well, we perform consulting activities for various clients who need assessments of--for surface and groundwater quality, volume. I work a great deal in wetland delineation and mitigation and design, solid waste facilities, and RCRA in hazardous waste sites.

Q. Could your duties as a senior hydrologist deal with--and you're speaking to a nonscientist here, but do they deal with both surface and groundwater?

A. Yes.

Q. Have you testified in other cases as an

expert?

A. Yes. I've been an expert witness in about ten cases.

Q. As a hydrologist?

A. Yes.

Q. This case, as you're fully aware, deals quite a bit with computer modeling as it relates to water movement, I'll call it. Could you tell us what experience you have in that area?

A. I've conducted a great deal of surface and groundwater modeling for both flow and quality for various types of projects; agricultural, mine land projects, contaminant fate and transport in well fields or at disposal facilities.

Q. And in doing so what type of models, computer models, have you used n?

A. Well, I've used all number of models, I suppose. A comprehensive list is a little tough, but, you know, a lot of the groundwater models like MODFLOW and Rescue, the Well Head Protection Code; surface water models for flow, TR-55, TR-20, the HEC series, HEC-RAS, which is a river analysis software; and then pesticide root zone model, PRZM, CREAMS/ GLEAMS, HAS, which is hydraulic assessment of surface water and chemical quality. It's kind of hard to

remember them all, but a wide variety.

Q. Are you aware of the two computer models--two of the computer models used in this case, SWAT and APEX?

A. Yes. I'm--I'm familiar with them. I haven't run them on a project, but I've looked at them. I know SWAT is an outgrowth of earlier models, like a lot of these models are, and I believe it has its roots in the TR series. It's been expanded to include some fate and transport.

APEX was developed from the EPIC series, which I did have a copy of at one time and ran. And it was essentially a sediment transport model when it first came out. So I'm familiar with both SWAT and APEX.

MR. McAFEE: Your Honor, I would move to have this witness admitted--designated, excuse me, as an expert on the issues in this case.

MR. RYAN: I'm not sure what the issues in this case are. Can we be a little more specific, please?

MR. McAFEE: Well, I believe our prehearing exchange was fairly specific to reply to the allegations in this case regarding water and pollutant movement and specifically computer

modeling.

MR. RYAN: So if I may understand, the motion is to have this witness recognized as an expert in pollution modeling and-- It's not clear to me what he's seeking to have him designated as.

THE ADMINISTRATIVE LAW JUDGE: Well, it's clear to me, and based on what Mr. McAfee just said, this witness is so designated.

So you can proceed, Mr. McAfee.

MR. McAFEE: Thank you.

BY MR. McAFEE:

Q. Mr. Hentges, at various times here during your testimony we'll be reviewing a report that you have filed in this case, and it is designated as Respondent's Exhibit 8.

And you might want to turn to that in the-- It would be the small binder there with the green cover.

THE ADMINISTRATIVE LAW JUDGE: Yes.

BY MR. McAFEE:

Q. Yes. Do you see Exhibit 8 there, Mr. Hentges?

A. Yes, sir.

Q. Is that your document?

A. Yes, it is.

Q. I guess I want to start with--before we get into your report, I want to start with exactly what you did when you started work on this case.

A. I read the complaint, the file that embodied the complaint, and I reviewed a couple of sets of photographs, I believe March 2008, and I looked at the fish studies and the groundwater model.

Q. By the groundwater model, are you referring to the--

A. I--

Q. What are you referring to?

A. I'm sorry. I misspoke. The APEX model. The SWAT and APEX model for the feedlot.

Q. Are you referring to a document that was prepared by another expert in this case? Is that what you're referring to?

A. That's correct.

Q. And we'll get to that here after a bit, but for purposes of the record, that's been identified as Exhibit 43.

And you reviewed that document; is that right?

A. Yes, sir.

Q. Did you visit the site of Lowell Vos' feedlot in this case?

A. Yes, I did.

Q. Turning now to your report, which is Exhibit 8, in your "Evaluation" in paragraph 2.0, let's start with-- And maybe we should start with correcting a typo. How's that? At the end of the first paragraph-- Well, could you read the last sentence, please.

A. "In my opinion, there are significant inconstancies in the photographs that EPA claims show manure runoff from the feedlot," and "inconstancies" is supposed to be "inconsistencies."

Q. Okay. Thank you. Tell us what observations you made that you state in that first paragraph. And let's just start with giving us a little bit of a summary, and then we'll get into more details.

A. Well, you know, in the evaluation I looked at the inspector's reports and the photographs, and they showed, you know, seasonal rills and gullies that appeared to me in the photographs to be plowed through and planted on an annual basis.

The areas described as channels, you know, to me appeared to also drain, you know, larger row crop areas, and they were more rill and erosional type. And several of the photographs indicated that they depicted manure in these drainageways, and,

frankly, I couldn't see it.

Q. Okay. Well, let's go right to that document--or exhibit that embodies those photos, and that is Complainant's Exhibit 28.

MR. McAFEE: And may I approach, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes, you may.

BY MR. McAFEE:

Q. Do you have Exhibit 28 there in front of you, Mr. Hentges?

A. Yes, sir.

Q. I just want to go through this, and I'll pretty much let you lead me through how you have reviewed these photos. And we don't need to go through each one. I'll let you take a look at them, and then why don't you testify when you get to one that we need to take a look at some of these erosional rills and gullies.

THE ADMINISTRATIVE LAW JUDGE: And are you talking, counsel, about beginning on the third page, where it says "Photo No. 1"?

MR. McAFEE: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: And so, Mr. Hentges, it will helpful to me if-- You know, counsel has asked you to start to go through these photos, right, so if you see something that you want

to comment on consistent with the question from Mr. McAfee, then it will help us all out if you say, "I'm looking at Photo No., and this is what I see" or don't see, whatever the case may be, all right?

THE WITNESS: Yes.

THE ADMINISTRATIVE LAW JUDGE: Don't feel rushed. You take your time going through each photo.

A. Well, I'm looking at Photograph 3 that indicates it's a close-up of runoff from the feedlot, and yet it appeared to me that this runoff likely was from a large area, and it was--although it was in the direction of the pens, I wasn't quite certain how it was determined to be runoff from the feedlot. And it appeared that it likely embodied more runoff from larger areas than just there.

BY MR. McAFEE:

Q. Mr. Hentges, if I could ask you a question about that, what would you need--what information would you need to know if that was, in fact, runoff from the feedlot pens?

A. Well, in order to determine if the runoff was from the pens, water quality sample would likely contain elevated nutrients, and that would be one way to determine it.

Q. And are you aware of any such sample in this

case?

A. No, I'm not.

Q. Okay.

A. Photograph 5 indicates it's a photo standing in the northwest corner of the feedlot facing west and references channelized flow, and although I do see a rill, it also appears that during the growing season this area is plowed and planted, so I'm not sure I'd call it a channel.

Q. Okay.

A. Photo 6 indicates that it's a photo standing in the northwest corner of the feedlot facing northeast, and it documents flow path once water leaves the pens.

And it's somewhat related to No. 5. It occurs to me on the location map, 5 pointed generally to the west while 6 pointed generally to the east.

And in Photo 6 it indicates channelized flow leaving the pen, yet I was wondering why a picture wasn't done in the middle. If there was channelized flow leaving the pen, I would have liked to have seen it from outside the pen to connect these two areas.

Q. And with what you have available, are you--can you connect those two areas?

A. Well, it's--it's difficult. I mean, I see

kind of a berm around the edge of the fence line, and I can't quite tell if it extends along the west side of the fence line. I see it to the north and I see an electric fence kind of to the very northwest. So but, no, I thought there was a disconnect there, and--

Q. Okay.

A. It didn't seem to be telling me what the caption was saying or showing me what the caption was telling me.

Photograph-- I'm sorry. Photograph 14 indicates that the photo shows a flow path from Pen No. 5 and that the water flow's approximately 100 feet from a terrace where it overflows a terrace, and then the photograph right after that, 15, shows a flow path on the other side of the terrace. And I guess there the disconnect was if a terrace is breached here, I would have liked to have seen a picture of that.

Q. Okay.

A. And I guess my point is that water, you know, can collect along the base of a terrace and still create a flow path or an erosional gully or rill. If the photograph was wanting to show a breached terrace, I guess I would have liked to have

seen a picture of the terrace itself.

Q. Okay. Shall we move on to the other photos, then, unless you have more to add to that one?

A. Photograph 23--

Q. Yes.

A. --the caption indicates that photo shows manure solids within a channelized flow path. It's a bit of a close-up to see a channelized flow path.

This appears to be one of the rills on the right side of the photo, and yet I really--I look at this and it looked more like, you know, sediment, feed, you know, potentially some sort of feed. I didn't necessarily recognize it as manure.

And then Photograph 24, it also indicates that the material is manure, but, you know, it looks like silage to me or some sort of feed. It may be some bedding material.

Photograph 25 shows the same material.

I believe that's it. You know, several of the photos I skipped over indicate there's channelized flow paths, and in some instances I can see them, and some, you know, they look more like seasonal gully/rill erosion. It's obvious as you move farther away from the feedlot and closer to the unnamed tributary that there was some defined flow

occurring. But that's all the comments I have on the photographs.

THE ADMINISTRATIVE LAW JUDGE: Thank you.

BY MR. McAFEE:

Q. Mr. Hentges, in summary of these photos, which-- What date were they taken?

A. March 11th, 2008.

Q. Is there anything in these photos that indicates to you that a pollutant from the Lowell Vos feedlot reached an unnamed--the unnamed tributary?

A. No.

Q. And why do you say that?

A. Well, I just don't see any evidence. I--I see erosional rills and gullies that appear to be plowed through and planted each season. I see material that's identified as manure that doesn't--that I can't tell if it's manure or not. It doesn't look like it to me. And in some cases the material looks like--like bedding or feed.

Q. Now I want to move to another set of photos, which-- Well, I need to back up. At the time you were able to prepare your report, Exhibit 8, was this the extent of the photos you had to review-- Let me rephrase that.

You reviewed these photos as part of the

prehearing exchange, correct?

A. Yes.

Q. Okay. Were there any other photos you looked at in the prehearing exchange that you were able to view that you felt were important towards reaching your conclusions?

A. There was another set of photos, I thought they occurred earlier, and I--

THE ADMINISTRATIVE LAW JUDGE: And, Mr. McAfee, you're referring to the prehearing exchange provided not by you but by EPA?

MR. McAFEE: Yes. In Complainant's.

THE ADMINISTRATIVE LAW JUDGE: A moment ago you said Exhibit 8. You meant to say Exhibit 28, did you not?

MR. McAFEE: Your Honor, and I'm sorry for skipping back and forth, when I said Exhibit 8, that's Respondent's Exhibit 8, which is his report.

THE ADMINISTRATIVE LAW JUDGE: Oh.

MR. McAFEE: I apologize. I'll try to qualify the exhibit I'm referring to.

THE ADMINISTRATIVE LAW JUDGE: Thank you.

THE WITNESS: And in the Exhibit 24 there were some photographs I looked at. But they didn't--

BY MR. McAFEE:

Q. That would be Complainant's Exhibit 24?

A. Complainant's Exhibit 24, just a few photographs that really didn't affect my opinion one way or the other.

Q. Okay. Now, following your review of the complainant's prehearing exchange, were you provided with additional photos to take a look at in the supplemental--Complainant's supplemental prehearing exchange?

A. Yes, there were some additional photos submitted in the supplemental exchange that I reviewed.

Q. And, now, again, that would be after you had prepared this report that is Respondent's Exhibit 8; is that--

A. That's correct.

Q. Well, let's take a look at those photos, and realizing that they are not part--you didn't have them in time to form your opinion in this report, but we'll take a look at them and see if you have anything to add there. That is Complainant's Exhibit 42.

THE ADMINISTRATIVE LAW JUDGE: Probably going to be in a different notebook. I don't want to

steer you wrong here, but I think it's in a separate notebook.

THE WITNESS: Yes, sir. I believe I found it.

THE ADMINISTRATIVE LAW JUDGE: Okay. Did you find the right one?

THE WITNESS: I am not--

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

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: Mr. McAfee.

MR. McAFEE: Thank you, Your Honor.

BY MR. McAFEE:

Q. Mr. Hentges, do you have Complainant's Exhibit 42 in front of you?

A. Yes, sir, I do.

Q. And have you had a chance to review these photos prior to today?

A. Yes, I have.

Q. Okay. And let's take a look at these. Again, I'll kind of leave it up to you how you want to look at them and make comments, but let's take a look at Photo 1. What does that show to you?

A. Well, it shows an erosional area where surface water is moving down through the cornfield.

Q. Do you see the date on these photos?

A. Yes, I do.

Q. And--

A. March 11th, 2008.

MR. McAFEE: May we go off the record for a minute, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes.

(Discussion off the record.)

THE ADMINISTRATIVE LAW JUDGE: Now, during an off-the-record discussion there was--a point was raised about whether EPA's Exhibit 42, Complainant's Exhibit 42, incorrectly lists dates associated with various photographs in that exhibit.

Those photographs run 1 through 12, and it's my understanding that the date that's listed for each of those photos of March 11th, 2008, is not correct, that it's actually a date in July of that year?

MR. BREEDLOVE: July 1st, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: July 1st, 2008. That was Mr. Breedlove speaking.

And so you agree, Mr. Breedlove, that that's the correct date that should be associated with those photos?

MR. BREEDLOVE: We do, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay.

Anything else about that, Mr. McAfee?

MR. McAFEE: No, Your Honor. Thank you.

THE ADMINISTRATIVE LAW JUDGE: Okay. So you're aware, Mr. Hentges, that these photographs have an incorrect date listed now?

THE WITNESS: Yes, sir.

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

MR. McAFEE: Thank you.

BY MR. McAFEE:

Q. Mr. Hentges, given the date that these photos were taken of July 1 of 2008, any weather conditions that you're aware of that would explain some of these photos?

A. Yes. I--I believe that likely because of the amount of precipitation that we've had in the area this year that that likely explains the size of the erosional gullies in Photograph 1.

Q. And would that same be true of Photograph 2?

A. Yes. Yes, it would.

Q. Does it appear that these areas have been farmed through, like you testified to on the March 11 photos?

A. It appears as though they have and that the erosion has just washed some of the plants out and

likely eroded away others.

Q. Would you please turn to Photo 5. What do you see in that photo?

A. In Photo 5, it appears to be a wet spot where water was retained, you know, likely due to some erosional process that created a depression and standing water sat there as it seeped and evaporated for a long period of time, relatively long.

Q. Do you see a green color there?

A. Yes, I do.

Q. What do you believe that is?

A. It appears to be an algae of some sort.

Q. Would you expect to see an algae or that sort of thing in an area like this in an Iowa cornfield?

A. Yes. I don't see why not. If the water was there any length of time, these type of organisms tend to grow.

Q. Do you see any flies in that photo?

A. No, sir.

Q. Do you see anything that looks like manure?

A. No. No, I do not.

Q. If you were to try and determine if there were any manure present in that dark-colored area, what would you do?

A. Well, if the moist material here was manure, I'd collect a sample and have it analyzed for nutrient components that would be associated with manure.

Q. Can we go to Photo 6, please?

A. Yes.

Q. What do you see there?

A. I--I generally see the same thing as Photo 5, erosional feature in the cornfield that's-- I assume this is still pointing down grade, although it seems to be--there it appears to be flattening out, so it's, perhaps, water is moving slowly.

There is a wet spot in the southern--or in the lower portion of the photograph. It's harder to tell if this is algae, but appears there might be some.

Q. Okay. The next photo would be Photo 7; is that correct?

A. Yes. And I see similar things as Photos 5 and 6, although it appears there's still some standing water in these depressions.

Q. Anything else?

A. There's a notebook there for scale. I don't recall if there was in the other ones.

No. I mean, this photo perhaps shows a

little more clear picture that last year, in part of this rill, there was corn planted and it likely came up, because the stalk looks fully developed, and it tends to support the conclusion that, as wet as it's been, these erosional features are larger.

Q. Let's move to the next, Photo 8. If you don't have--

A. Yes.

Q. Go ahead.

A. Well, here, obviously the slope's decreased. It's flatter. There appears to be a bit of a wider area affected. And likely, based on what I know from this general area, it's likely wider, flatter, and a bit more flow coming in from what would be the southeast areas of the field.

Q. Okay. Photo 9?

A. You have to-- Photo 9 shows generally the same thing. Again, a lot of last year's corn stubble that grew here, but a wet spot, you know, indicating that it's either a low area or some sort of a spring. And there's some standing water here also.

Q. Photo 10?

A. This shows flowing water in areas that were obviously planted last year but either not this year or else the crops didn't come up. But it does show

flowing water, which the other photographs didn't.

Q. And I believe we have Photos 11 and 12, which show a little different feature regarding the--

A. Yes. Photo 11 shows a head cut where, as water moves down this system, it's eroding backward up the hill.

Q. Do you know where this was taken?

A. Based on the labeling and my understanding, it was right at the confluence of the erosional drainageway and the unnamed tributary.

Q. Is this something you would expect to see during--in an Iowa cornfield after a year like Iowa's experienced weather-wise?

A. Yes. I mean, it's not uncommon where, when surface water runoff volumes increase for streams, rivers, and even these drainageways that are normally dry, to seek a new equilibrium, and it does that by eroding in the upgradient direction toward the top of the slope, from the bottom toward the top.

Q. And then would you take a look at Photo 12.

A. Yes.

Q. What is that?

A. I believe that's the unnamed tributary.

Q. Do you see any evidence of manure or any other feedlot pollutant in that photo?

A. No, sir.

Q. In any of these photos, Mr. Hentges, did you see anything that looked to you to be a feedlot pollutant or manure?

A. No, I did not.

Q. I need to backtrack for a second, Mr. Hentges.

MR. McAFEE: May I approach, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes, you may.

MR. McAFEE: I'm going to hand the witness Exhibit R-16. This is one of the respondent's photos that we marked on, Your Honor, during previous witness examination.

THE ADMINISTRATIVE LAW JUDGE: Yes. Do I have an R-16 yet, though? No.

MR. RYAN: Just for clarification, what was the original of this? We don't have copies yet.

MR. McAFEE: May we go off the record?

THE ADMINISTRATIVE LAW JUDGE: Yes. We can go off the record.

(Discussion off the record.)

BY MR. McAFEE:

Q. Mr. Hentges, I've handed you what has been marked as Exhibit R-16, which is a photo that you've previously reviewed, but it has been-- Do you see

that it has an irregularly shaped circle on it?

A. Yes.

Q. Mr. Hentges, a previous witness in this case circled that area and testified that he believed that foam was related to the Vos feedlot, caused by feedlot runoff. Could you review that and give us your opinion?

A. Well, I guess my opinion would be that a lot of things cause foam. I'm having a little trouble--I mean, if you look closely, it appears there's snow on the ground. And the date's been covered. The date of the photo's been covered up on my copy by three-hole punch.

Q. Mr. Hentges, I'm sorry to interrupt. I can state the record will reflect that the date on this photo is March 11, 2008.

A. And, you know, I guess just there appears to be a grade drop here, a hydraulic change in the slope of the channel, and I would have a hard time saying that the foam isn't--isn't just simply that.

Q. Do you see any--other than foam, do you see any evidence that would lead you to believe it's manure or related to the feedlot?

A. No.

Q. And I think your testimony is that, based on

the foam alone-- I mean, what determination can you make based on the foam alone?

A. I--I don't think you can just based on a picture of foam. It's inconclusive.

Q. What information would you need to make a determination as to whether there is manure or a feedlot contaminant present there?

A. Well, you'd collect a sample and have it analyzed for, you know, parameters consistent with what you feel the cause is.

Q. Okay. Mr. Hentges, we've now looked at, I believe, the relevant photos in this case. Do you know of any others?

A. No, I do not.

Q. Based on all the photos you've reviewed, I just want to make sure that we're clear, have you seen anything that-- Well, based on the photos you've seen, what conclusions can you make?

A. Essentially, reviewing the photos, I am not seeing any evidence that manure was in channels or waterways at this site.

Q. Okay. Now, moving on in your report, Mr. Hentges, which is Respondent's Exhibit 8, the next paragraph, what do you discuss there?

A. Well, I indicate that models were used to

evaluate the number of unauthorized discharges and that that evaluation indicated that those models, you know, looked at surface water runoff, sediment and nutrient movement from the feedlot facility to the unnamed tributary.

And I state that those models, you know, are generally used and were initially developed more for planning purposes to evaluate the variable landscapes and farm management practices and that the literature references indicate that they were developed to evaluate the long-term cropping systems and land use management practices and were essentially planning models with a process output.

There was some indication also in the literature that although they were good long-term predictors, they did not necessarily represent single events, and I indicated that, and/or-- Well, I'm indicating that essentially neither appropriate model was used.

Q. Okay. Mr. Hentges, based on your experience with modeling, what should have been done in this case to at least make a-- Well, what should have been done in this case with computer modeling that would have been--in your opinion, would have made it a more useful tool?

A. Well, a computer model needs to be calibrated with field observations.

Q. What do you mean by calibrated?

A. That--that the calibration efforts is part of a validation step where predicted measurements are compared to measurements observed in the field and then the error between the two is minimized.

The general calibration method is to--is to look at graphs of the data, just a simple X-Y ordinate graph with, say, Y, the vertical scale on the left, would say--perhaps be observed or predicted values from the model, and the ordinate, the X value, would be values observed in the field.

And what this graph should show is nearly a straight one-to-one line at a 45-degree angle out of the origin. That would indicate that the model predictions are matching what's seen in the field.

Now, oftentimes we simply have to minimize that error, and statistical analyses are done, and a 95 percent confidence interval or the appropriate confidence interval is determined, most often 95 percent. And once you're within that predictive capability, your model has been calibrated, and now you're able to make predictions both into the past and the future.

Q. Mr. Hentges, there's been testimony in this case by Ms. Doty, who-- Do you know who Ms. Doty is?

A. No, sir. I--I understand--I recognize the name as the author of the model that was conducted in this case.

Q. And we'll take a look here in a minute, but for the record, that's Exhibit 43, and you've had a chance to review that document?

A. Yes, sir.

Q. In her testimony, she stated that she did not believe calibration was necessary for the models she used in this case. I believe that was her testimony. Do you agree?

A. Well, no, I do not.

Q. Can you tell us why?

A. Well, based on the literature reviewed and the studies conducted on these models, SWAT and APEX, it appears that researchers and other hydrologists have done both; they've calibrated the model rigorously and used it for simulations and predictions, and they've not calibrated it but just simply used it for policy management decisions, such as land use, cropping patterns.

And so I saw the model used in both veins, and I guess the concern I had was that in order to

use a fate and transport model as proof that something happened, you would need to calibrate it to data observed in the field.

Q. What else would you have liked to have seen done to improve the use of modeling in this case?

A. Well, collections of soil and water data to calibrate the fate and transport, as well as water level measurements in the tributary to calibrate the runoff model.

Q. Is validation the same thing as calibration? That term was used by Ms. Doty.

A. You know, validation's a more overall term, and it's often called, you know, confirmation or verification. The bottom line is the model needs to be a true and accurate predictor.

The validation steps that are typically followed are you validate that the model you're using will provide you the answer you need; you've matched the appropriate model for the appropriate problem.

The other validation step we usually go through is to make sure that the mathematical equations are a sound representation of a process we're trying to model, and that means that the equations and algorithms have been tested and work.

The third thing in validation is that the

output from the model compares directly to what's observed in the field, and that's the calibration step, where certain parameters are determined to--are varied until the data matches up.

Q. Ms. Doty testified that she had validated the models in this case. Can you determine that from her report?

A. No, I cannot.

Q. Ms. Doty also used the term several times of "sensitivity analysis." Could you tell us what that term means to you?

A. Well, sensitivity analysis is part of the calibration process where you determine that certain input parameters are--the model is sensitive to, so if there's minor movements in their value, the model reacts. And then you define the insensitive parameters, where you can vary them over a wider range, you know, relative to what they are and they don't seem to have much impact.

A key component of that is to make sure that you check sensitivity at all levels of the expected output; therefore, fate and transport of a chemical or mineral at low flows, sensitivity should be checked for that as well as those same transport values at high flows.

Q. And can you tell if that was done in this case?

A. It appears it was not because I do not see any data that would provide the opportunity to calibrate this model at all.

Q. Is sensitivity analysis by itself enough to perform a validation? Or maybe I'm mixing the terms up.

A. Right. No. I mean, perhaps a little. I mean, the validation is really a three-step process that includes calibration. What I'm not seeing is the calibration step. That would require data collected in the field and a comparison of that data to what the model predicts.

Q. Ms. Doty, in her testimony, also used the term "ground truthing," I believe in response to a question from me. What does that term mean to you?

A. Well, in general, when you're running natural process models, and particularly for storm water runoff, you have to make a lot of assessments on coefficients and indices for land use slope. To ground truth means to go out and look and see if those assumptions you made are correct.

Q. Now, you haven't had the benefit of being here for Ms. Doty's testimony, but the record will

reflect that she was present on July 1st when the photos that are Complainant's Exhibit 42 were taken and that she walked that general area down that, as you've called it, a gully or--a rill or gully, whatever you've testified to as it is. She walked that area.

And I'm sure-- You know, and I don't want to misrepresent her testimony. I think she testified she was in part of the feedlot and maybe was in a few other areas fairly close to this gully that day.

Based on what I just told you, and assuming that I've accurately represented the record, does that qualify as ground truthing?

A. Well, I'm sure that by visiting the area she had a greater confidence in some of the values she may have picked for certain parts of the model, but it would have--on a contaminant fate and transport model coupled with a runoff model, it would have been--there would have been very few inputs you could really ground truth. And not that they aren't important, but it is a process that just doesn't cover everything.

Q. Okay.

THE ADMINISTRATIVE LAW JUDGE: Let me just-- Don't lose that thought, okay? Just you said a

couple of times, Mr. Hentges, the expression contaminant fate and transport?

THE WITNESS: Yes, sir.

THE ADMINISTRATIVE LAW JUDGE: Are you saying f-a-t-e, fate?

THE WITNESS: Yes. Yes.

THE ADMINISTRATIVE LAW JUDGE: Contaminate fate and transport?

THE WITNESS: Yes, sir.

THE ADMINISTRATIVE LAW JUDGE: Can you just explain to me what you mean by-- I get contaminant transport. What's contaminant fate?

THE WITNESS: Well, fate is how the concentration of a compound or a mineral changes over time due to the natural processes--

THE ADMINISTRATIVE LAW JUDGE: Okay.

THE WITNESS: --it's under.

THE ADMINISTRATIVE LAW JUDGE: So it's a common-sense definition of fate, like our fate. We all know what our fate is eventually, right?

THE WITNESS: Yes. Yes.

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

MR. McAFEE: Thank you.

BY MR. McAFEE:

Q. Mr. Hentges, have you had the opportunity to review any of the published literature regarding the models used by Ms. Doty in this case?

A. Yes, I have. I've looked at several.

Q. And could you briefly tell us, or not so briefly, if you choose, but could you tell us about that, please?

A. Well, as best as I can remember, I reviewed model reports with SWAT and APEX completed by Williams in '96, Ramanarayanan or Ramanarayanan in 1996, Gass, Vadas and Sharpley, Saleh.

And I found a variety of--of goals that those researchers wanted. Several had actually collected extensive data, run the model, calibrated it, were quite happy with the results.

In other instances, the model was used just simply to determine the range of reduction in nutrients or sediment that could be expected from variable land management practices, such as filter strips, or check structures in channels, buffer strips, things like that.

Q. In this literature you reviewed, did you see anything that supports the use of the model as it was used in this case to attempt to show that a discharge

or a pollutant from a feedlot such as Lowell Vos' actually reached a water of the United States?

A. No.

Q. Can you briefly explain what you mean by no?

A. Well, yes. I'll expand. You know, in general, simulation modeling for research or policy decisions has to establish credibility, and it needs to do that so that there's a degree of belief in the validity of the results.

So in the cases where I saw researchers just simply looking at, you know, what would be the decrease in output of nitrogen of this watershed if these better management practices were installed, you know, then the data provided was, you know, wide ranges, 7 to 41 percent reduction, things like that. They weren't--they didn't claim that their numbers were exact or that they were reproducible.

Where other researchers and individuals used the model to specifically measure this fate and transport of the contaminant, they collected extensive data, and in some cases they modified the equations in the model to fit their area and they provided observed values in the field with predicted values in the model and they provided that calibration documentation.

So I saw none of that with the EPA model, and yet it--it seemed to have conclusions and statements that the Clean Water Act was violated.

Q. And by EPA model, are you referring to the model run by Ms. Doty?

A. Yes.

Q. And by model, are you referring to both of them, APEX and SWAT?

A. Yes.

Q. Okay. Mr. Hentges, did you actually run APEX or SWAT models in this case?

A. No, sir.

Q. Why not?

A. Well, there was no data available to calibrate the model, so it didn't really seem to make sense.

Q. Would you have the ability to run APEX or SWAT if you desired to?

A. Yes.

Q. What I'd like to do now, Mr. Hentges, is please turn to Complainant's Exhibit 43. That is Ms. Doty's model--report. Excuse me.

A. Yes.

Q. And is this document marked-- What is the date on it?

A. The date is August 11th, 2008.

Q. Is this the second report you reviewed from Ms. Doty?

A. Yes.

Q. And, briefly, could you tell the differences between the two reports?

A. Just barely. The differences were, I believe, that Table 2 had different values than had--in the second report than it did the first report, and I believe Table 3 was pulled out of an appendices, pulled it forward, actually, in the report. And Table 3 is a lot shorter than it was in the first report. In the second report it's shorter than it was in the first report.

Q. Did Ms. Doty's conclusion--pardon me--conclusions change between the two reports?

A. Not significantly. I--I believe the only change was that less discharge instances were alleged.

Q. Well, let's go through the report and we can take a look at it. And I would like to kind of just go-- We're not going to go through it line by line, unless you feel the need to. I'd like to start with, though, another general question. Did you have any concerns or difficulty in reviewing the report?

A. Well, yes. I--I thought it was difficult to review in particular because the inputs and outputs weren't well defined. I think a lot of the general inputs relative to precip and land use and runoff curve numbers were there, but a lot of the more detailed specific inputs for the APEX model were not. So it was difficult to follow in the way it was written.

The other thing was the data that is listed in Appendix B, the discharge data for SWAT that's on a daily basis, appeared right off the bat to have some rather high numbers, particularly in the winter months.

And I was mapping this trend and charting it out and checking the temperatures, and it just appeared that there was a large amount of runoff during a period where I--the climatological data indicated that it should have been frozen ground conditions and not much runoff would occur.

There were large swings in the discharge data for SWAT listed in Appendix 1-B.

And another concern I had in general was, oh, the graphs in Appendix 2-B that were supposed to be the same data didn't quite match, and so the graph of the data and the table of the data wasn't

matching, and there was some--there was repetition of data in the tables in Appendix B across the reaches.

So I was kind of having trouble understanding where it was going. Typically in hydrologic model output, when reaches are laid out like this, the data is cumulative or it's separate, but this just seemed to be exactly the same.

Q. I don't mean to interrupt you, but, Mr. Hentges, there's been testimony in this case that Appendix B and Appendix B-1 were, in fact, in error. Does that help you understand any of the problems you were having?

A. Yes. Yes. Because although they were different, similar outliers in the discharges were--were seen in the graphs in Appendix B-2.

I guess one of the other concerns I had was that on Figure 9 in Complainant's Exhibit 43--

Q. Okay. Mr. Hentges, we can go to that. That, in your exhibit there, is page 25 that's handwritten at the bottom. Go ahead.

A. Yes. I see. And I understand that--the boundaries of the model area, but the flow paths, particularly off the feedlot, which would be the lower left-hand corner, the southwest corner of the feedlot, in an area marked A, showed a flow path down

to a terrace, and then it seemed like that flow path generally went uphill back to the east and south and then flew around the terrace.

And I noticed this because this is about where the photographs indicated the terrace was breached but didn't show a photo of it, so that was a question.

Q. Mr. Hentges, while you're on the figures there, let's go back to Figure 5, which is page 21, and I believe you just touched upon this in your testimony, but I'd like to explore it a little more, if we could.

In Figure 5, what is this?

THE ADMINISTRATIVE LAW JUDGE: Your witness is not on the page yet.

MR. McAFEE: Oh, I'm sorry.

THE WITNESS: And I'll have to apologize.

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

THE WITNESS: I don't have a page 21 in this.

THE ADMINISTRATIVE LAW JUDGE: Or you missed it. Let's go off the record.

(Discussion off the record.)

BY MR. McAFEE:

Q. We're now back on the record. Do you have page 21 of Respondent's Exhibit--excuse me--Complainant's Exhibit 43?

A. Yes, sir.

Q. Okay. You briefly touched upon this earlier in your testimony, but I want to talk about it a little more. What does this exhibit represent or this page of the exhibit?

A. Well, it shows the digital elevation data that was brought into the model, and it delineates--in dark red it delineates the subbasin area and then smaller subdrainage areas within the subbasin, and it shows--the reaches of the stream, the unnamed tributary, are labeled. It also shows reaches of subdrainage streams that feed into the main stream, and those reaches and subdrainage areas are labeled.

Q. What I want to talk about, and this relates to Ms. Doty's testimony, and she testified that the reaches are, in my words, anyway, not cumulative, and that is when you look in Appendix B, which-- Is it your understanding Appendix B represents the flow data from each reach?

A. That's the way it's labeled, and that's the

way it's explained in the text, so I assume that's what it is.

Q. And Ms. Doty testified that each--the data for each reach is independent; that is, it is not cumulative, like one might expect when water comes down a stream, that the flow data for the lower part of the stream would include, you know, the water that came through the upper stream.

And I hope I'm explaining this right. I don't mean to misrepresent it. That's the way I understood her testimony.

Could you tell us your thoughts or your analysis of that?

A. Well, it's more traditional to list the reach data and have it cumulative so that the overall impact of the entire flowing stream can be seen at the lower reaches and the changes in the upper reaches, as you move upslope, you know, can also be seen in their entirety.

And generally, the end of the reach, you know, is where it meets the next reach on the main stream line, and that would just be traditional. I imagine it's possible that the data could be extracted from the model or even output from the model on a reach-specific basis.

Q. Using the method you've just described, if the data showed zero flow in a reach, and, again, using the methods you've described of what I would call a cumulative approach, would that mean that that portion of the stream that showed zero was not flowing that day?

A. Right. That's what it would mean. And so, perhaps, that's the way the model puts the data out.

Q. Okay.

A. Or it has an option of putting it out that way might be more of what I'd expect.

Q. Do you have any way of knowing whether the data that Ms. Doty has presented in this report is, in fact, as she described it or do you have any way of knowing?

A. No, sir, I don't.

Q. I'd now like to have you turn to page 42 of that report. No. No. Same report. I'm sorry. Just keep going back. Page 42. It's the beginning of Appendix B.

A. Ah.

THE ADMINISTRATIVE LAW JUDGE: And, counsel, just to help him out, there's not much information on page 42, is there?

MR. McAFEE: No.

THE ADMINISTRATIVE LAW JUDGE: Okay. So you know you have the right page if it just says two things, "Appendix B" and "42."

THE WITNESS: Yes, sir.

BY MR. McAFEE:

Q. Now, let's turn the page, which doesn't have a 43 on it but has a No. 1, and we've discussed this a little bit, but I just want to make sure you have a chance to look at this.

What did you discover when you reviewed this Appendix B information?

A. Well, the curious things were that the high discharges in the winter months of January, February, and even March as it bleeds over into page 2. But kind of what stuck out was, you know, I'm looking at gallons per day here, so January 1st, 2002, is 14,429 gallons per day. You divide that by 24 and you divide it by 60 and you get gallons per minute, and it seemed a little high for the stream. I believe, you know, roughly it's about 135. It's not a very big stream.

The next one jumped out, 195,000, which is more in the range of about--and I apologize--four to six hundred gallons a minute. And that's gallons per day, so that four to six hundred gallons per minute

is running down the stream all day long. It's just an average.

In actuality, in reality, after a runoff period, the stream would slowly come up, it would peak, and then it would come back down.

And the next one was February 5th, 2002, 860,000 gallons per day, which is getting up there in the range of six to seven hundred gallons a minute, I believe.

And the next thing that grabbed my attention was that this seemed to happen in each of the years listed on this page in those winter months at certain spikes.

The third thing that struck me as odd was that the first year we're in the tens of thousands of--in the 10,000 range of gallons per day, you know, 9,000, 8,000, 12,000. The rest of the years we're down in the hundreds, and in year 2006 we're down to 200, you know, which is a couple tenths of a gallon a minute.

So right away I got wondering, you know, this just--I don't think there's that much variation in the precip out there. It led me to the climatological tables to look at that closer.

MR. RYAN: Your Honor, if I may, Ms. Doty

has already testified this data is inaccurate. We stand by her testimony. I think we can save ourselves some time by not having to rehash data which we admit is inaccurate.

THE ADMINISTRATIVE LAW JUDGE: But you're putting on your case, Mr. McAfee, and it's your call as to whether-- Another way of dealing with it is, if that's not sufficient, what Mr. Ryan said, if you could work out a stipulation. I don't know if that's appropriate or whether there's something else that you're trying to show.

MR. McAFEE: No, Your Honor. I believe what Mr. Ryan said is sufficient. And I don't intend to belabor this any more except to maybe have the witness look--

THE ADMINISTRATIVE LAW JUDGE: Okay.

MR. McAFEE: --just go to another page and just testify that they're the same, and then we'll move on.

THE ADMINISTRATIVE LAW JUDGE: Sure. Why don't you do that. And then you'll move on after you do that?

MR. McAFEE: Yes. Yes.

THE ADMINISTRATIVE LAW JUDGE: Okay.

BY MR. McAFEE:

Q. Mr. Hentges, would you go to-- Well, that is Reach 1. Would you go to page 7 and look at the data for January 1st, 2002? Is that the same as the entry on page 1 for January 1, 2002?

A. Yes, it is.

Q. And ultimately, in your review of this, did you determine that all of the reaches are identical as far as--

A. Yes, I did.

Q. --as far as the output?

And it's testified to by Ms. Doty that this is a mistake, and did that--again, did that cause you a lot of problems in trying to review the report?

A. Well, it was--it was obvious to me it was a mistake, and, yes, the problem there is that then I don't really have the data to look at to evaluate the completeness of the model or the appropriateness of it, of its implementation.

Q. Now, Ms. Doty testified that upon discovery of this mistake she did not rerun the SWAT model. What would you have done in such a situation? And I assume we've all made mistakes. What would you have done in that situation?

A. Well, and I suppose it depends on the nature

of the mistake. I--I would assume by her statement that she didn't need to rerun the model means that this data wasn't used, but I have no way to determine that.

Q. Would you have rerun the model?

A. Well, certainly if this data had been used in the model, I would--I'd need to rerun it. I'd be concerned.

Q. Would you be concerned and rerun the model even if the data hadn't been used in the actual model?

MR. RYAN: Objection; leading.

THE ADMINISTRATIVE LAW JUDGE: Well, I don't know that-- Leading suggests that there's only one answer possible, and I don't know that that-- He could say, "No, I would not be concerned," or, "Yes, I would be concerned," and that is my ruling.

A. No, I would not be concerned. In other words, to say that if I--if I knew this data was not this--obviously, this data was in error, was not the actual data that was used and the correct data was used, I wouldn't rerun the model.

BY MR. McAFEE:

Q. Now, Ms. Doty testified that this data that was in error was not used in the APEX model. Is

there similar data regarding subareas that's used--or that's output in the APEX model, according to your understanding?

A. No. The APEX output only exists in the report in Tables 2 and 3, and the discharge in Table 2 is on an annual basis in gallons, and the discharge in Table 3 is on a daily basis in inches.

Q. And is--

A. And I might clarify, in that Table 3, that inches generally indicates it's inches over the area model.

Q. What I'm asking, Mr. Hentges, is--and maybe I'm not stating it very well, but is there data that is produced by the APEX model that comes from subareas?

A. That data was not provided for review in the report.

Q. Okay. But is there data that comes from a subarea?

A. Yes, there would have to be.

Q. Okay. But you don't have that data to review?

A. That's correct.

Q. Does the fact that this data coming from the SWAT model was, as reported to us, incorrect cause

you concern about data you don't have to review from the APEX model?

A. Well, most certainly it--without the input data to review and--I'm concerned. When the data that is provided to review--for review is in error, I'm even more concerned.

Q. You've mentioned Tables 2 and 3; is that correct?

A. Yes, sir.

Q. And are these tables that are data that is--Or what produced the data in Tables 2 and 3?

THE ADMINISTRATIVE LAW JUDGE: And just help me out, Mr. McAfee. Tables 2 and 3 are found where?

MR. McAFEE: I'm sorry. Page 10 and page 11 of Exhibit 43.

THE ADMINISTRATIVE LAW JUDGE: Thank you.

Go ahead with your-- Do you need the question repeated?

THE WITNESS: No, sir.

A. Table 2 shows the APEX model results and represents an annual summary of the surface water discharge and the nutrient discharges from the area model, which is the feedlot and selected areas directly around the feedlot.

BY MR. McAFEE:

Q. And maybe you've testified to this. Do you have sufficient information to fully evaluate Tables 2 and 3?

A. No, I do not.

Q. Let's take a look at Table 3 for a minute on page 11. Do you see the entry on February 18, 2002?

A. Yes, sir. It's the first entry on the table.

Q. And tell me what, if anything, strikes you about that entry.

A. Well, it was interesting that there's no precipitation listed, but there is surface runoff and there is sediment and nitrogen and phosphorous all transported from the site, and one can only assume that it's snow melt, yet if you check the climatological data provided for review, it's still quite cold. I don't remember exactly for this date, but there was either no snow on the ground or it wasn't melting.

And then all the sudden the soluble nitrate runoff in pounds per acre is 3.01, the largest value in the entire table, and right away I have concerns that that-- The other values in this table are mostly around, you know, .2 or .1, and in some cases

even .02 or .01, and so right away I have concerns that the largest amount of soluble nitrogen that runs off this area in pounds per acre occurs on February 18th, when there was no rainfall and the ground's frozen and the snow's not melting. So that was a concern.

I continued to look at the table there, and I noticed a trend that each year, if you look at roughly the 12th line down or so, on 3-15, 2003, March 15th, 2003, again, there was no precip, there's a bit more surface water runoff, and, again, a spike in soluble nitrogen running off the area, a number higher than almost any number in the table other than last winter.

And the trend kind of continues into 2004, with a .95 on February 22nd, 2004. Again, no precipitation, but runoff occurred. And it just seems that--it concerns me that some of the largest nitrogen running off that area would happen at this time of year at all, but the largest and the values extremely larger than other events.

Q. Ms. Doty testified that the weather--and I want to make sure I get this correct--that the weather data used here regarding temperature was not the actual temperature of each day but a mean

temperature for the month, and that was used by the model to--for that month.

Now, the snowfall was the actual date of the snowfall, but the model, APEX, used a monthly mean average, is my understanding of what she testified to, instead of the actual temperature.

Does that cause you-- What's your opinion of that?

A. Well, I'm aware of that method to determine snowfall runoff, and it's used in several models; the Thornthwait model, the HELP model. A lot of surface runoff models give the modeler the option of determining whether snow melt occurs slowly, as the temperatures rise, based on actual temperature, or whether all the snow is to be held and released once the temperature reaches an average level.

And in general, I've used that type of option on other models that just affect--basically were infiltration models only. The concern I have with it on a runoff model is probably exactly what I'm seeing here, and that's that the model could then show huge amounts of minerals and chemicals moving at a period when they don't.

In other words, if I was doing fate and transport, it would seem to me that just letting it

occur naturally each little time the temperature rises and drops would be more realistic of real conditions.

Q. Mr. Hentges, please turn to page 10 of Ms. Doty's report.

A. Yes.

Q. And there's a Section 3.6, "Accuracy of the Predictions." Have you read that section?

A. Yes, I have.

THE ADMINISTRATIVE LAW JUDGE: Counsel, I was making a notation. What page now again? I'm sorry.

MR. McAFEE: Page 10 of Exhibit 43.

THE ADMINISTRATIVE LAW JUDGE: Okay. Thank you. Okay. Go ahead.

BY MR. McAFEE:

Q. Could you tell me, what is this-- Well, what does this page tell you regarding the accuracy of the predictions?

A. Well, it lists accuracy within a range of plus or minus 20 percent for flow prediction, and it goes on to list the--indicate that sediment's a little more difficult and that the rates can--are highly variable, in the plus or minus 50 percent range.

Q. Do you have an opinion as to a model that is accurate to plus or minus 50 percent?

A. Yes. I--I think that's unacceptable for modeling.

THE ADMINISTRATIVE LAW JUDGE: Unacceptable?

THE WITNESS: Unacceptable, yes.

THE ADMINISTRATIVE LAW JUDGE: So what would be acceptable, in your opinion? And I'd like to know. Because that concerned me as well, and I asked Ms. Doty about that. I'm no scientist, but it did strike me, 50 percent.

First of all, make it clear to me, though, about your testimony. You're looking at that paragraph 3.6, right?

THE WITNESS: Yes, sir.

THE ADMINISTRATIVE LAW JUDGE: And the plus or minus 50 percent, that applies to all the reported values, or you're not sure, or what? What does that error reply to? I need to get that straight in my head. You distinguish that from flow prediction, right?

THE WITNESS: Right. Paragraph--Section 3.6 on page 10 indicates that the flow prediction was plus or minus 20 percent, the predicted erosion was plus or minus 50 percent, and it states that's from

any model, and then it goes on to say it was assumed that for APEX the results are within plus or minus 50 percent of the reported values.

THE ADMINISTRATIVE LAW JUDGE: I see overall. Okay. Is that what you mean overall, with those problems they then assumed-- Is it your reading that they--to be conservative, they concluded there could be a 50 percent error rate?

THE WITNESS: Yes.

THE ADMINISTRATIVE LAW JUDGE: Okay. So now we come back to my question. I sort of jumped in on Mr. McAfee, but do you have an opinion about, in a situation as this was used here for this report, based upon your experience and training, what is an acceptable error rate, if you can offer an opinion about that and then explain why?

THE WITNESS: Well, as this model is used here, the acceptable rate in the--the acceptable error rate in the industry is plus or minus 5 percent. If I submit a model to a regulatory agency, and particularly if that regulatory agency is my client, and I'm not within the 95 percent confidence interval, I know fully well I'm going to get that model back and I'm going to work on it until it is.

So the only way to get to that level of

accuracy is to have data collected in the field to compare to the data predicted by the model for several different outputs--for all of the outputs, actually, and then you have a calibrated model able to provide predictions that are reasonable and accurate.

What this tells me is that the model is run more as a policy or land management-based process model, not intended for the use here, regulatory enforcement, rather just to get a feel for, you know, what could be happening.

BY MR. McAFEE:

Q. Ms. Doty testified that this error rate, as I recall her testimony, plus or minus 50 percent, applied to the numbers in Table 3, for instance, like, for example, the soluble N runoff pounds per acre, that the plus or minus 50 percent would apply to those numbers but that that error rate, if that's the correct term, did not apply to the number of discharges that she found in her report, which is reported on page 10 just above Table 2 as 45, as you see. I'd like your opinion on that.

A. Well, I guess my opinion would be that that--

THE ADMINISTRATIVE LAW JUDGE: Just-- Do

you see where he's talking about?

THE WITNESS: I do. I do.

THE ADMINISTRATIVE LAW JUDGE: Are you talking about, counsel, above the table, where it says, "45 storm events" is that what you're referring to?

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

THE ADMINISTRATIVE LAW JUDGE: Is that what you were looking at on page 10?

THE WITNESS: Yes.

THE ADMINISTRATIVE LAW JUDGE: So repeat your question, please, or have the court reporter repeat it.

MR. McAFEE: I'd be glad to repeat it.

BY MR. McAFEE:

Q. Ms. Doty testified that this plus or minus 50 percent error rate did not apply to her prediction from the model of 45 storm events that would cause a discharge from Lowell Vos' feedlot to a water of the United States, and I'd like your opinion on her testimony regarding that.

A. Well, I believe that's consistent with what she says in her report when she says that the flow prediction accuracy was plus or minus 20 percent, although what I don't understand about that statement

is that if the--if the plus or minus 20 percent has to do with the APEX flow simulation and the plus or minus 50 percent has to do with the APEX fate and transport or concentrations of soluble and--soluble phosphorous sediment transport, I guess that would be my assessment of what she said, I guess my total opinion of it is it's too high, too high of an error percentage.

Q. Which-- I'm sorry. What is too high of an error percentage?

A. 50 percent, plus or minus 50 percent for the chemical runoff. And perhaps I should say nutrient runoff to be more correct.

Q. Mr. Hentges, you've testified several times today that what you would need to, I believe-- Well, let me restate that.

Mr. Hentges, have you testified today regarding information you would need to, quote-unquote, double-check information that's been provided in this case regarding whether there has been a discharge from the Lowell Vos feedlot to a water of the United States?

A. I--I believe the best way to determine if there had been a discharge would be to collect a sample. And--

MR. McAFEE: May I approach?

THE ADMINISTRATIVE LAW JUDGE: Yes.

THE WITNESS: Thank you.

A. (Continuing) And, indeed, several samples would be better than just one; samples upstream of the facility, samples downstream of the facility, samples right where the runoff from the facility drains into the unnamed tributary.

And that's the type of information. Laboratory analysis of water data or soil data would--would be a lot more definitive and provide evidence that I don't see here.

BY MR. McAFEE:

Q. Are you qualified to take water samples in the manner you've described?

A. Yes.

Q. And are you aware of the proper quality control and sampling procedures?

A. Yes.

Q. And is it basically, in a nutshell, what you've described?

A. Yes.

Q. There's been some testimony in this case that to do that would require a--an area in a vehicle to have that type of equipment of--I believe the

testimony was, like, 4 foot by 4 foot or something. Do you believe that is correct as to what--for the equipment necessary to do proper sampling?

A. Well, it does depend-- No, I do not believe that. It depends a bit on the number of samples you're going to take and the number of analytes you're gonna run, because certain parameters require different sample containers. Some can all be taken out of one. Others need special sample containers with special preservatives.

So if you were going to be an extensive sampling program, I could see where you may take up that much area, but generally just a cooler, some ice, the standard equipment like gloves and a thief sampler, which enables you to reach in with a bottle. In the case of this particular stream, I'd just sample it from the bank. There's procedures you can follow.

So my answer is no, because I don't believe it would necessarily take that. I can see where, if you sampled many locations and ran many parameters, it could take that.

Q. For the sampling you do, if you were asked to go out and sample the unnamed tributary in response to--or in looking for a discharge from the

Lowell Vos facility where the-- Do you remember the picture of the gully where it--at the confluence with the unnamed tributary? If you were to go take a sample there for that, how much equipment would you need to do that? What would it fit in?

A. Well, you'd have a standard cooler and then a backpack.

Q. Would it fit in the trunk of your car?

A. It's already in the trunk of my car.

Q. Okay. Mr. Hentges, I'd like you to turn to Complainant's Exhibit 15. It would be Tab 15.

A. Yes.

Q. Okay. What is this document? Could you read the heading, please?

A. "On-Site Open Cattle Feedlot Inspection Form."

Q. Have you had a chance to review this document before today?

A. Yes.

Q. And on this document, what do you see under the heading "Runoff"? It's several lines down where the heading is "Evidence of Liquid Runoff Reaching State Waters."

A. Yes. "Runoff: Solids Reaching State Waters," it's--the answer's circled no. "Comments if

answer is yes," and it's not filled out.

Q. I'm sorry. Would you read that again?

A. Under "Runoff," it says, "Solids Reaching State Waters," and "No" is circled.

Q. Okay. I'd like to go to the next heading. What does it say?

A. "Evidence of Liquid Runoff Reaching State Waters? Yes."

Q. And what does it then say on the next line?

A. The "Comments if answer is yes," it's written, "Measured 3.0 milligrams per liter ammonia at bridge southwest of facility." Then it says, "Test Kit Samples Taken? Yes. Results: 3.1 milligrams per liter ammonia, 4.7 pH."

THE ADMINISTRATIVE LAW JUDGE: 4.7?

THE WITNESS: 4.7.

THE ADMINISTRATIVE LAW JUDGE: I think you might-- I'm looking at-- Unless it's me.

THE WITNESS: Oh, I'm sorry. Yes. I'm a bit dyslexic. I apologize. 7.4 pH.

BY MR. McAFEE:

Q. Would you also read the number for the milligrams per liter on that line again, please?

A. 3.0 milligrams per liter of ammonia.

Q. And I think you have just read into the

record that this was done with a test kit sample; is that correct?

A. That's what the entry indicates.

Q. What does a test kit sample mean to you?

A. Well, it's an indicator. I mean, it's not as good as a laboratory sample. Unfortunately, when we use them in the field for screening waste materials, it's very hard to correlate the field data with the lab data. Sometimes it's fairly close, other times it's way off.

Q. What would you do if you took a test kit sample that read 3.0 milligrams per liter? Would you do any further testing?

A. Well, I'm not sure I would for an agricultural area. And I've seen this drainageway. That doesn't seem like an unreasonable number on June 25th. But if I was concerned about it, I'd just collect a sample for the laboratory. It's like a $25 analysis.

Q. You just stated--I believe you said this number seemed to be reasonable. Was that the word you used?

A. Yeah. I think it's typical of areas where agricultural row crop production is relatively intense. And, obviously, toward the end of June in

any year is not going to be that long after nutrients were applied, usually anhydrous ammonia, and the nitrogen, you know, converts to ammonia, and it's also absorbed in the soil, and it's used by the plant, but it can run off and be released to streams.

And so I would expect to see, oh, I mean, you know-- Ammonia's low in clean waters, but in general in rural Iowa, 1 to 3 is not unusual at all, and 1 to 6 is generally what we see. At some of our landfill projects, we'll see 15. At wastewater treatment plants it can be in the tens or twenties.

Q. Would you consider this reading at the location it was taken to be a background level?

A. Yeah. It appears to me it is, yes.

Q. Could you make any determination from this reading-- And you know where it was taken, is that correct, the location?

A. Yes.

Q. Could you make any determination yourself that this could be attributed to the Lowell Vos feedlot with the information you have?

A. No.

Q. Why?

A. No, I could not. Well, you know, there's too many other inputs for ammonia in the watershed.

And this value isn't--this value is indicative of what's generally there this time of year all the time just from agricultural nutrients applied to row crop fields.

Q. And by this time of year, you're referring to June 25th, 2003, when this was taken?

A. Yes.

Q. Okay. Do you see on the--in the left-hand margin there, do you see a handwritten notation?

A. It appears to say August 22nd.

Q. Does that mean anything to you here? I'm not saying it--

A. No. No. I have no idea what that means.

Q. Okay.

THE ADMINISTRATIVE LAW JUDGE: And let's go off the record for a minute.

(Discussion off the record.)

(Short recess.)

THE ADMINISTRATIVE LAW JUDGE: Okay. Now, because I don't want to forget, we're going to stop at 5, and there's a good chance, Mr. Hentges, that you'll be coming back. And what I've told all the witnesses prior to applies to you, which is you may not talk about this case, you know, with anyone.

Of course, you can talk--if you're married,

you can talk about it with your wife or something, but I'm talking about with other--with counsel, with other witnesses. You just can't talk about this case until you're done, all right?

THE WITNESS: Yes, sir. I understand.

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

BY MR. McAFEE:

Q. Let's turn to page--excuse me--Respondent's Exhibit 8, which is your report, Mr. Hentges, and I want to get to the "Summary and Conclusions."

A. Yes.

Q. Would you just summarize your conclusions for the Court, please.

A. Well, I've just stated that I didn't see any information, you know, that indicates the stream flows, sediment transport or--that were simulated by the model were compared to data collected. There's no information that indicates the compounds or chemicals that were modeled for their fate and transport over time were compared to data collected and measured in the field in order to calibrate the model; therefore, I think that, you know, the model's predictions are highly questionable.

The complaint also states that the nature

and extent of the violation is determined by actual and potential harm to human health and the environment and the significance of the violation, yet I'm not seeing any evidence in the record that indicates there was violation.

Q. Okay. Mr. Hentges, in your opinion, is it scientifically acceptable, and that is beyond a reasonable degree of scientific certainty, to use computer modeling to show that a pollutant from the Lowell Vos feedlot reached the unnamed tributary of Elliot Creek?

A. No, it is not.

Q. How about to Elliot Creek itself?

A. No.

Q. Now, I want to use that question again, and feel free if you had--I think you-- Well, I'll leave it up to you. I want to ask you another question, a variation of that, maybe a hypothetical, at least in my eyes.

What if there was one water sample that met your requirements, as you've testified, to be a valid sample that showed that, in your opinion-- I'm sorry. I need to back up. I apologize. I'm trying to phrase this as carefully as I can.

Let's take the hypothetical that if there

was one water sample that showed that there was a pollutant in the unnamed tributary of Elliot Creek, one water sample. In your opinion, is it scientifically acceptable, again, beyond a reasonable degree of scientific certainty, to use computer modeling to show that that one pollutant, that one sample, and--to use that in other cases with the model, other instances, to show that a pollutant from the Lowell Vos feedlot reached the water of the--or the unnamed tributary? Excuse me.

A. No.

Q. And how about Elliot Creek?

A. No, it would not.

THE ADMINISTRATIVE LAW JUDGE: So, counsel, you tell me if this is what you were attempting to ask. Are you asking him-- You tell me if this is correct because I want to understand this as well. Were you effectively asking Mr. Hentges whether one could extrapolate on the basis of one sample about whether pollutants were reaching--that the pollutants were in and reaching the Elliot Creek? Is that what you were-- Is that--

MR. McAFEE: Yes.

THE ADMINISTRATIVE LAW JUDGE: One sample is not-- So is your question is one sample sufficient

to extrapolate and then apply to the model?

MR. McAFEE: Yes.

THE ADMINISTRATIVE LAW JUDGE: And did you understand that to be his question?

THE WITNESS: Yes, sir. That was my understanding, and my response would be one sample is not enough.

THE ADMINISTRATIVE LAW JUDGE: And so you're going to ask, I hope--

MR. McAFEE: How many?

BY MR. McAFEE:

Q. I believe, Mr. Hentges, if you want to explain, but does this all go back to calibration?

A. Well, it does. And you would also need some additional data points to quantify background, upgradient results, and then, yes, the rest would be calibration of the model.

Models like this are extremely difficult to construct and even a bit more difficult to calibrate, and it's because of the variability of flow. In groundwater systems flow is generally fairly uniform, but you would want to calibrate a model like this as low flows as well as high flows, so you'd want some seasonal measurements to make sure that the model predicted accurately throughout the year and under

varying climate conditions.

MR. McAFEE: Thank you. I have no further questions at this time, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. And I just want to note before I have Mr. Ryan or Mr. Breedlove conduct the cross, the initial cross, that it should go without saying that it would be helpful to me if either side can point to any other case law in any either administrative or federal district court forum where these models had been used prior to this proceeding to demonstrate what EPA is attempting to demonstrate here.

In a way, I'd be surprised if this hasn't come up before, and so I'm hopeful that you'll, for my guidance--and, of course, I'll do my own research, but you're the advocates, so, I mean, if we're breaking new ground here, I should know that, and if we're not, I want to know that too.

Okay. Go ahead, Mr. Ryan.

CROSS-EXAMINATION

BY MR. RYAN:

Q. Good afternoon, Mr. Hentges. I'm Mark Ryan. I'm with the EPA.

Did I pronounce your name correctly, Hentges?

A. Yes, sir.

Q. Thank you. Why don't we start off by going through your expert report. Do you have Respondent's 8 in front of you?

A. Yes, sir.

Q. And I believe you identified this earlier as a report that you wrote. The date is August 15th, 2008?

A. Yes.

Q. And you stated--I believe you testified earlier, and I believe it also states in this report that you reviewed in preparation for this report the EPA's April 7th prehearing exchange for 2008?

A. Yes.

Q. Now, this report is approximately two and a quarter pages long. The "General Comments" under 4.0 at the end, is that what we would commonly refer to in the industry as boilerplate?

THE ADMINISTRATIVE LAW JUDGE: I'm sorry. You mumbled there.

MR. RYAN: I'm sorry.

BY MR. RYAN:

Q. Section 4.0 of your report, is that something that is commonly referred to in the industry as boilerplate?

A. Yes. Those are general comments that go at the end of our reports.

Q. So that would be a boilerplate disclaimer?

A. Yes.

Q. So your actual expert report is just under two pages?

A. Yes.

Q. Okay. And did you prepare this in a bit of a hurry, Mr. Hentges?

A. No. No. I--I took my time, and it took quite a while to go through these documents.

Q. Yeah. Okay. So you pointed out the typo on page 2. I noticed the title has a typo in it too on the cover sheet.

Now, looking-- You had some months, then, to review all of this information which came in April, but your report was written in August of 2008; is that correct?

A. I-- No. No, sir. It wasn't some months. I would say about a month. The trial counsel and I discussed the general specifics of the report or of the case before I was asked to--to formally be an expert witness.

Q. Okay. And when did you start working on this expert report?

A. Oh, it was-- On actually working on the text, I mean, I took some sketch notes probably late in--in July, looked things over, read the report or the documents, and then, you know, did the report over a period of about a day, a day and a half.

Q. So you were working on it for approximately a month?

A. Yes. Certainly not full time.

Q. So you had plenty of time to think it through and look at all the information in Ms. Doty's report?

A. Well, no. Actually, I stopped reviewing Ms. Doty's report when I was informed that it was going to be redone, and I felt that by looking at the copy I had, if things changed, I could, you know, waste valuable time and money. So I waited until her final report was submitted, and then I did, yes, just have a--a few days to get this done.

Q. So you reviewed her final report before you prepared this report?

A. That's my recollection, yes.

Q. Her August 15th report?

MR. RYAN: May we go off the record for one minute, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes.

(Discussion off the record.)

BY MR. RYAN:

Q. Mr. Hentges, just to clear up the record, before the break when we just went off the record just now, I asked you--or I made a statement about a typo on the cover page of your expert report. Could you please turn to the cover page of your expert report, please.

A. Yes.

Q. Do you see where it says "Data Review And Evalaution"?

A. Yes. Yes. That's a typo. I guess that's what I get for typing my own report.

THE ADMINISTRATIVE LAW JUDGE: Thank you.

BY MR. RYAN:

Q. And referring you to Complainant's Exhibit 43, which is Ms. Doty's expert report dated August 11th--

THE ADMINISTRATIVE LAW JUDGE: You'll need to get that in front of you, right?

MR. RYAN: Well, only for the purposes of the date, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Oh, okay. None of us will need to get it in front of us. He's just asking about a date.

BY MR. RYAN:

Q. That report was dated August 11th. Is it your testimony today that you reviewed that August 11th report before preparing this August 15th report of yours?

A. My recollection of the time line was that I received it before this report went out, and I was able to look at it quickly. I certainly had not completed reviewing it.

Q. Okay. So when you wrote this--your expert report, it was based on an incomplete review of Ms. Doty's report?

A. I guess I would say an incomplete review of her second report, yes.

Q. Yeah. And so when you reached the conclusions in your--your two-page expert report, that was based on an incomplete review of EPA's expert's report?

A. Yes. Yes. Of the second report.

Q. And I believe you testified earlier that you stopped looking at the first report when you heard a second one would be coming out?

A. Yes. That seemed like the prudent thing to do.

Q. So you never completed the review of the

first report, and you never completed the review of the second report before you wrote your report; is that correct?

A. Yes. That's correct. I felt by reading through the report--

Q. Yes or no?

A. Yes.

Q. Okay. So let's take a look at your expert report. Looking at page 1, under "Evaluation," which is No. 2, do you see that right about the middle of the page there?

A. Yes.

Q. The last sentence in the first paragraph, you say "In my opinion, there are significant inconsistencies"--and that's where you, I believe, pointed out that typo earlier--"in the photographs that EPA claims show manure runoff from the feedlot."

Do you see that sentence?

A. Would you repeat it quickly?

Q. Yeah. I'm sorry. We're looking at the last sentence of the second full paragraph on page 1 of your report.

A. Yes.

Q. And do you see that sentence "In my opinion, there are significant"?

A. Yes.

Q. And are those the photographs you discussed at the beginning of your direct examination today?

A. Yes, they are.

Q. Okay. And I believe you testified those groups of photos you looked at are all the groups of photos you considered?

A. Yes.

Q. Okay. So you didn't look at any other photos or any other photographic evidence?

A. Those were the photos.

Q. Okay. So if there was other photographic evidence out there, you didn't consider it?

A. That's correct.

Q. Is it possible that additional photographic evidence might sway your opinion one way or another?

A. Yes, I suppose it could.

Q. Okay. Now, you talk about the--on page 1, lower down, the last full paragraph under "Evaluation," you talk about some of your literature review, and I think you ticked off a number of the articles that you had read. For example, I believe you testified you read Williams '96; is that correct?

A. Yes.

Q. Okay. And a name which you had a hard time

remembering exactly how to pronounce, Ramanarayanan or something like that?

A. Yes.

Q. A '96, and a Gass in-- What year was the Gass article?

A. I believe that was 2000.

Q. Okay.

A. No. Although there was one in '97 also.

Q. Okay. Is it possible you're referring to Gassman, G-a-s-s-m-a-n?

A. Yes. Yes. Gassman.

Q. Is it possible it was a 2006 article, not a 1996 article?

A. You know, it is possible, and I believe-- Although, to tell you the truth, I read both. His study-- And Mr. Gassman, who is a professor at Iowa State University, conducted some of the initial validation and calibration testing on APEX.

Q. Right.

A. And he wrote a report in 1997--

Q. Okay.

A. --that I reviewed, as well as a review of the EPIC and APEX models in 2006.

Q. Okay. So you did read the--you did review the Gassman 2006 article?

A. Yes.

Q. And you would agree, wouldn't you, generally in scientific literature subsequent articles typically expand on our knowledge over earlier articles? Wouldn't you agree with that general statement?

A. Typically, yes.

Q. So if you're looking to see what the latest and greatest is in the literature, you would look at the most recent articles on a particular subject, wouldn't you?

A. Yes, you would.

Q. And don't the most recent articles typically refer back to the older articles, if they're citing properly?

A. Yes.

Q. Okay. Now, I noticed in your report you didn't actually cite to any articles here; you just made some general statements.

A. Yes.

Q. Isn't it standard practice when writing a report and relying on other sources of literature to cite what you're referring to?

A. That's one way to do it. I had read several articles and didn't include a reference section in

this report.

Q. Yeah. So when we looked at your expert report, we really had no idea which articles you'd read, did we?

A. No.

Q. Okay. So--

A. Although I took my cue off which articles to read based on the report in the--the model report done by Ms. Doty.

Q. Yeah. So Ms. Doty supplied you with citations to the scientific literature she was relying on, correct?

A. Yes.

Q. Okay. But you didn't do the same in your expert report?

A. No.

Q. And, in fact, your expert--your expert report doesn't contain any data or analysis, other than the general statements we see on the first two pages of your report?

A. Well, those pages are my analysis.

Q. Right. Okay. But no tables, no graphs?

A. No.

Q. Now, let's look at page 1 of your report, which is Respondent's 8. About the third full

paragraph, which was at the bottom of the page, the sentence says, right in the middle of that paragraph, and I'll read it and tell me if you can follow along, it says, "References in the literature indicate that the models used by the EPA are most effective at simulating the long-term impacts of different cropping systems and management practices and the models are not reliable for replicating the effect of single climatic events on erosion and other losses or for internal"--excuse me--"inter-annual variability between crop yields and pollutant losses."

Do you see that sentence?

A. Yeah.

Q. Now, do you believe that to be a fair representation of the literature?

A. I saw that in several instances, and that's why I repeated it here.

Q. Okay. Are those your own words or did you take that out of another article?

A. You know, the general concept of the information I saw in a couple places, so I made notes on it and reconstructed it here.

Q. Okay. Let me ask the question again. Are those your own words or did you take that language out of an article, that sentence I just read?

A. These are my own words based on what I read in several different places in the literature.

Q. Okay.

MR. RYAN: Your Honor, may I fire up the LitePro real quick?

Steve, could you please turn that on for me.

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

(Discussion off the record.)

MR. RYAN: For the record, I just handed opposing counsel and Your Honor a copy of a document entitled "Historical Development in Applications of the EPIC and APEX Models." Primary author is Philip W. Gassman, June of 2005. For the record, Gassman is spelled G-a-s-s-m-a-n.

BY MR. RYAN:

Q. Mr. Hentges, please feel free to look at the entirety of this article, but I'm going to ask you just about one page. Is this one of the articles that you relied on? I believe you testified earlier that--

A. Yes. I--I read this article.

Q. Okay. I'm going to refer you to page 29.

THE ADMINISTRATIVE LAW JUDGE: While you're getting ready to ask him a question, I take it,

Mr. Ryan, this is not part of the record yet?

MR. RYAN: No, this is not part of the record, Your Honor. Simply using it for impeachment purposes.

Are we on the record now, Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes.

BY MR. RYAN:

Q. Okay. Mr. Hentges, can we please-- I'm going to mark right now with my pen on the overhead so we can see exactly which sentence I'm looking at on the Gassman article in page 29.

In Gassman, we're looking at the sentence in the conclusion which says, "The results of many studies described here indicate." Do you see that sentence?

A. Yes.

Q. Okay. And I'm reading now from your expert report.

MR. RYAN: Forgive for one minute, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: I see where it is. You lost it?

MR. RYAN: I've lost where I'm supposed to be, Your Honor. I apologize.

THE ADMINISTRATIVE LAW JUDGE: You're right.

Keep going where your pen is. "The applications reviewed." Just keep going.

MR. RYAN: Okay. I see.

THE ADMINISTRATIVE LAW JUDGE: All right.

BY MR. RYAN:

Q. We're actually looking at the sentence that starts, "The applications reviewed also reveal that EPIC and APEX are most effective."

Do you see that? Okay. Do you see that sentence, Mr. Hentges?

A. Yes.

Q. Okay. Now, that sentence says, "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 inter-annual variability between crop yields and pollutant losses."

Do you see that sentence?

A. Yes.

Q. Okay. Now, let me read you--let's read along from that, and let me read your sentence from your expert report. And after the word "EPA" in your expert report, you say that the models are,

quote--I'm now reading a from your expert report--"most effective"-- I think it picks up right here after the words APEX and EPIC.

I'm reading from your report now: "Are most effective at simulating the long-term impacts of different cropping systems and management practices and the models are," quote, "not reliable"--those are your words--"in replicating the effect of single climatic events on erosion and other losses or for inter-annual variability between crop yields and pollutant losses."

Do you see that?

A. Yes.

Q. Now, you would agree, would you not, that after the words "EPIC and APEX" on page 29 of Gassman that the rest of that sentence is identical to what you wrote in the report, except for the words "are less accurate"?

A. Yes.

Q. So you changed--you lifted this out exactly from Gassman, didn't you?

A. Not exactly. I've changed it.

Q. Okay. So you changed the words "are less accurate" to "not reliable"?

A. Yes.

Q. Okay. And you would agree, would you not, that the words "less accurate," do not mean "not reliable"? Wouldn't you agree with that?

A. Relative to groundwater modeling, no, I wouldn't. Less accurate is not acceptable in fate and transport. You need to be as accurate--

MR. RYAN: Excuse me. Your Honor--

A. No, I would not agree with that.

BY MR. RYAN:

Q. Thank you. You would not agree with that. So you would agree, would you not, that 100 percent is perfectly accurate, would you not?

A. Yes.

Q. And you would agree that 99 percent is less accurate than 100 percent, would you not?

A. Yes.

Q. So the statement that something is less accurate does not necessarily mean it's not reliable, correct?

A. That's correct.

Q. So your statement on its face here is, you would agree, not an accurate representation of what the literature says?

A. No, I--I wouldn't. And that's--

Q. That was the answer to my question. Thank

you. Now, regarding reliability--

THE ADMINISTRATIVE LAW JUDGE: I have to note in fairness, Mr. Ryan, I'm allowing you leeway in cross-examination, but I don't see anywhere in his very brief report that he ties himself to this one. I think it says "references in the literature," and you've picked upon a particular reference, and so, you know, I have to note that. You know, there's a bit of a stretch there.

But the other point I want to mention, besides that observation, is that I assume there's not going to be any objection from counsel, but I think this report, it potentially, not necessarily, but it could be useful to me, and I would like to have it be part of the record.

Does anyone have a problem with that?

MR. RYAN: No, Your Honor.

MR. McAFEE: No, Your Honor.

MR. RYAN: We cite it in Ms. Doty's report.

THE ADMINISTRATIVE LAW JUDGE: I know that.

MR. RYAN: I would assume that--

THE ADMINISTRATIVE LAW JUDGE: And I think actually I could take notice of it, but let's have it be--and so we'll give it an EPA exhibit number. You're the one that brought it up.

MR. RYAN: That's fine with me, Your Honor. Complainant's Exhibit--

What are we at now?

MR. BREEDLOVE: I think we're at a 55.

THE ADMINISTRATIVE LAW JUDGE: Well, let's be sure.

MR. BREEDLOVE: 55, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. And so without objection from either side, on my motion that this "Historical Development and Applications of the EPIC and APEX Models," entitled "A Working Paper" dated June 2005, is part of the record as Complainant's Exhibit 55. And just for accuracy, this is a 43-page document.

(Complainant's Exhibit No. 56 was received in evidence.)

THE ADMINISTRATIVE LAW JUDGE: Now, I don't know that it's going to be of great moment, but who knows. I'd rather have it. So that's in.

Go ahead, Mr. Ryan.

MR. RYAN: And while we're on that subject, Your Honor, I would ask that we--that you take judicial notice of any literature cited in the studies in this case, given that we're talking about the scientific basis, and allow us to cite to

anything that's cited by Ms. Doty that she relied on.

And I believe counsel--I believe the witness has stated he relied on at least some of those articles himself. They're published articles.

THE ADMINISTRATIVE LAW JUDGE: Yeah. I'm thinking the correct term of art. Maybe I'm being too semantic here, whether it's judicial notice or official notice, but, yes, any report I should be able to look to reports that are cited.

And not that I can interpret it, but I can certainly quote from reports that are cited, if that's--if I find that that's useful in responding to arguments or reaching my own conclusions, whatever they may be in this case.

MR. McAFEE: And, Your Honor, may we do that in our briefs also?

THE ADMINISTRATIVE LAW JUDGE: Yes. But then what we need to do is, in a brief, I would expect as an attachment that you'd provide me the courtesy of the document itself. If it's a voluminous document and the rest of it is not pertinent and counsel agree that I can understand the section or paragraphs that are being cited to, then the parties would agree that that's sufficient. If one side says no, he has to have the whole document,

then you'll have to provide that along with--along with the arguments, okay?

And I'm going to have several other comments that will help guide you, I hope, at the close of the proceeding when we're done. That will be next Friday or-- No. I'm just kidding.

We probably are going to, I would think, finish now maybe Tuesday, but I don't know. We'll try our best for Monday, right?

Go ahead, Mr. Ryan.

BY MR. RYAN:

Q. So you would agree, would you not, that the Gassman article did not say "not reliable"?

A. Yes.

Q. And referring you back to page 1 of your two-page report, the last sentence on that first page, you say, "The models used by EPA to determine the number of unauthorized discharge events were developed for use as a policy and land use planning tools"--I believe it should be--"to develop long-term farm management strategies." Do you see that?

A. Yes.

Q. Now, you would agree, would you not, that a model can be used for something other than its initial design if it's proved reliable, would you

not?

A. Yes.

Q. So regardless of why these models, the SWAT model or the APEX model, were originally developed, if they can produce scientifically justifiable results, then they could be relied on, correct?

A. Yes, I believe they could.

Q. For some other purpose than what you say as planning purely?

A. Yes.

Q. Now, in that sentence I just read, on the bottom of your page, you talk about unauthorized discharge events. What do you mean by that term?

THE ADMINISTRATIVE LAW JUDGE: Mr. Ryan, help me out. Where is that you're referring to?

MR. RYAN: Last sentence on page 1 of Respondent's 8, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: "The models used by EPA determine the number"; is that what you're talking about?

MR. RYAN: Yes.

THE ADMINISTRATIVE LAW JUDGE: Thank you.

BY MR. RYAN:

Q. You used the term "unauthorized discharge events." What do you mean by that term?

A. Well, Ms. Doty used a model to determine the number of times that manure was discharged from the feedlot, and I was characterizing that as an unauthorized discharge event.

Q. Okay. Now, did Ms. Doty use that term, unauthorized discharge event, in her report?

A. I believe I got that term from the actual complaint.

Q. Okay. And so you're interpreting her report in the context of the complaint?

A. I believe so, yes, but I also believe I'm interpreting the complaint in the context of the complaint and her report in the context of her report.

Q. So do you-- Strike that.

Do you have an understanding of what the level of proof is for proving an unauthorized discharge event in a proceeding like this?

MR. McAFEE: Your Honor, I will object as it calls for a legal conclusion.

THE ADMINISTRATIVE LAW JUDGE: I sustain the objection.

BY MR. RYAN:

Q. So let's look at page 2 of your report.

THE ADMINISTRATIVE LAW JUDGE: You'll draw

those conclusions, Mr. Ryan. You'll base them on what he said and then you'll make that comparison and then lead me to how that does not meet, I assume, from your perspective.

MR. RYAN: Well, Your Honor, I think as further questioning will show, he's drawing conclusions here regarding the evidence in this case and he's making statements about the trustworthiness, of whether the evidence produced in this case meets the standard, and I think I'm entitled to understand what his understanding of the relevant standards are.

THE ADMINISTRATIVE LAW JUDGE: We'll deal with each question as it goes along.

BY MR. RYAN:

Q. Okay. Let's look at page 2 of your report and No. 3.

A. Yes.

Q. Second full paragraph, second to last sentence, you state there, "A scientific determination must be based on data that meets the minimum criteria for environmental assessment and testing in order to become evidence of actual or potential harm."

Do you see that?

A. Yes.

Q. Now, when you talk about evidence, are you speaking of evidence in this proceeding?

A. Yes. Yes. I believe I'm talking about evidence in general, but I'm applying it to this proceeding, and that's the way I intended it.

Q. Okay. Did you write all of this entire report? Was it all your words?

A. Yes. Except for the part you pointed out that I lifted from Gassman, it's my words.

Q. And did counsel for Respondent review your report before it was finalized?

A. Yes.

Q. And did he make any changes to your report?

A. Yes, he did. He made one change. I had inadvertently put Ida County down as the location of the feedlot, and I believe I made that mistake because I think Mr. Vos actually lives in Ida County, and the feedlot's in Woodbury.

So if I have that right, yes, Mr. McAfee said that I needed to change Ida County to Woodbury County wherever it existed.

Q. Other than that, did Mr. McAfee make any changes to your report?

A. No, sir, he did not.

Q. Now, so--and again, I'm going to restate my

question, it is your professional opinion that scientific determinations must be based on data that meets minimum criteria for environmental assessment and testing in order to become evidence of actual or potential harm, and what is your understanding of what level of proof is required in a proceeding like this for something to be evidence?

MR. McAFEE: Objection, Your Honor. Calls for a legal conclusion.

THE ADMINISTRATIVE LAW JUDGE: Yes. I don't think that it leads to your--that that sentence leads to what you're asking this witness about.

I mean, it seems to me that he can make that statement, "A scientific determination must be based on data that meets the minimum criteria for environmental assessment and testing in order to become evidence of actual or potential harm." I don't think he's--that that ties him to this proceeding.

He's talking, as I interpret this sentence, what is the minimum criteria to show actual or potential harm, and as a scientist, he's talking about that you have to have data that meets the minimum criteria.

So I don't see it as being tied to his

understanding, as you're suggesting, Mr. Ryan, of a level of proof in this proceeding, so I am sustaining the objection.

BY MR. RYAN:

Q. We talked a minute ago about accuracy, and you agreed that 99 percent accuracy was less accurate than 100 percent accuracy. Do you recall that?

A. Yes.

Q. And if something is 75 percent accurate, would you say it's more likely than not that it happened?

A. Probably. But it kind of depends on what it is.

Q. I'm just as a general statement, if something is--

A. Well, if it's like hitting on a slot machine, I wouldn't guess that an hour later I'm going to have a 75 percent chance of hitting again. So, you know, odds are funny about certain different things.

Q. So let me phrase it this way: If a report were to report that its findings were 75 percent accurate, would you say that it was more likely than not that the results were accurate?

A. "More likely than not" is kind of subject to

definition. I--I would say what it points out is that 75 percent of the time it's right and 25 percent of the time it's wrong.

Q. And in that case would you say it's more likely than not that it's right?

A. 75 percent of the time.

Q. Let's look at your pictures-- Excuse me. Let's look at the pictures that we discussed in your direct examination. Could you please turn to Complainant's Exhibit 28, please.

A. Excuse me. Exhibit 28--

Q. Yes.

A. --or Exhibit 28 Pollard?

Q. I believe your testimony was on Exhibit 28.

A. Yes.

Q. And please turn to Photo No. 3.

A. Yes.

Q. Now, you weren't present at Mr. Vos' feedlot when this photo was taken, were you?

A. No, I was not.

Q. You testified on direct that you visited Mr. Vos' feedlot. How many times have you been there?

A. Once.

Q. And when was that?

A. It was about two, two and a half weeks ago.

Q. And when you were there, did you walk the entire area? How much of his lot--or his property did you see?

A. I saw the feedlot. I saw the surrounding areas. I looked at the detention pond and the terrace. I looked at the creek just west of the feedlot and the detention pond.

Q. When you say the creek, would that be the unnamed tributary?

A. That's correct, the unnamed tributary.

Q. And how long were you on site?

A. Oh, boy. About 2 1/2 hours.

Q. Okay. Did you walk down through his cornfields to the south of his feedlot?

A. I did-- Other than looking at that terrace, which is a bit more west than it is south, I looked at the south end of the feedlot, but I did not go in the cornfields. Corn was very high.

Q. So you didn't look at the erosional features that were in some of the photographs we've looked at here today with you that proceed off to the west from the facility, to the south and west?

A. No. I--I assumed within a month they hadn't changed much from the July photographs I reviewed.

Q. So you didn't--you didn't actually-- You were there but you didn't take the time to go look at them with your own eyeballs?

A. I looked at other things.

Q. So going back to Exhibit 28, Photo No. 3, you stated that you found--if I'm correct, and correct me if I'm wrong--that you said you were not quite certain--well, I have, and correct me if I'm wrong, you're not quite certain how it came from the pens, referring to the flows that was attributed to Photo No. 3.

So you can't actually see the pens in the distance on this photo, can you?

A. No.

Q. Yeah. And I believe you already testified you weren't there when this photo was taken.

A. That's correct.

Q. Yeah. And you don't know what's beyond this photo, do you?

A. Yes. Because there's a map here upfront that shows--

Q. That was a yes-no question. You don't know what's beyond this, do you?

A. Yes. Because I can look at the map that shows where this photo points and orient myself, so

the answer would be yes, I know what's beyond this photo.

Q. Okay. Why don't you show me what's beyond this photo.

A. Well, I will need to go to the key, and it shows Photo 3 on-- It's the first item in this Exhibit 28. Photo 3 shows a blue circle on the left hand of the page that points due east. Photo 1's right next to it. So based on looking at Photo 1, I have a pretty good feel what's in the background upgradient on Photo 3.

Q. And how do you know that? From which other photo?

A. Well, I rely upon the key that says "Photo Index 3-11, 2008, EPA," that it's correct that 1 and 3 are pretty close to each other and both point east.

Q. So--

A. Photo 1 shows the foreground--or the background, and Photo 3, a little bit to the south, shows the close-up.

Q. Okay, let's look at Photo 1.

A. Yes.

Q. Do you believe that further provides support for your testimony that you can't tell where that water is coming from?

A. You know, I look at this photo and I see snow all over the terrace, I see snow between the feedlot, and--and the berm which is before the terrace, and it just looks like--I look out over the field, and to the right and I see snow everywhere, and it's all melting, and it's--it's snow melt.

Q. Okay. Now, would it surprise you if there were testimony that that discharge had a color to it?

THE ADMINISTRATIVE LAW JUDGE: If the what had a color to it?

MR. RYAN: That discharge into the creek depicted in Photo 1 and 3 had a color to it.

BY MR. RYAN:

Q. Would it surprise you?

A. No.

Q. And you can't--you can't say from looking at these photos, because you weren't there that day, whether, in fact, this is coming from the terraced area on the top of Photo 1 or not, can you?

A. Well--

Q. That's a yes or no question.

A. No, I can't.

Q. So let's move on to Photo 5.

THE ADMINISTRATIVE LAW JUDGE: I just want to provide Mr. Hentges with the same courtesy that I

provided for the other witnesses, including Ms. Doty.

If you remember, several times I said oftentimes a witness will want to say more, but because of the nature of cross-examination, the person conducting that can insist upon a yes or no answer. And while that's true, that doesn't end what you have the ability to say, because after you commit with your yes or no, you then have the opportunity to explain your answer, and I will allow you to do that.

So in the future bear that in mind. First do as Mr. Ryan instructs, if he believes that it's a yes or no answer.

Another possible answer is--I'm not at all advising you what to say or even suggesting what to say, but the choice can be yes or no or it can be none of the above, which would be "I can't answer that question." Just so you know that the range is not yes or no. It may be, but it also can be "I cannot answer that question."

And the other thing is if it can be answered with yes or no, yes or no, then you do have the opportunity, and if it's--I am relying upon your counsel to remind me of that if that happens--if you want to say more, you will have that opportunity to say that.

Okay. Now, it's 5 of 5, so you're going to have to plan to-- I'm willing to go for the next three or four minutes, Mr. Ryan, and we'll do that, but then we're going to stop.

MR. RYAN: Your Honor, I'm more than happy to forge ahead for the next few minutes, or we can stop now.

THE ADMINISTRATIVE LAW JUDGE: Sure. Go ahead and forge.

MR. RYAN: Thank you.

BY MR. RYAN:

Q. Please look at Photo No. 5, Mr. Hentges, for Complainant's Exhibit 28.

A. Yes.

Q. And you would agree that that's an erosional feature that's visible in Photo No. 5, would you not?

A. Yes.

Q. And you would agree that that was caused by flowing water?

A. Yes.

Q. And you would agree that it flows--since you've testified earlier that you looked at the key, that it flows in the general direction of the earlier photos showing the discharge into the unnamed tributary, would you not?

A. Yes.

Q. And you would agree that, given the key, that this photo is taken in the vicinity of the west perimeter of the--the northwest perimeter of the feedlot, would you not?

A. Yes.

Q. Now, when you were--when you were at the facility a couple of weeks ago, did you make an assessment of the perimeter of the feedlot? Did you look to see whether there were any berms in place?

A. Yes.

Q. And were there any berms surrounding the feedlot?

A. There were some berms at some places, but they did not surround the entire area.

Q. And did you make an assessment for erosional features leaving the feedlot during your visit two weeks ago?

A. Yes.

Q. And did you see evidence of water features coming off of the site, such as Photo No. 5?

A. Yes. But in this particular region, this had been channeled over to the terrace.

Q. I'm just asking you generally, did you see erosional features coming off this site?

A. Yes. Yes.

Q. Now, you would agree that water runs downhill, correct?

A. Yes.

Q. And that this site is at the top of a hill?

A. It is.

Q. And in a precipitation event, heavy rain event, water would run off this site; would you agree with that statement?

A. Yes.

Q. And that it would primarily migrate to the west and the south through the erosional features that are present there?

A. Yes.

Q. And it's not a long distance from the edge of this facility to the unnamed tributary, is it?

A. Well, I didn't walk it. I know there were some-- I measured some distances. It's not a far distance, but it's--you know, was measured in miles, like .4, .7.

Q. Okay. But it varies from different parts of the--

A. Sure.

Q. And you would agree, would you not, that some of these photographs that you've reviewed show a

continuous path from the edge of the lot down to the unnamed tributary, don't they?

A. Yes.

Q. Okay. And in that continuous path would allow discharges off the site to exit the site and reach the unnamed tributary; you have to admit that, wouldn't you?

MR. McAFEE: Your Honor, I object to the form of the question.

THE ADMINISTRATIVE LAW JUDGE: He doesn't have to admit that.

BY MR. RYAN:

Q. You would admit that, wouldn't you?

A. No.

Q. You would not admit that water leaving the site could reach the unnamed tributary through the erosional structure--erosional features that we've seen in these photos?

A. Yes, I would admit that water leaving the feedlot will--will flow downhill south and west and likely some of it would make it to the creek.

THE ADMINISTRATIVE LAW JUDGE: This is a good point to stop.

Okay. And so, again, I said it to you once before, but remember you're not to talk about the

case with anyone, Mr. Hentges, and we're going to resume at 9:30 on Monday morning.

And just help me out, Mr. Breedlove. This is so basic, I'm almost embarrassed to ask it, but I'm going to ask it anyway. The period of violation involved in this case, I know we had a statute of limitations issue, did we not?

MR. BREEDLOVE: Yes, Your Honor, we did.

THE ADMINISTRATIVE LAW JUDGE: And so bearing that in mind, the five-year statute of limitations, and also bearing in mind that--and you're getting this down, correct--also bearing in mind that Mr. Vos is no longer in violation because he's below a thousand heads, this violation is not continuing through to today, that's not EPA's position, what is the starting point and ending point, based on the complaint, for this violation? Do you want to give me those dates, please?

MR. BREEDLOVE: I want to make sure I get it accurate, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Sure.

MR. BREEDLOVE: Your Honor, I believe we used the date that we filed the complaint, which would have been August 14th or so, 2007, and went back, but, of course, we wouldn't be seeking

violations for the periods of time where he dropped below the 1,000-head threshold.

So I believe he came--

THE ADMINISTRATIVE LAW JUDGE: I need you to be a little more precise, because this is part of the charge as to when these violations occurred. That's so basic, that's why I need your guidance on this.

MR. BREEDLOVE: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: So we're not looking after August 14th to the present, we're talking about August 14th, 2007, and then working our way back?

MR. BREEDLOVE: Working back, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: To what date?

MR. BREEDLOVE: It would be five years back from the statute of limitations because of the statute of limitations.

THE ADMINISTRATIVE LAW JUDGE: Okay. So to 2002?

MR. BREEDLOVE: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: Okay. So at some point I'm going to need some help from counsel about, just as a general issue, what am I to do-- And this is not something I expect an answer on right now, and maybe this is just a reflection of how deep

I'm not, okay, but I'm wondering about the relevance and probative value of photographs taken in March of 2008 when the period of violation ends in August of 2007.

I'm--I'm wondering in my head what deductions I'm able to make from photographs and other things that temporally, temporally deal with the period of time after the period that EPA is alleging violations.

Just one of the things that I'm musing about, and I'm developing quite a list of things, actually, that I'll be mentioning to you at the close of the hearing.

And you can privately, once I'm gone, just scoff at the simplicity of some of my observations, or maybe you'll help me out and think they're of some value or not, but I take no offense either way.

But that is a question I'm--one of the many things I'm thinking about in the case.

MR. McAFEE: Your Honor, could I-- Regarding the date, I believe the record shows that--or will, the date that he came into compliance by reducing to less than 1,000 head is February 19th, 2007.

THE ADMINISTRATIVE LAW JUDGE: Oh.

MR. McAFEE: And if it's not in the record yet, I apologize. I think it is somewhere. I can't say.

Do you, Dan?

MR. BREEDLOVE: If it hasn't been put in the record, I'm sure it will be very shortly.

MR. McAFEE: From someone other than me.

THE ADMINISTRATIVE LAW JUDGE: Right. So that's February 19th, 2007, all right.

MR. McAFEE: Yes, Your Honor.

MR. BREEDLOVE: Yes, Your Honor.

THE ADMINISTRATIVE LAW JUDGE: So that sort of-- Whether I'm off on a wild tangent or not, that either makes that more important, or maybe it doesn't matter at all. But if it is important, then, you know, we're talking about photographs that are a year after the period of time.

I'm pretty transparent. I try to let you know the things that concern me, and there will be others.

Okay. See you all--

MR. BREEDLOVE: Your Honor?

THE ADMINISTRATIVE LAW JUDGE: Yes.

MR. BREEDLOVE: One matter of bookkeeping here. I was passed a note saying that I think the

Gassman article was actually Complainant's Exhibit 56, not 55.

THE ADMINISTRATIVE LAW JUDGE: Okay. So I'm marking on my copy 56.

And the good news for Amy is that I notice that you will be able to punch holes in this for me without taking away critical text. You know, just when I get to a point I want to read something and-- But that won't happen for this exhibit, so that's good news.

I hope you all have a nice weekend, I mean that, and we'll see you all Monday morning.

(Recess at 5:06 p.m., until 9:30 a.m., Monday, September 22, 2008.)

C E R T I F I C A T E

I, the undersigned, a Certified Shorthand Reporter of the State of Iowa, do hereby certify that I acted as the official court reporter at the hearing in the above-entitled matter at the time and place indicated;

That I took in shorthand all of the proceedings had at the said time and place and that said shorthand notes were reduced to typewriting under my direction and supervision, and that the foregoing typewritten pages are a full and complete transcript of the shorthand notes so taken.

Dated at Des Moines, Iowa, this 25th day of September, 2008.

Kelli M. Mulcahy
CERTIFIED SHORTHAND REPORTER